

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:      yes  no  
 Conchostracans: yes  no  
 Copepods:        yes  no  
 Ostracods        yes  no  
 Fish              yes  no  
 Frogs             yes  no  
 Salamanders     yes  no  
 Waterfowl        yes  no  
 Other (specify) \_\_\_\_\_

Insects: (adult or larvae)  
 Anisoptera:                    yes  no  
 Zygoptera:                    yes  no  
 Hydrophilidae:                yes  no  
 Dytiscidae:                    yes  no  
 Corixidae:                     yes  no  
 Notonectidae:                 yes  no  
 Belostomatidae:               yes  no  
 Other (specify) \_\_\_\_\_

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
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**U.S. Fish and Wildlife Service Vernal Pool Data Sheet  
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_ no Yes yes

Required color slides and/or photographs for the project site are included: \_\_\_\_ no Yes yes

Date: 03 / 27 / 13 Time: 1500 County: Riverside Quad: Beaumont

Collector(s): Stan Spencer Permit #: 777965

Site/Project Name: SCE West of Devers: E of El Casco Pool #: B6

Township: 2S Range: 1W Section: 35 33.9491 lat. -116.9595 lng.

Temperature: Water: 25 oC Air: 24 oC

Pool Depth: Surface Area:

at time of sampling: 1 cm at time of sampling: 3 m x 1 m

estimated maximum: 12 cm estimated maximum: 17 m x 7 m

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed: <u>tire tracks</u>	garbage	discing/plowing	
- ungrazed	grazed: cattle	horses	sheep	other: <u>grading</u>
		light	moderate	heavy

- land use of habitat:  
dirt road

(Optional) Water Chemistry Data

Alkalinity (total): \_\_\_\_\_ ppm or mg/l

Conductivity: \_\_\_\_\_ uMHO

Dissolved NH4: \_\_\_\_\_ ppt or ppm

Dissolved Oxygen: \_\_\_\_\_ ppm or mg/l

pH: \_\_\_\_\_

Turbidity: (secchi disc depth) \_\_\_\_\_ cm or: clear to bottom \_\_\_\_\_

Salinity : \_\_\_\_\_ ppt or ppm

Total Dissolved Solids (TDS): \_\_\_\_\_ ppm

Notes: PERCENT CLOUD COVER: 5

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

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<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
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LSA ASSOCIATES, INC.  
20 EXECUTIVE PARK, SUITE 200  
IRVINE, CALIFORNIA 92614

949.553.0666 TEL  
949.553.8076 FAX

BERKELEY  
CARLSBAD  
FORT COLLINS

FRESNO  
PALM SPRINGS  
PT. RICHMOND

RIVERSIDE  
ROCKLIN  
SAN LUIS OBISPO

December 20, 2012

Ms. Susie Tharratt  
U.S. Fish and Wildlife Service  
6010 Hidden Valley Road, Suite 101  
Carlsbad, California 92011

Subject: 2012 Dry Season Vernal Pool Crustacean Survey, Southern California Edison West of Devers Upgrade Project, San Bernardino and Riverside Counties, California

Dear Ms. Tharratt:

This letter presents the results of a dry season vernal pool crustacean survey conducted by LSA Associates, Inc. (LSA) along the Southern California Edison (SCE) West of Devers Upgrade Project alignment (Study Area) in southern San Bernardino County and western Riverside County, California.

The Study Area is adjacent to the known ranges of two vernal pool crustacean listed as threatened by the U. S. Fish and Wildlife Service (USFWS), the vernal pool fairy shrimp (*Branchinecta lynchi*), and the Riverside fairy shrimp (*Streptocephalus wootoni*) (USFWS 1994 and 1996; Eriksen and Belk, 1999; California Natural Diversity Database [CNDDDB], 2012). This survey was conducted to determine if these listed fairy shrimp are present within the Study Area by detecting the existence of their eggs in soil material.

The dry season survey was conducted under the authority of Federal Fish and Wildlife Permit TE-797234-6 issued to LSA by the USFWS. Approval for the survey was received from Susie Tharratt of the Carlsbad Fish and Wildlife Service Office by e-mail dated August 14, 2012. Preparation and submittal of this report within 90 days of the completion of surveys is required as a condition of LSA's permits.

### Study Area Location

The preliminary alignment being considered for the West of Devers Project occurs within an SCE right-of-way (ROW) and extends along an existing transmission line corridor from the Vista Substation in the City of Grand Terrace, San Bernardino County, to the Devers Substation, near North Palm Springs, Riverside County (Figure 1; all figures provided in Attachment A). The project being considered would also involve transmission facility upgrades along the segment from the San Bernardino Substation due south to the San Bernardino Junction (Figure 1) between the Cities of San Bernardino and Redlands in San Bernardino County.

The alignment covers approximately 45 linear miles and is located within portions of the *San Bernardino South, Redlands, Sunnymead, El Casco, and Beaumont, California* 7.5-minute series United States Geological Survey (USGS) quadrangle topographic maps. Elevations range from approximately 1,000 feet (ft) to 2,700 ft above mean sea level (amsl).

Given that the target fairy shrimp species are not known from desert areas, at the direction of Karin Cleary-Rose of the USFWS (via a phone conversation on November 28, 2011, between Ms. Cleary-Rose, Stan Spencer of LSA, and Roger Overstreet of SCE), the fairy shrimp survey area for this study includes only that portion of the West of Devers Project that extends west of Hargrave Street in the City of Banning (Figure 1).

12/20/12 «P:\SCE1110 - WOD\Biology\Flora Fauna JD\Fairy Shrimp Vernal Pools\Reports\Dry Season\Report\WODFSDryLetterReport\_Final.doc»



## Study Area Habitats

Based on observations made during a helicopter survey and several ground surveys throughout the 2011-2012 rainy season, 22 seasonally pooling features within the Study Area were identified as potentially suitable for listed vernal pool crustaceans (Figures 2 and 3). These features are all artificial, and consist of one flood control basin (Feature A2), a depression made by cattle trampling in the shade of a utility pole (Feature B1), a diversion ditch (Feature B17), and 19 potholes in dirt roads. Feature A2 supports a sparse cover of ruderal annual plant species dominated by Canadian horsetweed (*Conyza canadensis*). The remaining features are unvegetated or dominated by low-growing ruderal species including brome grasses (*Bromus* spp.), longbeak stork's bill (*Erodium botrys*), redstem stork's bill (*Erodium cicutarium*), and disc mayweed (*Matricaria discoidea*).

Figure 3 includes representative site photos of most of the 22 pooling features.

## Previous Surveys

LSA did not locate any information indicating the presence of listed vernal pool crustaceans within or adjacent to the Study Area, including the results of the 2005-2006 wet and 2006 dry season surveys conducted along the Devers-Palo Verde No. 2 Transmission Line project (ECORP 2006) south of the Study Area.

Three of the 22 features within the Study Area were surveyed by LSA for the presence of listed vernal pool crustaceans during the 2011-2012 wet season (letter report from LSA to Susie Tharratt, Carlsbad Fish and Wildlife Office, dated August 21, 2012). Features A1, A2, and A3, all located west of the El Casco Substation, were surveyed with negative results. Versatile fairy shrimp (*Branchinecta lindahli*), an unlisted species, was identified in two of the three features surveyed (A1 and A3). The 19 features located east of the El Casco Substation have not been surveyed during a wet season.

## Methods

The 2012 dry season surveys of the Study Area were conducted in accordance with the *United States Fish and Wildlife Service Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for Listed Vernal Pool Branchiopods*, dated April 19, 1996.

On October 1, 2012, LSA biologists David Muth and Dr. Stan Spencer collected a series of four to ten 0.1-liter samples of soil material from each of the features in the Study Area. The soil was dry at the time of collection and stored in plastic zip-lock bags marked to indicate the site of collection and sample number.

On October 5, 15, 16, and 23, and November 6, 2012, the soil was processed by LSA biologist David Muth. The soil samples were processed individually by placing each in a 5-gallon bucket containing 1 to 2 gallons of water to saturate the soil. After saturating the soil sample for approximately 10 to 15 minutes, the bucket was stirred and poured through a series of four sieves with mesh sizes of 710, 355, 212, and 150 microns (as recommended by Richard Hill of the California Department of Transportation (Caltrans) and approved by the USFWS as suitable alternative protocol). The sieves were stacked with the largest mesh size at the top to the smallest mesh size on the bottom. Samples were poured and washed through the set with water. Material trapped in the three smallest sieve sizes in each set was saved for analysis by washing the material into coffee filters and leaving it to dry. The sieved material was examined on November 5, 7, 8, and 15, 2012, using a 10 to 40 power Olympus stereo-optic scope. A reference collection of eggs was available and could be used when necessary for comparison of any eggs found in the samples.

## Results

There were no eggs from any genera of fairy shrimp (Anostraca) observed in any of the processed soil samples collected from the sampled features in the Study Area. The only pond with material indicating the presence of an invertebrate fauna was pond Feature A2, from which several samples included assorted invertebrate eggs and *Cladoceran ephippium* (all data sheet results provided in Attachment B).

## Conclusions

None of the soil samples collected from the potential vernal pool crustacean habitat area in the Study Area contained eggs from listed species of branchiopods. In particular, no eggs from animals in the genera *Branchinecta* or *Streptocephalus* were found in the soil samples. These findings indicate that vernal pool fairy shrimp and Riverside fairy shrimp are unlikely to occur in the Study Area.

For Features A1 through A3 in the Study Area west of the El Casco Substation, the results of this survey serve as fulfillment of the requirements necessary for a complete protocol-level survey for listed vernal pool crustaceans. Therefore, it is concluded that no listed fairy shrimp species were found to occur in Features A1 through A3.

However, the results of this survey serve as partial fulfillment of the requirements necessary to complete a protocol-level survey for listed vernal pool crustaceans in the Study Area east of the El Casco Substation. An additional survey during the wet season for Features B1 through B19 is necessary to complete the protocol. A wet season survey of those Features is scheduled for the 2012-2013 rainy season.

Overall, the results of this 2012 dry season survey and the 2011-2012 wet season survey of Features A1 through A3, along with the proposed 2011-2012 wet season survey of Features B1 through B19 will complete the requirements in the 1996 USFWS survey protocol for listed vernal pool branchiopods.

*I certify that the information in this survey report and attached exhibits fully and accurately represents my work.*

Sincerely,

**LSA ASSOCIATES, INC.**



David P. Muth

December 4, 2012 Permit No. TE-797234

Attachments: A: Figures 1-3  
B: Data Sheets

cc: Scott Holbrook, Southern California Edison  
Tonya Moore, Southern California Edison

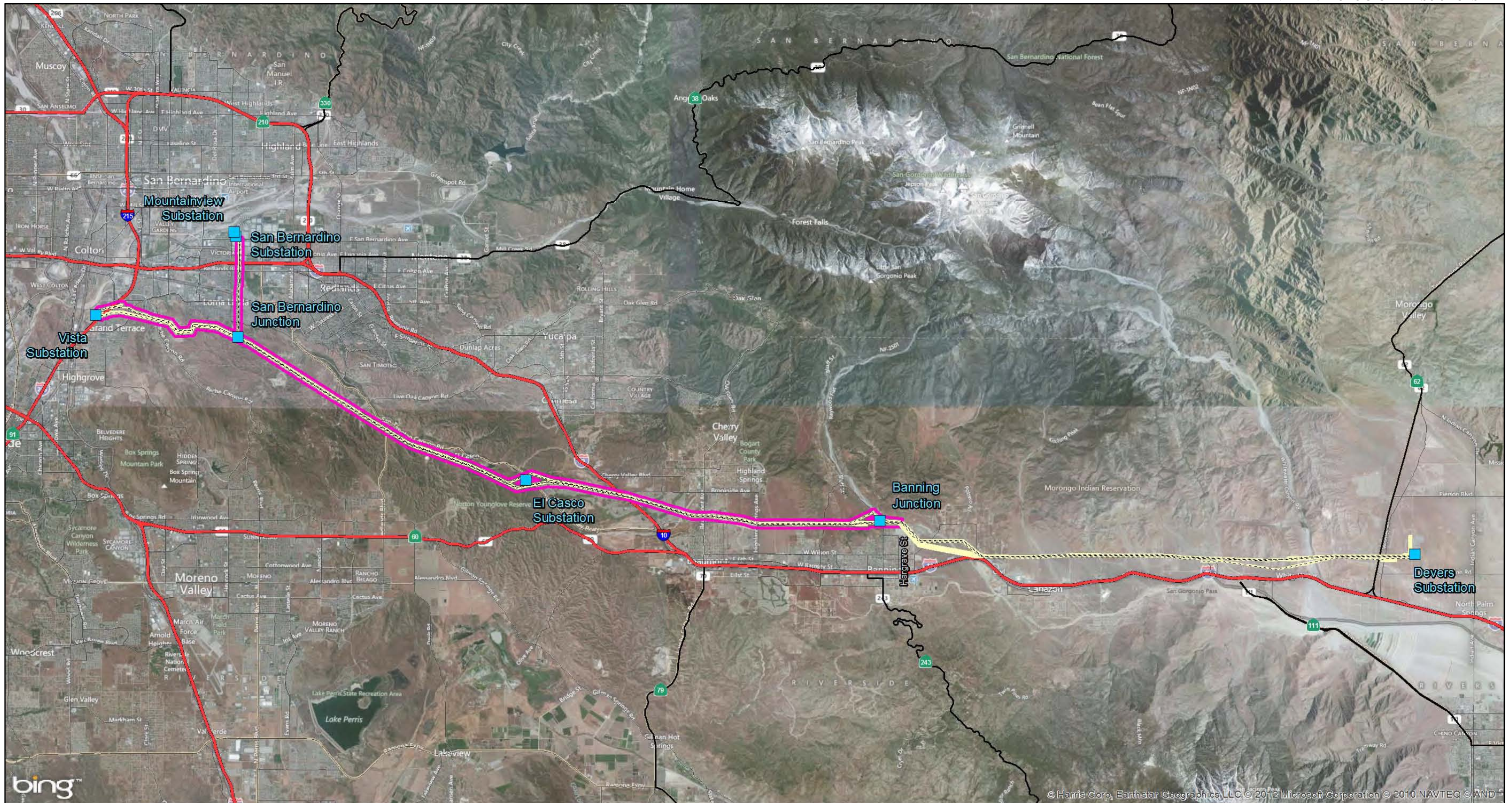
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- California Natural Diversity Database. 2011. Query regarding listed vernal pool fairy shrimp and tadpole shrimp for the USGS Tassajara and surrounding quads. California Department of Fish and Game, Sacramento, CA.
- ECORP Consulting, Inc. 2006. 90-Day Report of Findings Regarding Federally-Listed Branchiopods for the DPV-2 Transmission Project, San Bernardino County, California. Prepared for Aspen Environmental. August 2.
- Eriksen, C., and D. Belk. 1999. Fairy Shrimp of California's Puddles, Pools, and Playas. Mad River Press, Inc., Eureka, CA. 196 pp.
- LSA Associates, Inc. (LSA). 2012. Results of 2011-2012 First Year Wet Season Fairy Shrimp Survey West of the El Casco Substation for the West of Devers Transmission Line Upgrade in San Bernardino and Riverside Counties (LSA Project No. SCE1110). Letter report prepared for Susie Tharratt of the Carlsbad U.S. Fish and Wildlife Service. August 17.
- U.S. Fish and Wildlife Service. 1994. Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Conservancy Fairy Shrimp, Longhorn Fairy Shrimp, and the Vernal Pool Tadpole Shrimp; and Threatened Status for the Vernal Pool Fairy Shrimp; Final Rule. Federal Register 59: 48136-48153.
- U.S. Fish and Wildlife Service. 1996. United States Fish and Wildlife Service Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for Listed Vernal Pool Branchiopods. Dated April 19, 1996.

**ATTACHMENT A**  
**FIGURES 1-3**

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LSA

LEGEND

- Fairy Shrimp Survey Area
- Transmission Line Right-of-Way
- Existing Transmission Lines
- Substations/Junctions

0 1.5 3  
MILES

FIGURE 1

**PROTECTED MATERIALS**  
**Contains Critical Energy Infrastructure Information**

*Southern California Edison  
 West of Devers Upgrade Project  
 Fairy Shrimp Survey Area*

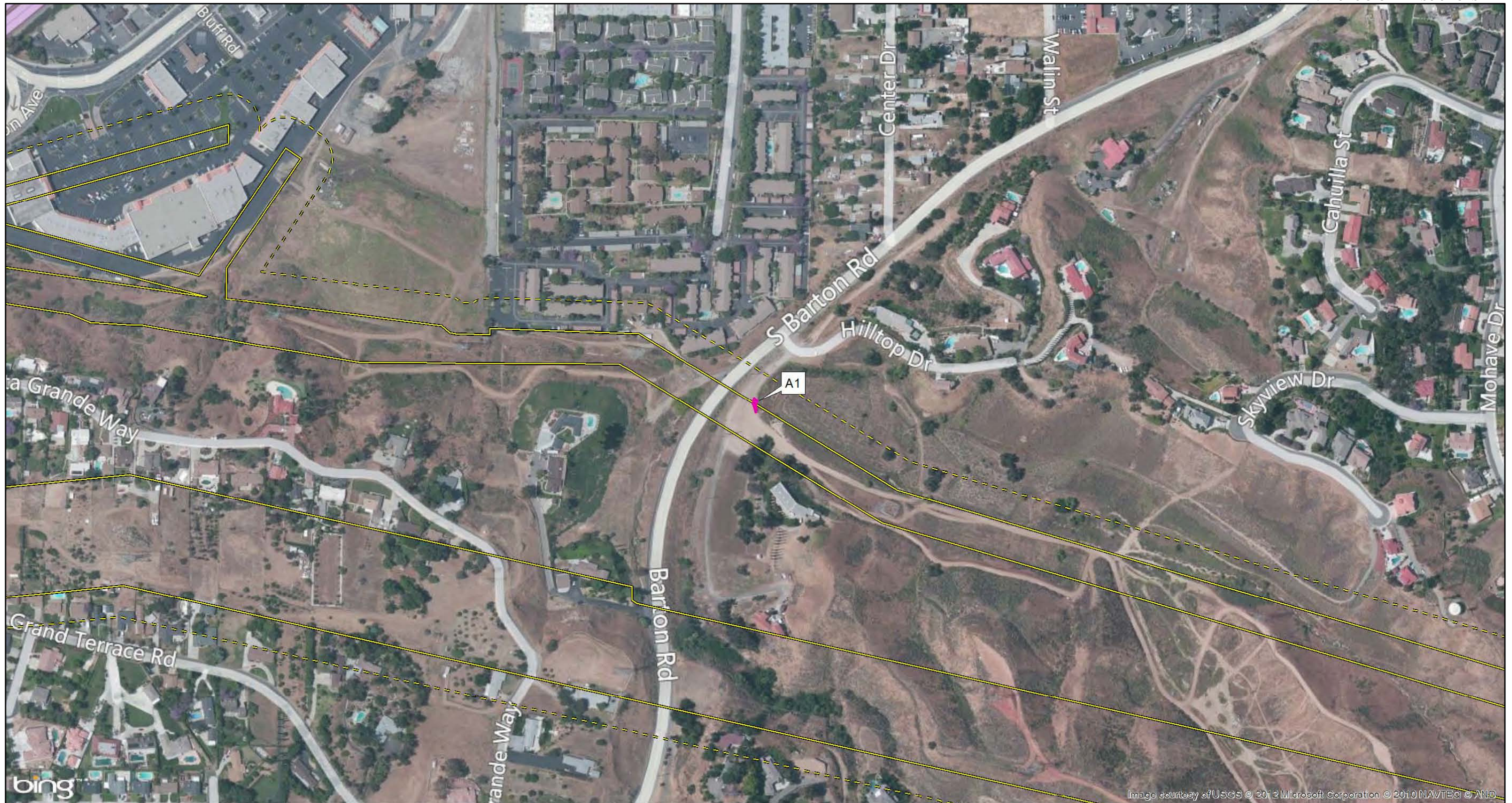
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LEGEND

- Existing Transmission Line Right-of-Way
- 100' Buffer of Existing Transmission Line Right-of-Way
- Features Sampled



SOURCE: Bing Maps (c. 2010); SCE (5/2012, 11/2012)

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FIGURE 2  
Sheet 1 of 7

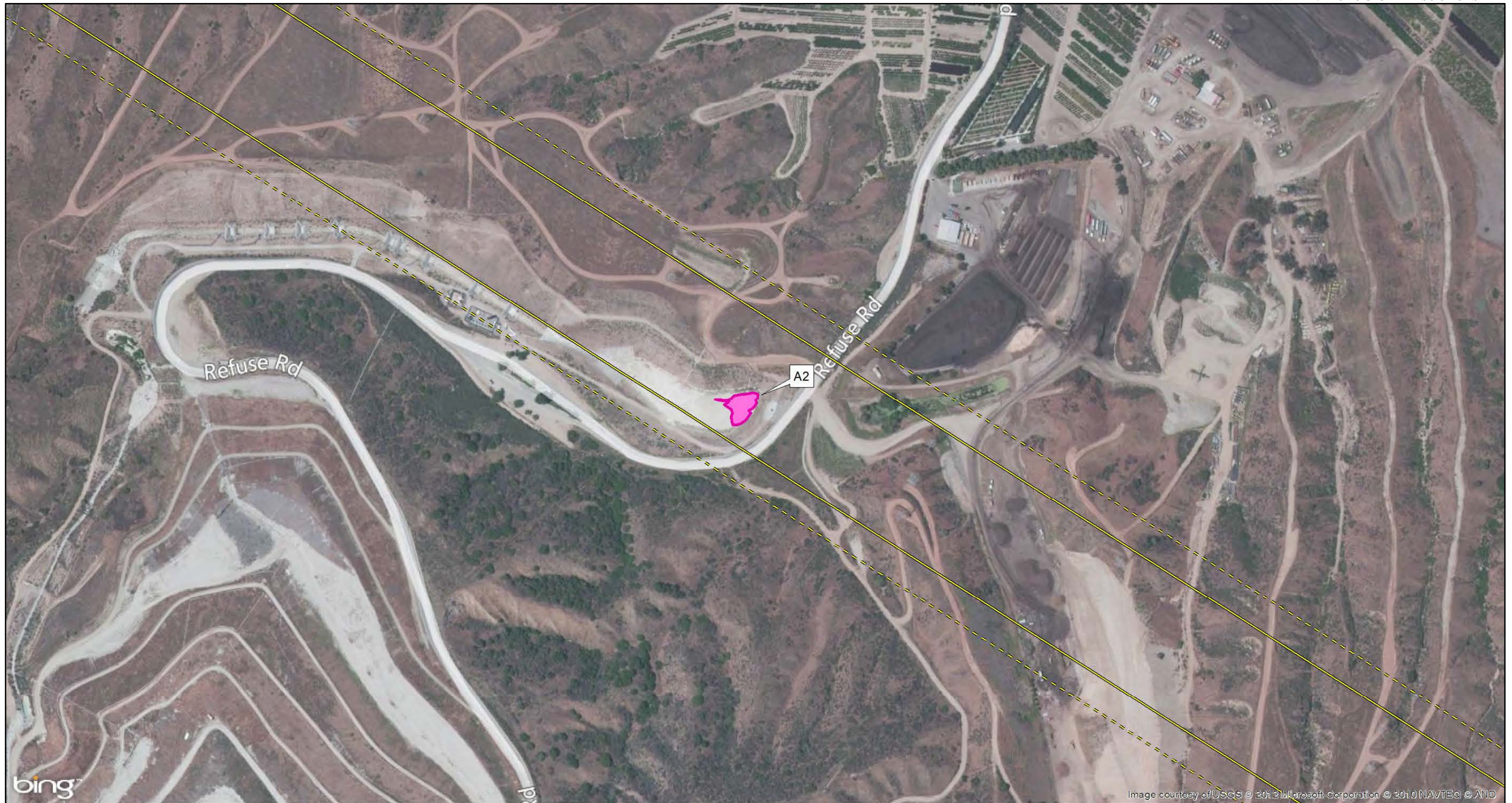
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Contains Critical Energy Infrastructure Information

Southern California Edison  
West of Devers Upgrade Project  
Fairy Shrimp Dry Season Survey 2012






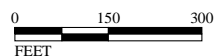
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SOURCE: Bing Maps (c. 2010); SCE (5/2012, 11/2012)

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FIGURE 2  
Sheet 2 of 7

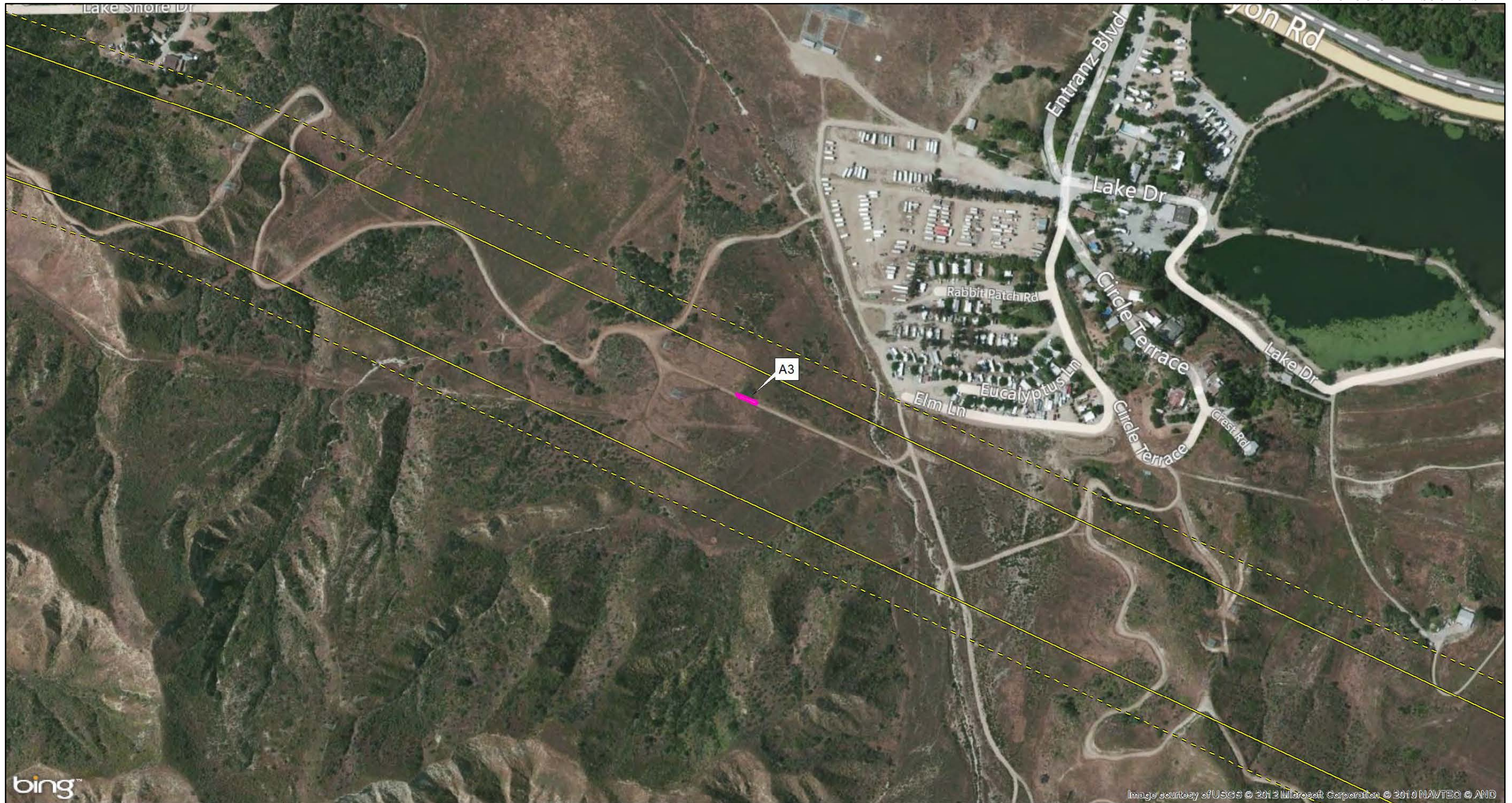
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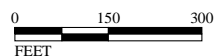
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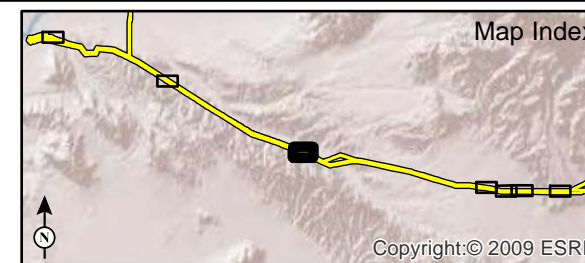


FIGURE 2  
Sheet 3 of 7

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Southern California Edison  
West of Devers Upgrade Project  
Fairy Shrimp Dry Season Survey 2012






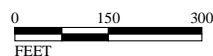
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Proponent's Environmental Assessment  
West of Devers Upgrade Project



FIGURE 2  
Sheet 4 of 7

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Southern California Edison  
West of Devers Upgrade Project  
Fairy Shrimp Dry Season Survey 2012



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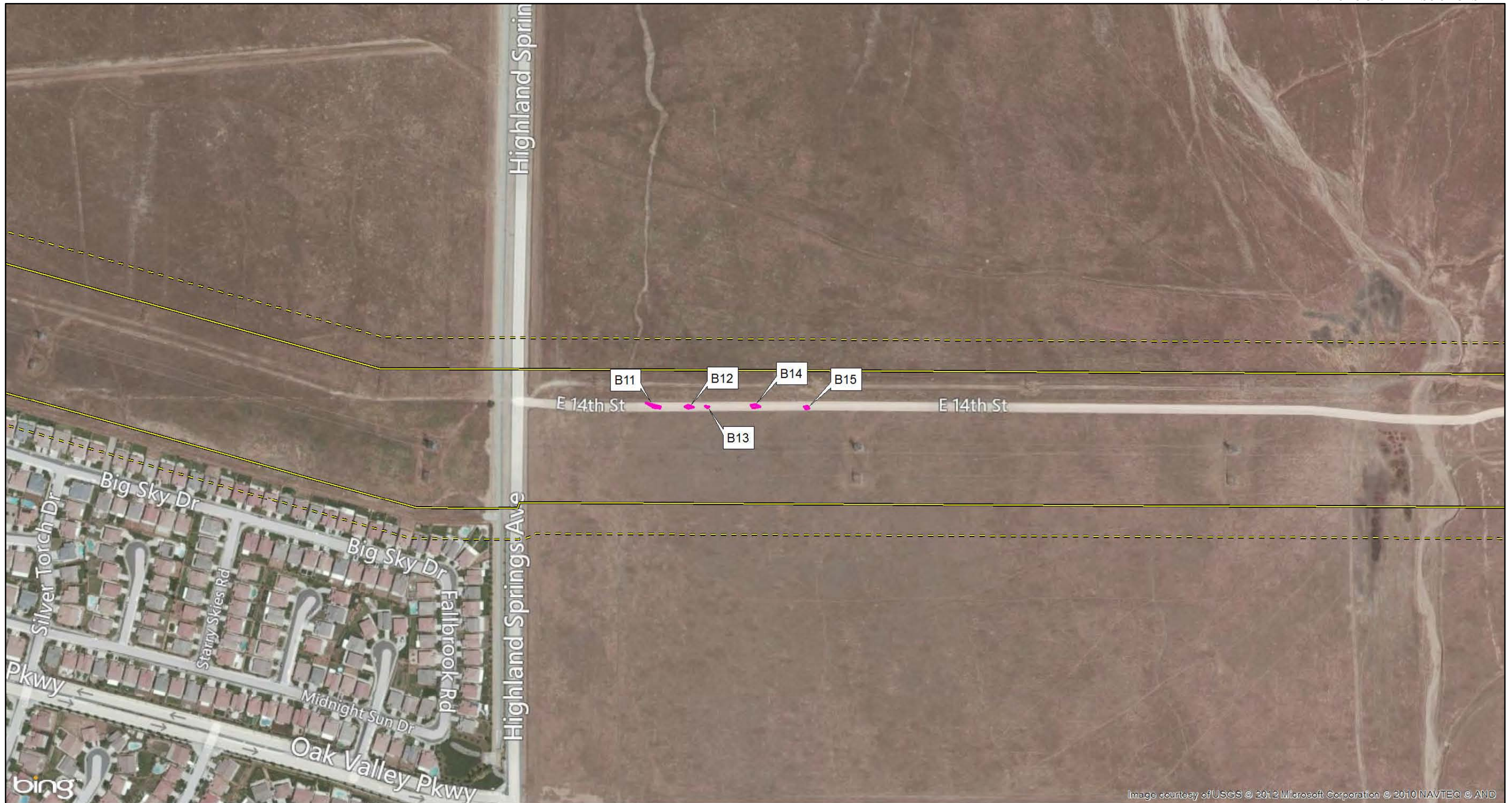



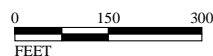


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-  100' Buffer of Existing Transmission Line Right-of-Way
-  Features Sampled



SOURCE: Bing Maps (c. 2010); SCE (5/2012, 11/2012)

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FIGURE 2  
Sheet 5 of 7

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Southern California Edison  
West of Devers Upgrade Project  
Fairy Shrimp Dry Season Survey 2012






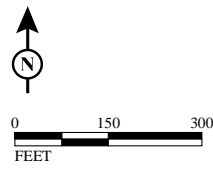
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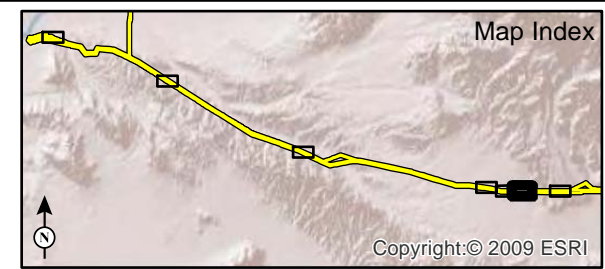


FIGURE 2  
 Sheet 6 of 7




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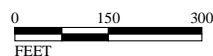
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FIGURE 2  
Sheet 7 of 7

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Fairy Shrimp Dry Season Survey 2012



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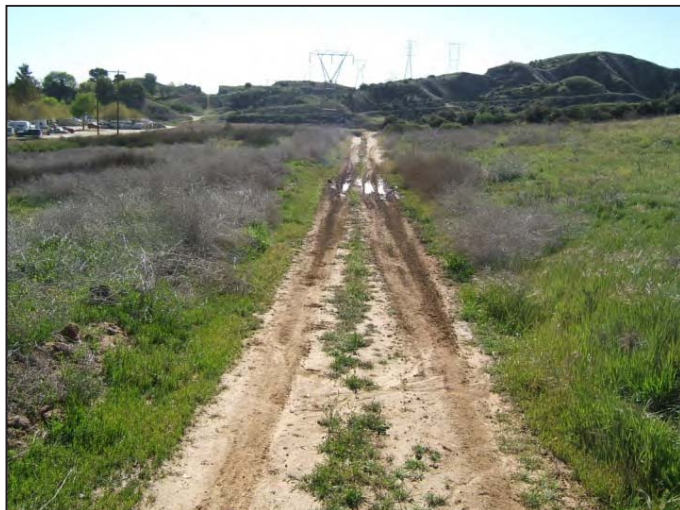
PHOTOGRAPH 1:  
View looking southeast, showing feature A1.  
(S. Spencer, 3/26/2012)



PHOTOGRAPH 2:  
View looking northeast, showing Feature A2.  
(S. Spencer, 3/26/2012)



PHOTOGRAPH 3:  
View looking southeast, showing Feature A3.  
(S. Spencer, 4/2/2012)



LSA

FIGURE 3A

PROTECTED MATERIALS  
Contains Critical Energy Infrastructure Information

West of Devers Upgrade Project  
Fairy Shrimp Dry Season Survey 2012

Site Photographs

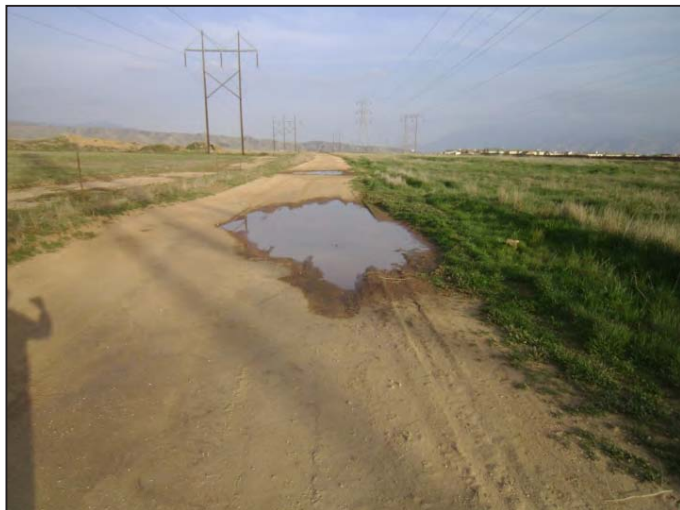
PHOTOGRAPH 4:  
View looking east, showing feature B2.  
(S. Spencer, 2/20/2012)



PHOTOGRAPH 5:  
View looking east, showing Feature B4.  
(S. Spencer, 2/20/2012)



PHOTOGRAPH 6:  
View looking east, showing Feature B6.  
(S. Spencer, 2/20/2012)



LSA

FIGURE 3B

**PROTECTED MATERIALS**  
Contains Critical Energy Infrastructure Information

West of Devers Upgrade Project  
Fairy Shrimp Dry Season Survey 2012

Site Photographs



PHOTOGRAPH 7:  
View looking east, showing feature B7.  
(S. Spencer, 2/20/2012)



PHOTOGRAPH 8:  
View looking east, showing Feature B9.  
(S. Spencer, 2/20/2012)



PHOTOGRAPH 9:  
View looking east, showing Feature B10.  
(S. Spencer, 2/20/2012)



LSA

FIGURE 3C

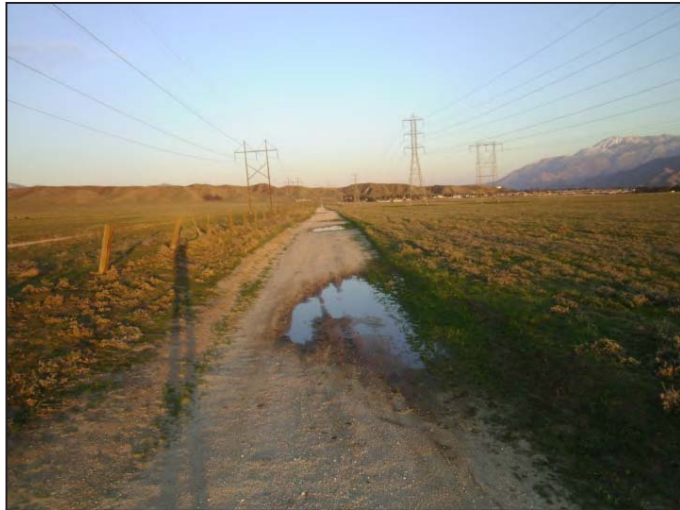
**PROTECTED MATERIALS**  
Contains Critical Energy Infrastructure Information

West of Devers Upgrade Project  
Fairy Shrimp Dry Season Survey 2012

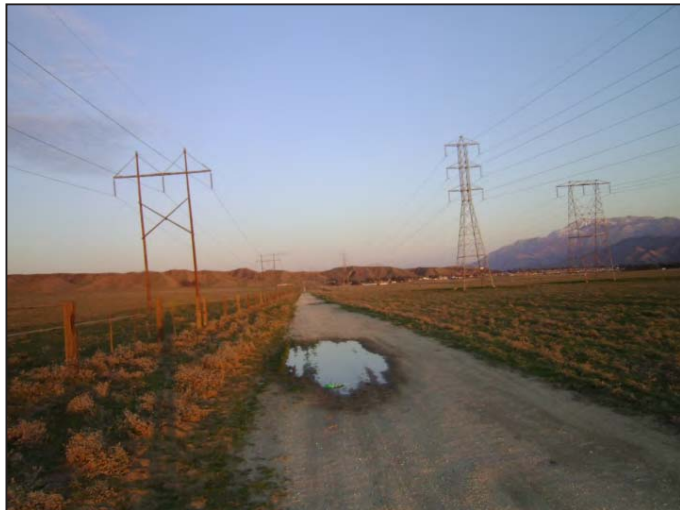
Site Photographs



PHOTOGRAPH 10:  
View looking east, showing feature B11, B12, B13,  
and B14.  
(S. Spencer, 2/17/2012)



PHOTOGRAPH 11:  
View looking east, showing Feature B14.  
(S. Spencer, 2/17/2012)



PHOTOGRAPH 12:  
View looking east, showing Feature B16.  
(S. Spencer, 2/17/2012)



LSA

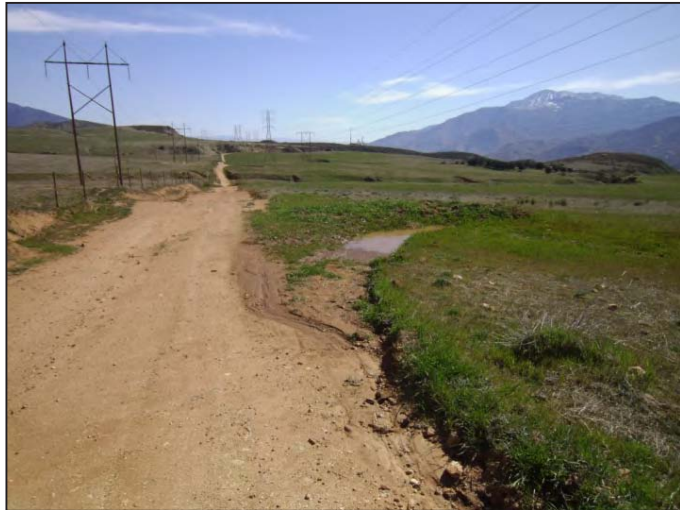
FIGURE 3D

**PROTECTED MATERIALS**  
Contains Critical Energy Infrastructure Information

West of Devers Upgrade Project  
Fairy Shrimp Dry Season Survey 2012

Site Photographs

PHOTOGRAPH 13:  
View looking east, showing feature B17.  
(S. Spencer, 2/21/2012)



PHOTOGRAPH 14:  
View looking east, showing Feature B18.  
(S. Spencer, 2/21/2012)



PHOTOGRAPH 15:  
View looking east, showing Feature B19.  
(S. Spencer, 2/21/2012)



LSA

FIGURE 3E

**PROTECTED MATERIALS**  
Contains Critical Energy Infrastructure Information

West of Devers Upgrade Project  
Fairy Shrimp Dry Season Survey 2012

Site Photographs

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## ATTACHMENT B

### DATA SHEETS

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U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: A1

Township: 1S Range: 4W Section: None UTM: 472382 Northing 3767121 Easting.

Habitat Condition: (circle where appropriate)

undisturbed      disturbed: tire tracks      garbage      discing/plowing

- ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_

- land use of habitat:      light      moderate      heavy

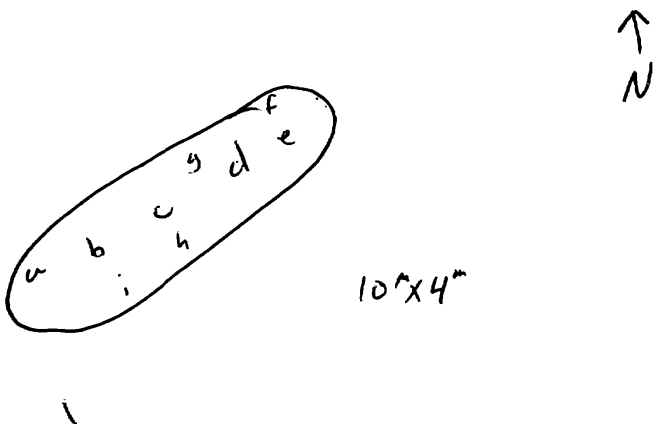
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other Road bed

Pool Depth: 30 cm (estimated maximum)      Surface Area: 40 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  f  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  g  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  h  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  i  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  j  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: A2

Township: 2S Range: 3W Section: None UTM: 480656 Northing 3764019 Easting.

Habitat Condition: (circle where appropriate)

undisturbed      disturbed: tire tracks      garbage      discing/plowing  
- ungrazed      grazed:    cattle      horses      sheep      other \_\_\_\_\_  
 - land use of habitat:      light      moderate      heavy

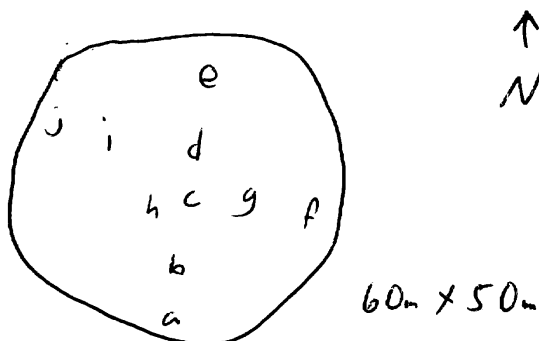
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other Road bed

Pool Depth: 150 cm (estimated maximum) Surface Area: 3000 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations





**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  f  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  g  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  h  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  i  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  j  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: A3

Township: 2S Range: 2W Section: None UTM: 490469 Northing 3758980 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing  
ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_  
- land use of habitat:      light      moderate      heavy

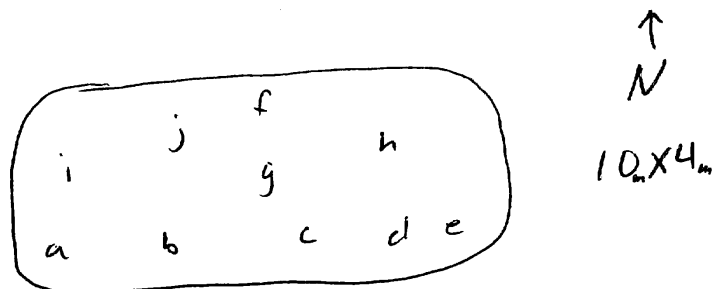
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other Road bed

Pool Depth: 50 cm (estimated maximum)      Surface Area: 40 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  f  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  g  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  h  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  i  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  j  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Genus (/species)</u>	<u># Cysts</u>	<u>Catalog/Accession #</u>	<u>Pool #</u>
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**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B1

Township: 3N Range: 1W Section: 35 UTM: 503400 Northing 3756575 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing  
ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_  
 - land use of habitat:      light      moderate      heavy

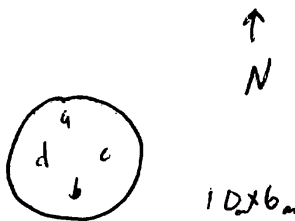
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other ~~hard bed~~ guidewine hold

Pool Depth: 10 cm (estimated maximum)      Surface Area: 6 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations





**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Genus (/species)</u>	<u># Cysts</u>	<u>Catalog/Accession #</u>	<u>Pool #</u>
-------------------------	----------------	----------------------------	---------------

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B2

Township: 3N Range: 1W Section: 35 UTM: 503397 Northing 3756555 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing

ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_

- land use of habitat:      light      moderate      heavy

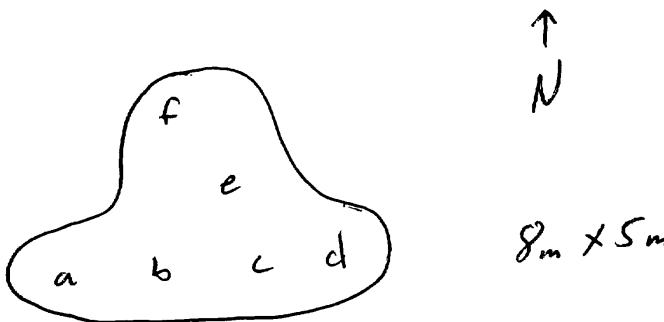
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other Road bed

Pool Depth: 15 cm (estimated maximum)      Surface Area: 40 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  f  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B3

Township: 3N Range: 1W Section: 35 UTM: 503501 Northing 3756545 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing  
ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_  
 - land use of habitat:      light      moderate      heavy

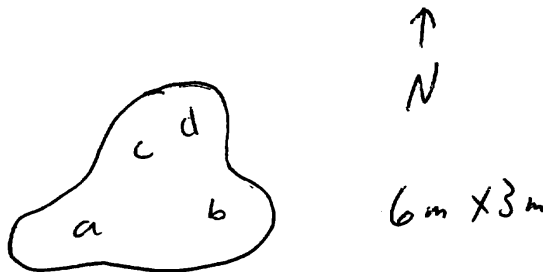
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other Roadbed

Pool Depth: 15 cm (estimated maximum)      Surface Area: 18 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations





**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>a</u>	<u>100</u>	<u>None</u>	<u>None</u>	
<u>b</u>	<u>100</u>	<u>None</u>	<u>None</u>	
<u>c</u>	<u>100</u>	<u>None</u>	<u>None</u>	
<u>d</u>	<u>100</u>	<u>None</u>	<u>None</u>	

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no  yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no  yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B4

Township: 3N Range: 1W Section: 35 UTM: 503564 Northing 3756536 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed:  tire tracks      garbage      discing/plowing  
 ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_  
 - land use of habitat:      light       moderate      heavy

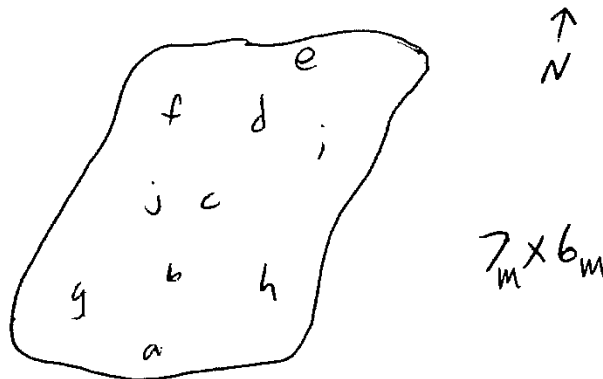
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other roadbed

Pool Depth: 15 cm (estimated maximum)      Surface Area: 42 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  f  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  g  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  h  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  i  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  j  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Genus (/species)</u>	<u># Cysts</u>	<u>Catalog/Accession #</u>	<u>Pool #</u>
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**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B5

Township: 3N Range: 1W Section: 35 UTM: 503659 Northing 3756524 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing  
ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_  
 - land use of habitat:      light      moderate      heavy

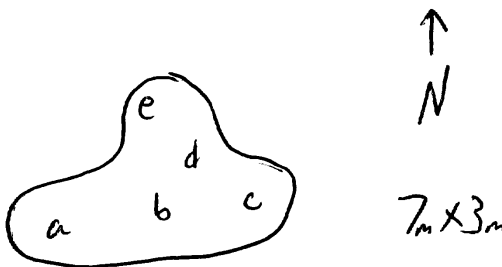
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other Road bed

Pool Depth: 15 cm (estimated maximum)      Surface Area: 21 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations





**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B6

Township: 3N Range: 1W Section: 35 UTM: 503748 Northing 3756512 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing  
ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_  
 - land use of habitat:      light      moderate      heavy

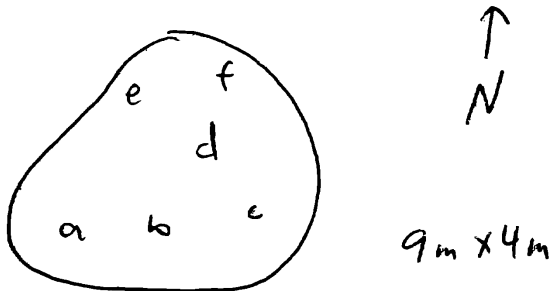
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other Road bed

Pool Depth: 20 cm (estimated maximum)      Surface Area: 36 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  f  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B7

Township: 3N Range: 1W Section: 35 UTM: 503782 Northing 3756508 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing

- ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_

- land use of habitat:      light      moderate      heavy

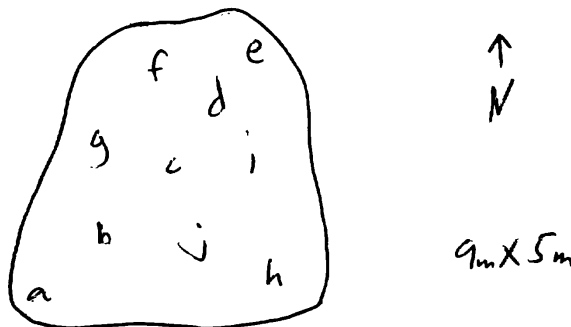
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other Road bed

Pool Depth: 20 cm (estimated maximum)      Surface Area: 45 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations





**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  f  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  g  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  h  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  i  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  j  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Genus (/species)</u>	<u># Cysts</u>	<u>Catalog/Accession #</u>	<u>Pool #</u>
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**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B8

Township: 3N Range: 1W Section: 35 UTM: 503884 Northing 3756493 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing  
 - ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_  
 - land use of habitat:      light      moderate      heavy

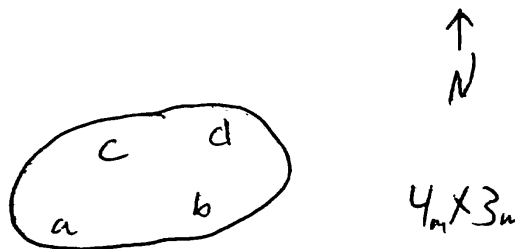
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other Road bed

Pool Depth: 10 cm (estimated maximum)      Surface Area: 12 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>a</u>	<u>100</u>	<u>None</u>	<u>None</u>	<u>          </u>
<u>b</u>	<u>100</u>	<u>None</u>	<u>None</u>	<u>          </u>
<u>c</u>	<u>100</u>	<u>None</u>	<u>None</u>	<u>          </u>
<u>d</u>	<u>100</u>	<u>None</u>	<u>None</u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>          </u>	<u>      </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>          </u>	<u>      </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>          </u>	<u>      </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>          </u>	<u>      </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>          </u>	<u>      </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>          </u>	<u>      </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>          </u>	<u>      </u>	<u>          </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B9

Township: 3N Range: 1W Section: 35 UTM: 503984 Northing 3756484 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing
- ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_
- land use of habitat:      light      moderate      heavy

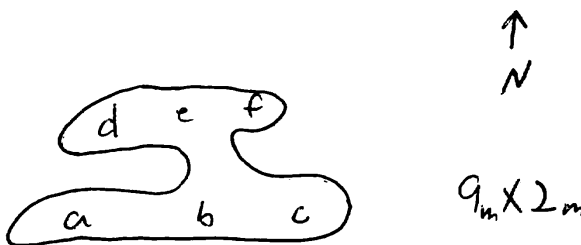
Pool Bottom Surface: (circle where appropriate )

- hardpan      claypan      cobbly/rocky      lava flow      other Road bed

Pool Depth: 15 cm (estimated maximum)      Surface Area: 18 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  f  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #



**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B10

Township: 3N Range: 1W Section: 35 UTM: 504003 Northing 3756480 Easting.

Habitat Condition: (circle where appropriate)

undisturbed      disturbed: tire tracks garbage      discing/plowing  
ungrazed      grazed:    cattle      horses      sheep      other \_\_\_\_\_  
- land use of habitat:      light      moderate      heavy

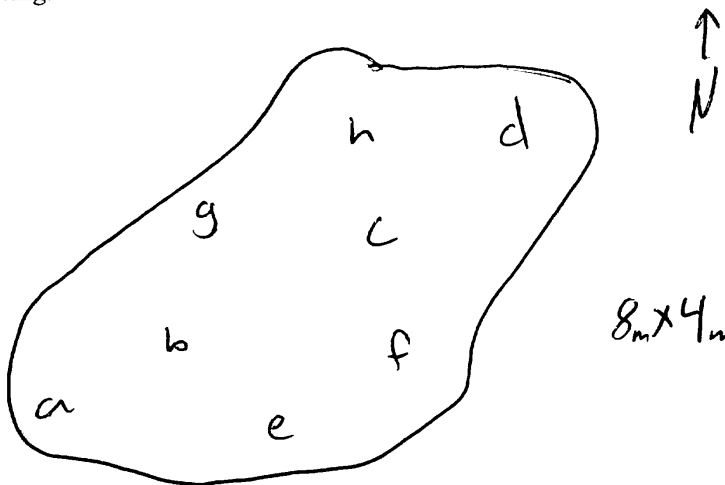
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other Redbed

Pool Depth: 15 cm (estimated maximum)    Surface Area: 32 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  f  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  g  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  h  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B11

Township: 3N/3S Range: 1W/1W Section: 36/1 UTM: 505035 Northing 3756282 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing  
ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_  
- land use of habitat:      light      moderate      heavy

Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other Road bed

Pool Depth: 10 cm (estimated maximum)      Surface Area: 15 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  f  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Genus (/species)</u>	<u># Cysts</u>	<u>Catalog/Accession #</u>	<u>Pool #</u>
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**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B12

Township: 3N/3S Range: 1W/1W Section: 36/1 UTM: 505068 Northing 3756282 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing  
ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_  
 - land use of habitat:      light      moderate      heavy

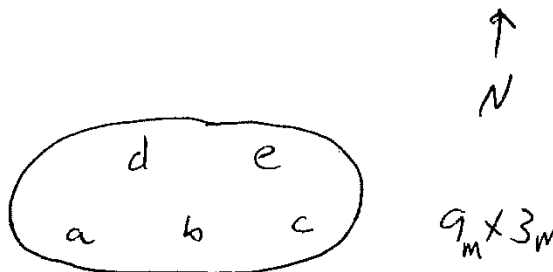
Pool Bottom Surface: (circle where appropriate)

hardpan      claypan      cobbly/rocky      lava flow      other Road bed

Pool Depth: 15 cm (estimated maximum)      Surface Area: 27 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations





**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Genus (/species)</u>	<u># Cysts</u>	<u>Catalog/Accession #</u>	<u>Pool #</u>
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**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B13

Township: 3N/3S Range: 1W/1W Section: 36/1 UTM: 505083 Northing 3756282 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing  
ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_  
 - land use of habitat:      light      moderate      heavy

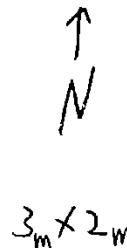
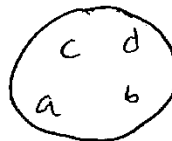
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other Road bed

Pool Depth: 10 cm (estimated maximum)      Surface Area: 6 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B14

Township: 3N/3S Range: 1W/1W Section: 36/1 UTM: 505133 Northing 3756284 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing  
 - ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_  
 - land use of habitat:      light      moderate      heavy

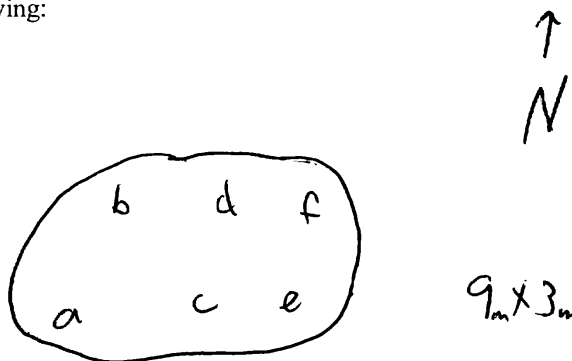
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other roadbed

Pool Depth: 15 cm (estimated maximum)      Surface Area: 27 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations





**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  f  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B15

Township: 3N/3S Range: 1W/1W Section: 36/1 UTM: 505180 Northing 3756283 Easting.

Habitat Condition: (circle where appropriate)

undisturbed	disturbed: <u>tire tracks</u>	garbage	discing/plowing	
<u>- ungrazed</u>	grazed: cattle	horses	sheep	other _____
- land use of habitat:		light	<u>moderate</u>	heavy

Pool Bottom Surface: (circle where appropriate )

hardpan    claypan    cobbly/rocky    lava flow    other roadbed

Pool Depth: 10 cm (estimated maximum)    Surface Area: 6 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B16

Township: 3N/3S Range: 1W/1W Section: 36/1 UTM: 506269 Northing 3756305 Easting.

Habitat Condition: (circle where appropriate)

undisturbed      disturbed: tire tracks      garbage      discing/plowing  
- ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_  
 - land use of habitat:      light      moderate      heavy

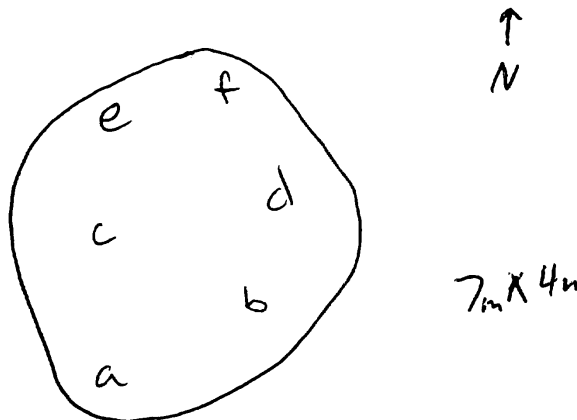
Pool Bottom Surface: (circle where appropriate )

hardpan      claypan      cobbly/rocky      lava flow      other Roadbed

Pool Depth: 15 cm (estimated maximum)      Surface Area: 28 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  f  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Genus (/species)</u>	<u># Cysts</u>	<u>Catalog/Accession #</u>	<u>Pool #</u>
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**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B17

Township: 3N/3S Range: 1E/1E Section: 32/5 UTM: 508421 Northing 3756282 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing  
 - ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_  
 - land use of habitat:      light      moderate      heavy

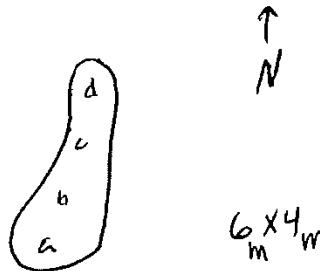
Pool Bottom Surface: (circle where appropriate)

hardpan      claypan      cobbly/rocky      lava flow      other Roadbed

Pool Depth: 15 cm (estimated maximum)      Surface Area: 24 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B18

Township: 3S Range: 1E Section: 5 UTM: 509083 Northing 3756283 Easting.

Habitat Condition: (circle where appropriate)

undisturbed      disturbed: tire tracks      garbage      discing/plowing  
- ungrazed      grazed:    cattle      horses      sheep      other \_\_\_\_\_  
- land use of habitat:      light      moderate      heavy

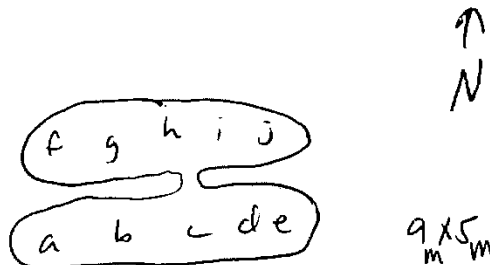
Pool Bottom Surface: (circle where appropriate)

hardpan      claypan      cobbly/rocky      lava flow      other road bed

Pool Depth: 20 cm (estimated maximum)      Surface Area: 45 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  f  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  g  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  h  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  i  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  j  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10 / 01 / 2012 County: San Bernardino Quad: South San Bernardino

Collector(s): David Muth/Stan Spencer Permit #: TE797234/TE777965

Site/Project Name: So Cal Edison- West of Devers Pool #: B19

Township: 3S Range: 1E Section: 5 UTM: 509664 Northing 3756231 Easting.

Habitat Condition: (circle where appropriate)

- undisturbed      disturbed: tire tracks      garbage      discing/plowing
- ungrazed      grazed:      cattle      horses      sheep      other \_\_\_\_\_
- land use of habitat:      light      moderate      heavy

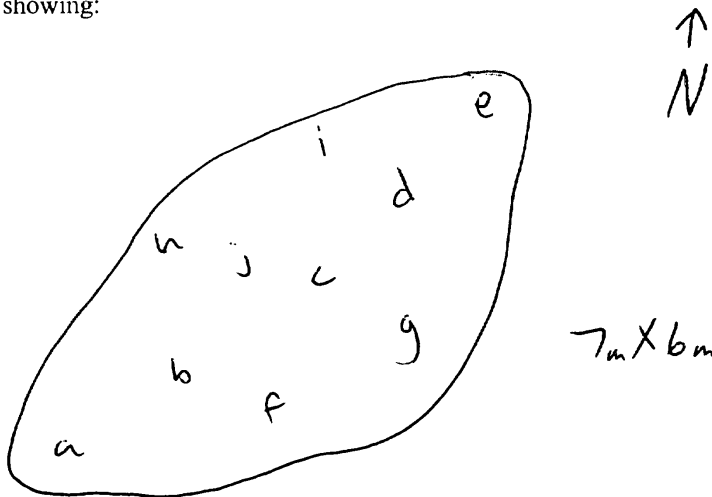
Pool Bottom Surface: (circle where appropriate )

- hardpan      claypan      cobbly/rocky      lava flow      other Roadbed

Pool Depth: 15 cm (estimated maximum)      Surface Area: 42 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations





**U.S Fish and Wildlife Service Vernal Pool Data Sheet**

**Dry Season Survey**

**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml)	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml)
<u>  a  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  b  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  c  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  d  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  e  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  f  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  g  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  h  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  i  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>
<u>  j  </u>	<u>  100  </u>	<u>  None  </u>	<u>  None  </u>	<u>          </u>

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                                      Catalog/Accession #                                      Pool #



LSA ASSOCIATES, INC.  
1500 IOWA AVENUE, SUITE 200  
RIVERSIDE, CALIFORNIA 92507

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IRVINE ROCKLIN  
PT. RICHMOND SOUTH SAN  
SAN LUIS OBISPO FRANCISCO  
PALM SPRINGS CARLSBAD  
FORT COLLINS FRESNO

August 17, 2012

Ms. Susie Tharratt  
Recovery Permits Coordinator  
Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road, Suite 101  
Carlsbad, California 92011

Subject: Results of 2011–2012 First Year Wet Season Fairy Shrimp Survey West of the El Casco Substation for the West of Devers Transmission Line Upgrade in San Bernardino and Riverside Counties (LSA Project No. SCE1110)

Dear Ms. Tharratt:

This letter provides the results of a 2011–2012 wet season presence/absence survey for vernal pool branchiopods by LSA Associates, Inc. (LSA) for the portion of the Southern California Edison (SCE) West of Devers Transmission Line Upgrade alignment extending from the SCE El Casco Substation (33.97° latitude and -117.08° longitude) at San Timoteo Canyon Road in Riverside County, westward to the Vista Substation (34.04° latitude and -117.32° longitude) in the City of Grand Terrace and the San Bernardino Substation (34.08° latitude and -117.24° longitude) between the Cities of San Bernardino and Redlands (attached Figure 1). Both of these western substations are in San Bernardino County. This project segment covers approximately 16 linear miles and is located within portions of Township 1 South, Ranges 4 West and 3 West; and Township 2 South, Ranges 4 West, 3 West, and 2 West.

The conceptual project would upgrade the existing transmission facilities to afford additional transmission capacity between the Devers Substation at the east end and the San Bernardino and Vista Substations at the west end. The preliminary alignment being considered for the West of Devers Project occurs within an SCE Right-of-Way (ROW) and extends along an existing transmission line corridor from the Vista Substation to the Devers Substation, near North Palm Springs, Riverside County (Figure 1). The project would also include re-conductoring and transmission facility upgrades extending up to the San Bernardino Substation.

## METHODS

The fairy shrimp survey was conducted by LSA Senior Biologist Stanley Spencer under LSA Federal 10(a)(1)(A) Permit TE-777965 and in accordance with the April 19, 1996, *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods*. Site checks were made on November 29 and 30; December 15, 19, 20, and 30, 2011; January 12, 26, and 27; February 20 and 21; March 2, 5, 21, 23, 26, and 28; April 2, 3, 10, 19, and 23; and May 1, 2, 8, and 22, 2012, to determine if water was present in ponding features following storm events. Ponded features were sampled at required intervals until they had dried and remained dry.

8/17/2012 (R:\SCE1110\Bio\FairyShrimp\2011-2012 Wet\Report\WOD\_2011-2012Wet\_FairyShrimpReport.doc

Features were sampled by drawing a handheld net through the water column, occasionally bumping the bottom to stir up any benthic organisms. The net was periodically removed from the water to check for aquatic species. Sampling was continued until the net was pulled through a sufficient portion of the water body to indicate the probable absence of fairy shrimp.

Table A provides the dates and weather conditions for each site visit during which features were sampled. A total of three features were sampled. Data sheets are attached.

**Table A: Survey Dates, Weather Conditions, and Features Sampled**

Date	Air Temperature (°C)	Water Temperature (°C)	Cloud Cover	Features Sampled
11/30/11	27	21	Clear	A1
12/15/11	13	13	100%	A2
12/30/11	20	19	5%	A2
3/26/12	19	19	30%	A1, A2
4/2/12	16	16	Clear	A3
4/10/12	21	22	Clear	A2
4/19/12	29-31	29	1%	A1, A3
4/23/12	12	14	100%	A2
5/8/12	31	29	Clear	A2
5/22/12	30	31	Clear	A2

## RESULTS

Feature characteristics are provided in Table B. All features were unvegetated. Adjacent areas were barren or vegetated by nonnative grassland and ruderal species. Based on feature locations and patterns of disturbance, along with comparisons of recent aerial photos with aerial photographs from 1967 and 1978 ([www.historicaerials.com](http://www.historicaerials.com)), all sampled features appear to be artificially created depressions (Table B). All are highly disturbed by ongoing vehicle use or site maintenance. Due to soil texture and compaction, these features retain water long enough to support some invertebrate species adapted to ephemeral pools, but are not likely to provide habitat for any sensitive fairy shrimp species. These features are fed by direct rainfall as well as runoff from adjacent compacted and paved areas.

**Table B: Characteristics of Features Sampled**

Feature	Maximum Depth (cm) Observed	Maximum Length (m) × Width (m) Observed	Origin	Fairy Shrimp Species Observed
A1	8	7 × 2	road rut, borrow area for terracing	<i>Branchinecta lindahli</i>

**Table B: Characteristics of Features Sampled**


Feature	Maximum Depth (cm) Observed	Maximum Length (m) × Width (m) Observed	Origin	Fairy Shrimp Species Observed
A2	45	50 × 25	detention basin constructed within a streambed	none
A3	4	4 × 1	road rut	<i>Branchinecta lindahli</i>

The only fairy shrimp species observed during the survey was *Branchinecta lindahli*, a nonsensitive species. Other aquatic animals observed were western toad (*Anaxyrus boreas*; in Feature A2); western spadefoot (*Spea hammondi*; in Feature A2), Baja California treefrog (*Pseudacris hypochondriaca*; in Feature A2), seed shrimp (Ostracoda; in Feature A2), water boatman (Corixidae; in Feature A2), backswimmer (Notonectidae; in Feature A2), and predaceous diving beetle (Dytiscidae; in Feature A3).

Please contact me if you require any additional information.

Sincerely,

**LSA ASSOCIATES, INC.**

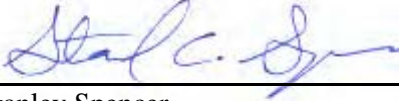


Stanley C. Spencer, Ph.D.  
Senior Biologist

Attachments: Certification  
Figure 1: Fairy Shrimp Survey Area  
Figure 2: Features Sampled  
Figure 3: Site Photographs  
Data Sheets

cc: Lisa Donnell, SCE  
Roger Overstreet, SCE  
Mona De Leon, LSA  
Richard Erickson, LSA  
Brock Ortega, Dudek  
Karin Cleary-Rose, USFWS

**I CERTIFY THAT THE INFORMATION IN THIS SURVEY REPORT AND ATTACHED EXHIBITS FULLY AND ACCURATELY REPRESENTS MY WORK:**

<b>SURVEYOR:</b>	<b>PERMIT NUMBER</b>	<b>DATE:</b>
 Stanley Spencer	TE-777965	August 17, 2012



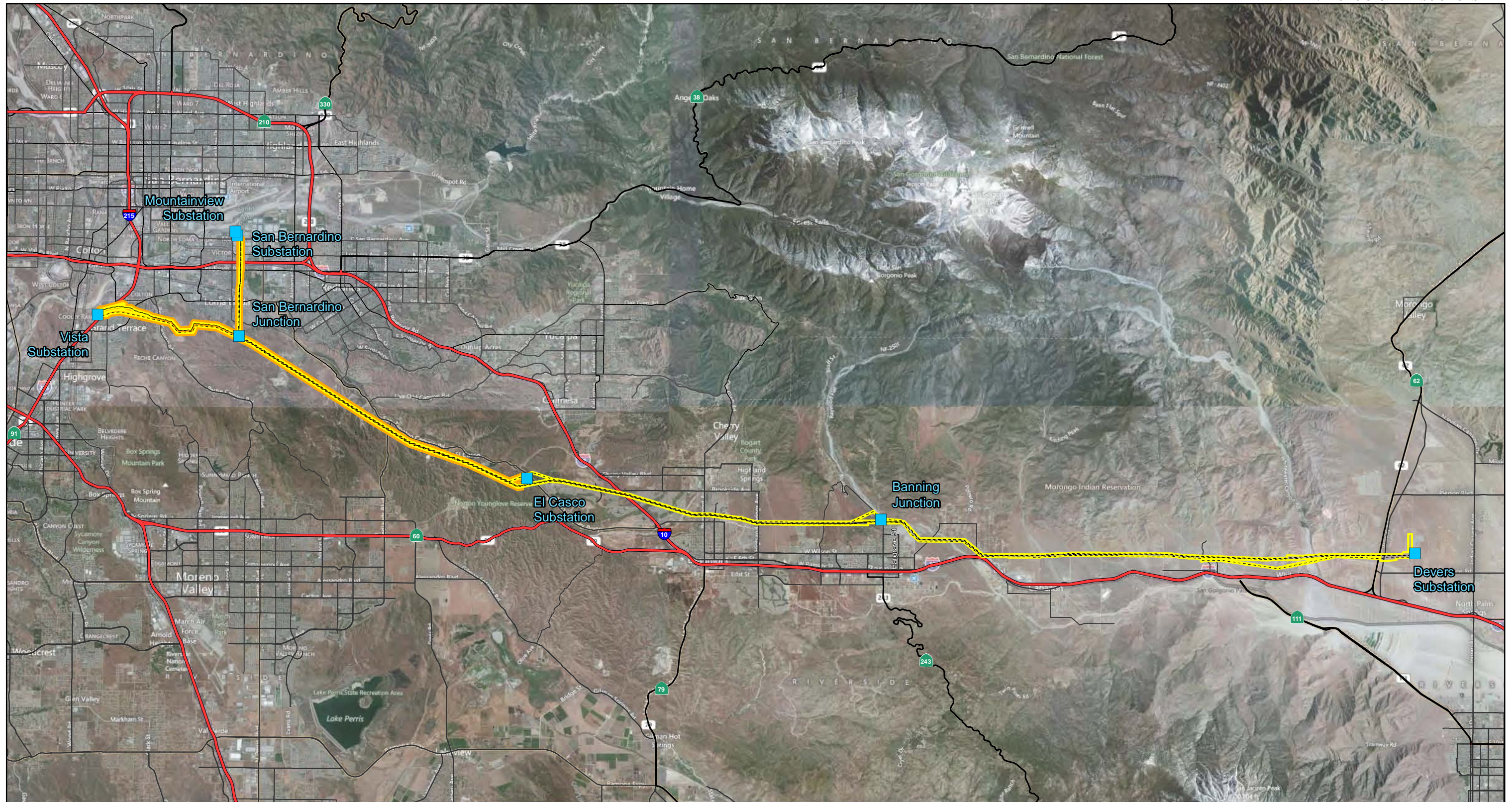
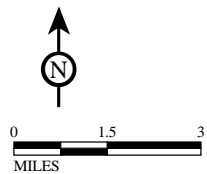


FIGURE 1

LSA

LEGEND

- Existing Transmission Lines
- Transmission Line Right-of-Way
- Fairy Shrimp Survey Area 2011-2012
- Substations/Junctions



SOURCE: Bing Maps (c. 2011); SCE (6/2012)

I:\SCE1110\Reports\Bio\FairyShrimp\fig1\_FairyShrimpSurvey.mxd (8/16/2012)

**PROTECTED MATERIALS**  
**Contains Critical Energy Infrastructure Information**

Proponent's Environmental Assessment  
West of Devers Transmission Line Upgrade  
Fairy Shrimp Wet Season Survey 2011-2012

Fairy Shrimp Survey Area

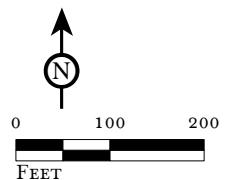


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LSA



- Transmission Line Right-of-Way; 100' from Right-of-Way
- Vernal Pools**
- Features Sampled



FIGURE 2  
Sheet 1 of 3

**PROTECTED MATERIALS**  
**Contains Critical Energy Infrastructure Information**

*Proponent's Environmental Assessment  
West of Devers Transmission Line Upgrade  
Fairy Shrimp Wet Season Survey 2011-2012*

Features Sampled

SOURCE: ESRI World Imagery, 2010; Riverside County, 2011  
I:\SCE1110\Reports\Bio\FairyShrimp\fig2\_SampledFeat.mxd (8/16/12)

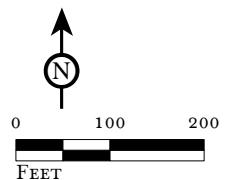


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LSA



- Transmission Line Right-of-Way; 100' from Right-of-Way
- Vernal Pools**
- Features Sampled

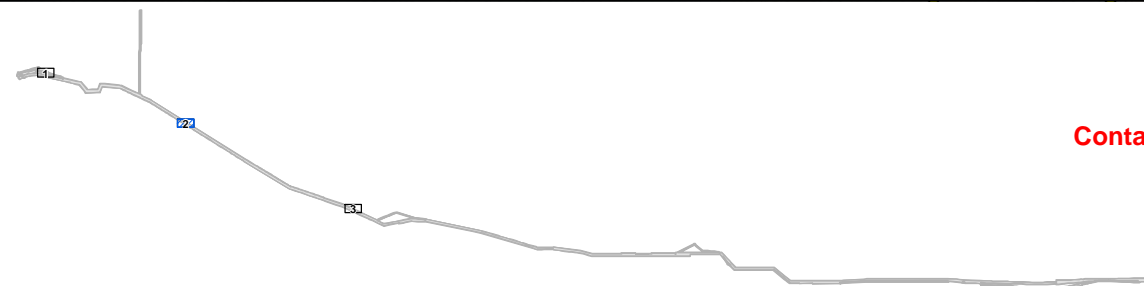


FIGURE 2  
Sheet 2 of 3

**PROTECTED MATERIALS**  
**Contains Critical Energy Infrastructure Information**

*Proponent's Environmental Assessment  
West of Devers Transmission Line Upgrade  
Fairy Shrimp Wet Season Survey 2011-2012*

Features Sampled

SOURCE: ESRI World Imagery, 2010; Riverside County, 2011  
I:\SCE1110\Reports\Bio\FairyShrimp\fig2\_SampledFeat.mxd (8/16/12)

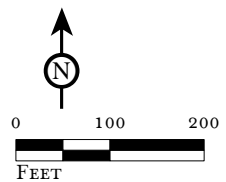


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LSA



- Transmission Line Right-of-Way; 100' from Right-of-Way
- Vernal Pools**
- Features Sampled

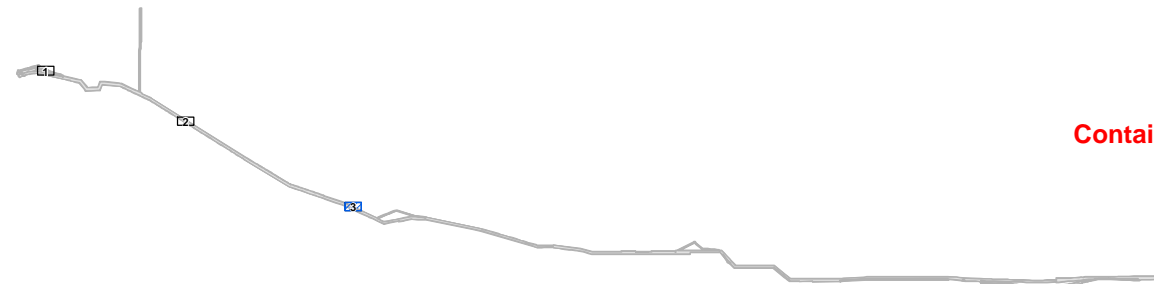


FIGURE 2  
Sheet 3 of 3

**PROTECTED MATERIALS**  
**Contains Critical Energy Infrastructure Information**

*Proponent's Environmental Assessment  
West of Devers Transmission Line Upgrade  
Fairy Shrimp Wet Season Survey 2011-2012*

Features Sampled

SOURCE: ESRI World Imagery, 2010; Riverside County, 2011  
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PHOTOGRAPH 1:  
View looking southeast, showing feature A1.  
(S. Spencer, 3/26/2012)



PHOTOGRAPH 2:  
View looking northeast, showing Feature A2.  
(S. Spencer, 3/26/2012)



PHOTOGRAPH 3:  
View looking southeast, showing Feature A3.  
(S. Spencer, 4/2/2012)



LSA

FIGURE 3

PROTECTED MATERIALS  
Contains Critical Energy Infrastructure Information  
Proponent's Environmental Assessment  
West of Devers Transmission Line Upgrade  
Fairy Shrimp Wet Season Survey 2011-2012  
Site Photographs



**U.S. Fish and Wildlife Service Vernal Pool Data Sheet  
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_ no Yes yes

Required color slides and/or photographs for the project site are included: \_\_\_\_ no Yes yes

Date: 11 / 30 / 11 Time: 0800 County: San Bernardino Quad: San Bern. S.

Collector(s): Stan Spencer Permit #: 777965

Site/Project Name: SCE West of Devers: W of El Casco Pool #: A1

Township: 1S Range: 4W Section: none 34.0444 lat. -117.2992 lng.

Temperature: Water: 21 oC Air: 27 oC

Pool Depth: Surface Area:

at time of sampling: 3 cm at time of sampling: 2 m x 0.6 m

estimated maximum: 30 cm estimated maximum: 10 m x 3 m

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed: <u>tire tracks</u>	garbage	discing/plowing	
- ungrazed	grazed: cattle	horses	sheep	other: <u>grading</u>
		light	moderate	heavy

- land use of habitat:  
dirt road

(Optional) Water Chemistry Data

Alkalinity (total): \_\_\_\_\_ ppm or mg/l  
Dissolved NH4: \_\_\_\_\_ ppt or ppm  
pH: \_\_\_\_\_  
Salinity : \_\_\_\_\_ ppt or ppm

Conductivity: \_\_\_\_\_ uMHO  
Dissolved Oxygen: \_\_\_\_\_ ppm or mg/l  
Turbidity: (secchi disc depth) \_\_\_\_\_ cm or: clear to bottom \_\_\_\_\_  
Total Dissolved Solids (TDS): \_\_\_\_\_ ppm

Notes: PERCENT CLOUD COVER: 0

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:      yes  no  
 Conchostracans: yes  no  
 Copepods:        yes  no  
 Ostracods        yes  no  
 Fish               yes  no  
 Frogs             yes  no  
 Salamanders     yes  no  
 Waterfowl        yes  no  
 Other (specify) \_\_\_\_\_

Insects: (adult or larvae)  
 Anisoptera:                    yes  no  
 Zygoptera:                    yes  no  
 Hydrophilidae:                yes  no  
 Dytiscidae:                    yes  no  
 Corixidae:                     yes  no  
 Notonectidae:                 yes  no  
 Belostomatidae:               yes  no  
 Other (specify) \_\_\_\_\_

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
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**U.S. Fish and Wildlife Service Vernal Pool Data Sheet  
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_ no Yes yes

Required color slides and/or photographs for the project site are included: \_\_\_\_ no Yes yes

Date: 12 / 15 / 11 Time: 1430 County: San Bernardino Quad: Redlands

Collector(s): Stan Spencer Permit #: 777965

Site/Project Name: SCE West of Devers: W of El Casco Pool #: A2

Township: 2S Range: 3W Section: none 34.0167 lat. -117.2096 lng.

Temperature: Water: 13 oC Air: 13 oC

Pool Depth: Surface Area:

at time of sampling: 30 cm at time of sampling: 10 m x 8 m

estimated maximum: 150 cm estimated maximum: 100 m x 30 m

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed: <u>tire tracks</u>	garbage	discing/plowing	
- ungrazed	grazed: cattle	horses	sheep	other: <u>grading</u>
		light	moderate	heavy

- land use of habitat:  
detention basin

(Optional) Water Chemistry Data

Alkalinity (total): \_\_\_\_\_ ppm or mg/l

Conductivity: \_\_\_\_\_ uMHO

Dissolved NH4: \_\_\_\_\_ ppt or ppm

Dissolved Oxygen: \_\_\_\_\_ ppm or mg/l

pH: \_\_\_\_\_

Turbidity: (secchi disc depth) \_\_\_\_\_ cm or: clear to bottom \_\_\_\_\_

Salinity : \_\_\_\_\_ ppt or ppm

Total Dissolved Solids (TDS): \_\_\_\_\_ ppm

Notes: PERCENT CLOUD COVER: 100

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:      yes  no  
 Conchostracans: yes  no  
 Copepods:        yes  no  
 Ostracods        yes  no  
 Fish               yes  no  
 Frogs             yes  no  
 Salamanders     yes  no  
 Waterfowl        yes  no  
 Other (specify) \_\_\_\_\_

Insects: (adult or larvae)  
 Anisoptera:                    yes  no  
 Zygoptera:                    yes  no  
 Hydrophilidae:                yes  no  
 Dytiscidae:                    yes  no  
 Corixidae:                     yes  no  
 Notonectidae:                 yes  no  
 Belostomatidae:               yes  no  
 Other (specify) \_\_\_\_\_

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
----------------	----------------------	----------------------------	---------------



**U.S. Fish and Wildlife Service Vernal Pool Data Sheet  
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_ no Yes yes

Required color slides and/or photographs for the project site are included: \_\_\_\_ no Yes yes

Date: 12 / 30 / 11 Time: 1500 County: San Bernardino Quad: Redlands

Collector(s): Stan Spencer Permit #: 777965

Site/Project Name: SCE West of Devers: W of El Casco Pool #: A2

Township: 2S Range: 3W Section: none 34.0167 lat. -117.2096 lng.

Temperature: Water: 19 oC Air: 20 oC

Pool Depth: Surface Area:

at time of sampling: 8 cm at time of sampling: 4 m x 3 m

estimated maximum: 150 cm estimated maximum: 100 m x 30 m

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed: <u>tire tracks</u>	garbage	discing/plowing	
- ungrazed	grazed: cattle	horses	sheep	other: <u>grading</u>
		light	moderate	heavy

- land use of habitat:  
detention basin

(Optional) Water Chemistry Data

Alkalinity (total): \_\_\_\_\_ ppm or mg/l

Conductivity: \_\_\_\_\_ uMHO

Dissolved NH4: \_\_\_\_\_ ppt or ppm

Dissolved Oxygen: \_\_\_\_\_ ppm or mg/l

pH: \_\_\_\_\_

Turbidity: (secchi disc depth) \_\_\_\_\_ cm or: clear to bottom \_\_\_\_\_

Salinity : \_\_\_\_\_ ppt or ppm

Total Dissolved Solids (TDS): \_\_\_\_\_ ppm

Notes: PERCENT CLOUD COVER: 5

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:      yes  no  
 Conchostracans: yes  no  
 Copepods:        yes  no  
 Ostracods         yes no  
 Fish               yes  no  
 Frogs              yes no  
 Salamanders     yes  no  
 Waterfowl        yes  no  
 Other (specify) \_\_\_\_\_

Insects: (adult or larvae)  
 Anisoptera:                yes  no  
 Zygoptera:                 yes  no  
 Hydrophilidae:            yes  no  
 Dytiscidae:                yes  no  
 Corixidae:                  yes no  
 Notonectidae:              yes no  
 Belostomatidae:         yes  no  
 Other (specify) \_\_\_\_\_

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
----------------	----------------------	----------------------------	---------------

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet  
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_ no Yes yes

Required color slides and/or photographs for the project site are included: \_\_\_\_ no Yes yes

Date: 03 / 26 / 12 Time: 1415 County: San Bernardino Quad: San Bern. S.

Collector(s): Stan Spencer Permit #: 777965

Site/Project Name: SCE West of Devers: W of El Casco Pool #: A1

Township: 1S Range: 4W Section: none 34.0444 lat. -117.2992 lng.

Temperature: Water: 19 oC Air: 19 oC

Pool Depth: Surface Area:

at time of sampling: 8 cm at time of sampling: 7 m x 2 m

estimated maximum: 30 cm estimated maximum: 10 m x 3 m

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed: <u>tire tracks</u>	garbage	discing/plowing	
- ungrazed	grazed: cattle	horses	sheep	other: <u>grading</u>
		light	moderate	heavy

- land use of habitat:  
dirt road

(Optional) Water Chemistry Data

Alkalinity (total): \_\_\_\_\_ ppm or mg/l

Conductivity: \_\_\_\_\_ uMHO

Dissolved NH4: \_\_\_\_\_ ppt or ppm

Dissolved Oxygen: \_\_\_\_\_ ppm or mg/l

pH: \_\_\_\_\_

Turbidity: (secchi disc depth) \_\_\_\_\_ cm or: clear to bottom \_\_\_\_\_

Salinity : \_\_\_\_\_ ppt or ppm

Total Dissolved Solids (TDS): \_\_\_\_\_ ppm

Notes: PERCENT CLOUD COVER: 30

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:      yes  no  
 Conchostracans: yes  no  
 Copepods:        yes  no  
 Ostracods        yes  no  
 Fish               yes  no  
 Frogs             yes  no  
 Salamanders     yes  no  
 Waterfowl        yes  no  
 Other (specify) \_\_\_\_\_

Insects: (adult or larvae)  
 Anisoptera:                    yes  no  
 Zygoptera:                    yes  no  
 Hydrophilidae:                yes  no  
 Dytiscidae:                    yes  no  
 Corixidae:                     yes  no  
 Notonectidae:                 yes  no  
 Belostomatidae:               yes  no  
 Other (specify) \_\_\_\_\_

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
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**U.S. Fish and Wildlife Service Vernal Pool Data Sheet  
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_ no Yes yes

Required color slides and/or photographs for the project site are included: \_\_\_\_ no Yes yes

Date: 03 / 26 / 12 Time: 1545 County: San Bernardino Quad: Redlands

Collector(s): Stan Spencer Permit #: 777965

Site/Project Name: SCE West of Devers: W of El Casco Pool #: A2

Township: 2S Range: 3W Section: none 34.0167 lat. -117.2096 lng.

Temperature: Water: 19 oC Air: 19 oC

Pool Depth: Surface Area:

at time of sampling: 45 cm at time of sampling: 20 m x 20 m

estimated maximum: 150 cm estimated maximum: 100 m x 30 m

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed: <u>tire tracks</u>	garbage	discing/plowing	
- ungrazed	grazed: cattle	horses	sheep	other: <u>grading</u>
		light	moderate	heavy

- land use of habitat:  
detention basin

(Optional) Water Chemistry Data

Alkalinity (total): \_\_\_\_\_ ppm or mg/l  
Dissolved NH4: \_\_\_\_\_ ppt or ppm  
pH: \_\_\_\_\_  
Salinity : \_\_\_\_\_ ppt or ppm

Conductivity: \_\_\_\_\_ uMHO  
Dissolved Oxygen: \_\_\_\_\_ ppm or mg/l  
Turbidity: (secchi disc depth) \_\_\_\_\_ cm or: clear to bottom \_\_\_\_\_  
Total Dissolved Solids (TDS): \_\_\_\_\_ ppm

Notes: PERCENT CLOUD COVER: 30

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:      yes  no  
 Conchostracans: yes  no  
 Copepods:        yes  no  
 Ostracods        yes  no  
 Fish               yes  no  
 Frogs             yes  no  
 Salamanders     yes  no  
 Waterfowl        yes  no  
 Other (specify) \_\_\_\_\_

Insects: (adult or larvae)  
 Anisoptera:                    yes  no  
 Zygoptera:                    yes  no  
 Hydrophilidae:                yes  no  
 Dytiscidae:                    yes  no  
 Corixidae:                     yes  no  
 Notonectidae:                 yes  no  
 Belostomatidae:               yes  no  
 Other (specify) \_\_\_\_\_

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
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**U.S. Fish and Wildlife Service Vernal Pool Data Sheet  
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_ no Yes yes

Required color slides and/or photographs for the project site are included: \_\_\_\_ no Yes yes

Date: 04 / 02 / 12 Time: 0915 County: Riverside Quad: El Casco

Collector(s): Stan Spencer Permit #: 777965

Site/Project Name: SCE West of Devers: W of El Casco Pool #: A3

Township: 2S Range: 2W Section: none 33.9714 lat. -117.1033 lng.

Temperature: Water: 16 oC Air: 16 oC

Pool Depth: Surface Area:

at time of sampling: 1 cm at time of sampling: 2 m x 1 m

estimated maximum: 50 cm estimated maximum: 10 m x 3 m

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed: <u>tire tracks</u>	garbage	discing/plowing	
- ungrazed	grazed: cattle	horses	sheep	other: <u>grading</u>
		light	moderate	heavy

- land use of habitat:  
dirt road

(Optional) Water Chemistry Data

Alkalinity (total): \_\_\_\_\_ ppm or mg/l

Conductivity: \_\_\_\_\_ uMHO

Dissolved NH4: \_\_\_\_\_ ppt or ppm

Dissolved Oxygen: \_\_\_\_\_ ppm or mg/l

pH: \_\_\_\_\_

Turbidity: (secchi disc depth) \_\_\_\_\_ cm or: clear to bottom \_\_\_\_\_

Salinity : \_\_\_\_\_ ppt or ppm

Total Dissolved Solids (TDS): \_\_\_\_\_ ppm

Notes: PERCENT CLOUD COVER: 0

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:      yes  no  
 Conchostracans: yes  no  
 Copepods:        yes  no  
 Ostracods        yes  no  
 Fish              yes  no  
 Frogs             yes  no  
 Salamanders     yes  no  
 Waterfowl        yes  no  
 Other (specify) \_\_\_\_\_

Insects: (adult or larvae)  
 Anisoptera:                    yes  no  
 Zygoptera:                    yes  no  
 Hydrophilidae:                yes  no  
 Dytiscidae:                    yes  no  
 Corixidae:                     yes  no  
 Notonectidae:                 yes  no  
 Belostomatidae:               yes  no  
 Other (specify) \_\_\_\_\_

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
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Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:      yes  no  
 Conchostracans: yes  no  
 Copepods:        yes  no  
 Ostracods        yes  no  
 Fish               yes  no  
 Frogs              yes  no  
 Salamanders     yes  no  
 Waterfowl        yes  no  
 Other (specify) \_\_\_\_\_

Insects: (adult or larvae)  
 Anisoptera:                    yes  no  
 Zygoptera:                    yes  no  
 Hydrophilidae:                yes  no  
 Dytiscidae:                    yes  no  
 Corixidae:                     yes  no  
 Notonectidae:                 yes  no  
 Belostomatidae:               yes  no  
 Other (specify) \_\_\_\_\_

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
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**U.S. Fish and Wildlife Service Vernal Pool Data Sheet  
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_ no Yes yes

Required color slides and/or photographs for the project site are included: \_\_\_\_ no Yes yes

Date: 04 / 19 / 12 Time: 1315 County: San Bernardino Quad: San Bern. S.

Collector(s): Stan Spencer Permit #: 777965

Site/Project Name: SCE West of Devers: W of El Casco Pool #: A1

Township: 1S Range: 4W Section: none 34.0444 lat. -117.2992 lng.

Temperature: Water: 29 oC Air: 29 oC

Pool Depth: Surface Area:

at time of sampling: 1 cm at time of sampling: 1 m x 1 m

estimated maximum: 30 cm estimated maximum: 10 m x 3 m

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed: <u>tire tracks</u>	garbage	discing/plowing	
- ungrazed	grazed: cattle	horses	sheep	other: <u>grading</u>
		light	moderate	heavy

- land use of habitat:  
dirt road

(Optional) Water Chemistry Data

Alkalinity (total): \_\_\_\_\_ ppm or mg/l

Conductivity: \_\_\_\_\_ uMHO

Dissolved NH4: \_\_\_\_\_ ppt or ppm

Dissolved Oxygen: \_\_\_\_\_ ppm or mg/l

pH: \_\_\_\_\_

Turbidity: (secchi disc depth) \_\_\_\_\_ cm or: clear to bottom \_\_\_\_\_

Salinity : \_\_\_\_\_ ppt or ppm

Total Dissolved Solids (TDS): \_\_\_\_\_ ppm

Notes: PERCENT CLOUD COVER: 1

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey**

Note: Please fill out the required information completely for each site visit.







Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

**Branchinecta lindahli - 10's**

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:      yes  no  
 Conchostracans: yes  no  
 Copepods:        yes  no  
 Ostracods        yes  no  
 Fish               yes  no  
 Frogs             yes  no  
 Salamanders     yes  no  
 Waterfowl        yes  no  
 Other (specify) \_\_\_\_\_

Insects: (adult or larvae)  
 Anisoptera:                    yes  no  
 Zygoptera:                    yes  no  
 Hydrophilidae:                yes  no  
 Dytiscidae:                     yes  no  
 Corixidae:                     yes  no  
 Notonectidae:                 yes  no  
 Belostomatidae:               yes  no  
 Other (specify) \_\_\_\_\_

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
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**U.S. Fish and Wildlife Service Vernal Pool Data Sheet  
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_ no Yes yes

Required color slides and/or photographs for the project site are included: \_\_\_\_ no Yes yes

Date: 04 / 23 / 12 Time: 1620 County: San Bernardino Quad: Redlands

Collector(s): Stan Spencer Permit #: 777965

Site/Project Name: SCE West of Devers: W of El Casco Pool #: A2

Township: 2S Range: 3W Section: none 34.0167 lat. -117.2096 lng.

Temperature: Water: 14 oC Air: 12 oC

Pool Depth: Surface Area:

at time of sampling: 45 cm at time of sampling: 40 m x 25 m

estimated maximum: 150 cm estimated maximum: 100 m x 30 m

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed: <u>tire tracks</u>	garbage	discing/plowing	
- ungrazed	grazed: cattle	horses	sheep	other: <u>grading</u>
		light	moderate	heavy

- land use of habitat:  
detention basin

(Optional) Water Chemistry Data

Alkalinity (total): \_\_\_\_\_ ppm or mg/l  
Dissolved NH4: \_\_\_\_\_ ppt or ppm  
pH: \_\_\_\_\_  
Salinity : \_\_\_\_\_ ppt or ppm

Conductivity: \_\_\_\_\_ uMHO  
Dissolved Oxygen: \_\_\_\_\_ ppm or mg/l  
Turbidity: (secchi disc depth) \_\_\_\_\_ cm or: clear to bottom \_\_\_\_\_  
Total Dissolved Solids (TDS): \_\_\_\_\_ ppm

Notes: PERCENT CLOUD COVER: 100

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:      yes  no  
 Conchostracans: yes  no  
 Copepods:        yes  no  
 Ostracods        yes  no  
 Fish               yes  no  
 Frogs              yes  no  
 Salamanders     yes  no  
 Waterfowl        yes  no  
 Other (specify) \_\_\_\_\_

Insects: (adult or larvae)  
 Anisoptera:                    yes  no  
 Zygoptera:                    yes  no  
 Hydrophilidae:                yes  no  
 Dytiscidae:                    yes  no  
 Corixidae:                     yes  no  
 Notonectidae:                 yes  no  
 Belostomatidae:               yes  no  
 Other (specify) \_\_\_\_\_

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
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**U.S. Fish and Wildlife Service Vernal Pool Data Sheet  
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_ no Yes yes

Required color slides and/or photographs for the project site are included: \_\_\_\_ no Yes yes

Date: 05 / 08 / 12 Time: 1430 County: San Bernardino Quad: Redlands

Collector(s): Stan Spencer Permit #: 777965

Site/Project Name: SCE West of Devers: W of El Casco Pool #: A2

Township: 2S Range: 3W Section: none 34.0167 lat. -117.2096 lng.

Temperature: Water: 29 oC Air: 31 oC

Pool Depth: Surface Area:

at time of sampling: 30 cm at time of sampling: 30 m x 15 m

estimated maximum: 150 cm estimated maximum: 100 m x 30 m

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed: <u>tire tracks</u>	garbage	discing/plowing	
- ungrazed	grazed: cattle	horses	sheep	other: <u>grading</u>
		light	moderate	heavy

- land use of habitat:  
detention basin

(Optional) Water Chemistry Data

Alkalinity (total): \_\_\_\_\_ ppm or mg/l

Conductivity: \_\_\_\_\_ uMHO

Dissolved NH4: \_\_\_\_\_ ppt or ppm

Dissolved Oxygen: \_\_\_\_\_ ppm or mg/l

pH: \_\_\_\_\_

Turbidity: (secchi disc depth) \_\_\_\_\_ cm or: clear to bottom \_\_\_\_\_

Salinity : \_\_\_\_\_ ppt or ppm

Total Dissolved Solids (TDS): \_\_\_\_\_ ppm

Notes: PERCENT CLOUD COVER: 0

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:      yes  no  
 Conchostracans: yes  no  
 Copepods:        yes  no  
 Ostracods        yes  no  
 Fish               yes  no  
 Frogs             yes  no  
 Salamanders     yes  no  
 Waterfowl        yes  no  
 Other (specify) \_\_\_\_\_

Insects: (adult or larvae)  
 Anisoptera:                    yes  no  
 Zygoptera:                    yes  no  
 Hydrophilidae:                yes  no  
 Dytiscidae:                    yes  no  
 Corixidae:                     yes  no  
 Notonectidae:                 yes  no  
 Belostomatidae:               yes  no  
 Other (specify) \_\_\_\_\_

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
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**U.S. Fish and Wildlife Service Vernal Pool Data Sheet  
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_ no Yes yes

Required color slides and/or photographs for the project site are included: \_\_\_\_ no Yes yes

Date: 05 / 22 / 12 Time: 1500 County: San Bernardino Quad: Redlands

Collector(s): Stan Spencer Permit #: 777965

Site/Project Name: SCE West of Devers: W of El Casco Pool #: A2

Township: 2S Range: 3W Section: none 34.0167 lat. -117.2096 lng.

Temperature: Water: 31 oC Air: 30 oC

Pool Depth: Surface Area:

at time of sampling: 5 cm at time of sampling: 5 m x 5 m

estimated maximum: 150 cm estimated maximum: 100 m x 30 m

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed: <u>tire tracks</u>	garbage	discing/plowing	
- ungrazed	grazed: cattle	horses	sheep	other: <u>grading</u>
		light	moderate	heavy

- land use of habitat:  
detention basin

(Optional) Water Chemistry Data

Alkalinity (total): \_\_\_\_\_ ppm or mg/l

Conductivity: \_\_\_\_\_ uMHO

Dissolved NH4: \_\_\_\_\_ ppt or ppm

Dissolved Oxygen: \_\_\_\_\_ ppm or mg/l

pH: \_\_\_\_\_

Turbidity: (secchi disc depth) \_\_\_\_\_ cm or: clear to bottom \_\_\_\_\_

Salinity : \_\_\_\_\_ ppt or ppm

Total Dissolved Solids (TDS): \_\_\_\_\_ ppm

Notes: PERCENT CLOUD COVER: 0

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:      yes  no  
 Conchostracans: yes  no  
 Copepods:        yes  no  
 Ostracods        yes  no  
 Fish               yes  no  
 Frogs             yes  no  
 Salamanders     yes  no  
 Waterfowl        yes  no  
 Other (specify) \_\_\_\_\_

Insects: (adult or larvae)  
 Anisoptera:                    yes  no  
 Zygoptera:                    yes  no  
 Hydrophilidae:                yes  no  
 Dytiscidae:                    yes  no  
 Corixidae:                       yes  no  
 Notonectidae:                 yes  no  
 Belostomatidae:               yes  no  
 Other (specify) \_\_\_\_\_

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
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