

Appendix D-18

Desert Tortoise Survey 2011

DRAFT FOCUSED DESERT TORTOISE SURVEY

FOR THE

ALTA EAST WIND ENERGY PROJECT

KERN COUNTY, CALIFORNIA

June 2011

Prepared for:
CH2M Hill Engineers, Inc.
155 Grand Avenue
Oakland, CA 94612

Report Preparer:
Jacqueline Finck, Wildlife Biologist
Garcia and Associates
435 Lincoln Way
Auburn, California 95603

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Executive Summary

Alta Windpower Development, LLC proposes to construct and operate the Alta East Wind Energy Project (Project) in Kern County, California, a nominal 360 megawatt (MW) wind energy facility which is a component of the Alta Wind Energy Center. The Project is located at the eastern base of the Tehachapi Mountains, 2 miles west of the intersection of Highway 58 and Highway 14 in the northwest portion of the Mojave Desert and is within the Tehachapi Wind Resource Area of eastern Kern County (Appendix A, Figure 1). The Project comprises approximately 3,200 acres, 2,083 of which are on federal land under the jurisdiction of the Bureau of Land Management (BLM) and 1,117 acres of which are on private land under the jurisdiction of Kern County.

The desert tortoise (*Gopherus agassizii*) is listed as a threatened species under the federal Endangered Species Act and the California Endangered Species Act. A U.S. Fish and Wildlife Service protocol-level spring survey was conducted by Garcia and Associates (GANDA), a subcontractor to CH2M HILL, between April 20 and May 2, 2011 to determine presence or absence of this species in areas of suitable desert tortoise habitat within the Project survey area, based on the desert tortoise protocol *Preparing for any Action That May Occur within Range of the Mojave Desert Tortoise* (USFWS 2010). Previous surveys for desert tortoise were completed for the Project in 2009 and 2010 (Sundance Biology 2009, Phoenix Ecological 2010). The 2011 surveys were completed to augment previously completed surveys within the Project area. Approximately 413 acres were surveyed for desert tortoise during this survey effort.

No live desert tortoises were observed in the Project survey area; however, one Class 5 desert tortoise carcass (disarticulated and scattered) (USFWS 1992) was observed in the Project survey area (Appendix A, Figure 3). In addition, two Class 4 burrows (good condition, possibly tortoise) (DTC 1994) were observed in the Project survey area (Appendix A, Figure 3). Because no tortoise sign was associated with the burrows, they are considered inactive. The California Natural Diversity Data Base (CNDDDB) includes two desert tortoise records within 5 miles of the Project survey area, the nearest of which dates from 1992 and is approximately 1.5 miles north of the Project survey area (CDFG 2011). One desert tortoise was documented approximately 5.5 miles southwest of the Project survey area in 2010 during preconstruction clearance surveys conducted for the Alta-Oak Creek Mojave Project (CH2M HILL 2010). The same individual tortoise was observed in 2011 at the same location. There is no designated critical habitat for the desert tortoise habitat in the Project survey area.

1 Project and Property Description

1.1 Project Description

Alta Windpower Development, LLC proposes to construct and operate the Alta East Wind Energy Project (Project) in Kern County, California (Appendix A, Figure 1), a nominal 360 megawatt (MW) wind energy facility which is a component of the Alta Wind Energy Center Project. Major components of the proposed Project include up to 120 wind turbine generators, a substation, transmission interconnection, access roads, and ancillary services. The proposed Project site is described below.

1.2 Property Description

The Project is located at the eastern base of the Tehachapi Mountains, 2 miles west of the intersection of Highway 58 and Highway 14 in the northwest portion of the Mojave Desert and is within the Tehachapi Wind Resource Area of eastern Kern County (Appendix A, Figure 1). The Project comprises approximately 3,200 acres, 2,083 of which are on federal land under the jurisdiction of the BLM and 1,117 acres of which are on private land under the jurisdiction of Kern County.

Sections of the Project contain suitable habitat for desert tortoise. Those areas of suitable habitat that had not been previously surveyed in 2009 and 2010 (Sundance Biology 2009, Phoenix Ecological 2010), comprising 413 acres, are herein referred to as the Project survey area (Appendix A, Figure 1). The Project survey area is covered with natural vegetation, mainly juniper woodland and Joshua tree woodland communities (Holland 1986). Elevations within the Project survey area range from approximately 2,900 to 4,000 feet. Representative photographs of the Project site are included in Appendix B.

Suitable desert tortoise habitat in the Project survey area consists of the following: Joshua tree woodland and juniper woodland habitats; elevations between 300-5,000 feet; friable soils for digging burrows; topographic features such as desert flats, alluvial fans, rolling hills, and low mountains; and an average annual precipitation of 2-8 inches (USFWS 2010).

2 Methods

2.1 Information Review

Pre-field research was conducted to determine whether desert tortoise and designated critical habitat for desert tortoise are known to occur within or near the Project survey area. A query of the CNDDDB was conducted for any records of this species within a 5-mile radius of the Project survey area. The search area for this query included the one U.S. Geological Survey 7.5' quadrangle that includes the Project survey area (Mojave), and eight adjacent quadrangles (Monolith, Tehachapi NE, Cache Peak, Mojave NE, Sanborn, Bissell, Willow Springs, and Soledad Mountain). The Desert Tortoise (Mojave Population) Recovery Plan was used to locate the nearest designated critical habitat unit for desert tortoise (USFWS 1994).

The CNDDDB query revealed two known desert tortoise occurrences within 5 miles of the Project survey area (Appendix A, Figure 2). The nearest CNDDDB desert tortoise record occurs approximately 1.5 miles north of the Project survey area and was recorded in 1992 (CDFG 2011). An unreported individual desert tortoise was observed approximately 5.5 miles southwest of the Project survey area in 2010 (GANDA 2010). The same individual tortoise was observed again at the same location in April 2011 (GANDA 2011). No designated critical habitat unit for desert tortoise occurs within 5 miles of the survey area (CDFG 2011). The location of the nearest designated desert tortoise critical habitat, the Fremont-Kramer Critical Habitat Unit of the Western Mojave Recovery Unit, is approximately 19 miles east of the Project survey area (USFWS 1994).

2.2 Field Survey

The Project survey areas included areas for proposed wind energy facility development within suitable habitat for desert tortoise (Appendix A, Figure 3). Field surveys conducted for this Project followed the U.S. Fish and Wildlife Service's (USFWS's) desert tortoise protocol *Preparing for any Action That May Occur within Range of the Mojave Desert Tortoise* (USFWS 2010). The entire Project survey area (Appendix A, Figure 1) was surveyed using transect centerlines spaced a maximum of 10 meters apart. A Trimble® GEOXT GPS unit, GPSMAP® 60CSx GPS unit, and a compass were used to maintain proper orientation and spacing. The lead surveyor navigated by using the navigation feature on the map screen of the Trimble® unit. This feature plotted the survey transect lines as surveyors walked and allowed the lead surveyor to determine which areas had already been surveyed and to maintain the appropriate spacing between transect centerlines. At the end of each transect, the starting point was shifted using the UTM coordinates readout. Using this method, the survey area was systematically walked until 100 percent of the survey area was visually inspected.

Surveys were conducted within the required protocol activity period (April through May) of desert tortoise (USFWS 2010) and conducted on foot between April 20 and May 2, 2011 between 0810 and 1730 hours. During the surveys, skies were clear with temperatures between 50-80°F. Winds were calm to moderate. No precipitation occurred during the field surveys. Air temperatures during the field survey remained below the maximum protocol limit of 104°F.

Two small areas in the Project survey area were not surveyed due to unsuitable desert tortoise habitat (Appendix A, Figure 3). The total area excluded was 34 acres. This 34-acre area contained slopes greater than 40 degrees, which were also unsafe for surveyor safety concerns and unlikely to support desert tortoise. The western unit of the Mojave population of desert tortoise occurs primarily in valleys, on alluvial fans, bajadas, and rolling hills in saltbush and creosote bush scrub habitat (USFWS 1994). The Mojave population of desert tortoise is least common in desert areas with steep slopes, utilizing slopes from 0 to 33 degrees (BLM 2011, Gardner and Brodie 1998).

Zone-of-influence transects (one single transect at 200 meters, 400 meters, and 600 meters from the Project survey area perimeter) are required by USFWS protocol when neither tortoise nor tortoise sign is encountered during the project site survey (USFWS 2010). However, zone-of-influence surveys were not conducted because tortoise sign (one Class 5 [disarticulated and scattered] desert tortoise carcass and two Class 4 [good condition, possibly desert tortoise] burrows) was encountered during surveys in the Project survey area (Appendix A, Figure 3).

During the field survey, particular emphasis was placed on searching around the bases of shrubs. All burrows that had the likelihood of tortoise occupancy were examined thoroughly, regardless of whether they appeared to have been constructed by desert tortoise. Burrows were inspected by using a mirror to reflect sunlight into the far end, if visible, to determine occupancy. Burrows observed during the survey that fit the specifications of desert tortoise burrows (i.e., having a half-moon shaped opening and a gradual downslope entrance of less than 30°) were noted as “potential desert tortoise burrow” and given a burrow classification (DTC 1994). Only burrows with large enough entrances to accommodate adult or subadult desert tortoises were recorded. It was noted when the end of a “potential desert tortoise burrow” could not be observed by the human eye. No burrows were found to be collapsed or altered by surveyors during field surveys.

The field supervisor for the surveys was GANDA biologist Molly Graber. GANDA USFWS Authorized Biologists for desert tortoise surveys were Margaret Adam, Jacqueline Finck, and Steve Paris. The field supervisor and Authorized Biologists were also experienced leading and/or conducting burrowing owl surveys. The other field surveyors were Laura Megill, Ryan Hilgris, Debbie Beckett, Saana Deichsel, and Angela Gallardo. All surveyors were trained in the use of the USFWS 2010 desert tortoise survey protocol and were experienced in surveying for the species. Field survey datasheets were completed each day and are included in Appendix C of this report.

3 Results

This section describes the results of the USFWS protocol-level survey for desert tortoise, as well as incidental sensitive species observed during desert tortoise surveys.

3.1 Desert Tortoise Protocol-Level Survey Results

No live desert tortoise were observed in the Project survey area; however, one Class 5 desert tortoise carcass (disarticulated and scattered) (USFWS 1992) was observed in the Project survey area (Appendix A, Figure 3). In addition, two Class 4 desert tortoise burrows (good condition, possibly tortoise) (DTC 1994) were observed in the Project survey area (Appendix A, Figure 3). No sign was associated with the burrows, and they are therefore considered inactive.

A summary table of all desert tortoise finds is provided below in Table 1. Results are also documented on copies of the field data sheets provided in Appendix C. USFWS considers the results of this desert tortoise survey to be valid for no more than one year.

Table 1. Alta East Desert Tortoise Survey Results. April/May 2011.

Find	Figure 3 ID Appendix A	Date	Sex	MCL (mm)	Class ¹	Dimensions W-H-D (inches)	End Visible? (Y/N)	Burrow Orientation	Photo # and Photographer	Notes
DETO burrow	DTB1	4.27.11	-	-	4	10-9->32	No	W-SW	#1530-1531_MG	Apron present, too round
DETO burrow	DTB2	4.28.11	-	-	4	8-6->24	No	SE	#1535_MG	Apron present. Outside of survey area
DETO carcass	DTC1	4.26.11	U	-	5	-	-	-	#1527-1529_MG	Plastron scattered, but in large sections

Class¹

DETO BURROW- CLASS 4= good condition, possibly desert tortoise (DTC 1994)

DETO CARCASS- CLASS 5= disarticulated and scattered (USFWS 1992)

3.2 Incidental Species Results

Two potential burrowing owl (*Athene cunicularia*) burrows with sign were observed during desert tortoise surveys (Appendix A, Figure 3). Both burrows had owl whitewash present. The burrowing owl is a California Species of Special Concern, as well as a migratory bird species protected by international treaty under the Migratory Bird Treaty Act (MBTA) of 1918. A summary table of incidentally observed sensitive species is provided below in Table 2. Results are also documented on copies of the field data sheets provided in Appendix C.

Table 2. Alta East Incidental Species Results. April/May 2011.

Find	Figure 3 ID Appendix A	Date	Dimensions W-H-D (inches)	End Visible? (Y/N)	Burrow Orientation	Photo # and Photographer	Notes
Potential Burrowing Owl Burrow with Sign	BUOW1	4.21.11	-	No	E	#16_LM	whitewash
Potential Burrowing Owl Burrow with Sign	BUOW2	4.27.11	-	Yes	S	#1532_MG	whitewash

References and Personal Communications

Bureau of Land Management

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- 2010 Special-Status Species Report for the Alta-Oak Creek Mojave Project-Phase 2 Subarea, Kern County, California. Memo. Submitted to Alta Wind Power, LLC. May 3.

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Garcia and Associates (GANDA)

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Sundance Biology, Inc.

2009 Presence/Absence Survey for the Desert Tortoise (*Gopherus agassizii*) on the proposed Sun Creek Project, Kern County, California. Prepared for CH2M HILL. August 25.

United States Fish and Wildlife Service (USFWS)

1992 Field Survey Protocol for any Federal Action that may occur within Range of the Desert Tortoise. January.

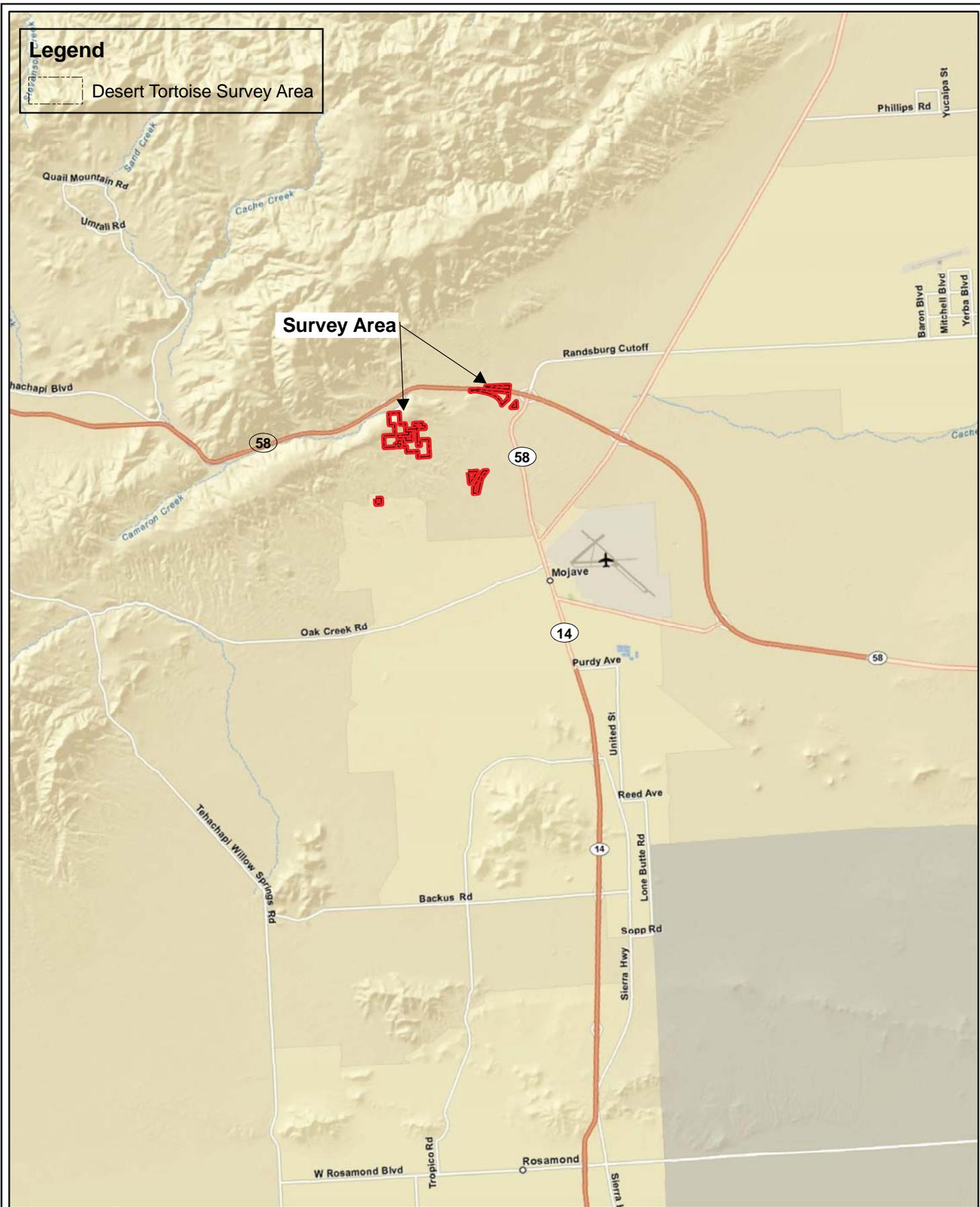
1994 Desert tortoise (Mojave population) Recovery Plan. U.S. Fish and Wildlife Service, Portland, Oregon.

2010 Preparing for any Action that May Occur within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*). 2010 Field Season.

APPENDIX A

Alta East Wind Energy Project

Figures



Legend

Desert Tortoise Survey Area

Survey Area



Project Location:

Source: ESRI, World Street Map; GANDA GIS 2011

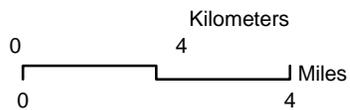
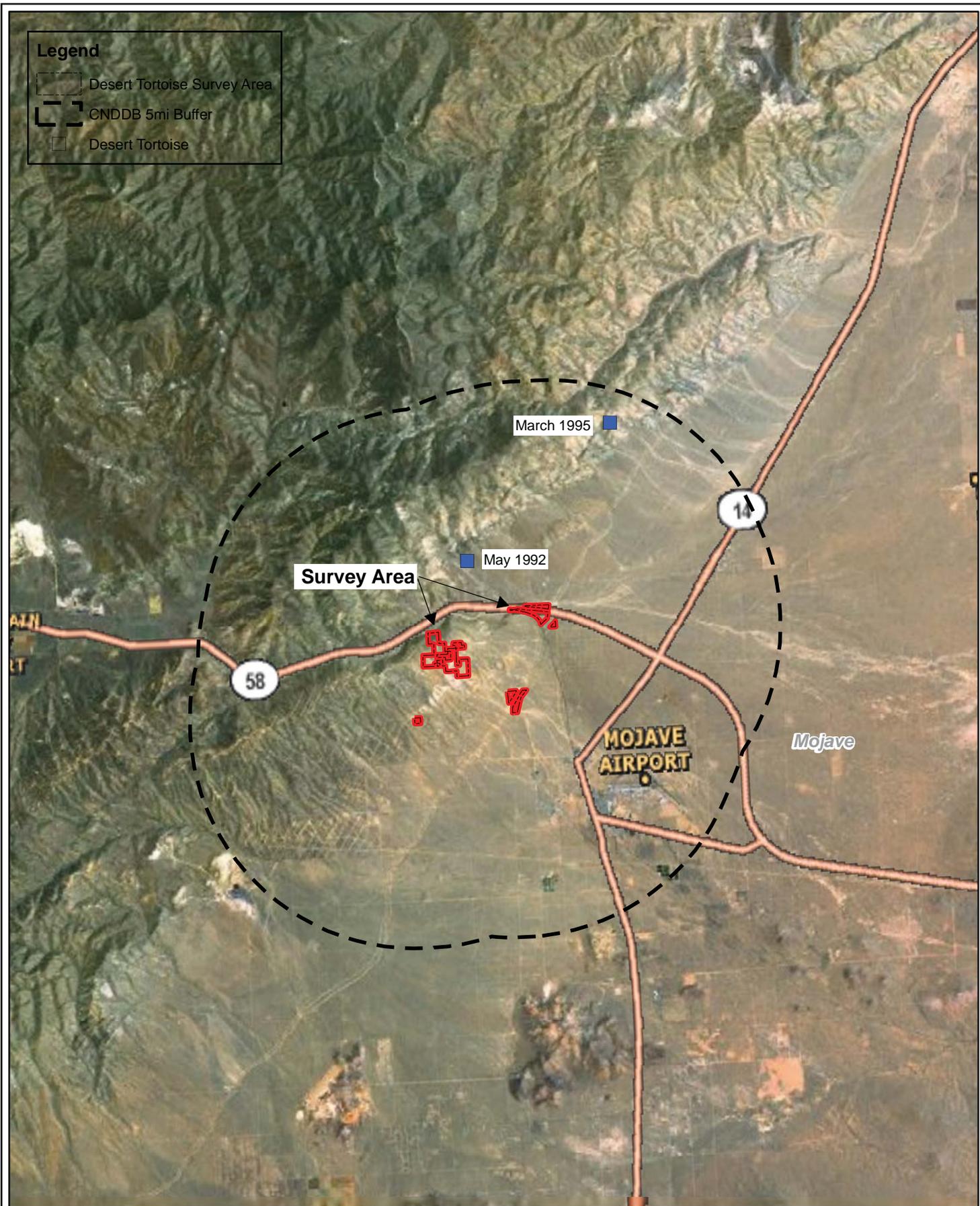


Figure 1. Project Location
 Alta East Wind Energy Project
 Kern County, CA
 June 2011



Source: ESRI, World Street Map; GANDA GIS 2011

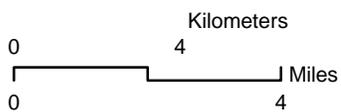
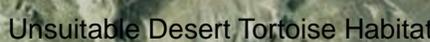
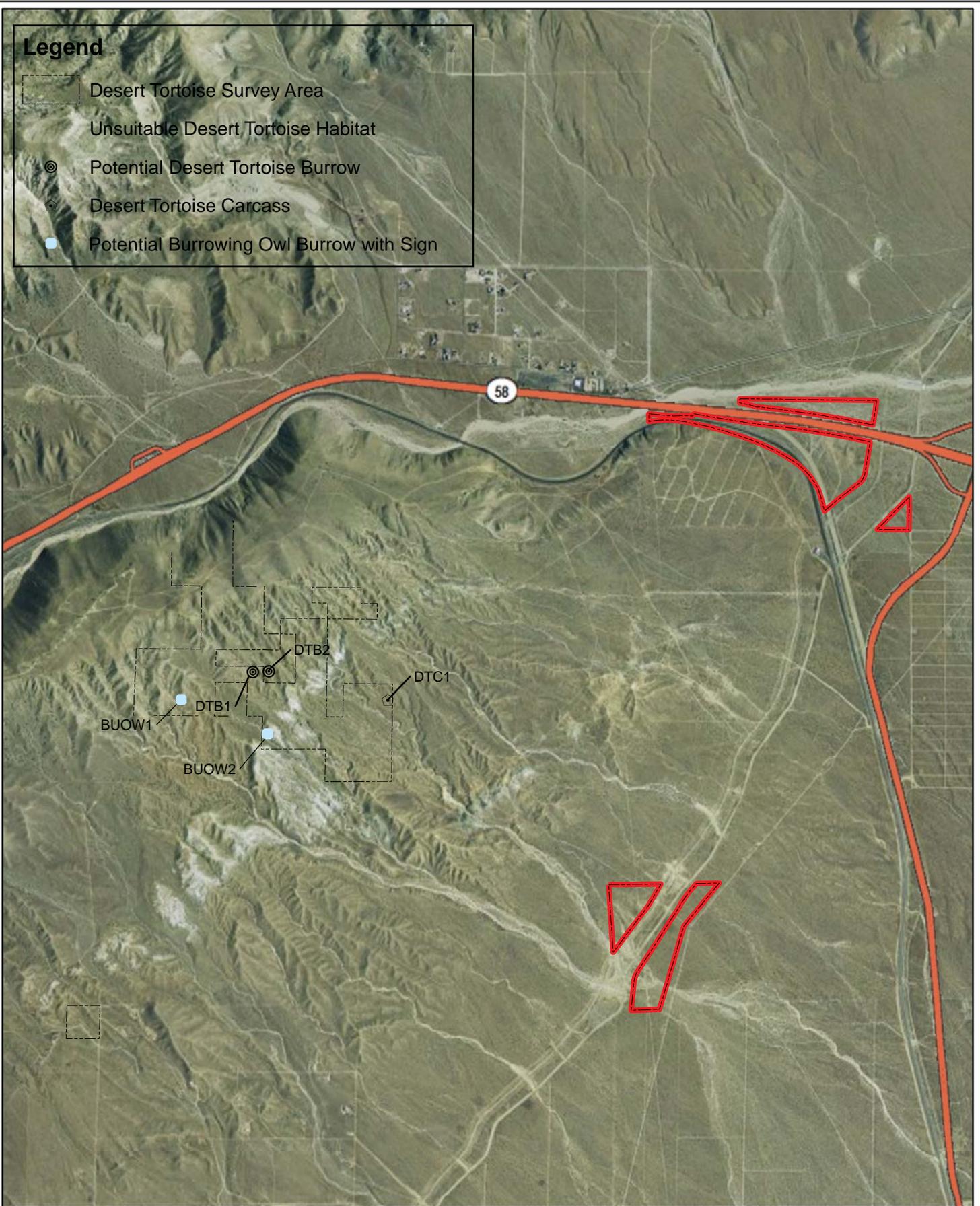


Figure 2. 5-mile CNDDDB Desert Tortoise Occurrences
 Alta East Wind Energy Project
 Kern County, CA
 June 2011

Legend

-  Desert Tortoise Survey Area
-  Unsuitable Desert Tortoise Habitat
-  Potential Desert Tortoise Burrow
-  Desert Tortoise Carcass
-  Potential Burrowing Owl Burrow with Sign



Project Location:



Source: ESRI, World Street Map; GANDA GIS 2011

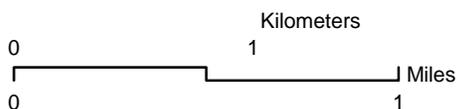


Figure 3. Project Survey Area and Results
Alta East Wind Energy Project
Kern County, CA
June 2011

APPENDIX B

Alta East Wind Energy Project

Representative Photos



Photo 1. Joshua Tree Woodland Habitat. Alta East 2011.



Photo 2. Juniper Woodland Habitat. Alta East 2011.



Photo 3. Area not surveyed due to unsuitable habitat for desert tortoise. Alta East 2011.



Photo 4. Class 5- Desert Tortoise Carcass (DTC1). April 26, 2011. Alta East.



Photo 5. Class 4- Potential Desert Tortoise Burrow (DTB1). April 27, 2011. Alta East.



Photo 6. Class 4- Potential Desert Tortoise Burrow (DTB2). April 28, 2011. Alta East.



Photo 7. Potential Burrowing Owl Burrow with Sign (BUOW1). April 21, 2011. Alta East.



Photo 8. Potential Burrowing Owl Burrow with Sign (BUOW2). April 27, 2011. Alta East.

APPENDIX C

Alta East Wind Energy Project

Field Data Sheets

