

May 18, 2010

DOCKET 08-AFC-13

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

DATE	MAY 18 2010
RECD.	MAY 18 2010

RE: Calico Solar (formerly Solar One) Project (08-AFC-13)
Applicant's Submittal of Results of 2010 Desert Tortoise Surveys

Dear Mr. Meyer and Mr. Stobaugh,

Tessera Solar hereby submits the Applicant's Results of the 2010 Desert Tortoise 10-meter Transect Survey for the Calico Solar Project. I certify under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge.

Sincerely,



Felicia L. Bellows
Vice President of Development

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May 17, 2010

Mr. Chris Otahal
Bureau of Land Management
Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

Subject: Results of 2010 Desert Tortoise 10m
Transect Survey for Calico Solar Project
URS Project No. 27658189.70006

Dear Mr. Otahal:

This memo reports the result of the 2010 10m transect survey of the 8,230-acre Calico Solar Project site. The survey implemented the 2010 USFWS survey protocol (USFWS 2010) and represents a 100% coverage survey. The survey was completed between March 29 and April 15. The Project site map (Figure 1) was overlaid with 183 survey cells that typically encompassed 50 acres (Mean cell size 45 acres, range: 13–64 acres). Typical rates of coverage were 5 to 6 acres per person hour and 1.25 transect km per person hour. Each cell was surveyed by four or five experienced biologists using the 10m transect protocol. All detected tortoise were visually measured and assessed for signs of disease, and field forms were completed (see attached forms, Attachment A-1 and A-2). Tortoise locations were recorded with consumer-grade GPS units. All potential tortoise burrows detected were recorded with GPS units and classified according to USFWS burrow categories (Class 1 through 5).

SURVEY RESULTS

The survey required a total of 335 field days to complete and a total of 3,334 km of 10m transects were walked. Personnel participating in the survey are summarized in Attachment B and the resumes of the surveyors are also attached (Attachment C).

Table 1 below summarizes the results of the survey. A total of 104 individual tortoises were detected, including 88 adults, 1 subadult, and 15 juveniles (Figure 1). The distribution of tortoise onsite is similar to that assessed in the project biological technical report (URS 2009). Tortoise tend to be more common on the northern half of the site north of the railroad, less common on the southern half of the site north of the railroad, and rare south of the railroad. Using the USFWS formula to estimate tortoise population based 10 m transect survey data, approximately 176 desert tortoise (95 percent confidence range of 92 to 337 individuals) may occupy the 8,230-acre Calico Project site (See Attachment D).

Phase One areas support 12 individuals; 8 tortoises in the 2000-acre Phase One area immediately north of the rail road and 4 tortoises within the northern detention basin area (320 acres; Figure 2). The 3,780-acre Phase Two area between the two Phase One areas supports 92 individuals. Only two tortoises were detected within the 2,130 acre Phase Two area between Interstate 40 and the railroad. Two of the tortoise (#59 and #70) detected showed some sign of disease or ill health (see attached field forms, Attachment A-1).



Mr. Chris Otahal
 Wildlife Biologist
 Bureau of Land Management
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A total of 481 burrows categorized as Class 1 through 3 were recorded on the site during the surveys (Figure 3). A total of 30 burrows were categorized as Class 4 and 5 for a total of 511 burrows detected (Table 2, Figure 4; See Attachment A-2). Figure 3 show the distribution of Class 1 through 3 burrows by Phase area. Figure 4 shows the distribution of Class 4 and 5 burrows by Phase area. Tortoise burrow classification scales from Class 1 through 5. Class 1 are currently active, with tortoise or recent tortoise sign; Class 2 are good condition, definitely tortoise, but no evidence of recent use; Class 3 are deteriorated condition definitely tortoise, but no evidence of recent use; Class 4 are deteriorated condition and possibly tortoise; Class 5 are poor condition and possibly tortoise. The survey documented Class 1 through 3 as the most likely classes to characterize suitable tortoise habitat.

Table 1
2010 Desert Tortoise Observations on Calico Solar Project Site

Tortoise by Age and Location	Acres Surveyed	Adult on surface	Adult In Burrow	Sub-Adult	Juvenile	Total Detected	Tortoise Per 1000 Acres
Phase 1 - North of Railroad	2,000	4	0	0	4	8	4.0
Phase 1 - Northern Detention Basins	320	3	1	0	0	4	12.5
Phase 2 - North of Railroad between Phase One	3,780	69	10	1	10	90	23.8
Phase 2- South of Railroad	2,130	1	0	0	1	2	0.94
Total on Calico Solar Site	8,230	77	11	1	15	104	12.64

Table 2
Distribution of Tortoise Burrows Classes 1 through 3* at Calico Solar Site

	Class 1	Class 2	Class 3	Class 4	Class 5	Total
Phase 1 - North of Railroad	9	13	25	6	7	60
Phase 1 - Northern Detention Basins	14	3	6	0	0	23
Phase 2 - North of Railroad between Phase One	137	122	117	9	3	388
Phase 2- South of Railroad	3	6	26	5	0	40
Total	163	144	174	20	10	511

Notes:

*Tortoise Burrow Classification.

1. Currently active, with tortoise or recent tortoise sign.
2. Good condition, definitely tortoise, no evidence of recent use.
3. Deteriorated condition definitely tortoise, no evidence of recent use.
4. Deteriorated condition and possibly tortoise, no evidence of recent use.
5. Good condition and possibly tortoise, no evidence of recent use.



Mr. Chris Otahal
Wildlife Biologist
Bureau of Land Management
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Sincerely,

URS CORPORATION

A handwritten signature in black ink that reads "Patrick Mock". The signature is written in a cursive, flowing style.

Patrick Mock, PhD, CSE, CWB®
URS Principal Scientist

PM:mv

Attachments:

- A-1 Tortoise Data Forms
- A-2 Burrow Data Spreadsheet
- B Survey Effort Table
- C Resumes of the Surveyors
- D USFWS Population Estimate Formula Spreadsheet Output
- Figure 1 Desert Tortoise Survey Grid and Sightings
- Figure 2 Desert Tortoise Sightings by Phase
- Figure 3 Desert Tortoise Class 1-3 Burrow Sightings by Phase
- Figure 4 Desert Tortoise Class 4 & 5 Burrow Sightings by Phase

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A-1 TORTOISE DATA FORMS

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DT1

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Rick Bailey, Jerry Monts DATE: 3-29-2010 TIME: 1420
TEMP (deg. F): 80 CLOUD COVER %: 5 WIND (mph): 5
PROJECT NAME: Calizo Solar CONTRACTOR: _____
CITY: Pisgah COUNTY: San Bernadino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 0 Aspect: W

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: Juvenile tortoise in burrow about 6'

Found at GPS (UMT WGS 84): 0556400 X 3850323 pt. 210-DT1

Elevation: _____

Activity (inside shelter) at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: 2
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width 6" height 4" length 3 aspect W

Burrow description/contents/condition: near small creosote bush.

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
None observed.

Estimated MCL length: 6" Sex: ? Photos of: carapace frontal previously labeled scute
↳ burrow entrance

DT2

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Sunderp Amin
CRAIG KNOWLES DATE: 30 MARCH 2010 TIME: 11:04
TEMP (deg. F): 76 CLOUD COVER %: 20 WIND (mph): 5-10
PROJECT NAME: CALICO SOLAR CONTRACTOR: URS
CITY: BARSTOW COUNTY: SAN BERN. STATE: CA
NEW BERRY SPRING
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 11S 0558403 pt. 008
Elevation: 2261 3851367

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking): _____

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width 16" height 8" length ? aspect S

Burrow description/contents/condition:
GOOD CONDITION BURROW

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
No

Estimated MCL length: 200mm Sex: ♀? Photos of: carapace frontal previously labeled scute

DT3

URS Corporation

LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Rick Bailey & Wendy Middleton DATE: 3-31-2010 TIME: 1503
 TEMP (deg. F): 52 CLOUD COVER %: 70 WIND (mph): 30
 PROJECT NAME: Calico Solar CONTRACTOR: _____
 CITY: Piñon COUNTY: San Bernardino STATE: CA
 USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: 1 Aspect: NE

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Sub/sub adult in burrow 6" from entry.

Found at GPS (UMT WGS 84): 0555287 X 3851278 pt. 006

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking): _____

Scat found? Yes No Scat Class: _____
 Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width 7" height 3" length ? aspect NE

Burrow description/contents/condition:	<u>Small burrow near base of Creosote bush</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
None

Estimated MCL length: 6" Sex: U Photos of: carapace frontal previously labeled scute

DT4

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Rick Bailey & Paul Fuchs DATE: 3-31-10 TIME: 0950
TEMP (deg. F): 68 CLOUD COVER %: 5 WIND (mph): 5-10
PROJECT NAME: Catico Solar CONTRACTOR: _____
CITY: Pisgah COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 1 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Sub adult found 3 feet from Burrow (tracks in Burrow)

Found at GPS (UMT WGS 84): 0556058 X 3851161 pt.003

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width 8" height 4" length 18" aspect South

Burrow description/contents/condition: Shallow Pallet. Two similar burrows nearby.

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
None.

Estimated MCL length: 6" Sex: u Photos of: carapace frontal previously labeled scute

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JOHN H. DAVIS IV DATE: 03/31/10 TIME: 11:25
 TEMP (deg. F): 68°F CLOUD COVER %: 50 WIND (mph): 7.4 to 12.8 (X9.7)
 PROJECT NAME: CALICO CONTRACTOR: URS CORPORATION
 CITY: NA COUNTY: SAN BERNARDINO STATE: CA
 USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 3 Aspect: SOUTH/SOUTHWEST

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input checked="" type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input checked="" type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: THE TORTOISE WAS OBSERVED AT THE ENTRANCE OF A PALLET BURROW - WHICH WAS ON AN "ISLAND" BETWEEN DRAINAGE CHANNELS.

Found at GPS (UMT WGS 84): 556249/3852060 GPS POINT 474

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
at shelter entrance

Scat found? Yes No Scat Class: _____
 Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width 8.5m height 40m length 4.0ft aspect S/SW

Burrow description/contents/condition:
PALLET w/ SANDY SUBSTRATE (GRAVEL & COBBLE ABUNDANT) / CONTENTS - LIVE TORTOISE / GOOD CONDITION

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
TORTOISE APPEARS HEALTHY * GREEN MOIST MATERIAL AROUND MOUTH AND INTO THE NOSTRIL AREA / APPEARS TO HAVE EATEN RECENTLY, HOWEVER, DIFFICULT TO ASSESS

Estimated MCL length: 8.23in Sex: M Photos of: carapace frontal previously labeled scute

ACCURATE
DIFFICULT TO ASSESS

DTL

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Sandeep Amin CRAIG KNOWLES DATE: 1 April 2010 TIME: 11:27
TEMP (deg. F): _____ CLOUD COVER %: Clear WIND (mph): 5 MPH
PROJECT NAME: Calico Solar CONTRACTOR: URS
CITY: NEW BERRY SPRINGS COUNTY: SAN BERN STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 11 S 0555586 pt. 017

Elevation: 2171' 3852721

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking): _____

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Good Health

Estimated MCL length: 180 Sex: ♂ Photos of: carapace frontal previously labeled scute

DTM

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Mark Brower
Rob DeBaca DATE: 01 APR 10 TIME: 1227
TEMP (deg. F): _____ CLOUD COVER %: 5 WIND (mph): 5-10
PROJECT NAME: Calico Solar CONTRACTOR: URS
CITY: Ludlow COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input checked="" type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 558050 / 3851876 pt. 018

Elevation: 693

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Basking

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
None

Estimated MCL length: 260 Sex: F Photos of: carapace frontal previously labeled scute

DT8

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Mark Browner
Rob DeBaca DATE: 01 APR 10 TIME: 1208
TEMP (deg. F): _____ CLOUD COVER %: 5 WIND (mph): 5-10
PROJECT NAME: Calico Solar CONTRACTOR: URS
CITY: Ludlow COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: W South west

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input checked="" type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 558113 / 3851894 pt. 016

Elevation: 696 m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Resting

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

<u>None</u>	

Estimated MCL length: 280mm Sex: M Photos of: carapace frontal previously labeled scute

DT9

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Mark Browner
Rob DeBaca DATE: 01 APR 10 TIME: 13:17
TEMP (deg. F): _____ CLOUD COVER %: 5 WIND (mph): 5-10
PROJECT NAME: Calico Solar CONTRACTOR: URS
CITY: Ludlow COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input checked="" type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 558064 / 3852039 pt. 020

Elevation: 699 m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Foraging

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____
Burrow description/contents/condition:

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
None

Estimated MCL length: 240 mm Sex: F Photos of: carapace frontal previously labeled scute

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JOHN H. DAVIS III DATE: 4/1/10 TIME: 2:34
 TEMP (deg. F): 73.4 CLOUD COVER %: < 5% WIND (mph): 2.9-6.8 (X=3.5)
 PROJECT NAME: _____ CONTRACTOR: _____
 CITY: _____ COUNTY: _____ STATE: _____
 USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 3% Aspect: S/SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input checked="" type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: FOUND IN LARGE WASH BETWEEN CHANNELS (I.E. UPLAND)
OPEN SHRUB COVERAGE (~ 15% CREOSOTE - AMBROSIA)

Found at GPS (UMT WGS 84): 558050/3851871 GPS POINT 485
 QUATTRO GPS UNIT

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: 4
 Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width 15 height 5 length 36-60" aspect S

Burrow description/contents/condition:
WIDE BURROW W/ GRAVEL, COBBLE SANDY SUBSTRATE ON APRON
TRACK EVIDENT TO BURROW OPENING. GPS POINT 486 558050/3851868

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
GOOD CONDITION

Estimated MCL length: 9.45" Sex: F Photos of: carapace frontal previously labeled scute

LIVE TORTOISE # 4
TEAM QUATTRO

DT12

Adult FEMALE TORTOISE

URS Corporation

LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JOHN H. DAVIS IV DATE: 4/2/10 TIME: 10:26

TEMP (deg. F): 62.5 CLOUD COVER %: < 5% WIND (mph): 3.2-9.1 (K52)

PROJECT NAME: CALICO SOLAR CONTRACTOR: _____

CITY: _____ COUNTY: SAN BERNARDINO STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: 3 Aspect: SOUTH

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input checked="" type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: OPEN WASH AREA BETWEEN ^{DRAINAGE} CHANNELS - VERY LOW DENSITY (< 5% VEG)

Found at GPS (UMT WGS 84): 558547 / 3851597 GPS POINT SID QUATTRO UNIT

Elevation: 692 M (2,269 FT)

Activity (inside shelter) at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: IN OPEN)

Tortoise in burrow - Project DTB# _____ width 6 height 8.5 length NA aspect FE

Burrow description/contents/condition:	
<u>Tortoise at entrance of burrow</u>	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

<u>Good condition</u>	

Estimated MCL length: 260mm Sex: F Photos of: PARTIAL carapace frontal previously labeled scute
10 2 14

LIVE TORTOISE #5

TEAM QUATTRO

DT13

JUVENILE TORTOISE

URS Corporation

LIVE TORTOISE ENCOUNTER FORM

See SHEET #4

TEAM QUATTRO
 BIOLOGIST: JOHN H. DAVIS IV DATE: 4/2/10 TIME: 10:33
 TEMP (deg. F): 72.5 CLOUD COVER %: 5-10 WIND (mph): 2.8-7.4 (X=2.9)
 PROJECT NAME: CALICO CONTRACTOR: _____
 CITY: _____ COUNTY: SAN BERNARDINO STATE: CA
 USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 3% Aspect: SOUTH

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input checked="" type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: SMALL BURROW UNDER CREOSOTE AND ADJACENT TO DRAINAGE CHANNEL (NO TREE WGT) - SANDY SUBSTRATE

Found at GPS (UMT WGS 84): 558526 / 3891571 NORTHEAST 1/4 SECTION LOCAL

Elevation: 692 (2,269ft) GPS POINT #11 QUATTRO

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____
 Scat location: In burrow In open Under veg. (type: CREOSOTE)

Tortoise in burrow - Project DTB# _____ width 4 height 25 length ? aspect W

Burrow description/contents/condition:
<u>SMALL BURROWS FACING TRUNK OF CREOSOTE SHRUB</u>
<u>WELL SHADDED</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
GOOD HEALTH

Estimated MCL length: 4.0 Sex: ? Photos of: carapace frontal previously labeled scute
JUVENILE

DT141

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: J. Birnbaum DATE: 4/2/2010 TIME: 915

TEMP (deg. F): 50 CLOUD COVER %: 15 WIND (mph): 0-5

PROJECT NAME: Calico CONTRACTOR: _____

CITY: Barstow COUNTY: San Bernadino STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: 30 Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input checked="" type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe:	

Found at GPS (UMT WGS 84): 020-557405, 3852679

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

basking

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	<u>tracks inside burrow</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

all pulled in, shell has no wear

Estimated MCL length: 220 cm Sex: M Photos of: carapace frontal previously labeled scute

DT15

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: J. Birnbaum DATE: 4/2/2010 TIME: 18:35
TEMP (deg. F): 49 CLOUD COVER %: 10 WIND (mph): 0-5
PROJECT NAME: Calico CONTRACTOR: _____
CITY: Barstow COUNTY: San Bernadino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 30 Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 022-557373, 3852478

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
basking

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	
<u>tracks, good condition</u>	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

<u>good health, no trauma</u>	

Estimated MCL length: 185 Sex: Photos of: carapace frontal previously labeled scute
unknown, prob male

DT16

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: J. Birnbaum DATE: 4/2/2010 TIME: 955

TEMP (deg. F): 51 CLOUD COVER %: 15 WIND (mph): 0-5

PROJECT NAME: Calico CONTRACTOR: _____

CITY: Barstow COUNTY: San Bernadino STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: 30 Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Underneath creosote bush

Found at GPS (UMT WGS 84): 023-557,335,3852404

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
basking

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	
<u>12H x 18W</u>	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: 250 Sex: M Photos of: carapace frontal previously labeled scute

DTM

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: J. Birnbaum DATE: 4/2/2010 TIME: ~~9:54~~ 10:15
TEMP (deg. F): 57 CLOUD COVER %: 15 WIND (mph): 0-5
PROJECT NAME: Calico CONTRACTOR: _____
CITY: Barstow COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 024 (557315, 3852541)

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking): _____

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	
<u>good, no scat</u>	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: 235 Sex: M Photos of: carapace frontal previously labeled scute

DT18

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: J. Birnbaum DATE: 4/2/2010 TIME: 10:22

TEMP (deg. F): 60 CLOUD COVER %: _____ WIND (mph): 0-5

PROJECT NAME: Calico CONTRACTOR: _____

CITY: BASTOW COUNTY: San Bernadino STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 30 Aspect: S

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input checked="" type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 557295,3852533 (025)

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking): _____

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: 150 Sex: UNK Photos of: carapace frontal previously labeled scute

DT19

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

Sandeep Amin

BIOLOGIST: Ryan Bouman DATE: 4/2/2010 TIME: 11:31

TEMP (deg. F): _____ CLOUD COVER %: 25 WIND (mph): 2-3

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: San Bernardino STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input checked="" type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: _____

Found at GPS (UMT WGS 84): 556658 3852717 point 35

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
basking

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# NA width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: 190 Sex: F Photos of: carapace frontal previously labeled scute

DT20

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Sunday Amun
Gilda Barboza DATE: April 2nd 2010 TIME: 09:11 AM
TEMP (deg. F): 54° CLOUD COVER %: 10 WIND (mph): 5-10
PROJECT NAME: _____ CONTRACTOR: _____
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input checked="" type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: _____

Found at GPS (UMT WGS 84): 556330 3852684.21

Elevation: 6844

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
INSIDE SHELTER

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width ~~8~~¹⁰IN height 8IN length _____ aspect NORTH FACING

Burrow description/contents/condition:
IN High point of wash,
burrow facing North

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
NO disease apparent;
turtle is positioned inside burrow

Estimated MCL length: 28IN Sex: _____ Photos of: carapace frontal previously labeled scute
(4363-4367 - photos on S.A camera)

DT21

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Sage Clegg DATE: 4/2/2010 TIME: 10:13
TEMP (deg. F): 56°F CLOUD COVER %: 15 WIND (mph): 5-10 mph
PROJECT NAME: _____ CONTRACTOR: _____
CITY: _____ COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	___ Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
___ Small Hills	___ Blow Sand	___ Saltbush Scrub	___ Pallet Burrow
___ Large Hills	<input checked="" type="checkbox"/> Gravel	___ Blackbrush	___ Under Shrub
___ Small Wash	___ Cobble	___ Desert Wash	___ In Open
___ Big Wash	___ Caliche	___ Joshua Tree	___ Caliche Cave/Den
___ Bajada	___ Rocky	___ Thorn Scrub	___ Rock Shelter
___ Dune	___ Pavement	___ Grassland	___ Other _____

Describe: _____

Found at GPS (UMT WGS 84): 556490 3852448 point 27

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

running down burrow

Scat found? ___ Yes No Scat Class: _____

Scat location: ___ In burrow ___ In open ___ Under veg. (type: _____)

Tortoise in burrow – Project DTB# NA width 15 height 8 length unk aspect NE

Burrow description/contents/condition:	<u>1, good, twists to RT</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Unknown, in Burrow

Estimated MCL length: unk Sex: unk Photos of: carapace frontal previously labeled scute

DT22

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Sandeep Arin DATE: 4-5-10 TIME: 1008
TEMP (deg. F): 68 CLOUD COVER %: 10 WIND (mph): 18
PROJECT NAME: Catico CONTRACTOR: _____
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: _____ Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input checked="" type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 115 558800 ~~385483~~ PL. 041

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Basking under Acacia. Pulled up in shell

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: Acacia)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	<u>shallow burrow/pallet under pachraf ridder and Acacia</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Not able to see head. Can see
growth rings. Scute lamina

Estimated MCL length: JPO Sex: ♂ Photos of: carapace frontal previously labeled scute
Male

DT 23

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Sandeep Amin/D. Compton DATE: 4/5/10 TIME: 1400

TEMP (deg. F): 52 CLOUD COVER %: 90 WIND (mph): 10-15

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: 5 Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 558437 1 3854347 pt. 20,

Elevation: 2638

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
outside under shrub, no cover, looks to be trying to hide from wind/cold

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Can't see face, scutes look worn, but nothing to indicate poor health

Estimated MCL length: 210 Sex: F Photos of: carapace frontal previously labeled scute

DT24

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Sandeep Amin, Christine S DATE: 4/5/10 TIME: 14:28

TEMP (deg. F): 52 CLOUD COVER %: 90 WIND (mph): 15-20

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: _____ Aspect: E

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input checked="" type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): ~~558809 3854437~~ pl. 04090

Elevation: 2666 5585N 3854447

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
in burrow entrance, bask and sticking out

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:
Burrow under oak gr in gravelly wash

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

can't see front of DT, but shell in back looks good

Estimated MCL length: ~200+ Sex: M Photos of: carapace frontal previously labeled scute

DT25

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Dallas Rugh DATE: 4/5/10 TIME: 1128

TEMP (deg. F): 57°F CLOUD COVER %: 80 WIND (mph): 25 MPH

PROJECT NAME: Calico Solar CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: 5 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Small ♀ tort out of burrow

Found at GPS (UMT WGS 84): 0557594 , 3854825

Elevation: 2,619 ft.

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	<u>Shallow, ~ 4" x 8", active</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

None

Estimated MCL length: 8" Sex: F Photos of: carapace frontal previously labeled scute

DT26

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Mark Brouwer DATE: 05 APR 10 TIME: 1526
TEMP (deg. F): 51 CLOUD COVER %: 80 WIND (mph): 20-30
PROJECT NAME: Calico Solar CONTRACTOR: URS/Kiva
CITY: Barstow COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input checked="" type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Docile

Found at GPS (UMT WGS 84): 558276 / 3854227

Elevation: 791 m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
inside shelter

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# 043 width 7 1/4" height 4 1/2" length 3' aspect S.W.

Burrow description/contents/condition:	<u>Good Quality Class 1 active</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

None

Estimated MCL length: 160 mm Sex: ? Photos of: carapace frontal previously labeled scute
None for

DT271

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JP Chaspenet DATE: 4/5/05 TIME: 15:15
TEMP (deg. F): _____ CLOUD COVER %: 100 WIND (mph): 12-15 mph
PROJECT NAME: _____ CONTRACTOR: _____
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 557 195 / 3854583

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
inside burrow

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# 8" width 6" height unknown length south aspect _____

Burrow description/contents/condition:
Good condition, currently active

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

No indicators of poor health

Estimated MCL length: _____ Sex: F Photos of: carapace frontal previously labeled scute

Sex SW/adult?

DT28

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Sandeep Amin
Christine Stirling DATE: 4/6/2010 TIME: 11:06 am
TEMP (deg. F): 78 CLOUD COVER %: 1 WIND (mph): 5 mph
PROJECT NAME: _____ CONTRACTOR: _____
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: G25 Township: _____ Range: _____

Location Description where found: % Slope: 5 Aspect: S

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: tortoise found 10 m from burrow ~~to~~ under
the cover of a creosote bush

Found at GPS (UMT WGS 84): 558521 3852275

Elevation: 717 m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
resting

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow -- Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:

tortoise found 10 meters from burrow
→ burrow condition 1, soil is sandy loam, burrow in open,

5% veg cover

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Some scute sinking on V2 + V3

Estimated MCL length: 200 Sex: F Photos of: carapace frontal previously labeled scute

2DR

DT 29 & DT 30

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JP Charpentier DATE: 4/6/10 TIME: 11:43

TEMP (deg. F): 64 CLOUD COVER %: 0% WIND (mph): 4-7

PROJECT NAME: Calico CONTRACTOR: URS Corporation

CITY: Barstow [30 mls west] COUNTY: San Bernardino STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 1% Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	___ Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	___ In Burrow
___ Small Hills	___ Blow Sand	___ Saltbush Scrub	___ Pallet Burrow
___ Large Hills	<input checked="" type="checkbox"/> Gravel	___ Blackbrush	___ Under Shrub
___ Small Wash	___ Cobble	___ Desert Wash	<input checked="" type="checkbox"/> In Open
___ Big Wash	___ Caliche	___ Joshua Tree	___ Caliche Cave/Den
___ Bajada	___ Rocky	___ Thorn Scrub	___ Rock Shelter
___ Dune	___ Pavement	___ Grassland	___ Other _____

Describe: male and female mating

Found at GPS (UMT WGS 84): 0557910 3852674

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
mating

Scat found? ___ Yes No Scat Class: _____

Scat location: ___ In burrow ___ In open ___ Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

No indicator of poor health
9 1/2 F ✓ ✓

Estimated MCL length: 11 Sex: M Photos of: carapace frontal ___ previously labeled scute

~~9 1/2 F~~

DT311

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JP Charpentier DATE: 4/6/15 TIME: 1506
TEMP (deg. F): 77 CLOUD COVER %: 0% WIND (mph): 1-3 mph
PROJECT NAME: Calico CONTRACTOR: URS Corp
CITY: Barstow [30 miles west] COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: 1% Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	___ Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	___ In Burrow
___ Small Hills	___ Blow Sand	___ Saltbush Scrub	___ Pallet Burrow
___ Large Hills	<input checked="" type="checkbox"/> Gravel	___ Blackbrush	<input checked="" type="checkbox"/> Under Shrub
___ Small Wash	___ Cobble	___ Desert Wash	<input checked="" type="checkbox"/> In Open
___ Big Wash	___ Caliche	___ Joshua Tree	___ Caliche Cave/Den
___ Bajada	___ Rocky	___ Thorn Scrub	___ Rock Shelter
___ Dune	___ Pavement	___ Grassland	___ Other _____

Describe: Female foraging

Found at GPS (UMT WGS 84): 4558231 385246

Elevation: 2353

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
foraging

Scat found? ___ Yes No Scat Class: _____
Scat location: ___ In burrow ___ In open ___ Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

No signs of poor health

Estimated MCL length: 8 3/4" Sex: F Photos of: carapace frontal ___ previously labeled scute

DT32

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JP Charpentier DATE: 4/6/10 TIME: 16:00

TEMP (deg. F): 78 CLOUD COVER %: 0% WIND (mph): 4-7

PROJECT NAME: Calves CONTRACTOR: URS Corp

CITY: Barstow (30 miles west) COUNTY: San Bernardino STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 1% Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	___ Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
___ Small Hills	___ Blow Sand	___ Saltbush Scrub	___ Pallet Burrow
___ Large Hills	<input checked="" type="checkbox"/> Gravel	___ Blackbrush	___ Under Shrub
___ Small Wash	___ Cobble	___ Desert Wash	___ In Open
___ Big Wash	___ Caliche	___ Joshua Tree	___ Caliche Cave/Den
___ Bajada	___ Rocky	___ Thorn Scrub	___ Rock Shelter
___ Dune	___ Pavement	___ Grassland	___ Other _____

Describe: _____
Female in burrow

Found at GPS (UMT WGS 84): 4558381, 3852761

Elevation: 2412

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
female inside shelter

Scat found? ___ Yes No Scat Class: _____

Scat location: ___ In burrow ___ In open ___ Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width 11 height 6 length ? aspect 5

Burrow description/contents/condition:
Currently active with tortoise inside

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
No indicators of poor health

Estimated MCL length: ? Sex: F Photos of: ___ carapace ___ frontal ___ previously labeled scute

DT33

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Dallas Pugh DATE: 3/6/10 TIME: 9:06

TEMP (deg. F): 57°F CLOUD COVER %: 2% WIND (mph): 5-10 mph

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5% Aspect: NE

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input checked="" type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Juv. ♀ found basking.

Found at GPS (UMT WGS 84): 0555004 3853098

Elevation: 2173

Activity (inside shelter, at shelter entrance basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width 10" height 6" length 10" aspect NE

Burrow description/contents/condition:	
<u>Active burrow, good cond.</u>	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

<u>rear marginal shell & front margin</u>	
<u>chipped or grazed on.</u>	

Estimated MCL length: 9" Sex: F Photos of: carapace frontal previously labeled scute

C19

DT34

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: DM DATE: 6 Apr 10 TIME: 945

TEMP (deg. F): _____ CLOUD COVER %: _____ WIND (mph): _____

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 0 Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: Basking in open, dirt on back still from burrow, signs of recent feeding

Found at GPS (UMT WGS 84): 773 555880 3854021

Elevation: 2074 ft 555880 3854021

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Basking

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width 7 height 5 length 7 aspect _____

Burrow description/contents/condition:	<u>under rocks pic 3173</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: 5 Sex: _____ Photos of: carapace frontal previously labeled scute
3172 3174

C18

DT 35

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: DM DATE: 6 Apr 10 TIME: 1450
TEMP (deg. F): 70 CLOUD COVER %: 0 WIND (mph): 1-5
PROJECT NAME: _____ CONTRACTOR: _____
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input checked="" type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Sitting head first just inside burrow

Found at GPS (UMT WGS 84): PT 730 555635 8853703

Elevation: 2329ft

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking): _____

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width 8 height 6 length 7 aspect _____

Burrow description/contents/condition:	<u>Occupied</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: 8 Sex: ? Photos of: carapace frontal previously labeled scute

3180

18

DT36

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Om DATE: 6 April TIME: 1516

TEMP (deg. F): 75 CLOUD COVER %: 0 WIND (mph): 0-3

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: 1 Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 236 555390 8853935

Elevation: 2302 ft

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking): _____

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: 8 Sex: ♀ Photos of: carapace frontal previously labeled scute

3196 3195

C18

DT37

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Dum DATE: 6 Apr 10 TIME: 1623

TEMP (deg. F): 75 CLOUD COVER %: 0 WIND (mph): 1-4

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: 1 Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: Sitting sideways in burrow

Found at GPS (UMT WGS 84): 240 555276 3853798

Elevation: 2267

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width 8 height 6 length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: _____ Sex: ? Photos of: carapace frontal previously labeled scute

320

DT 38

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Mark Brewer DATE: 06 APR 10 TIME: 0911

TEMP (deg. F): _____ CLOUD COVER %: 5 WIND (mph): 5-10

PROJECT NAME: Calico Solar CONTRACTOR: URS / KIVA

CITY: Barstow COUNTY: San Bernardino STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input checked="" type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 556141 / 3853341

Elevation: 700 m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Burrow

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# 047 width 12 height 5 length 3' aspect SW

Burrow description/contents/condition:	<u>Quality Burrow</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

None

Estimated MCL length: 250mm Sex: ? Photos of: carapace frontal previously labeled scute

DT-39

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Mark Browner DATE: 06 APR 10 TIME: 1528

TEMP (deg. F): _____ CLOUD COVER %: 0 WIND (mph): 0-5

PROJECT NAME: Calico Solar CONTRACTOR: URS / Kiva

CITY: Barstow COUNTY: San Bernardino STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 555367 / 3853457

Elevation: 681 M

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
walking

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

None

Estimated MCL length: 180 mm Sex: ♂ Photos of: carapace frontal previously labeled scute

M

BT40

URS Corporation

LIVE TORTOISE ENCOUNTER FORM

Sunderp Ann

BIOLOGIST: Christine Stirling DATE: 4/7/2010 TIME: 12:50 PM

TEMP (deg. F): 80 CLOUD COVER %: 0 WIND (mph): 5

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5 Aspect: East

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	___ Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	___ In Burrow
___ Small Hills	___ Blow Sand	___ Saltbush Scrub	___ Pallet Burrow
___ Large Hills	<input checked="" type="checkbox"/> Gravel	___ Blackbrush	<input checked="" type="checkbox"/> Under Shrub
___ Small Wash	___ Cobble	___ Desert Wash	___ In Open
___ Big Wash	___ Caliche	___ Joshua Tree	___ Caliche Cave/Den
___ Bajada	___ Rocky	___ Thorn Scrub	___ Rock Shelter
___ Dune	___ Pavement	___ Grassland	___ Other _____

Describe: _____

Found at GPS (UMT WGS 84): 559457 3852450

Elevation: 743 m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Resting under shrub

Scat found? ___ Yes No Scat Class: _____

Scat location: ___ In burrow ___ In open ___ Under veg. (type: _____)

Tortoise in burrow - Project DTB# 12" width 7" height 2' length _____ aspect _____

Burrow description/contents/condition:
~~12" x 7" x 2'~~ Burrow found 10 meters to the east under a creosote bush

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

~~Scutes sinking~~ Tortoise appears old / Growth rings not clearly visible
Scutes sinking / nose and eyes not visible / Some predation evident on rear marginals

Estimated MCL length: 250^{mm} Sex: F Photos of: ___ carapace ___ frontal ___ previously labeled scute

DT41

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Sundar Ann
Christine Stirling DATE: 4/7/2010 TIME: 1:40 pm
TEMP (deg. F): 80 CLOUD COVER %: 0 WIND (mph): 3
PROJECT NAME: _____ CONTRACTOR: _____
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 3 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	_____ Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	_____ In Burrow
_____ Small Hills	_____ Blow Sand	_____ Saltbush Scrub	_____ Pallet Burrow
_____ Large Hills	<input checked="" type="checkbox"/> Gravel	_____ Blackbrush	<input checked="" type="checkbox"/> Under Shrub
_____ Small Wash	<input checked="" type="checkbox"/> Cobble	_____ Desert Wash	_____ In Open
_____ Big Wash	_____ Caliche	_____ Joshua Tree	_____ Caliche Cave/Den
_____ Bajada	_____ Rocky	_____ Thorn Scrub	_____ Rock Shelter
_____ Dune	_____ Pavement	_____ Grassland	_____ Other _____

Describe: _____

Found at GPS (UMT WGS 84): 559015 3852454

Elevation: 732 meters

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
under shrub resting

Scat found? ___ Yes No Scat Class: _____

Scat location: ___ In burrow ___ In open ___ Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:
Tortoise found about 70 meters from burrow
(Under creosote)

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Some signs of wear around mouth, no discharge from
nose/eyes. Scutes in good condition but slightly sunken

Estimated MCL length: 300 Sex: ___ Photos of: ___ carapace ___ frontal ___ previously labeled scute
Unknown

DT 42

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Dallas Pugh DATE: 4/7/10 TIME: 9:28
TEMP (deg. F): 59°F CLOUD COVER %: 0% WIND (mph): 0-2 MPH
PROJECT NAME: _____ CONTRACTOR: _____
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5% Aspect: East

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: Juvenile ♀ tort basking/feeding outside burrow
under creosote

Found at GPS (UMT WGS 84): 557380, 3852938

Elevation: 2346

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:
Active burrow, fresh but small, under creosote.

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
None

Estimated MCL length: 7" Sex: F Photos of: carapace frontal previously labeled scute

DT 43

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Dallas Pugh DATE: 4/7/10 TIME: 10:53

TEMP (deg. F): 67°F CLOUD COVER %: 0% WIND (mph): 5-10

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5% Aspect: North

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input checked="" type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Old ♀ basking on pallet.

Found at GPS (UMT WGS 84): 557093, 3853058

Elevation: 2342

Activity (inside shelter at shelter entrance basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	
<u>Shallow pallet</u>	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Scute sinking, damage to gular and carapace margins

Estimated MCL length: 10.5 Sex: F Photos of: carapace frontal previously labeled scute

DT44

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Dallas Pugh DATE: 4/7/10 TIME: 11:00

TEMP (deg. F): 69°F CLOUD COVER %: 0% WIND (mph): 5-10 MPH

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5% Aspect: North

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: Large mole in burrow, head-first, under pencil cactus

Found at GPS (UMT WGS 84): 557088, 3853066

Elevation: 2340 ft

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	
<u>large, deep burrow under pencil cactus.</u>	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

None

Estimated MCL length: 10 Sex: M Photos of: carapace frontal previously labeled scute

DT45

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Dallas Pugh DATE: 4/7/10 TIME: 12:43

TEMP (deg. F): _____ CLOUD COVER %: 0 WIND (mph): _____

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5% Aspect: NE

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 556751, 3853100

Elevation: 2368 ft.

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	
<u>in the open</u>	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

None

Estimated MCL length: 10" Sex: M Photos of: carapace frontal previously labeled scute

DT46

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Dallas Rugh DATE: 4/7/10 TIME: 1501

TEMP (deg. F): 78°F CLOUD COVER %: 0 WIND (mph): 0-5

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 3% Aspect: NE

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Basking large old male

Found at GPS (UMT WGS 84): 556429, 3853063

Elevation: 2,306 ft.

Activity (inside shelter, at shelter entrance basking combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	
<u>No burrow</u>	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

kicks in scutes, damage to forearms, margin of carapace in front and rear, ? anomaly on front half of carapace

Estimated MCL length: 11 Sex: M Photos of: carapace frontal previously labeled scute

DT47

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Dallas Rugh DATE: 4/7/10 TIME: 1555

TEMP (deg. F): 79°F CLOUD COVER %: 0 WIND (mph): 0-3

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5% Aspect: SE

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Small ♀ next to road, feeding.

Found at GPS (UMT WGS 84): 556252, 3852877

Elevation: 2256 feet

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	
<u>No burrow</u>	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

None

Estimated MCL length: 8 Sex: F Photos of: carapace frontal previously labeled scute

DT48

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Mark Brower DATE: 07 APR 10 TIME: 1418
TEMP (deg. F): _____ CLOUD COVER %: 0 WIND (mph): 0-5
PROJECT NAME: Calico Solar CONTRACTOR: URS / KIVA
CITY: Barstow COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input checked="" type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 555111 / 3854169

Elevation: 705 m.

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Resting

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

None

Estimated MCL length: 310mm Sex: M Photos of: carapace frontal previously labeled scute

DT-49

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Mark Brower DATE: 07 APR 10 TIME: 1223
TEMP (deg. F): _____ CLOUD COVER %: 0 WIND (mph): 0-5
PROJECT NAME: Calico Solar CONTRACTOR: URS / KIVA
CITY: Barstow COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 555230 / 3853887

Elevation: 701 M.

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Resting

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
None

Estimated MCL length: 100 mm Sex: ? Photos of: carapace frontal previously labeled scute

DT50

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Mark Brower DATE: 07 APR 10 TIME: 0944
TEMP (deg. F): _____ CLOUD COVER %: 0 WIND (mph): 0-5
PROJECT NAME: Calico Solar CONTRACTOR: URS/KIVA
CITY: Barstow COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: _____

Found at GPS (UMT WGS 84): 555037 / 3853281

Elevation: 670 m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Resting

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____
Burrow description/contents/condition: _____

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
None

Estimated MCL length: 110mm Sex: ? Photos of: carapace frontal previously labeled scute

DT51

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Mark Brower DATE: 06 APR 10 TIME: 1300
TEMP (deg. F): _____ CLOUD COVER %: 0 WIND (mph): 5-10
PROJECT NAME: Calico Solar CONTRACTOR: URS / KIVA
CITY: Barstow COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input checked="" type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 555243 / 3853317

Elevation: 674

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Resting

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
None

Estimated MCL length: 280mm Sex: M Photos of: carapace frontal previously labeled scute

DT52

URS Corporation

LIVE TORTOISE ENCOUNTER FORM

JP Chorpach

BIOLOGIST: Peggy Wood DATE: 4-7-10 TIME: 1345
 TEMP (deg. F): 69.5° CLOUD COVER %: 0 WIND (mph): 3-5 mph NE
 PROJECT NAME: Calico Solar CONTRACTOR: URS
 CITY: Barstow (30 miles E) COUNTY: San Bernardino STATE: CA
 USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2% Aspect: SE

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow on Apron
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 558076 E 3853161 N

Elevation: 2439

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
basking

Scat found? Yes No Scat Class: 2

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# 62 width 14" height 6" length >1m aspect SE

Burrow description/contents/condition:	<u>good condition - Active</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: Unk Sex: Unk Photos of: N/A carapace frontal previously labeled scute
Ran inside burrow

DT53

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JP Carpenter DATE: 4/7/10 TIME: 0923
TEMP (deg. F): 58 CLOUD COVER %: 0% WIND (mph): 1-3
PROJECT NAME: Calico CONTRACTOR: URS Corp.
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	____ Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
____ Small Hills	____ Blow Sand	____ Saltbush Scrub	____ Pallet Burrow
____ Large Hills	<input checked="" type="checkbox"/> Gravel	____ Blackbrush	____ Under Shrub
____ Small Wash	____ Cobble	____ Desert Wash	____ In Open
____ Big Wash	____ Caliche	____ Joshua Tree	____ Caliche Cave/Den
____ Bajada	____ Rocky	____ Thorn Scrub	____ Rock Shelter
____ Dune	____ Pavement	____ Grassland	____ Other _____

Describe: tortoise in burrows (seen with binoculars)
sub-adult

Found at GPS (UMT WGS 84): 0557846 / 13452653

Elevation: 2355

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
inside shelter

Scat found? ___ Yes No Scat Class: _____
Scat location: ___ In burrow ___ In open ___ Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width 1/8 height 5 length ? aspect N

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: _____ Sex: ___ Photos of: ___ carapace ___ frontal ___ previously labeled scute

DT54

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JP Chapman
Peggy Wood DATE: 4-7-10 TIME: _____
TEMP (deg. F): 77° CLOUD COVER %: 0 WIND (mph): 3-5 NE
PROJECT NAME: Calico Solar CONTRACTOR: URS
CITY: Barstow (30 miles W) COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 21. Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 557975 E 3852970 N

Elevation: 2381

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
walking

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# NA width _____ height _____ length _____ aspect _____

Burrow description/contents/condition: _____

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
Dry nose

Estimated MCL length: 9.25" Sex: F Photos of: carapace frontal previously labeled scute

DT55

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

Dennis Miller

BIOLOGIST: Ronald Cummings DATE: 4/7/10 TIME: 9:00 AM

TEMP (deg. F): 55° CLOUD COVER %: 0 WIND (mph): 2.4

PROJECT NAME: 09/180 CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Resting near burrow. old female, sunken scutes.

Found at GPS (UMT WGS 84): Point 246 556607 3853243

Elevation: 2312'

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Resting

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: 8" Sex: F Photos of: carapace frontal previously labeled scute
#3201 & 3202

DT56

URS Corporation

LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Dennis Miller ~~Kevin Williams~~ DATE: 4/8/10 TIME: 09:15
 TEMP (deg. F): _____ CLOUD COVER %: 0 WIND (mph): _____
 PROJECT NAME: Calico CONTRACTOR: _____
 CITY: _____ COUNTY: _____ STATE: _____
 USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 3% Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: large male, fairly worn shell, green on mouth. looks healthy, swollen glands

Found at GPS (UMT WGS 84): GPS #002 556992 3854050

Elevation: 2454

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____
 Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: 12" Sex: M Photos of: carapace frontal previously labeled scute 3224, 3225

DT57

URS Corporation

LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Dennis Miller
Kevin Williams DATE: 4/8/10 TIME: 10:21
 TEMP (deg. F): _____ CLOUD COVER %: 0 WIND (mph): _____
 PROJECT NAME: _____ CONTRACTOR: _____
 CITY: _____ COUNTY: _____ STATE: _____
 USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: 3 Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input checked="" type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Female, tucked in, pallet nearby under same creosote bush
scutes somewhat sunken, worn.

Found at GPS (UMT WGS 84): #006 356869 3853727

Elevation: 2400

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
resting

Scat found? Yes No Scat Class: _____
 Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

<u>None</u>	

Estimated MCL length: 92 Sex: F Photos of: carapace frontal previously labeled scute
3230

DT58

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: ~~Kevin Williams~~ ^{Dennis Miller} DATE: 4/8/10 TIME: 09:50
TEMP (deg. F): _____ CLOUD COVER %: 0 WIND (mph): _____
PROJECT NAME: Calico CONTRACTOR: _____
CITY: _____ COUNTY: _____ STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 3° Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Male, healthy appearance, green mouth, swollen glands

Found at GPS (UMT WGS 84): Pt. 005 856924 3853868

Elevation: 2426

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Resting

Scat found? Yes No Scat Class: new
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____
Burrow description/contents/condition:

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
Post shell trauma healed

Estimated MCL length: 11" Sex: M Photos of: _____ carapace _____ frontal _____ previously labeled scute
3227, shell trauma # 3228

DT59

URS Corporation

LIVE TORTOISE ENCOUNTER FORM

Sunder Amin

BIOLOGIST: Christine Stirling DATE: 4/8/2010 TIME: 4:38 pm

TEMP (deg. F): 85 CLOUD COVER %: 0 WIND (mph): 2-4

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5 Aspect: EAST

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	___ Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	___ In Burrow
___ Small Hills	___ Blow Sand	___ Saltbush Scrub	___ Pallet Burrow
___ Large Hills	<input checked="" type="checkbox"/> Gravel	___ Blackbrush	___ Under Shrub
___ Small Wash	<input checked="" type="checkbox"/> Cobble	___ Desert Wash	<input checked="" type="checkbox"/> In Open
___ Big Wash	___ Caliche	___ Joshua Tree	___ Caliche Cave/Den
___ Bajada	<input checked="" type="checkbox"/> Rocky	___ Thorn Scrub	___ Rock Shelter
___ Dune	___ Pavement	___ Grassland	___ Other _____

Describe: Tortoise found in the open, basking

Found at GPS (UMT WGS 84): 559496 3852854

Elevation: 756 meters

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
in open, basking

Scat found? ___ Yes No Scat Class: _____

Scat location: ___ In burrow ___ In open ___ Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:
NO burrow ~~XXXXXXXXXX~~

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
Eyes sunken, ~~scute~~ scute anomalies
~~and~~ irregular growth on marginals

Estimated MCL length: 300 Sex: M Photos of: ___ carapace ___ frontal ___ previously labeled scute

DT60

URS Corporation

LIVE TORTOISE ENCOUNTER FORM

Sundup Amin

BIOLOGIST: Christine Stirling DATE: 4/8/2010 TIME: 9:50 am

TEMP (deg. F): 72 CLOUD COVER %: 0 WIND (mph): 2.5

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 7 Aspect: East

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input checked="" type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: Tortoise found resting under a shrub

Found at GPS (UMT WGS 84): 558568 3853172

Elevation: 758 meters

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Resting

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# ~~11~~ width ~~11~~ 8" height ~~11~~ 5" length 1' aspect S

Burrow description/contents/condition:
Burrow in the open (~5% veg. cover) in gravel/sandy soil.

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Some predation evident in rear marginals, scutes slightly sunken. Nose & eyes are clear, some green around mouth from feeding

Estimated MCL length: 210 Sex: F Photos of: carapace frontal previously labeled scute

DTL61 & DTL62

ZDT

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Sundeep Amin
Myles Traphagen DATE: 4-8-2010 TIME: 1605
TEMP (deg. F): 87 ground CLOUD COVER %: 0 WIND (mph): 5 mph from W
PROJECT NAME: Calico CONTRACTOR: Traphagen
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5-8 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: 2 tortoises, 1 large ~ 200mm, 1 small ~ 180mm.
Saw large tort bubbling head at small tortoise, possible mating.

Found at GPS (UMT WGS 84): E 115 559258, 3852991 &

Elevation: 754m 559259, 3852992

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Appear to both be in excellent condition. We did not approach in order to not interfere w/ mating.

Estimated MCL length: _____ Sex: _____ Photos of: _____ carapace _____ frontal _____ previously labeled scute

DT63

URS Corporation

LIVE TORTOISE ENCOUNTER FORM

Sandeep Amman

BIOLOGIST: Christine Stirling DATE: 4/8/2010 TIME: 1:47 pm

TEMP (deg. F): 86 CLOUD COVER %: 0 WIND (mph): 6

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 6 Aspect: North

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<u>Sandy Loam</u>	<input checked="" type="checkbox"/> Creosote Bush	<u>In Burrow</u>
<input type="checkbox"/> Small Hills	<u>Blow Sand</u>	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input checked="" type="checkbox"/> Other <u>Under Creosote</u>

Describe: _____
Found 10 meters from a small wash under creosote shade

Found at GPS (UMT WGS 84): 558931 3853004

Elevation: 752

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Resting under creosote bush

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	
<u>No Burrow nearby</u>	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

eyes + nose are clear, growth rings are clearly defined with wear a very slight sinking (possibly from age)

Estimated MCL length: 240 Sex: M Photos of: carapace frontal previously labeled scute

DTL64

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Mark Browner DATE: 08 APR 10 TIME: 1337
TEMP (deg. F): _____ CLOUD COVER %: 0 WIND (mph): 0-5
PROJECT NAME: Calico Solar CONTRACTOR: URS / CSRC
CITY: Barstow COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5 Aspect: Southwest

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: _____

Found at GPS (UMT WGS 84): 4556831 / 3854426

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Walking

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

None

Estimated MCL length: 215mm Sex: F Photos of: carapace frontal previously labeled scute

DTL65

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JP Charpentier DATE: 4/8/10 TIME: 0945

TEMP (deg. F): _____ CLOUD COVER %: 5% WIND (mph): 1-3

PROJECT NAME: Calico CONTRACTOR: URS Corp

CITY: Barstow [30 mls west] COUNTY: San Bernardino STATE: CA

USGS quadrangle: 0557258, 32 Township: _____ Range: _____

Location Description where found: % Slope: 2% Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	____ Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	____ In Burrow
____ Small Hills	____ Blow Sand	____ Saltbush Scrub	____ Pallet Burrow
____ Large Hills	<input checked="" type="checkbox"/> Gravel	____ Blackbrush	<input checked="" type="checkbox"/> Under Shrub
____ Small Wash	____ Cobble	____ Desert Wash	____ In Open
____ Big Wash	____ Caliche	____ Joshua Tree	____ Caliche Cave/Den
____ Bajada	____ Rocky	____ Thorn Scrub	____ Rock Shelter
____ Dune	____ Pavement	____ Grassland	____ Other _____

Describe: turtle under shrub

Found at GPS (UMT WGS 84): 0557258, 3853753

Elevation: 2439

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
basking

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Good health

Estimated MCL length: 8 in Sex: F Photos of: carapace frontal previously labeled scute

DTLelo

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: SP Peggy Wood DATE: 4-8-10 TIME: 10:09
TEMP (deg. F): 67.8 CLOUD COVER %: 0 WIND (mph): 2-4 mph W
PROJECT NAME: Calico Solar CONTRACTOR: URS
CITY: 30 mi E Barstow COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub (edge)
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 557248 E 3854044 N

Elevation: 2463

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
basking

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# 072 width 12 height 7 length 2m aspect W

Burrow description/contents/condition:
Under LATR, good

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

dry nose

Estimated MCL length: 8 1/2" Sex: M Photos of: carapace frontal previously labeled scute

DTL64

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: TRACY Rob D. Group DATE: 8 Apr 2010 TIME: 16:04

TEMP (deg. F): 82°F CLOUD COVER %: 0 WIND (mph): 5-10

PROJECT NAME: CALICO SOLAR CONTRACTOR: URS

CITY: _____ COUNTY: S. B. STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: ±5-10% Aspect: SSE

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: Resting - Recently Feeding under pencil cholla

Found at GPS (UMT WGS 84): ~ 05562 0556224 385 4439 (wpt 009)

Elevation: 756m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
recently Feeding, resting under cholla

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: under cholla)

Tortoise in burrow - Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

<u>Looks healthy</u>	
<u>length ~ 14</u>	

Estimated MCL length: 11in Sex: M Photos of: carapace frontal previously labeled scute
photo 086

DTL68

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: TRACY ROB D DATE: 4/8/2010 TIME: 13.55
TEMP (deg. F): 80°F CLOUD COVER %: 0 WIND (mph): 10 mph
PROJECT NAME: Colias SOLAR CONTRACTOR: URS
CITY: _____ COUNTY: S. B. STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5-10 Aspect: SSSE

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input checked="" type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input checked="" type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 055 6574 38 54245 WPT006

Elevation: 757m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Resting in shade under shrub

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
Marginal scute split in half - L. Rear.

Estimated MCL length: 9 Sex: F Photos of: carapace frontal previously labeled scute
pic 080

DTL69

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: R. DeBACA DATE: 4-08-2010 TIME: 9:20
TEMP (deg. F): 065°F CLOUD COVER %: 0 WIND (mph): 0-5 mph
PROJECT NAME: Calico SOUAR CONTRACTOR: URS
CITY: _____ COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5-10 Aspect: SSE

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input checked="" type="checkbox"/> Other <u>next to Dead cholla</u>

Describe: _____

Found at GPS (UMT WGS 84): WPT 002 556504 3853822

Elevation: 732 m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
BASKING

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

N/A Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:
Buck ~~Back~~ part of shell scute damaged Bone exposed

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: 6" Sex: ? Photos of: carapace frontal previously labeled scute
photo 071, 072

DTMO

URS Corporation

LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Sandeep Amin
Dave Compton DATE: 4-9-10 TIME: 11:10
 TEMP (deg. F): _____ CLOUD COVER %: 0 WIND (mph): 1
 PROJECT NAME: _____ CONTRACTOR: _____
 CITY: _____ COUNTY: _____ STATE: _____
 USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5-8 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: _____

Found at GPS (UMT WGS 84): 559401 3853188

Elevation: 762m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
foraging under creosote shrub

Scat found? Yes No Scat Class: _____
 Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

eyes swollen, breathing labored;
mouth rot, shell looks good

Estimated MCL length: 270 Sex: F Photos of: carapace frontal previously labeled scute

DT71

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Sunderp Anna
Christine Stirling DATE: 4/9/2010 TIME: 10:45 am

TEMP (deg. F): 83 CLOUD COVER %: 0 WIND (mph): 1-2

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 4 Aspect: West

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	In Burrow
<input type="checkbox"/> Small Hills	Blow Sand	Saltbush Scrub	Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	Blackbrush	Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	Desert Wash	In Open
<input type="checkbox"/> Big Wash	<input checked="" type="checkbox"/> Caliche	Joshua Tree	Caliche Cave/Den
<input type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	Thorn Scrub	Rock Shelter
<input type="checkbox"/> Dune	Pavement	Grassland	<input checked="" type="checkbox"/> Other <u>under creosote</u>

Describe: Tortoise was found basking on the west side of a creosote in a small wash

Found at GPS (UMT WGS 84): 559424 352947

Elevation: 745 meters

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Basking and possibly Feeding

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:
No Burrow nearby

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

eyes clear and bright, evidence of feeding around the mouth. Scutes + Marginals look great

Estimated MCL length: 220 Sex: M Photos of: carapace frontal previously labeled scute

DTM2

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Josh
ROB D. DATE: 09 APR 2010 TIME: 11:25

TEMP (deg. F): 75°F CLOUD COVER %: 0 WIND (mph): 0-5 mph

PROJECT NAME: Calico Solar CONTRACTOR: URS

CITY: _____ COUNTY: San Bernardino STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 0-5 Aspect: SSW

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: sparse creosote, bursage, cobbly sandy loam

Found at GPS (UMT WGS 84): 0852890 3853533 wpt022

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Feeding on desert chickory

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# 9 width 5 height 36" in length 5 aspect 5

Burrow description/contents/condition:	<u>vegetation on lip Soil churned up inside</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: 9 Sex: F Photos of: carapace frontal previously labeled scute
photo 99

DT73

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JOSH Rob. DeBacca DATE: 9-APR-010 TIME: 9:47
TEMP (deg. F): ~72°F CLOUD COVER %: 0 WIND (mph): 5-8mph
PROJECT NAME: Calico Solar CONTRACTOR: URS
CITY: _____ COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 0-5 Aspect: SSW

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Cobbly sandy loam, sparse creosote bursage
basking under small creosote

Found at GPS (UMT WGS 84): 0552668 , 3853505

Elevation: 649 m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Basking under creosote (sunny side) south side ~3.5m from burrow

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width ~~6.5~~^u height 6.5 length 11.5m aspect SSE

Burrow description/contents/condition: Fresh tracks, definite use

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

excellent condition

Estimated MCL length: ~~10 in~~ Sex: M Photos of: carapace frontal previously labeled scute
10 in pic 093

DTM4

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Josh Rob D. DATE: 19 Apr 2010 TIME: 11:01
TEMP (deg. F): 75° CLOUD COVER %: 0 WIND (mph): 0-5
PROJECT NAME: CALICO SocALZ CONTRACTOR: URS
CITY: _____ COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 0-5 Aspect: SSW

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: sparse creosote wht. bursage, cobbly sandy loam.

Found at GPS (UMT WGS 84): 0552857 ~~3853~~ 3853481 wpt021

Elevation: 648 m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
sitting back ~35cm in burrow

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width 4.5 height 3 length 40+ aspect SSW

Burrow description/contents/condition:	<u>current use, fresh soil at surface</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

looked healthy, clear eyes, skin looked healthy.

Estimated MCL length: ~4in Sex: ? Photos of: carapace frontal previously labeled scute
photo of burrow, not possible to see tortoise in photo 098

DT 75

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Peggy Wood / JP DATE: 4-9-10 TIME: 12:07
TEMP (deg. F): 77 CLOUD COVER %: 0 WIND (mph): 0-1
PROJECT NAME: Calico Solar CONTRACTOR: URS
CITY: 30 mi E Barstow COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: x Aspect: SE

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub <u>AMDU</u>
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: In shade of AMDU

Found at GPS (UMT WGS 84): 553266 E 3853127 N

Elevation: 2119

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
under AMDU

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# 090 width 9" height 6" length 1m aspect ENE

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

dry nose

Estimated MCL length: 7" Sex: Unk photos of: carapace frontal previously labeled scute

DTM4

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: ~~Kevin Williams~~ ^{DM} DATE: 4/9/10 TIME: 12:00
TEMP (deg. F): 75° CLOUD COVER %: 0 WIND (mph): 2-2
PROJECT NAME: Calico CONTRACTOR: _____
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____
Location Description where found: % Slope: 2 Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Big healthy male, green stain on mouth, swollen glands.

Found at GPS (UMT WGS 84): 019 553141 3853877

Elevation: 2203

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: ^{small} Creosote bush)

Tortoise in burrow - Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: 13" Sex: M Photos of: carapace frontal previously labeled scute
~~3248~~ 3250

DT-77

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: ^{DWS} ~~Kevin Williams~~ DATE: 4/9/10 TIME: 11:48
TEMP (deg. F): ~75° CLOUD COVER %: 0 WIND (mph): 0-4
PROJECT NAME: Calico CONTRACTOR: _____
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____
Location Description where found: % Slope: 2 Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: wedged sideways in new burrow w/ fresh diggings.
cannot see head.

Found at GPS (UMT WGS 84): 018 553093 3854182

Elevation: 2224'

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width _____ height _____ length _____ aspect SW

Burrow description/contents/condition:	
New burrow, fresh digging	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
None that we can see.

Estimated MCL length: 7" Sex: JAK Photos of: carapace frontal previously labeled scute
3246, 3247

DT 18

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: ~~Kevin Williams~~ DATE: 4/9/10 TIME: 12:58

TEMP (deg. F): ~78° CLOUD COVER %: 0 WIND (mph): 2-4

PROJECT NAME: Calico CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: Healthy probable female eating desert dandelion

Found at GPS (UMT WGS 84): 026 5533N 3853762

Elevation: 2201

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: small creosote bush.)

Tortoise in burrow - Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: 96 Sex: F Photos of: 3255 carapace frontal previously labeled scute

DTM9

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: ^{Josh} Rob D DATE: 11 APR 010 TIME: 11:50
TEMP (deg. F): ~55°F CLOUD COVER %: 75 WIND (mph): 10-15
PROJECT NAME: Calico Solar CONTRACTOR: URS
CITY: COUNTY: San Bernardino STATE: CA
USGS quadrangle: Township: Range:

Location Description where found: % Slope: Aspect:

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input checked="" type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input checked="" type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: on a sandy to sandy loam hill with gravel and cobbles, sparse creosote bur sage, many forbs

Found at GPS (UMT WGS 84): 0552026 3849877

Elevation: 620m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
basking next to pallet burrow

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# 6 width 4 height 10 length South aspect

Burrow description/contents/condition:
good condition, soil channeled up at bottom

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
cracked left medial scute, Right front medial scute abraded but bone not showing

Estimated MCL length: 6" Sex: ? Photos of: carapace - 114, frontal - 113, lateral - 113

DT80

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Rick Bailey & Wayne Ball DATE: 4-12-2016 TIME: 10:44
TEMP (deg. F): 73 CLOUD COVER %: 10 WIND (mph): 3
PROJECT NAME: Calzo Solar CONTRACTOR: URS
CITY: Piñon COUNTY: San Bernadino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5 Aspect: NE

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow <i>apron</i>
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: ♀ tortoise facing into burrow entrance.

Found at GPS (UMT WGS 84): 552789 X 3850248

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: 2

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# RB14 width 6" height 13" length 6' aspect NE

Burrow description/contents/condition: Burrow near low herbaceous vegetation.

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
None observed.

Estimated MCL length: 10" Sex: F Photos of: carapace frontal previously labeled scute

DT81

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

Sandeep Arora

BIOLOGIST: Jerry Monks DATE: 4/13/10 TIME: 10:15 am

TEMP (deg. F): 67 CLOUD COVER %: 0 WIND (mph): 0-5

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input checked="" type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input checked="" type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 555622 3854228

Elevation: 2396 ft

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Basking next to shelter

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:
found next to pallet, on side of wash

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Good condition

Estimated MCL length: 210 Sex: F Photos of: carapace frontal previously labeled scute

D24

DT82

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Miller DATE: 13 Apr 10 TIME: _____
TEMP (deg. F): 62 CLOUD COVER %: 0 WIND (mph): 2-5
PROJECT NAME: _____ CONTRACTOR: _____
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____
Location Description where found: % Slope: 45 Aspect: S

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input checked="" type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Sitting on apron, retreated into burrow.

Found at GPS (UMT WGS 84): 027 588374 3883344

Elevation: 2542

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking): _____

Scat found? A Yes No Scat Class: 2
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width 13 height 7 length ? aspect _____

Burrow description/contents/condition:	<u>clean / occupied</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
P

Estimated MCL length: _____ Sex: ♀ Photos of: carapace frontal previously labeled scute

3266

DT 83

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Jenny Brower
R. Go Bala DATE: 13 Apr 2010 TIME: 10:02

TEMP (deg. F): 52°F CLOUD COVER %: 0 WIND (mph): 15-20

PROJECT NAME: Calico Solar CONTRACTOR: URS

CITY: Barstow, 20mi. E. COUNTY: San Bernardi' 10 STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input checked="" type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input checked="" type="checkbox"/> Big Wash <u>no</u>	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input checked="" type="checkbox"/> Other <u>next to shrub</u>

Describe: next to small wash, rocky cobbly hummocks, creosote, bursage, blackbrush, pencil cholla

Found at GPS (UMT WGS 84): 0558541 3853231

Elevation: 757m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
basking

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

<u>Looks in good health</u>	<u>scutes worn on back rear</u>
<u>dorsum,</u>	

Estimated MCL length: 10in Sex: F Photos of: carapace frontal previously labeled scute
119 118

DT84

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: R. DeBum
Jenny Brouer DATE: 4-XIII-010 TIME: 14:30
TEMP (deg. F): ~70°F CLOUD COVER %: 0 WIND (mph): 5-10
PROJECT NAME: Calico Solar CONTRACTOR: URS
CITY: ~20m: w. Barstow COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 5% Aspect: SSE

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash <u>NO</u>	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input checked="" type="checkbox"/> Other <u>next to burrow</u>

Describe: creosote bursage, rocky cobbly gravelly loam

Found at GPS (UMT WGS 84): 0559137 3853314

Elevation: 764m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
previously feeding, active + walking about, wet upper beaks

Scat found? Yes No Scat Class: 1-2 new
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# 6 width 3 height ? length _____ aspect SE

Burrow description/contents/condition:
good condition, turns w, tortoise went in, did not observe further

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
scutes sunken, color dark, tortoise resembled an older individual, looked healthy

Estimated MCL length: 6 Sex: unk Photos of: carapace frontal previously labeled scute
 side #126

DT85

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: R. DeBacco
Josh M. DATE: 13 APR 10 TIME: 15:05
TEMP (deg. F): 70-75°F CLOUD COVER %: 0 WIND (mph): 0-5
PROJECT NAME: CAUCO SOCAR CONTRACTOR: URS
CITY: ~20mi E Barstow COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____
Location Description where found: % Slope: 5 Aspect: SSE

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input checked="" type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Broad dissected area, many small wash channels
Rocky, cobby, gravelly loam

Found at GPS (UMT WGS 84): 0559214 3883580

Elevation: 1783M

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
basking in open.

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:
possible pallet burrow ~ 50m S.

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
good health, very old, front claws very worn down

Estimated MCL length: 10.5 Sex: M Photos of: carapace frontal previously labeled scute
side #128. semi probe

DT86

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JP Chaspenier DATE: 13 April 2010 TIME: 1210
TEMP (deg. F): _____ CLOUD COVER %: clear WIND (mph): 0-5
PROJECT NAME: Calico CONTRACTOR: URS
CITY: Barstow COUNTY: SAN BERN. STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Small Wash in Bajada

Found at GPS (UMT WGS 84): 0558499

Elevation: 2563 3853776

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: Creosote Bush)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____
Burrow description/contents/condition:

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
Tortoise appears healthy Probably 20-30 years old

Estimated MCL length: 8" Sex: ♀ Photos of: carapace frontal previously labeled scute

DT87

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: J.P. Charpentier DATE: 4/13/10 TIME: 1119
TEMP (deg. F): 68° CLOUD COVER %: 0 WIND (mph): 4-7
PROJECT NAME: Calico CONTRACTOR: _____
CITY: Burstow (30 miles east) COUNTY: US STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 4 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input checked="" type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Mojave desert creosote scrub

Found at GPS (UMT WGS 84): 0558329 3854041

Elevation: 2601

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
at shelter entrance

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# 088 width 11" height 5" length 8" aspect South

Burrow description/contents/condition:	<u>currently active with tortoise</u>

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
none

Estimated MCL length: 8" Sex: F Photos of: carapace frontal previously labeled scute

DT88

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JP Charpentier DATE: 4/13/10 TIME: _____
TEMP (deg. F): 48 CLOUD COVER %: 0% WIND (mph): 4-7 mph
PROJECT NAME: Calico CONTRACTOR: URS Corp.
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 4% Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Monardella creosote scrub

Found at GPS (UMT WGS 84): 0558095 3854061

Elevation: 2550

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
inside shelter

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# 0584 width 10 height 6 length ? aspect South

Burrow description/contents/condition:
Currently active with tortoise

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: _____ Sex: _____ Photos of: carapace frontal previously labeled scute

DT89

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Rick Bailey & Jerry Montes DATE: 4-13-2010 TIME: 15:30

TEMP (deg. F): 70 CLOUD COVER %: 0 WIND (mph): 5

PROJECT NAME: Calico Solar CONTRACTOR: _____

CITY: Pisgah COUNTY: San Bernadino STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: 2 Aspect: S

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Male tortoise headed in direction of earlier marked male. No 50 meters apart.

Found at GPS (UMT WGS 84): 355130 X 3854166

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking): _____

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition: _____

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

No poor health
chip on scute medial right

Estimated MCL length: 12 Sex: M Photos of: carapace frontal previously labeled scute

598-1670

2192-2205

DT90

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Rick Bailey & Wayne Ball DATE: 4-13-2010 TIME: 11:15

TEMP (deg. F): 70 CLOUD COVER %: 0 WIND (mph): 5-7

PROJECT NAME: Calico Solar CONTRACTOR: _____

CITY: Pisgah COUNTY: San Bernardino STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: 3 Aspect: SE

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Tortoise 3 feet away from Pallet

Found at GPS (UMT WGS 84): 555177 X 3854209

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width 13 height 7 length 18 aspect E

Burrow description/contents/condition: pallet 18" deep

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
None - very large male

Estimated MCL length: 13" Sex: M Photos of: carapace frontal previously labeled scute

DT91

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Rick Bailey & TG Jackson DATE: 4-13-2010 TIME: 10:00
TEMP (deg. F): 54 CLOUD COVER %: 0 WIND (mph): 5-10
PROJECT NAME: Calico Solar CONTRACTOR: _____
CITY: PBgan COUNTY: San Bernadino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: tortoise is 8 feet from burrow entrance.

Found at GPS (UMT WGS 84): 555068 X 3854135

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition: pallet near small creosote bush.

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

No poor Health indicators
Nuchal scute blended w/ 1 LM

Estimated MCL length: 10" Sex: F Photos of: carapace frontal previously labeled scute

DT92

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Rick Bailey & TG Jackson DATE: 4-13-2010 TIME: 10:30
TEMP (deg. F): 54 CLOUD COVER %: 0 WIND (mph): 5-10
PROJECT NAME: Catico Solar CONTRACTOR: _____
CITY: PBgan COUNTY: San STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow <i>-entrance</i>
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: Male facing into burrow entrance.

Found at GPS (UMT WGS 84): 555126X 3854854

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:
2.5 feet deep

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

No poor health signs

Estimated MCL length: 10" Sex: M Photos of: carapace frontal previously labeled scute

DT93

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JP Charpentier DATE: 4/14/10 TIME: 1350
TEMP (deg. F): 74 CLOUD COVER %: 0% WIND (mph): 4-7 mph
PROJECT NAME: Calica CONTRACTOR: URS Corp
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 3 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input checked="" type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Mohave creosote scrub

Found at GPS (UMT WGS 84): 0553281 3853535

Elevation: 2163

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
under shrub

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# 153 width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	
<u>not in burrow</u>	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

no indicators of poor health

Estimated MCL length: 6 1/2 Sex: ? Photos of: carapace frontal previously labeled scute

DT94

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: J.P. Charpentier DATE: 04/14/10. TIME: 1414.
TEMP (deg. F): _____ CLOUD COVER %: 90 WIND (mph): 0
PROJECT NAME: Calico CONTRACTOR: URS
CITY: Ludlow COUNTY: San Bernardino STATE: Ca
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 1-2 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: slowly sloping bajada w/ occasional washlets.

Found at GPS (UMT WGS 84): 0553069, 3853326

Elevation: 2128

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
resting a burrow mouth

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# 109 width 3 height 3 length - aspect E

Burrow description/contents/condition: category ① - active w/ tortoise

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
none

Estimated MCL length: 36 Sex: unk Photos of: carapace frontal previously labeled scute

DT95

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Rick Bailey DATE: 4-15-2010 TIME: 1300
TEMP (deg. F): 82 CLOUD COVER %: 30 WIND (mph): 8-12
PROJECT NAME: Calizo Solar CONTRACTOR: _____
CITY: Pisgah COUNTY: San Bernadino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: 5 Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub <i>Encelia Fru-</i>
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open <i>-texew</i>
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: Male shading under Encelia Frutescens.

Found at GPS (UMT WGS 84): 556173X 3854381

Elevation: _____

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
shading under small shrub.

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition: _____

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
No indicators - he looks healthy

Estimated MCL length: 10" Sex: M Photos of: carapace frontal previously labeled scute

TP
Rob
JLZC
D 24
241

DT96

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: DM DATE: 15 Apr-10 TIME: 1232

TEMP (deg. F): _____ CLOUD COVER %: _____ WIND (mph): _____

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: Walking SW

Found at GPS (UMT WGS 84): 049 552964 3854225

Elevation: 2215

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking): _____

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition: _____

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Ø

Estimated MCL length: ? Sex: ? Photos of: carapace frontal previously labeled scute

possible
♀
3280
3281

DT9M

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: DM DATE: 15 April TIME: 1050
TEMP (deg. F): _____ CLOUD COVER %: _____ WIND (mph): _____
PROJECT NAME: _____ CONTRACTOR: _____
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 1 Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Tort in burrow, facing

Found at GPS (UMT WGS 84): 050 553031 3854632

Elevation: 2266

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking): _____

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width 6 height 10 length ? aspect NE

Burrow description/contents/condition: Good work

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
Ø

Estimated MCL length: _____ Sex: ? Photos of: carapace frontal previously labeled scute

pic 3283

DT98

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: JM DATE: 15 Apr 10 TIME: 11:45

TEMP (deg. F): _____ CLOUD COVER %: _____ WIND (mph): _____

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: _____ % Slope: _____ Aspect: _____

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 05C 5532N 3854427

Elevation: 2269

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Walking across wash Age 3-5 years 3in length

Scat found? Yes / No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition: _____

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: _____ Sex: ? Photos of: carapace frontal previously labeled scute

2269

DT99

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: DM DATE: 15 Apr 10 TIME: 1214

TEMP (deg. F): _____ CLOUD COVER %: _____ WIND (mph): _____

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 1 Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input checked="" type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: Face first in burrow

Found at GPS (UMT WGS 84): 062 553287 3854199

Elevation: 2241

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes / No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width 6 height 4 length ? aspect E

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

Estimated MCL length: _____ Sex: ? Photos of: carapace frontal previously labeled scute

3295

DT100

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: DM DATE: 15 Apr 10 TIME: 1228
TEMP (deg. F): _____ CLOUD COVER %: _____ WIND (mph): _____
PROJECT NAME: _____ CONTRACTOR: _____
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 1 Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: Sitting in burrow looking out

Found at GPS (UMT WGS 84): 064 553309 3854363

Elevation: 2258

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width 14 height 8 length _____ aspect SW

Burrow description/contents/condition: Good

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
Ø

Estimated MCL length: _____ Sex: F Photos of: carapace frontal previously labeled scute

3297

DT101

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Rob DeBacka DATE: 4/15/10 TIME: 10:20
TEMP (deg. F): _____ CLOUD COVER %: 40 ^{high} hazy WIND (mph): 1-3
PROJECT NAME: Calico CONTRACTOR: _____
CITY: _____ COUNTY: _____ STATE: _____
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 3 Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: Large male, very swollen glands, worn scutes (age)

Found at GPS (UMT WGS 84): 0552783/3854976 #048

Elevation: 695 m

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Resting

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
Looks healthy but old.

Estimated MCL length: 11" Sex: M Photos of: carapace frontal previously labeled scute
#0136 side

DT102

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Rob DeBaca DATE: 15 APR 10 TIME: 1138
TEMP (deg. F): _____ CLOUD COVER %: 5 WIND (mph): 0-5
PROJECT NAME: Calico Solar CONTRACTOR: URS
CITY: 20 miles E. of Barstow COUNTY: San Bernardino STATE: CA
USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input checked="" type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input checked="" type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 553028 / 3854631 wpt

Elevation: 691 m.

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Foraging

Scat found? Yes No Scat Class: _____
Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow - Project DTB# 64 width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:
Burrow ~3M from tortoise 4x4

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
None

Estimated MCL length: 6.5 in Sex: F Photos of: carapace frontal previously labeled scute
#143

DT103

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Rob DeBaca DATE: 4/15/10 TIME: 13:35

TEMP (deg. F): _____ CLOUD COVER %: 3 high thin WIND (mph): 5-10 mph

PROJECT NAME: _____ CONTRACTOR: _____

CITY: _____ COUNTY: _____ STATE: _____

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: SW

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input type="checkbox"/> In Burrow
<input type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input checked="" type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input checked="" type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input checked="" type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other

Describe: Female, in good health, perched on rock w/ head & limbs out

Found at GPS (UMT WGS 84): 553241 3854659

Elevation: 701 M

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Displaying?

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width _____ height _____ length _____ aspect _____

Burrow description/contents/condition:	

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):

None, healthy-looking specimen.

Estimated MCL length: 7.5" Sex: F Photos of: carapace frontal previously labeled scute
153, 154

DT104

URS Corporation
LIVE TORTOISE ENCOUNTER FORM

BIOLOGIST: Rob DeBaca DATE: 15 APR TIME: 1404

TEMP (deg. F): _____ CLOUD COVER %: 10 WIND (mph): 5-10

PROJECT NAME: Calico Solar CONTRACTOR: URS

CITY: 20 m. East of Barstow COUNTY: San Bernardino STATE: CA

USGS quadrangle: _____ Township: _____ Range: _____

Location Description where found: % Slope: 2 Aspect: South

Topography	Soil Type	Vegetation	Location Found
<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Sandy Loam	<input checked="" type="checkbox"/> Creosote Bush	<input checked="" type="checkbox"/> In Burrow
<input checked="" type="checkbox"/> Small Hills	<input type="checkbox"/> Blow Sand	<input type="checkbox"/> Saltbush Scrub	<input type="checkbox"/> Pallet Burrow
<input type="checkbox"/> Large Hills	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Blackbrush	<input type="checkbox"/> Under Shrub
<input type="checkbox"/> Small Wash	<input type="checkbox"/> Cobble	<input type="checkbox"/> Desert Wash	<input type="checkbox"/> In Open
<input type="checkbox"/> Big Wash	<input type="checkbox"/> Caliche	<input type="checkbox"/> Joshua Tree	<input type="checkbox"/> Caliche Cave/Den
<input type="checkbox"/> Bajada	<input type="checkbox"/> Rocky	<input type="checkbox"/> Thorn Scrub	<input type="checkbox"/> Rock Shelter
<input type="checkbox"/> Dune	<input type="checkbox"/> Pavement	<input type="checkbox"/> Grassland	<input type="checkbox"/> Other _____

Describe: _____

Found at GPS (UMT WGS 84): 553 313 385 4710

Elevation: 699.5 m.

Activity (inside shelter, at shelter entrance, basking, combat, courting, drinking, foraging, walking):
Inside Shelter

Scat found? Yes No Scat Class: _____

Scat location: In burrow In open Under veg. (type: _____)

Tortoise in burrow – Project DTB# _____ width 8" height 4.5 length 2' aspect South

Burrow description/contents/condition:
Quality burrow

Describe any indicators of poor health (shell damage, discharge from nose or eyes, injuries to limbs, etc):
None

Estimated MCL length: 7 in Sex: ? Photos of: carapace frontal previously labeled scute

A-2 BURROW DATA SPREADSHEET

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Calico Solar
Tortoise Burrow Data
April, 2010

OBJECTID	DATE COLLECTED	SURVEY AREA	TEAM LEADER	OTHER OBSERVERS	CELL NUMBER	GPS POINT	EASTING	NORTHING	TORTOISE E #	TORTOISE SEX	TORTOISE SIZE (IN)	TORTOISE SIZE (mm)	TORTOISE HEALTH	BURROW CATEGORY (1-5)	BURROW HXW (INCHES)	CARCASS		Time Start/End	Temp Start/End (F)	Cloud Cover Start/End (%)	Wind Start/End (mph)	NOTES			
																SCAT CATEGO RY (1-5)	CATEGO RY (1-5)								
739	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A12	47	552592	3854928						3	11x14	1	2	135	0915-1147	65/70	0/10	5/10-15	Scat new. Carcass #2 category wpt 051, photo 138 at edge of B-12 square.		
740	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A12	48	552784	3854976	1	M		11.0							136	0915-1147	65/70	0/10	5/10-15	Tortoise resting; old male	
741	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A12	49	552823	3854960						1	5.5x11				137	0915-1147	65/70	0/10	5/10-15		
742	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A12	50	552881	3854931						1	7x12				138	0915-1147	65/70	0/10	5/10-15		
743	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A12	51	552960	3854609																	
744	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A12	52	552967	3854678						2	6x12				140	0915-1147	65/70	0/10	5/10-15		
745	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A12	53	553021	3854820						2	5x9.5				141	0915-1147	65/70	0/10	5/10-15		
746	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A12	54	553025	3854725											5	142	0915-1147	65/70	0/10	5/10-15	
747	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A12	55	553027	3854631		F		165.0							143	0915-1147	65/70	0/10	5/10-15		
748	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A12	56	553029	3854628						1	4x8				144	1147	65/70	0/10	5/10-15		
749	4/8/2010	Site	RB	MB, JB, NJ, HB	A13	095	557015	3854728											4	2262	0857-1107		0-5/0-5		
749	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A13	46	553113	3854742	DT78	F		7.0							none		1230-1415	15-20/50	10-15/10-15	Saw tortoise as approached A-12, no wpt no photo. Did not relocate at this location.	
750	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A13	57	553118	3854671						2	4.5x9				147	1415	75/75	20/50	15		
751	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A13	58	553216	3854907						2	6x15				148	1415	75/75	20/50	15	Caliche cave burrow.	
752	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A13	59	553216	3854804						2	4.5x9				150	1415	75/75	20/50	15		
753	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A13	60	553243	3854623						1	3.75x9				151-152	1230-1415	75/75	20/50	15		
754	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A13	61	553241	3854659	3	F		7.5							153-154	1230-1415	75/75	20/50	15	male facing into burrow entrance	
755	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A13	62	553314	3854711	4	unknown		7.0		1	4.5x8				155	1415	75/75	20/50	15	Tortoise in burrow.	
756	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A13	63	553318	3854683						2	5x10				156	1415	75/75	20/50	15		
757	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A13	64	553314	3854653						1	4.5x8				157	1415	75/75	20/50	15		
758	4/15/2010	Site	RD	RC, MBr, JBr, JMc	A13	65	553546	3854667		unknown									158	1230-1415	75/75	15-20/50	10-15/10-15	Tortoise in burrow, ~150m E of cell A13	
655	4/13/2010	Site	SA	JM, AB, ES, DE	A18, B18	134	555668	3854486						3	7x12				4539	855-1509	64/76	0/0	5-7/3-5	Caliche DT cave.	
656	4/13/2010	Site	SA	JM, AB, ES, DE	A18, B18	135	555655	3854453											5	4540	855-1509	64/76	0/0	5-7/3-5	
657	4/13/2010	Site	SA	JM, AB, ES, DE	A18, B18	136	555673	3854389				290.0							3	4541	855-1509	64/76	0/0	5-7/3-5	
658	4/13/2010	Site	SA	JM, AB, ES, DE	A18, B18	137	555622	3854228	DT81	F		210.0							4542-4546	855-1509	64/76	0/0	5-7/3-5		
659	4/13/2010	Site	SA	JM, AB, ES, DE	A18, B18	138	555597	3854839				220.0							3	P.L	855-1509	64/76	0/0	5-7/3-5	
660	4/13/2010	Site	SA	JM, AB, ES, DE	A18, B18	139	555557	3854390				210.0							3	4556	855-1509	64/76	0/0	5-7/3-5	
661	4/13/2010	Site	SA	JM, AB, ES, DE	A18, B18	140	555568	3854253						2	5x11				4552	855-1509	64/76	0/0	5-7/3-5	Nice caliche cave.	
662	4/13/2010	Site	SA	JM, AB, ES, DE	A18, B18	141	555503	3854166						2	6x12				4558	855-1509	64/76	0/0	5-7/3-5	Caliche cave.	
663	4/13/2010	Site	SA	JM, AB, ES, DE	A18, B18	142	555476	3854294						3					4559	855-1509	64/76	0/0	5-7/3-5	3 Caliche caves, all close together, not used in awhile	
664	4/13/2010	Site	SA	JM, AB, ES, DE	A18, B18	143	555480	3854296						3					4560	855-1509	64/76	0/0	5-7/3-5	3 Caliche caves, all close together, not used in awhile	
665	4/13/2010	Site	SA	JM, AB, ES, DE	A18, B18	144	555475	3854295						3					4561	855-1509	64/76	0/0	5-7/3-5	3 Caliche caves, all close together, not used in awhile	
666	4/13/2010	Site	RB	GB, PW, WB, TJ	A18, B18	37	555291	3854390											5	2202	855-1400	70/70	0/0	5-8/5-8	
666	4/13/2010	Site	SA	JM, AB, ES, DE	A18, B18	145	555396	3854493						2	6x12				4562	855-1509	64/76	0/0	5-7/3-5	Caliche cave w/woodrat nest, dug out by DT.	

Calico Solar
Tortoise Burrow Data
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OBJECTID	DATE COLLECTED	SURVEY AREA	TEAM LEADER	OTHER OBSERVERS	CELL NUMBER	GPS POINT	EASTING	NORTHING	TORTOISE E #	TORTOISE SEX	TORTOISE SIZE (IN)	TORTOISE SIZE (mm)	TORTOISE HEALTH	BURROW CATEGORY (1-5)	BURROW HXW (INCHES)	SCAT			Time Start/End	Temp Start/End (F)	Cloud Cover Start/End (%)	Wind Start/End (mph)	NOTES		
																CATEGO RY (1-5)	CATEGO RY (1-5)	PICTUR E #							
667	4/13/2010	Site	RB	GB, PW, WB, TJ	A18, B18	38	555277	3854468											1310-1400	70/70	0/0	5-8/5-8			
667	4/13/2010	Site	SA	JM, AB, ES, DE	A18, B18	146	555402	3854659						2	8x16				4563	1509	64/76	0/0	5-7/3-5	Caliche cave w 2 scats (2-3).	
668	4/13/2010	Site	RB	GB, PW, WB, TJ	A18, B18	39	555339	3854303											4	2204	1400	70/70	0/0	5-8/5-8	
668	4/13/2010	Site	SA	JM, AB, ES, DE	A18, B18	147	555359	3854577						3	10x10				4564	1509	64/76	0/0	5-7/3-5	Huge Coliche cave, possible DT. Small adult-sized rock shelter with 8 scats inside.	
730	4/15/2010	Site	RB	WB, TJ, PW	A19, B19	41	555780	3854799						1			2		2206	1330	62/75	5/10	3-5/5-12		
731	4/15/2010	Site	RB	WB, TJ, PW	A19, B19	42	555865	3854357											4	2207	1330	62/75	5/10	3-5/5-12	10" ♀ carcass level 4.
732	4/15/2010	Site	RB	WB, TJ, PW	A19, B19	43	555958	3854831											2208	1330	62/75	5/10	3-5/5-12	Bighorn horn.	
733	4/15/2010	Site	RB	WB, TJ, PW	A19, B19	44	556173	3854381	DT95	M		10.0							2209	1330	62/75	5/10	3-5/5-12	10" male under Encelia Frutescens. Looks same as pt D12 from burrowing owl survey. Carcass 9".	
734	4/15/2010	Site	RB	WB, TJ, PW	A19, B19	45	556148	3854738											4	2210	1330	62/75	5/10	3-5/5-12	
735	4/15/2010	Site	RB	WB, TJ, PW	A19, B19	46	556153	3854911						2	5x10				2211	1330	62/75	5/10	3-5/5-12		
773	4/14/2010	Site	JP	CK, JON, LB, CS	A20	97	556577	3854776						1	6x9				998	1235	52/70	0/0	4-7/4-7		
774	4/14/2010	Site	JP	CK, JON, LB, CS	A20	98	556462	3854654											x	1235	52/70	0/0	4-7/4-7	Bighorn sheep horn.	
775	4/14/2010	Site	JP	CK, JON, LB, CS	A20	99	556292	3854933											5	1000	1235	52/70	0/0	4-7/4-7	
776	4/14/2010	Site	JP	CK, JON, LB, CS	A20	100	555022	3853274			unknown									1235	52/70	0/0	4-7/4-7	Juvenile tortoise outside survey area in D17.	
777	4/8/2010	Site	MBr	JBr, NJ, HB	A21	097	0556903	3854584						2	4X11				2264	1107			0-5/0-5		
778	4/8/2010	Site	RB	MB, JB, NJ, HB	A21	096	0557015	3854728						3					4	2263	1107		0-5/0-5	Burrow has collapsed entrance, good condition in tunnel.	
779	4/8/2010	Site	RB	MB, JB, NJ, HB	A21	098	0556827	3854769											5	2265	1107		0-5/0-5		
780	4/8/2010	Site	RB	MB, JB, NJ, HB	A21	099	0556769	3854769											5	2266	1107		0-5/0-5		
781	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	015	557195	3854803	DT27	F	unknown			1	8x6				0903	0900	60	15	8-12	tortoise in burrow	
782	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	002	557490	3854610						1	11x17	4			0891	0900	60	15	8-12		
783	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	005	557512	3854716						1	17x11	2			0893	0900	60	15	8-12		
784	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	007	557452	3854899						1	18x8				0895	0900	60	15	8-12		
785	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	008	557375	3854877						1	13x6				0896	0900	60	15	8-12		
786	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	009	557389	3854692						1	18x9				0897	0900	60	15	8-12		
787	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	010	557329	3854645						1	18x10				0898	0900	60	15	8-12		
788	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	012	557352	3854787						1	17x7				0900	0900	60	15	8-12		
789	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	013	557331	3854805						1	21x8				0901	0900	60	15	8-12		
790	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	006	557498	3855008						3	3x8				0894	0900	60	15	8-12		
791	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	011	557344	3854781						3	8x5				0899	0900	60	15	8-12		
792	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	001	557560	3854468											0890	0900	60	15	8-12	DT remains, adult	
793	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	003	557221	3854519											x	0900	60	15	8-12	burrow owl burrow, active	
794	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	004	557136	3854254											4	0892	0900	60	15	8-12	
795	4/5/2010	Site	JP	LB, Aba, CK	A22-B22	014	557309	3854911											3	0902	0900	60	15	8-12	
796	4/5/2010	Site	RD	TS, DS, JMc, DP	A23	004	557594	3854825	DT25	F	8.0								49	1230	62/56	5/60	4-6/25	small female outside of burrow associated with DT25	
797	4/5/2010	Site	RD	TS, DS, JMc, DP	A23	003	557597	3854827						1	4x8				46	1230	62/56	5/60	4-6/25		
798	4/5/2010	Site	RD	TS, DS, JMc, DP	A23	001	557722	3854624						3	6x8				39-41	1230	62/56	5/60	4-6/25		

Calico Solar
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OBJECTID	DATE COLLECTED	SURVEY AREA	TEAM LEADER	OTHER OBSERVERS	CELL NUMBER	GPS POINT	EASTING	NORTHING	TORTOISE E #	TORTOISE SEX	TORTOISE SIZE (IN)	TORTOISE SIZE (mm)	TORTOISE HEALTH	BURROW CATEGORY (1-5)	BURROW HXW (INCHES)	SCAT CATEGORY (1-5)	CARCAS S CATEGORY (1-5)	PICTUR E #	Other Species	Time Start/End	Temp Start/End (F)	Cloud Cover Start/End (%)	Wind Start/End (mph)	NOTES	
799	4/5/2010	Site	RD	TS, DS, JMc, DP	A23	002	557566	3854905						3	4x6			42-44 P. Wood		930-1230	62/56	5/60	4-6/25		
800	4/5/2010	Site	MBr	JBr, BN, PW	A24	37	558302	3854924									2	100-0630 P. Wood	x	0932-1137	56	15-60	5-10/20-30	bighorn sheep old decaying - 558245/3854916	
801	4/5/2010	Site	MBr	JBr, BN, PW	A24	38	558180	3854592									5	100-0631		0932-1137	56	15-60	5-10/20-30		
802	4/5/2010	Site	SA	DC, CS, MT	A25	041	558809	3854831	DT22	M		280.0						4391		1233-0945	61/56	10/60	5-7/20-30	basking under acacia	
803	4/5/2010	Site	SA	DC, CS, MT	A25	042	558810	3854830						1	8x16			4394		1233-0945	61/56	10/60	5-7/20-30		
804	4/5/2010	Site	SA	DC, CS, MT	A25	043	558775	3854804						2	7x14			4395-4396		1233-0945	61/56	10/60	5-7/20-30		
805	4/5/2010	Site	SA	DC, CS, MT	A25	044	558684	3854621						3	5x8			4397		1233-0945	61/56	10/60	5-7/20-30	DT burrow filling in	
806	4/5/2010	Site	SA	DC, CS, MT	A25	046	558564	3854844						3	6x10			4399		1233-0945	61/56	10/60	5-7/20-30	doesn't go far back	
807	4/5/2010	Site	SA	DC, CS, MT	A25	047	558567	3854652			8.0						2	4400		1233-0945	61/56	10/60	5-7/20-30	evidence of coyote predation	
808	4/5/2010	Site	SA	DC, CS, MT	A25	045 NO	558609	3854597			11.0						3	4398		1233-0945	61/56	10/60	5-7/20-30	shell intact	
809	4/5/2010	Site	DM	RC, SC, PF,WM	A26	DATA														1130-0900	62/62	10/10	4-6/4-6		
706	4/15/2010	Site	DM	KH, WM, MT, NJ	B12	47	552965	3854241						4	5x9			3279		1050-0900					
707	4/15/2010	Site	DM	KH, WM, MT, NJ	B12	48	552964	3854225	DT96	unknown	7.0							3280		1050-0900					
708	4/15/2010	Site	DM	KH, WM, MT, NJ	B12	49	552949	3854242						1	6x11		4	3282		1050-0900				Tracks in burrow; likely from Tort 048	
709	4/15/2010	Site	DM	KH, WM, MT, NJ	B12	50	553031	3854632	DT97	unknown	8.0			1	5x10			3283		1050-0900				Tortoise in burrow, facing in	
710	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	51	553059	3854605						2	5x10			3284		1050-0900					
711	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	52	553091	3854186						2	4x7			3285		1050-0900					
712	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	53	553128	3854453						2	6x12			3286		1050-0900				Old Scat	
713	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	54	553146	3854480						3	6x12			3287		1050-0900				Old scat in burrow.	
714	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	55	553230	3854274						3	7X14			3288		1050-0900					
715	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	56	553211	3854427	DT98	unknown	3.0							3289		1050-0900					
716	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	57	553214	3854429						3	7X14		2	3290		1050-0900					
717	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	58	553196	3854557										3	3291		1050-0900				
718	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	59	553192	3854569						3	5X8			3292		1050-0900					
719	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	60	553229	3854550						3	6X10			3293		1050-0900					
720	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	61	553283	3854311						2	7X16			3294		1050-0900					
721	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	62	553287	3854199	DT99	unknown	5.5			1	4X6			3292		1050-0900				Tortoise in burrow.	
722	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	63	553310	3854222										3	3293		1050-0900				
723	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	64	553309	3854363	DT10	0	F	7.0		1	8x14			3297		1250-0910				Tortoise sitting in burrow, facing out	
724	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	65	553327	3854444						3	4x10			3298		1250-0910					
725	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	66	553354	3854545										2	3299		1250-0910				
726	4/15/2010	Site	DM	KH, WM, MT, NJ	B13	67	553318	3854650						2	5x10			3300		1250-0910					
727	4/13/2010	Site	RB	GB, PW, WB, TJ	B17	26	554968	3854283						1	5X10		2	2192		0910-1230	51/70	0/0	5-10/3-8	1 foot deep burrow, tortoise (F) 8 feet away from burrow. Location is just south of B17 boundary	
728	4/13/2010	Site	RB	GB, PW, WB, TJ	B17, A17	28	555068	3854135	DT91	F	10.0			1	5X10			2194		0910-1230	51/70	0/0	5-10/3-8	male tortoise headed in direction of earlier detected male.	
729	4/13/2010	Site	RB	GB, PW, WB, TJ	B17, A17	40	555130	3854166	DT89	M	12.0							2205		0910-1230	51/70	0/0	5-10/3-8		
730	4/13/2010	Site	RB	GB, PW, WB, TJ	B17, A17	34	555177	3854212	DT90	M	13.0			1	7X13			2199		0910-1230	51/70	0/0	5-10/3-8	Tort. Outside pallet 18" deep	
731	4/13/2010	Site	RB	GB, PW, WB, TJ	B17, A17	30	555126	3854854	DT92	M	10.0			1	6X11			2196		0910-1230	51/70	0/0	5-10/3-8	Burrow 2.5 feet deep	
732	4/13/2010	Site	RB	GB, PW, WB, TJ	B17, A17	31	555086	3854851										5		0910-1230	51/70	0/0	5-10/3-8	2 carcasses about 50 feet apart	
733	4/13/2010	Site	RB	GB, PW, WB, TJ	B17, A17	32	555081	3854940										2	2197		0910-1230	51/70	0/0	5-10/3-8	3" juv. Carcass
734	4/13/2010	Site	RB	GB, PW, WB, TJ	B17, A17	33	555165	3854191										2	2198		0910-1230	51/70	0/0	5-10/3-8	Carcass 3.5" eaten by raven

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																SCAT CATEGO RY (1-5)	CATEGO RY (1-5)						
735	4/13/2010	Site	RB	GB, PW, WB, TJ	B17, A17	36	555218	3854719											0910-1230	51/70	0/0	5-10/3-8	Crucifixion Thorn
736	4/13/2010	Site	RB	GB, PW, WB, TJ	B17, A17	27	555041	3854321						1	6X17		2	2193	1230	51/70	0/0	5-10/3-8	3 feet deep
737	4/13/2010	Site	RB	GB, PW, WB, TJ	B17, A17	29	555054	3854425						2	6X12			2195	1230	51/70	0/0	5-10/3-8	
738	4/13/2010	Site	RB	GB, PW, WB, TJ	B17, A17	35	555181	3854617						2	5X11			2200	1230	51/70	0/0	5-10/3-8	18" deep
739	4/8/2010	Site	RD	TS, JMc	B20	005	0556630	3854374						2	5X9			079	1620	78/80		5-10/5-10	Burrow under dense branches.
740	4/8/2010	Site	RB	TS, JMc	B20	008	0556272	3854395				11						084-085	1620	78/80		5-10/5-10	
741	4/8/2010	Site	RB	MB, JB, NJ, HB	B20	006	0556574	3854245	DT68	F	9							080	1620	78/80		5-10/5-10	left rear marginal scute split in half tortoise recently feeding, resting under cholla
742	4/8/2010	Site	RB	MB, JB, NJ, HB	B20	009	0556224	3854439	DT67	M	11							086	1620	78/80		5-10/5-10	
743	4/8/2010	Site	RB	MB, JB, NJ, HB	B21	104	0556837	3854421						1	8X14			2272	1122-			0-5	
744	4/8/2010	Site	MBr	JBr, NJ, HB	B21	100	0556984	3854343						2	7X20			2267	1122-			0-5	Caliche care
745	4/8/2010	Site	MBr	JBr, NJ, HB	B21	101	0556852	3854368						2	8X14			2269	1122-			0-5	Burrow with two entrances
746	4/8/2010	Site	MBr	JBr, NJ, HB	B21	102	0556843	3854392						2	6X12			2270	1122-			0-5	
747	4/8/2010	Site	MBr	JBr, NJ, HB	B21	103	0556848	3854376						2	5X4			2271	1122-			0-5	
748	4/8/2010	Site	RB	MB, JB, NJ, HB	B21	106	0556804	3854517						5				2274	1122-			0-5	
749	4/8/2010	Site	RB	MB, JB, NJ, HB	B21	107	0556729	3854420						5				2275	1122-			0-5	
750	4/8/2010	Site	RB	MB, JB, NJ, HB	B21	105	0556831	3854426	DT64	F	10	215						2273	1122-			0-5	
751	4/5/2010	Site	RD	TS, DS, JMc, DP	B23	005	557806	3854484						3				55	1530	53/55	80/70	15-20/15-20	
752	4/5/2010	Site	MBr	JBr, BN, PW	B24	44	558276	3854227	DT26	unknown	7.0	160mm	G					100-0635	1638	51	90/50	20-30/20-30	associated with burrow 43
753	4/5/2010	Site	MBr	JBr, BN, PW	B24	43	558273	3854228						1	4x7			100-0634	1638	51	90/50	20-30/20-30	associated with DT26
754	4/5/2010	Site	MBr	JBr, BN, PW	B24	46	558420	3854468						2	5x10			1336-1638	51	90/50		20-30/20-30	
755	4/5/2010	Site	MBr	JBr, BN, PW	B24	39	558160	3854545										P. Wood 100-0632	1336-1638	51	90/50	20-30/20-30	Scat - This year I, last year II
756	4/5/2010	Site	MBr	JBr, BN, PW	B24	40	558199	3854202										P. Wood 100-0633	1336-1638	51	90/50	20-30/20-30	
757	4/5/2010	Site	MBr	JBr, BN, PW	B24	41	558223	3854401										1336-1638	51	90/50		20-30/20-30	
758	4/5/2010	Site	MBr	JBr, BN, PW	B24	42	558289	3854447										1336-1638	51	90/50		20-30/20-30	
759	4/5/2010	Site	MBr	JBr, BN, PW	B24	45	558305	3854478										1336-1638	51	90/50		20-30/20-30	
760	4/5/2010	Site	SA	DC, CS, MT	B25	049	558437	3854347	DT23	F	8.0	210.0						4402-4404	1617	52/60	80/20	15-20/9-15	live tortoise
761	4/5/2010	Site	SA	DC, CS, MT	B25	050	558511	3854443	DT24	M		>200	G					4405	1617	52/60	80/20	15-20/9-15	in burrow entrance; facing inside
762	4/5/2010	Site	SA	DC, CS, MT	B25	048	558569	3854558						1	7x14			4401	1617	52/60	80/20	15-20/9-15	
763	4/5/2010	Site	SA	DC, CS, MT	B25	051	558512	3854444						1	7x14			4407	1617	52/60	80/20	15-20/9-15	
764	4/5/2010	Site	SA	DC, CS, MT	B25	052	558502	3854529						1	7x13			4408	1617	52/60	80/20	15-20/9-15	Not DT, but tracks present inside
765	4/5/2010	Site	SA	DC, CS, MT	B25	053	558588	3854230						2	7x14			4409	1617	52/60	80/20	15-20/9-15	
766	4/5/2010	Site	DM		B26	221	559230	3854516						2	6x14			3168	1200-1355	60	70	10-15	
767	4/5/2010	Site	DM		B26	222	559078	3854487										x	1200-1355	60	70	10-15	big horn sheep skeleton, pic 3169-3120
768	4/9/2010	Site	DM	RC, PF, SC, WM	C12	17	553035	3853797						2	6X10			3245	1100				
769	4/9/2010	Site	DM	RC, PF, SC, WM	C12	16	552738	3853844						3	6X8			3244	1100				
770	4/9/2010	Site	DM	RC, PF, SC, WM	C13	26	553313	3853762		F	9.0							3255	1130-1300				
771	4/9/2010	Site	DM	RC, PF, SC, WM	C13	18	553093	3854182	DT77	unknown	7.0				5X8			3246-3247	1130-1300				

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772	4/9/2010	Site	DM	RC, PF, SC, WM	C13	19	553141	3853877	DT76	M	13.0							3250		1130-1300				
773	4/9/2010	Site	DM	RC, PF, SC, WM	C13	23	553163	3854036						1	6X8			3252		1130-1300				Burrow clean with possible tracks inside near area of tort 018
774	4/9/2010	Site	DM	RC, PF, SC, WM	C13	25	553325	3853913						1	6X20			3254		1130-1300				
775	4/9/2010	Site	DM	RC, PF, SC, WM	C13	24	553212	3854144						2	5X7			3253		1130-1300				
776	4/9/2010	Site	DM	RC, PF, SC, WM	C13	20	553099	3853845						3	6X12	4		3248		1130-1300				
777	4/9/2010	Site	DM	RC, PF, SC, WM	C13	21	553115	3853746						4	6X10			3249		1130-1300				
778	4/9/2010	Site	DM	RC, PF, SC, WM	C13	22	553174	3853857						4	5X8			3251		1130-1300				
779	4/7/2010	Site	MBr	JBr, BN, GB, NJ	C17	86	555230	3853887	DT49	F?	4.0	100.0	G					2248-2249		1202-1535	0/0	0-5/0-5		tortoise resting in sun
780	4/7/2010	Site	MBr	JBr, BN, GB, NJ	C17	90	555111	3854169	DT48	M	13.0	310.0						2253		1202-1535	0/0	0-5/0-5		tortoise resting in sun
781	4/7/2010	Site	MBr	JBr, BN, GB, NJ	C17	85	555269	3853869						1	5x9			2247		1202-1535	0/0	0-5/0-5		
782	4/7/2010	Site	MBr	JBr, BN, GB, NJ	C17	87	555228	3853887						1	2x4			2250		1202-1535	0/0	0-5/0-5		
783	4/7/2010	Site	MBr	JBr, BN, GB, NJ	C17	91	554987	3853875						1	6X14			2258		1202-1535	0/0	0-5/0-5		
784	4/7/2010	Site	MBr	JBr, BN, GB, NJ	C17	92	554991	3853844						1	5X12			2259		1202-1535	0/0	0-5/0-5		
785	4/7/2010	Site	MBr	JBr, BN, GB, NJ	C17	94	554941	3854093						1	4X8			2261		1202-1535	0/0	0-5/0-5		
786	4/7/2010	Site	MBr	JBr, BN, GB, NJ	C17	84	555270	3853791						2	5x10			2246		1202-1535	0/0	0-5/0-5		
787	4/7/2010	Site	MBr	JBr, BN, GB, NJ	C17	93	554956	3854072						2	5X12			2260		1202-1535	0/0	0-5/0-5		
788	4/7/2010	Site	MBr	JBr, BN, GB, NJ	C17	89	555192	3854149						3	4x12			2252		1202-1535	0/0	0-5/0-5		Burrow has partially collapsed roof
789	4/7/2010	Site	MBr	JBr, BN, GB, NJ	C17	88	555257	3854064										5 2251		1202-1535	0/0	0-5/0-5		
790	4/6/2010	Site	DM	RC, SC, PF,WM	C18	236	555390	3853935	DT36	F	8.0							3195-3196		1315-1625				
791	4/6/2010	Site	DM	RC, SC, PF,WM	C18	230	555635	3853703	DT35	unknown	unknown			1	4x8			3180		1315-1625				tortoise inside burrow; can't determine size or sex
792	4/6/2010	Site	DM	RC, SC, PF,WM	C18	240	555276	3853798	DT37	unknown				3	8x14			3199		1315-1625				tortoise sitting sideways in burrow
793	4/6/2010	Site	DM	RC, SC, PF,WM	C18	233	555572	3853755						2	8x14			3189		1315-1625				
794	4/6/2010	Site	DM	RC, SC, PF,WM	C18	231	555600	3853776						3	6x8			3181		1315-1625				
795	4/6/2010	Site	DM	RC, SC, PF,WM	C18	232	555626	3853760						3	5x7			3182		1315-1625				
796	4/6/2010	Site	DM	RC, SC, PF,WM	C18	237	555349	3853769						3	8x10					1315-1625				
797	4/6/2010	Site	DM	RC, SC, PF,WM	C18	238	555320	3853750						3	5x8			3197		1315-1625				
798	4/6/2010	Site	DM	RC, SC, PF,WM	C18	239	555327	3853803						3	6x8			3198		1315-1625				
799	4/6/2010	Site	DM	RC, SC, PF,WM	C18	228	555699	3853709						4	3x8			3178		1315-1625				
800	4/6/2010	Site	DM	RC, SC, PF,WM	C18	229	555639	3853709						4	4x6			3179		1315-1625				
801	4/6/2010	Site	DM	RC, SC, PF,WM	C18	234	555446	3854122										5 3194		1315-1625				
802	4/6/2010	Site	DM	RC, SC, PF,WM	C18	235	555458	3853891										5		1315-1625				widely scattered
803	4/6/2010	Site	DM	RC, SC, PF,WM	C19	223	555830	3854021	DT34	unknown	5.0			1	5x7			3172-3174		0900-1245				sign of recent feeding
804	4/6/2010	Site	DM	RC, SC, PF,WM	C19	226	556177	3853850						4	7x8			3176		0900-1245				
805	4/6/2010	Site	DM	RC, SC, PF,WM	C19	224	555711	3853979										2 3175		0900-1245				
806	4/6/2010	Site	DM	RC, SC, PF,WM	C19	225	555715	3853880										2		0900-1245				
807	4/6/2010	Site	DM	RC, SC, PF,WM	C19	227	556004	3853795										5 3177		0900-1245				

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																CATEGO RY (1-5)	CATEGO RY (1-5)	PICTUR E #	E #							
807	4/4/2010	Site	RB	TS, JMc	C20	003	0556448	3853753							2	4.5X10.5			073		0830-1210	60/80		0-5/5-10		
808	4/4/2010	Site	RB	TS, JMc	C20	004	0556368	3853819				9						5	078		0830-1210	60/80		0-5/5-10		
	4/8/2010	Site	RD	TS, JMc	C20	002	556504	3853822	DT69	unknown	6								071-072		0830-1210	60/80		0-5/5-10		
1	4/8/2010	Site	DM	RC, WS, PF	C21	010	556765	3853309							2	8X16					1140-1515					
2	4/8/2010	Site	DM	RC, WS, PF	C21	013	556871	3853319							2	7X13					1140-1515					
3	4/8/2010	Site	DM	RC, WS, PF	C21	011	556829	3853323							3	5X10					1140-1515					
4	4/8/2010	Site	DM	RC, WS, PF	C21	014	556895	3853430							3	7X12					1140-1515					
5	4/8/2010	Site	DM	RC, WS, PF	C21	015	556901	3853591							3	7X18					1140-1515					
6	4/8/2010	Site	DM	RC, WS, PF	C21	012	556817	3853620									5				1140-1515					
7	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C22	068	0557221	3853866							1	5X12			955		0855-1135	60/70		1-3/4-7		
8	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C22	070	0557262	3853853							1	5X12			957		0855-1135	60/70		1-3/4-7		
9	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C22	071	0557272								1	6X13	2		958		0855-1135	60/70		1-3/4-7		
10	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C22	073	0557298	3853860							1	7X11	2		961		0855-1135	60/70		1-3/4-7		
11	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C22	074	0557309	3853803							1	7X11			962		0855-1135	60/70		1-3/4-7		
12	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C22	075	0557327	3853794							1	6X11			963		0855-1135	60/70		1-3/4-7		
13	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C22	076	0557381	3853947							1	4X11			964		0855-1135	60/70		1-3/4-7		
14	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C22	078	0557464	3854122										5	965		0855-1135	60/70		1-3/4-7		
15	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C22	079	0557486	3853760										5	966		0855-1135	60/70		1-3/4-7		
16	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C22	069	0557258	3853753	DT65	F	8								956		0855-1135	60/70		1-3/4-7		
17	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C22	072	0557248	3854044	DT66	M		8.5			1	7X12			959-960		0855-1136	60/70		1-3/4-7		
18	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C23	082	0557789	3854123							1	4X8			969		1136-1530	70/80		4-7/1-3		
19	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C23	085	0557952	3854151							1	10X12			972		1136-1530	70/80		4-7/1-3		
20	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C23	080	0557590	3853719				9						4	967		1136-1530	70/80		4-7/1-3		
21	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C23	081	0557672	3854055										4	968		1136-1530	70/80		4-7/1-3		
22	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C23	083	0557793	3854766										5	970		1136-1530	70/80		4-7/1-3		
23	4/8/2010	Site	JP	CK, Lbo, Aba, PW	C23	084	0557958	3854076				9 3/4						3	971		1136-1530	70/80		4-7/1-3		
683	4/13/2010	Site	JP	CK, JON, LB, CS	C24	82	558008	3853691										5	981		0850-1150	48/68	0/0	4-7/4-7		
684	4/13/2010	Site	JP	CK, JON, LB, CS	C24	83	558121	3854109										5	982		0850-1150	48/68	0/0	4-7/4-7		
685	4/13/2010	Site	JP	CK, JON, LB, CS	C24	84	558095	3854061	DT88	Unknown	6.0				1	6x10			983		0850-1150	48/68	0/0	4-7/4-7	Tortoise in burrow.	
686	4/13/2010	Site	JP	CK, JON, LB, CS	C24	85	558130	3853827							1	5x11			984		0850-1150	48/68	0/0	4-7/4-7		
687	4/13/2010	Site	JP	CK, JON, LB, CS	C24	86	558231	3854074							1	7x11			985		0850-1150	48/68	0/0	4-7/4-7		
688	4/13/2010	Site	JP	CK, JON, LB, CS	C24	87	558214	3854058							1	7x16			986		0850-1150	48/68	0/0	4-7/4-7		
689	4/13/2010	Site	JP	CK, JON, LB, CS	C24	88	558329	3854041	DT87	F	8.0				1	8x11			987		0850-1150	48/68	0/0	4-7/4-7	Tortoise in burrow.	
690	4/13/2010	Site	JP	CK, JON, LB, CS	C24	89	558401	3853784										5	988		1150-1500	48/68	0/0	4-7/4-7		
691	4/13/2010	Site	JP	CK, JON, LB, CS	C25	90	558500	3853775	DT86	F	8.0								989		1150-1500	68/74	0/0	4-7/4-7		
692	4/13/2010	Site	JP	CK, JON, LB, CS	C25	91	558725	3853856											5	990		1150-1500	68/74	0/0	4-7/4-7	

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																SCAT CATEGO RY (1-5)	CATEGO RY (1-5)						
693	4/13/2010	Site	JP	CK, JON, LB, CS	C25	92	558885	3853670						1	9x11				1150-1500	68/74	0/0	4-7/4-7	
694	4/13/2010	Site	JP	CK, JON, LB, CS	C25	93	558902	3853909						1	3x7				1150-1500	68/74	0/0	4-7/4-7	
695	4/13/2010	Site	JP	CK, JON, LB, CS	C25	94	558937	3853953						1	6x13				1150-1500	68/74	0/0	4-7/4-7	
696	4/13/2010	Site	JP	CK, JON, LB, CS	C25	95	558991	3853707						1	6x14				1150-1500	68/74	0/0	4-7/4-7	
698	4/13/2010	Site	JP	CK, JON, LB, CS	C26	NO DATA													1500-1600	74/74	0/0	4-7/4-7	
786	4/14/2010	Site	JP	CK, JON, LB, CS	C26	110	559094	3853857									5	1011	1500-1635	74/72	0/0	4-7/4-7	
787	4/9/2010	Site	RB	RD, JD, Brandon	D12	016	0552668	3853505	DT73	M									0850-1216	65/80	0/0	0-5/0-5	
788	4/9/2010	Site	RB	RD, JD, Brandon	D12	015	0552071	3853502						1	6.5X11				0850-1216	65/80	0/0	0-5/0-5	
789	4/9/2010	Site	RB	RD, JD, Brandon	D12	018	0552757	3853603						1	5X10				0850-1216	65/80	0/0	0-5/0-5	
790	4/9/2010	Site	RB	RD, JD, Brandon	D12	010	0552593	3853677						2	3.5X9				0850-1216	65/80	0/0	0-5/0-5	Sparse Creosote bursage, cobbly sandy loam
791	4/9/2010	Site	RB	RD, JD, Brandon	D12	011	0552603	3853492						2	5.5X10				0850-1216	65/80	0/0	0-5/0-5	
792	4/9/2010	Site	RB	RD, JD, Brandon	D12	012	0552619	3853485						2	5X10				0850-1216	65/80	0/0	0-5/0-5	
793	4/9/2010	Site	RB	RD, JD, Brandon	D12	017	0552668	3853439						3	9X5.5				0850-1216	65/80	0/0	0-5/0-5	
792	4/9/2010	Site	RB	RD, JD, Brandon	D12	024	0552950	3853483						3	6.5X9				0850-1216	65/80	0/0	0-5/0-5	
793	4/9/2010	Site	RB	RD, JD, Brandon	D12	020	0552803	3853637						3	5X9.5				0850-1216	65/80	0/0	0-5/0-5	
794	4/9/2010	Site	RB	RD, JD, Brandon	D12	013	0552631	3853691							3X6				0850-1216	65/80	0/0	0-5/0-5	
795	4/9/2010	Site	RB	RD, JD, Brandon	D12	014	0552681	3853576							4X7				0850-1216	65/80	0/0	0-5/0-5	
796	4/9/2010	Site	RB	RD, JD, Brandon	D12	019	0552737	3853480				2.5					1		0850-1216	65/80	0/0	0-5/0-5	
797	4/9/2010	Site	RB	RD, JD, Brandon	D12														0850-0850	65		0-5	
798	4/9/2010	Site	RB	RD, JD, Brandon	D12	025	0553028	3853688	DT10	2	F	6.5		2	4X8.5				0850-1216	65/80	0/0	0-5/0-5	Tortoise foraging Live Tortoise; burrow approx 14m away
	4/9/2010	Site	RD	RC, MBr, JBr, JM	D12	22	0552890	3853533	DT72	F	9			1	9x5				0850-1216	65/80	0/0	0-5/0-5	
	4/9/2010	Site	RB	RD, JD, Brandon	D12	21	0552857	3853481	DT74	unknown	4			1					0850-1216	65/80	0/0	0-5/0-5	
777	4/14/2010	Site	JP	CK, JON, LB, CS	D13	101	553318	3853536						1	4x8				1255-1400	72/74	0/0	4-7/4-7	Scat
778	4/14/2010	Site	JP	CK, JON, LB, CS	D13	102	553305	3853734						1	5x13				1255-1400	72/74	0/0	4-7/4-7	Scat
779	4/14/2010	Site	JP	CK, JON, LB, CS	D13	103	553281	3853535	DT93	unknown	6.5								1255-1400	72/74	0/0	4-7/4-7	tortoise under shrub
780	4/14/2010	Site	JP	CK, JON, LB, CS	D13	104	553258	3853319						1	5x8				1255-1400	72/74	0/0	4-7/4-7	
781	4/14/2010	Site	JP	CK, JON, LB, CS	D13	105	553142	3853512						1	5x10				1255-1400	72/74	0/0	4-7/4-7	
782	4/14/2010	Site	JP	CK, JON, LB, CS	D13	106	553145	3853419						3	3x7				1255-1400	72/74	0/0	4-7/4-7	
783	4/14/2010	Site	JP	CK, JON, LB, CS	D13	107	553112	3853332						1	3x6				1255-1400	72/74	0/0	4-7/4-7	
784	4/14/2010	Site	JP	CK, JON, LB, CS	D13	108	553095	3853638						1	4x10				1255-1400	72/74	0/0	4-7/4-7	
785	4/14/2010	Site	JP	CK, JON, LB, CS	D13	109	553069	3853326	DT94	subadult				1	3x6				1255-1400	72/74	0/0	4-7/4-7	Subadult in burrow
786	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	61	555243	3853317	DT51	M	13.0	280.0 G							0849-1200		0/0	0-5/0-5	
787	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	72	555037	3853281	DT50	unknown	4.0	110.0							2230-2233		0/0	0-5/0-5	
788	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	71	555039	3853281						1	3X5				0849-1200		0/0	0-5/0-5	
789	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	73	555044	3853643						1	5X12				0849-1200		0/0	0-5/0-5	Shell bits in mound of burrow from tortoise eggs;
790	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	79	555209	3853290						1	7x15				0849-1200		0/0	0-5/0-5	
791	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	68	554939	3853414						2	7X13				0849-1200		0/0	0-5/0-5	

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																CATEGO RY (1-5)	CATEGO RY (1-5)						
792	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	69	554958	3853573						2	5X9				0849-1200		0/0	0-5/0-5	
793	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	70	555007	3853297						2	7X12				0849-1200		0/0	0-5/0-5	
794	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	74	555065	3853674						2	5X10				0849-1200		0/0	0-5/0-5	
795	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	75	555099	3853572						2	3X6				0849-1200		0/0	0-5/0-5	
796	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	77	555147	3853428						2	5X13				0849-1200		0/0	0-5/0-5	
797	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	78	555149	3853543						2	5X12				0849-1200		0/0	0-5/0-5	
798	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	80	555205	3853278						2	7x12				0849-1200		0/0	0-5/0-5	
799	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	82	555252	3853690						2	4x10				0849-1200		0/0	0-5/0-5	
800	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	81	555240	3853627						3	5x10				0849-1200		0/0	0-5/0-5	Burrow had vegetation in mouth
801	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	67	554940	3853412											0849-1200		0/0	0-5/0-5	2 of this year's scat in D17
802	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	76	555118	3853512											0849-1200		0/0	0-5/0-5	
803	4/7/2010	Site	MBr	JBr, BN, GB, NJ	D17	83	555263	3853679											0849-1200		0/0	0-5/0-5	
804	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D18	65	555367	3853457	DT39	M	8.0	180.0	G						2218-2223	1605	2/2	5-10/0-5	
805	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D18	66	555369	3853471						1	4x10				1242-1605	2/2	5-10/0-5		
806	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D18	62	555641	3853423						2	5x12				2214-2215-1242-1605	2/2	5-10/0-5		
807	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D18	63	555504	3853630											5 2216-1242-1605	2/2	5-10/0-5		
808	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D18	64	555438	3853575											5 2217-904-1240	2/2	5-10/0-5		
809	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D19	48	556140	3853341	DT38	unknown	10.0	250.0	G						2193-904-1240				
810	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D19	47	556142	3853343						1	5x12				2187-904-1240				
811	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D19	50	556043	3853541						2	5x13				2195-904-1240	5/2	5-10/5-10		
812	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D19	53	555908	3853284						2	6x12				2199-904-1240	5/2	5-10/5-10		
813	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D19	55	555836	3853613						2	3x7				2201-904-1240	5/2	5-10/5-10		
814	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D19	58	555736	3853383						2	7x12				2205-904-1240	5/2	5-10/5-10		
815	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D19	59	555761	3853378						2	6x13				2206-904-1240	5/2	5-10/5-10		
816	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D19	60	555726	3853420						2	3x7				2208-904-1240	5/2	5-10/5-10		
817	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D19	49	556035	3853512						3	4x12				2194-904-1240	5/2	5-10/5-10	entrance to burrow slightly collapsed	
818	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D19	52	555910	3853297						3	8x14				2197-2198-904-1240	5/2	5-10/5-10	vegetation in mouth of burrow	
819	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D19	54	555867	3853359						3	4x12				2200-904-1240	5/2	5-10/5-10	partially collapsed	
820	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D19	56	555779	3853616						3	4x12				2202-904-1240	5/2	5-10/5-10	partially collapsed	
821	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D19	57	555816	3853499						3	4x9				2203-904-1240	5/2	5-10/5-10	fair condition	
822	4/6/2010	Site	MBr	JBr, BN, GB, NJ	D19	51	556051	3853685											5 2196-3201-1240	5/2	5-10/5-10		
823	4/7/2010	Site	DM	RC, SC, PF,WM	D20	241	556607	3853243	DT55	F	8.0			1	6x8				3202-0900-1230	55	0	2-4/2-4	
824	4/7/2010	Site	DM	RC, SC, PF,WM	D20	242	556200	3853343						3	8x15				3203-0900-1230	55	0	2-4/2-4	
825	4/7/2010	Site	DM	RC, SC, PF,WM	D20	243	556305	3853309						3	2x12	4			3204-0900-1230	55	0	2-4/2-4	
826	4/7/2010	Site	DM	RC, SC, PF,WM	D20	244	556254	3853332						4	7x7				3205-0900-1230	55	0	2-4/2-4	
827	4/7/2010	Site	DM	RC, SC, PF,WM	D20	245	556231	3853685											5 3214-1230	55	0	2-4/2-4	

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																SCAT CATEGORY (1-5)	SCAT CATEGORY (1-5)							
828	4/8/2010	Site	DM	RC, WS, PF	D21	003	556967	3853841							2	7X12			0830-1140					
829	4/8/2010	Site	DM	RC, WS, PF	D21	008	556687	3853959							2	7X16			0830-1140					
830	4/8/2010	Site	DM	RC, WS, PF	D21	001	557017	3854016							3	3.5X8			0830-1140					
831	4/8/2010	Site	DM	RC, WS, PF	D21	006	556869	3853727	DT57	F	9								0830-1140					female; scutes slightly sunken and worn
832	4/8/2010	Site	DM	RC, WS, PF	D21	005	556924	3853868	DT58	F	9								0830-1140					Burrow associates with tortoise 005
833	4/8/2010	Site	DM	RC, WS, PF	D21	002	556992	3854050	DT56	M	12								0830-1140					
834	4/8/2010	Site	DM	RC, WS, PF	D21	005	556932	3853744	X	M		11			1	7X11	3		0830-1140					No Data
835	4/7/2010	Site	DM	RC, SC, PF,WM	D22	247	557510	3853405							4	6x8			1310-1600					
836	4/7/2010	Site	DM	RC, SC, PF,WM	D22	246	557518	3853412											1310-1600					
837	4/7/2010	Site	DM	RC, SC, PF,WM	D22	248	557485	3853502											1310-1600					
838	4/7/2010	Site	DM	RC, SC, PF,WM	D22	249	557467	3853503											1310-1600					
676	4/13/2010	Site	DM	KH, WM, MT, NJ	D23	33	557875	3853281							2	4x8			1130-1500					
677	4/13/2010	Site	DM	KH, WM, MT, NJ	D23	34	557804	3853437							2	6x18	old		1130-1500					
678	4/13/2010	Site	DM	KH, WM, MT, NJ	D23	35	557770	3853362							1	6x18	1		1130-1500					2 new scat.
679	4/13/2010	Site	DM	KH, WM, MT, NJ	D23	36	557741	3853371											1130-1500					male 260mm carcass
680	4/13/2010	Site	DM	KH, WM, MT, NJ	D23	37	557671	3853608							3	5x7			1130-1500					1 scat in burrow (old).
681	4/13/2010	Site	DM	KH, WM, MT, NJ	D23	38	557651	3853647											1130-1500					
682	4/13/2010	Site	DM	KH, WM, MT, NJ	D23	39	557591	3853718											1130-1500					male 210mm carcass
670	4/13/2010	Site	DM	KH, WM, MT, NJ	D24	27	558374	3853344	DT82	F	8.0				1	7x13			0900-1135					
671	4/13/2010	Site	DM	KH, WM, MT, NJ	D24	28	558300	3853502							3	4x9			0900-1135					
672	4/13/2010	Site	DM	KH, WM, MT, NJ	D24	29	558257	3853420							1	7x14			0900-1135					1 or 2 scat in burrow.
673	4/13/2010	Site	DM	KH, WM, MT, NJ	D24	30	558255	3853584							3	5x11			0900-1135					
674	4/13/2010	Site	DM	KH, WM, MT, NJ	D24	31	558220	3853574							2	6x8			0900-1135					
675	4/13/2010	Site	DM	KH, WM, MT, NJ	D24	32	558008	3853688											0900-1135					
636	4/13/2010	Site	RD	JBr, MBr, MB, JH, RC	D25	34	558542	3853231		F	10.0								0904-1200-1300	50/55/65	0/0/0		5-20/5-10/5-10	
637	4/13/2010	Site	RD	JBr, MBr, MB, JH, RC	D25	35	558591	3853480			10.0								0904-1200-1300	50/55/65	0/0/0		5-20/5-10/5-10	
638	4/13/2010	Site	RD	JBr, MBr, MB, JH, RC	D25	36	558586	3853568			10.5								0904-1200-1300	50/55/65	0/0/0		5-20/5-10/5-10	
639	4/13/2010	Site	RD	JBr, MBr, MB, JH, RC	D25	37	558702	3853420							2	12x8			0904-1200-1300	50/55/65	0/0/0		5-20/5-10/5-10	Older scat at entrance - #3 Scat.
640	4/13/2010	Site	RD	JBr, MBr, MB, JH, RC	D26	38	558886	3853674							2	5x10			1300-1550	65/70	0/0		5-10/5-10	
641	4/13/2010	Site	RD	JBr, MBr, MB, JH, RC	D26	39	559114	3853408											1300-1550	65/70	0/0		5-10/5-10	
642	4/13/2010	Site	RD	JBr, MBr, MB, JH, RC	D26	40	559119	3853543			11.0								1300-1550	65/70	0/0		5-10/5-10	
643	4/13/2010	Site	RD	JBr, MBr, MB, JH, RC	D26	41	559136	3853314			6.0								1300-1550	65/70	0/0		5-10/5-10	
644	4/13/2010	Site	RD	JBr, MBr, MB, JH, RC	D26	42	559137	3853314	DT84	unknown	6.0				1	3x6			1300-1550	65/70	0/0		5-10/5-10	
645	4/13/2010	Site	RD	JBr, MBr, MB, JH, RC	D26	43	559214	3853580	DT85	M	10.5								1300-1550	65/70	0/0		5-10/5-10	

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																SCAT CATEGO RY (1-5)	CATEGO RY (1-5)	PICTUR E #						
646	4/13/2010	Site	RD	JBr, MBr, MB, JH, RC	D26	44	559239	3853593						1	6x12					1300-1550	65/70	0/0	5-10/5-10	
647	4/9/2010	Site	JP	CK, Aba, LB, PW	E12	86	552810	3853084						3	8X12			973		1120-0845-		0/0		0 4 scat found in cell E12
648	4/9/2010	Site	JP	CK, Aba, LB, PW	E12	87	552825	3853146						3	3X8			974		1120-0845-		0/0		0
649	4/9/2010	Site	JP	CK, Aba, LB, PW	E13	89	553266	3853127	DT75	unknown	7.0							976		1120-		0/		0
650	4/9/2010	Site	JP	CK, Aba, LB, PW	E13	90	553270	3853101						1	6X9			977		1120-		0/		0
651	4/9/2010	Site	JP	CK, Aba, LB, PW	E13	91	553270	3853094						1	4X9			978		1120-		0/		0
652	4/9/2010	Site	JP	CK, Aba, LB, PW	E13	88	553038	3852973										5 975		1120-		0/		0
653	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	9	555004	3853098	DT33	?	9.0			1	6x10			68-72		0839-1110	56-66	2/0	5-6/5-8	tortoise in burrow; rear marginal scute and from margins chipped or gnawed on
654	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	16	555203	3853231		?				3	8x16			96-98		0839-1110	56-66	2/0	5-6/5-8	photos 92-95 of juvenile DETO on cell D17
655	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	6	554945	3852910						3	4x8			61-62		0839-1110	56-66	2/0	5-6/5-8	
656	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	7	554965	3852885						3	8x12			63-64		0839-1110	56-66	2/0	5-6/5-8	
657	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	8	554979	3853049						3	7x10		2	65-67		0839-1110	56-66	2/0	5-6/5-8	
658	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	10	555066	3852995						3	6x12			73-75		0839-1110	56-66	2/0	5-6/5-8	
659	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	11	555051	3853189						3	7x10			76-78		0839-1110	56-66	2/0	5-6/5-8	
660	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	12	555076	3853216						3	5x10			79-81		0839-1110	56-66	2/0	5-6/5-8	
661	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	13	555087	3852956						3	4x10			82-84		0839-1110	56-66	2/0	5-6/5-8	
662	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	14	555147	3853046						3	6x16			85-88		0839-1110	56-66	2/0	5-6/5-8	
663	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	15	555138	3853218						3	7x14			89-91		0839-1110	56-66	2/0	5-6/5-8	
664	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	17	555197	3853150						3	5x8			99-101		0839-1110	56-66	2/0	5-6/5-8	
665	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	18	555197	3853136						3	4x11			102-103		0839-1110	56-66	2/0	5-6/5-8	
666	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	19	555234	3852934						3	8x18			104-105		0839-1110	56-66	2/0	5-6/5-8	
667	4/6/2010	Site	DP	RD, DS, JMc,TS	E17	20	555232	3853174						3	4x8			106-107		0839-1110	56-66	2/0	5-6/5-8	
668	4/6/2010	Site	DP	RD, DS, JMc,TS	E18	23	555546	3852992						2	3x5			111-113		1058-1356	66-71	0/0	5-8/8-10	
669	4/6/2010	Site	DP	RD, DS, JMc,TS	E18	21	555388	3853249						3	5x9			108-110		1058-1356	66-71	0/0	5-8/8-10	
670	4/6/2010	Site	DP	RD, DS, JMc,TS	E18	24	555606	3852974						3	4.5x9			114-115		1058-1356	66-71	0/0	5-8/8-10	
671	4/6/2010	Site	DP	RD, DS, JMc,TS	E19	27	555867	3853266						1	6x12			125-127		1400-1600	71-75	0/0	8-10/8-10	
672	4/6/2010	Site	DP	RD, DS, JMc,TS	E19	30	555906	3852941						1	5.5x11		2	136-137		1400-1600	71-75	0/0	8-10/8-10	
673	4/6/2010	Site	DP	RD, DS, JMc,TS	E19	25	555748	3852956						2	4.5x8.5		3	120-131		1600-1400-	71-75	0/0	8-10/8-10	
674	4/6/2010	Site	DP	RD, DS, JMc,TS	E19	29	555924	3853061						2	4x9			133-134		1600-1400-	71-75	0/0	8-10/8-10	
675	4/6/2010	Site	DP	RD, DS, JMc,TS	E19	31	556099	3852818						2	4.5x9		3	139-140		1600-1400-	71-75	0/0	8-10/8-10	
676	4/6/2010	Site	DP	RD, DS, JMc,TS	E19	32	556113	3853128						2	5x8		3	140-122		1600-1400-	71-75	0/0	8-10/8-10	
677	4/6/2010	Site	DP	RD, DS, JMc,TS	E19	26	555838	3853181						3	5x18			124-125		1600-1400-	71-75	0/0	8-10/8-10	
678	4/6/2010	Site	DP	RD, DS, JMc,TS	E19	28	555889	3853249						3	5x9			130-242		1600-1414-	71-75	0/0	8-10/8-10	
679	4/7/2010	Site	DP	RD, DS, JMc,TS	E20	60	556252	3852877	DT47	F	8.0							248-233		1615-1615	72-73	0/0	0-8/0-5	small female tortoise foraging next to road
680	4/7/2010	Site	DP	RD, DS, JMc,TS	E20	56	556428	3853063	DT46	M	11.0							233-223		1615-1615	72-73	0/0	0-8/0-5	large tortoise burrowing, some in burrow, damage to forearms and margin of
681	4/7/2010	Site	DP	RD, DS, JMc,TS	E20	53	556505	3853196						1	8x12			223-239		1615-1414-	72-73	0/0	0-8/0-5	
682	4/7/2010	Site	DP	RD, DS, JMc,TS	E20	59	556322	3853012						2	6x11			241-212		1615-1414-	72-73	0/0	0-8/0-5	
683	4/7/2010	Site	DP	RD, DS, JMc,TS	E20	50	556609	3853244						3	5x8			214-216		1615-1414-	72-73	0/0	0-8/0-5	
684	4/7/2010	Site	DP	RD, DS, JMc,TS	E20	51	556524	3852928						3	5x11			218		1615	72-73	0/0	0-8/0-5	

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																CATEGO RY (1-5)	CATEGO S RY (1-5)	PICTUR E #					
722	4/7/2010	Site	JP	CK, Aba, PW, LB	E23	48	557608	3852867			7.0								0921-1258	59/63	0/0	1-3/1-3	
723	4/7/2010	Site	JP	CK, Aba, PW, LB	E23	54	557722	3852805											0921-1258	59/63	0/0	1-3/1-3	
724	4/7/2010	Site	JP	CK, Aba, PW, LB	E23	55	557718	3853007											0921-1258	59/63	0/0	1-3/1-3	
725	4/7/2010	Site	JP	CK, Aba, PW, LB	E23	56	557732	3853153											0921-1258	59/63	0/0	1-3/1-3	
726	4/7/2010	Site	JP	CK, Aba, PW, LB	E24	59	557975	3852970	DT54	F	9.75		G						0921-1258	59/63	0/0	1-3/1-3	tortoise out walking
727	4/7/2010	Site	JP	CK, Aba, PW, LB	E24	62	558079	3853164	DT52	unknown	unknown			1	6x14				0921-1258	59/63	0/0	1-3/1-3	tortoise in burrow; ran in before getting measurements
728	4/7/2010	Site	JP	CK, Aba, PW, LB	E24	60	558036	3852884						1	8x15				0921-1258	59/63	0/0	1-3/1-3	
729	4/7/2010	Site	JP	CK, Aba, PW, LB	E24	61	558015	3852910						1	6x13				0921-1258	59/63	0/0	1-3/1-3	
730	4/7/2010	Site	JP	CK, Aba, PW, LB	E24	64	558138	3853164						1	6x13				0921-1258	59/63	0/0	1-3/1-3	
731	4/7/2010	Site	JP	CK, Aba, PW, LB	E24	65	558169	3852893						1	5x10				0921-1258	59/63	0/0	1-3/1-3	
732	4/7/2010	Site	JP	CK, Aba, PW, LB	E24	67	558382	3852763						1	6x9				0921-1258	59/63	0/0	1-3/1-3	
733	4/7/2010	Site	JP	CK, Aba, PW, LB	E24	63	558155	3852952						3	6x9				0921-1258	59/63	0/0	1-3/1-3	
734	4/7/2010	Site	JP	CK, Aba, PW, LB	E24	66	558268	3852910			7.0								0921-1258	59/63	0/0	1-3/1-3	
735	4/8/2010	Site	SA	CS, DC, MT	E25	100	558480	3852919						1	7X12				4475-1210	66/79		1-3/1-3	Tortoise scats in burrow
736	4/8/2010	Site	SA	CS, DC, MT	E25	103	558572	3853167						1	5X8				4482-1210	66/79		1-3/1-3	16m DT 102
737	4/8/2010	Site	SA	CS, DC, MT	E25	107	558678	3852841						1	6X8				4484-1210	66/79		1-3/1-3	
738	4/8/2010	Site	SA	CS, DC, MT	E25	108	558680	3853112						1	7X14				4488-1210	66/79		1-3/1-3	Tracks
739	4/8/2010	Site	SA	CS, DC, MT	E25	101	558528	3853172						2					900-1210	66/79		1-3/1-3	
740	4/8/2010	Site	SA	CS, DC, MT	E25	104	558562	3853134						2	5X8				900-1210	66/79		1-3/1-3	
741	4/8/2010	Site	SA	CS, DC, MT	E25	109	558764	3852814						2	8X20				900-1210	66/79		1-3/1-3	Burrow inside
742	4/8/2010	Site	SA	CS, DC, MT	E25	106	558596	3852913				280							900-1210	66/79		1-3/1-3	
743	4/8/2010	Site	SA	CS, DC, MT	E25	098	558448	3852816											900-1210	66/79		1-3/1-3	
744	4/8/2010	Site	SA	CS, DC, MT	E25	099	558483	3853187							8X20				900-1210	66/79		1-3/1-3	Egg shells outside burrow 1 Some predation evident in rear marginals, scutes slightly sunken. Nose and eyes are clear. Recently feeding
745	4/8/2010	Site	SA	CS, DC, MT	E25	102	558568	3853172	DT60	F	210								4477-1210	66/79		1-3/1-3	
746	4/8/2010	Site	SA	CS, DC, MT	E25	105	558541	3852896	DT83	M				2	5X8				4481-1210	66/79		1-3/1-3	
747	4/8/2010	Site	SA	CS, DC, MT	E26	111	558974	3853000						2	6X11				1338-1625	78/82		0-9/1-3	
748	4/8/2010	Site	SA	CS, DC, MT	E26	114	559035	3853021						2	7X15				1338-1625	78/82		0-9/1-3	Scats and tracks
749	4/8/2010	Site	SA	CS, DC, MT	E26	112	558947	3852706						3	5X9				1338-1625	78/82		0-9/1-3	Collapsed entrance by rock entrance
750	4/8/2010	Site	SA	CS, DC, MT	E26	113	558978	3850787				240							1338-1625	78/82		0-9/1-3	
751	4/8/2010	Site	SA	CS, DC, MT	E26	115	559125	3852825											1338-1625	78/82		0-9/1-3	
752	4/8/2010	Site	SA	CS, DC, MT	E26	116	559261	3853217											4303-1625	78/82		0-9/1-3	
753	4/8/2010	Site	SA	CS, DC, MT	E26	118	559261	3852991				260							4302-1625	78/82		0-9/1-3	Next to each other, didn't get close enough to verify sex or size.
754	4/8/2010	Site	SA	CS, DC, MT	E26	118	559758	3852991	DT62	F	260								4305-1625	78/82		0-9/1-3	
755	4/8/2010	Site	SA	CS, DC, MT	E26	117	559259	3852992	DT61	M	300								4302-1625	78/82		0-9/1-3	Neat to each other, didn't get close enough to verify sex or size.
756	4/8/2010	Site	SA	CS, DC, MT	E26	110	558931	3853004	DT63	M	240								4293-1625	78/82		0-9/1-3	
756	4/9/2010	Site	SA	CS, DC, MT	E26	123	559424	3852947	DT71	M	220								4517-1145	65/82		0-1/0-2	

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																	CATEGORY (1-5)	E #						
757	4/9/2010	Site	RB		E27	119	559496	3852854	DT59	M		300	N				4308-4313	0838-1145		0838-1145	65/82		0-1/0-2	Eyes sunken, scute anomalies, irregular growth on marginals
758	4/9/2010	Site	RB		E27	122	559459	3852776						1	150X300		4516	1145		1145	65/82		0-1/0-2	
759	4/9/2010	Site	RB		E27	121	559667	3852817						2	8X16		4515	1145		1145	65/82		0-1/0-2	In bleach at wash
760	4/9/2010	Site	RB		E27	125	559366	3852852						2	6X10		4529	1145		1145	65/82		0-1/0-2	
761	4/9/2010	Site	RB		E27	120	559687	3853240		?				1	7X13		4514	1145		1145	65/82		0-1/0-2	Larger burrow with tortoise
762	4/9/2010	Site	SA	CS, DC, MT	E27	124	559401	3853188	DT70	F		270	Negative				4522-4528	0838-1145		1145	65/82		0-1/0-2	Eyes swollen, breathing labored, mouth rot, shell looks good
763	4/8/2010	Site	RB	MB, JB, NJ, HB	F12	007	0556272	3854395				9				5	083	1620		1620	78/80		5-10/5-10	Carcass scattered in wash.
764	4/9/2010	Site	RB	MB, JB, NJ, HB	F12	108	0552564	3852483						5			2276	1040		1040			0-5/0-5	
765	4/9/2010	Site	RB	MB, JB, NJ, HB	F13													1145		1145			0-5/0-5	No Data
766	4/1/2010	Site	SA	GB, RBo, CK, SC	F17		NO DATA											845-1005		1005	50/58	20/5	3-6/3-6	
767	4/1/2010	Site	SA	GB, RBo, CK, SC	F18	018	555680	3852350						5	8x10		4360	12:10		12:10	58/60	5/1-2	4-7/3-5	
768	4/1/2010	Site	SA	GB, RBo, CK, SC	F18	017	555586	3852721	DT6	M	8.0						4355-4359	10:10-12:10		12:10	58/60	5/1-2	4-7/3-5	shell trama (chewing), apprx 30' from main dirt road
769	4/1/2010	Site	SA	GB, RBo, CK, SC	F18	016	555394	3852734						2	8x16		4354	12:10-1:20		12:10	58/60	5/1-2	4-7/3-5	
770	4/1/2010	Site	SA	GB, RBo, CK, SC	F19	019	556157	3852457						3	4x8		4361	3:05		3:05	66/68	5/2	5-10/3-8	entrance dug out, still usable
771	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	021	556330	3852684	DT20	unknown	8.0		G				1106	0827-1106		1106	52/64	10/5	5-8	DT in burrow
772	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	027	556490	3852448	DT21	unknown	unknown			1	8x15		n/a	0827-1106		1106	52/64	10/5	5-8	DT in burrow, went deeper in before pics could be taken
773	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	022	556330	3852684						1	7x14		4367	0827-1106		1106	52/64	10/5	5-8	
774	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	028	556490	3852448						1	8x5		4372-4373	0827-1106		1106	52/64	10/5	5-8	
775	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	023	556328	3852598						2	4x8		4368	0827-1106		1106	52/64	10/5	5-8	
776	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	024	556354	3852358						2	6x10		4370	0827-1106		1106	52/64	10/5	5-8	Possible tracks
777	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	025	556405	3852453						2	6x10		4370	0827-1106		1106	52/64	10/5	5-8	
778	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	030	556526	3852456						2	7x14		4375	0827-1106		1106	52/64	10/5	5-8	
779	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	020	556270	3852476						3	6x16		4362	0827-1106		1106	52/64	10/5	5-8	Collapsed entrance, but open
780	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	026	556429	3852791						3	6x10		4371	0827-1106		1106	52/64	10/5	5-8	Entrance collapsed, but useable, Vegetation growing in entrance.
781	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	029	556552	3852567						3	6x10		4374	0827-1106		1106	52/64	10/5	5-8	
782	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	031	556543	3852403						3	6x12		4376	0827-1106		1106	52/64	10/5	5-8	Burrow a little beat up
783	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	032	556517	3852359						3	4x8		4377	0827-1106		1106	52/64	10/5	5-8	small burrow, path filled in with dirt
784	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	033	556585	3852546						3	6x14		4372	0827-1106		1106	52/64	10/5	5-8	
785	4/2/2010	Site	SA	SC, CS, RBo, GB	F20	034	556650	3852788										1106		1106	52/64	10/5	5-8	DT egg remains
786	4/2/2010	Site	SA	SC, CS, RBo, GB	F21	035	556658	3852717	DT19	F	8.0	190.0					4380-4384	1127-1233		1233	70/70	2/4	1-3/3-5	found 20 ft from burrow, looks healthy
787	4/2/2010	Site	SA	SC, CS, RBo, GB	F21	036	556661	3852717						1	5x9		4385	1127-1233		1233	70/70	2/4	1-3/3-5	1 due to proximity of DT19
788	4/2/2010	Site	SA	SC, CS, RBo, GB	F21	037	556687	3852528						2	8x16		4386	1127-1233		1233	70/70	2/4	1-3/3-5	old, weathering
789	4/2/2010	Site	SA	SC, CS, RBo, GB	F21	038	556708	3852673						3	6x10		4387	1127-1233		1233	70/70	2/4	1-3/3-5	side of wash, entrance blocked by crumbly cobbles
790	4/2/2010	Site	SA	SC, CS, RBo, GB	F21	039	556796	3852596						3	7x10		4388	1127-1233		1233	70/70	2/4	1-3/3-5	entrance filled in with sand
791	4/2/2010	Site	SA	SC, CS, RBo, GB	F21	040	556804	3852776								3	4390	0830-1233		1233	70/70	2/4	1-3/3-5	flesh inside (dried)
793	4/2/2010	Site	JB	PW, BN, TS	F22	020	557405	3852679	DT14	M		220.0	G	1	18x24		1030	0830-1030		1030	47/55	10/15	0-5/0-8	tracks inside burrow, tortoise basking
794	4/2/2010	Site	JB	PW, BN, TS	F22	023	557335	3852404	DT16	M		250.0	G	2	12x18		3	1030		1030	47/55	10/15	0-5/0-8	live tortoise

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																SCAT CATEGO RY (1-5)	CATEGO RY (1-5)	PICTUR E #						
795	4/2/2010	Site	JB	PW, BN, TS	F22	024	557315	3852541	DT17	M		235.0	G	2	4x6			4	0830-1030	47/55	10/15	0-5/0-8	live tortoise	
796	4/2/2010	Site	JB	PW, BN, TS	F22	025	557295	3852533	DT18	unk	16.0	150.0	G					3	0830-1030	47/55	10/15	0-5/0-8		
797	4/2/2010	Site	JB	PW, BN, TS	F22	022	557373	3852478	DT15	unknown		185.0	G	2	10x12			3	0830-1030	47/55	10/15	0-5/0-8	live tortoise	
798	4/2/2010	Site	JB	PW, BN, TS	F22	029	557072	3852716			18.0			1	8x16			3	0830-1030	47/55	10/15	0-5/0-8		
799	4/2/2010	Site	JB	PW, BN, TS	F22	030	556991	3852789						1	8x18				0830-1030	47/55	10/15	0-5/0-8		
800	4/2/2010	Site	JB	PW, BN, TS	F22	017	557494	3852480						2	18x20				0830-1030	47/55	10/15	0-5/0-8	scat, but can't tell if its recent because it's inside the burrow	
801	4/2/2010	Site	JB	PW, BN, TS	F22	018	557454	3852652						2	2x3				0830-1030	47/55	10/15	0-5/0-8	juvenile burrow	
802	4/2/2010	Site	JB	PW, BN, TS	F22	019	557414	3852661						2	4x8				0830-1030	47/55	10/15	0-5/0-8		
803	4/2/2010	Site	JB	PW, BN, TS	F22	021	557370	3852696						2	4x8				0830-1030	47/55	10/15	0-5/0-8		
804	4/2/2010	Site	JB	PW, BN, TS	F22	028	557261	3852639						2	5x10				0830-1030	47/55	10/15	0-5/0-8		
805	4/2/2010	Site	JB	PW, BN, TS	F22	031	556863	3852528						2	7x12				0830-1030	47/55	10/15	0-5/0-8		
806	4/2/2010	Site	JB	PW, BN, TS	F22	026	557293	3852482						3	3x9				0830-1030	47/55	10/15	0-5/0-8	opens on two sides	
807	4/2/2010	Site	JB	PW, BN, TS	F22	027	557281	3852475											0830-1030	47/55	10/15	0-5/0-8		
808	4/6/2010	Site	JP	CK, Aba, LB	F23	24	557910	3852674	DT29	M	11.0		G					793	0830-1230	56/78	0/0	4-7/4-7	male and female found mating	
809	4/6/2010	Site	JP	CK, Aba, LB	F23	16	557569	3852683						1	17x12			785	0830-1230	56/78	0/0	4-7/4-7		
810	4/6/2010	Site	JP	CK, Aba, LB	F23	17	557600	3852756						1	9x15			786	0830-1230	56/78	0/0	4-7/4-7		
811	4/6/2010	Site	JP	CK, Aba, LB	F23	18	557604	3852759						1	7x13			787	0830-1230	56/78	0/0	4-7/4-7		
812	4/6/2010	Site	JP	CK, Aba, LB	F23	19	557604	3852768						1	9x23			788	0830-1230	56/78	0/0	4-7/4-7		
813	4/6/2010	Site	JP	CK, Aba, LB	F23	20	557716	3852619						1	6x11			789	0830-1230	56/78	0/0	4-7/4-7		
814	4/6/2010	Site	JP	CK, Aba, LB	F23	21	557681	3852744						1	6x12			790	0830-1230	56/78	0/0	4-7/4-7		
815	4/6/2010	Site	JP	CK, Aba, LB	F23	25	557911	3852684						1	6x13			797	0830-1230	56/78	0/0	4-7/4-7		
816	4/6/2010	Site	JP	CK, Aba, LB	F23	26	557899	3852534						1	6x12			798	0830-1230	56/78	0/0	4-7/4-7		
817	4/6/2010	Site	JP	CK, Aba, LB	F23	23	557750	3852372						3	5x11			792	0830-1230	56/78	0/0	4-7/4-7		
818	4/6/2010	Site	JP	CK, Aba, LB	F23	27	557988	3852654						3	7x13			799	0830-1230	56/78	0/0	4-7/4-7		
819	4/6/2010	Site	JP	CK, Aba, LB	F23	22	557741	3852571			8.25							3	791-794	1230-0830	56/78	0/0	4-7/4-7	
820					F23	24	557910	3852674	DT30	F	9.5		G					796	0830-1230	56/78	0/0	4-7/4-7	male and female found mating	
821	4/6/2010	Site	JP	CK, Aba, LB	F24	32	558231	3852416	DT31	F	8.75		G					804	0830-1351	80	0	4-7	tortoise foraging	
822	4/6/2010	Site	JP	CK, Aba, LB	F24	28	558036	3852370						1	2x5			800	1351	80	0	4-7	scat (5), broken egg shell near location #13	
823	4/6/2010	Site	JP	CK, Aba, LB	F24	33	558252	3852343						1	7x11			805	1351	80	0	4-7		
824	4/6/2010	Site	JP	CK, Aba, LB	F24	34	558238	3852381						1	5x9			806	1351	80	0	4-7		
825	4/6/2010	Site	JP	CK, Aba, LB	F24	35	558324	3852335						1	6x11			807	1351	80	0	4-7		
826	4/6/2010	Site	JP	CK, Aba, LB	F24	36	558380	3852761						1	6x11			808	1351	80	0	4-7		
827	4/6/2010	Site	JP	CK, Aba, LB	F24	37	558378	3852517						1	6x12			809	1351	80	0	4-7		
828	4/6/2010	Site	JP	CK, Aba, LB	F24	29	558001	3852392						3	6x10			801	1351	80	0	4-7		
829	4/6/2010	Site	JP	CK, Aba, LB	F24	31	558152	3852366						3	7x14			803	1351	80	0	4-7		
830	4/6/2010	Site	JP	CK, Aba, LB	F24	38	558380	3852367						3	6x11			810	1351	80	0	4-7		
831	4/6/2010	Site	JP	CK, Aba, LB	F24	39	558389	3852318						3	5x9			811	1351	80	0	4-7		
832	4/6/2010	Site	JP	CK, Aba, LB	F24	30	558039	3852433										5	802	1305-1351	80	0	4-7	
833	4/6/2010	Site	SA	CS, DC, MT	F25	72	558528	3852426						1	6x10			4436	1552	68-70	0/0	3-6/2-5	looks active, can't see back but tracks present	
834	4/6/2010	Site	SA	CS, DC, MT	F25	78	558495	3852353						1	7x10			4444	1305-1552	68-70	0/0	3-6/2-5	nice burrow, possibly occupied, CS heard rustling but not repeated	
835	4/6/2010	Site	SA	CS, DC, MT	F25	66	558815	3852416						2	6x10			4426	1305-1552	68-70	0/0	3-6/2-5		
836	4/6/2010	Site	SA	CS, DC, MT	F25	67	558845	3852482						3	6x10			4427	1305-1552	68-70	0/0	3-6/2-5		

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Tortoise Burrow Data
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OBJECTID	DATE COLLECTED	SURVEY AREA	TEAM LEADER	OTHER OBSERVERS	CELL NUMBER	GPS POINT	EASTING	NORTHING	TORTOISE E #	TORTOISE SEX	TORTOISE SIZE (IN)	TORTOISE SIZE (mm)	TORTOISE HEALTH	BURROW CATEGORY (1-5)	BURROW HXW (INCHES)	SCAT CATEGORY (1-5)	CARCAS S CATEGORY (1-5)	PICTUR E #	Other Species	Time Start/End	Temp Start/End (F)	Cloud Cover Start/End (%)	Wind Start/End (mph)	NOTES
837	4/6/2010	Site	SA	CS, DC, MT	F25	70	558649	3852482						3	6x13					1305-1552	68-70	0/0	3-6/2-5	collapsed entrance
838	4/6/2010	Site	SA	CS, DC, MT	F25	74	558519	3852468						3	6x10			4439		1552-1305	68-70	0/0	3-6/2-5	entrance collapsed, burrow filled in
839	4/6/2010	Site	SA	CS, DC, MT	F25	77	558482	3852440						3	6x10			4443		1305-1552	68-70	0/0	3-6/2-5	
840	4/6/2010	Site	SA	CS, DC, MT	F25	79	558426	3852681						3	8x14			4446		1305-1552	68-70	0/0	3-6/2-5	collapsed after 1ft
841	4/6/2010	Site	SA	CS, DC, MT	F25	71	558546	3852403				260.0						3 4435		1552-1305	68-70	0/0	3-6/2-5	
842	4/6/2010	Site	SA	CS, DC, MT	F25	73	558536	3852451				200.0						2 4438		1552-1305	68-70	0/0	3-6/2-5	carcass intact, deformation in front w/fang marks
843	4/6/2010	Site	SA	CS, DC, MT	F25	68	558846	3852609										5 4428		1552-1305	68-70	0/0	3-6/2-5	
844	4/6/2010	Site	SA	CS, DC, MT	F25	69	558787	3852554										2 4434		1552-1305	68-70	0/0	3-6/2-5	3" juvenile to raven predation
845	4/6/2010	Site	SA	CS, DC, MT	F25	75	558536	3852552										3 4440		1552-1305	68-70	0/0	3-6/2-5	
846	4/6/2010	Site	SA	CS, DC, MT	F25	76	558479	3852447										5 4442		1552-1305	68-70	0/0	3-6/2-5	
847	4/7/2010	Site	SA	CS, DC, MT	F27, F26	86	559458	3852450	DT40	F		250mm		1	7x12			4452-4456		0845-1438	60/70	0/0	1-3/2-4	burrow found 10m east under creosote; tortoise appears old, scutes sinking, some predation evident on rear marginals. Eyes and nose not visible.
848	4/7/2010	Site	SA	CS, DC, MT	F27, F26	92	559015	3852454	DT41	unknown	300mm							4462-4467		0845-1438	60/70	0/0	1-3/2-4	DT found after searching for it, abt 70m north of double burrows (90 and 91). Scutes in good condition but slightly sunken
849	4/7/2010	Site	SA	CS, DC, MT	F27, F26	81	559092	3852588						1	7x12			4447		0845-1438	60/70	0/0	1-3/2-4	nice burrow with tracks, some shell fragments about 8 ft SE of burrow under larrea
850	4/7/2010	Site	SA	CS, DC, MT	F27, F26	87	559467	3852445						1	7x12			4457		0845-1438	60/70	0/0	1-3/2-4	
851	4/7/2010	Site	SA	CS, DC, MT	F27, F26	91	558993	3852394						1	6x12			4461		0845-1438	60/70	0/0	1-3/2-4	
852	4/7/2010	Site	SA	CS, DC, MT	F27, F26	82	558931	3852574						2	6x10			4448		0845-1438	60/70	0/0	1-3/2-4	
853	4/7/2010	Site	SA	CS, DC, MT	F27, F26	84	559008	3852519						2	6x10			4450		0845-1438	60/70	0/0	1-3/2-4	
854	4/7/2010	Site	SA	CS, DC, MT	F27, F26	89	559033	3852430						2	5x8			4459		0845-1438	60/70	0/0	1-3/2-4	
855	4/7/2010	Site	SA	CS, DC, MT	F27, F26	90	558994	3852395						2	6x10			4460		0845-1438	60/70	0/0	1-3/2-4	
856	4/7/2010	Site	SA	CS, DC, MT	F27, F26	80	559353	3852628						3	6x8			4446		0845-1438	60/70	0/0	1-3/2-4	
857	4/7/2010	Site	SA	CS, DC, MT	F27, F26	85	559206	3852457						3	8x10			4451		0845-1438	60/70	0/0	1-3/2-4	Entrance collapsed/dug out, some eggshell fragments present
858	4/7/2010	Site	SA	CS, DC, MT	F27, F26	83	559145	3852518										5 4449		0845-1438	60/70	0/0	1-3/2-4	
859	4/7/2010	Site	SA	CS, DC, MT	F27, F26	88	559146	3852419				200m						3 4458		0845-1438	60/70	0/0	1-3/2-4	
860	4/7/2010	Site	SA	CS, DC, MT	F27, F28	96	559287	3852341						1	6x10			4471		0845-1438	60/70	0/0	1-3/2-4	No DT, but tracks present at burrow that is 3-4 ft deep
861	4/7/2010	Site	SA	CS, DC, MT	F27, F28	97	559277	3852350						2	6x10			4472		0845-1438	60/70	0/0	1-3/2-4	xx foot deep
862	4/7/2010	Site	SA	CS, DC, MT	F27, F28	93	559076	3852411						3	150x500m			4468		0845-1438	60/70	0/0	1-3/2-4	
863	4/7/2010	Site	SA	CS, DC, MT	F27, F28	94	559084	3852390						3	7x12			4469		0845-1438	60/70	0/0	1-3/2-4	
864	4/7/2010	Site	SA	CS, DC, MT	F27, F28	95	559336	3852406				210.0						5 4470		0845-1438	60/70	0/0	1-3/2-4	
865	4/1/2010	Site	RB	JM, WM, PF	G12	NO DATA														1150-1150	47/60	10/0	3-7/4-8	
866	4/1/2010	Site	RB	JM, WM, PF	G13	007	553062	3851960						2	6x10			78		1315	60/60	0/2	4-8/3-7	
867	4/1/2010	Site	JB	TM, PW, TS, BN	G17	011	555254	3851892						2	4x12					845-1025	46/49	10/10	0-5/0-10	2 tortoise burrows 10 ft apart. Burrow category 2, definitely tortoise. Burrow category 4, was tortoise, dug out by coyote.

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OBJECTID	DATE COLLECTED	SURVEY AREA	TEAM LEADER	OTHER OBSERVERS	CELL NUMBER	GPS POINT	EASTING	NORTHING	TORTOISE E #	TORTOISE SEX	TORTOISE SIZE (IN)	TORTOISE SIZE (mm)	TORTOISE HEALTH	BURROW CATEGORY (1-5)	BURROW HXW (INCHES)	SCAT CATEGORY (1-5)	CARCAS S CATEGORY (1-5)	PICTUR E #	Other Species	Time Start/End	Temp Start/End (F)	Cloud Cover (%)	Wind Start/End (mph)	NOTES	
	4/1/2010	Site	JB	TM, PW, TS, BN	G17	011	555254	3851892						4	4x16					845-1025	46/49	10/10	0-5/0-10	2 tortoise burrows 10 ft apart. Burrow category 2, definitely tortoise. Burrow category 4, was tortoise, dug out by coyote.	
1	4/1/2010	Site	JB	PW, BN, TS	G18	013	555381	3851906						3	4x11					10:40-1:05	49/57	10/10	0-10/0-10		
2	4/1/2010	Site	JB	PW, BN, TS	G18	014	555653	3852345						3	5x18					10:40-1:05	49/57	10/10	0-10/0-10		
3	4/1/2010	Site	JB	PW, BN, TS	G18	015	555681	3852351						3	8x15					10:40-1:05	49/57	10/10	0-10/0-10		
2	4/1/2010	Site	JB	PW, BN, TS	G18	012	555385	3851933						3	6x12					10:40-1:05	49/57	10/10	0-10/0-10		
3	3/31/2010	Site	JD4	JD, DS, CS, JM, MB	G19	474	556248	3852060	DT5	M	8.2	g								905-1055	57.4/67.6	5/35	4.1/6.9	found in pallet w sandy substrate Appears to be a DT burrow. Kit foxes used 1 burrow (3 present). 4" X 9" - one burrow	
4	3/31/2010	Site	JD4	JD, DS, CS, JM, MB	G19	473	555968	3852306						3	4x9					3117-1055	57.4/67.6	5/35	4.1/6.9		
5	3/31/2010	Site	JD4	JD, DS, CS, JM, MB	G19	472	555927	3851910						4						905-1055	57.4/67.6	5/35	4.1/6.9	four burrows. 6.5"w X 3.5"h in area 22 cm length, adult. Found in shallow drainage channel. Scutes are starting to fall off of skeleton. Perhaps facilitated by water. Dorsal scutes still attached-found upside down. No predatory marks	
6	3/31/2010	Site	JD4	DS, MB, CS, JH	G19	471	555949	3852184									2-3	3115		905-1055	57.4/67.6	5/35	4.1/6.9	carcass remains in drainage channel of large wash. 12:38 p.m.	
7	3/31/2010	Site	JD4	JD, DS, CS, JM, MB	G20	477	556531	3852306									5	3136-3137		11:05-2:01	65.3/64.2	30-35/70	6.9/25		
8	3/31/2010	Site	JD4	JD, DS, CS, JM, MB	G20	478	556570	3852051									5	3138-3139		11:05-2:01	65.3/64.2	30-35/70	6.9/25	same as above. Vulpes scat nearby 2 burrows (5x13)/(5.5x13) Excellent, recent claw marks, backfill SHOULD BE REVISITED	
9	3/31/2010	Site	JD4	JD, DS, CS, JM, MB	G21	479	556712	3852159						1	5.5X13					3140-3145	2:10-3:30	64.2/58.6	70/30	19-30/25-30	
10	3/31/2010	Site	JD4	JD, DS, CS, JM, MB	G21	480	556944	3851952						3	8.5X4					3145-3146	2:10-3:30	64.2/58.6	70/30	19-30/25-30	
11	4/2/2010	Site	MBr	RD, Aba, JBr	G22	036	557165	3852186						1	6x15		1	66		0829-1108	53/65	1/2	5/3-9		
12	4/2/2010	Site	MBr	RD, Aba, JBr	G22	035	557311	3852092						2	4x10					0829-1108	53/65	1/2	5/3-9		
13	4/2/2010	Site	MBr	RD, Aba, JBr	G22	034	557372	3852073									5	64		0829-1108	53/65	1/2	5/3-9		
14	4/1/2010	Site	RD	ABa, JBr, MBr	G23	029	557848	3852169									5	58		1405-1632		5/5	0-5/0-5		
15	4/1/2010	Site	RD	ABa, JBr, MBr	G23	030	557740	3852080									5	60		1405-1632		5/5	0-5/0-5		
16	4/1/2010	Site	RD	ABa, JBr, MBr	G23	031	557693	3852292									5	61		1405-1632		5/5	0-5/0-5		
17	4/1/2010	Site	RD	ABa, JBr, MBr	G23	024	557937	3852080						1	7x13					1405-1632		5/5	0-5/0-5		
18	4/1/2010	Site	RD	ABa, JBr, MBr	G23	027	557876	3851983						1	5x12					1405-1632		5/5	0-5/0-5		
19	4/1/2010	Site	RD	ABa, JBr, MBr	G23	025	557919	3852286						2	7x12					1405-1632		5/5	0-5/0-5		
20	4/1/2010	Site	RD	ABa, JBr, MBr	G23	026	557881	3852237						2	5x9					1405-1632		5/5	0-5/0-5		
21	4/1/2010	Site	RD	ABa, JBr, MBr	G23	028	557818	3851983						2	4x9					1405-1632		5/5	0-5/0-5		
22		Site	RD	ABa, JBr, MBr	G23	032	557589	3852339									5	62		1405-1632		5/5	0-5/0-5		
23		Site	RD	ABa, JBr, MBr	G23	033	557542	3852241									5	63		1405-1632		5/5	0-5/0-5		
24	4/1/2010	Site	RD	ABa, JBr, MBr	G24	018	558050	3851876	DT7	F	10.5	260.0	G							858-1428		20/5	5-10/0-5		
25	4/1/2010	Site	RD	ABa, JBr, MBr	G24	021	558064	3852039	DT9	F	10.0	240.0	G							41 and 46	858-1428		20/5	5-10/0-5	basking
26	4/1/2010	Site	RD	ABa, JBr, MBr	G24	016	558113	3851894	DT8	M	12.0	280.0	G							40	858-1428		20/5	5-10/0-5	
27	4/1/2010	Site	RD	ABa, JBr, MBr	G24	005	558332	3852004						1	4x9					858-1428		20/5	5-10/0-5		
28	4/1/2010	Site	RD	ABa, JBr, MBr	G24	009	558177	3851922						1	7x13	2				858-1428		20/5	5-10/0-5		
29	4/1/2010	Site	RD	ABa, JBr, MBr	G24	011	558141	3851880						1	6x12					858-1428		20/5	5-10/0-5		

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																SCAT CATEGO RY (1-5)	CATEGO RY (1-5)	PICTUR E #						
30	4/1/2010	Site	RD	ABa, JBr, MBr	G24	015	558101	3851903						1	6x16			39		858-1428	20/5	5-10/0-5		
31	4/1/2010	Site	RD	ABa, JBr, MBr	G24	017	558050	3851870						1	6x14			42		858-1428	20/5	5-10/0-5		
32	4/1/2010	Site	RD	ABa, JBr, MBr	G24	020	558067	3852039						1	4x8			45		858-1428	20/5	5-10/0-5		
33	4/1/2010	Site	RD	ABa, JBr, MBr	G24	004	558371	3851920						2	6x14			26		858-1428	20/5	5-10/0-5		
34	4/1/2010	Site	RD	ABa, JBr, MBr	G24	006	558295	3852254						2	5x11			30		858-1428	20/5	5-10/0-5		
35	4/1/2010	Site	RD	ABa, JBr, MBr	G24	007	558238	3852342						2	6x12			31		858-1428	20/5	5-10/0-5	burrow found while shifting in cell F24	
36	4/1/2010	Site	RD	ABa, JBr, MBr	G24	008	558239	3851945						2	8x14			32		858-1428	20/5	5-10/0-5		
37	4/1/2010	Site	RD	ABa, JBr, MBr	G24	010	558189	3851930						2	7x13			34		858-1428	20/5	5-10/0-5		
38	4/1/2010	Site	RD	ABa, JBr, MBr	G24	019	558090	3851949						2	5x10			43		858-1428	20/5	5-10/0-5		
39	4/1/2010	Site	RD	ABa, JBr, MBr	G24	022	558092	3852250						2	6x12			47		858-1428	20/5	5-10/0-5		
40	4/1/2010	Site	RD	ABa, JBr, MBr	G24	023	558017	3852131						2	5x12			48-49		858-1428	20/5	5-10/0-5		
41	4/1/2010	Site	RD	ABa, JBr, MBr	G24	002	558392	3852325						3	5x10			24		858-1428	20/5	5-10/0-5	burrow has collapsed parts in opening & small vegetation growing on ramp	
42	4/1/2010	Site	RD	ABa, JBr, MBr	G24	003	558368	3852216						3	4x8			25		858-1428	20/5	5-10/0-5	collapsed entrance	
43	4/1/2010	Site	RD	ABa, JBr, MBr	G24	012	558157	3852151						3	4x12			36		858-1428	20/5	5-10/0-5	collapsed entrance	
44	4/1/2010	Site	RD	ABa, JBr, MBr	G24	013	558162	3852158						3	4x12			37		858-1428	20/5	5-10/0-5	vegetation growing in entrance	
45	4/1/2010	Site	RD	ABa, JBr, MBr	G24	014	558165	3852158						3	6x12			38		858-1428	20/5	5-10/0-5	collapsed roof in entrance	
46	4/6/2010	Site	SA	CS, DC, MT	G25	59	558521	3852275	DT28	F		200.0	G					4419-4423	0840-1140	53-62	1/0	2-5/3-6	some scute sinking on V2 and V3	
47	4/6/2010	Site	SA	CS, DC, MT	G25	58	558496	3852181						1	7x14			4415-4417	0840-1140	53-62	1/0	2-5/3-6		
48	4/6/2010	Site	SA	CS, DC, MT	G25	60	558524	3852275						1	6x8			4424	0840-1140	53-62	1/0	2-5/3-6		
49	4/6/2010	Site	SA	CS, DC, MT	G25	54	558819	3852285						2	7x14		3	4411	0840-1140	53-62	1/0	2-5/3-6	large scat approx 4" egg shell fragments outside burrow, tracks inside	
50	4/6/2010	Site	SA	CS, DC, MT	G25	56	558621	3852094						2	6x10			4413	0840-1140	53-62	1/0	2-5/3-6		
51	4/6/2010	Site	SA	CS, DC, MT	G25	57	558505	3851926						2	4x7			4414	0840-1140	53-62	1/0	2-5/3-6		
52	4/6/2010	Site	SA	CS, DC, MT	G25	55	558779	3852271						3	6x12			4412	0840-1140	53-62	1/0	2-5/3-6	slightly deteriorated entrance under creoste, nice shape but half filled in	
53	4/6/2010	Site	SA	CS, DC, MT	G25	61	558787	3852094						3	6x10			4425	0840-1140	53-62	1/0	2-5/3-6	DT male with gular plate missing/broken, scars on right front leg, right rear scutes chipped; GPS points are confused b/t data sheet and live tortoise sheet.	
54	4/2/2010	Site	RB	JM, WM, PF	G26	011	558914	3852315	DT11	M	12.0							81	1100-1240	65/65	2/15	3-9/3-6	burrow with tracks	
55	4/2/2010	Site	RB	JM, WM, PF	G26	009	559097	3852108						1	6x14			80	1100-1240	65/65	2/15	3-9/3-6		
56	4/2/2010	Site	RB	JM, WM, PF	G26	010	559008	3852022									5		1100-1240	65/65	2/15	3-9/3-6		
787	4/15/2010	Site	JP	CK, JON, LB, CS	H0														0845-1038	68/70	0/0	4-7/4-7		
766	4/15/2010	Site	SA	AB, JM, ES, DE	H1, I0	149	547176	3851519						3	3x6			4578	1055-1406	83/88	0/0	0-1/2-5	Old burrow	
767	4/15/2010	Site	SA	AB, JM, ES, DE	H1, I0	150	547166	3851235						3	4x7			4579	1055-1406	83/88	0/0	0-1/2-5	Old burrow	
768	4/15/2010	Site	SA	AB, JM, ES, DE	H1, I0	151	547319	3851344						3	4x7			4580	1055-1406	83/88	0/0	0-1/2-5	Old burrow	
769	4/15/2010	Site	SA	AB, JM, ES, DE	H1, I0	152	547357	3851531						3	4x7			4581	1406	83/88	0/0	0-1/2-5	1 ft deep, nice shape.	
770	4/15/2010	Site	SA	AB, JM, ES, DE	H1, I1	153	547618	3851422						2	4x8			4582	1533	83 40	8-10	8-10	Fresh digout.	
771	4/15/2010	Site	SA	AB, JM, ES, DE	H1, I1	154	547656	3851555						3	3x6			4583	1533	83 40	8-10	8-10	Old, lots of debris in entrance.	
772	4/15/2010	Site	SA	AB, JM, ES, DE	H1, I1	155	547659	3851461						3	4x8			4584	1533	83 40	8-10	8-10	Debris in entrance.	
773	3/31/2010	Site	JB	TM, PW, TS, BN	H12+H13	007	552728	3851796						3	3X6				830-1045	60.1/62	15/50	2-8/0-10		

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OBJECTID	DATE COLLECTED	SURVEY AREA	TEAM LEADER	OTHER OBSERVERS	CELL NUMBER	GPS POINT	EASTING	NORTHING	TORTOISE E #	TORTOISE SEX	TORTOISE SIZE (IN)	TORTOISE SIZE (mm)	TORTOISE HEALTH	BURROW CATEGORY (1-5)	BURROW HXW (INCHES)	SCAT CATEGORY (1-5)	CARCAS S CATEGORY (1-5)	PICTUR E #	Other Species	Time Start/End	Temp Start/End (F)	Cloud Cover Start/End (%)	Wind Start/End (mph)	NOTES	
774	3/31/2010	Site	JB	TM, PW, TS, BN	H13+H13	008	553057	3851958						2	6X12					1055-248	62/60	50/50	0-10/15-35		
775	3/31/2010	Site	JB	TM, PW, TS, BN	H13+H13	009	553075	3851885						3	4X8					1055-248	62/60	50/50	0-10/15-35		
776	3/31/2010	Site	JB	TM, PW, TS, BN	H13+H13	010 NO	553386	3851585						4	4X8					1055-248	62/60	50/50	0-10/15-35		
777	4/1/2010	Site	RB	JM, WM, PF	H14	DATA														1425-1627	64/62	2/3	3-8/3-8	no data points	
778	3/31/2010	Site	RD	ABa, JB, MB	H15	001	554029							5	2X5			21		842-1028		20/50	5-10/10-15	Tortoise shape, K-rat tracks	
779	4/2/2010	Site	RB	JM, WM, PF	H15	008 NO	554068	3851645						2	4x8			79		1010-1019-	53/65	1/2	5/3-9		
780	3/31/2010	Site	RD	ABa, JB, MB	H16	DATA NO														1156-1159-		40/90	5-10/10-20		
781	3/31/2010	Site	RD	ABa, JB, MB	H17	DATA														1434-		90/90	10-20/20-30		
782	3/31/2010	Site	SA	GB, Rbo, CK, SC	H19	013	556055	3851582						3	4X6					8:50-10:38	59/68	5/20	0-3/5-7	old DT burrow, owl pellet and KF scat outside, both old	
783	3/31/2010	Site	SA	GB, Rbo, CK, SC	H19	012	555927	3851903						5	6X10					8:50-10:38	59/68	5/20	0-3/5-7		
784	3/31/2010	Site	SA	GB, Rbo, CK, SC	H20	014	556171	3851470						3						4349-4351	1:16	68/62	20/40	5-7/20-25	KF complex with several DT shaped burrows
785	3/31/2010	Site	SA	GB, Rbo, CK, SC	H21	015	557053	3851829									5		4353	2:50	62/60	40/70	25-30/25-30	pieces of patron? scattered Old 'hybrid' looking burrow, apron present; sandy gravel substrated,	
786	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H22	481	557460	3851574						4	5x6.5					3148		51/53	15/5	5-7/1.6-5.8	vulpes sp den nearby probably DT, and used more recently by a canid - could be used in future
787	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H23	482	557781	3851837						4	4x8					3150		53/56	<5/5	2-6/3-7	by DT
788	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	494	558163	3851780												3155-3159		73.4/68	<5/5	2-7/2-5	
789	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	495	558209	3851522												1345-1723	73.4/68	<5/5	2-7/2-5		
790	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	496	558226	3851432												1345-1723	73.4/68	<5/5	2-7/2-5		
791	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	497	558340	3851692												1345-1723	73.4/68	<5/5	2-7/2-5		
792	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	498	558338	3851595												1345-1723	73.4/68	<5/5	2-7/2-5		
793	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	499	558338	3851595												1345-1723	73.4/68	<5/5	2-7/2-5		
794	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	485*	558050	3851871	DT10	F	9.5		G							3170-3172					See live tortoise data sheet; also possible duplicate data - poaching by adjacent team?
795	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	493	558195	3851479												3176		73.4/68	<5/5	2-7/2-5	
796	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	483	558269	3851489												1345-1723	73.4/68	<5/5	2-7/2-5		
797	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	486	558050	3851868						1	5x15	2				3160-3173-	73.4/68	<5/5	2-7/2-5	Nice burrow with 2 scat	
798	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	488	558046	3851724						1	5x12	4				3175-3180-	73.4/68	<5/5	2-7/2-5	likely the burrow of DT at gps 485 burrow in good condition with scat under creosote, facing west	
799	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	490	558065	3851654						2	5.5x12	3				3183-3189-	73.4/68	<5/5	2-7/2-5	burrow under creosote; west/northwest facing	
800	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	491	558121	3851707						2	6x14					3192-3193-	73.4/68	<5/5	2-7/2-5	burrow under creosote; southwest/west facing	
801	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	492-1	558135	3851676						2	7x13					3196-3197-	73.4/68	<5/5	2-7/2-5		
802	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	492-2	558135	3851676						2	5.5x11					3200-3197-	73.4/68	<5/5	2-7/2-5	nw facing in group of 3 burrows	
803	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	493	558121	3851541						2	3x8					1345-1723	73.4/68	<5/5	2-7/2-5	in opening , west facing	
804	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	484	557993	3851681												1345-1723	73.4/68	<5/5	2-7/2-5	west facing burrow under old small creosote. Mainly in open/scat present DT burrow with forbs in entrance; no recent activity	
805	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	487	558039	3851842						3	3.5x8					3165-3177-	73.4/68	<5/5	2-7/2-5	no recent use; forbs in front of entrance	
806	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	492-3	558135	3851676						3	4.5x9.5					3179-3197-	73.4/68	<5/5	2-7/2-5	2 partials burrows - 2 entrances with collapsed ceiling	
806	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	489	558022	3851601						3	5x11					3200-3184-	73.4/68	<5/5	2-7/2-5		

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																SCAT CATEGO RY (1-5)	CATEGO RY (1-5)	PICTUR E #								
	4/1/2010	Site	JD4	JD, DS, CS, JM, MB	H24	489	558022	3851601						5	5x11			3184-3188-3253-3258-3248-3252		1345-1723-1145-1145		73.4/68	<5 / <5	2-7/2-5		
1	4/2/2010	Site	JD4		H25	511	558526	3851571	DT13	?	4.0			1	2.5x4			3259-3263		0831-1145		64/63.5	5/8	5-12/3-7	live DT see data sheet JD#5	
2	4/2/2010	Site	JD4		H25	510	558555	3851597	DT12	F	10.2			1	6x8.5			3240-3241-3245-3247-3264-3266		0831-1145		64/63.5	5/8	5-12/3-7	live DT in burrow see live DT sheet DT12	
3	4/2/2010	Site	JD4		H25	512	558707	3851894		M	9.1							3223-3225-3228-3234-3242-3244-3235-3236-3237-3239-3267-3269-3226-3227		0831-1145		64/63.5	5/8	5-12/3-7	LIVE ADULT MALE APPROX 15FT FROM BOUNDARY - NO DATA SHEET - INCIDENTAL	
4	4/2/2010	Site	JD4		H25	507	558490	3851690						1	6x14			3240-3241-3245-3247-3264-3266		0831-1145		64/63.5	5/8	5-12/3-7	4-5 large pieces of scat inside, no DT seen but back of burrow not visible	
5	4/2/2010	Site	JD4		H25	509	558547	3851634						1	5x12			3223-3225-3228-3234-3242-3244-3235-3236-3237-3239-3267-3269-3226-3227		0831-1145		64/63.5	5/8	5-12/3-7	shallow recented used burrow - pallet	
6	4/2/2010	Site	JD4		H25	513	558715	3851794						2	5.5X11			3223-3225-3228-3234-3242-3244-3235-3236-3237-3239-3267-3269-3226-3227		0831-1145		64/63.5	5/8	5-12/3-7	5 scat in survey cell	
7	4/2/2010	Site	JD4		H25	502	558398	3851567						3	4x8			3223-3225-3228-3234-3242-3244-3235-3236-3237-3239-3267-3269-3226-3227		0831-1145		64/63.5	5/8	5-12/3-7	5 entrances with 2 retaining dt shape built by DT, later used by canids, canid scat	
8	4/2/2010	Site	JD4		H25	504	558413	3851846						3	7x9.5			3223-3225-3228-3234-3242-3244-3235-3236-3237-3239-3267-3269-3226-3227		0831-1145		64/63.5	5/8	5-12/3-7	rocky inside, with sidewinder in burrow	
9	4/2/2010	Site	JD4		H25	508	558509	3851873						3	6.5x11.25			3223-3225-3228-3234-3242-3244-3235-3236-3237-3239-3267-3269-3226-3227		0831-1145		64/63.5	5/8	5-12/3-7		
10	4/2/2010	Site	JD4		H25	505	558449	3851734										3223-3225-3228-3234-3242-3244-3235-3236-3237-3239-3267-3269-3226-3227	5	0831-1145		64/63.5	5/8	5-12/3-7	scattered in drainage channel	
11	4/2/2010	Site	JD4		H25	506	558442	3851638										3223-3225-3228-3234-3242-3244-3235-3236-3237-3239-3267-3269-3226-3227	2	0831-1145		64/63.5	5/8	5-12/3-7	carapace 6.25 inches; fox scat on shell	
12	4/2/2010	Site	JD4		H25	514	558831	3851803										3223-3225-3228-3234-3242-3244-3235-3236-3237-3239-3267-3269-3226-3227	5	0831-1145		64/63.5	5/8	5-12/3-7	Adjacent to boundary - 20ft	
13	4/6/2010	Site	JP	LB, Aba, CK	H25	503	558381	3851571	DT32	F	?			3	5x8			3223-3225-3228-3234-3242-3244-3235-3236-3237-3239-3267-3269-3226-3227		0831-1145		64/63.5	5/8	5-12/3-7	female tortoise inside shelter	
700	4/14/2010	Site	DM	KH, WM, MT, NJ	I10	41	551800	3851274						4	3x5			3270		0915-1040						
701	4/14/2010	Site	DM	KH, WM, MT, NJ	I10	42	552034	3851035						4	4x6			3271		1115-1040						
702	4/10/2010	Site	RD	JH, DS, BN, WM	I11	27 NO	552291	3851190						2	4X6			108		1220-1330-		65/75	30/0	0-5/0-5		
703	4/10/2010	Site	MBr	JBr, GB, Rbo	I12	DATA NO													1545-8:30-		75/75	0/0	0-5/0-5			
704	3/30/2010	Site	JD4	DS, MB, CS ,JH	I14	DATA													10:21-10:40-		71.4F	15/15	0-1/2-4			
705			JD4	DS, MB, CS ,JH	I15	467	553946	3851320											1228-1:23-	X	78.6	15/15	2-4/3-7.3	MFTL observed		
706	3/30/2010	Site	JD4	DS, MB, CS ,JH	I16	468	554378	3851306						3	4X8.25			3111		84.5/82-8		5-10/5-10	5-7/17-22			
707	3/30/2010	Site	JD4	DS, MB, CS ,JH	I16	469	554376	3851305						3	5X8			3112		84.5/82-8		5-10/5-10	5-7/17-22			
708	4/1/2010	Site	JB	PW, BN, TS	I17	016	555284	3851435						2	3x6				205-405-1130-		59/60	10/10	0-10/0-5			
709	3/31/2010	Site	RB	JM, WM, PF	I18	006	555287	3851278	DT3	unknown	6.0			1	3X6			11		1515-0850-		56/53	50/40	28		
710	3/31/2010	Site	RB	JM, WM, PF	I19	003	556058	3851161	DT4	unknown	6.0			1	4X8			8		1130-0850-		56/56	5/50	4-5/20-30		
711	3/31/2010	Site	RB	JM, WM, PF	I19	001	556216	3851070			20.0			2	4X8			6		1130-0850-		56/56	5/50	4-5/20-30		
712	3/31/2010	Site	RB	JM, WM, PF	I19	002	556054	3851144			20.0			2	4X8			7		1130-0850-		56/56	5/50	4-5/20-30		
713	3/31/2010	Site	RB	JM, WM, PF	I19	004	555991	3851336			24.0			3	4X8			9		1130-0850-		56/56	5/50	4-5/20-30		
714	3/31/2010	Site	RB	JM, WM, PF	I19	005	555868	3851189			30.0			3	5X8			10		1130-1445-		56/56	5/50	4-5/20-30		
705	4/14/2010	Site	DM	KH, WM, MT, NJ	I2	46	548279	3851457										3	3275							
706	3/30/2010	Site	RD	ABa, JBr, MBr	I20	005	556299	3851302						2	8X10			13		850-1154-		50/25	0-5/0-5		burrow within canid complex	
707	3/30/2010	Site	RD	ABa, JBr, MBr	I20	006	556599	3851363						2	3X6			17		850-1154-		50/25	0-5/0-5		Burrow has collapsed opening with vegetation	
708	3/30/2010	Site	RD	ABa, JBr, MBr	I20	004	556270	3851191						3	4X8			12		850-1154-		50/25	0-5/0-5			
709	3/30/2010	Site	RD	ABa, JBr, MBr	I20	003	556288	3851077										2	11	850-1154-		50/25	0-5/0-5			
710	3/30/2010	Site	RD	ABa, JBr, MBr	I21	007	556620	3851425						1	3X5			18		1133-1440		25/25	0-5/30-40			

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711	3/30/2010	Site	RD	ABa, JBr, MBr	I21	008	557014	3851078									5	19		1133-1440	25/25		0-5/30-40	
712	3/30/2010	Site	RD	ABa, JBr, MBr	I22	009	557192	3851039									5	20		1441-1614	25/50		30-40/15-20	
713	3/30/2010	Site	SA	GB, Rbo ,CK, SC	I23,24	007	558403	3851368	DT2	F	12.5								4341-4343	60/80	40/15	0-1/2-5	large DT facing in burrow 11:11am, approx 74F	
714	3/30/2010	Site	SA	GB, Rbo ,CK, SC	I23,24	008	558403	3851368						1	8X16				1140-855-	60/80	40/15	0-1/2-5	burrow associated with DT2	
715	3/30/2010	Site	SA	GB, Rbo ,CK, SC	I23,24	009	558223	3851429						2	8X16				1140-855-	60/80	40/15	0-1/2-5		
716	3/30/2010	Site	SA	GB, Rbo ,CK, SC	I23,24	004	557582	3851077						3	6X10				1140-855-	60/80	40/15	0-1/2-5	good shape, steep and funky inside	
717	3/30/2010	Site	SA	GB, Rbo ,CK, SC	I23,24	005	557752	3851208						3	4X8				1140-855-	60/80	40/15	0-1/2-5	in side of wash	
718	3/30/2010	Site	SA	GB, Rbo ,CK, SC	I23,24	006	558171	3851309						3	8X16				1140-855-	60/80	40/15	0-1/2-5	unused, some debris, dirt in entrance	
719	4/10/2010	Site	MBr	JBr, GB, Rbo	I9	DATA													1057-1543-	70/30		0-5/0-5		
764	4/14/2010	Site	SA	AB, JM, ES, DE	J0	DATA													1603-0915-	78/77	70/70	5/6		
699	4/14/2010	Site	DM	KH, WM, MT, NJ	J10	40	551681	3850781						4	4x7				1040-0840-					
700	4/10/2010	Site	RD	JH, DS, BN, WM	J11	26	552449	3850814			4.0								1056-0855-	54/65	100/30	10-15/5-10		
701	4/12/2010	Site	RB	GB, PW, WB, TJ	J12	DATA													1310-1400-	45/60	50/70	3-6/3-10		
702	4/12/2010	Site	RB	GB, PW, WB, TJ	J13	24	553064	3850199						3	4X8				1600-1400-	60/60	70/40	3-6/5-15		
703	4/12/2010	Site	RB	GB, PW, WB, TJ	J13	25	553120	3850259						3	4X8				1600-0831-	60/60	70/40	3-6/5-15		
704	4/10/2010	Site	JP	Aba, PF, SC, CS	J14	92	553831	3850909						3	3X8				1100-1100-	56/65	100/50	4-7/4-7		
705	4/10/2010	Site	JP	Aba, PF, SC, CS	J15	DATA													1330-1330-	65/89	50/0	4-7/1-3		
706	4/10/2010	Site	JP	Aba, PF, SC, CS	J16	DATA													1530-1340-	89/89	0/0	1-3/1-3		
707	3/30/2010	Site	RB	JM, WM, PF	J17	218	554827	3850956						3	5X10				1610-905-	86.5/78	20/30	5-10/10-20		
708	3/30/2010	Site	RB	JM, WM, PF	J18	216	555572	3850923						3	4X7				1230-11:33-	60/86.5	40/30	0-2/3-8	tortoise burrow deteriorated-filled some	
709	3/30/2010	Site	TM	TS, JB,BN,PW	J19	001	555898	3850589											1103-1250-	60/86.5	40/30	0-2/3-8		
788	4/15/2010	Site	JP	CK, JON, LB, CS	J2	DATA													9:00-11:08	72/76	10/25	4-7/4-7		
789	3/30/2010	Site	TM	TS, JB,BN,PW	J20	DATA													2:30-4:45	60/8605	40/30	0-2/3-8		
790	3/30/2010	Site	TM	TS, JB,BN,PW	J21	003	556660	3850827						2	160X90m				4:45-2:30-	86.5/78	20/30	5-10/10-20	two burrows in same area	
791	3/30/2010	Site	TM	TS, JB,BN,PW	J21	002	556677	3850847											4:45-8:10-	86.5/78	20/30	5-10/10-20		
792	3/30/2010	Site	SA	GB, Rbo ,CK, SC	J22,J23	010	557053	3850916						3	4X8				3:38	84/82	15/5	5-7/15-20	DT shaped, could be used if cleaned out	
793	3/30/2010	Site	SA	GB, Rbo ,CK, SC	J22,J23	011	557247	3850982						3	4X12				8:10-3:38	84/82	15/5	5-7/15-20	entrance filled in 1/2 way, veg in opening but definitely old DT burrow	
763	4/14/2010	Site	SA	AB, JM, ES, DE	J6/J7	66	550691	3850813						3	5x10				1234-1457	78/78	10/70	3/0	Old DT burrow, veg growing at entrance.	
764	4/10/2010	Site	MBr	JBr, GB, Rbo	J8	DATA													1345-1517		10/10	0-5/5-10		
765	4/10/2010	Site	MBr	JBr, GB, Rbo	J9	109	551402	3850703											1058-1343		40/10	0-5/0-5		
736	4/14/2010	Site	RD	RC, MBr, JBr, JMc	K10	DATA													1310-0230	65/70-73	40/50	5/5-10		
703	4/14/2010	Site	DM	KH, WM, MT, NJ	K11	44	552512	3850485						4	5x8				1055-1300					
704	4/12/2010	Site	RB	GB, PW, WB, TJ	K12	14	552789	3850248	DT80	F	10.0			1	6X13				855-1310	45/60	50/70	3-6/3-10	6 feet deep burrow, tort. At entrance	
705	4/12/2010	Site	RB	GB, PW, WB, TJ	K12	13	552753	3850412						2	5X9				855-1310	45/60	50/70	3-6/3-10		
706	4/12/2010	Site	RB	GB, PW, WB, TJ	K12	19	552924	3850243						2	9X15				855-1310	45/60	50/70	3-6/3-10		
707	4/12/2010	Site	RB	GB, PW, WB, TJ	K12	23	553044	3850242						2	5X12				855-1310	45/60	50/70	3-6/3-10		

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OBJECTID	DATE COLLECTED	SURVEY AREA	TEAM LEADER	OTHER OBSERVERS	CELL NUMBER	GPS POINT	EASTING	NORTHING	TORTOIS E #	TORTOISE SEX	TORTOISE SIZE (IN)	TORTOISE SIZE (mm)	TORTOISE HEALTH	BURROW CATEGORY (1-5)	BURROW HXW (INCHES)	SCAT CATEGO RY (1-5)	CARCAS S CATEGO RY (1-5)	PICTUR E #	Other Species	Time Start/End	Temp Start/End (F)	Cloud Cover Start/End (%)	Wind Start/End (mph)	NOTES
708	4/12/2010	Site	RB	GB, PW, WB, TJ	K12	16	552814	3850220						3	4X8			2184		855-1310	45/60	50/70	3-6/3-10	
709	4/12/2010	Site	RB	GB, PW, WB, TJ	K12	18	552881	3850399						3	3X7			2186		855-1310	45/60	50/70	3-6/3-10	
710	4/12/2010	Site	RB	GB, PW, WB, TJ	K12															855-1310	45/60	50/70	3-6/3-10	Tortoise egg shell
711	4/12/2010	Site	RB	GB, PW, WB, TJ	K12	15	552789	3850212												855-1310	45/60	50/70	3-6/3-10	
712	4/12/2010	Site	RB	GB, PW, WB, TJ	K12	17	552862	3850593										5	2185	855-1310	45/60	50/70	3-6/3-10	
713	4/12/2010	Site	RB	GB, PW, WB, TJ	K12	20	552932	3850255										5	2188	855-1310	45/60	50/70	3-6/3-10	
714	4/12/2010	Site	RB	GB, PW, WB, TJ	K12	21	552990	3850510											x	855-1310	45/60	50/70	3-6/3-10	Buow pellet
715	4/12/2010	Site	RB	GB, PW, WB, TJ	K12	22	553003	3850256										5	2189	855-1310	45/60	50/70	3-6/3-10	Carcass 120 mm
716	4/12/2010	Site	RB	GB, PW, WB, TJ	K13	NO DATA														1400-1600	60/60	70/40	3-6/5-15	
759	4/14/2010	Site	SA	AB, JM, ES, DE	K14	62	553466	3850234						3	6x10			4571		0815-1120	56/77	0/0	1-3/3	Old DT burrow, weather roof, veg growing, no scat found.
760	4/14/2010	Site	SA	AB, JM, ES, DE	K14	63	553564	3850149						3	3x6			4572		0815-1120	56/77	0/0	1-3/3	Old DT burrow, weathered/potential dug out.
761	4/14/2010	Site	SA	AB, JM, ES, DE	K14	64	553671	3850368						3	3x7			4573		0815-1120	56/77	0/0	1-3/3	Old DT burrow, weathered.
762	4/14/2010	Site	SA	AB, JM, ES, DE	K14	65	553891	3850555						3	4x8			4574		0815-1120	56/77	0/0	1-3/3	Old DT burrow, veg growing at entrance.
763	4/11/2010	Site	JP	Aba, PF, SC, CS	K17	93	554934	3850174						3	3X6			980		0830-1101	54/68	0	4-7/4-7	
764	3/30/2010	Site	RB	JM, WM, PF	K18	NO DATA														850-1230	60/86.5	40/30	0-2/3-8	
765	3/29/2010	Site	JD4	TS, DS, MB, CS	K19	464								4	3.5X6					1:31-4:03	80/80	5/5	2-6/7-9	
766	3/29/2010	Site	JD4	TS, DS, MB, CS	K19	004	555874	3850236						4	9X11			3105		1:31-4:03	80/80	5/5	2-6/7-9	
767	3/29/2010	Site	JD4	TS, DS, MB, CS	K19	001	555765	3850291						5	5X8			3103		1:31-4:03	80/80	5/5	2-6/7-9	001- possible DT burrow, no DT sign around burrow. High concave. 464- possible DT burrow. 465- Andostephium brev. Florum 0555823/3850359, 5 in, pic 3104 003-555869/3850322. 005- mammalian scat nearby (coyote & Krot) unlikely DT burrow however convex shape. Juvenile tortoise in burrow near small creosote bush
768	3/29/2010	Site	JD4	TS, DS, MB, CS	K19	005	556011	3850241						5	5.5X7.5			3106		1:31-4:03	80/80	5/5	2-6/7-9	
1	3/29/2010	Site	RB	PF, JM, WM	K20	210	0556399	3850324	DT1	unknown	6.0		G	1	4X6	2		1RB		1327-1603	80/86	10/2	2-6/7-9	
2	3/29/2010	Site	RB	PF, JM, WM	K20	212	0550356	3850151						4	5X10			3RB		1327-1603	80/86	10/2	2-6/7-9	
3	3/29/2010	Site	RB	PF, JM, WM	K20	211	556383	3850362						5	3X5			2RB		1327-1603	80/86	10/2	2-6/7-9	
4	3/29/2010	Site	RB	PF, JM, WM	K20	213	556250	3850388									5			1327-1603	80/86	10/2	2-6/7-9	
5	3/29/2010	Site	RD	ABa, JBr, MB	K21	001	556676	3850445			8.5						3	9-10		1323-1555		20/15	5-10/10-15	sheep scat also observed here
6	3/29/2010	Site	SA	CK, Rbo, GB, SC	K22	003	557573	3850492						3	6X10			4336						team practice cell with entire 24 person team
7	3/29/2010	Site	RB	PF, JM, WM	K22	NO DATA														1170-1210	70/70	50/50	2-5/2-5	team practice cell with entire 24 person team
8	3/29/2010	Site	TM	BB, JB, PW, JH	K22	NO DATA														1145-1240				team practice cell with entire 24 person team
9	4/11/2010	Site	MBr	JBr, GB, Rbo	K6	NO DATA														1127-1514		60/20	0-5/0-5	
10	4/11/2010	Site	MBr	JBr, GB, Rbo	K7	NO DATA														1127-1514		60/20	0-5/0-5	
737	4/14/2010	Site	RD	RC, MBr, JBr, JMc	K8	NO DATA														0850-1020	53/60	0/0	5-10/5-10	
738	4/14/2010	Site	RD	RC, MBr, JBr, JMc	K9	45	551478	3850565										5	133	1045-1215	60/60	0/0	5-10/10	Scattered remains, old.
729	4/14/2010	Site	RB	WB, TJ, PW	L10	NO DATA														1320-1500	75/76	30/40	3-8/3-6	
730	4/11/2010	Site	RD	JH, DS, BN, WM	L11	28	552410	3850101			9.0							5	109	0850-1030	50/50	100/70	10-20/10-20	Creosote bursage, sandy gravelly some cobbly sand near by, sparse cover

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OBJECTID	DATE COLLECTED	SURVEY AREA	TEAM LEADER	OTHER OBSERVERS	CELL NUMBER	GPS POINT	EASTING	NORTHING	TORTOISE E #	TORTOISE SEX	TORTOISE SIZE (IN)	TORTOISE SIZE (mm)	TORTOISE HEALTH	BURROW CATEGORY (1-5)	BURROW HXW (INCHES)	SCAT CATEGORY (1-5)	CARCAS S CATEGORY (1-5)	PICTUR E #	Other Species	Time Start/End	Temp Start/End (F)	Cloud Cover Start/End (%)	Wind Start/End (mph)	NOTES
731	4/11/2010	Site	RD	JH, DS, BN, WM	L12	31	552826	3849877	DT79	unknown	6.0			1	4X5			113		1045-1415	55/70	70/50	15	
732	4/11/2010	Site	RD	JH, DS, BN, WM	L12	32	552842	3849969						1	4X6			116		1045-1415	55/70	70/50	15	Burrow north facing
733	4/11/2010	Site	RD	JH, DS, BN, WM	L12	30	552585	3850040						3	11X9			111		1045-1415	55/70	70/50	15	Roof may have collapsed, looked more domed than tortoise, slope of burrow consistent with tortoise, likely burrow of carcass
734	4/11/2010	Site	RD	JH, DS, BN, WM	L12	29	552571	3850063			11.0						4-5	110		1045-1415	55/70	70/50	15	Creosote bursage, clumps of galleta sparse coverage, cobbly, sand possible burrow 20m SE of remains
735	4/11/2010	Site	RD	JH, DS, BN, WM	L13	NO DATA														1415-1530	75/76	50/50	10-15/5-10	
647	4/12/2010	Site	SA	JM, AB, ES, DE	L17	NO DATA														0900-1025	58/68	20/10	2-5/0-3	
648	4/11/2010	Site	JP	NJ, PF, CS, Aba	L18	NO DATA														1335-1537	74/83	35/35	4-7/8-12	
649	4/11/2010	Site	JP	NJ, PF, CS, Aba	L19	NO DATA														1105-1335	68/72	100/30	4-7/4-7	
650	3/29/2010	Site	TM	BB, JB, PW, JH	L20	006	556028	3849988						5	180mm			141-142		1330-1507	80/85	10/5	0-5/2-10	sandy bottom, some fresh K rat tracks into it, not likely used now by DT but could be. Should be checked at fall surveys. Probably not built by DT.
651	3/29/2010	Site	SA	GB, RBo, CK, SC	L21	001	556800	3849677						2				4335		1:27-3:25	81/82	30/10	0-2/0-3	
652	3/29/2010	Site	SA	GB, RBo, CK, SC	L21	002	556756	3849677						4						1:27-3:25	81/82	30/10	0-2/0-3	good shape, but collapsed
653	4/11/2010	Site	MBr	JBr, GB, Rbo	L6	NO DATA														0836-1126		90/90	0-5/0-5	
654	4/11/2010	Site	MBr	JBr, GB, Rbo	L7	NO DATA														0836-1126		90/90	0-5/0-5	
727	4/14/2010	Site	RB	WB, TJ, PW	L8	NO DATA														1030-1030	50/65	0/0	3-6/2-5	
728	4/14/2010	Site	RB	WB, TJ, PW	L9	NO DATA														1030-1320	65/75	0/30	3-5/3-8	
669	4/12/2010	Site	KH	MT, NJ, WM	M10, M11, M12, M13	NO DATA														0850-1610	49/66	60/40	5-10/20-30	No tortoises and no tortoise sign was found. Cells are within 500m of I-40 and 2 utility lines bisect all cells running E-W.
632	4/12/2010	Site	RD	JBr, MBr, MB, JH, RC	M17	NO DATA														0850-0955	50/55	50-60/0 overhead	5-10/5-10	
635	4/12/2010	Site	RD	JBr, MBr, MB, JH, RC	M18	33	555280	3849491						3	5x7.5			117		1000-1135	55/55	0/10	5-10/5-10	
630	4/12/2010	Site	JP	CK, JBa, LB	M19	NO DATA														0908-1118	54/63	20/20	4-7/4-7	
631	4/12/2010	Site	JP	CK, JBa, LB	M20	NO DATA														1119-1350	63/67	20/60	4-7/4-7	
634	4/12/2010	Site	RD	JBr, MBr, MB, JH, RC	N17	NO DATA														1240-1342	51/51	25/65	5-10/5-10	
633	4/12/2010	Site	RD	JBr, MBr, MB, JH, RC	N18	NO DATA														1340-1530	51/51	65/40	5-10/20-30	
634	4/11/2010	Site	JP	CK, Lba, JON, BN	N20	NO DATA														1410-1601	67/65	60/60	4-7/8-12	
765	4/15/2010	Site	SA	AB, JM, ES, DE	TEL LINE	148	556237	3848642						3	3x6, 4x7				4576-4577	0838-0930	66/73	1/1	0-2/1-3	2 nicely shaped DT burrows.
649	4/12/2010	Site	SA	JM, AB, ES, DE	U15	127	554248	3850160						3	3x6					1311-1515	70/67	40/40	2-5/9-12	Old DT burrow. Dug out but clean
650	4/12/2010	Site	SA	JM, AB, ES, DE	U15	128	554205	3850392						3	4x7					1311-1515	70/67	40/40	2-5/9-12	Old entrance collapsed, but not totally blocking opening.
651	4/12/2010	Site	SA	JM, AB, ES, DE	U15	129	554214	3850413						3	3x7					1311-1515	70/67	40/40	2-5/9-12	Old, last season, hole, in use.
652	4/12/2010	Site	SA	JM, AB, ES, DE	U15	130	554052	3850152						3	4x7					1311-1515	70/67	40/40	2-5/9-12	2 old burrows, previously marked dung, BUOW surveys.
653	4/12/2010	Site	SA	JM, AB, ES, DE	U15	131	553955	3850347						3	5x9					1311-1515	70/67	40/40	2-5/9-12	2 old burrows, DT shape, OK?
654	4/12/2010	Site	SA	JM, AB, ES, DE	U15	132	553909	3850349						3	4x7					1311-1515	70/67	40/40	2-5/9-12	Old, but DT shape.
648	4/12/2010	Site	SA	JM, AB, ES, DE	U16	126	554798	3850496						2	2x5					1037-1309	60/70	10/40	2-5/2-5	W/tracks in burrow

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OBJECTID	DATE COLLECTED	SURVEY AREA	TEAM LEADER	OTHER OBSERVERS	CELL NUMBER	GPS POINT	EASTING	NORTHING	TORTOISE E #	TORTOISE SEX	TORTOISE SIZE (IN)	TORTOISE SIZE (mm)	TORTOISE HEALTH	BURROW CATEGORY (1-5)	BURROW HXW (INCHES)	SCAT CATEGORY (1-5)	CARCAS S CATEGORY (1-5)	PICTURE E #	Other Species	Time Start/End	Temp Start/End (F)	Cloud Cover Start/End (%)	Wind Start/End (mph)	NOTES
	4/1/2010	Site	JB	PW, BN, TS			555385	3851933						3	4x12					10:40-1:05	49/57	10/10	0-10/0-10	
697	4/13/2010	Site	JP	CK, JON, LB, CS		96	558185	3854215	not included		7.5									1150-1500	68/74	0/0	4-7/4-7	Tortoise encounter - Outside survey area - 0558185 3854215 male 7 1/2 inches.
702	4/14/2010	Site	DM	KH, WM, MT, NJ		43	552144	3850119	ed yet M															
704	4/14/2010	Site	DM	KH, WM, MT, NJ		45	552556	3850408						3	10x14			3274		1055-1300				
705			SA			12	555927	3851903																
706			SA			13	556055	3851582																
707			SA			14	556171	3851470																
708			SA			15	557053	3851829																
709																								
710		Site	DM	RC, WS, PF		004													x					Likely Buow burrow
711		Site	DM	RC, WS, PF		009	556712	3853952											x					likely buow burrow
		Site					558465	3855100																Smoothed out bighorn resting place high on side of a hill with scat

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B SURVEY EFFORT TABLE

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**Attachment B. Dates, Personnel, and Survey Conditions for 2010 Desert
Tortoise Surveys on the Calico Solar Project Site**

Date	Time	Personnel	Temp (°F)	Sky (% cover)	Wind (MPH)
03/29/10	1130-1603	RB, WM, PF, JM, TM, JB, WB, PW, JMac, RD, ABa, JBr, MBr, SA, GB, SC, RB, CK, JD, DS, TS, MB, CS	70-86	50-20	2-15
03/30/10	0830-1645	RB, WM, PF, JM, JB, PW, JMac, RD, ABa, JBr, MBr, SA, GB, SC, RB, CK, JD, DS, TS, MB, CS	60-86.5	50-10	0-8; Gusts to 22
03/31/10	0830-1515	RB, WM, PF, JM, TM, JB, PW, JMac, RD, ABa, JBr, MBr, SA, GB, SC, RB, CK, JD, DS, TS, MB, CS, BN	46-68	5-70	0-25
04/01/10	0845-1523	RB, WM, PF, JM, JB, PW, JMac, RD, ABa, JBr, MBr, SA, GB, SC, RB, CK, JD, DS, TS, MB, CS, BN	49-73	10-5	0-10
04/02/10	0825-1240	RB, WM, PF, JM, JB, PW, JMac, RD, ABa, JBr, MBr, SA, GB, SC, RB, CK, JD, DS, TS, MB, CS, BN	47-70	2-30	0-9
04/05/10	0930-1638	SA, CS, MT, DC, JC, ABa, CK, SC, WM, PF, RC, TS, RD, DS, JMac, DP, BN, MBr, JBr, PW	60-70	15-70	4-30
04/06/10	0839-1625	SA, CS, MT, DC, JC, ABa, CK, SC, WM, PF, RC, TS, RD, DS, JMac, DP, BN, MBr, JBr, PW	53-75	2-0	2-10
04/07/10	0845-1615	SA, CS, MT, DC, JC, ABa, CK, SC, WM, PF, RC, TS, RD, DS, JMac, DP, BN, MBr, JBr, PW	57-80	0-0	1-10
04/08/10	0850-1625	SA, CS, MT, DC, JC, ABa, CK, SC, WM, PF, RC, TS, RD, DS, JMac, DP, BN, MBr, JBr, PW	60-82	0-0	0-5

Date	Time	Personnel	Temp (°F)	Sky (% cover)	Wind (MPH)
04/09/10	0838-1300	SA, CS, MT, DC, JC, ABa, CK, SC, WM, PF, RC, TS, RD, DS, JMac, DP, BN, MBr, JBr, PW	65-82	0-0	0-5
04/10/10	0831-1545	RD, JC, Aba, PF, SC, CS, MBr, JBr, GB, RB, JMac, DS, BN, WM	56-89	100-0	0-10
04/11/10	0830-1537	RD, JC, Aba, PF, SC, CS, MBr, JBr, GB, RB, JMac, DS, BN, WM	50-83	100-35	4-20
04/12/10	0850-1610	RB, SA, GB, PW, WBa, TJ, JM, AB, ES, DE, JC, NJ, WM, KH, MT, CK, LB, JBar, RD, JBr, MBr, JH, RC, BN	45-70	50-40	3-20 Gusts to 30
04/13/10	0850-1600	RB, SA, GB, PW, WBa, TJ, JM, AB, ES, DE, JC, NJ, WM, KH, MT, CK, LB, JBar, RD, JBr, MBr, JH, RC, JBar	64-76	0-0	5-8
04/14/10	0815-1635	RB, SA, GB, PW, WBa, TJ, JM, AB, ES, DE, JC, NJ, WM, KH, MT, CK, LB, JBar, RD, JBr, MBr, JH, RC, JBar	56-72	0-40	0-10
04/15/10	0858-1533	RB, SA, GB, PW, WBa, TJ, JM, AB, ES, DE, JC, NJ, WM, KH, MT, CK, LB, JBar, RD, JBr, MBr, JH, RC, JBar	65-83	0-40	0-15

List of personnel: AB – Alyssa Berry, DM – Dennis Miller, DP – Dallas Pugh, RB – Rick Bailey, RC – Ron Cummings, SA – Sundeep Amin, TM – Theresa Miller, JM – Jerry Monks, WM- Wendy Middleton, PF - Paul Fuchs, JB – Jessica Birnbaum, PW – Peggy Wood, JMac – Josh MacNaughton, WB – William Boarman, RB – Ryan Boarman, SC - Sage Cleg, CK – Craig Knowles, GB – Gilda Barboza, RD – Rob DeBaca, ABa – Angie Bates, JBr – Jennie Brouwer, MBr – Mark Brouwer, JD – John Davis, TS – Tracy Scott, DS – Deanna Sanderson, CS – Christine Stirling, MB – Mark Baker, BN - Brenden Nosratbakhsh, MT – Myles Traphagen, DC – Dave Compton, LB - Lori Bono, NJ – Nate Jones, JC – Jean Charpentier, WBa- Wayne Ball, TJ – TG Jackson, ES – Eric Somers, DE – Dave Erlandson, JBar – John Barratt, LB - Leslie Backus, KH – Ken Hashagen, JH - Josh Holloway

C RESUMES OF THE SURVEYORS

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Areas of Expertise	Habitat Restoration and Mitigation Monitoring Special Status Species Surveys and Habitat Assessments Vegetation Mapping and Botanical Surveys Jurisdictional Delineations Biological Assessments, Biological Technical Reports, and other technical report writing
Total Years of Experience	6
URS	2
Other Firms	4
Education	BS/1998/Ecology, Behavior, and Evolution/University of California, San Diego
Supplemental Education/Training	Blunt-nosed leopard lizard Identification Workshop by the Wildlife Society (2009) Wetland Delineation Workshop by Wetland Training Institute (2008) Flat-tailed horned lizard Identification Training by the BLM (2008) Desert Tortoise Handling Workshop by Desert Tortoise Council (2007)
Registration/Certification	California Department of Fish and Game (CDFG) Scientific Collectors Permit #SC-009178 CDFG Rare, Threatened, and Endangered Plant Voucher Collecting Permit #09012. Level 2 Blunt-nosed Leopard Lizard Surveyor
Overview	Sundeep Amin is a biologist/restoration ecologist with over four years of professional experience working as a biologist, restoration ecologist, project manager, and/or project crew supervisor on an assortment of projects throughout Southern California, including projects in Nevada and Arizona. His main areas of expertise include habitat restoration, mitigation monitoring, botanical surveys, biological constraints analyses, and sensitive species surveys (floral and faunal). Mr. Amin is also experienced in technical report writing, client/agency interaction, and project management. He has worked on projects for a variety of clients including all branches of the military, private developers, utility companies, and local, State, and Federal agencies. He is familiar with State and Federal regulations such as the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), Federal and California Endangered Species Acts (FESA and CESA), Migratory Bird Treaty Act (MBTA), and Natural Community Conservation Plans (NCCP).
Select Project Experience	<p>Desert Tortoise and Desert Rare Plant Experience</p> <p>Soda Mountain Solar– Mojave Desert, California. Field biologist conducting desert tortoise and rare plant surveys in support of solar energy project in the Mojave Desert, east of Barstow, California. A total of approximately 20 hours were spent conducting focused desert tortoise surveys. (2009)</p> <p>Kinder Morgan California-to-Nevada (Cal-Nev) Pipeline – Mojave Desert of California and Nevada. Field biologist conducting desert tortoise presence/absence and rare plant surveys over portions of a 233-mile fuel pipeline project from Colton, CA to Las Vegas, NV. Other duties included leading desert tortoise survey crews, assisting with least Bell’s vireo surveys, assisting with jurisdictional delineations, investigating potential other potentially jurisdictional waters along the entire pipeline length, and assisting with preparation of associated</p>

technical documents. (2008)

Calico Solar Project AFC – Barstow, CA. Biologist responsible for protocol desert tortoise surveys over approximately 16,000 acres of land. Other tasks include data analysis and biological resources report preparation in support of an Application for Certification for a solar power plant project in San Bernardino County. Reports prepared include the biological technical report, a baseline biological report, a biological assessment, a raven management plan, and weed management plan. Also participated in jurisdictional waters survey along a proposed transmission line. Project involved intensive surveys for desert tortoise, Mohave ground squirrel, burrowing owls, and rare plants on a 16,000-acre project site and 100-mile transmission line. (2008-Present)

Imperial Valley Solar-Thermal Plant AFC – Imperial County, CA. Field biologist conducting rare plant and flat-tailed horned lizard surveys in support of an Application for Certification for an 800MW thermal generating facility covering 7,000 acres in Imperial County. (2008-Present)

California City – California City, CA. Biologist performing desert tortoise presence/absence and zones of influence surveys on three sections of land in the California City area. Other work included habitat assessments for rare plants that may potentially occur on-site and blooming season rare plant surveys. (2006)

Other Desert Experience

San Manuel General Plan – San Manuel, AZ. Biologist working as part of a team to map the vegetation of over 25,000 acres of various Sonoran Desert habitat, including the identification of potentially jurisdictional water features for later assessment. Other duties included writing sections of a long-term river management plan to address issues with the x mile portion of the San Manuel River that crosses the site. The work was commissioned by BHP Billiton in anticipation of the closing of the local copper mine, and subsequent sale of land to expand the town of San Manuel, Arizona. (2007)

Rancho Vistoso Xero-Riparian Habitat Assessment – Oro Valley/Tucson, AZ. Biologist providing a habitat assessment and technical report for a parcel of land owned by the client in order to determine the boundaries of various levels of xero-riparian habitat in accordance with city code to allow maximum use of the land. (2007)

RMC Lancaster – Lancaster, CA. Biologist responsible for the vegetation mapping along a proposed natural gas pipeline through developed and undeveloped areas. Duties also included identifying potential constraints, and the preparation of a biological constraints analysis. (2007)

Lewis Operating Corporation – Apple Valley, CA. Biologist conducting Phase III burrowing owl surveys on an undeveloped parcel of land containing disturbed creosote bush scrub habitat. (2007)

Richland Communities, Avanti – Lancaster, CA. Biologist working as part of a team to conduct Phase III BUOW and clearance surveys on a 350-acre parcel of abandoned agricultural land. (2006-2007)

Richland Communities, Hathaway – Palmdale, CA. Biologist providing support by writing up a biological constraints report with data collected by a fellow biologist. (2006)

Las Vegas Valley Water District Native Plant Salvage – Pahrump and Las Vegas NV. Restoration ecologist and crew supervisor overseeing the salvage of western honey mesquite trees and several thousand native shrubs for transplant into the Las Vegas Springs Preserve. Over one hundred mesquite trees ranging from a few feet to over fifteen feet were successfully boxed and moved. Salvaged native shrubs included creosote bush, burrow brush, ephedra, and several cacti and yucca species. (2005-2006)

Bureau of Land Management Las Vegas Buckwheat Salvage – Las Vegas, NV. Restoration ecologist and crew leader in charge of the salvage of one thousand sensitive Las Vegas buckwheat (*Eriogonum corymbosum*) shrubs. Salvage of shrubs was initiated in order to preserve a large population of Las Vegas Buckwheat that would otherwise have been lost to development. (2005-2006)

Organ Pipe National Monument Border Fence Installation Plant Salvage and Restoration – Lukeville, AZ. Restoration ecologist and assistant project manager responsible for quarterly monitoring of restoration sites along the US-Mexico border. Duties included Sonoran Desert plant species seed collection and dispersal, exotic plant control, inspection of salvaged plants, and creation of status reports. (2004-2006)

Professional Associations

California Native Plant Society, Member
Society for Ecological Restoration, California, Member
Wildlife Society, Member

Areas of Expertise	Endangered Species Surveys Exotic Predator Removal Construction Monitoring Biological Assessment
Total Years of Experience	20
URS	8
Other Firms	12
Education	BA / 1984 / Biological Sciences / California State University California Teaching Credential / 1986 / Life Science / California State University
Publications	Dispersal Capability of the California Gnatcatcher: A Landscape Analysis of Distribution Data. <i>Western Birds</i> 29:351-360, 1998. (P. Mock, coauthor). California Gnatcatcher Territorial Behavior. <i>Western Birds</i> 29:242-257, 1998. (M. Grishaver, K. Preston, P. Mock, and D. King, coauthors).
Endangered Species Recovery Permit	U.S. Fish and Wildlife Service Recovery Permit Number TE-101151-1. California Gnatcatcher; Presence/Absence Surveys, and Nest Monitoring.
Overview	Mr. Bailey has 20 years of experience as an environmental biologist. His responsibilities include focused surveys for California gnatcatcher, least Bell's vireo, arroyo southwestern toad, and desert tortoise; exotic predator removal, vegetation mapping; and technical report preparation in conformance with CEQA, NEPA, and ESA.
Project Experience	<p>Endangered/Sensitive Species Surveys</p> <p>Solar I Desert Tortoise Surveys, Barstow, California Conducted focused surveys for desert tortoise on 15,000 acre site. Recorded tortoise locations, health indicators, and scat/burrow locations for the project. Additional surveys performed for burrowing owl and jurisdictional wetlands. 2007-2010.</p> <p>Colorado River Aqueduct Operations and Management Habitat Conservation Plan, MWD of Southern California Conducted focused surveys for desert tortoise and rare plant species. Recorded tortoise locations, health indicators, and scat/burrow locations for the project. 2004-2005.</p> <p>Southern California Edison Kramer-Victor Power Line Replacement Conducted focused surveys for desert tortoise and rare plant species. Also monitored construction crews to ensure compliance with Memorandum of Understanding. Recorded tortoise locations, health indicators, and scat/burrow locations for the project. 1989-1991.</p> <p>San Mateo Lagoon Exotic Predator Control, San Clemente, California Conducted surveys for arroyo toad, southwestern pond turtle, and tidewater goby. Managed field task to remove non-native predators from the lagoon. Species removed include bullfrog, crayfish, and catfish. Prepared summary report for the project. 2002.</p> <p>Kinder Morgan Energy Partners Arroyo Toad Exclusion, Camp Pendleton, California Conducted surveys for arroyo toad in and around pipeline construction area over a two-year period. Maintained pit traps and exclusion fencing to prevent take of arroyo toad. Conducted bullfrog removal from portions of San Mateo Creek. 2000.</p> <p>Wylie Construction Sewage Treatment Facility, Camp Pendleton, California Conducted focused surveys for arroyo toad in and around construction site. Maintained pit traps and exclusion fencing to prevent take of arroyo toad. 2000.</p> <p>State Route 73 Water Quality Basins, Orange County, California</p>

Conducted focused surveys for California gnatcatcher and monitored nest sites. Communicated with construction supervisors to avoid impacts to active nests. Prepared summary report for the project. 2002.

Multiple Species Conservation Plan (MSCP) California Gnatcatcher Population Census, San Diego, California

Conducted focused surveys for California gnatcatcher at conservation areas throughout San Diego County. Prepared final report of gnatcatcher population with discussion of the relative quality of the conservation areas. 2001.

Solar II Flat-tailed Horned Lizard Surveys, El Centro, California

Conducted focused surveys for flat-tailed horned lizard and desert horned lizard. Recorded horned lizard locations and scat locations for the project. 2008.

Saint Michael's School Construction, Poway, California

Conducted focused surveys for California gnatcatcher and delineated territorial boundaries relative to construction. Prepared project report detailing conservation efforts on-site. 1999.

Federal Emergency Management Agency (FEMA) Fire Fuel Control, San Bernardino and Glendale, California

Conducted focused surveys for California gnatcatcher at proposed fire fuel management sites. Prepared final report for the project. 1999.

Emergency Storage Project, San Diego County Water Authority, San Diego, California

Conducted focused surveys for California gnatcatcher and arroyo southwestern toad. Survey area included vicinity of Lake Hodges and San Vicente Reservoir. Prepared portions of the Environmental Impact Report for the project. 1995.

Effects of Aircraft Noise on Least Bell's Vireo at Marine Corps Air Station Camp Pendleton, U.S. Department of the Navy, San Diego, California

Recorded behavioral data of least Bell's vireo biweekly over five months. Behavioral data was compared to onsite noise data to test for possible effects on the species by aircraft noise. 1995.

Rancho San Diego California Gnatcatcher Study, Home Capital Corporation

Collected behavioral field data on California gnatcatchers throughout the breeding and non-breeding seasons. Assisted in mist netting and color banding of approximately 114 individuals. Analyzed territory size data for a gnatcatcher population of approximately 25 pairs. 1992.

Miramar Landfill General Development Plan, City of San Diego, California

Conducted focused surveys for California gnatcatcher, San Diego fairy shrimp, San Diego mesa mint, San Diego button celery, and willow monardella. Contributed to the biological technical report and environmental impact statement for the proposed facilities. 1993.

South County Landfills, City and County of San Diego, California

Conducted comprehensive field surveys for sensitive species and focused surveys for California gnatcatcher and arroyo southwestern toad in six proposed landfill sites. Prepared constraints level report for each site. 1994.

Construction Monitoring

San Elijo Hills Open Space Management, San Marcos, CA

Implemented and managed conservation plan for natural areas of San Elijo Hills. Monitored fire fuel management task, invasive weed removal, habitat restoration, and prevention of unauthorized dumping. Conducted yearly on-site population census of California gnatcatcher to measure success of the conservation effort. Prepared yearly summary report. 2007.

Biological Construction Monitoring for Olivenhain Reservoir

Project biologist monitoring California gnatcatcher nesting locations in relation to construction activity. This information allowed client to avoid impacts to Federally-listed Threatened California gnatcatcher. 2005.

Biological Construction Monitoring for Dana Point Headlands

Project biologist monitoring California gnatcatcher nesting locations in relation to construction activity, public use areas, and conserved habitat. This information allowed client to avoid impacts to Federally-listed Threatened California gnatcatcher, and to measure the success of the project conservation effort. 2006 – 2009.

Biological Construction Monitoring for VertRep Facility, U.S. Navy/Stronghold Electric

Project biologist monitoring construction of a helicopter landing facility. Vernal pools, coastal sage scrub, and California gnatcatchers were the resources protected. 1999.

Biological Construction Monitoring of San Elijo Hills, San Elijo Hills, LCC

Implemented monitoring of wetlands permit conditions. 2004.

California Gnatcatcher Study, Skyline Wesleyan Lutheran Church

Collected field data to assess construction noise impacts on the species over three years. Mist netted and color banded gnatcatchers within the study area. Delineated territories on site and recorded breeding behavior, nesting success, and dispersal of young. Prepared a letter report detailing the breeding home range of each pair onsite prior to construction. 1993.

Kramer-Victor Powerline, Southern California Edison

Conducted surveys for desert tortoise, Mojave ground squirrel, and rare plants along the Kramer-Victor power corridor. Additionally, monitored construction crews to prevent take of desert tortoise. 1989.

Biological Assessment

Escondido Parks Master Plan, City of Escondido, Escondido, California

Conducted field surveys for sensitive biological resources in proposed park sites and conservation areas. 1990.

Upham San Marcos Project, Chester R. Upham, San Marcos, California

Participated in biological resources survey of 35-acre site. Collected vernal pool soil samples for a fairy shrimp re-hydration study. Contributed to biological technical report. 1992.

Biological Resource Inventory, City of Poway, California

Conducted focused surveys for California gnatcatcher throughout the city and sphere of influence. Mapped habitats and sensitive resources. 1990.

South Santa Fe Avenue Widening and Realignment, San Diego County Department of Public Works, San Diego, California

Conducted field surveys to determine the presence or absence of least Bell's vireo in the project area. Recorded faunal species list and provided photographic documentation of habitat quality. 1999.

Rancho Del Rey, City of Chula Vista, California

Participated in a vernal pool study that included floral inventory and soil sample collection for a fairy shrimp re-hydration study. 1990.

First San Diego River Improvement Plan, City of San Diego, California

Managed field task to collect data on a 20-acre revegetation site. Data used to determine whether the project met required standards for success. 1990 – 1994.

VITAE

MARC A. BAKER, Ph.D.

1217 GRANITE CREEK LANE, CHINO VALLEY, ARIZONA 86323
TEL: (928) 636-0252; (928) 713-7009; e-mail: marcbaker@cableone.net; marc.baker@asu.edu

RESEARCH INTERESTS

Evolution and systematics of Cactaceae; the role of polyploidy, hybridization, asexual reproduction, and geographic isolation in evolution. Flora, plant community dynamics, and ecology of the Southwestern United States, especially within the Sonoran Desert Biome; rare plant biology; currently working on the Cactaceae for the Intermountain Flora.

RESEARCH SKILLS

Transmission electron microscopy, scanning electron microscopy, thin-layer chromatography, high-performance liquid chromatography, cytological analysis of chromosomes of root-tips and microsporogenesis, herbarium techniques, ethnographic techniques, GPS, vegetation sampling and plant identification, especially for Arizona, Baja California, California, and New Mexico, computer data base systems, GIS, and graphics.

INSTITUTIONAL AFFILIATIONS

Southwest Botanical Research (duns no. 80-367-5776), Chino Valley, AZ: sole proprietor
Graduate Advisor, Prescott College, Prescott, Arizona
Adjunct Professor, Arizona State University, Tempe, Arizona
Native Plant Law Technical Advisory Board, Phoenix, AZ: member

ORGANIZATIONAL MEMBERSHIPS

Botanical Society of America
International Association of Plant Taxonomists
Arizona-Nevada Academy of Sciences
Arizona Riparian Council
California Botanical Society
California Native Plant Society

EDUCATION

Ph.D., Botany (Systematic Botany), May, 1985, Arizona State University Tempe, Arizona.
Dissertation: Evolution of a hybrid polyploid complex in *Opuntia*, subgenus *Cylindropuntia* (Cactaceae).

M.A., Biology (Systematic Botany and Ethnobotany), June, 1980, Humboldt State University, Arcata, California. **Thesis:** Ethnobotany of the Yurok, Karok, and Tolowa Indians of Northwest California.

B.A., Botany, June, 1975, San Jose State University, San Jose, California.

A.A., Forestry, June, 1972, Bakersfield Community College, Bakersfield, California.

Foreign Languages: Spanish

BOTANICAL EXPERIENCE

1988 to present. Owner of Southwest Botanical Research. Consulting services that include Biological Assessments and Evaluations and the collection, identification, survey, and other types of research on vascular plants of Arizona, California, Nevada, and New Mexico.

1993-present. Botanical consultant for Kiva Biological Consulting. August 1993-2007: Arizona Game & Fish Desert Tortoise Survey (contract # G30061-B). Study included plant identification and vegetation sampling. 2008-2009: Fort Irwin Desert tortoise surveys; 2009: Rare plant surveys, Clark County, Nevada. Primary contact: Pete Woodman.

2005-present. Botanical consultant for Jones and Stokes, Sacramento, California. Including rare plant surveys in the Spring and Las Vegas Mtns., Clark County, Nevada, rare plant surveys in the Lake Mead area for the government of Clark County; and wetland delineation in the Barstow, San Bernardino, California area.

2008. Botanical consultant for URS, Santa Barbara and San Diego Offices. Projects included rare plant surveys and Johnson Valley USFWS protocol 100% coverage desert tortoise surveys.

1997-2007. Botanical consultant for Ecosystems Management, Inc. Projects include sensitive plant surveys for the Navajo Transmission line, Arizona/ New Mexico; sensitive plant survey for the Pittsburgh & Midway Coal Mine expansion near Ratón, New Mexico; and B.I.A. range surveys for the Navajo Partition Land, east of Flagstaff, AZ; range analysis for the Roswell BLM District, Roswell, NM. Principle contact: Bill Hevron, tel: (505) 884-8300.

1995-2006. Botanical consultant for Environet, Inc., Phoenix, Arizona. Projects include surveys for special status species, and Biological Assessment and Evaluations. Principle contact: Jill Himes, tel: (602) 438-0318.

1997 to 2002. Botanical consultant for Biozone, Inc., Prescott, Arizona. Projects include Vegetation characterization of the Watson Woods Riparian Preserve, Vegetation Characterization of the Walnut Creek Research and Learning Center, Survey for T&E species for the Hopi Reservation, and surveys.

1998. Biological consultant for Mojave Engineering Associates, Inc. Projects include Biological Assessment and Evaluations.

1994-1999. Botanical consultant for Johnson Associates Inc. Owner: Robert Johnson, tel: (408) 897-2473; projects have included biological surveys for housing developments and land fills.

1995. Botanical consultant for Hughes Environmental Consultants. Project included pipeline right-of-way Desert tortoise and botanical survey near Bullhead City, AZ and pipeline right-of-way botanical survey near Farmington, NM.

Aug 1990-1996. Botanical consultant for SWCA Associates. Subcontract duties included plant identification (including rare plant surveys in Clark County, NV), vegetation mapping and vegetation volume sampling for ASARCO, Kearny, Arizona; vegetation sampling for the San Tan Tortoise Survey, Maricopa County, Arizona; sensitive plant survey for the Wickieup-Bagdad gas pipeline, vegetation mapping for the Phelps Dodge Mine Expansion Project, Morenci and Safford, AZ, the distribution and taxonomy of *Echinocereus arizonicus* and related taxa in Arizona and New Mexico; Project coordinators: Jim Tress, Tina Lee, Scott Mills, tel: 602-325-9141.

1993-1994. Botanical consultant for Resources Management International (RMI), including a plant survey for the Wickieup-Bagdad proposed Citizens' gas pipeline, project coordinator: Catherine LeBlanc.

Jan 1991-January 1995. Botanical consultant for the Department of Anthropology, Contract Archeology, Arizona State University. Research included vegetation mapping and floristic analysis of the Tonto Basin, Arizona. Project coordinator: Glen Rice, tel: 602-479-2406, 965-7181.

1991-1992. Botanical consultant for the Army Corps of Engineers. Duties include plant collection and identification for the construction of an herbarium of Arizona wetlands plants. Project coordinator: Karen Reichhardt.

1988-1991. Botanical consultant for Ruffner Associates. Subcontracts included a three year study of the sensitive plant species of Organ Pipe Cactus National Monument; *Tumamoca* surveys for private firms; and Vegetation mapping in southern California for the Riverside Water District.

1985-1987. New York Botanical Garden, Chief Investigator, *Plant Resources of the Ecuadorean Amazon Project*. Duties included creating an integrated program of teaching and ethnography with the Shuar (Jivaro) culture.

SELECTED CONTRACTS AND RESEARCH AWARDS

2009. Verde River Vegetation monitoring. Prescott National Forest (Order no. AG-94TZ-P-09-0016, \$22,050). Contact: Mike Leonard (928 443-8211).

2009. Cook's Lake Vegetation study. Bureau of Reclamation. Phoenix Area Office (Order No. R09PX32003, \$21,820).

Contact: Diane Laush (623-773-6255).

2008. Botanical Survey 2008 Season- Kuenzler's cactus surveys, Guadalupe Ranger District, Lincoln National Forest (contract no. AG-7512-P-07-0066,). Contact: Larry Paul (505-887-9296).

2008-Present. Vegetation characterization of the Watson Woods Riparian Preserve, Prescott, Arizona. Prescott Creeks Preservation Association. Contact: Michael Byrd, 928-445-5669.

2007. Rare plant surveys for the Turkey-Gavilon Fuel Units Project, Lincoln National Forest, Alamogordo, New Mexico (Contract no. AG-7512-P-07-0017, \$12,130). Contact person was Larry Cordova (505-630-3007)

2007. Rare plant consultation for the Prescott National Forest, Prescott, Arizona (Contract no. AG-8191-P-0009, \$5,000).

2006-7. Geographic Distribution of *Coryphantha robustispina* ssp. *robustispina* (Pima Pineapple Cactus) and *Echinomastus erectocentrus* var. *erectocentrus* (Needle-spined Pineapple Cactus) within the extended City of Tucson HCP Southlands planning area. Contract with the City of Tucson (\$23,535).

2006. Morphological analysis of *Echinocactus horizontalonius*. State of Arizona, Tucson.

2006. Geographical and morphological analysis of *Echinocereus fendleri*. Lincoln National Forest, Alamogordo, New Mexico.

2005-2012. Monitoring of *Coryphantha robustispina* var. *robustispina* in the Alter Valley, Pima County, Arizona. Grant from the Bureau of Reclamation, Phoenix, Arizona.

2005-6. Plant surveys for the Lincoln National Forest. Alamogordo, New Mexico (contract no. AG-7512-06-0016, \$8,400). Contact person was Linda Baker (505) 434-7263

2005-7. Floristic study of Rancho del Cielo, Pima County, Arizona. U. S. Bureau of Reclamation. Phoenix, Arizona. (Order no. 05PG321037).

2001-2006. Riparian vegetation monitoring for the Hubbell Trading Post National Historic Site, Ganado, Arizona. (Order No. P742004032). Contact persons: Nancy Stone, Ann Worthington (928-755-3477).

2005. A phenetic analysis of the Acuña cactus, *Echinomastus erectocentra* var. *acunensis* and its relatives: *E. erectocentrus* var. *erectocentrus*, and *E. johnsonii*. State of Arizona, Tucson, (Order no.432672).

2004. Geographic distribution and DNA analysis of *Coryphantha robustispina* ssp. *robustispina*. Arizona Department of Game & Fish, Phoenix, Arizona.

2004. Five-year monitoring study for the Pima pineapple cactus (*Coryphantha robustispina* ssp. *robustispina*). U. S. Bureau of Reclamation. Phoenix, Arizona.

2003. Rare plant surveys for the Coronado National Forest, Tucson, Arizona. (Order no. 43-8197-3-0038, \$12,200)

2003. Botanical survey of the Timberon/Culp Peak Fuel Reduction Project. Lincoln National Forest, Alamogordo, New Mexico. (Order No. 0308-03-10).

2003. Elucidation of the intraspecific taxonomy of *Coryphantha scheeri* using multivariate techniques. A study in cooperation with the U. S. Fish and Wildlife Service, Tucson, Arizona.

2003. Re-measurement of riparian transects along the lower Verde River. Rocky Mountain Forest and Range Experimental Station.

2002-3. Status report of *Cylindropuntia multigeniculata*, including further morphometric studies. U. S. Fish and Wildlife Service, Las Vegas, Nevada.

2002-3. Monitoring of *Coryphantha robustispina* var. *robustispina* for the Arizona-Sonora Desert Museum, Tucson, Arizona.

2001. Rare Plant and noxious weed survey of the Bradshaw Ranger District. Prescott National Forest. (order no. 43-94TZ-1-0164; \$15,800)

2002. Survey and documentation of noxious weeds for the Coconino County Department of Public Works, Flagstaff, Arizona. (\$6,100).

2002. Range analysis for the Chino Valley Ranger District (Prescott National Forest), Chino Valley, Arizona.

2001-2006. Botanical surveys and monitoring for the Scott Able Fire, Sacramento Ranger District, Lincoln National Forest, New Mexico. (43-7512-1-0113; \$54,000). Contact person was Linda Baker (505) 434-7263

2001. Geographic survey of the a new species of *Leptodactylon* from Arizona. Prescott National Forest. (\$2,500).

2001. Re-measurement of riparian transects along the upper Verde River and its tributaries. Rocky Mountain Forest and Range Experimental Station (\$18,000).

2000. Re-measurement of riparian transects along the upper Verde River. Rocky Mountain Forest and Range Experimental Station (REC206, \$5,000).

2000. Surveys and autecology of the Pima Pineapple Cactus (*Coryphantha scheeri*). Bureau of Reclamation. (00PG321054; \$14,123.23).

2000. Vegetation mapping of the Peoria Planning Area. Maricopa County Water Conservation District, Phoenix, Arizona (\$18,000). [study included mapping 40,000 acres of Sonoran Desert vegetation].

1999. Plant Status Reports for five plant species (*Conioselinum mexicanum*, *Erigeron arisolius*, *Eupatorium bigelovii*, *Lupinus huachucanus*, and *Stellaria porsildii*). Coronado National Forest (43-8197-9-0099, \$2,500).

1999. Vegetation mapping of the greater Phoenix and Tucson Metropolitan Planning Areas as a part of the CAP water reallocation EA. Bureau of Reclamation, Phoenix, Arizona (\$55,000). [study includes mapping 1.2 million acres of Sonoran Desert vegetation]

1999. Vegetation mapping of the Santa Cruz River Flood Plain, Pima Co., Arizona. Bureau of Reclamation, Phoenix. (Contract no. 99320500061, \$9,750).

1999. Weed survey for the Coronado National Forest, Tucson, Arizona. (contract nos. 43-8167-8-0089, 43-8197-9-0077, \$21,350, \$4,600).

1999. Rare plant survey for the Lincoln National Forest. Alamogordo, New Mexico. (Contract no. 443-7512-8-0081, \$1,850).

1998. Multivariate analysis and DNA study of the Blue Diamond Cholla and related taxa. U.S.F.W.S., Reno, Nevada.

1998. Riparian vegetation inventory for the middle Verde River, Rocky Mountain Research Station (contract no. 43-8167-8-0069, \$5,000).

1998. Range analysis for the Prescott National Forest (contract no. 43-8167-8-0089, \$23,000).

1998. Riparian vegetation baseline for the Hubbell Trading Post National Historic Site (\$2,900).

1998. Floristic analysis of the Walnut Creek Riparian Preserve.

1998. Cactus research at Carlsbad National Park (contract no. 1443-cx-7170-98-001, \$10,000).

1997. Range analysis for the Prescott National Forest (contract no. 43-8191-7-0106, \$8,600).

1997. Riparian vegetation inventory for the upper Verde River, Prescott National Forest. (contract no. 43-8191-7-0104, \$5,000).

1996. Vegetation characterization of the Watson Woods Riparian Preserve, Prescott, Arizona (\$12,761).

1996. Identification and annotation of the Yavapai College Herbarium (YCH). Yavapai College, Prescott, Arizona (\$6,270).

1996. Plant identification for the USDA, Forest Service Intermountain Research Station, Ogdon, Utah.

1995. Plant inventory in the Wet Beaver Creek Wilderness, Arizona. Coconino National Forest, U. S. Forest Service P. O. 43-8167-5-033 (6,800).

1995. Vegetation characterization of Cooks Lake, Arizona. U. S. Bureau of Reclamation contract No. 1425-5-PG-32-03630 (14,400).

1995. Botanical survey of the China Dam Grazing Allotment, Chino Valley Ranger District, Prescott National Forest, Chino Valley, Arizona. Share-Cost Agreement No. CCS-09-01-95-0127-MC-26801 (\$37,616).

1995. Survey for endangered or candidate plant taxa of proposed National Forest land exchanges within the Verde Valley, Yavapai County, Arizona. Coconino National Forest contract No. 43-8167-5-0171 (\$2,450).

1994. Botanical survey of the Limestone Grazing Allotment, Chino Valley Ranger District, Prescott National Forest, Chino Valley, Arizona. Share Cost Agreement No. CCS-09-94-076-26201 (\$36,810)

1994. Reproductive status of *Vauquelinia californica* ssp. *pauciflora*. Contract from the Arizona Department of Agriculture, Phoenix, Arizona through the Arizona State University Department of Botany, ASU No. 94-0925 (4,000).

1994. Nutrioso milk-vetch (*Astragalus nutriosensis*) status survey. Contract from the Arizona Department of Agriculture, Phoenix, Arizona (\$4,000).

1993. Botanical survey of the Camp Wood, Williamson Valley, Yolo North, and Yolo South grazing allotment of the Chino Valley Ranger District, U. S. Forest Service, Chino Valley, Arizona. Contact No. 43-8191-3-0132 (\$22,292).

1992. Prescott National Forest. Botanical Survey of the Woodchute, Juniper Mesa, Sycamore Canyon and Apache Creek Wilderness Areas. Contact No. 43-8191-2-0221 (\$17,797).

1992. U. S. Army Corps of Engineers. Construction of a Arizona Riparian plant reference collection. Contract No. DACW09-92-M-0103 (\$2,500).

1991. U. S. Army Corps of Engineers. Construction of a Arizona Riparian plant reference collection. Contract No. DACW09-91-M-0342 (\$2,500).

1982. Research assistantship, cytogenetic analysis of *Cowania* and *Fallugia* (Rosaceae). The feasibility of host range expansion in nitrogen fixing non legumes. Arizona State University Research Fund 521475, and National Science Foundation grant # TCM_8204885. Tempe, Arizona.

1981. Research assistantship, alkaloid analysis of *Opuntia* (Cactaceae). Arizona State University, Tempe, Arizona.

1980. Inventory of the rare and endangered species of Six Rivers National Forest. United States Forest Service contact, Eureka, California.

1979. Distribution of the rare and endangered plant species, *Arabis mcdonaldiana*. United States Forest Service contract, Eureka, California.

1978-1979. Sensitive species inventories for proposed timber sales. Bureau of Indian Affairs; Eureka, California.

1978. Autecology of the rare plant species, *Pityopus californicus*. United States Forest Service contact. Eureka, California.

TEACHING AND RELATED EXPERIENCE

1996 to present. Graduate advisor for Prescott College, Prescott, Arizona.

1996. Short courses in plant identification for the U. S. Forest Service Intermountain Research Station and the Prescott National Forest.

1987-1997. Independent study advisor for Prescott College, Prescott, Arizona.

1986. Lecturer. Plant systematics and tropical dendrology. Ministry of Agriculture and Instituto Normal Bilingue Intercultural Shuar, Ecuador.

1980-1982. Lab instructor. Cytogenetics, one semester; Arizona Flora, three semesters; Plants, Pleasures, and Poisons, one semester. Arizona State University.

1976-1978. Lab instructor. General Botany, three quarters; Plant Systematics; Plants and Man. Humboldt State University.

1973-1975. Technical assistant. Plant Anatomy; Plant Morphology; Plant Taxonomy. San Jose State University.

ABSTRACTS AND NOTES (*also presented as conference papers)

Coleman, R. A. and M. A. Baker. 2006. *Microthelys rubricallosa*, a new addition to the orchid flora of the United States. *Orchids* 75:56-57.

*Baker, M. A. 2005. Morphological and cytological analyses in *Cylindropuntia* (Cactaceae) the circumscription of *C. multigeniculata*, *C. echinocarpa*, and *C. whipplei*; including the resurrection of *C. whipplei* var. *enodis*. Paper presented at the annual meetings of the Society of Plant taxonomists. Austin, Texas.

*Baker, M. A. 2004. Pros and cons of using phenetic analysis of morphological data for the circumscription of problematic taxonomic groups; examples from the Cactaceae of the Chihuahuan desert Region. 6th Symposium on the Natural Resources of

the Chihuahuan Desert. Alpine, Texas.

*Baker, M. A. 2003. Further elucidation of the taxonomic relationships and geographic distribution of *Escobaria sneedii* var. *sneedii*, *E. sneedii* var. *leei*, and *E. guadalupensis* (Cactaceae). Fourth Southwestern Rare and Endangered Plant Conference; Las Cruces, New Mexico.

*Baker, M. A. 1996. Recommendations for the preservation of rare plants and unique habitats within the Chino Valley Ranger District, central Arizona. Second Southwestern Rare and Endangered Plant Conference; Flagstaff, Arizona.

*Baker, M. A. 1996. Reproductive status of Arizona rosewood (*Vauquelinia californica* ssp. *pauciflora*). Arizona-Nevada Academy of Science 30(Proc. Suppl.).

*Baker, M. A. & D. J. Pinkava. 1994. Interspecific hybridization in *Opuntia* (Cactaceae) in Arizona and adjacent states. Arizona-Nevada Academy of Science 29(Proc. Suppl.):20.

*Johnson, R. A., M. A. Baker, D. Pinkava, and G. A. Ruffner. 1992. Population dynamics and demography of Acuña Cactus (*Echinomastus erectocentrus* var. *acunensis*). First Southwestern Rare & Endangered Plant Congress, US F&WS, Santa Fe, NM, 30 Mar-Apr 2.

Nesom, G. L. & M. A. Baker. 1991. First report of *Erigeron velutipes* (Asteraceae) from the United States. *Phytologia* 71(5):414-415.

Pinkava, D. J., B. D. Parfitt, and M. A. Baker. 1989. The *Opuntia standlyi* complex (Cactaceae). Arizona-Nevada Academy of Science 24(Proc. Suppl.):13

Baker, M. A. and B. D. Parfitt. 1986. Reports. In: A. Love (ed.), IOPB chromosome number reports XCI. *Taxon* 35:405-406.

*Baker, M. A. 1986. On the distribution and evolution of *Opuntia* of mainland Ecuador. *Amer. J. Bot.* 73 (5):750.

*Baker, M. A. 1986. Botanical Knowledge of the Shuar of Eastern Ecuador. Paper given at the annual meeting of the Society for Economic Botany, The New York Botanical Garden, Bronx, NY.

Parfit, B. D., M. A. Baker, and M. L. Gallagher. 1985. Reports. In: A. Love (ed.), IOPB chromosome number reports LXXXVI. *Taxon* 34:162-163.

*Baker, M. A. 1984. Triploidy: an isolation mechanism possibly leading to "speciation" in *Opuntia*, subgenus *Cylindropuntia* (Cactaceae). *Amer. J. Bot.* 71(5, part 2):155.

*Wallace, R. S., E. Fairbrothers, M. A. Baker, and D. J. Pinkava. 1984. Seed enzyme iso-electric-focusing as an aid toward classification in the genus *Opuntia* (Cactaceae). *Amer. J. Bot.* 71(5, part 2):197-198.

*Baker, M. A. 1983. The evolution, ecology, and distribution of *Pityopus*. *J. Ariz._Nev. Acad. Sci.* 18(Suppl.):30.

*Baker, M. A. and D. J. Pinkava. 1983. Megasporogenesis and megagametogenesis in *Opuntia fulgida*, *O. spinosior*, and their triploid hybrids. *Amer. J. Bot.* 70(5, part 2):104.

*Trushell, M. N., M. A. Baker, and D. J. Pinkava. 1983. Hybridization among *Opuntia whipplei*, *O. acanthocarpa*, and *O. leptocaulis* (Cactaceae). *J. Arizona_Nevada Academy of Science (Suppl.):*28.

Trushell, N., D. J. Pinkava, and *M. A. Baker. 1983. A taxonomic revision of the *Opuntia whipplei* complex (Cactaceae). *Amer. J. Bot.* 70(5, part 2):133.

*Baker, M. A. 1982. Preliminary studies of a hybrid polyploid complex of cholla. *J. Ariz._Nev. Acad. Sci.* 17(Suppl.):17.

*Baker, M. A. 1982. The ethnobotany of the Karok, Tolowa, and Yurok Indians of Northwest California. *Bot. Soc. Amer. Misc. Pub. No. 162:83.* Baker, M. A. 1982.

*Baker, M. A. 1982. Alkaloids of a clonal hybrid complex in *Opuntia* (Cactaceae). *Bot. Soc. Amer. Misc. Pub. No. 162:83.*

Baker, M. A. and Parfitt, B. D. 1982. Reports. In: A. Love (ed.), IOPB chromosome number reports LXXVII. *Taxon* 31:764-765.

Baker, M. A. 1982. Scanning electron micrographs of seeds. In: L. Bremer. *Coryphantha pusilliflora* sp. nov. A new species from Coahuila, Mexico. *Cact. Succ. J. (US)* 54:133_134.

*Baker, M. A. 1981. Plant folk taxonomy of the Yurok, Tolowa, and Karok Indians. *J. Ariz._Nev. Acad. Sci.* 16(Suppl.):9.

Baker, M. A. 1981. Scanning electron micrographs of seeds. In: L. Bremer. *Coryphantha grata* sp. nov. A new species from Tamalipas, Mexico. *Cact. Succ. J. (US)* 53:276_277.

SELECTED REPORTS

Baker, M. A. 2007. Geographic Distribution of *Coryphantha robustispina* ssp. *robustispina* (Pima Pineapple Cactus) and *Echinomastus erectocentrus* var. *erectocentrus* (Needle-spined Pineapple Cactus) within the extended City of Tucson HCP Southlands planning area. Prepared for the City of Tucson.

Baker, M. A. 2005. Geographic Distribution of *Coryphantha robustispina* ssp. *robustispina* (Pima Pineapple Cactus) and *Echinomastus erectocentrus* var. *erectocentrus* (Needle-spined Pineapple Cactus) within the City of Tucson HCP planning area. Prepared for the City of Tucson.

Baker, M. A. 2005. Vegetation of the Scott-Able Fire and its immediate buffer area, a four-year study. Report to the Lincoln National Forest, Alamogordo, New Mexico.

Baker, M. A. 2004. Phenetic analysis of *Coryphantha*, section *Robustispina* (Cactaceae), part 1: stem characters. Report to the Arizona Department of Game & Fish, Phoenix, Arizona.

Baker, M. A. 2002. Phenetic analysis of *Cylindropuntia multigeniculata* (Clokey) Backb. (Cactaceae) and its relatives. A report prepared for the U.S. Fish and Wildlife Service, Reno, Arizona.

Baker, M. A. 2001. Morphometric analysis of *Echinocereus arizonicus* and its allies (section *Triglochidiatus*, Cactaceae). A report prepared for the U.S. Fish and Wildlife Service, Tucson, Arizona.

Baker, M. A. 2000. Vegetation along the Lower Santa Cruz River, Tucson, Arizona. Prepared for the U. S. Bureau of Reclamation, Phoenix, Arizona. 40pp. illust.

Baker, M. A. 1999. The status of known distributions within Coronado National Forest of *Allium glandulosum*, *Conioselinum scopulorum*, *Eriogonum arisolius*, *Eupatorium bigelovii*, *Lupinus huachucanus* and *Stellaria porsildii*. Prepared for the Coronado National Forest, Tucson, Arizona. 16pp., illust.

Baker, M. A. 1996. A Botanical Survey of the Antelope Hills, Horseshoe, China Dam, and Perkinsville Grazing Allotments of the Chino Valley Ranger District, Prescott National Forest, Arizona. 105pp. illust.

Baker, M. A. 1996. Vegetation Characterization of the Cooks Lake Conservation Area and its associated buffer zones, Pinal County, Arizona. Prepared for the U. S. Bureau of Reclamation, Phoenix, Arizona. 109pp. illust.

Baker, M. A. & T. M. Wright. 1995. Survey for endangered or candidate plant taxa of proposed National Forest land exchanges within the Verde Valley, Yavapai County, Arizona. 20pp., illust.

Baker, M. A. & T. M. Wright. 1995. Botanical survey of the Limestone Grazing Allotment, Chino Valley Ranger District, Prescott National Forest, Arizona. 89pp., illust.

Baker, M. A. 1994. Reproductive status of Arizona rosewood (*Vauquelinia californica* ssp. *pauciflora*). Report to the Arizona Department of Agriculture, Phoenix, Arizona.

Baker, M. A. & T. M. Wright. 1994. Nutrioso milk-vetch (*Astragalus nutriosensis*) status report. Report to the Arizona Department of Agriculture, Phoenix, Arizona.

Baker, M. A. & T. M. Wright. 1994. Botanical survey of the Camp Wood, Williamson Valley, Yolo North, and Yolo South grazing allotment of the Chino Valley Ranger District, U. S. Forest Service, Chino Valley, Arizona. 120pp., illust.

Baker, M. A. and T. Wright. 1993. Botanical survey of the Apache Creek, Juniper Mesa, Sycamore Canyon, and Woodchute Wilderness areas of the Prescott National Forest, Arizona. 188pp., illust.

Johnson, R. A., M. A. Baker, D. J. Pinkava, N. Trushell, and G. A. Ruffner. 1990. Special status plants of Organ Pipe Cactus National Monument, Arizona: Sensitive Ecosystems Project. Final Report to National Park Service, Organ Pipe Cactus National Monument, Ajo, Arizona. xi + 223 pp.

REFEREED PUBLICATIONS

Baker, M. A., D. J. Pinkava, J. R., Rebman, B. D. Parfitt, and A. D. Zimmerman. Chromosome numbers in some cacti of western North America. VIII. *Haseltonia* (in prep.).

Baker, M. A. 2006. Circumscription of *Echinocereus arizonicus* subsp. *arizonicus*. Phenetic analysis of morphological characters in section *Triglochidiatus* (Cactaceae), part II. *Madroño* 53:388-399.

Baker, M. A. 2006. A new florally dimorphic hexaploid, *Echinocereus yavapaiensis* sp. nov. (section *Triglochidiatus*, Cactaceae) from central Arizona. *Plant Systematics and Evolution*. 258:63-83

Baker, M. A. 2003. Progress on the taxonomy of the claret-cup cacti (*Echinocereus*, section *Triglochidiatus*) of the United States. *Cactus and Succulent Journal (US)* 75 (5):217-223.

Baker, M. A. 2002. Chromosome numbers and their significance in some Opuntioideae and Cactoideae (Cactaceae) of mainland Ecuador and Peru. *Haseltonia* (9): 69-77.

Bennett, B. C., M. A. Baker, and P. Gómez A. 2002. Ethnobotany of the Shuar of Eastern Ecuador. *Advances in Economic Botany* 14:1-299.

Pinkava, D. J., J. P. Rebman, and M. A. Baker. 2001. Nomenclatural changes in *Cylindropuntia* and *Opuntia* (Cactaceae) and notes on interspecific hybridization. *Journal of the Arizona-Nevada Academy of Science* 33(2):150.

Baker, M. A. And R. Johnson. 2000. A morphometric study of *Escobaria sneedii* var. *sneedii*, *E. sneedii* var. *leei* and *E. guadalupensis*. Systematic Botany 24 (4): 577-587.

Baker, M. A. And D. J. Pinkava. 1999. A new Arizona hybrid cholla, *Opuntia* □ *campii* (Cactaceae). Cactus and Succulent Society of America 71:320-322.

D. J. Pinkava, J. P. Rebman, and M. A. Baker. 1999. Chromosome numbers for some cacti of Western North America VII. Haseltonia no. 6:32-41.

Baker, M. A. 1999. Vegetation and plant communities of the Tonto Basin in the vicinity of Theodore Roosevelt Lake, Arizona. Arizona State University, Tempe, Arizona.

Baker, M. A. 1996. Recommendations for the preservation of rare plants and unique habitats within the Chino Valley Ranger District, Central Arizona. Pp. 237-242. In: Maschinski, J. H. D. Hammond, and L. Holer, eds. Southwestern Rare and Endangered Plants.: Proceedings of the Second Conference; 1995 September 11-14, Flagstaff, Arizona. General Technical Report RM-GTR-283. Fort Collins, Co: U. S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experimental Station.

Pinkava, D. J. B. D. Parfitt, M. A. Baker, and R. D. Worthington. 1992. Chromosome numbers in some cacti of western North America-VI. Madroño 39(2):98-113.

Baker, M. A. 1993. Subgenus *Cylindropuntia* (Cactaceae). In: Hickman, J. (ed.) The Jepson Manual. University of California Press. Berkeley.

Pinkava, D. J., M. A. Baker, R. A. Johnson, N. Trushell, G. A. Ruffner, R. S. Felger & R. K. Van Devender. 1992. Additions, notes and chromosome numbers for the vascular flora of Organ Pipe Cactus National Monument, Arizona. Journal of the Arizona-Nevada Academy of Science 24-25:13-18.

Daniel, T., T. Chuang, and M. A. Baker. 1990. Chromosome numbers of American Acanthaceae. Systematic Botany 15(1):13-25.

Baker, M. A. and D. J. Pinkava. 1987. Cytological and morphometric analyses of a triploid apomict, *Opuntia* □ *kelvinensis* (subgenus *Cylindropuntia*, Cactaceae). Brittonia 39(3):387-401.

Pinkava, D. J. and M. A. Baker. 1985. Chromosome and hybridization studies of *Agave*. Desert Plants 7(2):93-100.

Baker, M. A., M. W. Mohlenbrock, and D. J. Pinkava. 1985. A comparison of two methods of preparing cacti and other succulents for standard herbarium mounting. Taxon 34(1):118-120.

Pinkava, D. J., M. A. Baker, B. D. Parfitt, M. W. Mohlenbrock, and R. T. Worthington. 1985. Chromosome numbers in some cacti of western North America.- V. Systematic Botany 10(4):471-483.

Baker, M. A., D. J. Pinkava, and B. D. Parfitt. 1983. On *Cowania* and its intergeneric hybrids in Arizona. Great Basin Nat. 44(3):484_486.

Daniel, T., B. D. Parfitt, B. D. and M. A. Baker. 1983. Chromosome numbers and their systematic implications in the Acanthaceae. Syst. Bot. (3):346_355.

PROFESSIONAL REFERENCES

Dr. Donald J. Pinkava, Professor of Botany. Director of the herbarium. Department of Botany and Microbiology, Arizona State University, Tempe, Arizona, 85287. (602) 965-3179.

Dr. Richard Felger. Director. Drylands Institute. 2509 N Camble, No 176, Tucson, Arizona 85719. (602)-321-1825.

Dr. Tom Van Devender, Research Associate. Arizona-Sonora Desert Museum, Tucson, Arizona. (520) 883-1380.

Dr. Glen Rice, Professor of Anthropology. Department of Anthropology, Arizona state University. Tempe, Arizona 85287. (602) 965-7181, 479-2406.

Barbara Phillips, Botanist, U. S. Forest Service. 2323 East Greenlaw Lane, Flagstaff, Arizona 86004. (520) 527-3600.

Sue Schuhardt, Biologist, Chino Valley Ranger District, Prescott National Forest, Chino Valley, Arizona, 866323. (520) 636-2304.

Mima Falk., Biologist. U. S. Fish and Wildlife Service, 300 West Congress, Room 4D, Tucson, Arizona 85701. (520) 670-4550.

Linda Barker, Botanist. U. S. Forest Service, Lincoln National Forest, Federal Building, 1101 New York Avenue, Alamogordo, NM 88310-6992. (505) 434-7263.

Diane Dobos-Bubno, Biologist, 3225 National Parks Highway, Carlsbad NM 88220. (505) 785-2232, ext 377.

Diane Laush, Biologist, Bureau of Reclamation, PXAO-1500, Phoenix Area Office, 6150 W. Thunderbird Road Glendale, AZ 85306-4001; 623-773-6255



A. Gilda Barboza

Biologist

Areas of Expertise

Environmental and Permit Documents
Plant and Wildlife Surveys
Habitat Assessments
Wetland Delineations and Restoration
Biological Monitoring
Special Status Species Surveys
Botany

Years of Experience

With URS: 2.5 Year
With Other Firms: 6 Years

Education

B.A./Geography and Environmental
Studies/2004/University of California,
Los Angeles
B.A./International Development
Studies/2004/University of California,
Los Angeles

Registration/Certification

California Department of Fish and
Game CDFG:
a) Scientific Collecting Permit/ Permit
SC-10480 Exp. August 2011
b) Plant Voucher Collecting Permit/
Permit # 2081 (a)-08-06-V

HAZWOPER
CPR/First Aid
Wilderness First Aid

Overview

Ms. Barboza has approximately six years working in the environmental field in conservation and restoration projects. She has experience preparing biological studies and surveys for wildlife and plant species in California, Section 7 Consultation under the Federal Endangered Species Act (ESA), and preparation of CEQA/NEPA compliance documents and Agency permits. Responsibilities include field surveys, data entry and statistical analysis, report and document preparation, and scientific writing, biological monitoring for construction projects, identification and quantification of vegetation, extensive field surveys including rare and endangered plant and wildlife species. Her project experience includes the following:

Project Specific Experience

Wildlife

Biologist, Kinder Morgan California-to- Nevada (Cal-Nev) Pipeline, Mojave Desert of California and Nevada, 2008: Field biologist conducting desert tortoise (*Gopherus agassizii*) presence/absence surveys over several sections of a proposed 233- mile fuel pipeline project from Colton, CA to Las Vegas, NV.

Biologist, Uvas Creek Bridge Replacement Project, Gilroy, CA, Caltrans, 2008-2009: Field biologist conducting San Francisco Dusky-footed woodrat (*Neotoma fuscipes annectens*) surveys. Surveys included mapping of active nests, dismantling nests, and trapping woodrats at the site over a two week period.

Biologist, Hat Creek Fish Population Study, Burney, CA, Pacific Gas & Electric Company (PG&E), 2008: Conducted fish population survey on Hat Creek to determine the effects of increased flow on fish populations as part of the Federal Energy Regulatory Commission (FERC) relicensing process. Surveys conducted utilizing electrofishing equipment.

Biologist, San Pablo Interchange, San Pablo, CA, Caltrans, 2007: Conducted red-legged frog habitat assessment for highway realignment project. Conducted background habitat and species research and performed field reconnaissance. Assisted in the composition of the Habitat Assessment report of research findings and field data for review by CDFG.

Botany/Vegetation

Biologist, Solar Two, Imperial County, CA, Stirling Energy Systems, Inc. (SES), 2008: Completed rare plant surveys on an approximate 6,500-acre site located in Imperial Valley of California for the future site of a clean, renewable, solar-powered electric plant. The site is located within



A. Gilda Barboza

the Sonoran desert, and the rare plants surveyed were those within Sonoran-creosote bush scrub community.

Biologist, Hecker Pass Safety Corridor Project, Gilroy, CA, Caltrans District 4, 2007: Conducted a vegetation mapping and habitat surveys for federally and state listed species.

Wetland Mitigation and Monitoring

Vegetation and Wetland Scientist, San Ardo to Coalinga Heated Crude Oil Pipeline Project, Fresno and Monterey Counties, CA, Chevron Pipeline Company, 2008: Mapped vegetation communities and delineated wetlands and waters within a 30,000 acre potential mitigation site; developed a vegetation map and wetland delineation report for the mitigation site; conducted rare plant surveys along the proposed pipeline alignment. In addition, also assisted in the reporting special status species surveys, several project mitigation tasks, and providing permitting support.

Vegetation Specialist, Crissy Field, San Francisco CA, GGNRA/National Park Service, 2004 – 2005: Assisted team with the restoration of the lagoon and tidal marsh known as the Crissy Field Marsh in the Presidio of San Francisco. Over 100,000 plant species were utilized for the restoration of the natural system. 22 acres have now been restored to support the natural sand dune community that once thrived before the marsh was filled.

Environmental Assessment/Permitting

Biologist, Holdener Park Mitigation Project, Livermore, CA, Chevron Pipe Line Company, 2008: Generated required permit applications to process the mitigation project for the relocation of the Bay Area Products Line away from the San Antonio Reservoir. Responsible for all aspects of compliance with environmental regulations including application submittals for USACE 404- Nationwide Permit 27, CDFG-1600 Notices of Streambed Alteration, and RWQCB Section 401 Water Quality Certification, composition of the Holdener Park Mitigation Project Biological Assessment, and the Initial Study CEQA checklist Review.

Biologist, Los Vaqueros Ranch Mitigation Property, Monterey County, CA, Chevron Pipe Line Company, 2007 – 2008: Assisted in the preparation of a biological assessment for the 2,167-acre Los Vaqueros Ranch mitigation property based on site reconnaissance visits, vegetation mapping and a wildlife habitat assessment, rare plant surveys, migratory bird surveys, special-status bat surveys, San Joaquin kit fox surveys, a and wetland delineation.

Federal Sector



A. Gilda Barboza

Biologist, ESA Consultations on Federal Emergency Management Agency (FEMA) Disaster 1628 Projects, Sonoma, Santa Cruz, Napa, Contra Costa, Mendocino, and Sacramento Counties, CA, FEMA, 2007 – Present: Conducted site visits to examine projects and compliance with ESA for projects funded by the FEMA. Consulted formally and informally with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Characterized habitat at project sites to determine suitability for endangered species and prepared biological assessments for endangered species in California.

Biologist, ESA Consultations on Federal Emergency Management Agency (FEMA) Disaster 1646 Projects, Santa Cruz, Napa, Marin, and Alameda Counties, CA, FEMA, 2007 – Present: Conducted site visits to examine projects and compliance with ESA for projects funded by the FEMA. Consulted formally and informally with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Characterized habitat at project sites to determine suitability for endangered species and prepared biological assessments for endangered species in California.

Cultural Resources, Federal Emergency Management Agency (FEMA), 2009: Conducted Native American consultation for various projects under FEMA funding. Consultation includes communication with the Native American Heritage Commission and individual tribal representatives.

Transportation

Biologist, State Route 4 Widening Project – Loveridge Road to Somersville Road, Antioch, CA, Caltrans, 2007 – 2008: Generated the Mitigation and Monitoring Report for the SR4 Widening Project. Involved in obtaining mitigation options to offset impacts for the project, as well as composing separate reports for wetlands, and special status species, California red-legged frog.

Hazards Management

Water Scientist San Francisco Public Utilities Commission, San Francisco, CA, 2009: Assisted in collecting ground water samples for jar testing, and stormwater monitoring at the Calaveras Dam, in Sunol, California. Testing is conducted to monitor possible contaminants, including levels of naturally occurring asbestos.

Inspector, General Electric Storm Water Monitoring, Oakland, CA, General Electric Company, Oakland, 2007 – 2008: Assisted in preparation and collection of seasonal stormwater sampling for a former transformer manufacturing facility, in order to monitor possible contamination of PCB, VOC's, oil and grease in soil and groundwater.

Project Management

Task Order Manager, Route 85 Steven's Creek Bank Stabilization Project, Mountain View, CA, Caltrans, 2008: Coordinated with agencies to finalize required annual mitigation and monitoring reports for large scale riparian rehabilitation project. Responsible for all aspects of



A. Gilda Barboza

project management including environmental compliance, budget oversight, data collection, and staff organization.

Construction Monitoring

Biological Monitor, Bodfish Creek, Gilroy, CA, California

Department of Transportation (Caltrans), 2009: Served as biological monitor for a linear transportation project adjacent to Bodfish Creek. Duties included: monitoring ESA fencing installation and excavation work per the construction plans. Monitoring was completed for the following federally listed species: California tiger salamander (*Ambystoma californiense*) and California red-legged frog (*Rana draytonii*). Additional monitoring included avoidance of vegetation removal and uprooting of valuable trees, redwood (*Sequoia sempervirens*).

Biological Monitor, Crystal Springs San Andreas Transmission System Upgrade Project: Forced Main Coupon, Hillsborough, CA, San Francisco Public Utilities Commission (SFPUC), 2009:

Per categorical exemptions and Service requirements, conducted biological monitoring and worker awareness trainings for a project include a water pipeline coupon recovery. Monitoring was required for a San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) nest located adjacent to the project location. Other federally listed species requiring monitoring included: California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), and San Francisco garter snake (*Thamnophis sirtalis*).

Biological Monitor, Back Up Pipe Line Project, San Francisco Public Utilities Commission (SFPUC) 2009:

Conducted preliminary biological surveys prior to geotechnical investigations for a backup pipeline near Calaveras Reservoir. Surveys included habitat assessments and nesting bird surveys.

Biological Monitor, Calaveras Dam Replacement Project, Sunol, CA, San Francisco Public Utilities Commission (SFPUC), 2009:

Served as biological monitor for project that involved geotechnical explorations and soil sampling. Mitigation and impact-minimization measures included monitoring federally listed species, including but not limited to: California tiger salamander (*Ambystoma californiense*) and California red-legged frog (*Rana draytonii*).

Biological Monitor, Bay Division Pipeline 4, Bay Area, CA, San Francisco Public Utilities Commission (SFPUC), 2008:

Served as biological monitor for geotechnical soil samples along a 34- miles stretch of water pipelines within the levees and riparian habitats of numerous cities in the San Francisco Bay Area, CA. Federally and state listed species monitored for included: California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), Western pond turtle (*Actinemys marmorata*), and anadromous fish.



A. Gilda Barboza

Biological Monitor, Highway 198 Midline Heater Station, Coalinga CA, Chevron Environmental Management Company, 2008: Served as biological monitor for project that involved geotechnical investigations and groundwater sampling to determine presence and/or extent of petroleum hydrocarbons in soil and groundwater. In accordance with the U.S. Fish and Wildlife Service's Biological Opinion, mitigation and impact-minimization measures included monitoring for the following federally listed species: California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), and San Joaquin kit fox (*Vulpes macrotis vulpa*).

Biological Monitor, Lathrop, CA, Department of Water Resources (DWR), 2008: Biological monitor for geotechnical groundwater samples within the levees and riparian habitats in Lathrop, CA. In accordance with the U.S. Fish and Wildlife Service's Biological Opinion, mitigation and impact minimization measures included monitoring for the following federally listed species: riparian bush rabbit, burrowing owl, and California red-legged frog.

Biological Monitor, Atwater Penitentiary Access Road Improvement, Atwater, CA, Department of Transportation, Caltrans, 2008: Conducted the worker environmental-awareness training in accordance with the USFWS compliance requirement, and carried out a reconnaissance-level survey for a road-widening project.

Vegetation Maintenance

Field Assistant and Lab Coordinator, Effects of *Arundo donax* on Riparian Ecosystems, Filmore, CA, University of California Los Angeles, 2004 – 2007: Worked with research group on large-scale field experiment examining the influence of nutrients, water, defense mechanisms, and light availability of the invasion of *Arundo donax* in riparian ecosystems of Mediterranean-type climates. The invasion of the species was Involvement in project included gathering plant growth and biomass measurements; collection of soil and plant tissue samples for nutrient analyses; biomass sampling; plant identification; soil grain size analyses; leaf area measurements; soil moisture and ground water monitoring; water potential measurements; and fire study monitoring; plant identification; and data entry.

Maintenance Worker, Vegetation Maintenance Unit, San Jose, CA, Santa Clara Valley Water District (SCVWD), 2007: Construction and maintenance of work for flood control, erosion control, and water distribution properties. Work done is particularly on vegetation control and/or re-vegetation projects. Maintenance practices include biological assessments, ecology of vegetation systems, plant identification, and herbicide use for chemical weed control.

Vegetation Mapping

Vegetation Specialist, Santa Clara River Floodplain Restoration Feasibility Study, Ventura County, CA, Stillwater Sciences, 2005: Assisted project team in mapping vegetation and collecting associated data in the field along the Santa Clara River in Ventura Country, CA. The



A. Gilda Barboza

survey was done utilizing a modified version of the CNPS Vegetation and Habitat Rapid Assessment protocol.

Professional Societies/Affiliates

Ecological Society of America, ESA
The Wildlife Society, TWS

Languages

Bilingual in Spanish and English

Specialized Trainings

2008/Endangered Species Regulation and Protection, University of California, Davis
2008/Wetland Delineation
2008/Endangered Species Protection and Regulation
2008/Wildflowers of the East Bay
2008/Smith System Advanced on Road Defensive Driving
2008/Loss Prevention System (LPS)
2008/Clear Business, Technical and E-mail Writing (TIBCO)
2007/40 Hour HAZWOPER
2007/CPR/First Aid
2007/Field Safety Training
2004/CNPS Vegetation Rapid Assessment

Chronology

09/07 – Present: URS Corporation, Biologist, Oakland, CA
04/07 – 09/07: Santa Clara Valley Water District, San Jose, CA
06/04 – 03/07: UCLA School of Public Health-Environmental Sciences, Los Angeles, CA
12/04 – 03/05: National Park Service at Presidio of San Francisco, San Francisco, CA
04/04 – 11/04: Law offices of Frank P. Angel, Santa Monica, CA

Contact Information

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Direct: 510.874.1760
Fax: 510.874.3268
gilda_barboza@urscorp.com



Alyssa J. Berry

Staff Biologist

Areas of Expertise

Monitoring Threatened and
Endangered Amphibians of California
Wildlife Surveys
Habitat Assessment
Vegetation Surveys
Habitat Restoration

Years of Experience

With URS: >2 Year
With Other Firms: 2 Year

Education

BA/Earth and Environmental
Science/2004/Wesleyan University, CT

Course Work in Animal Diversity,
Ornithology at Santa Barbara City
College/2006

Permits

U.S. Fish and Wildlife Recovery Permit
(TE206825-0) for California Red-Legged
Frogs.

Specialized Training

- HAZWOPER Annual Refresher
July 2009
- Loss Prevention System
August 2007
- Smith Systems Driver Training
June 2007
- First Aid/CPR/AED
December 2007
- California Tiger Salamander
Workshop
April 2009

Overview

Mrs. Berry is a field biologist with over four years of experience restoring native habitat and monitoring threatened and endangered species. Her conservation efforts have included ecological restoration, concentrating on the re-vegetation of disturbed habitat with genetically local, native plant species. Alyssa has propagated site specific grassland, chaparral, riparian and coastal dune species for ecological restoration. She has aided in the design and installation of several restoration sites. Alyssa's survey work has covered areas of the coastal dunes of the central coast, the high desert region of Northern California, Mojave desert, and San Joaquin Valley, the Los Padres National Forest, the Klamath National Forest, Johnson Valley and Carrizo Plains. More recently Alyssa has expanded her herpetological survey experience to include blunt-nosed leopard lizard and California tiger salamander, and has obtained a U.S. Fish and Wildlife Service Recovery Permit for California red-legged frog.

Wildlife Experience

California Red-legged Frog (*Rana aurora draytonii*)

Over 50 hours of positive contact,

U.S. Fish and Wildlife Recovery Permit TE206825-0, issued July 2, 2009

- Construction monitoring and relocation of California red-legged frogs for the Winchester Canyon Road Culvert Repair Project, Santa Barbara County, CA.
- Biology and Management of California red-legged frog Workshop, Elkhorn Slough National Estuarine Research Reserve, Instructors, Dr. Galen Rathbun and Dr. Norman Scott.
- Guadalupe, CA- Evening eye-shine surveys to monitor presence/absence of CRLF in newly created wetlands within the Guadalupe Soil Remediation site.
- Los Padres National Forest, Santa Barbara, CA - Surveyed for California red-legged frog egg masses, tadpoles, sub-adults and adults. Captured all life stages to measure morphological characteristics. Used Garmin GPS waypoints to map locations of individuals and areas of critical, potential and unsuitable habitat. Performed night surveys to monitor for breeding individuals, using eye-shine techniques.

Blunt-nosed leopard lizard (*Gambelia sila*)

Level II surveyor

- California Valley, CA – Surveyed for blunt-nosed leopard lizards using the CA Department of Fish and Game Protocol.
- Belridge, CA- Surveyed for blunt-nosed leopard lizards using the CA Department of Fish and Game Protocol. Identified blunt-nosed leopard lizards at a reference site.



- Coalinga, CA - Surveyed for blunt-nosed leopard lizards using the CA Department of Fish and Game Protocol.

Arroyo Toad (*Bufo californicus*)

Over 30 hours of positive contact

- Los Padres National Forest, Santa Barbara, CA - Surveyed for Arroyo toad egg strings, tadpoles, sub-adults and adults. Captured all life stages to measure morphological characteristics. Used Garmin GPS waypoints to map locations of individuals and areas of critical, potential and unsuitable habitat. Performed night surveys to monitor for breeding individuals, using eye-shine techniques.

California tiger salamander (*Ambystoma californiense*)

- Santa Maria, CA –Under the supervision of Tom Olson and authorization of his recovery permit, visually evaluated burrows with a scope to determine presence of California tiger salamanders and hand excavated vacant burrows to prevent future use. Perform daily early morning clearance surveys to detect California tiger salamanders prior to construction activities, from March 2008 to present.

Desert Tortoise (*Gopherus agassizii*)

Over 16 hours of positive contact

- Attended the Desert Tortoise Council's *Introduction to surveying, monitoring and handling techniques workshop*.
- Conducted USFWS Protocol surveys for DT in Johnson Valley, CA.

San Joaquin Kit Fox (*Vulpes macrotis mutica*)

Over 7 hours of positive contact

- California Valley, CA – Surveyed for San Joaquin kit fox using the CA Department of Fish and Game guidelines for spotlighting, under the supervision of Paul Collins, curator of Santa Barbara Natural History Museum.

Small Mammal Trapping

- California Valley, CA- Processed small mammal traps, capturing San Joaquin pocket mice (*Perognathus inornatus*), under the permit and training of Curtis Uptain.
- California Valley, CA –Under the permit and training of Paul Collins, curator of Santa Barbara Natural History Museum, baited Sherman's traps and processed small mammals, including San Joaquin pocket mouse, California pocket mouse (*Chaetodipus californicus*) and Heermann's kangaroo rat (*Dipodomys heermanni*).
- Guadalupe Dunes, CA – Processed small mammals under the supervision of Jane Donaldson, including California pocket mouse and Heermann's kangaroo rat.



Swainson's Hawk (*Buteo swainsonii*)

20 hours of positive contact

- Macdoel, CA – Performed nest searches to locate Swainson's hawk fledglings and pairs. Banded individuals and recorded band numbers of previously banded individuals.

Northern Goshawk (*Accipiter gentilis*)

5 hours of positive contact

- Klamath National Forest - Performed transect surveys while playing recorded vocalizations to solicit a response from Northern goshawks. Performed nest searches.

Habitat Restoration Experience

- Developed a restoration plan for six wetland pools designed for California red-legged frogs, California tiger salamanders and Western spadefoot toads, including specification for plant species to be planted, monitoring and maintenance procedures and irrigation at the Casmalia Landfill, CA.
- Conducted annual vegetation transect monitoring to measure plant cover and diversity of restoration sites.
- Composed annual restoration monitoring reports for the Santa Barbara Airport wetland restoration. Analysis included percent native and non-native cover, percent survival and percent cover by species.
- Assisted in the restoration of tidal wetlands at the Santa Barbara Airport by collecting local, California native plant seed and propagating native plants for re-vegetation.
- Assisted in restoration of disturbed coastal dunes by collecting genetically local, native plant seed.
- Assisted in the bluff's restoration at Nicholas Canyon State Park, Malibu by in-planting 2,000 native plants.
- Assisted in restoration of the Santa Barbara County landfill by installing irrigation systems, planning and planting 1,000 California native plants.
- Removed invasive weeds, including tamarisk, yellow/purple star-thistle and pampas grass from the Los Padres National Forest.



Vegetation Survey Experience

- Orcutt, CA-Created vegetation community maps using the Sawyer and Keeler-Wolfe, Rapid Assessment method for over 1400 acres of oil field property.
- Bakersfield, CA- Conducted a rare plant survey along a pipeline linear to document sensitive plant species prior to pipeline removal.
- Orcutt, CA- Conducted rare plant surveys throughout the Careaga oil field lease to document sensitive plant species within the property. Generated a report including maps of the observed species and recommendations for avoidance and conservation of identified species.
- San Bernardino NF, CA- Conducted vegetation surveys to map the presence/absence of the invasive weed, *Arrundo donax* along river channels.
- Los Padres NF, Santa Barbara District, CA- Conducted vegetation surveys to map the presence/absence of yellow star thistle.
- Los Padres NF, Santa Barbara District, CA-Conducted rare plant presence/absence surveys for the Santa Ynez false-lupine (*Thermopsis macrophylla* var. *angina*), Late-flowered mariposa lily (*Calochortus needii* var. *vestus*) and the Refugio Manzanita (*Arctostaphylos refugioensis*).

Contact Information

URS Corporation
2625 S. Miller St., Suite 104
Santa Maria, CA 93455
Tel-Santa Maria: 805.361-1103
Cell: 805.729.1442
Alyssa_Berry@URSCorp.com



Areas of Expertise

Wildlife Biology, Biological Monitoring, Biological Resource Assessment, Desert Tortoise Surveys, and Flora and Fauna Identification

Years of Experience

With URS: 4 Years

Education

MS/Biology/California State University Long Beach

BS/Ecology and Environmental Biology/California State University Long Beach

Registration/Certification

- Desert Tortoise Council Tortoise Handling Workshop
- Fairy Shrimp Identification by Mary Belk

DENNIS MILLER

Ecologist

OVERVIEW

Mr. Miller has an extensive background in field research and ecological studies. As a biologist Mr. Miller has participated in projects which include vegetation mapping, small mammal trapping, vernal pool branchiopod surveys, and protocol USFWS special status species surveys for Desert Tortoise, avian and botanical surveys. He has prepared numerous biological reports, assessments, to demonstrate compliance with the Federal Energy Regulatory Commission (FERC), Federal Railroad Administration (FRA), Federal Highway Administration (FHWA), California High-Speed Rail Authority (Authority), California Department of Transportation (Caltrans), California Coastal Commission (CCC), state and federal Endangered Species Acts, and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Mr. Miller has participated in consultation with regulating agencies including California Department of Fish and Game (CDFG), U.S. Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS). The following describes Mr. Miller's experience in greater detail.

PROJECT SPECIFIC EXPERIENCE

Caithness, LLC., Soda Mountain Solar Project, CA.

Biologist for a proposed 6,700 acre solar site. Performed protocol desert tortoise surveys, rare plant surveys, and wetlands and other waters determinations. Caithness LLC, is in the process of obtaining authorization to construct and operate the Soda Mountain Solar Project - a proposed 350 megawatt ("MW") solar electric power generating facility on federal lands managed by the U.S. Department of Interior, BLM, in San Bernardino County. The Project consists of about 6,700 acres, located approximately 5 miles southwest of Baker, California along Route I-15.

Kinder Morgan Energy Partners, CALNEV Pipeline Project, CA and NV.

Field biologist for a proposed 280-mile jet fuel pipeline from Colton, CA to Las Vegas, NV. Performed protocol desert tortoise surveys, rare plant surveys, and wetlands and other waters determinations along the Project length.

Solar Power Plant AFC – Imperial County, CA.

Field biologist conducting rare plant and flat-tailed horned lizard surveys in support of an Application for Certification for an 800MW thermal generating facility covering 7,000 acres in Imperial County.



SES Solar One Energy Project AFC – Barstow, CA.

Biologist assisting with data analysis and report preparation in support of an Application for Certification for a solar power plant project in San Bernardino County. Project involved intensive surveys for desert tortoise, Mohave ground squirrel, and rare plants on a 16,000-acre project site and 100-mile transmission line.

San Bernardino Valley Water Conservation District and Bureau of Land Management Land Exchange at the Upper Santa Ana River Wash.

Conducted biological field surveys, data collection and prepared Biological Assessment and Biological Technical Reports to document compliance with NEPA, CEQA, and federal Endangered Species Acts for the land exchange at the Upper Santa Ana River Wash. Disclosed and evaluated the onsite habitat conditions and determined the potential for occurrence of common and special status species, their habitats, and other special aquatic resource areas (e.g., Clean Water Act and CFGC jurisdictional features) within the proposed Project's study area.

Carrizo Energy, LLC; San Luis Obispo County: Senior Biologist.

Mr. Miller is assisting Carrizo Energy, LLC, to gain environmental permits to license and build their Carrizo Energy Solar Farm (CESF). Mr. Miller has performed small mammal trapping and reporting to document compliance the federal and state Endangered Species Acts for the proposed Project. The project consists of approximately 195 Compact Linear Fresnel Reflector (CLFR) solar concentrating lines, associated steam drums, steam turbine generators (STGs), air-cooled condensers (ACCs), and infrastructure, producing up to a nominal 177 megawatts (MW) net. The CESF is located in an unincorporated area of eastern San Luis Obispo County, west of Simmler and northwest of California Valley, California.

Verizon Wireless- Vasquez canyon site, Saugus, Los Angeles County, CA.

Conducted field surveys for biological resources at the proposed Project site. The field surveys and data collection supported the installation of cell phone tower pad and shelter and the Project's anticipated 500 foot physical ground disturbance footprint. Disclosed and evaluated the onsite habitat conditions and determined the potential for occurrence of common and special status species, their habitats, and other special aquatic resource areas (e.g., Clean Water Act and CFGC jurisdictional features) within the proposed Project's study area.



Ausra Energy, San Luis Obispo County, CA.

Field Biologist for an Application for Certification for a 180 MW solar generating facility located in San Luis Obispo County. Performed rare plant surveys, vegetation community mapping, and initial kit fox and blunt nose leopard lizard habitat suitability assessments. Performed protocol blunt nose leopard lizard surveys.

Ausra Energy, Imperial County, CA.

Field Biologist for a 7000 acre solar generating facility. Performed protocol flat tail horned lizard surveys, vegetation community mapping, rare plant surveys, and wetland and other waters delineations.

Sunpower, LLC., Solar Project.

Field biologist for a proposed 4,500 acre solar site. Performed protocol adult blunt nose leopard lizard surveys.



Robert DeBaca, Ph.D.

Senior Biologist

Areas of Expertise

Wildlife Field Surveys
Threatened and Endangered
Species
Vertebrate Biology
Conservation Biology
Landscape Ecology
Biogeography
Geographic Information Systems

Years of Experience

With URS: 3.0 Years
With Other Firms: 17 Years

Education

PhD/2008/Texas Tech University
/Lubbock, TX
MS/Biology/1998/Fort Hays State
University/Hays, KS
BA/EPO Biology/1990/
University of Colorado/Boulder,
CO
BA/Environmental
Conservation/1990/University of
Colorado/Boulder, CO

Training/Certification

- Desert Tortoise Council Survey Techniques Workshop, 2007
- Biological Assessment Workshop/ USFWS, 2007
- Southwestern willow flycatcher survey workshop/USFWS, 2008
- Western yellow-billed cuckoo survey workshop/USFWS, 2008
- 40 hour OSHA HAZWOPER
- 8 hour OSHA HAZWOPER update

Overview

Dr. DeBaca has 20 years of experience doing field-based ecological resource studies, designing and executing field-based surveys, and analyzing data and conditions for biological regulatory compliance. His work has involved sampling of reptiles, birds, mammals, amphibians, insects, and plant communities. He has been performing surveys for the both the listed and non-listed populations of the desert tortoise since 2007. He completed the Desert Tortoise Council Survey Techniques Workshop in 2007.

Project Specific Experience

Mojave Population Survey Work

Project Biologist, CalNev Pipeline Desert Tortoise Surveys, Southern Nevada and California, Kinder-Morgan, March-April 2008: Performed protocol surveys for the desert tortoise in Clark County, Nevada and San Bernardino County, California.

Biologist, Mesquite General Aviation Airport EIS and BA, City of Mesquite, Mesquite NV, Spring 2007-2008: Conducted follow-up desert tortoise surveys for quality assurance of previous surveys.

Sonoran Population Survey Work

Biologist, La Cholla Boulevard Widening and Improvements, Pima County Department of Transportation, 2009. Conducted field surveys for presence-absence of desert tortoise and evaluated habitat for cactus ferruginous pygmy owl and lesser long-nosed bat.

Biologist, Starwood Solar Site I, Starwood Inc., 2009. Evaluated habitat and conducted spot surveys for desert tortoise in study area.

Lead Biologist, Rainbow Valley Area Drainage Master Plan, Maricopa County, Arizona, Flood Control District, 2008-2010: Performed non-protocol surveys to assess presence-absence of desert tortoise in the Rainbow Valley. Evaluated and ranked habitat and movement corridors for the species in the planning area.

Lead Biologist, Paloverde Solar Site Planning Project, West Maricopa County, Arizona, Ausra Inc., 2008: Performed ecological site surveys to characterize habitats for threatened and endangered species. Conducted presence-absence surveys and evaluated habitat for desert tortoise in the study area.

Biologist, Dendora and Harquahala Solar Planning Projects, Maricopa County, Arizona, Pacific Solar & Power, 2008: Organized and performed ecological site surveys to characterize suitability of habitats for desert tortoise.



Biologist, Solstice Solar Site Planning Project, West Yuma County, Arizona, Ausra Inc., 2008: Conducted presence-absence surveys and evaluated habitat for desert tortoise in the study area.

Lead Biologist, TS-5 to TS-9 500/230kV Transmission Line Siting Project, Northwest Maricopa County, Arizona, Arizona Public Service, 2007-2008: Conducted presence-absence surveys and evaluated habitat for desert tortoise in the study area.

Jessica Birnbaum

Ms. Birnbaum's desert tortoise work experience includes surveys throughout the Mojave Desert. Other desert experience includes botanical surveys, blunt-nosed leopard lizard surveys, small mammal surveys, and jurisdictional determinations.

Desert tortoise:

550 mw Solar Thermal Site in Johnson Valley, CA, Renewable Energy, June-July 2008: Performed USFWS protocol desert tortoise surveys on a 9,315 acre site and 10 mile long transmission and gas routes.

San Bernardino Mojave Desert CA, Renewable Energy, May 2008: Protocol biological surveys for a large-scale solar project site being considered in the San Bernardino County, California, including Desert Tortoise surveys. Mrs. Birnbaum conducted presence/absence surveys for the Desert Tortoise.

CalNev Pipeline Project, Las Vegas to San Bernadino, Kinder-Morgan, Biological Resources, March – April 2008: Kinder Morgan Energy Partners, L.P. is expanding the 550-mile CALNEV pipeline system. URS conducted a biological survey for 150 miles of Desert Tortoise habitat, the area being surveyed was approximately 500 feet wide, and covered the possible routes for the pipeline. Mrs. Birnbaum conducted presence/absence surveys for the Desert Tortoise.

Other Desert Work:

California Valley Solar Ranch Project, Carrizo Plain, San Luis Obispo County, March – September 2009: Led crew of 3-6 biologists surveying for special-status plant species on approximately 3,000 acre site and mapped vegetation communities. Personally authored the botanical survey report for submittal to SunPower and the County.

Blunt-Nosed Leopard Lizard Surveys, California Valley, CA, Renewable Energy, March – September 2009: Surveyed for blunt-nosed leopard lizards using the CA Department of Fish and Game Protocol.

Nextlight's Antelope Valley Solar Ranch One Project, Los Angeles County, CA, January 2009: Performed jurisdictional determination mapping for a 2,000 acre site in the Mojave Desert.

Small Mammal Surveys and Jurisdictional Wetland Determination, California Valley, CA, Renewable Energy, July 2008: URS is aiding with their planned 250 MW solar ranch, which would be located in San Luis Obispo County's California Valley. Mrs. Birnbaum conducted small mammal surveys and jurisdictional wetland delineation surveys for the proposed project site.

John H. Davis IV

Senior Ecologist, Biology Program Manager

Raw Rate: \$

Availability: April 2 – June, 75%

Desert Botany Experience: 5 Seasons

Mr. Davis IV has over 13 years of professional botanical experience, including five survey seasons in the Mohave and Sonoran Deserts. Most recently, he was biological manager for two Mohave Desert projects, which included focused floristic surveys: 1) Antelope Valley Solar One (2,000 acres) and 2) Johnson Valley Solar Thermal Project (9,315 acre site and 10 mile long transmission and gas route). For both projects, Mr. Davis IV conducted floristic surveys with the URS' Central Coast Operation biologists per CDFG, USFWS, BLM, and CNPS protocol guidelines and was responsible for accurate species identification, subcontractors, and correspondence with clients and agencies. Mr. Davis IV appointed Jessica Birnbaum task leader for Antelope Valley and Johanna Kisner for Johnson Valley. Floristic surveys included rare plant identification, botanical inventory, and vegetation mapping.

Additional desert botanical experience included a Red Rock Canyon botanical field trip, where Mr. Davis IV assisted participants in plant identification and administered quizzes; desert annual – mycorrhizal relationship study throughout the Mohave and Sonoran Desert (2 seasons); desert annual seed germination study (1 season, Sonoran Desert); and 2 seasons of desert restoration and monitoring on Fort Irwin, Twentynine Palms Marine Corps Base, and a Caltrans restoration in the Sonoran Desert, Imperial County.

Desert Tortoise Experience: >40 protocol hours, >100 non-protocol

Mr. Davis IV has over 40 hours of experience conducting protocol surveys for desert tortoise, where approximately 20 individuals and abundant sign were documented. From May through July 2008, he conducted protocol desert tortoise surveys for a thermal solar plant project in Johnson Valley, San Bernardino County. All surveys followed USFWS protocol guidelines. Non-protocol surveys included habitat assessments, restoration monitoring, and incidental observations during other focused surveys. Mr. Davis IV also has over 13 years conducting herpetological surveys throughout Central and Southern California.

A summary of desert projects Mr. Davis has been involved in:

Managing Biologist for Nextlight's AV Solar One Project in northern Los Angeles County, CA: Provided oversight to task managers and approximately 6 field biologists on biological efforts for a 2,000 acre site and 3 mile transmission line route in Antelope Valley, Mohave Desert, in the County of Los Angeles. This included winter bird surveys, floristic [botanical], jurisdictional determination, Joshua tree and vegetation mapping, and agency coordination in support of a Biological Constraints Analysis and Biota Report. The Biological Constraints Analysis was submitted to the County in February of 2009 and the Biota Report was submitted in July 2009. Mr. Davis IV is a SEATAC qualified biologist.

Managing Biologist for 550 MW Solar Thermal Site in Johnson Valley, CA:

Supervised field crew of 30 biologists performing USFWS protocol desert tortoise and general wildlife surveys, focused floristic [botanical] surveys, jurisdictional determination, and vegetation mapping on a 9,315 acre site and 10 mile long transmission and gas routes. Prepared the biological survey work plan and coordinated with regulatory agencies on biological resource issues and potential mitigation. Field Surveys were completed in June 2008. Orchestrated and conducted survey efforts, data collection, and agency and client correspondence.

Managing Biologist for SunPower's California Valley Solar Ranch Project in eastern San Luis Obispo County, CA:

Supervised field crew of 51 URS biologists and subconsultants on habitat assessments, jurisdictional determination, and focused floristic [botanical], small mammal, San Joaquin kit fox, giant kangaroo precinct, San Joaquin antelope squirrel, and blunt-nosed leopard lizard surveys on a 5,227 acre site and 3 mile long transmission route. Orchestrated and conducted field surveys, data collection, report preparation, and agency and client coordination. A Biological Resources Assessment Report was submitted to the County on January 14, 2009 and a revised report was submitted October 1, 2009.

Managing Biologist for First Solar Electric, 50 MW PV Solar Site near Blythe, CA:

Supervised desert tortoise survey and technical biological resources reporting for USFWS, CDFG, and County of Riverside. Coordinated with regulatory agencies on biological issues and potential mitigation. Supervised a field crew of 3 biologists of USFWS protocol desert tortoise surveys, focused floristic [botanical] surveys, point bird counts, and habitat assessment for the western burrowing owl.

Managing Biologist for Due Diligence/Key Issues Report Pacific Valley: Supervised and conducted reconnaissance field surveys and biological constraints reporting for several sites in the Mohave Desert. A review of the sites for desert tortoise and Mohave ground squirrel sign was the primary focus of the assessment.

Managing Biologist for Due Diligence/Key Issues Report for Solel Corporation:

Supervised reconnaissance field survey and biological constraints for a site [Desert Lily and Palen] in San Bernardino County. A review of the sites for desert tortoise sign was part of the focus of the assessment.

Managing Biologist for Due Diligence/Key Issues Report for SCE: Supervised reconnaissance field survey and biological constraints for a site in San Bernardino County. A review of the sites for desert tortoise sign was part of the focus of the assessment.

Marine Corps Air Ground Combat Center, Twentynine Palms. Conducted creosote-ambrosia scrub restoration and mesquite mound recreation within tank trail adjacent to native undisturbed habitat. Designed, managed, implemented, and monitored a perennial desert shrub mycorrhizae inoculum experiment. Mr. Davis monitored restoration sites for plant success and wildlife use. Desert tortoises were amongst the species observed.

GERALD W. MONKS

NEPA and Endangered Species Specialist

Address

3115 N Hemberg Drive
Flagstaff, AZ 86004
(928) 699-6739
bioflag@gmail.com

Education and Training

- 1996- B. S. Biology (Aquatic Emphasis). Northern Arizona University.
- 1995- Graduate course work. Oregon Institute of Marine Biology.
- 1998- Graduate course work. Northern Arizona University.
- 1999- Cactus Ferruginous Pygmy-owl Protocol
Certification. USFWS and Arizona Game and Fish Department.
- 1999- Southwestern Willow Flycatcher Certification, U.S. Fish and
Wildlife Service.
- 2001- Desert Tortoise Council, Desert Tortoise Handling Workshop.
- 2002- Federal Energy Regulatory Commission. Post-certificate
Environmental Compliance Seminar.
- 2003- USFWS Mexican Spotted Owl Survey Certification

Areas of Expertise

Mr. Monks' emphasis has been on the Endangered Species Act (ESA), National Environmental Policy Act (NEPA), Clean Water Act (CWA), Native Plants, and wildlife ecology. Mr. Monks has been the lead biologist and primary author for several Biological Resource and NEPA projects including the coordination of public involvement, agency scoping, all aspects of vegetation and wildlife assessment, and Section 7 Consultations. His professional involvement has included coordinating with federal and state agencies, including the Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service, Utilities companies, and Arizona Department of Transportation. The scope of Gerald's projects has ranged from mineral exploration permitting and regulatory support, natural gas pipeline and utilities construction, commercial and residential development, road improvement projects, to biological research and mitigation planning.

Mr. Monks' experience includes several years of staff and project management. He has consistently conducted threatened and endangered bird inventory or monitoring every year since 1996, and is extremely familiar with avian, as well as fish and reptile habitat and ecology. He is experienced in all levels of field biology survey procedures, especially those concerning threatened, endangered, and sensitive species. Mr. Monks is proficient in the identification of the native plants of the Southwestern US, as well as many exotic plant species. He is currently permitted by the U.S. Fish and Wildlife Service to conduct surveys for southwestern willow flycatcher, cactus ferruginous pygmy owl, Mexican spotted owl, Northern goshawk, and several listed fish species, Kanab ambersnail, and several other species (TE-050241-3). Gerald is able to coordinate all aspects of agency coordination and consultation, field data collection, supervision of biological crews, budget procedures, technical support arrangements, and written report production. He has surveyed over 2.0 million acres of U.S. Forest service, Bureau of Land Management, National Park Service, and private lands throughout Arizona, Utah, New Mexico, Colorado, California, Texas, and Nevada. Gerald has conducted extensive surveys for federally listed endangered, threatened, or sensitive plant species including US Fish and Wildlife Region 2 federally listed plant species.

Professional Experience

- 2009-Present Transportation Consultant Engineers, Inc. NEPA Planner II. Assist Arizona Department of Transportation with environmental planning and permitting issues. Supervise performance of state on-calls.
- 2006-Present BioRecon, LLC. Principal/Senior Biologist/Sole Proprietor. Managed crews of 1 to 4 biologists for field data collection.
- 2001-2005 Carothers Environmental, LLC. Lead Biologist. Managed 1 to 6 employees as well as various on-calls.

- 1999-2001 SWCA, Inc. Environmental Specialist II. Served in a Field biologist and NEPA Writer capacity. Occasionally managed on-calls and temporary employees.
- 1998-1999 SWCA, Inc. Environmental Specialist I. Served in a Field Biologist and NEPA Writer capacity.
- 1996-1998 SWCA, Inc. Biological Field Technician.

Recent Projects

2009- Arizona Department of Transportation supplemental services contract. Provide NEPA Planner services.

2008- TetraTech Inc. Provided Wetland Delineation and Jurisdictional Waters Determination (under the Rapanos Ruling) services for large scale transmission line project. Served as lead delineator for crew.

2008- Northern Arizona University and Arizona Game and Fish Department Participated in project to analyze movement patterns of pronghorn antelope on Anderson Mesa with the intent to augment population size.

2008- AMEC Earth and Environmental. Retained as biological/construction monitor for canal building project near Indio, CA. Monitored wildlife and politically sensitive aspects of the construction project.

2008- Northern Arizona University. Retained as Crew Leader and Lead Field Biologist for large scale landscape ecological study on the Kane and Two Mile Ranches located north of the Grand Canyon. Responsible for coordination of field logistics and data collection from over 800,000 acres of challenging terrain.

2008- WLB Group. Biological Resource Assessment and Jurisdictional Waters Delineation for proposed development in Safford, AZ.

2008- Surface Rock, LLC. Biological Resource Assessment, Native Plant Inventory and consultation for new surface mine on state lands. Coordinated with ASLD.

2007- Grand Canyon Trust. Data collection from burn areas on the North Rim of the Grand Canyon to aid in the monitoring of invasive weed species.

2007- Various small developers. Pima Pineapple and Cactus ferruginous pygmy owl surveys on numerous proposed developments. Endangered Species report and basic mapping included.

2006- Quaterra Industries. Habitat Assessment and Biological Evaluation of

proposed uranium drill sites on BLM lands.

2006-Liberty Starr Gold. Habitat Assessment and Biological Evaluation of proposed uranium drill sites on BLM lands

2005-USFS, Tonto National Forest. Survey and nest monitoring for Mexican spotted owl in proposed fire treatment areas.
Documentation, mapping and recommendations for loss mitigation.

2005-Cobre Mine Company. Survey of abandoned mine shafts and adits for bats. Made recommendations as to closure of tunnels.

2004-USFS, Tonto National Forest. Survey and nest monitoring for Mexican spotted owl in proposed fire treatment areas. Documentation, mapping and recommendations for loss mitigation.

2003-Clipper Energy. Biological Resource Assessment for 80 windmill-unit windfarm near Primm, NV.

2003-USFS, Tonto National Forest. Survey and nest monitoring for Mexican spotted owl in proposed fire treatment areas.
Documentation, mapping and recommendations for loss mitigation.

2002-Peabody Western Coal. Surveys and nest monitoring for red-tailed hawk, northern goshawk, and Cooper's hawk. Conducting reproductive nest checks on over 30 documented red-tailed hawk nest sites within buffer zone around active leasehold. Conducting species-specific inventory for Cooper's hawks and northern goshawks in mine expansion areas.

2002-USFS, Coronado National Forest. Performed large area cactus ferruginous pygmy owl surveys in remote portions of the Rincon Mountains, Madera Canyon, and the Sasabe/ Arizona-Mexican border area.

2002-Cahava Springs Corporation. Performed project clearance protocol surveys for cactus ferruginous pygmy-owl for a proposed development. Documented nesting raptors within 1,000-acre proposed project area near McDowell Mountains, Maricopa County, Arizona.

2002-Johnson International. Conducted biological inventory of proposed 1,600-acre parcel near White Mountains in Apache County, Arizona.

2001-Coconino County. Performed noxious weed surveys along Lake Mary, Mormon Lake and Stoneman Lake Roads.

2001-Del Webb Corporation. Performed a biological assessment and cactus ferruginous pygmy-owl surveys of a proposed water line for the Anthem, AZ development.

2001-Cross Creek Ranch. Performed southwest willow flycatcher surveys for a proposed development along Oak Creek.

2001-Peabody Western Coal. Wildlife Monitor. Conducted special status species reconnaissance and species-specific surveys for Cooper's hawk and northern goshawk on Black Mesa in Arizona. Conducted habitat evaluations and reproductive nest checks for Mexican spotted owl and red-tailed hawks. Conducted Mexican spotted owl inventory in four survey areas on mine leasehold.

2001-Colorado Division of Wildlife. Served as principal fisheries technician for a three-year experimental fish removal project to benefit native fishes.

1999-2001-ASARCO Mining Corporation. Performed stream assessments using Macroinvertebrate Rapid Bioassessment protocols set forth by the EPA

1999-2001-El Paso Global Networks/Broadwing Communications. Lead field biologist for threatened, endangered, and sensitive species of amphibian, reptile, raptor and plants along approximately 1,000-mile right-of-way of a proposed fiber optic construction project between El Paso, Texas, and Los Angeles, California. Conducted cactus ferruginous pygmy-owl protocol surveys along 17-mile segment of project within critical habitat. Documented all nesting raptors within proposed project area and within a 1 mile buffer outside project right-of-way boundaries.

2001-1999-Grand Canyon Monitoring and Research Center. Fisheries technician for large scale Humpback Chub monitoring and nonnative fish removal in Grand Canyon, AZ.

2000-Arrowhead Ranch HOA. Performed electroshocking survey and boat logistical services for urban fisheries study of Arrowhead Lake, Phoenix, AZ.

2000-US Geological Service. Performed electroshocking and boat logistical services for ongoing fish toxicology monitoring in Las Vegas Bay, Lake Mead, NV.

2000-El Paso Global Networks. Performed jurisdictional waters (401/404) determinations for a 1,000-mile long section of proposed fiber optic route between Texas and California.

1999- Southern Nevada Water Authority. Large scale fish salvage of pipeline construction area in Lake Mead, NV. Responsible for all aspects of equipment, logistics and data collection.

1999-City of Cottonwood, AZ. Retained to identify Jurisdictional Waters of the U.S. in the town of Cottonwood, AZ for re-channeling purposes.

1999-Hualapai Tribe and the BIA. Retained to identify Jurisdictional Waters of the U.S. along several proposed road ROW on the Hualapai Reservation.

1998-Parsons-Brinkerhoff and Level 3. Served as part of field crew for large scale wetland delineation project extending from Texas to Tennessee.

1996-1998-Hualapai Tribe. Identification of benthic invertebrate samples,

fish gut samples, and radio telemetry of reintroduced razorback suckers in western Grand Canyon, AZ.

1996-Phelps Dodge Development Corporation. Fish removal and salvage in large construction zone in the Verde River, Clarkdale, AZ, followed by lengthy construction monitoring and SWPPP implementation.

Professional References

Kenneth R. Carothers. CEO/Principal of Carothers Environmental, LLC. 928.301.3103.

Dr. Steven Carothers. Chairman of the Board SWCA, Inc. Flagstaff, AZ. 928.774.5500.

Dr. Brett Dickson. David H. Smith Conservation Research Fellow. Center for Environmental Sciences and Education. Northern Arizona University. 928.523.3592.

Ethan Aumack. Director of Restoration. Grand Canyon Trust. 928.774.7488.

Wes Speakes. Natural Resources Division Director. AMEC Earth and Environmental. 951.369.8060.

Craig J. Knowles, PhD
FaunaWest Wildlife Consultants
Senior Wildlife Ecologist, Partner

Ph.D. Zoology, 1982. University of Montana.

Dissertation Title: Habitat Affinity, Populations, and Control of Black-tailed Prairie Dogs on the C.M. Russell National Wildlife Refuge.

M.S. Fish and Wildlife Management, 1975. Montana State University

Thesis Title: Range Relationships of Mule Deer, Elk and Cattle in a Rest-Rotation Grazing System During Summer and Fall.

B.S. Fish and Wildlife Management, 1973. Montana State University

REPRESENTATIVE PROJECTS

Desert Tortoise Surveys:

EDAW/ABENGOA SOLAR. Assisted as a subcontractor conducting desert tortoise surveys on a proposed thermal solar energy site near Harper Lake, California. The project area covered approximately 7 square miles and was conducted in 2008 and 2009.

Western Technologies Inc. (subcontract). Conducted Phase I desert tortoise surveys on over 10,000 acres of private lands in Clark County, Nevada during a 2 year period. Parcels of land scheduled for development were intensively searched for tortoises and tortoise sign and each search effort was followed by a written report detailing the findings. The work included preparation of mitigation plans for Section 10a permits and Biological Assessments for Section 7 consultation. Additional work in Clark County included Phase II desert tortoise removal surveys on 2,600 acres. FaunaWest organized and supervised a crew of 15 people to remove 380 tortoises between 11 June and 5 November 1990 on six parcels of lands under the authority of Nevada Dept. of Wildlife. Reports summarizing the results of the surveys were submitted to NDOW and clients received certificates of desert tortoise removal. We also designed effective tortoise proof fences and monitored fence construction activity for the four largest parcels.

Knight & Leavitt & Associates (subcontract). Conducted a variety of desert tortoise surveys and mitigation for Knight & Leavitt clients. These included surveys in Valley of Fire State Park, a powerline survey and mitigation near Mesquite, Nevada, a proposed golf course site on the **Shivwits Indian Reservation**, a proposed belt-way around Las Vegas, and a proposed development at a desert spring. The latter three projects also involved desert bighorn sheep, small mammal, breeding bird and bat surveys.

SRI International. Conducted desert tortoise surveys at six candidate Ground Wave Emergency Network sites in Nye County Nevada, and at proposed NEXRAD radar and National Weather Service Office sites. The radar site survey was at Nelson Peak and included desert bighorn sheep observations.

Terracon Consultants. Conducted desert tortoise surveys on 2,000 acres of land in the Las Vegas Valley proposed for exchange between private developers and the Federal government. The survey work was summarized in reports submitted to the BLM. We also served as the ID team leader and wrote two NEPA sufficient Environmental Assessments for the land exchanges that were subject to public comment.

Bureau of Land Management. Conducted surveys for desert tortoises in the Mojave Desert at the Stoddard Valley desert tortoise trend plot in 1987, the Chemehuevi Wash and Desert Tortoise Natural Area trend plots in 1988, and the Fremont Peak trend plot in 1989. Also conducted a survey for diseased desert tortoises within and adjacent to the Desert Tortoise Natural Area in 1989. Detailed reports summarizing the findings of these studies were submitted to the BLM in accordance with contract requirements. We also have worked as a subcontractor on another Californian BLM trend plot and a Nevada Dept. of Wildlife trend plot.

Prairie Dog Conservation:

Tetra Tech/Montana Dept. of Fish, Wildlife and Parks: Visited approximately 200 prairie dog towns in Phillips County, Montana during the fall and winter of 2007-2008. Determined if the towns were active or inactive, and for active towns determined if they showed signs of plague activity. Active towns were mapped using a GPS unit. SSF files were given to Tetra Tech for differential correction.

FaunaWest Research Projects/Defenders of Wildlife/FanwoodWest

Foundation/Nature Conservancy. Conducted a study, on black-tailed prairie dog ecology at a colony located on the Charles M. Russell National Wildlife Refuge. Supervised a project to live-trap and move prairie dogs located at Fort Harrison, MT to a new location at the base and to an abandoned colony on the CMR, and moved 150 prairie dogs from a private prairie dog colony at Shelby, MT to the same abandoned colony on the CMR. Moved 600 prairie dogs from private lands to 4 sites on the Matador Ranch in southern Phillips County as a first step to develop a large prairie dog complex.

Fort Belknap Community Council. Devised a management plan for black-tailed prairie dogs on the Fort Belknap Indian Reservation. Initiated a food-for-ferret program designed to supply captive ferrets with a prairie dog food source.

Northern Cheyenne Tribe/Defenders of Wildlife. Wrote a prairie dog ecosystem management plan for the Tribe and worked on 8 separate range units developing grazing strategies for management of prairie dogs. Relocated prairie dogs from a recovered plague impacted prairie dog colony on the Northern Cheyenne Reservation to two abandoned prairie dog colonies.

Defenders of Wildlife, US Fish and Wildlife Service, & Environmental

Defense/National Wildlife Federation. Developed three black-tailed prairie dog status reports. Wrote a status report on the white-tailed and Gunnison's prairie dog.

Charles M. Russell NWR & Fort Belknap Community Council. Collected fleas from prairie dog burrows and sent specimens to the CDC for plague monitoring programs.

Montana Fish, Wildlife & Parks. Conducted a statewide inventory of black-tailed prairie dogs using GPS-based mapping.

BIA. Inventoried prairie dog colonies on the Crow Indian Reservation using GPS-based mapping.

North Dakota Game and Fish Dept. Developed a prairie dog population viability analysis for North Dakota. Conducted a state-wide prairie dog mapping project locating and mapping prairie dog colonies throughout their range in North Dakota in 2002 and 2006. Interviewed over 200 ranchers during both projects.

USDA Forest Service. Mapped black-tailed prairie dog colonies on the Little Missouri and Grand River Grasslands.

BLM. Mapped prairie colonies in the Phillips, Billings, Miles City and Belle Fourche resource areas.

South Dakota Game, Fish and Park. Studied prairie rattlesnake hibernation in prairie dog colonies on the Grand River National Grassland.

Black-footed Ferret Surveys: Conducted numerous black-footed ferret surveys for a variety of clients including Fort **Belknap Community Council**, Shell Mining Co., BioWest, Inc., Biota Research and Consulting, Inc., **BIA** and the Charles M. Russell National Wildlife Refuge. The surveys were conducted at a proposed mine site, along proposed WPA power transmission line, gas pipeline routes, a road construction project, and in advance of a prairie dog control programs. A biological assessment was written for the Fort Belknap Indian Reservation. We have also provided black-footed ferret survey training to **Tribal** members and assisted in locating reintroduced ferrets at **Fort Belknap**.

Additional ferret experience includes a temporary five month assignment with the US Fish and Wildlife Service in 1983 to assist in trapping, spotlighting, and tracking radio-marked ferrets near Meeteetse, WY.

Mountain Plover Surveys: **US Fish and Wildlife Service.** Collected 18 mountain plover eggs from 18 nests located on the Charles M. Russell National Wildlife Refuge and delivered them to the USFWS for a pesticide and selenium contamination study.

Bureau of Land Management. Conducted an 8 year study of mountain plovers in Montana evaluating historic mountain plover records to determine the current distribution. Established permanent census transects and conducted detailed observations in three areas occupied by mountain plovers. Submitted annual reports to the BLM summarizing the findings at the conclusions of each year's survey. Surveyed over 100 prairie dog colonies in the Billings Area Office district for mountain plovers and significantly expanded the known range of mountain plovers in Montana

Pre-mine Wildlife Surveys:

Homestake Mining Co. Conducted spring breeding bird, raptor, small mammal, and big game surveys at the Homestake's Lead mine site in the Black Hills of South Dakota over a three year period. Work involved monitoring impact areas, control sites, a reclamation site, and a mitigation project. Also conducted a similar three year project at the Homestake's proposed tailings recovery project along Whitewood Creek. All field surveys were summarized in reports as part of the mine permitting process.

American Colloid. Conducted a ferruginous hawk nest survey of the Thompson Creek drainage near Alzada, MT to monitor bentonite mining impacts to this species.

Rohn Consulting. Conducted surveys for sage and sharp-tailed grouse, and raptors at a site proposed for coal bed methane gas development near Decker, MT.

Other pre-mine wildlife monitoring projects conducted for **Chadwick and Associates** include an oil shale project in eastern Kentucky, several bentonite mine sites in Wyoming, uranium mine sites in Wyoming and Colorado, and coal mine sites in Wyoming.

Breeding Bird and Raptor Surveys:

South Dakota Game Fish and Parks. Conducted a survey for northern goshawks, boreal owls, flammulated owls, and other raptors in the Black Hills. This project is now in its 7th year and is focused primarily on the northern goshawk.

Charles M. Russell NWR. Conducted a survey for breeding birds along two drainages with differing levels of livestock grazing.

Bureau of Land Management. Conducted a one-year contract surveying the deserts of southern California for relative density and distribution of common ravens. Work involved covering 6,000 miles of vehicle routes monthly, and visiting 25 landfills and 17 sewage ponds twice a month. Special effort was placed on recording raven use of power transmission lines.

Bureau of Land Management. Looked for peregrine falcons and other raptors along the Missouri River from Coal Banks to Judith Landing prior to the reintroduction of peregrines to this area.

The Nature Conservancy. Conducted a survey of the Nature Conservancy's Matador Ranch in north-central Montana for sage grouse leks, mountain plovers, burrowing owls, and other raptors. Also located and mapped prairie dog colonies.

US Forest Service/South Dakota Game Fish and Parks. Conducted golden eagle ferruginous hawk and prairie falcon surveys on the Little Missouri National Grassland. Conducted a raptor survey, burrowing owl survey and Baird's sparrow/Sprague's pipit survey on the Grand River National Grassland. Conducted an aerial survey for golden eagles and other raptors in northwestern South Dakota.

South Dakota Game Fish and Parks. Conducted an aerial survey of northwestern SD for golden eagle nests and other raptors of interest.

South Dakota Game Fish and Parks. Conducted a survey for burrowing owls on prairie dog colonies on the Grand River National Grassland in 2001 and 2005.

USDA Forest Service. Conducted a sharp-tailed grouse lek surveys on the Little Missouri National Grassland, ND in 2005 and 2009.

Expert Witness: Provided a coalition of sportsman's groups and environmental groups with expert witness concerning wildlife issues on an appeal of the Deerlodge National Forest Final Forest Plan. Later, we participated in a negotiated settlement of the Forest Plan.

Sierra Club Legal Defense Fund, Inc. Provided information on prairie dog control in EPA hearings on the use of strychnine for the control of prairie dogs.

National Wildlife Federation. Provided advice and assessments on various projects of interest to the NWF.

Writing and/or Reviewing Technical Papers:

MT. Coop. Wildl. Res. Unit. Critically reviewed professional papers by foreign authors, edited and wrote chapters in a book on pronghorns, and designed a study proposal to evaluate wolf depredation on livestock.

Montana Dept. Fish, Wildlife and Parks. Prepared a report on swift fox taxonomy and ecology, and a bibliography of literature on swift and kit foxes.

U.S. Forest Service. Prepared an extensive document and bibliography on presettlement wildlife and habitat of Montana and adjacent areas.

U.S. Forest Service. Prepared a summary of prairie dog management for the Custer Forest with special reference to the Little Missouri and Grand River National Grasslands.

AFSEEE. Wrote a critique of Forest Service Region 1 range management and wildlife management programs.

CHEC. Wrote a critique of the Butte District BLM range management program and contributed to the Range Reform issue of the Different Drummer magazine.

Defenders of Wildlife. Prepared a black-tailed prairie dog status report for the central and northern Great Plains. Provided the US FWS an updated report in 1998.

CHEC. Prepared a status report on the bull trout for publication in the Different Drummer magazine.

Charles M. Russell NWR. Prepared a detailed report evaluating CMR riparian habitat and livestock grazing practices in relation to bird and small mammal populations.

Endangered Species Surveys: BioWest Inc. (subcontract). Conducted surveys along proposed pipeline right-of-ways for the San Joaquin kit fox, giant kangaroo rat, blunt-nosed leopard lizard, and two species of ground squirrels in the Mojave Desert and San Joaquin Valley, California. Also conducted surveys for the Utah prairie dog along the pipeline ROWs in Utah. Information from these surveys was summarized in a Biological Assessment.

Furbearer Survey: Bureau of Indian Affairs. Conducted furbearer surveys of Flathead Lake and River on the **Flathead Indian Reservation**, Montana.

Wildlife Guide Service: Waterhen Film Productions. Provided a contract photographer for the BBC with advice and assistance in locating and filming mountain plovers and other wildlife on the Charles M. Russell National Wildlife Refuge.

Bison Restoration: Fort Belknap Indian Reservation. Wrote a bison management plan and helped present the information to the Tribal Council. Conducted a workshop on bison ecology and management at the Fort Belknap Indian Reservation. Wrote a bison quarantine plan for the Reservation to provide a non-lethal exit for migrating Yellowstone Park bison. Wrote a bison management plan for the **Fort Peck Tribes**.

FaunaWest Project. Organized and conducted a meeting on bison reintroduction in Montana. Based on this meeting, developed a paper on suitability of Montana wildlands for bison reintroduction. This paper was submitted to Montana Fish, Wildlife and Parks as a proposal for FWP to develop an EIS on reintroduction of bison into four areas of Montana.

FaunaWest Project. Own and manage a small bison herd for observational purposes.

Swift Fox Reintroduction: Defenders of Wildlife/Blackfeet Reservation. Conducted a pre-release site assessment for swift fox reintroduction on the **Blackfeet Indian Reservation** and assisted in releasing the foxes. Also conducted a post release survey for foxes on the **Reservation**. Worked with the **Dakota Zoo** and **Cochrane Ecological Institute** to transport surplus swift foxes to the CEI. Currently working with several regional zoos to develop captive breeding programs for swift fox reintroductions on Reservations. Conducted swift fox habitat assessments for potential reintroduction of foxes on the Fort Peck, Fort Belknap and Northern Cheyenne Reservations.

Montana Fish, Wildlife and Parks. Conducted a standardized track and scat survey for swift foxes in north-central, northeastern, and southeastern Montana counties.

NEPA PROJECTS: Redlodge Mountain Ski Area/Custer National Forest. Wrote the wildlife and botanical resources section of a Custer National Forest EIS for expansion of the Redlodge Mountain Ski Area. This work included field surveys for specific wildlife and plant species.

Terracon, Inc. Wrote two Environmental Assessments for land exchanges in the Las Vegas Valley. The land exchanges were between private developers and the BLM, and involved a Federally listed threatened wildlife species.

Custer National Forest. Provided assistance to the Custer National Forest, Ashland Ranger District on impact analysis and writing the wildlife resources section for a timber sale EA.

ORB Engineering, Inc. Conducted field surveys and wrote the plant and wildlife resources section of an EA for a FAA regional radar station near Great Falls, MT. Waterfowl flight paths were a major issue for this EA.

Morrison and Maierle, Inc. Conducted field surveys for wildlife resources and wrote the wildlife sections for Environmental Assessments at proposed airport sites at Malta and Hardin, MT.

Maxim Technologies, Inc. Conducted site inspections of over 30 proposed game farms or existing game farms with proposed expansion projects. Information gathered during the site inspections and from agency interviews was used to write the wildlife sections of Environmental Assessments and one Environmental Impact Statement. These documents were prepared for Montana Fish, Wildlife and Parks. In addition, I attended public meetings for two game farms and several meetings with FWP and DOL. Wrote the wildlife section of a game bird farm/shooting preserve EIS. This work was based on visits to several game bird farms and shooting preserves, agency interviews, and a literature review. This document was prepared for Montana Fish, Wildlife and Parks. Conducted field surveys for wildlife resources along a 20 mile proposed gas pipeline route in north-central Montana and wrote the wildlife section for the EA addressing impacts of the proposed project.

Montana Dept. of Military Affairs. Wrote an EA describing the management alternatives for black-tailed prairie dogs located at Fort Harrison, MT.

Vegetation Survey: U.S. Forest Service, Missoula Forest Research Center. Conducted a habitat analysis of sites used by radio-marked elk along a BPA power line route in western Montana.

INTERNATIONAL PROJECTS

Wildlife Training Seminar:

U.S. Fish and Wildlife Service. Participated in a US FWS sponsored wildlife conservation training program for Pakistani government wildlife biologists. Following the one month seminar, two months were spent traveling through Pakistan visiting and advising on various wildlife projects, and providing assistance in setting up new research studies. After leaving Pakistan, 3 months were spent traveling through Nepal, Burma, and Thailand, visiting other wildlife biologists and Parks.

Bird and Mammal Collections:

MT. Cooperative Wildlife Research Unit. Collected Montana birds and mammals and prepared them as museum specimens for a collection sent to the Northwest Plateau Institute of Biology in Qinghai, China.

University of Montana Mammalogy Museum: Collected small mammals in both the mountains and jungles of southern Peru and prepared them as museum specimens for the University of Montana collection.

Peruvian Spectacled Bear Study: **New York Zoological Society.** Assisted on an ecological study of the spectacled bear in the Andes of southern Peru for 6 months.



Lori Rachelle Bono

Biologist

Areas of Expertise

- Threatened and Endangered Species
- Biological Assessments
- Compliance Monitoring
- Bat Call Analysis

Years of Experience

With URS: 8 months

With Other Firms: 2.5 Years

Education

Masters of Science, Biology, In Progress, California State University, Fresno

Bachelors of Science, Biology, 2004, California State University, Fresno

Minor, Agricultural Business, 2004, California State University, Fresno

Minor, Communicative Disorders, 2004, California State University, Fresno

Associate of Science, Agricultural Business, 2000, College of the Sequoias

Permits/Certification

Department of Fish and Game Scientific Collecting Permit #SC-009294

United States Fish and Wildlife Service Federal Permit for California Tiger Salamander and vernal pool branchiopods (pending)

United States Fish and Wildlife Service Memorandum of Understanding (MOU) for California Tiger Salamander (pending)

Department of Fish and Game, Level II Blunt-Nosed Leopard Lizard Researcher

Overview

Ms. Bono has been engaged in the field of biology and executing comprehensive biological assessments and studies in support of a wide variety of projects. She has three years of professional experience, serving in both a research and consultant capacity. Her biological experience includes investigations for educational, commercial, residential, industrial and municipal facilities; roads, bridges, and other transportation projects; solar power plants; water retention basins, and waste management facilities. Her technical background also includes numerous assignments involving compliance monitoring, preparation of Biological Assessments, Natural Environment Studies and the biological section of Environmental Impact Reports.

Project Specific Experience

Transportation

Biologist, Red Rock Canyon Bridge Replacement, Kern County,

CA: Ms Bono conducted desert tortoise, floristic and bat acoustic surveys and prepared the Natural Environment Study and Biological Assessment for the project. She also initiated consultation with the United States Fish and Wildlife Service to obtain a Biological Opinion for the project.

Biologist, Wolfsen Road Rehabilitation Project, Merced County,

CA: Ms Bono conducted a reconnaissance level field survey of the project site and prepared the Section 401, 404 and 1602 permits for the project.

Biologist, Freeway 180 Westside Expressway, Fresno County, CA:

Ms Bono reviewed and revised the Biological Assessment and Natural Environment Study that was prepared for the project.

Biologist, Shepherd Curve Realignment Project, Fresno County,

CA: Ms Bono conducted a reconnaissance level field survey and protocol level floristic surveys of the project site and prepared the Natural Environment Study and Biological Assessment for the project.

Biologist, Kern 46 Segments 1 through 3, Kern County, CA:

Ms Bono conducted reconnaissance level field surveys and participated in small mammal trapping surveys on each of the three segments. She also conducted protocol level blunt-nosed leopard lizard surveys and prepared a 1602 permit for Segment 3 of the project.



Survey Experience

- Fairy Shrimp (dry and wet season sampling)
- California Tiger Salamander (adult and larval sampling)
- Bats (including call analysis)
- Blunt-Nosed Leopard Lizard (Level II)
- San Joaquin Kit Fox (including den collapsing and track stations)
- Elderberry
- Fisheries (including electroshocking and water analysis)
- Floristic
- Small Mammal Trapping
- Giant Kangaroo Rat
- Swainson's Hawk & Migratory Birds
- Burrowing Owl
- Desert Tortoise
- Vernal Pool Mapping
- Soil Moisture Measurements
- Prescribed Burn

Power

Assistant Biologist, Ausra Solar Power Plant, Carrizo Plain, CA: Ms Bono conducted protocol adult and juvenile blunt-nosed leopard lizard surveys on the project site.

General Plan/Community Plan Updates

Assistant Biologist, City of Selma General Plan Update, Fresno County, CA: Ms Bono conducted reconnaissance level field surveys of the Planning Area and prepared the biological section of the Environmental Impact Report.

Dairies/Confined Animal Feeding Operations

Assistant Biologist, G.J. te Velde Ranch, Tulare County, CA: Ms Bono conducted reconnaissance level field surveys of the project area and prepared a biological assessment for a dairy herd size expansion and facility improvement.

Assistant Biologist, GTA Dairy, Tulare County, CA: Ms Bono conducted reconnaissance level field surveys of the project area and prepared a biological assessment for a dairy herd size expansion and facility improvement.

Assistant Biologist, Lansing Ranch, Kings County, CA: Ms Bono conducted reconnaissance level field surveys of the project area and prepared a biological assessment for a dairy herd size expansion and facility expansion.

Wastewater Treatment Facilities

Assistant Biologist, Reedley Waste Water Treatment Plant, Fresno County, CA: Ms Bono performed preconstruction surveys for nesting raptors and surveyed project and surrounding areas for Valley elderberry longhorn beetles. She also monitored construction workers and conducted worker environmental education.

Residential and Industrial

Assistant Biologist, Yokohl Valley Ranch Project, Tulare County, CA: Ms Bono scheduled and coordinated field research efforts among crew leaders and project staff. She performed spring floristic surveys for special status plant species, vernal pool mapping, Swainson's hawk surveys, bat surveys and bat call analysis (via Sonobat), dry and wet season fairy shrimp sampling, small mammal trapping and identification, valley elderberry longhorn beetle surveys, California tiger salamander surveys, blunt-nosed leopard lizard surveys, San Joaquin kit fox surveys and stream electro-shocking to determine presence/absence of native California



lamprey and California roach. She also served as a junior level author of the biological report.

Assistant Biologist, Dunmore Communities, Kings County, CA: Ms Bono conducted preconstruction surveys for blunt-nosed leopard lizards, San Joaquin kit foxes and burrowing owls.

Assistant Biologist, Sugar Plum Homes, Kings County, CA: Ms Bono performed protocol level surveys for the San Joaquin kit fox, which included nightly spotlighting routes and track stations.

Assistant Biologist, South I Street Industrial Park, Tulare, CA: Ms Bono conducted reconnaissance level field surveys of the planning area and prepared a biological assessment for the conversion of agricultural land into commercial and industrial land.

Research

Graduate Student Researcher, National Science Foundation-Emerging and Infectious Diseases Grant—Identifying the Control and Flow of Pathogens from the Land to the Sea: Tracking *Toxoplasma* from Cats to Sea Otters, California State University Fresno, Fresno, CA: Ms Bono served as a field assistant and was responsible for the collection of ectoparasites and blood samples, via retro-orbital bleeds, from rodent populations in Morro Bay and Los Osos, California during entomological research of *Toxoplasma gondii*.

Graduate Research Assistant, Soil Moisture/GAP Analysis Experiment, California State University Fresno, Fresno, CA: Ms Bono assisted in the installation and location of Gap plots and transects in the Sequoia National Forest and was responsible for collecting soil moisture measurements, taking hemispherical photos, and maintaining accurate data records. Involved extensive off-trail hiking carrying heavy loads.

Project Director/Research Assistant, Seed Rain Experiment, California State University, Fresno, Fresno, CA: Ms Bono served as the lead assistant conducting an experiment monitoring seed rain in the Sierra National Forest at the Teakettle Research Station. She was responsible for organizing a team of student researchers, locating plots with compass and topographic maps, emptying seed traps, counting, identifying and recording seed species, and analyzing seed data. Required intense off-trail hiking and maintenance and repair of seed traps.

Professional Societies/Affiliates

The Wildlife Society

The Nature Conservancy

World Wildlife Fund



Awards

2006/Faculty Sponsored Student Research Grant/California State University, Fresno

2006/Travel Grant/California State University, Fresno

2005/Faculty Sponsored Student Research Grant/California State University, Fresno

Languages

American Sign Language

Specialized Training

November 2009/Passport Training Refresher course for Oil Fields

August 2009/Fairy Shrimp and Tadpole Shrimp Identification Class Offered by Mary Belk

April 2009/Section 7 Consultation Workshop Offered by U.S. Department of Transportation

2009/Endangered Species and Regulation Course Offered by University of California, Davis

2008/Passport Training for Oil Fields

2008/Desert Tortoise Handling and Survey Workshop Offered by the Desert Tortoise Council

2008/The California Tiger Salamander Workshop Offered by the Alameda County Resource Conservation District

May 2007/Fairy Shrimp and Tadpole Shrimp Identification Class Offered by Mary Belk

Chronology

2009-Present: URS/Fresno, California

2007-2009: Quad Knopf, Incorporated/Visalia, California

2004-2007: California State University Fresno/Fresno, California

Contact Information

URS Corporation
30 River Park Place West, Suite 180
Fresno, CA 93720
Tel: 559.256.1444
Direct: 559.243.8288
Fax: 559.256.1478
lori_bono@urscorp.com



Julie Love

Biologist and Restoration Ecologist

Areas of Expertise

- Restoration Planning, Implementation, and Monitoring (Coastal sage scrub, Riparian, Wetland, Grassland, Bioswales)
- Botany
- Vegetation Surveys and Mapping
- Wetland Delineations and Jurisdictional Determinations
- Special-Status Wildlife Surveys
- Stormwater Monitoring
- Stream Monitoring (Algae and Water Quality)
- Fish Relocation
- Marine Biology

Years of Experience

With URS: 4 Years

With Other Firms: 4 Years

Education

MS/Environmental Science and Management/2003/University of California, Santa Barbara

BS/Marine Biology/2000/University of California, Los Angeles

Permits

California Department of Fish and Game Scientific Collecting Permit SC-10045

U.S. Fish and Wildlife Service
Recovery Permit for Tidewater Goby #TE-217402

Overview

Ms. Love's combined work experience and education provide a wide range of ecological training with over 8 years of experience working in the fields of habitat restoration, botany, marine biology, terrestrial wildlife, and ecosystem inventory, assessment, and monitoring. Ms. Love's position at URS involves managing and coordinating habitat restoration and monitoring, botanical surveys, vegetation surveys and mapping, wetland delineations and jurisdictional determinations, habitat assessment, special-status wildlife surveys, stormwater monitoring, stream and algae monitoring, fish relocation, and database management.

URS Specific Experience

Special-Status Wildlife Surveys

Desert Tortoise Survey, Johnson Valley, CA. Solel. 45 hours. Performed USFWS protocol 100% coverage desert tortoise surveys on a 9,315 acre site in the Mojave Desert. Performed survey to assess habitat quality for desert tortoise. Mapped, photographed, and cataloged habitat suitability and vegetation types. April - May 2008.

Desert Tortoise Survey, Mojave Desert, CA. 40 hours. Performed meandering transect desert tortoise surveys. Performed survey to assess habitat quality for desert tortoise. Mapped, photographed, and cataloged habitat suitability and vegetation types. Mapped jurisdictional drainages. April 2007.

Blunt-Nosed Leopard Lizard Survey, California Valley, CA. Ausra.

3 days. Performed CDFG protocol survey in the Carrizo Plain to assess habitat quality for Blunt-Nosed Leopard Lizard. June 2007.

Blunt-Nosed Leopard Lizard Survey, California Valley, CA. SunPower Corporation Systems.

26 days. Performed CDFG protocol survey to assess habitat quality for Blunt-Nosed Leopard Lizard for a 4,575 acre site in the Carrizo Plain. May through September 2009.

Burrowing Owl Surveys, Antelope Valley, CA, NextLight, Spring 2009:

Performed Phase I and Phase II Burrowing Owl Consortium protocol surveys for a 2,000-acre site in the Mojave Desert. Mapped potential burrows and documented signs of use such as pellets and whitewash.

Jurisdictional Determinations

Jurisdictional Determination, California Valley, CA. Performed jurisdictional determination for a 4,575 acre site. Lead author for the technical report. July 2008 and March 2009.



Jurisdictional Determination, Antelope Valley, CA. Performed jurisdictional determination mapping for a 2,000 acre site. Lead author for the technical report. January 2009.

Jurisdictional Determination Mapping, Johnson Valley, CA. Performed jurisdictional determination mapping for a 9,315 acre site. April - May 2008.

Vegetation Surveys and Mapping

Botanical Survey and Vegetation Mapping, California Valley, CA. SunPower Corporation Systems. Performed focused botanical survey for a 4,575 acre site in the Carrizo Plain. Documented existing vegetation in compliance with USFWS and CDFG botanical survey protocol. Spring 2009.

Botanical Survey Botanical Survey and Vegetation Mapping, Antelope Valley, CA. NextLight. Performed focused botanical survey for a 2,000 acre site in the Mojave Desert. Documented existing vegetation in compliance with USFWS and CDFG botanical survey protocol. Spring 2009.

Rare Plant Survey, Yucaipa, CA. Federal Emergency Management Agency. Performed a rare plant survey in a riparian habitat and associated flood plain. Photographed and documented existing vegetation.

Botanical Survey Botanical Survey and Vegetation Mapping, Johnson Valley, CA. Solel. Performed focused botanical surveys for a 9,315 acre site in the Mojave Desert. Documented existing vegetation in compliance with USFWS and CDFG botanical survey protocol. March – May 2008.

Permits

- California Department of Fish and Game Scientific Collecting Permit for mammals, reptiles, amphibians, vernal pool/terrestrial invertebrates, freshwater and anadromous fishes, and freshwater invertebrates # SC-10045
- U.S. Fish and Wildlife Recovery Permit for Tidewater Goby (*Eucyclogobius newberryi*) #TE-217402 (Pending)

Specialized Training

- San Luis Obispo County Workshop for Biologists, December 2008
- Basic Wetland Delineation Training (40-hour), Wetland Training Institute, 2008
- Riparian Mapping and Species Identification Workshop, California Native Plant Society, 2007
- Using Native Grasses and Graminoids in Restoration and Revegetation, California Native Grasslands Association Workshop, May 2007



- Noxious Weed Seminar, Agricultural Commissioner's Office, June 2005
- American Red Cross First Aid and CPR Certified, 2006-Present
- Pesticide application certification for the U.C. System, July 2004
- NAUI Scuba Certified, September 1998 - Present
- NAUI Scuba Certified Research Diver Certified, 1998-1999

Contact Information

URS Corporation
130 Robin Hill Road, Suite 100
Santa Barbara, CA 93117
Tel: 805.964.6010 ext. 367
Cell: 805.252.5135
Fax: 805.964.0259
Julie_Love@urscorp.com

Areas of Expertise	Listed Species Surveys, Monitoring, Habitat Assessment and Research Habitat Conservation Planning Wildlife Corridor Assessment Biological Impact Assessment ESA/Wetlands Permitting Vegetation Mapping and Botanical Surveys NEPA/CEQA Permitting and Environmental Analysis FEMA/NISTAC Hazard Mitigation Program NEPA Analysis Risk Assessment and Hazard Mitigation Planning Task Management
Total Years of Experience	11
URS	9
Other Firms	2
Education	BA/1999/Biology/Marine Science/University of San Diego
Supplemental Training	Flat-tailed horned lizard Identification Training by BLM (2007) Blunt-nosed leopard lizard Identification Training by The Wildlife Society (2007) California Fairy Shrimp Identification Class by Mary Belk (2006) Federal Wetland/Waters Regulatory Policy Training by Wetland Training Institute (2006) SW Willow Flycatcher Training By Mary J. Whitfield, Kern River Preserve, CA (2002) Desert Tortoise Survey and Handling Workshop by HDR (2001) Wetland Delineation Training by Richard Chan (2001)
Registration/Certification	Certified Ecologist, Ecological Society of America, 2009-Present U.S. Fish and Wildlife Service Recovery/Permit No. TE-135968-1 <ul style="list-style-type: none"> • California Gnatcatcher (Presence/Absence Surveys) • California Fairy Shrimp Blunt-nosed leopard lizard - Level II Surveyor
Overview	Ms. Theresa Miller is a USFWS-permitted wildlife biologist with more than 11 years of experience and expertise in California sensitive species, especially in southern and central California. She conducts biological surveys with a focus on birds, reptiles and amphibians, and mammals, and develops technical reports and planning documents. Specializing in environmental projects, she has participated in and managed many aspects of focused wildlife and habitat surveys and written many biological resources evaluations for NEPA/CEQA and FEMA documents. Her project experience has involved task management, agency coordination, GIS/GPS analyses, GIS modeling, database development, and risk assessments for hazard mitigation planning for numerous public and private agencies.
Project Experience	<u>BIOLOGY/ NEPA/CEQA ENVIRONMENTAL PLANNING PROJECTS</u> Calico Solar Energy Facility AFC and EIS, San Bernardino County, CA. Biologist/team leader on survey team in support of an Application for Certification for an 800MW thermal generating facility located within San Bernardino County. The project will cover 15,000 acres and will include over 36,000 solar dishes. Desert tortoise, Mohave ground squirrel, Mojave fringe-toed lizard, vegetation mapping, and rare plant surveys were conducted over the project area. Also conducted 100% belt transect surveys for desert tortoise for the SCE transmission line between the Pisgah and Lugo substations. (2007-present).

Soda Mountain Solar– Mojave Desert, California. Field biologist conducting desert tortoise and rare plant surveys in support of solar energy project in the Mojave Desert, east of Barstow, California. A total of approximately 40 hours were spent conducting focused desert tortoise surveys. (2009)

Kinder Morgan California-to-Nevada Pipeline. Biologist and task/team leader for pipeline project from Colton, CA to Las Vegas, NV. Coordinated and led over 25 biologists in desert tortoise, Mohave ground squirrel, vegetation mapping and jurisdictional delineations along a 500-and 1000-foot buffer of 234 miles of pipeline ROW (2008).

Nursery Products Composting Facility Initial Study (IS)/Mitigated Negative Declaration (MND)/Environmental Impact Assessment (EIR), San Bernardino, CA. 2006. Biology Task Manager for the proposed development of a 160-acre biosolids/green waste composting facility in San Bernardino County. Coordinated and lead field team for USFWS protocol desert tortoise surveys and rare plant surveys, and prepared biotechnical report as well as biology section of EIR (2006).

Colorado River Aqueduct Operations and Management Habitat Conservation Plan, MWD of Southern California. - GIS Specialist, field coordinator and field biologist on team performing 2 seasons of desert tortoise and rare plant surveys along the length of the Colorado River Aqueduct from western Riverside County, California to Parker, Arizona. Created GIS field maps and species locations maps for use in determining conservation areas for the HCP within MWD ownership. Field coordinator for 12 biologists and subcontractors from several offices during second year of surveys which focused on rare plant surveys for 41 sites. Observed tortoise and identified tortoise burrows and sign. Compiled and analyzed several years of data collection including 2 years of survey data, and prepared HCP document and appendices (2004-2006).

Imperial Valley Solar Energy Facility AFC and EIS, Imperial County, CA. Biologist/team leader for biological surveys in support of an Application for Certification for an 800MW thermal generating facility located within Imperial County. The project will cover 6,300 acres and will include 12,000 – 36,000 solar dishes. Project included flat-tailed horned lizard focused surveys, vegetation mapping, and rare plant surveys (2007-present).

SunPower California Valley Solar Ranch, CA. Biologist/field leader for blunt-nosed leopard lizard survey team in support of a Conditional Use Permit for a photovoltaic facility located within San Luis Obispo County. The project survey effort covered 19,000 acres. Other species observed included San Joaquin kit fox (2009).

Professional Associations

Ecological Society of America Member, (2002-Present)
The Wildlife Society Member, (2001 – Present)
Association of Environmental Professionals, Member, (2000–Present)
Women’s Environmental Council, Member, (2002 - Present)

Areas of Expertise	Wildlife Biology, Biological Monitoring, Biological Resource Assessment, Desert Tortoise Surveys, Burrowing Owl Surveys, and Flora and Fauna Identification
Years of Experience URS	4.5
Education	B.S./ 2006/ Marine Biology/ California State University, Long Beach B.S./ 2006/ Zoology/ California State University, Long Beach Minor/ 2006/ Chemistry/ California State University, Long Beach
Overview	Mr. Pugh has had years of experience working both in the field and in the laboratory. His professional accomplishments include work in the biological assessment and identification of flora and fauna, vegetation mapping, biological monitoring, and a working knowledge of the preparation of biological documents in compliance with CEQA, California Coastal Act, California Department of Fish and Game Code, ACOE and other relevant legislation.
Certifications, Classes, Seminars, Workshops, and Special Training	<ul style="list-style-type: none"> • California Anostraca and Notostraca (Fairy Shrimp) Identification Class. January 30 – February 1, 2007. Certified February 9th, 2007 by USFWS. • Desert Tortoise Council: Surveying, Monitoring, and Handling Techniques Workshop. November 4 & 5, 2006. • Introduction to Birding Workshop: Instructor, Sylvia Gallagher (Audubon Society). September 2006 – December 2006. • <i>Caulerpa taxifolia</i> Identification Certification under the Caulerpa Control Protocol. Certified February 12th, 2007 by U.S. Department of Commerce, National Marine Fisheries Service.
URS Project Experience	<ul style="list-style-type: none"> • Calico Solar Desert Tortoise Burrow Scoping Surveys, Barstow, California. Field biologist responsible for investigating the utilization of 207 pre-located desert tortoise burrows over an approximately 8,000 acre site using a scope and camera extension. March 2010. • Staff Biologist, First Solar Desert Tortoise Clearance Survey, Blythe, California. Field biologist responsible for conducting protocol clearance surveys over approximately 200 acres for desert tortoise prior to vegetation clearing and grading activities. August 2009. • Staff Biologist, Nursery Products Desert Tortoise Clearance Survey. Hinkley, CA. Field biologist responsible for conducting protocol clearance surveys over approximately one acre of appropriate habitat for desert tortoise prior to drilling activities. March 2009. • Staff Biologist, CalNev Petroleum Pipeline Desert Tortoise Presence/Absence Surveys. Field Biologist for an approximately 250-mile-long petroleum pipeline. Performed protocol desert tortoise surveys in the spring of 2008. • Staff Biologist, Solar I Desert Tortoise Presence/Absence Surveys, San Bernardino County, CA. Field Biologist for a 15,000 acre solar/thermal generating facility. Performed protocol desert tortoise surveys, vegetation

community mapping, rare plant surveys, and Waters of the US and state delineations. Spring and summer 2007.

- **Staff Biologist, CalNev Petroleum Pipeline Riparian Bird Surveys.** Field Biologist assisted with least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*) surveys in appropriate habitat along an approximately 250-mile-long petroleum pipeline (i.e., the Cajon Pass and Mojave River) with permitted biologist Brian Lohstroh (TE-063608-3).
- **Staff Biologist, CalNev Petroleum Pipeline Rare Plant Surveys.** Field Biologist for an approximately 250-mile-long petroleum pipeline. Performed protocol rare plant surveys in the spring of 2008.
- **Staff Biologist, BNSF Mojave Subdivision Tehachapi Pass Double Track Project.** Field Biologist conducted protocol surveys for least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*) in appropriate habitat along approximately 8.21 miles of UPRR-maintained train tracks with permitted biologist Brian Lohstroh (TE-063608-3).
- **Staff Biologist, Solar II Rare Plant Surveys, Imperial County, CA.** Field Biologist for a 7000-acre solar/thermal generating facility. Performed protocol rare plant surveys in the spring of 2008.
- **Staff Biologist, Dana Point Headlands and Fairview Park Coastal Sage Scrub Restoration Monitoring, Orange County, CA.** Conducted numerous plant transect measurements to assess the success of restoration efforts at two locations in Orange County. Spring 2007 & spring 2008.
- **Staff Biologist, AUSRA Blunt-nosed Leopard Lizard Presence/Absence Surveys, San Luis Obispo County, CA.** Field biologist for conducting focused surveys for blunt-nosed leopard lizard over roughly two (2) square miles of fallow agricultural land in the Carrizo Plains. Spring and summer of 2007 and 2008.
- **Staff Biologist, Solar II Flat-Tailed Horned Focused Surveys, Imperial County, CA.** Field Biologist for a 7000-acre solar/thermal generating facility. Performed protocol Flat tail horned lizard surveys, vegetation community mapping, rare plant surveys, and Waters of the US and state delineations. Spring and summer 2007.
- **Staff Biologist, Fairmont Avenue Extension Project Nesting Bird Surveys and Construction Monitoring, Los Angeles County, CA.** Conducted clearance nesting bird surveys for a road extension project over a jurisdictional tributary to the Los Angeles River. Also monitored construction activities and vegetation removal within the water feature. May 2008 - July 2008.
- **Staff Biologist, First Industrial Realty: Multiple Site (15) Habitat Assessments, Burrowing Owl Surveys, and MSHCP Compliance/**

Consistency Document Preparation, Riverside County, CA. Conducted preliminary habitat assessments which included vegetation community mapping, inventory of existing biological resources, and assessment of the potential for sensitive resources and jurisdictional aquatic resources to occur. Subsequent burrowing owl focused surveys were required for most of these sites per the Western Riverside County MSHCP. MSHCP consistency documents were also prepared. August 2007 – July 2008.

- **Field Team Member, Determination of Other Accrued Environmental Liabilities of U.S. Marine Corps Facilities, Southwest Facilities (2008):** Mr. Pugh was an integral field team member for a \$3.5 million effort to perform Other Environmental Liability (OEL) Surveys at all continental U.S. and Hawaii Marine Corps facilities. This project included 20-plus teams working at several Marine Corps facilities simultaneously to collect data on over 19,000 units and estimate environmental clean-up or disposal costs for each OEL asset at the end of its useful life (e.g., environmental clean-up costs to remove an underground storage tank). Mr. Pugh was part of an intensive field effort for three of the six Marine Corps facilities located in the southwest that involved as many as 18 people collecting information at each facility within a two to three week span. Data such as asset description, expected lifecycle, global positioning points, and photos were uploaded directly into a database with extensive daily QA/QC checks performed while in the field. Mr. Pugh and the rest of the team worked efficiently and maintained an aggressive schedule to complete the \$350,000 field work task on time and under budget.
- **Staff Biologist, Mission College California Gnatcatcher (CAGN) Focused Surveys, Los Angeles County, California.** Assisted permitted biologist Rick Bailey (permit TE-101151-0) with USFWS protocol surveys for CAGN. Duties included assistance with incidental bird, reptile, mammal, and amphibian identification, as well as assistance with detecting CAGN within a 1.8-acre patch of coastal sage scrub. February 2007 – March 2007.
- **Staff Biologist, Potential Vernal Pool Assessments for Various Road Widening Projects, Riverside County, California.** Performed site assessments in which pools of standing water were evaluated as to whether or not they could support vernal pool species (i.e., fairy shrimp). Surveys were conducted at three different locations during and immediately after a recent rain storm. February 2007.
- **Staff Biologist, Santa Ana River Mitigation Bank Restoration & Remediation Action Plan, Orange County, California.** Assisted in the production of the Remediation and Restoration Plan for the Santa Ana River Mitigation Bank. Duties included site visits and assessments, consultation with our Botanist and Project Manager for remediation plans, and document production. February 2007.
- **Staff Biologist, Clinton Keith Road Widening BTR, Riverside County, California.** Performed a biological assessment of the entire road widening project footprint and prepared a biological technical report (BTR) and evaluation of potential impacts to sensitive wildlife resources. December 2006.
- **Staff Biologist, South Merced Specific Plan BTR and EIR, Merced County, California.** Assisted in the production of both the BTR and Biological Resources

Section of the EIR for the South Merced Specific Plan. Duties included assessment of potential impacts to sensitive wildlife and plant species, presentation of mitigation and avoidance measures for sensitive resources with a moderate to high potential to occur within the study area, and coordination with our GIS department to produce figures depicting project baseline conditions. December 2006.

- **Staff Biologist, Beverly Boulevard Bridge Reconstruction Project Biological Monitoring, Los Angeles County, CA.** During the two-year reconstruction process of Beverly Boulevard Bridge, duties included monitoring of construction activities to ensure compliance with a California Department of Fish and Game Code 1602 Streambed Alteration Agreement, monitoring of nesting swallows relative to construction activities, removing all swallow nests prior to nest completion, conducting general surveys for bats within the old bridge structure, and consultation with the superintendent regarding pending construction activities. February 2006 – November 2007.
- **Staff Biologist, San Bernardino County General Plan, San Bernardino County, California.** Assisted in the production of both the Biological Resources Section of the San Bernardino General Plan. Duties included assessment of potential impacts to sensitive wildlife and plant species, coordination with our GIS department to produce figures depicting County baseline conditions, and preparation of a specific and detailed report on existing wildlife corridors and potential impacts to those essential linkages. November 2006 – December 2006.
- **Staff Biologist, LBVI and CAGN Monitoring, Prima Deshecha Landfill, Sukut Construction, Orange County, California.** Monitoring of wildlife during construction within Zone 1 Phase C2 of the Prima Deshecha Landfill. Species of concern included Least Bell's Vireo (*Vireo bellii pusillus*) and California Gnatcatcher (*Polioptila californica californica*). Duties also included monitoring of construction activities to insure their compliance with CDFG regulations. July 2006 – October 2006.
- **Staff Biologist, Dana Point Headlands Biological Monitoring, Orange County, California.** Monitoring of flora and fauna at Dana Point Headlands during construction. Duties included monitoring of construction activities to insure their compliance with CDFG regulations. This included instructing and educating workers on how to avoid native vegetation (coastal sage scrub) and sensitive wildlife species (coastal California gnatcatcher). September 2006 – October 2006.
- **Staff Biologist, Chevron Mahala Oil Field Abandonment Project, San Bernardino County, California.** Conducted pre- and post-construction surveys for an oil well abandonment project in Chino Hills, California. An assessment of biological baseline conditions and potential impacts to existing sensitive biological resources was made before consultation with the client on how to avoid sensitive biological and jurisdictional resources within the project footprint. August 2006 – November 2006.
- **Staff Biologist, BNSF Railway Construction, San Bernardino County, California.** Assisted in the Biological Assessment (BA) through literature searches and detailed species accounts. July 2006 – September 2007.
- **Staff Biologist, San Joaquin Veterans Cemetery Rodent Control.** Performed numerous in depth literature searches (i.e. scientific studies, published reports,

EIR, EA, BA) for acceptable rodent control for the San Joaquin kit fox. A report was written which included possible alternatives to pesticides as well as risk assessments, biological effects, and residual uptake for varying pesticides. February 2006.

Myles Brett Traphagen

August 13, 1967

19 E. 15th Street
Tucson, AZ 85701
(520) 991-6368
mbtrap@gmail.com

Education

- **B.S. Environmental Studies/Natural History & Wildland Conservation-** University of California, Santa Cruz, 1995.
- **FAA Certified Private Pilot Part 141.**
- **2009 Desert Tortoise Handling Workshop Graduate.**

Current Employer

Turn of the Century Restoration & Monitoring Inc.- August 1998 to present.

Position: Director

Independent consulting corporation established in 1998 to perform vegetation monitoring, research and ecological inventory in Arizona/New Mexico Borderlands area. Regular clients and partnerships include The Malpai Borderlands Group, Ted Turner Ranch Properties Inc., Turner Endangered Species Fund, The Nature Conservancy, Arid Lands Project, U.S. Forest Service, and U.S. Fish & Wildlife Service. Principle duties include hiring, training and supervising field crews to collect vegetation monitoring and research data, negotiating contracts and coordinating projects, analyzing data, developing statistically reliable monitoring methods for the specific resource being measured, writing annual project reports, presenting results to peer groups at conferences. Over last two years have performed approximately 180 days of desert tortoise surveys in Mojave Desert.

- Subcontractor for Sundance Biology
 - Performed desert tortoise (*Gopherus agassizii*) presence/absence surveys in the Mojave Desert for proposed alternative energy projects.
 - Compiled plant and animal lists on survey sites.
 - Developed protocols for vegetation monitoring on Mojave Desert research and mitigation sites.
- Vegetation Monitoring Director for Malpai Borderlands Group
 - Responsible for coordinating and directing vegetation monitoring of 1 million acres of the Malpai Borderlands region. Specific duties incorporate monitoring of prescribed burns, rangeland restoration and evaluation of previous monitoring and research over last 15 years in borderlands region of Arizona and New Mexico.
- Director of Vegetation Monitoring Program for Ted Turner Ranches.
 - From 1999 to 2008 coordinated rangeland monitoring program for Ted Turner evaluating effects of bison grazing on 1 million acres of land restored with bison in New Mexico, Nebraska and South Dakota.
- Developed vegetation monitoring methodology and protocol, collected and analyzed data for long term grazing/fire research project at the Gray Ranch in southwestern New Mexico. Project funded by National Interagency Fire Research Center, Arid Lands Project, Bureau of Land Management, USFS Rocky Mountain Research Station and Malpai Borderlands Group. Findings presented at 2004 Malpai Borderlands Group Science Conference.
- Designed vegetation monitoring methods and supervised data collection for prairie dog introduction at the Gray Ranch in New Mexico.
- Contracted by the U.S. Forest Service Rocky Mountain Research Station to collect vegetation data for Cascabel watershed research project near Animas, New Mexico. Performed data analysis using t-tests, ANOVA and power analysis.
- Contracted by New Mexico Game & Fish Department in 2001 to study vegetation and habitat attributes of the white-sided jackrabbit (*Lepus callotis*) in the Chihuahuan desert. Report on file at NM Game & Fish Department office, Santa Fe, NM.

Current Projects

- **New Mexico Department of Game & Fish-** “White sided jackrabbit population survey.” Awarded grant by the 2009 New Mexico Department of Game & Fish Share with Wildlife Program to conduct population and habitat surveys for *Lepus callotis* which is currently in review by the United States Fish & Wildlife Service for listing under the Endangered Species Act. Expert witness solicited by USFWS on July 22nd, 2009 Federal Register Listing under 50 CFR 17.

- **Malpai Borderlands Group-** “*Evaluation & Summary of 15 years of Research & Monitoring in the Arizona/New Mexico Borderlands.*” Contracted by Malpai Borderlands Group, a consortium of ranchers in the Borderlands region of Cochise and Hidalgo Counties, to evaluate success of 15 years of scientific research and monitoring in the Borderlands.

Previous Employment History

Sundance Biology-April-July 2008, April-October 2009

Supervisor: Mercy Vaughn (928) 380-5507.

- Performed desert tortoise (*Gopherus agassizii*) presence/absence surveys in the Mojave Desert for proposed alternative energy projects.
- Compiled plant and animal lists on survey sites.
- Developed protocols for vegetation monitoring on Mojave research and mitigation sites.

Turner Endangered Species Fund-January 2005-October 2007

Bolson Tortoise Reintroduction Project- Biologist responsible for reintroduction of Bolson tortoise (*Gopherus flavomarginatus*) to New Mexico, a CITES I Appendix A Endangered Species.

Supervisor: Dr. Joe Truett- Turner Endangered Species Fund.

- Surveyed habitat of native Chihuahuan Desert in Mexico to assess habitat suitability for Bolson tortoise re-introduction to New Mexico.
- Coordinated health and disease team to assess health, DNA and disease condition of 30 translocated tortoises from Arizona to New Mexico.
- Established breeding program for Bolson tortoise in New Mexico.

Presentations

- “*Translocation of the Bolson Tortoise (Gopherus flavomarginatus) to its Pre-Historic Range.*” Desert Tortoise Council Symposium 2007, Las Vegas, Nevada. February 23-27, 2007.
- “*Reintroducing the Bolson Tortoise (Gopherus flavomarginatus) Into Its Former Range.*” Turtle Survival Alliance 5th Annual Symposium on the Conservation and Biology of Tortoises and Freshwater Turtles – Atlanta, Georgia, July 25-28, 2007.
- “*Bolson Tortoise: Past, Present and Future.*” Desert Tortoise Council Symposium 2009. Poster presentation. February 19-22, 2009, Henderson, Nevada.
- “*Drought Effects on Black Grama at McKinney Flats Research Site.*” Malpai Borderlands Group Science Conference 2004. January 3, 2004. Douglas, Arizona.
- “*A Decade of Vegetation Monitoring, Research and Inventory in the Malpai Borderlands.*” Malpai Borderlands Group Science Conference 2005. January 10, 2005. Douglas, Arizona.
- “*Grazing & Fire Effects on Perennial Grasses at the Diamond A Ranch McKinney Flat Research Site.*” Malpai Borderlands Group Science Conference 2008. January 9, 2008. Douglas, Arizona.
- “*The White Sided Jackrabbit (Lepus callotis) in the Animas Valley: An Important Refugia for a Threatened Species Under Threat.*” Malpai Borderlands Group Science Conference 2009. January 6-7, 2009. Douglas, Arizona.
- “*A Summary Examination of 15 Years of Monitoring Data in the Malpai Borderlands.*” Malpai Borderlands Group Science Conference 2010. January 5-6, 2010. Douglas, Arizona.

Papers and Publications

- “*Re-Wilding a Giant American Reptile.*” Wildlife Conservation. October, 2007.
- “*Response of Perennial Grasses to Fire, Grazing and Weather at the McKinney Flats Research Site.*” Traphagen, M. B., A. N. Facka & C. G. Curtin. 2008. Desert Plants Vol. 24 (2).
- “*Restoration of the Bolson Tortoise (Gopherus flavomarginatus) to North America.*” Turtle Survival Alliance Annual Publication- 2007. with Dr. Ross Kiester and Dr. Jim Juvik. Turtle Survival Alliance Annual Magazine- June 2007.
- “*Natural History of Cochise County.*” 12 part weekly natural history series for Douglas Daily Dispatch. June-September, 2000.
- “*Birds of Southeast Arizona.*” Southeast Arizona magazine. September 2000.

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearh and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction of other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Leslie k Backus	
Address	20127 SW Cumulus Lane	
City, State, Zip Code	Bend, OR 97702	
Phone Number(s)	310-614-7994	
Email Address	lanius@rocketmail.com	

2. **Date of Statement:** 3-30-06

3. **States in which authorization is requested (check all that apply):**

California Nevada Utah Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number	1-8-03-F-48	Date: March 15, 2004
Project Name	Proposed Addition of Maneuver Training Lands at Fort Irwin	
Federal Agency	USFWS	
Proponent or Contractor	U.S. Army	

5. **Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):**

Conduct desert tortoise clearance surveys on approximately 39 sq. miles. In addition approximately 50 control animals and 10 tortoises from each of 12 translocation sites will be identified. All tortoises encountered on Southern Expansion Area and used as control or recipient animals will be weighed and measured, transmitters attached, health assessed visually and by blood collection and nasal lavage. Tortoises will be translocated in fall 2006 or spring 2007. Tortoises will be tracked at varying intensities based on their involvement with various experiments but at a minimum each tortoise will be relocated within 24 hours of transmitter attachment and monthly. Additional data collection methods may be requested during the course of the five-year study. Work conducted is based on BO (1-8-03-F-48); Terms and Conditions 1a, 2h. 3, and 4a-g on pages 62-64. Will follow requirements of the Translocation Plan as stipulated or agreed upon in T&C 4.

6. **If you hold, or have held any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities
Red-cockaded Woodpecker	1995- 1997	State (Florida)/Federal – through Archbold Bio Station	Banding, bleeding, cavity augmentation
Florida Scrub	1995-1997	State (Florida)/Federal – through Archbold Bio Station	Banding
Avian	1998	SCP - Ca	Collect avian carcasses
Gopher Tortoise	1993-1997	State (Florida)/Federal – through Univ of Central Fl State (Florida)/Federal – through Laurie MacDonald	Handle, mark, attaching/removing telemetry devices, health assessments, weighing measuring Handle, mark, bleed, egg incubation, health assessments, weighing measuring
Desert Tortoise	2006	SCP - Ca	Tortoise handling under appropriate permits

7. **Education (provide up to three, listing most recent first):**

Institution	Dates Attended	Major/Minor	Degree received
1. Embry-Riddle Aeronautical Univ	1987-1991	Aerospace Engineering	Bachelors of Science
2. Univ of Central Fl	1992-1993	Biology	Bachelors of Science
3. Univ of Central Fl	2003	Biology	Masters of Science

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. Line Distance Sampling – tortoise handling, searching, LDS techniques	2001-2005	Jean, Nevada	USFWS for Line Distance Sampling
2. Line Distance Sampling – handling for brachial bleeding of tortoises	2005	Jean, Nevada	USFWS for Line Distance Sampling
3.			
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1.		<u>-SEE ATTACHED SHEETS-</u>
2.		
3.		
4.		
5.		

Specific Desert Tortoise Field Experience:						
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above): <u>>1276 days</u>						
b. Number of miles/kilometers walked conducting survey transects: <u>>6660 Km</u>						
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered. <div style="text-align: right;"> <p>< 100 mm carapace length: <u>Desert tortoise apprx 10: Gopher tortoise >100</u></p> <p>≥ 100 mm carapace length: <u>Desert tortoise >350: Gopher tortoise >1000</u></p> </div>						
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	<u>< 10</u>	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	<u>100-200</u>	> 200
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	<u>< 10</u>	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	<u>10-50</u>	50-100	100-200	> 200
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
<u>Attached:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	<u>10-50</u>	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	<u>< 10</u>	10-50	50-100	100-200	> 200
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species or captive</u> desert tortoises (circle one for each size category).						
<u>Specify species or if captive desert tortoises:</u>						
<u>Attached:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	<u>10-50</u>	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	<u>10-50</u>	50-100	100-200	> 200
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises: Gopher Tortoise</u> <u>Specify type of procedure: Sub-carapacial</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	<u>10-50</u>	50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure: Tagging, measuring</u>						
< 100 mm:	Zero	< 10	10-50	50-100	<u>100-200</u>	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises: Gopher Tortoise</u> <u>Specify type of procedure: Scute marking, measuring, incubating</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	<u>> 200</u>
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	<u>> 200</u>
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate “general field experience” information:</u>						
<p>Line Distance -Peter Woodman Spring, 1998 – 2005 Permit # TE-702631 (The State Distance number is; MOU under SCP 801168-04 (permanent ID SC-007404), Mojave Desert, CA. Blood drawing project under Kristin Berry’s Permit # TE006556-11, 2001-2005, Mojave Desert, CA., CDFG 2081 Permit # 2081-1999-05-6. Authorized handler on DARPA Grand Challenge, March 2004 (Barstow to Las Vegas autonomous vehicle event) BO# 1-8-04-F-7.</p>						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1. Pete Woodman	Kiva Biological - Biological Consultant	Ridgecrest, Ca	760-377-3466	kivabio@aol.com
2. Gilbert Goodlett	EnviroPlus - Biological Consultant	Ridgecrest, Ca	760-371-3592	torthunter@aol.com
3. Mercy Vaughn	EnviroPlus - Biological Consultant	Flagstaff, Az	928-380-5507	manydogs10@aol.com

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: _____ **Date:** _____

<p>a. General Field Experience: Project Name: <u>CalTrans Route I-15 Road Repair – Barstow , Ca</u> Your Position: <u>Desert Tortoise Monitor/Surveyor</u> Responsibilities and skills used or acquired: Monitored road work activities to prevent tortoise disturbance/ impact to tortoise habitat.</p>
<p>Dates (dd/mm/year): From: 03/06 To: present</p>
<p>a. General Field Experience: Project Name: <u>Desert Tortoise Presence/Absence and Zone of Influence – Union Pacific Railroad Expansion – Blue Diamond Rd, NV</u> Your Position: <u>Desert Tortoise Surveyor</u> Responsibilities and skills used or acquired: Presence/absence and zone of influence surveys for Biological Assessment.</p>
<p>Dates (dd/mm/year): From: 03/06 – 3 day duration To:</p>
<p>a. General Field Experience: Project Name: <u>Desert Tortoise Presence/Absence and Zone of Influence – Union Pacific Railroad Expansion – N. Las Vegas, NV</u> Your Position: <u>Desert Tortoise Surveyor</u> Responsibilities and skills used or acquired: Presence/absence and zone of influence surveys for Biological Assessment.</p>
<p>Dates (dd/mm/year): From: 03/06 – 1 day duration To:</p>
<p>a. General Field Experience: Project Name: <u>Desert Tortoise Presence/Absence and Zone of Influence – Victorville Transmission Tower</u> Your Position: <u>Desert Tortoise Surveyor</u> Responsibilities and skills used or acquired: Presence/absence and zone of influence surveys for Biological Assessment.</p>
<p>Dates (dd/mm/year): From: 03/06 – 1 day duration To:</p>
<p>a. General Field Experience: Project Name: <u>Desert Tortoise Presence/Absence and Zone of Influence - Twenty-nine Palms Housing Development</u> Your Position: <u>Desert Tortoise Surveyor</u> Responsibilities and skills used or acquired: Presence/absence and zone of influence surveys for Biological Assessment.</p>
<p>Dates (dd/mm/year): From: 03/06 – 3 day duration To:</p>
<p>a. General Field Experience: Project Name: <u>Fort Irwin Translocation Project</u> Your Position: <u>Desert Tortoise Surveyor</u> Responsibilities and skills used or acquired: Surveyed for Desert Tortoises for the purpose of blood draws and attaching radio transmitters.</p>
<p>Dates (dd/mm/year): From: 06/05 – 5 day duration To:</p>

<p>a. General Field Experience: Project Name: <u>CalTrans Route 62 Road Repair – 29 Palms, Ca</u> Your Position: <u>Desert Tortoise Monitor/Surveyor</u> Responsibilities and skills used or acquired: Monitored road work activities to prevent tortoise disturbance/ impact to tortoise habitat.</p>
<p>Dates (dd/mm/year): From: 08/05 – 2 week duration To:</p>
<p>a. General Field Experience: Project Name: <u>Defense Advanced Research Projects Agency (DARPA) Grand Challenge</u> Your Position: <u>Desert Tortoise Monitor/Handler/Surveyor</u> Responsibilities and skills used or acquired: DARPA Grand Challenge conducted an autonomous vehicle research project within the Mojave desert. The event consisted of robotic vehicles traversing a designated track through the desert. Pre-event tortoise surveys were conducted within the event areas. Located tortoises were fenced and monitored pre-event and during the event. Event areas were monitored during vehicle activity.</p>
<p>Dates (dd/mm/year): From: 03/04 – 3 day duration To:</p>
<p>a. General Field Experience: Project Name: <u>Desert Tortoise Clearance Surveys - Hyundai Test Track</u> Your Position: <u>Desert Tortoise Surveyor</u> Responsibilities and skills used or acquired: Performed clearance surveys to remove all desert tortoises, mainly focusing on juvenile and immature tortoises from newly constructed test track areas. Pre-determined transects were followed using a GPS unit. A digital log of the days transects and distances were also recorded using a GPS unit.</p>
<p>Dates (dd/mm/year): From: 10/04 – two week duration To:</p>
<p>a. General Field Experience: Project Name: <u>Desert Tortoise Line-Distance Sampling Survey, Mojave Desert, San Bernardino County – Fort Irwin National Training Center, BLM and USFWS</u> Your Position: <u>Desert Tortoise Surveyor/Handler</u> Responsibilities and skills used or acquired: This project involves calculating tortoise densities based on the new line distance sampling technique. The project covers four states in the nation (California, Arizona, Utah, Nevada). The initial study area surveyed by our crew in California covered 800,000 acres, including, Ft Irwin Military Base, Edwards Air Force Base, and China Lake Naval Base. The expanded project included Joshua Tree National Park, Coachella Valley, Cuckwalla Bench, Chemehuevi, Chocolate Mountain Gunnery Range, Mojave National Preserve (Ivanpah/Cima), Mojave National Preserve (Fenner/Piute), Fenner/Piute (BLM), Shadow Valley, Piute-Eldorado (NV incl. Lake Mead NRA), Ord-Rodman. Responsibilities included, surveying for Desert Tortoises utilizing the line distance sampling technique established by Fish and Wildlife Service, as well as generating random sampling points within a GIS, based on the protocol produced by Fish and Wildlife Service. In addition, field maps were generated and photo location stations developed. Desert Tortoises were fitted with radio transmitters and telemetered on a daily basis. Tortoise locations were collected using a Geographic Positioning System and imported into the GIS. Morphometric measurements were collected as well as information on URDS (Upper Respiratory Disease) and environmental conditions. In 2004 blood was drawn using toe nail clipping and processed to obtain serum.</p>
<p>Dates (dd/mm/year): From: 04/01-06/01; 04/02-05/02; 04/03-05/03; 04/04-05/04 03/05-06/05</p>

<p>a. General Field Experience:</p> <p>Project Name: <u>Desert Tortoise Presence/Absence and Zone of Influence - Warner Brothers/Torque</u></p> <p>Your Position: <u>Desert Tortoise Surveyor/Monitor</u></p> <p>Responsibilities and skills used or acquired:</p> <p>Coordinated and performed transects for determining existent populations of desert tortoise within the proposed development area. Conducted protocol zone of influence survey to determine the level of tortoise activity in adjacent areas and estimate the potential impacts of the proposed project. Monitored project activities to prevent tortoise disturbance/ impact to tortoise habitat and impacts to jurisdictional waters. Field and report maps were generated utilizing a GIS. Impact areas were recorded using a GPS unit and calculations generated within the GIS.</p>
<p>Dates (dd/mm/year): From: 09/03 To: 10/03</p>
<p>a. General Field Experience:</p> <p>Project Name: <u>Desert Tortoise Monitoring – Vulcan Materials</u></p> <p>Your Position: <u>Desert Tortoise Surveyor/Monitor</u></p> <p>Responsibilities and skills used or acquired:</p> <p>Monitored gravel pit activities to prevent tortoise disturbance/ impact to tortoise habitat.</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>Dates (dd/mm/year): From: 11/03 To: 11/03</p>
<p>a. General Field Experience:</p> <p>Project Name: <u>Desert Tortoise Monitoring – Caltrans</u></p> <p>Your Position: <u>Desert Tortoise Surveyor/Monitor</u></p> <p>Responsibilities and skills used or acquired:</p> <p>Monitored the installation of permanent tortoise fencing along the I-15 freeway to prevent tortoise disturbance/ impact to tortoise habitat and impacts to jurisdictional waters. Additional responsibilities included monitoring the Joshua tree relocation.</p>
<p>Dates (dd/mm/year): From: 10/03 To: 01/04</p>
<p>a. General Field Experience:</p> <p>Project Name: <u>Desert Tortoise Presence/Absence and Zone of Influence Survey – Big Rock Creek</u></p> <p>Your Position: <u>Desert Tortoise Surveyor/Monitor</u></p> <p>Responsibilities and skills used or acquired:</p> <p>Performed transects for determining existent populations of desert tortoise within the proposed mining area. Conducted protocol zone of influence survey to determine the level of tortoise activity in adjacent areas.</p>
<p>Dates (dd/mm/year): From: 04/02 To: 04/02</p>

<p>a. General Field Experience:</p> <p>Project Name: <u>Desert Tortoise Presence/Absence and Zone of Influence Survey – MacNaughton Interchange</u></p> <p>Your Position: <u>Desert Tortoise Surveyor/Monitor</u></p> <p>Responsibilities and skills used or acquired:</p> <p>Lead project manager. Coordinated and performed transects for determining existent populations of desert tortoise within the proposed development area. Conducted protocol zone of influence survey to determine the level of tortoise activity in adjacent areas and estimate the potential impacts of the proposed project.</p>
<p>Dates (dd/mm/year): From: 05/02 To: 05/02</p>
<p>a. General Field Experience:</p> <p>Project Name: <u>Desert Tortoise Line-Distance Sampling Survey – Edwards Air Force Base</u></p> <p>Your Position: <u>Desert Tortoise Surveyor/Handler</u></p> <p>Responsibilities and skills used or acquired:</p> <p>This project utilized the new line distance sampling technique produced by the Fish and Wildlife Service for surveying desert tortoises. Tortoise surveys were conducted in addition to threatened and endangered species observations. GIS responsibilities included producing random transect locations derived by multi-variable spatial analysis based on the protocol produced by Fish and Wildlife Service. Data generation included preparing an interactive ArcView project displaying established photo locations for two cardinal directions, metadata, domains and relational diagrams for the comprehensive GIS dataset. All data produced followed strict data dictionary guidelines provided by EAFB, as well as, the Spatial Metadata Management System format. Maps were produced to illustrate the GIS data. In addition, field maps were generated and photo location stations developed. Desert Tortoises were fitted with radio transmitters and telemetered on a daily basis. Tortoise locations were collected using a Geographic Positioning System and imported into the GIS. Morphometric measurements were collected as well as information on URDS (Upper Respiratory Disease) and environmental conditions.</p>
<p>Dates (dd/mm/year): From: 04/01-06/01 and 04/02-05/02</p>
<p>a. General Field Experience:</p> <p>Project Name: <u>Desert Tortoise Line-Distance Sampling Survey – Psomas - Paradise Valley</u></p> <p>Your Position: <u>Desert Tortoise Surveyor/Handler</u></p> <p>Responsibilities and skills used or acquired:</p> <p>Utilized the line distance sampling technique established by Fish and Wildlife Service for a proposed development site near Joshua Tree National Park to aid in the determination of desert tortoise population densities. Tortoise surveys were conducted following the USFWS protocol. Morphometric measurements were collected as well as information on URDS (Upper Respiratory Disease) and environmental conditions. Random transects were developed within a GIS utilizing the spatial, multi-variable analysis protocol produced by Fish and Wildlife Service. Field maps were generated and photo location stations developed. Desert Tortoises were fitted with radio transmitters and telemetered on a daily basis. Tortoise locations were collected using a Geographic Positioning System and imported into the GIS.</p>
<p>Dates (dd/mm/year): From: 06/01 To: 06/01</p>

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearh and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction of other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Jonathan Barratt
Address	583 Mary’s Pond Rd
City, State, Zip Code	Rochester, MA, 02770
Phone Number(s)	(508)728-7410
Email Address	jonathanbarratt_2@hotmail.com

2. **Date of Statement:** February 15, 2010

3. **States in which authorization is requested (check all that apply):**

California Nevada Utah Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number	1-8-03-F-48	Date: March 15, 2004
Project Name	Proposed Addition of Maneuver Training Lands at Fort Irwin	
Federal Agency	USFWS	
Proponent or Contractor	U.S. Army	

5. **Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):**

Conduct desert tortoise clearance surveys on approximately 39 sq. miles. In addition approximately 50 control animals and 10 tortoises from each of 12 translocation sites will be identified. All tortoises encountered on Southern Expansion Area and used as control or recipient animals will be weighed and measured, transmitters attached, health assessed visually and by blood collection and nasal lavage. Tortoises will be translocated in fall 2006 or spring 2007. Tortoises will be tracked at varying intensities based on their involvement with various experiments but at a minimum each tortoise will be relocated within 24 hours of transmitter attachment and monthly. Additional data collection methods may be requested during the course of the five-year study. Work conducted is based on BO (1-8-03-F-48); Terms and Conditions 1a, 2h. 3, and 4a-g on pages 62-64. Will follow requirements of the Translocation Plan as stipulated or agreed upon in T&C 4.

6. **If you hold, or have held any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities

7. **Education (provide up to three, listing most recent first):**

Institution	Dates Attended	Major/Minor	Degree received
1. University of Massachusetts at Amherst	Fall 1997-Spring 2002	Biology/Exercise Science	Bachelors of Arts and Sciences
2. Old Rochester Regional High School	Fall 1993-Spring 1997	National Honors Society	Yes
3.			

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. Desert Tortoise Tracking	4/03/08-4/16/08	Fort Irwin, Barstow, CA	John Brooks Hart
2. Processing Desert Tortoises	4/03/08-4/16/08	Fort Irwin, Barstow, CA	Bill Hasskamp
3. Attach and remove transmitters from desert tortoises	Fall, 2009	Fort Irwin, CA	Peter Woodman, Amanda Scheib
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1. ITS translocation of desert tortoises at Fort Irwin, CA. Desert Tortoise Tracker	4/03/08-present	Processing tortoises for translocation, desert tortoise tracking, and assisting in the affixing/removing of desert tortoise transmitters.
2.		
3.		
4.		
5.		

Specific Desert Tortoise Field Experience:						
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above): 90						
b. Number of miles/kilometers walked conducting survey transects: >100kilometers						
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered. <div style="text-align: right;">< 100 mm carapace length: 5</div> <div style="text-align: right;">≥ 100 mm carapace length: 30</div>						
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
<u>Attached:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category).						
<u>Specify species or if captive desert tortoises:</u>						
<u>Attached:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u> evaluate health, weigh, measure						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate “general field experience” information:</u>						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1. Peter Woodman	Kiva Biological Consulting	PO Box 1210 Inyokern, CA 93527	760 861 3961	Kivabio@aol.com
2. John Brooks Hart				
3. Bill Hasskamp				

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.



Signed

Date: 2/15/10

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearh and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction of other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Angileen Bates
Address	4203 Tyler Way
City, State, Zip Code	Anacortes, WA 98221
Phone Number(s)	360-441-9005
Email Address	diversitylives@yahoo.com

2. **Date of Statement:** April 18, 2008

3. **States in which authorization is requested (check all that apply):**
 California Nevada Utah Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number	1-8-03-F-48	Date: March 15, 2004
Project Name	Proposed Addition of Maneuver Training Lands at Fort Irwin	
Federal Agency	USFWS	
Proponent or Contractor	U.S. Army	

5. **Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):**

Conduct desert tortoise clearance surveys on approximately 39 sq. miles. In addition approximately 50 control animals and 10 tortoises from each of 12 translocation sites will be identified. All tortoises encountered on Southern Expansion Area and used as control or recipient animals will be weighed and measured, transmitters attached, health assessed visually and by blood collection and nasal lavage. Tortoises will be translocated in fall 2006 or spring 2007. Tortoises will be tracked at varying intensities based on their involvement with various experiments but at a minimum each tortoise will be relocated within 24 hours of transmitter attachment and monthly. Additional data collection methods may be requested during the course of the five-year study. Work conducted is based on BO (1-8-03-F-48); Terms and Conditions 1a, 2h, 3, and 4a-g on pages 62-64. Will follow requirements of the Translocation Plan as stipulated or agreed upon in T&C 4.

6. **If you hold, or have held any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities
N/A			

7. **Education (provide up to three, listing most recent first):**

Institution	Dates Attended	Major/Minor	Degree received
1. Western Washington University	2003-2006	Major	B.A. Environmental Education
2.			
3.			

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1.DesertTortoise identification Training	9/17/2009	Fort Irwin/ WEA	Peter Woodman
2.			
3.			
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1. WEA	9/17- 10/15/2010	Walked transects, identified and logged all desert tortoise sign, helped transmit live tortoises
2.		
3.		
4.		
5.		

Specific Desert Tortoise Field Experience:							
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above): 29 days of walking transects on the WEA							
b. Number of miles/kilometers walked conducting survey transects: > 348 Kilometers							
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered. <div style="text-align: right;"> 1 < 100 mm carapace length: 12 ≥ 100 mm carapace length: </div>							
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).							
0 < 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
4 ≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).							
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Attached: 3</u> < 100 mm: Zero < 10 10-50 50-100 100-200 > 200 3 ≥ 100 mm: Zero < 10 10-50 50-100 100-200 > 200 <u>Removed:</u> < 100 mm: Zero < 10 10-50 50-100 100-200 > 200 ≥ 100 mm: Zero < 10 10-50 50-100 100-200 > 200							
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species or captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Attached: 0</u> < 100 mm: Zero < 10 10-50 50-100 100-200 > 200 ≥ 100 mm: Zero < 10 10-50 50-100 100-200 > 200 <u>Removed:</u> < 100 mm: Zero < 10 10-50 50-100 100-200 > 200 ≥ 100 mm: Zero < 10 10-50 50-100 100-200 > 200							
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category). N/A							

< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> 0 <u>Specify type of procedure:</u> 0						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u> evaluate health, weigh, measure						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> 0 <u>Specify type of procedure:</u> 0						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate “general field experience” information:</u>						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1. Peter Woodman	Kiva Biological Consulting	PO Box 1210 Inyokern, CA 93527	760 861 3961	Kivabio@aol.com
2.				
3.				

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: Angileen Bates Date: 2/8/2010

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearh and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction of other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Ryan Boarman
Address	2522 Ledgeview Pl
City, State, Zip Code	Spring Valley, CA 91977
Phone Number(s)	(616) 300-6535
Email Address	ryanboarman@gmail.com

2. **Date of Statement:** 8-30-09

3. **States in which authorization is requested (check all that apply):**

California Nevada Utah Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number	TE-102235-2	Date: April 3rd, 2007
Project Name	Proposed Addition of Maneuver Training Lands at Fort Irwin	
Federal Agency	USFWS	
Proponent or Contractor	U.S. Army	

5. **Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):**

Conduct desert tortoise clearance surveys on approximately 39 sq. miles. In addition approximately 50 control animals and 10 tortoises from each of 12 translocation sites will be identified. All tortoises encountered on Southern Expansion Area and used as control or recipient animals will be weighed and measured, transmitters attached, health assessed visually and by blood collection and nasal lavage. Tortoises will be translocated in fall 2006 or spring 2007. Tortoises will be tracked at varying intensities based on their involvement with various experiments but at a minimum each tortoise will be relocated within 24 hours of transmitter attachment and monthly. Additional data collection methods may be requested during the course of the five-year study. Work conducted is based on BO (1-8-03-F-48); Terms and Conditions 1a, 2h. 3, and 4a-g on pages 62-64. Will follow requirements of the Translocation Plan as stipulated or agreed upon in T&C 4.

6. **If you hold, or have held any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities

7. **Education (provide up to three, listing most recent first):**

Institution	Dates Attended	Major/Minor	Degree received
1. CSU, Long Beach	8/31/2008 – 6/1/2009	undeclared	Pending
2. Long Beach City College	8/31/2008 – 5/28/2009	undeclared	none
3. CSU, Chico	8/26/2007 – 5/24/2008	undeclared	none

8. **Desert Tortoise Training.**

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. Desert Tortoise Translocation Training: clearance surveys, radio tracking, and radiography	5/26/2008 – 6/26/2008	Fort Irwin National Training Center	Dr. Thomas Leuteritz, Dr. Jay Meyer, Dr. William I. Boarman
2. Desert tortoise clearance surveys	4/22/2009 – 5/2/2009	Hyundai Test Track	Mercy Vaughn, Brooks Hart
3. Desert tortoise sign count transects and road kill surveys	7/14/2009 – 7/21/2009	Kramer Junction, CA	Dr. William I. Boarman. Peter Woodman
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1. Highway 58 Tortoise Barrier Fence Follow up Study – field biologist	7/14/2009 – 7/21/2009	Conducted linear sign count surveys for tortoise signs and human impacts at various distances from the highway edge. Conducted surveys along the edge of two highways looking for road killed tortoises and other vertebrates. Learned how to perform sign count surveys, to recognize tortoise sign, and to distinguish between signs of tortoises and other vertebrates.
2. Hyundai Test Track Clearance Surveys – field biologist	4/22/2009 – 5/2/2009	Participated in clearance surveys for tortoises within the Hyundai test track facility near California City, CA. Learned how to thorough search an area and check burrows for tortoises.
3. Fort Irwin Translocation project – field biologist	5/26/2008 – 6/26/2008	Participated in Desert Tortoise clearance surveys and radio tracking on several sites of the Southern Expansion Area and under the supervision of experienced personal, handled over 30 desert tortoises to x-ray for a reproduction study. Learned survey techniques, how to radio track tortoises, and how to handle and x-ray tortoises. Also learned how to use PDAs to collect data.

Specific Desert Tortoise Field Experience:						
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above): 480 hrs						
b. Number of miles/kilometers walked conducting survey transects: 240 hrs						
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered. 0 < 100 mm carapace length: 75 ≥ 100 mm carapace length:						
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	<u>10-50</u>	50-100	100-200	> 200
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
<u>Attached:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category).						
<u>Specify species or if captive desert tortoises:</u>						
<u>Attached:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u> Radiography with Drs. Thomas Leuteritz and William Boarman						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	<u>10-50</u>	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate “general field experience” information:</u>						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1. Peter Woodman	Kiva Biological Consulting/Owner	P.O. Box 1210 Inyokern, CA 92527	760-377-3466	kivabio@aol.com
2. Dr. William I. Boarman	Conservation Science Research & Consulting/Owner	2522 Ledgeview Pl Spring Valley, CA 91977	(619) 861-9450	boarman@cox.net
3. Brooks Hart	Independent consultant		(858) 922-3264	brooks_hart@hotmail.com

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: Ryan Boarman Date: 8/30/09

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearh and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction of other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Jennifer M. Brouwer	
Address	PO Box 1111	
City, State, Zip Code	South Fork, Co, 81154	
Phone Number(s)	719-873-2241	
Email Address	wildmuscadine@yahoo.com	

2. **Date of Statement:** 3-30-06

3. **States in which authorization is requested (check all that apply):**

California Nevada Utah Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number	1-8-03-F-48	Date: March 15, 2004
Project Name	Proposed Addition of Maneuver Training Lands at Fort Irwin	
Federal Agency	USFWS	
Proponent or Contractor	U.S. Army	

5. **Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):**

Conduct desert tortoise clearance surveys on approximately 39 sq. miles. In addition approximately 50 control animals and 10 tortoises from each of 12 translocation sites will be identified. All tortoises encountered on Southern Expansion Area and used as control or recipient animals will be weighed and measured, transmitters attached, health assessed visually and by blood collection and nasal lavage. Tortoises will be translocated in fall 2006 or spring 2007. Tortoises will be tracked at varying intensities based on their involvement with various experiments but at a minimum each tortoise will be relocated within 24 hours of transmitter attachment and monthly. Additional data collection methods may be requested during the course of the five-year study. Work conducted is based on BO (1-8-03-F-48); Terms and Conditions 1a, 2h. 3, and 4a-g on pages 62-64. Will follow requirements of the Translocation Plan as stipulated or agreed upon in T&C 4.

6. **If you hold, or have held any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities
N/A	N/A	N/A	N/A

7. **Education (provide up to three, listing most recent first):**

Institution	Dates Attended	Major/Minor	Degree received
1. Wilderness Awareness School	1999-2000	Naturalist Education	N/A
2. Portland State University	1995-1999	Biology/Chemistry	Senior standing
3. Portland Comm. College	1993-1995	Chemistry	Associates Degree

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. N/A			
2.			
3.			
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1. N/A		
2.		
3.		
4.		
5.		

Specific Desert Tortoise Field Experience:						
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above):						
b. Number of miles/kilometers walked conducting survey transects:						
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered.						
< 100 mm carapace length:						
≥ 100 mm carapace length:						
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
<u>Attached:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category).						
<u>Specify species or if captive desert tortoises:</u>						
<u>Attached:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate “general field experience” information:</u>						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1.				
2.				
3.				

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: _____ Date: _____

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearh and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction of other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Mark Brouwer	
Address	P.O. Box 1111	
City, State, Zip Code	South Fork, CO, 81154	
Phone Number(s)	(719) 873-2241	
Email Address	Browpow@hotmail.com	

2. **Date of Statement:** 3-30-06

3. **States in which authorization is requested (check all that apply):**

California Nevada Utah Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number	1-8-03-F-48	Date: March 15, 2004
Project Name	Proposed Addition of Maneuver Training Lands at Fort Irwin	
Federal Agency	USFWS	
Proponent or Contractor	U.S. Army	

5. **Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):**

Conduct desert tortoise clearance surveys on approximately 39 sq. miles. In addition approximately 50 control animals and 10 tortoises from each of 12 translocation sites will be identified. All tortoises encountered on Southern Expansion Area and used as control or recipient animals will be weighed and measured, transmitters attached, health assessed visually and by blood collection and nasal lavage. Tortoises will be translocated in fall 2006 or spring 2007. Tortoises will be tracked at varying intensities based on their involvement with various experiments but at a minimum each tortoise will be relocated within 24 hours of transmitter attachment and monthly. Additional data collection methods may be requested during the course of the five-year study. Work conducted is based on BO (1-8-03-F-48); Terms and Conditions 1a, 2h. 3, and 4a-g on pages 62-64. Will follow requirements of the Translocation Plan as stipulated or agreed upon in T&C 4.

6. **If you hold, or have held any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities

7. **Education (provide up to three, listing most recent first):**

Institution	Dates Attended	Major/Minor	Degree received
1. Colorado Mountain College	1992-1994	Biology	Associates in Science
2.			
3.			

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1.			
2.			
3.			
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1.		
2.		
3.		
4.		
5.		

Specific Desert Tortoise Field Experience:						
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above): 0						
b. Number of miles/kilometers walked conducting survey transects: 0						
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered. <p style="text-align: right;">< 100 mm carapace length: 0</p> <p style="text-align: right;">≥ 100 mm carapace length: 0</p>						
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
<u>Attached:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category).						
<u>Specify species or if captive desert tortoises:</u>						
<u>Attached:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate “general field experience” information:</u>						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1.				
2.				
3.				

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: Mark Brouwer Date: 1/29/07

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearh and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction ot other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Sage Clegg-Haman
Address	P.O. Box 19
City, State, Zip Code	Laytonville, CA. 95454
Phone Number(s)	(831)236-1864
Email Address	sageclegg@yahoo.com

2. Date of Statement: 04/04/08

3. States in which authorization is requested (check all that apply):

California Nevada Utah Arizona

4. Please provide information on the project:

USFWS BO or HCP Number	1-8-03-F-48	Date: March 15, 2004
Project Name	Proposed Addition of Maneuver Training Lands at Fort Irwin	
Federal Agency	USFWS	
Proponent or Contractor	U.S. Army	

5. Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):

Conduct desert tortoise clearance surveys on approximately 39 sq. miles. In addition approximately 50 control animals and 10 tortoises from each of 12 translocation sites will be identified. All tortoises encountered on Southern Expansion Area and used as control or recipient animals will be weighed and measured, transmitters attached, health assessed visually and by blood collection and nasal lavage. Tortoises will be translocated in fall 2006 or spring 2007. Tortoises will be tracked at varying intensities based on their involvement with various experiments but at a minimum each tortoise will be relocated within 24 hours of transmitter attachment and monthly. Additional data collection methods may be requested during the course of the five-year study. Work conducted is based on BO (1-8-03-F-48); Terms and Conditions 1a, 2h. 3, and 4a-g on pages 62-64. Will follow requirements of the Translocation Plan as stipulated or agreed upon in T&C 4.

6. If you hold, or have held any relevant state or federal wildlife permits, provide the following:

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities

7. Education (provide up to three, listing most recent first):

Institution	Dates Attended	Major/Minor	Degree received
1. University Of California Santa Cruz	09/97-06/01	Environmental Studies/ minor Earth Sciences	Bachelor of Arts
2.			
3.			

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. Fort Irwin Translocation Project	18/03/08-current	Ft. Irwin Military Base, California	Peter Woodman
2.			
3.			
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1. Fort Irwin Translocation Project	3/08 to present	Clearance Surveys, supervised handling, supervised temporary and permanent transmitter attachment, supervised translocation and transmitter removal.
2.		
3.		
4.		
5.		

Specific Desert Tortoise Field Experience:						
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above): 150 hrs						
b. Number of miles/kilometers walked conducting survey transects: 25km						
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered. 4 < 100 mm carapace length: 3 110 ≥ 100 mm carapace length: 50						
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	<input checked="" type="radio"/> < 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	<input checked="" type="radio"/> 10-50	50-100	100-200	> 200
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
<u>Attached:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	<u>< 10</u>	10-50	50-100	100-200	> 200
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category).						
<u>Specify species or if captive desert tortoises:</u>						
<u>Attached:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<u>Zero</u>	< 10	10-50	50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate “general field experience” information:</u>						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1. Peter Woodman	Kiva Biological Consulting	PO Box 1210 Inyokern, CA 93527-2922	760-861-3961	kivabio@aol.com
2. Liz Smith	Field Biologist	1628 E Southern Ave #9-322 Tempe, AZ. 85282	480-363-4918	desertbiogirl@gmail.com
3. Chandra Llewellyn	Field Biologist	PO Box 4016 Santa Cruz, CA 95063	831-588-0675	chandrallewellyn@gmail.com

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: Sage Clegg-Haman

Date: April 4th 2008

Desert Tortoise Monitor And Biologist Responsibilities And Qualifications

Below is a form that we suggest you complete which would provide necessary information that will allow us to review your qualifications to work with desert tortoise. Please submit this completed form to the requesting agency instead of your resume. The responsibilities and general skills required for desert tortoise monitors and authorized biologists are identified below.

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service or other agency as designated by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and report incidents of non-compliance in accordance with biological opinions or permit. Monitors should have sufficient desert tortoise training and field experience to detect the presence of desert tortoises through observations of animals and sign including scat and burrows. A monitor is typically not authorized to handle desert tortoises, or determine presence/absence of desert tortoises or conduct clearance surveys.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service or other agency as designated by the Fish and Wildlife Service to conduct activities that may result in capture, or collect, or to attempt to engage in any such conduct. Roman">unearth and relocate desert tortoise eggs

locate, identify, and record all forms of desert tortoise sign
follow Service-approved protocols.

Desert Tortoise Biologist Qualifications Statement

1. Name: David E. Erlandson
Address: 2526 Harvard
City, State, zip code: Butte MT, 59701
Phone number: 702-373-9882
Email address: davee2526@gmail.com

2. Date of Statement: May 27, 2009

. States in which authorization is requested (check all that apply):

CaliforniaX Nevada Utah Arizona

If authorization is sought for desert tortoise work under a Biological Opinion, provide the following: Biological Opinion File No. (USFWS):

_____ Date: _____

Project Name: _____

Federal Agency _____

Proponent or Contractor: _____

4. Desert tortoise training:

Dates (dd/mm/year): _____

Location: _____

Instructor/sponsor: _____

5. Education: Provide up to three:

	1. Community College	2.	3.
Institution	Dates of Southern Nevada		
attended	August 30, 2003 - May		
Major/minor	15, 2005		
	Biology/Chemistry		
Degree	Associates of Science		

6. Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, withdraw blood, etc.). Complete pages 4-5 of this form if you seek approval to attach/remove/insert any devices or equipment to/into tortoises, withdraw blood, or conduct other procedures on desert tortoises.

__Ft. Irwin National Training Center Expansion

Twentynine Palms Marine Corps Base

7. If you hold, or have you held, any state or federal wildlife permits, provide the following:

Dates: _____

Species: _____

State (specify) or Federal Permit and number:

Authorized activities:

Total field experience: For all projects and activities provide the following information. Provide experience involving attachment/removal/insertion of any devices or equipment to/into tortoises, or withdrawal of blood from desert tortoises on pages 4-5 of this form.

- No. of hours _____ or 8-hr. days ___150+_____ conducting desert tortoise-related activities.
- *No. of wild, free-ranging desert tortoises you encountered: <100 mm carapace length _5____
>100 mm carapace length __45____
- *No. of wild, free-ranging desert tortoises you personally handled: ___20_____
- No. of transect miles/kilometers walked: ___200km_____
- Prior authorizations for desert tortoise under Biological Opinions (specify number, date, and project and location if known):

*Do not include numbers of captive-held tortoises encountered or held.

b. References that can verify your field qualifications and skills. Provide information on the right for up to 3.

Name: Pete Woodman
Employer/Position: Kiva Biological Consulting/Proprietor
Address/location:
Phone no.: 760-861-3961
Email: Kivabio@aol.com
Name: Elizabeth Smith
Employer/Position: Kiva Biological Consulting/Biologist
Address/location:
Phone no.: 480-363-4918
Email:
Name:
Employer/Position:
Address/location:
Phone no.:
Email:

Other Experience. Provide your experience with the following procedures involving desert tortoises.

You may include experience with other tortoises; if so, specify species.

a. Experience Attaching and removing of telemetry devices.

- No. of telemetry devices observed attached to, or removed (specify) from desert tortoise(s) and size class of desert tortoise, as part of a training effort by a qualified individual:

Wild, free-ranging 0 Captive 3 Size class (see note below) B, C

- No. of telemetry devices you assisted in attaching to, or removing (specify) from and size class of desert tortoise(s), as part of a training effort by a qualified (supervising) individual:

Wild, free-ranging 0 Captive 0 Size class (see note below) _____

- No. of telemetry devices you attached to, or removed (specify) from desert tortoise(s) and size class of desert tortoise(s), unsupervised or not part of a training effort.

Wild, free-ranging 0 Captive 0 Size class (see note below) _____

NOTE: Size classes based on mid-carapace length: A = <100 mm; B = 100-180 mm; C = >180 mm

Dates (dd/mm/year): From: 04/06/2008 To:10/12/2008

Identify permit or Biological Opinion that authorized the above activities. TE-102235-0

Reference that can verify your experience and skills.	Reference that can verify your experience and skills.
Name: Pete Woodman	Name:
Employer/Position: Kiva Biological Consulting/Proprietor	Employer/Position:
Address/location:	Address/location:
Phone no.: 760-861-3961	Phone no.:
Email: kivabio@aol.com	Email:

b. Experience Withdrawing Blood from Desert Tortoises.

- No. of observations of the blood-withdrawal process on desert tortoises and size class of desert tortoise(s), as part of a training effort by a qualified individual:

Wild, free-ranging 3 Captive 0 Size class (see note below) C

- No. of blood-withdrawal processes during which you assisted, and size class of desert tortoise(s), as part of a training effort by a qualified (supervising) individual:

Wild, free-ranging 0 Captive 0 Size class (see note below) C

- No. of blood-withdrawal events that you conducted, and size class of desert tortoise(s), in an unsupervised setting which was not part of a training effort.

Wild, free-ranging ___0___ Captive ___0___ Size class (see note below) _____

NOTE: Size classes based on mid-carapace length: A = <100 mm; B = 100-180 mm; C = >180 mm

Dates (dd/mm/year): From: 07/04/2009 To: 26/05/2009

Identify permit that authorized the above activities.

Reference that can verify your experience and skills.	Reference that can verify your experience and skills.
Name: Pete Woodman	Name: Elizabeth Smith
Employer/Position: Kiva Biological Consulting/Proprietor	Employer/Position: Kiva Biological Consulting/Biologist
Address/location:	Address/location:
Phone no.: 760-861-3961	Phone no.: 480-363-4918
Email: kivabio@aol.com	Email:

c. Experience Implanting Identification Tags into Tortoises.

- No. of observations of the tag-insertion process on desert tortoises and size class of desert tortoise(s), as part of a training effort by a qualified individual:

Wild, free-ranging ___0___ Captive ___0___ Size class (see note below) _____

- No. of tag-insertion events during which you assisted, and size class of desert tortoise(s), as part of a training effort by a qualified (supervising) individual:

Wild, free-ranging ___0___ Captive ___0___ Size class (see note below) _____

- No. of tag-insertion events that you conducted, and size class of tortoise(s), in an unsupervised setting which was not part of a training effort.

Wild, free-ranging ___0___ Captive ___0___ Size class (see note below) _____

NOTE: Size classes based on mid-carapace length: A = <100 mm; B = 100-180 mm; C = >180 mm

Dates (dd/mm/year): From: To:

Identify permit that authorized the above activities.

Reference that can verify your experience and skills.	Reference that can verify your experience and skills.
---	---

Name:
Employer/Position:
Address/location:
Phone no.:
Email:

Name:
Employer/Position:
Address/location:
Phone no.:
Email:

d. Experience Conducting Other Procedures on Desert Tortoises. Specify the following:
Health Assessments

- No. of observations of procedure and size class of desert tortoise(s), as part of a training effort by a qualified individual:

Wild, free-ranging ___0___ Captive ___0___ Size class (see note below) _____

- No. of procedures in which you assisted, and size of desert tortoise(s), as part of a training effort by a qualified (supervising) individual:

Wild, free-ranging ___0___ Captive ___6___ Size class (see note below) B, C_____

- No. of procedures that you conducted, and size of desert tortoise(s), in an unsupervised setting which was not part of a training effort.

Wild, free-ranging ___0___ Captive ___0___ Size class (see note below) _____

NOTE: Size classes based on mid-carapace length: A = <100 mm; B = 100-180 mm; C = >180 mm

Dates (dd/mm/year): From: 09/09/2008 To: 09/10/2008

Identify permit that authorized the above activities. TE-102235-0

Reference that can verify your experience and skills.

Name: Pete Woodman
Employer/Position: Kiva Biological Consulting
Address/location:
Phone no.: 760-861-3961
Email: kivabio@aol.com

Reference that can verify your experience and skills.
Name: Charlie Jones
Employer/Position: Kiva Biological Consulting
Address/location:
Phone no.: 317-258-5643
Email:

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. 1001.

Signed: _____ Date: _____

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearh and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction of other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Paul Fuchs
Address	PO Box 55
City, State, Zip Code	Thomas, WV 26292
Phone Number(s)	406 446 3805
Email Address	hippsakamo@yahoo.com

2. **Date of Statement:** April 18, 2009

3. **States in which authorization is requested (check all that apply):**

California Nevada Utah Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number	1-8-03-F-48	Date: March 15, 2004
Project Name	Proposed Addition of Maneuver Training Lands at Fort Irwin	
Federal Agency	USFWS	
Proponent or Contractor	U.S. Army	

5. **Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):**

Conduct desert tortoise clearance surveys on approximately 39 sq. miles. In addition approximately 50 control animals and 10 tortoises from each of 12 translocation sites will be identified. All tortoises encountered on Southern Expansion Area and used as control or recipient animals will be weighed and measured, transmitters attached, health assessed visually and by blood collection and nasal lavage. Tortoises will be translocated in fall 2006 or spring 2007. Tortoises will be tracked at varying intensities based on their involvement with various experiments but at a minimum each tortoise will be relocated within 24 hours of transmitter attachment and monthly. Additional data collection methods may be requested during the course of the five-year study.

Work conducted is based on BO (1-8-03-F-48); Terms and Conditions 1a, 2h, 3, and 4a-g on pages 62-64. Will follow requirements of the Translocation Plan as stipulated or agreed upon in T&C 4.

6. **If you hold, or have held any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities
N/A			

7. **Education (provide up to three, listing most recent first):**

Institution	Dates Attended	Major/Minor	Degree received
1. University of Dayton	1991-1995	Major	B.A. History
2.			
3.			

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1.DesertTortoise identification Training	9/17/2009	Fort Irwin/ WEA	Peter Woodman
2.			
3.			
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1. WEA	9/17-10/15/2010	Walked transects, identified and logged all desert tortoise sign, helped transmit live tortoises
2.		
3.		
4.		
5.		

Specific Desert Tortoise Field Experience:							
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above): 29 days of walking transects on the WEA							
b. Number of miles/kilometers walked conducting survey transects: > 348 Kilometers							
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered. 1 < 100 mm carapace length: 12 ≥ 100 mm carapace length:							
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).							
0 < 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
4 ≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).							
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Attached:</u> 3							
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
3 ≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
<u>Removed:</u>							
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Attached:</u> 0							
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
<u>Removed:</u>							
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200	
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category). N/A							

< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> 0 <u>Specify type of procedure:</u> 0						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u> evaluate health, weigh, measure						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> 0 <u>Specify type of procedure:</u> 0						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate “general field experience” information:</u>						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1. Peter Woodman	Kiva Biological Consulting	PO Box 1210 Inyokern, CA 93527	760 861 3961	Kivabio@aol.com
2.				
3.				

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: Paul Fuchs Date: 2/8/2010

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearh and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction of other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Josh Holloway
Address	2046 Beth St.
City, State, Zip Code	Pocatello, ID 83201
Phone Number(s)	(208) 286-8015
Email Address	josh_j_holloway@yahoo.com

2. **Date of Statement:** April 18, 2008

3. **States in which authorization is requested (check all that apply):**

California Nevada Utah Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number	1-8-03-F-48	Date: March 15, 2004
Project Name	Proposed Addition of Maneuver Training Lands at Fort Irwin	
Federal Agency	USFWS	
Proponent or Contractor	U.S. Army	

5. **Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):**

Conduct desert tortoise clearance surveys on approximately 39 sq. miles. In addition approximately 50 control animals and 10 tortoises from each of 12 translocation sites will be identified. All tortoises encountered on Southern Expansion Area and used as control or recipient animals will be weighed and measured, transmitters attached, health assessed visually and by blood collection and nasal lavage. Tortoises will be translocated in fall 2006 or spring 2007. Tortoises will be tracked at varying intensities based on their involvement with various experiments but at a minimum each tortoise will be relocated within 24 hours of transmitter attachment and monthly. Additional data collection methods may be requested during the course of the five-year study. Work conducted is based on BO (1-8-03-F-48); Terms and Conditions 1a, 2h. 3, and 4a-g on pages 62-64. Will follow requirements of the Translocation Plan as stipulated or agreed upon in T&C 4.

6. **If you hold, or have held any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities
Gray Wolf (Canis lupus)	July 2005-December 2007	Ontario, Canada	Trapping, chemical immobilization, blood drawing and radio transmitting

7. **Education (provide up to three, listing most recent first):**

Institution	Dates Attended	Major/Minor	Degree received
1. Trent University	July 2005-Present	Ecology and Conservation Biology	Masters of Science (Candidate)
2. University of Idaho	Sept. 1996- Dec. 2001	Wildlife Biology	Bachelors of Science
3.			

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. Trained to identify and measure tortoise sign (scat, carcasses, tracks, burrows)	April 3 to April 7 2007	Chuckwalla Valley, California	Lindsay Spenceley/ Alice Karl
2. Trained to identify and measure tortoise sign (scat, carcasses, tracks, burrows)	April 8 to April 10, 2007	Barstow, California	Lindsay Spenceley/ Mercy Vaughn
3. Trained to radiograph desert tortoises	April, May 2008	Fort Irwin, CA	Dr. Thomas Leuteritz
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1. Biological sub-contractor	April 8, 2007 to Present	118 tortoises handles, X-rayed 38 tortoises, radio telemetry locations on > 200 tortoises, collected and measured 23 tortoises for translocation, assisted with transmitting of 3 tortoises, collected burrow measurements on > 20 tortoise burrows
2. Biological sub-contractor	April 11 to April 22	Conducted preconstruction tortoise transect surveys, measured 12 burrows, identified and measured >50 tortoise scats, identified and recorded location of 5 tortoises
3.		
4.		
5.		

Specific Desert Tortoise Field Experience:						
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above): 43 days						
b. Number of miles/kilometers walked conducting survey transects: 110 miles						
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered. <div style="text-align: right;">< 100 mm carapace length: 3</div> <div style="text-align: right;">≥ 100 mm carapace length: 225</div>						
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	<input checked="" type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
≥ 100 mm:	Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input checked="" type="radio"/> 100-200	<input type="radio"/> > 200
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
≥ 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
<u>Attached:</u>						
< 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
≥ 100 mm:	Zero	<input type="radio"/> < 10	<input checked="" type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
<u>Removed:</u>						
< 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
≥ 100 mm:	Zero	<input type="radio"/> < 10	<input checked="" type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category).						
<u>Specify species or if captive desert tortoises:</u> Gray wolf, Canada Lynx, Black Bear						
<u>Attached:</u>						
< 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
≥ 100 mm:	Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input checked="" type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
<u>Removed:</u>						
< 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
≥ 100 mm:	Zero	<input type="radio"/> < 10	<input checked="" type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
< 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
≥ 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> Gray wolf, Canada lynx, black bear <u>Specify type of procedure:</u> Chemical immobilization, weigh, health evaluation						
< 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	<input type="checkbox"/> 50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u> evaluate health, weigh, measure, X-ray						
< 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	<input type="checkbox"/> 100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate “general field experience” information:</u> N/A						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1. Peter Woodman	Kiva Biological Consulting	PO Box 1210 Inyokern, CA 93527	760 861 3961	Kivabio@aol.com
2. Mercy Vaughn	Sundance Biological		928 380-5507	manydogs10@aol.com
3. Brent Patterson	Ontario Ministry of Natural Resources/ Research Scientist	WRDS, OMNR Trent University DNA Building 2140 E. Bank Dr. Peterborough, ON K9J 7B8 Canada	705 755-1553	brent.patterson@ontario.ca

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: Josh Holloway____ **Date: 5 May 2008** ____

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearh and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction of other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Thomas G. Jackson, Jr.	
Address	44095 Dinely Drive	
City, State, Zip Code	Three Rivers, CA 93271	
Phone Number(s)	(251) 605-3322 cell	
Email Address	jacksontg@hotmail.com	

2. Date of Statement: 3. States in which authorization is requested (check all that apply):

California Nevada Utah Arizona

4. Please provide information on the project:

USFWS BO or HCP Number:	
Project Name:	
Federal Agency:	
Proponent or Contractor:	

5. Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):

6. If you hold, or have held any relevant state or federal wildlife permits, provide the following:

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities
N/A			

7. Education (provide up to three, listing most recent first):

Institution	Dates Attended	Major/Minor	Degree received
1. University of South Alabama	08/06 to 05/09	Biology	Master of Science
2. Auburn University	08/99 to 05/03	Wildlife Science	Bachelors of Science
3. Auburn University	08/99 to 05/03	Forestry	Bachelors of Science

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. N/A			
2.			
3.			
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1. Ft. Irwin Expansion Project	May 2009 – June 2009	<ul style="list-style-type: none"> Conduct presence/absence surveys for Mojave desert tortoise
2. CPC Proper	May 2009	<ul style="list-style-type: none"> Conduct presence/absence surveys for Mojave desert tortoise
3. Hyundai Project	April 2009 – May 2009	<ul style="list-style-type: none"> Conduct clearance surveys for Mojave desert tortoise
4. Ft. Irwin Expansion project	April 2009	<ul style="list-style-type: none"> Assistant in collecting demographic (length, mass, sex), behavioral and health data (noting signs of URTD, external parasites, shell disease, physical trauma) – 23 Mojave desert tortoises Use radio-telemetry, assist in removing old transmitters – 23 Mojave desert tortoises
5. The Nature Conservancy- Wildlife Field Technician <i>Gopherus polyphemus</i> experience	January 2005 – August 2006	<ul style="list-style-type: none"> Conducted radio-telemetry study Conducted presence/absence surveys Extracted ~150 blood samples from tortoises for genetic samples, URTDs testing, stress hormone level testing Induced labor of gravid female tortoises via Oxytocin Collected and incubated tortoise eggs for head-start program Administered Cortisol for stress hormone level research

Specific Desert Tortoise Field Experience:						
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above) <input type="text" value="60 days"/>						
b. Number of miles/kilometers walked conducting survey transects: <input type="text" value="500 miles"/>						
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered. <div style="text-align: right;"> < 100 mm carapace length: 01 ≥ 100 mm carapace length: 45 </div>						
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	<input type="text" value="Zero"/>	< 10	<i>10-50</i>	50-100	100-200	> 200
≥ 100 mm:	<i>Zero</i>	< 10	<input type="text" value="10-50"/>	50-100	100-200	> 200
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	<input type="text" value="Zero"/>	< 10	<i>10-50</i>	50-100	100-200	> 200
≥ 100 mm:	<input type="text" value="Zero"/>	< 10	<i>10-50</i>	50-100	100-200	> 200
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
<u>Attached:</u>						
< 100 mm:	<input type="text" value="Zero"/>	< 10	<i>10-50</i>	50-100	100-200	> 200
≥ 100 mm:	<input type="text" value="Zero"/>	< 10	<i>10-50</i>	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	<input type="text" value="Zero"/>	< 10	<i>10-50</i>	50-100	100-200	> 200
≥ 100 mm:	<i>Zero</i>	< 10	<input type="text" value="10-50"/>	50-100	100-200	> 200
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category).						
<u>Specify species or if captive desert tortoises:</u> <i>Gopherus polyphemus</i> (Gopher tortoise)						
<u>Attached:</u>						
< 100 mm:	<input type="text" value="Zero"/>	< 10	<i>10-50</i>	50-100	100-200	> 200
≥ 100 mm:	<i>Zero</i>	< 10	<input type="text" value="10-50"/>	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	<input type="text" value="Zero"/>	< 10	<i>10-50</i>	50-100	100-200	> 200
≥ 100 mm:	<i>Zero</i>	< 10	<input type="text" value="10-50"/>	50-100	100-200	> 200
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
< 100 mm:	<input type="text" value="Zero"/>	< 10	<i>10-50</i>	50-100	100-200	> 200
≥ 100 mm:	<input type="text" value="Zero"/>	< 10	<i>10-50</i>	50-100	100-200	> 200 (via toenail clipping)

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <i>Gopherus polyphemus</i> (Gopher tortoise) <u>Specify type of procedure:</u> Blood extraction (1-2 ml) from femoral vein						
< 100 mm:	<input checked="" type="radio"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	<input checked="" type="radio"/> 100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u> Attaching USFWS identity tags to carapace						
< 100 mm:	<input checked="" type="radio"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input checked="" type="radio"/> Zero	< 10	10-50	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <i>Gopherus polyphemus</i> (Gopher tortoise) <u>Specify type of procedure:</u> Induce labor of gravid females via Oxytocin, Administered Cortisol to test stress hormone levels						
< 100 mm:	<input checked="" type="radio"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	<input checked="" type="radio"/> 50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate "general field experience" information:</u>						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1.	Andrew Walde	Atascadero, CA	760-887-7012	awalde@hotmail.com
2.	Mercy Vaughn	Paso Robles, CA	928-380-5507	manydogs10@aol.com
3.	Kemp Anderson	Seal Beach, CA	562-243-9896	kempanderson@netzero.net

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: Thomas G. Jackson, Jr.

Date: 07/11/2009

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearth and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction of other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Nathan M. Jones
Address	234 Spreckels Dr.
City, State, Zip Code	Aptos, CA, 95003
Phone Number(s)	(831) – 227 - 4197
Email Address	nmj.pacific@yahoo.com

2. **Date of Statement:** 8/10/2009

3. **States in which authorization is requested (check all that apply):**

California Nevada Utah Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number	1-8-03-F-48	Date: March 15, 2004
Project Name	Proposed Addition of Maneuver Training Lands at Fort Irwin	
Federal Agency	USFWS	
Proponent or Contractor	U.S. Army	

5. **Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):**

Conduct desert tortoise clearance surveys on approximately 39 sq. miles. In addition approximately 50 control animals and 10 tortoises from each of 12 translocation sites will be identified. All tortoises encountered on Southern Expansion Area and used as control or recipient animals will be weighed and measured, transmitters attached, health assessed visually and by blood collection and nasal lavage. Tortoises will be translocated in fall 2006 or spring 2007. Tortoises will be tracked at varying intensities based on their involvement with various experiments but at a minimum each tortoise will be relocated within 24 hours of transmitter attachment and monthly. Additional data collection methods may be requested during the course of the five-year study. Work conducted is based on BO (1-8-03-F-48); Terms and Conditions 1a, 2h. 3, and 4a-g on pages 62-64. Will follow requirements of the Translocation Plan as stipulated or agreed upon in T&C 4.

6. **If you hold, or have held any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities
None to date			

7. **Education (provide up to three, listing most recent first):**

Institution	Dates Attended	Major/Minor	Degree received
1. UC Santa Cruz	09/1991 – 03/1997	Double: Biology and Env. Studies	BA, BA
2. San Jose State University	08/2007-03/2008	Marine Science	MSc. In progress
3.			

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. Transmittering Tortoises	April 2009-Sept., 2009	Fort Irwin	Peter Woodman, Liz Smith
2.			
3.			
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1. Ft. Irwin Desert Tortoise Translocation – Independently contracted Biologist	03/2007 - Present	Line transects and coverage surveys for wild desert tortoises. Handling under the supervision of permitted personnel, conducting morphometric data collection and health assessments. Attaching radio transmitters under the supervision of permitted personnel. Radio telemetry tracking of marked tortoises. Data entry and proofing using Excel.
2. Common Murre Project - Biologist	03/2001 – 03/2007	Management of data collection efforts, computer database, equipment and field supervision of two technicians in an ongoing study evaluating the recolonization of a nearshore Common Murre colony. Information gathered: seasonal attendance and productivity for over 300 breeding pairs from three seabird species, adult time budgets, predation studies, chick diet, nearshore and colony population censusing of seabirds. Additional duties (Sept – Mar): report writing, literature preparation and review, public and professional presentations, equipment maintenance, protocol development, purchasing as needed, and data analysis using Word, WordPerfect, Access, Excel, Publisher, and ArcView GIS.
3. USFWS – lead field biologist, seasonal technician	05/2003 – 09/2003	Managed field camp of six to seven researchers, and responsible for data collection efforts and field database, equipment, and two technicians for ongoing monitoring

		efforts in remote field camp in Aleutian Islands. Baseline data collected on chick growth, breeding populations, diet, reproductive success, and breeding phenology of 20 species of seabirds. Extensive handling, banding, and morphometrics employed daily. Capture techniques included carpet noose, pole noose, and mist netting.
4. UC Berkeley graduate study – Marbled Murrelet field technician	06/2001 – 09/2001	Daily counts of endangered marbled murrelet population along varied transect lines in Zodiac raft on open ocean waters between Half Moon Bay, CA and Santa Cruz, CA. Additional data taken consisted of salinity, temperature, and at sea distribution of other alcid species. Some shifts spent using radio telemetry tracking on land.
5. UC Santa Cruz graduate study – field technician	06/1997 – 09/1997	Activities included; nighttime banding, weighing, and measuring of adults and chicks, day and night behavioral observations and predation study using night scope and infrared camera, nest monitoring using hand GPS.
6. UC Berkeley graduate study – field technician	03/1999 – 06/1999	Assisted in a study of Song Sparrow demographics in marshlands habitat throughout the greater San Francisco Bay area. Tasks focused on mist-netting, blood sampling, banding, and resighting of Song Sparrows. Data taken included sexing and morphometrics, and the recording of all other migratory and resident songbirds caught incidentally in nets.
7. UC Santa Cruz – field technician	01/1997 – 03/1997	Worked alone and in small teams of 2-4 on a series of ecological research experiments describing plant community structure. Field methods included plot layout and analysis, baseline data collection, and collection and processing of native cuttings and plantings for propagation.

Specific Desert Tortoise Field Experience:						
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above): 850 hours						
b. Number of miles/kilometers walked conducting survey transects: Walking = 650 kilometers. Line transect work done from 13' zodiac raft in nearshore waters = 1920 miles.						
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered. <div style="text-align: right;"> < 100 mm carapace length: 16 ≥ 100 mm carapace length: 280 </div>						
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Attached:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species or captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u>						
<u>Attached:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises: Song Sparrows</u> <u>Specify type of procedure: Blood sampling</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure: Morphometrics and health assessments</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises: Marbled Murrelets, and > 9 additional Alcid spp.</u> <u>Specify type of procedure: Captures, handling, banding, morphometrics, telemetry tracking</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate “general field experience” information:</u> None to date						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1. Peter Woodman	Kiva Biological Consulting	P.O. 1210 Inyo Kern, CA, 93527	(760) 861 - 3961	Kivabio@aol.com
2. Gerard McChesney	USFWS - Biologist	9500 Thornton Ave. Newark, CA, 94560	(510) 792 – 0717 x222	Gerry_McChesney@fws.gov
3. Rachel Woodard	Wildlife Biologist		(760) 954 - 0645	
4. Benjamin Becker	UC Berkeley	Ecosystems Sciences Division – ESPM, 151 Hilgard Hall #3110, Berkeley, CA, 94720	(510) 642 - 0341	http://www.espm.berkeley.edu/divisions/es.html
5. Yvonne Chan	Stanford University – PhD candidate	Dept. Biological Sciences, Gilbert Hall, Stanford University, Stanford, CA, 94305	(650) 723 - 2413	http://www.stanford.edu/group/hadlylab/joinlab.html

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: Nathan Jones **Date:** Sept 10, 2009

**DESERT TORTOISE MONITOR AND BIOLOGIST
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AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearh and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

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1. Contact Information

Name	Joshua MacNaughton	
Address	PO Box 532	
City, State, Zip Code	Flagstaff, AZ 86002	
Phone Number(s)	(480) 202-0922	
Email Address	jdisc@hotmail.com	

2. **Date of Statement:** 3-30-06

3. **States in which authorization is requested (check all that apply):**

California Nevada Utah Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number	1-8-03-F-48	Date: March 15, 2004
Project Name	Proposed Addition of Maneuver Training Lands at Fort Irwin	
Federal Agency	USFWS	
Proponent or Contractor	U.S. Army	

5. **Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):**

Conduct desert tortoise clearance surveys on approximately 39 sq. miles. In addition approximately 50 control animals and 10 tortoises from each of 12 translocation sites will be identified. All tortoises encountered on Southern Expansion Area and used as control or recipient animals will be weighed and measured, transmitters attached, health assessed visually and by blood collection and nasal lavage. Tortoises will be translocated in fall 2006 or spring 2007. Tortoises will be tracked at varying intensities based on their involvement with various experiments but at a minimum each tortoise will be relocated within 24 hours of transmitter attachment and monthly. Additional data collection methods may be requested during the course of the five-year study. Work conducted is based on BO (1-8-03-F-48); Terms and Conditions 1a, 2h. 3, and 4a-g on pages 62-64. Will follow requirements of the Translocation Plan as stipulated or agreed upon in T&C 4.

6. **If you hold, or have held any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities

7. **Education (provide up to three, listing most recent first):**

Institution	Dates Attended	Major/Minor	Degree received
1. Northern Arizona University	2000-2006	Parks and Recreation Management	MBA
2. Milton High School	1994-1997		High School Diploma
3.			

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1.			
2.			
3.			
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1.		
2.		
3.		
4.		
5.		

Specific Desert Tortoise Field Experience:						
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above):						
b. Number of miles/kilometers walked conducting survey transects:						
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered.						
< 100 mm carapace length:						
≥ 100 mm carapace length:						
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
<u>Attached:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category).						
<u>Specify species or if captive desert tortoises:</u>						
<u>Attached:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate “general field experience” information:</u>						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1.				
2.				
3.				

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: Joshua Seth MacNaughton
Date: 9-11-08

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearh and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction of other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Deanna Sanderson	
Address	PO Box 532	
City, State, Zip Code	Flagstaff, AZ 86002	
Phone Number(s)	928 380 6293	
Email Address		

2. **Date of Statement:** May 8, 2008

3. **States in which authorization is requested (check all that apply):**

California Nevada Utah Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number	1-8-03-F-48	Date: March 15, 2004
Project Name	Proposed Addition of Maneuver Training Lands at Fort Irwin	
Federal Agency	USFWS	
Proponent or Contractor	U.S. Army	

5. **Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):**

Conduct desert tortoise clearance surveys on approximately 39 sq. miles. In addition approximately 50 control animals and 10 tortoises from each of 12 translocation sites will be identified. All tortoises encountered on Southern Expansion Area and used as control or recipient animals will be weighed and measured, transmitters attached, health assessed visually and by blood collection and nasal lavage. Tortoises will be translocated in fall 2006 or spring 2007. Tortoises will be tracked at varying intensities based on their involvement with various experiments but at a minimum each tortoise will be relocated within 24 hours of transmitter attachment and monthly. Additional data collection methods may be requested during the course of the five-year study. Work conducted is based on BO (1-8-03-F-48); Terms and Conditions 1a, 2h. 3, and 4a-g on pages 62-64. Will follow requirements of the Translocation Plan as stipulated or agreed upon in T&C 4.

6. **If you hold, or have held any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities

7. **Education (provide up to three, listing most recent first):**

Institution	Dates Attended	Major/Minor	Degree received
1. Northern Arizona University	2000-2006	Parks and Recreation Management	MBA
2. Milton High School	1994-1997		High School Diploma
3.			

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1.			
2.			
3.			
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1.		
2.		
3.		
4.		
5.		

Specific Desert Tortoise Field Experience:						
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above): 26						
b. Number of miles/kilometers walked conducting survey transects: 135						
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered. <div style="text-align: right;">< 100 mm carapace length: 3</div> <div style="text-align: right;">≥ 100 mm carapace length: 16</div>						
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	<input type="checkbox"/> < 10	10-50	50-100	100-200	> 200
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
<u>Attached:</u>						
< 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category).						
<u>Specify species or if captive desert tortoises:</u>						
<u>Attached:</u>						
< 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
< 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="checkbox"/> Zero	< 10	10-50	50-100	100-200	> 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u>						
< 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate “general field experience” information:</u>						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1. Peter Woodman	Kiva Biological Consulting	PO Box 1210 Inyokern, CA 93527	760 861 3961	Kivabio@aol.com
2.				
3.				

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: Deanna Sanderson Date: 9-11-08

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearh and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction to other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Tracy Scott
Address	126 Rand Terrace
City, State, Zip Code	Auburndale, MA, 02466
Phone Number(s)	(202) 272-4055
Email Address	scotto33@hotmail.com

2. **Date of Statement:** 4/20/08

3. **States in which authorization is requested (check all that apply):**

California Nevada Utah Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number	Permit #TE-702631	Date: April 20, 2008
Project Name	Line Distance Sampling	
Federal Agency	USFWS	
Proponent or Contractor	ITS Corporation	

5. **Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):**

Using line distance sampling methodology, 12 km transects will be walked throughout critical habitat in the Mojave Desert. Live tortoises encountered outside of burrows will be weighed, measured, and attached a small identification tag. Live tortoises encountered in burrows will be documented but not handled. Tortoise carcasses will be measured and documented. Additionally, focal studies will be performed resident populations of previously transmitted animals in each sampling region will be tracked daily using radio telemetry while crews are working within that region. Work conducted is based on the Desert Tortoise Population Monitoring Handbook (138 pages), where transect and focal methodology is outlined.

6. **If you hold, or have held any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities

7. **Education (provide up to three, listing most recent first):**

Institution	Dates Attended	Major/Minor	Degree received
1. Ohio Wesleyan University	1993-1997	Psychology	BA
2. University of New England	2005-2007	Social Work	MA
3.			

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. Line Distance Sampling	March 2008	Desert Tortoise Conservation Center, Las Vegas, NV	Peter Woodman, Terry Christopher, Laura Pavliscak
2.			
3.			
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience: Searching for and processing desert tortoises including weighing and measuring live animals, and using radio telemetry to find transmittered animals.		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1. Line Distance Sampling, Field Technician	March/April 2008	Using line distance sampling methodology, searched for desert tortoises, weighed, measured carapace length, and attached small identification tag to encountered animals. Proper handling procedures were observed, including temperature monitoring. FWS permit number: TE-702631.
2. Ft. Irwin Expansion, Field Technician	April 2008	Assisted with translocation of desert tortoises in the Southern Expansion Area, including observing processing translocatees, helping move animals into new locations, and using radio telemetry to track research animals. Walked in a clearance crew in the Western Expansion Area, searching for tortoise sign and live animals. FWS permit number: TE 102235-3.
3.		
4.		
5.		

Specific Desert Tortoise Field Experience:						
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above): 25 days						
b. Number of miles/kilometers walked conducting survey transects: 205 km						
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered. <div style="text-align: right;"> <p>< 100 mm carapace length: 10</p> <p>≥ 100 mm carapace length: 96</p> </div>						
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	<input checked="" type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
≥ 100 mm:	Zero	<input type="radio"/> < 10	<input checked="" type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	<input checked="" type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
≥ 100 mm:	Zero	<input type="radio"/> < 10	<input checked="" type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
<u>Attached:</u>						
< 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
≥ 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
<u>Removed:</u>						
< 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
≥ 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category).						
<u>Specify species or if captive desert tortoises:</u>						
<u>Attached:</u>						
< 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
≥ 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
<u>Removed:</u>						
< 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
≥ 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
< 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200
≥ 100 mm:	<input checked="" type="radio"/> Zero	<input type="radio"/> < 10	<input type="radio"/> 10-50	<input type="radio"/> 50-100	<input type="radio"/> 100-200	<input type="radio"/> > 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u>						
< 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate "general field experience" information:</u>						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1. Peter Woodman	Kiva Biological Consulting	PO Box 1210 Inyokern, CA 93527	(760) 861-3961	kivabio@aol.com
2. Laura Pavliscak	LDS Field Manager	Ventura, CA	(831) 238-1243	lulupav@gmail.com
3. Liz Smith	Self-employed	Ridgecrest, CA	(480) 363-4918	desertbiogirl@gmail.com

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: Tracy Scott Date: 20 Apr 08

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearh and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction of other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Eric Somers
Address	P.O. Box 151
City, State, Zip Code	Yermo, CA 92398
Phone Number(s)	585 279 4238
Email Address	esom0811@gmail.com

2. **Date of Statement:** July 20, 2009

3. **States in which authorization is requested (check all that apply):**

California Nevada Utah Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number	1-8-03-F-48	Date: March 15, 2004
Project Name	Proposed Addition of Maneuver Training Lands at Fort Irwin	
Federal Agency	USFWS	
Proponent or Contractor	U.S. Army	

5. **Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):**

Conduct desert tortoise clearance surveys on approximately 39 sq. miles. In addition approximately 50 control animals and 10 tortoises from each of 12 translocation sites will be identified. All tortoises encountered on Southern Expansion Area and used as control or recipient animals will be weighed and measured, transmitters attached, health assessed visually and by blood collection and nasal lavage. Tortoises will be translocated in fall 2006 or spring 2007. Tortoises will be tracked at varying intensities based on their involvement with various experiments but at a minimum each tortoise will be relocated within 24 hours of transmitter attachment and monthly. Additional data collection methods may be requested during the course of the five-year study. Work conducted is based on BO (1-8-03-F-48); Terms and Conditions 1a, 2h. 3, and 4a-g on pages 62-64. Will follow requirements of the Translocation Plan as stipulated or agreed upon in T&C 4.

6. **If you hold, or have held any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities

7. **Education (provide up to three, listing most recent first):**

Institution	Dates Attended	Major/Minor	Degree received
1. State University of New York, The College at Brockport	12/06 – 05/08	Environmental Science and Biology	1 yr completed towards a M.S. Transferring.
2. State University of New York, The College at Brockport	12/05 - 05/07	Environmental Science and Biology	B.S. Environmental Science and Biology
3. Monroe Community College	01/02 - 05/04	Liberal Arts	A.S. Liberal Arts

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. Desert Tortoise Data Collection, Radio Tracking, GPS	07/20/08 – Present	Fort Irwin Translocation	Peter Woodman
2. Information on monitoring , handling, and surveying desert tortoises. Volunteered: helped set up and supervise the transect demonstration.	10/08/09	Ridgecrest, CA	The Desert Tortoise Council , Peter Woodman
3.			
4.			

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1. Ft. Irwin Translocation	06/08 - Present	Radio tracking, paper and PDA data collection, handling and health assessment, weighing and measuring, transmitter attachment and removal, radiography, and carcass processing.
2.		
3.		
4.		
5.		

Specific Desert Tortoise Field Experience:						
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above): 1076.50 total hours						
b. Number of miles/kilometers walked conducting survey transects: >0 10						
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered. <div style="text-align: right;"> <p>< 100 mm carapace length: 46</p> <p>≥ 100 mm carapace length: 1,615</p> </div>						
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
<u>Attached:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category).						
<u>Specify species or if captive desert tortoises:</u>						
<u>Attached:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u> evaluate health, weigh, measure						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u> tortoise reproduction; assisted Dr. Jay Meyers with field x-rays (handling, x-ray equipment operation, and plate scanning.)						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate "general field experience" information:</u>						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1. Peter Woodman	Kiva Biological Consulting	PO Box 1210 Inyokern, CA 93527	760 861 3961	Kivabio@aol.com
2. Dr. James Haynes	The College at Brockport, Environmental Science and Biology: Dept Chair	The College at Brockport, 121 Lennon Hall, Brockport, NY 14420	585 295 5783	jhaynes@brockport.edu
3. Dr. Christopher Norment	The College at Brockport, Environmental Science and Biology: Professor	The College at Brockport, 119 Lennon Hall, Brockport, NY 1442	585 395 5748	cnorment@brockport.edu

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: Eric Somers **Date:** July 20, 2009

**DESERT TORTOISE MONITOR AND BIOLOGIST
RESPONSIBILITIES AND QUALIFICATIONS**

DESERT TORTOISE MONITOR - Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of non-compliance in accordance with biological opinions or permit, move desert tortoises from harms way when desert tortoises enter project sites and place these animals in “safe areas” pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as “apprentices” to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; “directly supervised” means the Authorized Biologist is in direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST - Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologists must have a thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearth and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction to other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures*, which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information

Name	Wendy Middleton
Address	297 Red Bird Lane
City, State, Zip Code	Walland, TN 37886
Phone Number(s)	(970) 219-6592
Email Address	middletonwendy@hotmail.com

2. **Date of Statement:** 2/03/2010

3. **States in which authorization is requested (check all that apply):**

California Nevada Utah Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number	1-8-03-F-48	Date: March 15, 2004
Project Name	Proposed Addition of Maneuver Training Lands at Fort Irwin	
Federal Agency	USFWS	
Proponent or Contractor	U.S. Army	

5. **Specify project and/or activities anticipated that require authorization (e.g., capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO page 19, terms and conditions 6, 7, and 8):**

Walk survey lines on the Fort Irwin military base as a team member of the Fort Irwin tortoise translocation project. Search grids are 1 km square. Teams of 4 to 10 people walk 10 meters apart, looking for tortoises, tortoise burrows, other animal burrows, or any presence of tortoise activity (scat, prints, etc.) Live tortoises will be weighed, measured, and have a small identification tag and transmitter attached to their carapace.

Track research animals in the Southern Expansion Area, Western Expansion area and translocation areas, using radio telemetry. Tortoise location and behavior will be documented.

Work conducted is based on BO (1-8-03-F-48); Terms and Conditions 1a, 2h. 3, and 4a-g on pages 62-64. Will follow requirements of the Translocation Plan as stipulated or agreed upon in T&C 4.

6. **If you hold, or have held any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities

7. **Education (provide up to three, listing most recent first):**

Institution	Dates Attended	Major/Minor	Degree received
1. University of North Carolina, Asheville	1/99 to 5/01	Environmental Science	Bachelor of Science
2. Warren Wilson College	1/96 to 5/97	Environmental Science	
3.			

8. Desert Tortoise Training.

(Include numbers of animals handles under the Experience section (No. 9 below)).

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. Attaching permanent and temporary transmitters	October 2009	Fort Irwin Military Base	Peter Woodman
2. Line Distance Sampling	March 2009	Desert Tortoise Conservation Center, Las Vegas, NV	Peter Woodman, Terry Christopher, Kelly Herbinson
3. Line Distance Sampling	March 2008	Desert Tortoise Conservation Center, Las Vegas, NV	Peter Woodman, Terry Christopher, Laura Pavliscak
4. Attaching permanent and temporary transmitters	Spring 2007	Fort Irwin Military Base	Peter Woodman

9. Experience – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information on the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience: Searching for and processing desert tortoises including weighing and measuring live animals, and using radio telemetry to find transmittered animals.		
Project Name & Job Title	Dates (From/To)	Job Duties & Responsibilities/ Skills Used or Acquired
1. Ft. Irwin Expansion, Field Technician	September/November 2009	Tracked research animals in the Southern Expansion Area and translocation areas, using radio telemetry. Walked in a clearance crew in the Western Expansion Area, searching for tortoise sign and live animals. FWS permit number: TE 102235-3.
2. Ft. Irwin Expansion, Field Technician	May 2009	Tracked research animals in the Southern Expansion Area and translocation areas, using radio telemetry. Walked in a clearance crew in the Western Expansion Area, searching for tortoise sign and live animals. FWS permit number: TE 102235-3.
3. Line Distance Sampling, Field Technician	March/April/May 2009	Using line distance sampling methodology, searched for desert tortoises, weighed, measured carapace length, and attached small identification tag to encountered animals. Proper handling procedures were observed, including temperature monitoring. FWS permit number: TE-702631.
4. Ft. Irwin Expansion, Field Technician	January 2009	Used radio telemetry to track research animals for their monthly check. FWS permit number: TE 102235-3.

5. Line Distance Sampling, Field Technician	March/April 2008	Using line distance sampling methodology, searched for desert tortoises, weighed, measured carapace length, and attached small identification tag to encountered animals. Proper handling procedures were observed, including temperature monitoring. FWS permit number: TE-702631.
6. Ft. Irwin Expansion, Field Technician	April 2008	Assisted with translocation of desert tortoises in the Southern Expansion Area, including observing processing translocatees, helping move animals into new locations, and using radio telemetry to track research animals. Walked in a clearance crew in the Western Expansion Area, searching for tortoise sign and live animals. FWS permit number: TE 102235-3.
7. Ft. Irwin Expansion, Field Technician	February 2008	Used radio telemetry to track research animals for their monthly check. FWS permit number: TE 102235-3.
8. Ft. Irwin Expansion, Field Technician	March-May 2007	Walked in a clearance crew in the Southern Expansion Area, searching for tortoise sign and live animals. Assisted in attaching temporary and permanent transmitters, weighing and measuring carapace length. FWS permit number: TE 102235-3.

Specific Desert Tortoise Field Experience:						
a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above): 173 days						
b. Number of miles/kilometers walked conducting survey transects: 2,150 km						
c. Number of <u>wild, free-ranging</u> desert tortoises you encountered. <div style="text-align: right;"> <p>< 100 mm carapace length: 32</p> <p>≥ 100 mm carapace length: 405</p> </div>						
d. Number of <u>wild, free-ranging</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	< 10	<input checked="" type="radio"/> 10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	10-50	<input checked="" type="radio"/> 50-100	100-200	> 200
e. Number of <u>captive</u> desert tortoises you personally handled (circle one for each size category).						
< 100 mm:	Zero	<input checked="" type="radio"/> < 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	<input checked="" type="radio"/> 10-50	50-100	100-200	> 200
f. Number of transmitters or other devices (specify) you personally attached to or removed from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
<u>Attached:</u>						
< 100 mm:	Zero	<input checked="" type="radio"/> < 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	<input checked="" type="radio"/> 10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	Zero	<input checked="" type="radio"/> < 10	10-50	50-100	100-200	> 200
≥ 100 mm:	Zero	< 10	<input checked="" type="radio"/> 10-50	50-100	100-200	> 200
g. Number of transmitters or other devices (specify) you personally attached to or removed from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category).						
<u>Specify species or if captive desert tortoises:</u>						
<u>Attached:</u>						
< 100 mm:	<input checked="" type="radio"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input checked="" type="radio"/> Zero	< 10	10-50	50-100	100-200	> 200
<u>Removed:</u>						
< 100 mm:	<input checked="" type="radio"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input checked="" type="radio"/> Zero	< 10	10-50	50-100	100-200	> 200
h. Number of blood samples that you personally collected from <u>wild, free-ranging</u> desert tortoises (circle one for each size category).						
< 100 mm:	<input checked="" type="radio"/> Zero	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input checked="" type="radio"/> Zero	< 10	10-50	50-100	100-200	> 200

Specific Desert Tortoise Field Experience (continued)						
i. Number of blood samples that you personally collected from <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
j. Experience conducting other procedures on <u>wild, free-ranging</u> desert tortoises (circle one for each size category). <u>Specify type of procedure:</u>						
< 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
k. Experience conducting other procedures on <u>other relevant species</u> or <u>captive</u> desert tortoises (circle one for each size category). <u>Specify species or if captive desert tortoises:</u> <u>Specify type of procedure:</u>						
< 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
≥ 100 mm:	<input type="text" value="Zero"/>	< 10	10-50	50-100	100-200	> 200
l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). <u>Do not reiterate "general field experience" information:</u>						

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1. Peter Woodman	Kiva Biological Consulting	PO Box 1210 Inyokern, CA 93527	(760) 861-3961	kivabio@aol.com
2. Laura Pavliscak	LDS Field Manager	Ventura, CA	(831) 238-1243	lulupav@gmail.com
3. Liz Smith	Self-employed	Ridgecrest, CA	(480) 363-4918	desertbiogirl@gmail.com

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 46, Sec. 1001.

Signed: Wendy Middleton Date: 03 Feb 2010

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**D USFWS POPULATION ESTIMATE
FORMULA SPREADSHEET OUTPUT**

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Calico Solar Site - Entire Site

Table 4. USFWS Desert Tortoise Pre-Project Survey Guidance	
What is the estimated number of tortoises in the project area?	
INSTRUCTIONS	
<i>Enter the appropriate values from the pre-project survey into the <u>yellow cells</u> below. The estimated abundance (N) and associated 95% confidence interval for the project area will be calculated.</i>	
	N = 176
	Lower 95% Confidence limit for N = 92
	Upper 95% Confidence limit for N = 337
Total project area (acres) =	8230
Pa (from Table 2) =	0.80
Number of 10-km long transects walked (K) =	334
Number of tortoises found during surveys (n) =	89
Estimated total number of tortoises found during surveys (N) =	176
Estimated density per sq km (D) =	5.29
Number of tortoises (n_i)	Number of transects on which (n_i) tortoises were seen
0	245
1	77
2	4
3	7
4	1
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
var(n) =	137.50
var(D) =	3.23
var(Pa) (from Table 2) =	0.05
Pd (from Table 3) =	0.63
var(Pd) (from Table 3) =	0.008
C for N	1.91

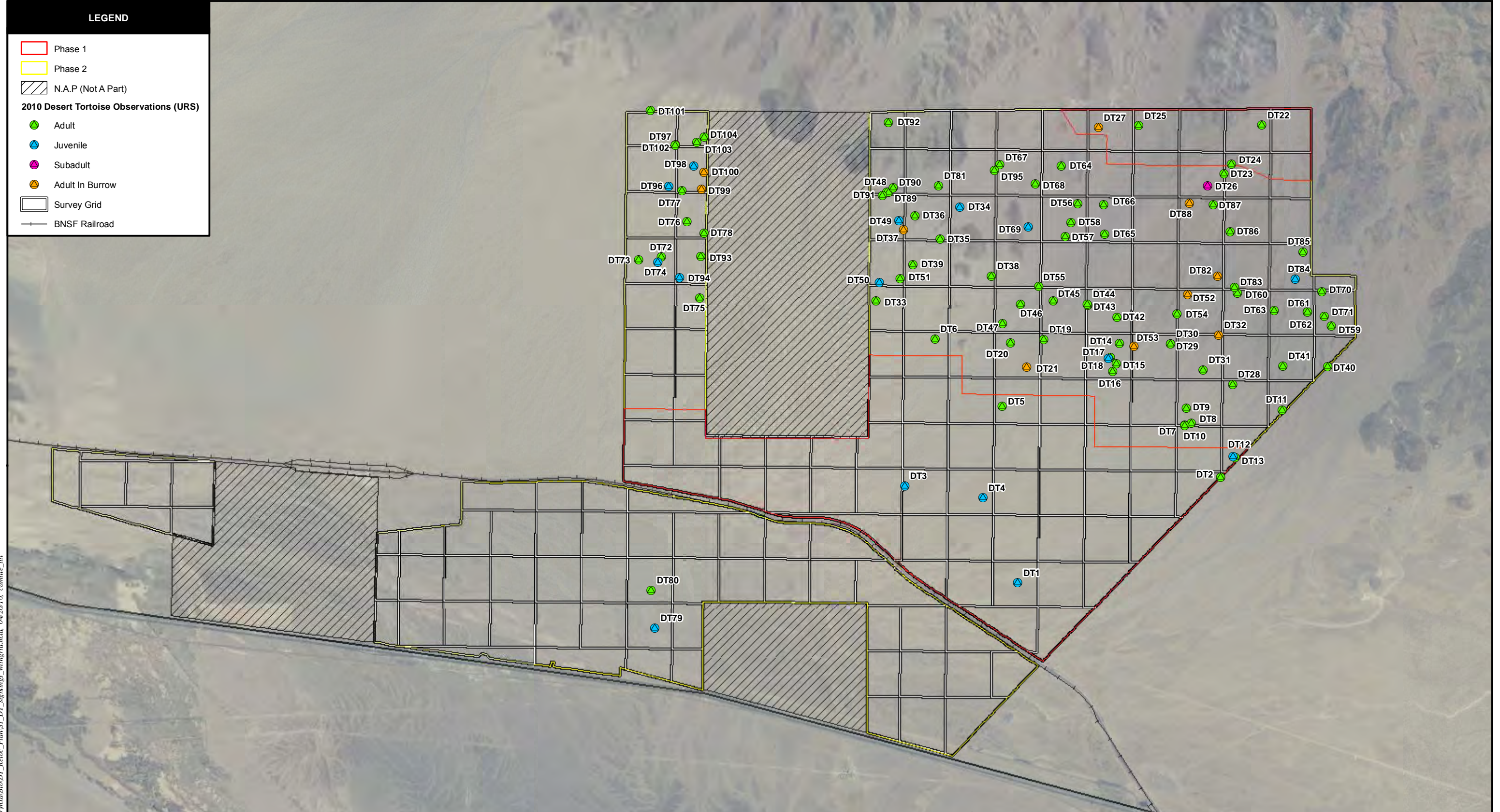
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FIGURE 1 DESERT TORTOISE SURVEY GRID AND SIGHTINGS

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LEGEND

- Phase 1
 - Phase 2
 - N.A.P (Not A Part)
- 2010 Desert Tortoise Observations (URS)**
- Adult
 - Juvenile
 - Subadult
 - Adult In Burrow
 - Survey Grid
 - BNSF Railroad



Path: G:\gis\projects\1577276581\00\mxds\Biol\DT_Retoc_Plan\SL_DT_sightings_withgrid.mxd, 04/26/10, camille_bill

 	SOURCES: ESRI (overview); Huitt-Zollars, Inc (site plan Feb. 2009); TIGER (railroad 2000); NAIP (aerial 2005); POWERmap, www.powermap.platts.com 2009 Platts, A Division of The McGraw-Hill Companies (T-Lines, Substations);		DESERT TORTOISE SURVEY GRID AND SIGHTINGS CALICO SOLAR	
	1500 0 1500 3000 Feet SCALE: 1" = 3000 feet (1:36,000) SCALE CORRECT WHEN PRINTED AT 11X17	CREATED BY: CM DATE: 04-15-10	FIG. NO: 1	PM: AL PROJ. NO: 27658103.01000

FIGURE 2 DESERT TORTOISE SIGHTINGS BY PHASE

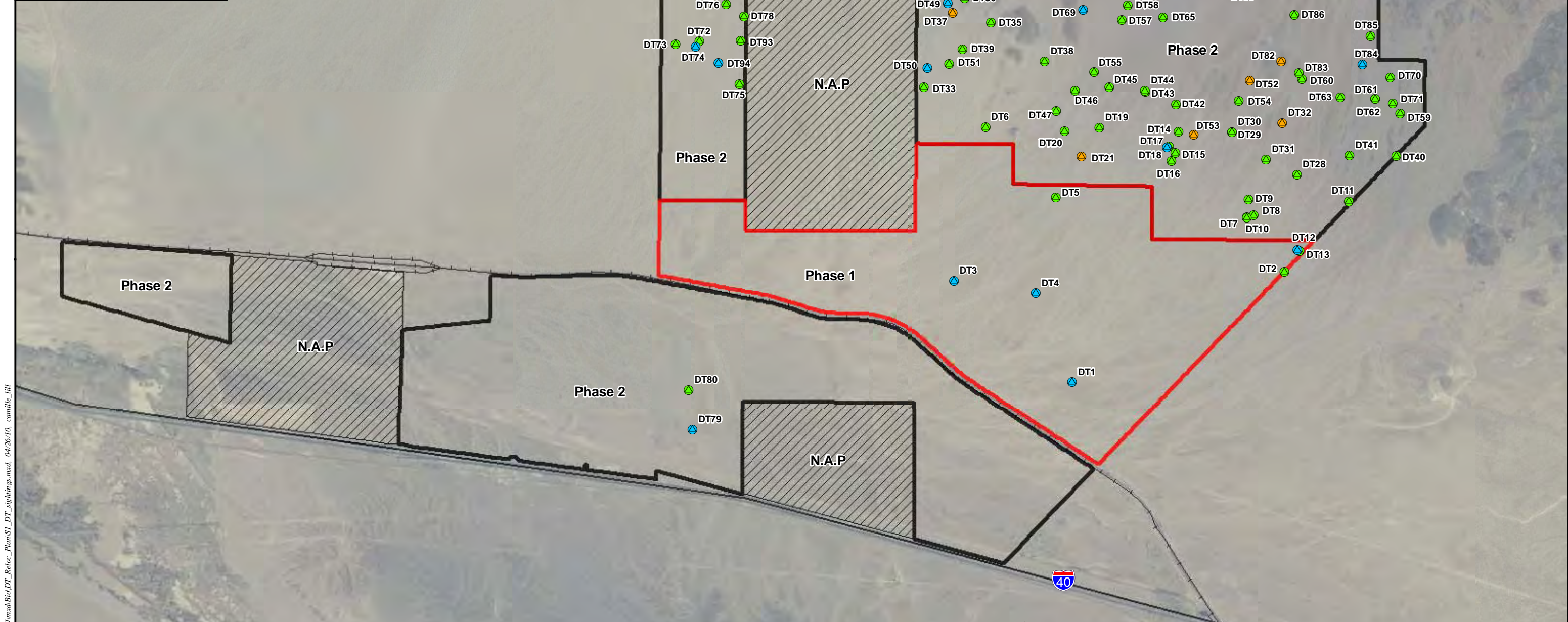
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LEGEND

- Phase 1
- Phase 2
- N.A.P (Not A Part)

2010 Desert Tortoise Observations (URS)

- Adult
- Juvenile
- Subadult
- Adult In Burrow
- BNSF Railroad

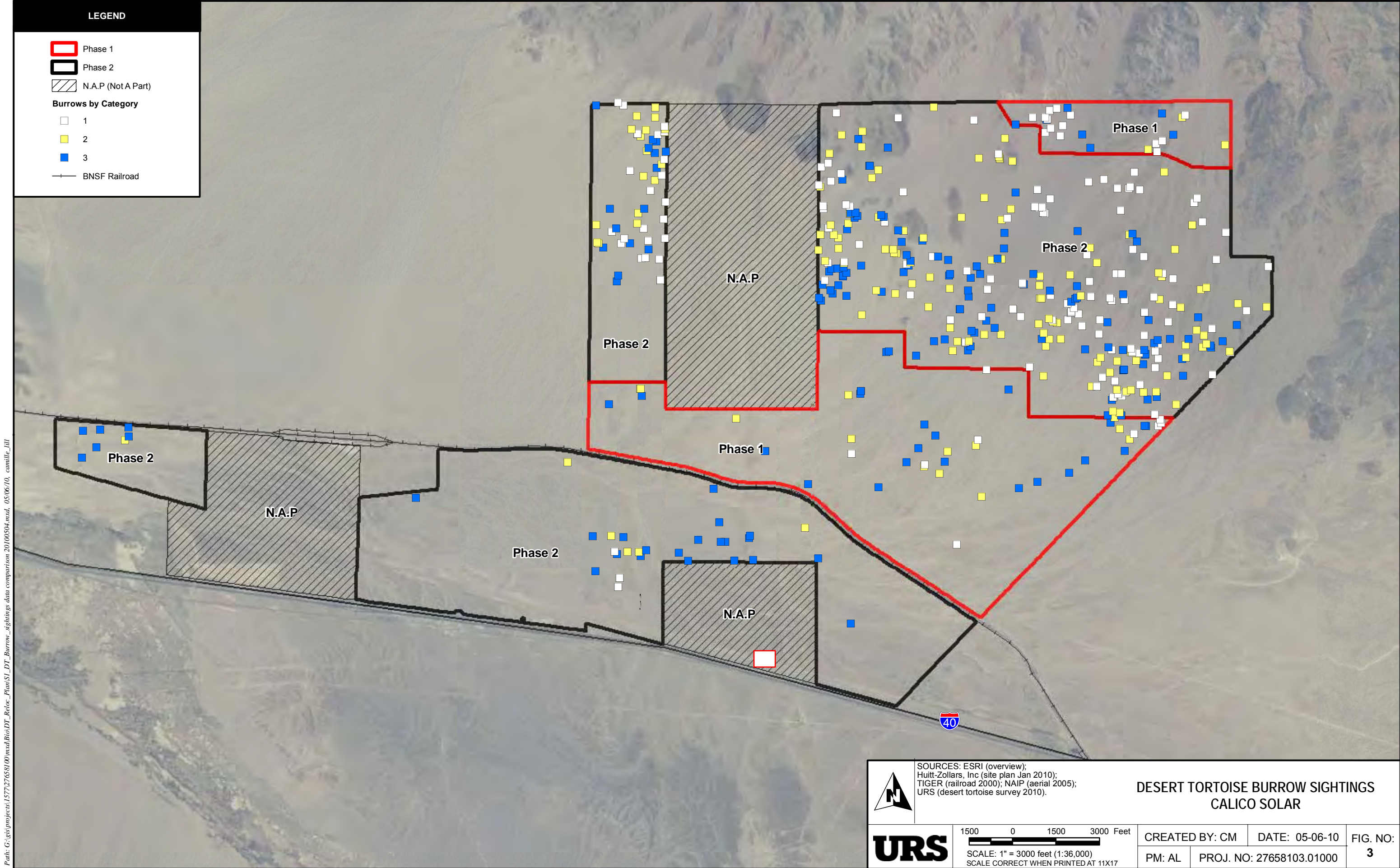


Path: G:\gis\projects\1577276581\00\mxd\Biol\DT_Retoc_Plan\SL_DT_sightings.mxd, 04/26/10, camille_lill

 	SOURCES: ESRI (overview); Huitt-Zollars, Inc (site plan Feb. 2009); TIGER (railroad 2000); NAIP (aerial 2005); POWERmap, www.powermap.platts.com 2009 Platts, A Division of The McGraw-Hill Companies (T-Lines, Substations);		DESERT TORTOISE SIGHTINGS CALICO SOLAR	
	 SCALE: 1" = 3000 feet (1:36,000) SCALE CORRECT WHEN PRINTED AT 11X17	CREATED BY: CM PM: AL	DATE: 04-15-10 PROJ. NO: 27658103.01000	FIG. NO: 2

**FIGURE 3 DESERT TORTOISE CLASS 1-3 BURROW SIGHTINGS
BY PHASE**

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LEGEND

- Phase 1
 - Phase 2
 - N.A.P (Not A Part)
- Burrows by Category**
- 1
 - 2
 - 3
 - BNSF Railroad

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 	SOURCES: ESRI (overview); Huitt-Zollars, Inc (site plan Jan 2010); TIGER (railroad 2000); NAIP (aerial 2005); URS (desert tortoise survey 2010).		DESERT TORTOISE BURROW SIGHTINGS CALICO SOLAR	
	1500 0 1500 3000 Feet 	CREATED BY: CM DATE: 05-06-10	FIG. NO: 3	
SCALE: 1" = 3000 feet (1:36,000) SCALE CORRECT WHEN PRINTED AT 11X17		PM: AL	PROJ. NO: 27658103.01000	

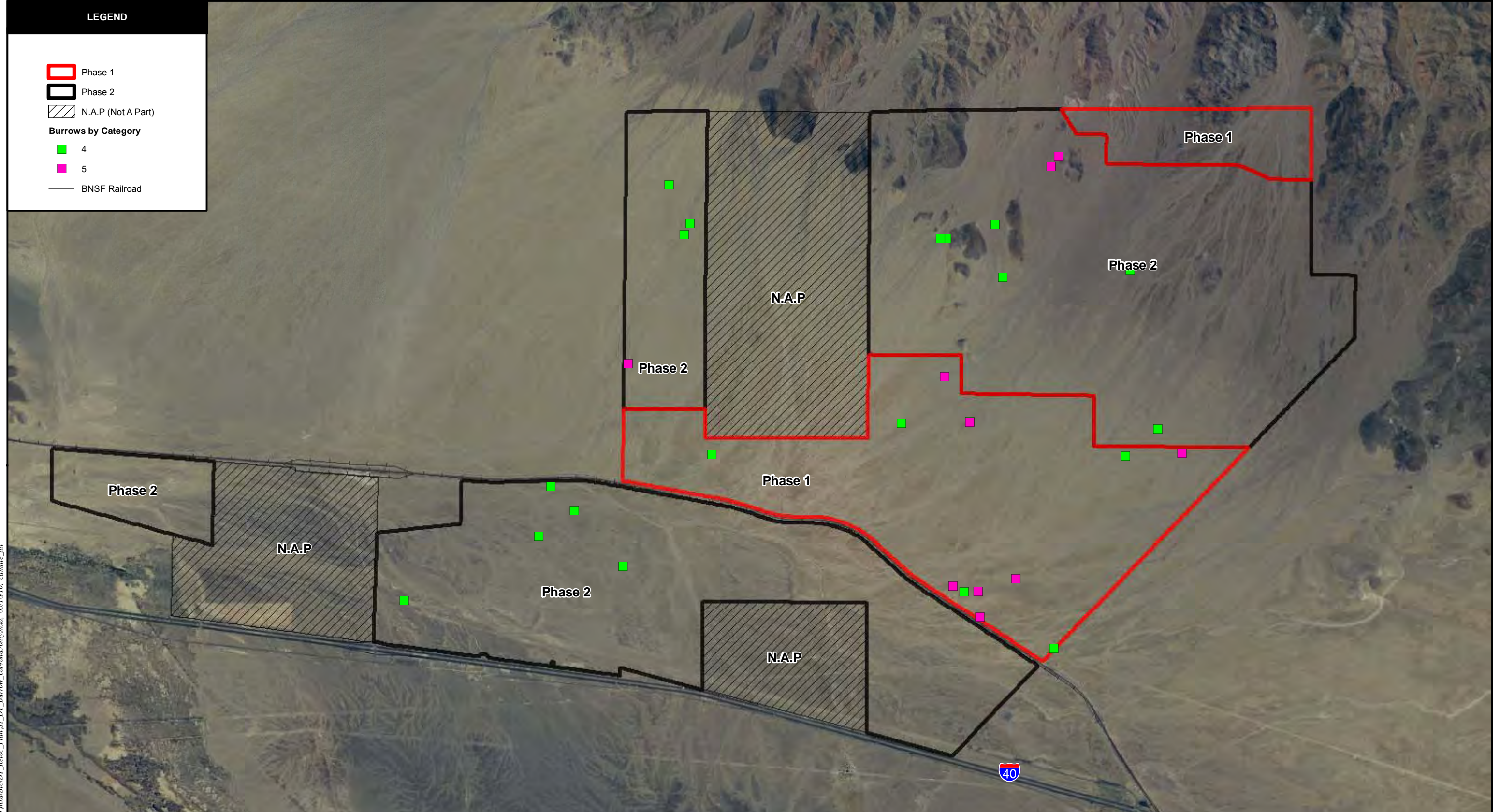
**FIGURE 4 DESERT TORTOISE CLASS 4 & 5 BURROW SIGHTINGS
BY PHASE**

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LEGEND

- Phase 1
- Phase 2
- N.A.P (Not A Part)
- Burrows by Category**
- 4
- 5
- BNSF Railroad



 	SOURCES: ESRI (overview); Huitt-Zollars, Inc (site plan Jan 2010); TIGER (railroad 2000); NAIP (aerial 2005); URS (desert tortoise survey 2010).	DESERT TORTOISE BURROW SIGHTINGS CATEGORY 4 AND 5 ONLY CALICO SOLAR	
	1500 0 1500 3000 Feet SCALE: 1" = 3000 feet (1:36,000) SCALE CORRECT WHEN PRINTED AT 11X17	CREATED BY: CM PM: AL	DATE: 05-10-10 PROJ. NO: 27658189.20002



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION
For the CALICO SOLAR (Formerly SES Solar One)

Docket No. 08-AFC-13

PROOF OF SERVICE
(Revised 5/11/10)

APPLICANT

Felicia Bellows,
Vice President of Development
Tessera Solar
4800 North Scottsdale Road,
Ste. 5500
Scottsdale, AZ 85251
felicia.bellows@tesseractosolar.com

Camille Champion
Project Manager
Tessera Solar
4800 North Scottsdale Road,
Suite 5500
Scottsdale, AZ 85251
camille.champion@tesseractosolar.com

CONSULTANT

Angela Leiba
AFC Project Manager
URS Corporation
1615 Murray Canyon Rd., #1000
San Diego, CA 92108
Angela_Leiba@URSCorp.com

APPLICANT'S COUNSEL

Allan J. Thompson
Attorney at Law
21 C Orinda Way #314
Orinda, CA 94563
allanori@comcast.net

Ella Foley Gannon, Partner
Bingham McCutchen, LLP
Three Embarcadero Center
San Francisco, CA 94111
ella.gannon@bingham.com

INTERESTED AGENCIES

California ISO
e-recipient@caiso.com

Jim Stobaugh
BLM – Nevada State Office
P.O. Box 12000
Reno, NV 89520
jim_stobaugh@blm.gov

Rich Rotte, Project Manager
Bureau of Land Management
Barstow Field Office
2601 Barstow Road
Barstow, CA 92311
Richard_Rotte@blm.gov

Becky Jones
California Department of
Fish & Game
36431 41st Street East
Palmdale, CA 93552
dfgpalm@adelphia.net

INTERVENORS

California Unions for Reliable Energy
(CURE)
c/o: Loulena A. Miles, Marc D. Joseph
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Ste. 1000
South San Francisco, CA 94080
lmiles@adamsbroadwell.com

Defenders of Wildlife
Joshua Basofin
1303 J Street, Suite 270
Sacramento, California 95814
e-mail service preferred
jbasofin@defenders.org

*Society for the Conservation of
Bighorn Sheep
Bob Burke & Gary Thomas
P.O. Box 1407
Yermo, CA 92398
cameracoordinator@sheepsociety.com

Basin and Range Watch
Laura Cunningham & Kevin Emmerich
P.O. Box 70
Beatty, NV 89003
atomictoadranch@netzero.net

Patrick C. Jackson
600 N. Darwood Avenue
San Dimas, CA 91773
e-mail service preferred
ochsjack@earthlink.net

ENERGY COMMISSION

ANTHONY EGGERT
Commissioner and Presiding Member
aeggert@energy.state.ca.us

JEFFREY D. BYRON
Commissioner and Associate Member
jbyron@energy.state.ca.us

Paul Kramer
Hearing Officer
pkramer@energy.state.ca.us

Kristy Chew, Adviser to
Commissioner Byron
e-mail service preferred
kchew@energy.state.ca.us

Caryn Holmes
Staff Counsel
cholmes@energy.state.ca.us

*Steve Adams
Co-Staff Counsel
sadams@energy.state.ca.us

Christopher Meyer
Project Manager
cmeyer@energy.state.ca.us

Jennifer Jennings
Public Adviser
publicadviser@energy.state.ca.us

DECLARATION OF SERVICE

I, Jennifer Draper, declare that on May 20, 2010, I mailed hard copies of the attached Applicant's Supplement to the Calico Solar (formerly Solar One) Application for Certification, dated May 18, 2010. 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;

by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date 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, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

—

Original signed by

Jennifer Draper