

Supplement to the Revised AFC In Response to CEC Data Adequacy Review

Revised Application for Certification (08-AFC-8) for HYDROGEN ENERGY CALIFORNIA Kern County, California

July 2009

DOCKET
08-AFC-8

DATE

RECD. July 13 2009

Prepared for:

Hydrogen Energy International
LLC



Submitted to:

California Energy Commission



Prepared by:

URS

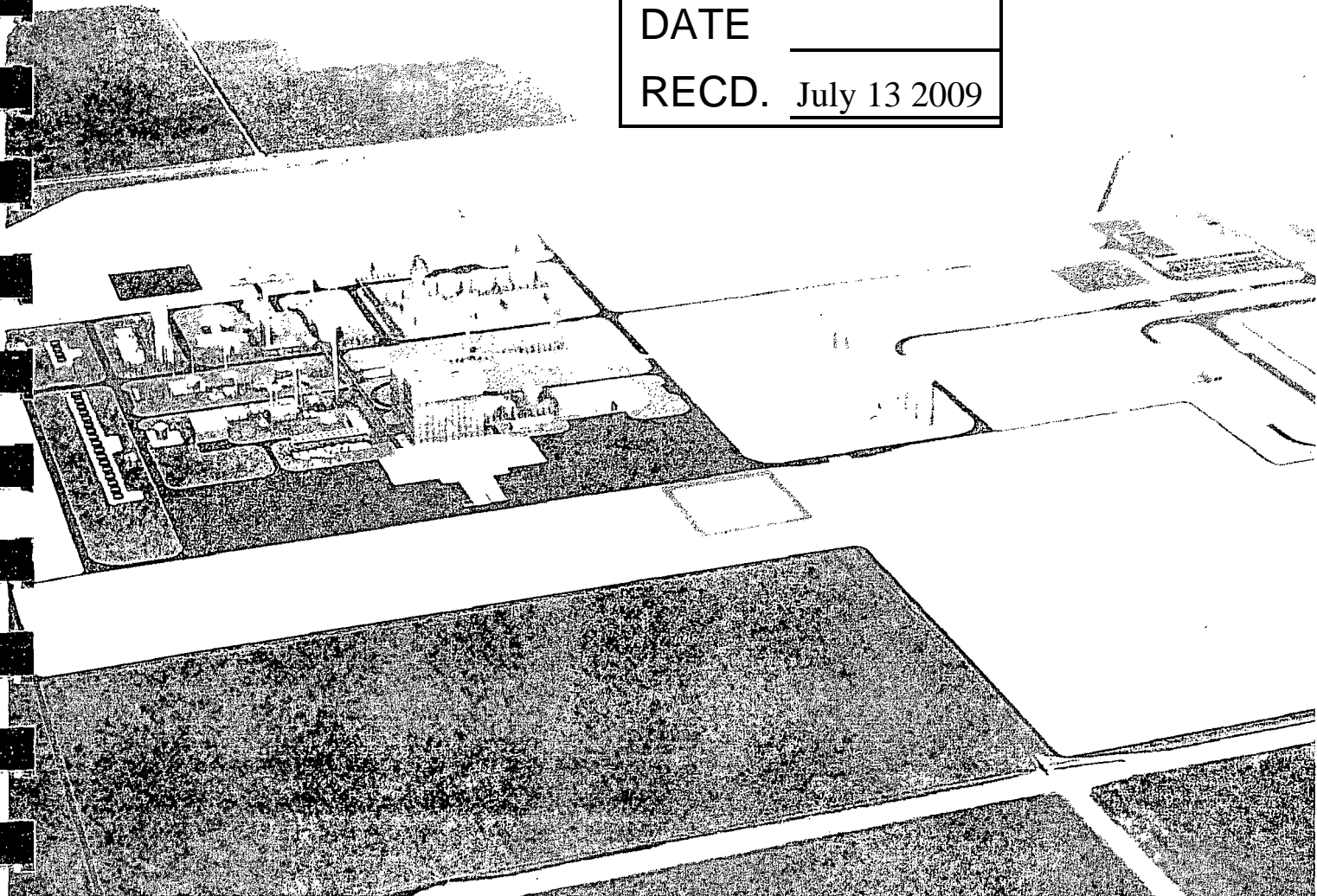


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Adequacy Issue: Adequate _____ Inadequate X
 Technical Area: Air Quality
 Project Manager: Rod Jones

DATA ADEQUACY RESPONSE

Project: Hydrogen Energy California
 Docket: 08-AFC-8

Revision No. 0 Date June 17, 2009
 Technical Staff: Will Walters
 Technical Senior: Matthew Layton

ID	SITING REGULATIONS	INFORMATION	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
1	Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	Please provide the mitigation measures proposed to mitigate adverse environmental impacts from project construction.	Please see Appendix A1 for responses to Air Quality Data Adequacy Recommendations.
2	Appendix B (g) (8) (A)	The information necessary for the air pollution control district where the project is located to complete a Determination of Compliance.	Please submit an application for authority to construct and permit to operate to the San Joaquin Valley Air Pollution Control District and provide a completeness letter for the application from the District.	Please see Appendix A1 for responses to Air Quality Data Adequacy Recommendations.
3	Appendix B (g) (8) (B)	The heating value and chemical characteristics of the proposed fuels, the stack height and diameter, the exhaust velocity and temperature, the heat rate and the expected capacity factor of the proposed facility.	Please provide the heating value and chemical characteristics of the hydrogen rich fuel. Please provide the heat rate for the 7FB gas turbine using all applicable fuels/combinations of fuel and with and without duct firing. Please provide the heat rate for the LMS100 gas turbine.	Please see Appendix A1 for responses to Air Quality Data Adequacy Recommendations.
4	Appendix B (g) (8) (C)	A description of the control technologies proposed to limit the emission of criteria pollutants.	Please provide a description of the proposed control technologies to limit the fuel delivery (truck and train) emissions.	Please see Appendix A1 for responses to Air Quality Data Adequacy Recommendations.
5	Appendix B (g) (8) (E)	The emission rates of criteria pollutants and greenhouse gases (CO2, CH4, N2O, and SF6) from the stack, cooling towers, fuels and materials handling processes, delivery and storage systems, and from all on-site secondary emission sources.	Please provide an SF6 emissions estimate for the project.	Please see Appendix A2 for SF6 emissions estimate for the project.

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6	Appendix B (g) (8) (F)(ii)	A description of the project's planned initial commissioning phase, which is the phase between the first firing of emissions sources and the commercial operations date, including the types and durations of equipment tests, criteria pollutant emissions, and monitoring techniques to be used during such tests.	Please provide a description of the planned initial commissioning phase for the gasification block, including the air separation unit and the balance of plant. This description needs to include the types and durations of equipment tests, criteria pollutant emissions, and monitoring techniques to be used during such tests.	<p>The table in Appendix A3 presents a listing of commissioning activity for the Gasification Block, Air Separation Unit, and Balance of Plant facilities. This table also includes preliminary estimates of the criteria pollutant emissions and durations associated with each activity.</p> <p>Regarding the monitoring techniques to be used during commissioning, they will be essentially the same as the techniques planned for normal, post-commissioning operation. Stack emissions will be monitored by certified continuous emission monitoring systems (CEMS) where required by regulation and/or permit conditions. Stack emissions will also be verified by periodic stack testing where required by regulation and permit conditions. Various process instrumentation and analyzer systems primarily installed for purposes of process control will also provide monitoring information for key process stream flow rates and compositions. Finally, the plant data logging systems and operator recordkeeping will provide historical process information regarding the commissioning activities referenced above.</p>

Adequacy Issue: Adequate _____ Inadequate X
 Technical Area: **Biological Resources**
 Project Manager: Rod Jones

DATA ADEQUACY RESPONSE

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Revision No. 0 Date June 17, 2009
 Technical Staff: Susan Sanders
 Technical Senior: Rick York

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7	Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	Please provide a discussion of biological resources at the project site and related facilities, including a description of vegetation communities and habitat features important to sensitive species potentially occurring within the study area.	Please see Appendix B1 for responses to Biological Resources Data Adequacy Recommendations.
8	Appendix B (g) (13) (A)	A regional overview and discussion of terrestrial and aquatic biological resources, with particular attention to sensitive biological resources within ten (10) miles of the project. Include a map at a scale of 1:100,000 (or other suitable scale) showing sensitive biological resource location(s) in relation to the project site and related facilities and any boundaries of a local Habitat Conservation Plan or similar open space land use plan or designation. Sensitive biological resources include the following:	Please provide a regional overview of terrestrial and aquatic biological resources within 10 miles of the project area. A description of common and sensitive plant communities and wildlife within the region is also needed.	Please see Appendix B1 for responses to Biological Resources Data Adequacy Recommendations.
9	Appendix B (g) (13) (B) (i)	Detailed maps at a scale of 1:6,000 or color aerial photographs taken at a recommended scale of 1 inch equals 500 feet (1:6,000) with a 30 percent overlap that show the proposed project site and related facilities, biological resources including, but not limited to, those found during project-related field surveys and in records from the California Natural Diversity Database, and the associated areas where biological surveys were conducted. Label the biological resources and survey areas as well as the project facilities;	Please provide figures at a scale of 1:6,000 showing the location of biological resources detected during the project-related field surveys, including all plant communities within the study area and sightings of sensitive species listed in Tables 5.2-6 and 5.2-7 (Hoover's eriastrum, western spadefoot toad, blunt-nosed leopard lizard, burrowing owl, loggerhead shrike, California horned lark, Nelson's antelope ground squirrel, San Joaquin kit fox, American badger)	Please see Appendix B1 for responses to Biological Resources Data Adequacy Recommendations.

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10	Appendix B (g) (13) (C)	A discussion of the biological resources at the proposed project site and related facilities. Related facilities include, but are not limited to, laydown and parking areas, gas and water supply pipelines, transmission lines, and roads. The discussion shall address the distribution of vegetation community types, denning or nesting sites, population concentrations, migration corridors, breeding habitats, and other appropriate biological resources including the following:	The response to Appendix B (g) 1 will suffice for this item.	Please see Appendix B1 for responses to Biological Resources Data Adequacy Recommendations.
11	Appendix B (g) (13) (D)	A description and results of all field studies and seasonal surveys used to provide biological baseline information about the project site and associated facilities. Include copies of the California Natural Diversity Database records and field survey forms completed by the applicant's biologist(s). Identify the date(s) the surveys were completed, methods used to complete the surveys, and the name(s) and qualifications of the biologists conducting the surveys. Include:	Please provide results of blunt-nosed leopard lizard surveys conducted Aug 1 – Sept 15, 2008 and results or an interim status report on Apr 15 – Jul 15, 2009 blunt-nosed leopard lizard surveys.	<p>Please see Appendix B2 for the results of the 2008 surveys.</p> <p>For 2009, as a result of discussions with CDFG, URS has surveyed the proposed natural gas/potable water linear facilities and portions of the Kern River Drainage. The area surveyed in 2008 was not resurveyed because the area is no longer proposed as the project site and numerous individual blunt-nosed leopard lizards (BNLL) were detected.</p> <p>To date, 11 of the 12 BNLL adult surveys have been completed. During these surveys, one male first-year BNLL was sighted approximately 500 feet to the northwest of the Elk Hills school along the natural gas/potable water linear. The individual was located during the fifth 2009 survey and has not been seen in subsequent surveys. No other BNLL have been observed during the 2009 surveys.</p>
			Please provide CNDDDB field survey forms for all sensitive species observed during the field surveys, including those listed in Tables 5.2-6 and 5.2-7.	The CNDDDB field survey forms are provided in Appendix B3.

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 Technical Area: Biological Resources
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			Please provide resumes for biologists Jessica Birnbaum, Alex Brown, David Compton, Ronald Cummings, Kate Eldredge, and Julian Valenzuela.	The resumes are provided in Appendix B4.
12	Appendix B (g) (13) (D) (i)	Current biological resources surveys conducted using appropriate field survey protocols during the appropriate season(s). State and federal agencies with jurisdiction shall be consulted for field survey protocol guidance prior to surveys if a protocol exists;	Please provide results of blunt-nosed leopard lizard surveys conducted from Aug 1 – Sept 15, 2008 (p. 5.2-46) and results or an interim status report on blunt-nosed leopard lizard surveys conducted from Apr 15 – Jul 15, 2009.	<p>Please see Appendix B2 for the results of the 2008 surveys.</p> <p>For 2009, as a result of discussions with California Department of Fish and Game, URS has surveyed the proposed natural gas/potable water linear facilities and portions of the Kern River Drainage. The area surveyed in 2008 was not resurveyed because the area is no longer proposed as the project site and numerous individual BNLL were detected.</p> <p>To date, 11 of the 12 2009 BNLL 2009 adult surveys have been completed. During these surveys, one male first-year BNLL was sighted approximately 500 feet to the northwest of the Elk Hills school along the natural gas/potable water linear. The individual was located during the fifth 2009 survey and has not been seen in subsequent surveys. No other BNLL have been observed during the 2009 surveys.</p>
13	Appendix B (g) (13) (F) (ii)	All off-site habitat mitigation and habitat improvement or compensation, and an identification of contacts for compensation habitat and management;	Please provide a list of contacts indicating efforts to identify and secure lands for habitat compensation.	Please see Appendix B1 for responses to Biological Resources Data Adequacy Recommendations.

Adequacy Issue: Adequate _____ Inadequate X
 Technical Area: Cultural Resources
 Project Manager: Rod Jones

DATA ADEQUACY RESPONSE

Project: Hydrogen Energy California
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Revision No. 0 Date June 15, 2009
 Technical Staff: Amanda Blosser
 Technical Senior: Rick York

ID	SITING REGULATIONS	INFORMATION	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
14	Appendix B (g) (2) (B)	The results of a literature search to identify cultural resources within an area not less than a 1-mile radius around the project site and not less than one-quarter (0.25) mile on each side of the linear facilities. Identify any cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum. Literature searches to identify the above cultural resources must be completed by, or under the direction of, individuals who meet the Secretary of the Interior's Professional Standards for the technical area addressed. Copies of California Department of Parks and Recreation (DPR) 523 forms (Title 14 CCR §4853) shall be provided for all cultural resources (ethnographic, architectural, historical, and archaeological) identified in the literature search as being 45 years or older or of exceptional importance as defined in the National Register Bulletin Guidelines, (36CFR60.4(g)). A copy of the USGS 7.5' quadrangle map of the literature search area delineating the areas of all past surveys and noting the California Historical Resources Information System (CHRIS) identifying numbers shall be provided. Copies also shall be provided of all technical reports whose survey coverage is wholly or partly within .25 mile of the area surveyed for the project under Section (g)(2)(C), or which report on any archaeological excavations or architectural surveys within the literature search area.	The applicant states the searchers/directors meet the qualifications but need to provide resumes for each searcher/director to demonstrate they meet the qualifications.	Please see Appendix C1 for resumes of the Project searchers/directors of archaeology. Please see Appendix C2 for the resumes of the Project searchers/directors of historic architecture.

Adequacy Issue: Adequate _____ Inadequate X
 Technical Area: **Cultural Resources**
 Project Manager: Rod Jones

DATA ADEQUACY RESPONSE

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 Technical Staff: Amanda Blosser
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ID	SITING REGULATIONS	INFORMATION	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
15	Appendix B (g) (2) (C)	The results of new surveys or surveys less than 5 years old shall be provided if survey records of the area potentially affected by the project are more than five (5) years old. Surveys to identify new cultural resources must be completed by (or under the direction of) individuals who meet the Secretary of the Interior's Professional Standards for the technical area addressed. New pedestrian archaeological surveys shall be conducted inclusive of the project site and project linear facility routes, extending to no less than 200' around the project site, substations and staging areas, and to no less than 50' to either side of the right-of-way of project linear facility routes. New historic architecture field surveys in rural areas shall be conducted inclusive of the project site and the project linear facility routes, extending no less than .5 mile out from the proposed plant site and from the routes of all above-ground linear facilities. New historic architecture field surveys in urban and suburban areas shall be conducted inclusive of the project site, extending no less than one parcel's distance from all proposed plant site boundaries. New historic architecture field reconnaissance ("windshield survey") in urban and suburban areas shall be conducted along the routes of all linear facilities to identify, inventory, and characterize structures and districts that appear to be older than 45 years or that are exceptionally significant, whatever their age.	The qualifications for the principal investigators and directors are stated to meet the Secretary of the Interior's Standards but resumes are not provided. Please provide resumes for each of the archaeological surveyors and directors.	Please see Appendix C1 for resumes of the Project surveyors and directors of archaeology.
			See above.	Please see Appendix C1 for resumes of the Project searchers/directors of archaeology. Please see Appendix C2 for the resumes for the Project searchers/directors of historic architecture.

Adequacy Issue: Adequate _____ Inadequate X
 Technical Area: Cultural Resources
 Project Manager: Rod Jones

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ID	SITING REGULATIONS	INFORMATION	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
16	Appendix B (g) (2) (C) (v)	The names and qualifications of the cultural resources specialists who contributed to and were responsible for literature searches, surveys, and preparation of the technical report.	The qualifications for the principal investigators and directors are stated to meet the <i>Secretary of the Interior's Standards</i> but resumes are not provided. Please provide resumes for each of the archaeological surveyors and directors.	Please see Appendix C1 for resumes of the Project searchers/directors of archaeology.
17	Appendix B (g) (2) (C) (iv)	A map at a scale of 1:24,000 U.S. Geological Survey quadrangle depicting the locations of all previously known and newly identified cultural resources compiled through the research required by Appendix B (g)(2)(B) and Appendix B (g)(2)(C) (ii); and		<p>The map showing all previously recorded cultural resources as provided by the Southern San Joaquin Valley Information Center and newly identified archaeological resources was provided on Figure 1 of Appendix H3 (<i>Archaeological Reconnaissance Hydrogen Energy California Study Area</i>) submitted to the California Energy Commission on May 28, 2009 under request for confidentiality.</p> <p>The maps showing identified historic resources were provided in Maps 2 and 3 of Appendix H4 (<i>Historic Architecture Technical Report: Inventory and Evaluation</i>) submitted to the California Energy Commission on May 28, 2009 as part of the Revised Application for Certification. These maps were based on U.S. Geological Survey quadrangles at 1:24,000 scale, but reduced to allow them to fit on single sheets. Appendix C3 of this AFC Supplement provides a full size sheet noting the location of previously known and newly identified cultural resources (the California Aqueduct and the Miller & Lux Old Headquarters Weir, Map Reference 24) to supplement original Maps 2 and 3 at the required scale.</p>

Adequacy Issue: Adequate _____ Inadequate X
 Technical Area: Transmission System Design
 Project Manager: Rod Jones

DATA ADEQUACY RESPONSE

Project: Hydrogen Energy California
 Docket: 08-AFC-8

Revision No. 0 Date June 3, 2009
 Technical Staff: Sudath Arachchige
 Technical Senior: Mark Hesters

ID	SITING REGULATIONS	INFORMATION	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
18	Appendix B (b) (2) (C)	A detailed description of the design, construction, and operation of any electric transmission facilities, such as power lines, substations, switchyards, or other transmission equipment, which will be constructed or modified to transmit electrical power from the proposed power plant to the load centers to be served by the facility. Such description shall include the width of rights of way and the physical and electrical characteristics of electrical transmission facilities such as towers, conductors, and insulators.	<ol style="list-style-type: none"> 1. Please provide a one-line diagram for the PG&E Midway Substation after the interconnection of the project. Show proposed bay arrangement of the equipments with ratings such as breakers, disconnect switches and relays, etc., which are required to interconnect the project. 2. Please provide the conductor type and the current carrying capacity of the proposed 230-kV N#1 and N#2 transmission lines which will be utilized to interconnect the plant to the PG&E Midway substation. 	<p>The conceptual single-line diagram for connecting to Midway Substation was proposed by California Independent System Operator (CAISO) for the Hydrogen Energy Interconnection Feasibility Study Plan dated March 20, 2008 (attached as Appendix D1). Technical specifications (ratings) for breakers, disconnect switches, and relays will be provided to the CEC after July 25, 2009, when the Phase I Interconnection Study Results are provided for Hydrogen Energy California (HECA).</p> <p>Please see Revised AFC Section 4 (Conductor Selection). Specifically, Section 4.4.1 (Introduction), page 4-3, and Section 4.4.3 (Conductor Electrical and Mechanical Characteristics), page 4-4, list the conductor type and carrying capacity.</p>
19	Appendix B (b) (2) (E)	<p>A completed System Impact Study or signed System Impact Study Agreement with the California Independent System Operator and proof of payment. When not connecting to the California Independent System Operator controlled grid, provide the executed System Impact Study agreement and proof of payment to the interconnecting utility.</p> <p>If the interconnection and operation of the proposed project will likely impact an transmission system that is not controlled by the interconnecting utility (or California Independent System Operator), provide evidence of a System Impact Study or agreement and proof of payment (when applicable) with/to the impacted transmission owner or provide evidence that there are no</p>	<p>Please provide a System Impact Study. The Study should analyze the system impact with and without the project during peak and off-peak system conditions, which will demonstrate conformance or non-conformance with the utility reliability and planning criteria with the following provisions:</p> <ol style="list-style-type: none"> a. Identify major assumptions in the base cases including imports to the system, major generation and load changes in the system and queue generation. b. Analyze system for N-0, important N-1 and critical N-2 contingency conditions and provide a list of criteria violations in a table showing 	<p>Hydrogen Energy International LLC entered into a Large Generator Interconnection Study Process Agreement on November 19, 2009 (attached as Appendix D2). This document governs the process by which the CAISO will conduct Interconnection Studies to assess the system impact of interconnecting HECA to the CAISO Controlled Grid. The first phase of the Interconnection Study — Phase I Interconnection Study — will address the system impact with and without the project during peak and off-peak system conditions. The Phase I Interconnection Study results are due July 25, 2009 and will be submitted to the CEC immediately upon receipt.</p> <p>Appendix D3 includes CAISO's letter informing the Applicant of the new interconnect process requirements, Appendix D4 provides the CAISO</p>

Adequacy Issue: Adequate _____ Inadequate X
 Technical Area: Transmission System Design
 Project Manager: Rod Jones

DATA ADEQUACY RESPONSE

Project: Hydrogen Energy California
 Docket: 08-AFC-8

Revision No. 0 Date June 3, 2009
 Technical Staff: Sudath Arachchige
 Technical Senior: Mark Hesters

ID	SITING REGULATIONS	INFORMATION	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
		system impacts requiring mitigation.	<p>the loadings before and after adding the new generation. Analyze the PG&E system for Short Circuit currents with and without the Hydrogen Energy Plant at strategic buses for three-phase and single line to ground faults. Submit the following along with a summary of the results.</p> <p>c. Analyze system for Transient Stability and Post-transient voltage conditions under critical N-1 and N-2 contingencies, and provide related plots, switching data and a list for voltage violations in the studies. Provide a list of contingencies evaluated for each study.</p> <p>d. List mitigation measures considered (required) and those selected (optional- Data Requests will follow) for all criteria violations.</p> <p>e. Provide electronic copies of *.sav and *.drw PSLF files.</p> <p>f. Provide power flow diagrams (MW, % loading & P. U. voltage) for base cases with and without the project. Power flow diagrams must also be provided for all N-0, N-1 and N-2 studies where overloads or voltage violations appear.</p> <p>Or Please provide a signed System Impact Study Agreement with the California Independent System Operator.</p>	receipt response, and D5 provides the proof of receipt.

Appendix C
Cultural Resources

Appendix C1
Archaeologist Resumes



T. Reid Farmer

Senior Project Manager

Areas of Expertise

Environmental Compliance
Cultural Resources Management
Program Management

Years of Experience

With URS: 5 Years
With Other Firms: 24 Years

Education

MBA/Finance and
Accounting/1985
MA/Anthropology/1977
BA/Anthropology/1973

Overview

Mr. Farmer has 29 years of relevant experience in cultural resource management, program management, and contract administration. Mr. Farmer's pertinent experience includes cultural resource studies in support of NEPA and CEQA compliance projects in California and 16 other states. Mr. Farmer has held Antiquities Permits as a Principal Investigator in seven western states. He has participated in projects involving the USFS, USACE, NPS, BLM, Bureau of Reclamation, and Department of Energy and is a former NPS employee. Mr. Farmer has managed a wide variety of CRM projects ranging from literature and records reviews to complex, large-scale inventories and data recovery efforts. He has managed multi-disciplinary teams of up to 40 individuals on previous CRM projects. In addition to his advanced degree in Anthropology, he also holds an M.B.A. in Finance.

Project Specific Experience

Mr. Farmer's URS work experience includes the following:

- **Faculty and Family Student Housing Open Space Plan & LRDP Amendment EIR, UC Santa Barbara, Santa Barbara County, California.** UC Santa Barbara: Cultural Resources Task Manager for this EIR. Prepared CEQA-required resource background information and evaluation of potential impacts and mitigation measures.
- **Ocean Meadows Residences and Open Space Plan EIR, Santa Barbara County, California.** County of Santa Barbara: Cultural Resources Task Manager for this EIR. Prepared CEQA-required resource background information and evaluation of potential impacts and mitigation measures.
- **Santa Barbara Airport Airfield Safety Project, Cultural Resource Inventory, Santa Barbara County, California.** Santa Barbara Municipal Airport: Project Manager and Principal Investigator for NEPA required Phase I cultural resource inventory. Responsible for project management and preparing all cultural resource reporting documents.
- **Santa Barbara Ranch EIR, Santa Barbara County, California.** County of Santa Barbara: Cultural Resources Task Manager for this EIR. Prepared CEQA-required resource background information and evaluation of potential impacts and mitigation measures.
- **Comstock Homes Development and Ellwood Mesa Open Space Plan EIR, Santa Barbara County, California.** City of Goleta: Cultural Resources Task Manager for this EIR. Prepared CEQA-



required resource background information and evaluation of potential impacts and mitigation measures.

- **Ormond Beach Development Plan EIR, Ventura County, California.** City of Oxnard: Cultural Resources Task Manager for this EIR. Prepared CEQA-required resource background information and evaluation of potential impacts and mitigation measures.
- **Verhelle Bridge Replacement Project, Santa Barbara County, California.** Santa Barbara Municipal Airport: Cultural resources inventory for this CEQA and NEPA required program. Prepared cultural resource reporting documents.
- **Firestone Ditch Realignment Project, Santa Barbara County, California.** Santa Barbara Municipal Airport: Cultural resources inventory for this CEQA and NEPA required program. Prepared cultural resource reporting documents.
- **Rancho Guadalupe Dunes Parking Lot and Overlook Project, Santa Barbara County, California.** Federal Emergency Management Administration: Cultural resources inventory for this NEPA required program. Prepared cultural resource reporting documents.
- **Gaviota State Park Bridge Replacement Project, Santa Barbara County, California.** Federal Emergency Management Administration: Cultural resources inventory for this NEPA-required program. Prepared cultural resource reporting documents.
- **Newhall Ranch EIS/EIR, Los Angeles County, California.** Newhall Land and Farming Company: Cultural Resources Task Manager for this EIS/EIR. Prepared NEPA and CEQA-required resource background information and evaluation of potential impacts and mitigation measures. Coordination of Section 106 consultation requirements with USACE for the project. Authored Historic Properties Treatment Plan for mitigation measures for the project.
- **Selma Northeast Specific Plan EIR, Fresno County, California.** City of Selma: Cultural Resources Task Manager for this EIR. Preparing CEQA-required resource background information and evaluation of potential impacts and mitigation measures.
- **CWRS Solid Waste Transfer Station EIR, Sacramento County, California.** City of Galt: Cultural Resources Task Manager for this EIR. Prepared CEQA-required resource background information and evaluation of potential impacts and mitigation measures.
- **Crystal Energy Pipeline Project, Cultural Resource Inventory, Ventura and Los Angeles Counties, California.** Crystal Energy



LLC: Project Manager and Principal Investigator for NEPA-/CEQA-required Phase I cultural resource inventory of gas pipeline right-of-way. Responsible for project management and preparing all cultural resource reporting documents

- **Big West Clean Fuels Project EIR, Kern County, California.** Big West of California LLC: Cultural Resources Task Manager for this EIR. Prepared CEQA-required resource background information and evaluation of potential impacts and mitigation measures.
- **Oak Valley Substation System Project PEA, Riverside County, California,** Southern California Edison: Project Manager for the preparation of a Proponent's Environmental Analysis (PEA) for submission to the California Public Utilities Commission. Responsible for all aspects of the preparation of this multidisciplinary report required for CEQA compliance of the project measures.
- **Hyundai/Kia Automotive Test Course, California City, Kern County, California.** Hyundai America Technical Center: Principal Investigator and Project Manager for CEQA-required cultural resource test excavation, monitoring, and limited data recovery program for 48 archaeological sites. Manager for cultural resource test excavation, data recovery and construction monitoring of track construction and associated facilities. Responsible for preparing all cultural resource reporting documents.
- **Southern Basin and Range GPS Network, Inyo County, California, Nye and Clark Counties, Nevada.** California Institute of Technology: Cultural Resources Task Manager for the preparation of an EA for submittal to the BLM and NPS for permitting the site location of 14 stationary GPS units for seismic studies. Managed literature search, field work, analysis, and report writing.
- **Pastoria Power Project, Kern County, California.** Calpine Power: Test excavation and monitoring for construction of linear facilities associated with this CEC-administered project.
- **Mountainview Power Project, Redlands, San Bernardino County, California.** Southern California Edison: Co-Principal Investigator and Associate Cultural Resource Specialist for California Energy Commission administered monitoring program. Manager for cultural resource construction monitoring of plant construction and associated staging areas. Responsible for preparing all cultural resource reporting documents.
- **Magnolia Power Project, Burbank, Los Angeles County, California.** City of Burbank: Principal Investigator and Cultural Resource Specialist for California Energy Commission administered monitoring program. Manager for cultural resource construction monitoring of plant construction and associated staging areas. Responsible for preparing all cultural resource reporting documents.



- **Agua Mansa Power Project, Colton, San Bernardino County, California.** City of Colton: Principal Investigator and Cultural Resource Project Manager for CEQA-required cultural resource inventory and monitoring program. Manager for cultural resource inventory and construction monitoring of plant construction and associated linear facilities. Responsible for preparing all cultural resource reporting documents.
- **CalPeak Power Project, Lodi, San Joaquin County, California.** City of Lodi: Principal Investigator and Cultural Resource Project Manager for CEQA-required cultural resource inventory program. Manager for cultural resource construction inventory of plant and associated linear facilities. Responsible for preparing all cultural resource reporting documents.
- **Glendale Grayson Power Project, Glendale, Los Angeles County, California.** City of Glendale: Principal Investigator and Cultural Resource Project Manager for CEQA-required cultural resource inventory program. Manager for cultural resource construction inventory of plant and associated linear facilities. Responsible for preparing all cultural resource reporting documents.
- **Sunrise II Power Project, Kern County, California.** Chevron Texaco: Test excavation and monitoring for construction of linear facilities associated with this CEC administered project. Led effort for documentation and analysis of prehistoric burials discovered during pipeline construction prior to reburial.
- **Loma Vista Reservoir Project, San Bernardino County, California.** Southern California Water Company: Managed field effort on CEQA-required cultural resource inventory program. Inventoried reservoir area and associated linear facilities.

Mr. Farmer's previous work experience includes the following:

- **WyoDak-Hot Springs 230 kV Transmission Line Project, Northeastern Wyoming, Western South Dakota.** Black Hills Power and Light: Principal Investigator and Project Manager for cultural resources inventory of 75-mile power line right of way. Managed field crew for duration of the fieldwork. Responsible for preparing all cultural resource reporting documents for submission to state and Federal agencies. Provided compliance coordination for BHPL with Forest Service, BLM, and State Historic Preservation Officers in Wyoming and South Dakota.
- **Frontier Pipeline Project, Evanston to Casper, Wyoming.** Amoco Pipeline Company: Principal Investigator and Project Manager for cultural resources inventory, testing/evaluation, and field monitor program for 260-mile petroleum pipeline right of way. Managed field crew for duration of the fieldwork. Responsible for



preparing all cultural resource reporting documents for submission to state and Federal agencies. Provided compliance coordination for Amoco with BLM and Wyoming State Historic Preservation Officer.

- **Cordero Mine Project, Gillette, Wyoming.** Cordero Mining Company: Principal Investigator and Project Manager for cultural resources inventory program for 6400-acre coal surface mine. Managed field crew for duration of the fieldwork. Responsible for preparing all cultural resource reporting documents for submission to state and Federal agencies. Provided compliance coordination for Cordero with BLM and Wyoming State Historic Preservation Officer.
- **John Martin Reservoir Project, Caddoa, Colorado.** US Army Corps of Engineers, Albuquerque District: Project Manager for cultural resources inventory and testing/evaluation program for 8000-acre reservoir area. Managed field crew for duration of the fieldwork. Responsible for preparing all cultural resource reporting documents for submission to state and Federal agencies.
- **Excavations for Data Recovery at Ft. Davy Crockett, Browns Park, Colorado.** Interagency Archaeological Services, National Park Service, Denver: Principal Investigator and Project Manager for mitigation/data recovery at an 1840's era fur trade post. Managed field crew for duration of the fieldwork. Responsible for preparing all cultural resource reporting documents for submission to state and Federal agencies.
- **Excavations for Data Recovery at New Melones Reservoir Project, Sonora, California.** US Army Corps of Engineers, Sacramento District: Assistant Project Manager for mitigation/data recovery for a major reservoir salvage project involving recovery at more than 75 historic and prehistoric sites. Managed a large multi-disciplinary team of more than 40 professionals with a \$2 Million budget.
- **Glenharold Mine Project, Stanton, North Dakota.** Consolidated Coal Company: Principal Investigator and Project Manager for cultural resources inventory program for 2000 acre coal surface mine. Managed field crew for duration of the fieldwork. Responsible for preparing all cultural resource reporting documents for submission to BLM and North Dakota State Historic Preservation Officer, and provided compliance coordination for Consol with those agencies.

Contact Information

URS Corporation
130 Robin Hill Road, Suite 100
Santa Barbara, CA 93117
Tel: 805.964.6010 Ext. 305
Fax: 805.964.0259
reid_farmer@urscorp.com

310 Avenida Vista Torito

Joe Fayer
San Clemente, CA 92672
joe.fayer@gmail.com

(949) 338-8984

OBJECTIVES

In the pursuit of a better understanding of California Archaeology, I seek employment as a project Archaeological Field Technician in Northern California.

EDUCATION

Bachelor of Arts, Anthropology
University of California at Santa Cruz

Cabrillo College Archaeology Technology Program

SKILLS

Background research, field investigations, and data analysis

Field experiences:

- Survey
- Mapping
- Recordation
- Photography
- Excavation
- Data Recovery
- Construction monitoring

Global Positioning Systems

PROFESSIONAL EXPERIENCE

Dana Point Headlands Development, URS Corp.

Dana Point, CA

Field Technician

July 2005- February 2006

Archaeological and paleological monitoring of ground disturbing activities, Tested discovered prehistoric site

Hellman Ranch Project, EDAW Inc.

Seal Beach, CA

Field Technician

November 2003- July 2005

Performed a variety of responsibilities including archaeological monitoring for prehistoric human remains and cultural artifacts, excavation and testing for prehistoric human remains, water screening, sorting excavated materials and collection of soil samples for laboratory testing and laboratory analysis of collected faunal and possible human bone.

Camp Pendleton Proposed Firing Range, Edaw Inc.
MCBCP, San Diego, CA.

Field Technician

September 2003

Testing of prehistoric site near location of proposed firing range on MCBCP.

Archaeological Data Recovery at Hidden Valley, URS Corp.
San Diego, CA

Field Technician

July 2003

Excavation field crewmember for the pre-development portion of this project.

Labord Canyon Survey, Edaw Inc.
Beaumont, CA

Field Technician

June 2003

Survey for cultural resources within proposed Off Road Vehicle park.

East Orange Survey, Jones & Stokes Assoc.
Irvine, CA

Field Technician

May 2003- June 2003

1700 acres survey for cultural resources within Irvine Corporation land.

Camp Pendleton Survey , Edaw Inc.
Marine Corps Base Camp Pendleton (MCBCP), CA

Field Technician

March 2003- April 2003

Several thousand-acre survey and testing for prehistoric sites on MCBCP.

Archaeological Survey and Investigation at Tehachapi, Edaw Inc.
Tehachapi, CA

Field Technician

February 2003- March 2003

Phase I survey investigating cultural resources in the mountainous area around Tehachapi, California in preparation of a Los Angeles District of Water and Power windmill expansion project.

Oceanside Testing, Affinis
Oceanside, CA

Field Technician

February 2003

Archaeological testing of three prehistoric sites for housing development near Highway 76.

I-5 at Manchester Exit Survey, Edaw Inc.
San Diego, CA

Field Technician

February 2003

Survey for the expansion of the Northbound off ramp of the I-5 freeway.

29 Palms Survey, Affinis
Twenty Nine Palms, CA.

Field Technician

October 2002- November 2002

Several thousand-acre survey on the 29 Palms Marine Corps Base.

Archaeological Survey at the Dos Palmas Oasis, Edaw Inc
El Centro, CA

Field Technician

September 2002- October 2002

Surveyed 1800 acres of BLM land around the Dos Palmas Oasis on the Eastern side of the Salton Sea. Recorded newly discovered prehistoric and historic sites as well as redefined and updated information concerning previously recorded sites.

Highway 56 Expansion, Edaw Inc.
Del Mar, CA.

Field Technician

August 2002

Archaeological Testing for Eastward expansion of Highway 56.

North Baja Pipeline, Edaw Inc.
Blythe CA

Field Technician

April 2002- August 2002

Archaeological testing and monitoring of the 80 mile PG&E Natural Gas Pipeline from Arhenburg, CA to the Mexican Border.

AFFILIATIONS & ASSOCIATIONS

Society of California Archaeology
Red Cross
Surfrider Foundation

AREAS OF EXPERTISE

- Cultural Resources
- Archaeology

EDUCATION

M.A. (pending),
Cultural Resources
Management, Sonoma
State University
(completed coursework,
examinations, and
research)

B.A. (1983),
Anthropology, University
of California, Berkeley

**REGISTRATIONS/
SPECIAL TRAINING**

OSHA Hazardous Waste
Operations (40-Hour),
Ecologics Training
Institute.

OSHA Hazardous Waste
Operations Supervisor (8-
Hour), Dames & Moore.

Introduction to Federal
Projects and Historic
Preservation Law, The
Advisory Council on
Historic Preservation.

FIRM AFFILIATION**URS****PROFESSIONAL
HISTORY**

Dames & Moore, San
Francisco, California, 1990
to present.

Crew Chief, Mountain
Anthropological Research,
1990.

URS**REPRESENTATIVE EXPERIENCE**

Responsible for directing and supervising cultural resources studies in northern California, other western states, and Pacific territories. Duties include report preparation, analysis, field supervision, construction monitoring, and proposal preparation. Joined URS in 1990.

Cultural Resources Task Leader , 2006-2007

- Elk Grove-Rancho Cordova-El Dorado Connector Phase I Environmental Study, Placer County, California, Sacramento Area Council of Governments. Project entailed planning, engineering, and environmental services for development of a connector that will link residential areas and employment centers and provide multi-modal options for travel within the corridor, including transit, bicycle, and pedestrian facilities. The connector will relieve congestion on the overcrowded existing two-lane roadway that currently serves the corridor. Responsibilities included preparation.

Cultural Resources Task Leader, 2006-2008

- Fresno-Yosemite International Airport Master Plan EA/EIR. Complete cultural resources tasks including prefield research, Native American consultation, and pedestrian reconnaissance, and authored section for an EA/EIR covering near- and long-term projects for the 20-year Airport Master Plan, which URS prepared. Projects include runway and taxiway extensions, terminal and apron expansions, new rental car facilities, land acquisition, and related facility changes in the City of Fresno, California.

Senior Project Archaeologist, 2006-2008

- Mammoth Yosemite Airport Horizons Air Operations Amendment EIS. Complete cultural resources tasks including prefield research, Native American consultation, and pedestrian reconnaissance, and authored section for an EIS addressing a litigation-directed EIS to reinstate commercial carrier service to the Airport in the Community of Mammoth, California.

Cultural Resources Task Leader, 2006-2008

- Sacramento International Airport Master Plan Development EIR and Terminal EA, County of Sacramento. Complete cultural resources tasks including prefield research, Native American consultation, and

Archaeologist, Holman and Associates, 1990.

Project Archaeologist, USDI National Park Service, Yosemite National Park, 1988-1990.

Crew Chief, USDI National Park Service, Yosemite National Park, 1988.

Project Coordinator, Cultural Resources Facility, Sonoma State University, 1988

Archaeologist, USDI National Park Service, Yosemite National Park, 1986-1988.

Archaeologist, Archaeological Consulting and Research Services, Inc., 1987.

Project Coordinator, Cultural Resources Facility, Sonoma State University, 1985-1986.

Assistant Project Coordinator, Cultural Resources Facility, Sonoma State University, 1984-1985.

Archaeologist, Cultural Resources Facility, Sonoma State University, 1983-1984.

Anthropology Tutor, Santa Rosa Junior College, 1982-1983.

Archaeological Intern, USDA National Forest

pedestrian reconnaissance, and authored sections for two separate CEQA and NEPA documents. The EIR included all of the master plan projects for the next 20 years; the EA focused on the terminal and related projects for development in the short-term.

Senior Project Archaeologist, 2006-2007

- Yucca Mountain Railroad Environmental Impact Study, Nevada Sample archaeological inventory and preparation of cultural resource documentation in support of environmental impact analysis of a proposed 340-mile rail corridor through central Nevada.

Senior Project Archaeologist, 2006-2007

- Priority 3 Excavations, Yosemite National Park, California (2006-2007): Historic research in support of archaeological evaluation of 15 historic and prehistoric sites in Yosemite Valley, Yosemite National Park, California.

Senior Archaeologist, 2005-2007

- Mesquite Airport Replacement Project, Federal Aviation Administration, Mesquite, Nevada. Archaeological inventory of a proposed airport facility, Clark County, Nevada.

Senior Archaeologist, 2003-2004

- Placer Parkway Corridor Preservation Project. Completed record searches, Native American consultation, and conducted fatal flaw analysis for project with the goal of preserving an approximately 15-mile transportation corridor connecting Placer and Sutter Counties, California.

Senior Archaeologist, 2003-2005

- Cotterel Mountains Wind Development Project, Cassia County, Idaho. Archaeological inventory of a proposed wind development project in south central Idaho.

Project Archaeologist, 2003-2005

- Offshore LNG Terminal and Pipeline and Onshore Pipeline. Deepwater Port Act Application and FERC

Service, Mendocino

National Forest,
California, 1982.

PROFESSIONAL AFFILIATIONS

Society for California
Archaeology

Archaeological
Conservancy

Section 7c Application (Confidential Client). Prepared Archaeological Study in support of the EIS and FERC application for LNG terminal on the Gulf Coast.

Project Archaeologist, 2003-2005

- Vista del Sol LNG Terminal and Pipeline, FERC Section 3 and 7c Applications (Confidential Client). Prepared Archaeological Study in support of the EIS and FERC application for LNG terminal on the Gulf Coast.

Project Archaeologist, 2003-2005

- Pine Tree Canyon Wind Energy Project, Kern County, California. Archaeological inventory and evaluation of a wind energy project in the Tehachapi Range, California, for the Los Angeles Department of Water and Power.

Field Director, 2000-2006

- Los Angeles Aqueduct Project, Kern County, California. Inventory and site recordation along the First and Second Los Angeles Aqueducts, conducted for the Los Angeles Department of Water and Power

Project Archaeologist, 2002

- Salton Sea Unit 6 Project, Imperial County, California. Archaeological inventory of proposed geothermal energy facilities in the Colorado Desert, southern California.

Project Archaeologist, 2001-2002

- Bighorn Power Generation Project, Clark County, Nevada. Archaeological inventory, evaluation, and data recovery for a proposed energy generation facility and transmission line, southern Nevada, for Reliant Energy, Inc.

Project Archaeologist, 2001-2002

- Meadow Valley Generation Project, Lincoln and Clark counties, Nevada. Archaeological inventory and evaluation for a proposed energy generation facility and transmission line, southern Nevada, for PG&E National Energy Group.

Project Archaeologist, 2001-2004

- South Mist Pipeline Extension Project. Conducted archaeological reconnaissance along route of proposed 60- to 90-mile long natural gas pipeline and alternatives within western Oregon for Northwest Natural Gas Company, Portland, Oregon.

Project Archaeologist, 2002-2003

- DeWitt Center Master Plan. Completed record search, Native American consultation, archaeological survey, and authored existing conditions/baseline report for the future preparation of a Master Plan Environmental Impact Report (EIR) for the DeWitt Center property in the City of Auburn, California.

Project Archaeologist, 2002-2003

- Home Depot. Completed record search, Native American consultation, conducted archaeological survey, and authored technical sections for Environmental Impact Report (EIR) for a proposed 105,000-square-foot warehouse-style Home Depot store, with an additional 24,000-square-foot outdoor garden center, and access roadway off State Route 49 in unincorporated Placer County, about 4 miles northwest of the City of Auburn, California.

Project Archaeologist, 2001-2002

- Southern San Joaquin Oil Fields Study. This study was conducted to develop and ultimately support the implementation of an agreement to be executed by the Bureau of Land Management (BLM), Department of Energy (DOE), and California State Historic Preservation Officer (SHPO) for the future treatment of cultural resources within the oil fields of the Southern San Joaquin Valley. Conducted for USDI BLM, Bakersfield Office.

Field Director, 2001-2003

- Yosemite Falls Archeological Evaluation Project. Directed site recordation and evaluation excavations of archaeological sites within the Yosemite Falls vicinity of Yosemite National Park. Conducted for the USDI National Park Service, Yosemite National Park..

Project Archaeologist, 2001-2002

- Colusa Power Plant Application for Certification. Completed record search, conducted archaeological survey, and authored technical section for environmental document for Reliant Energy Corporation in preparation of power plant expansion, Colusa County, California.

Project Archaeologist, 2000-2001

- Cellular Communication Towers Construction Project. Completed record searches, conducted archaeological surveys, and co-authored technical reports (with Michael Kelly) for Mericom Corporation in preparation of the installation of 16 cellular communication tower in the eastern portions of the states of Oregon and Washington.

Project Archaeologist, 2000-2001

- Bethel Island Bridge Replacement Project. Completed record search, conducted archaeological survey, and authored technical report for Contra Costa County Department of Public Works, Contra Costa County, California.

Project Archaeologist, 2000

- San Jose Post Office Vehicle Maintenance Facility Environmental Assessment. Completed record search, conducted archaeological survey, and authored technical section for environmental document for U.S. Post Office Pacific Facilities Services Office in preparation of new facility construction in Castroville, Monterey County, California.

Project Archaeologist, 2000

- California State University Hayward Expansions. Completed record searches, conducted archaeological surveys, and authored technical sections for environmental documents for California State University Hayward in preparation of various campus expansion projects in the City of Hayward, Alameda County, California.

Project Archaeologist, 2000

- West Texas Site Demolition Project. Conducted archaeological survey and authored technical section for environmental document for proposed demolition of historic structures in the City Of Vacaville for the Solano County Planning Department, Solano County, California.

Project Archaeologist, 2000

- Antonio Mountain Ranch Specific Plan. Completed record search, conducted archaeological survey, and authored technical section for environmental document for Placer County Planning Department, Placer County, California.

Field Director, 2000

- Post Fire Archaeological Evaluation. Directed archaeological survey and damage assessment of 450 acres within backcountry of Yosemite National Park. Conducted for the USDI National Park Service, Yosemite National Park.

Project Archaeologist, 2000

- 55 Second Street Project. Construction monitoring for proposed highrise office building within the City of San Francisco for Myers Development Corporation.

NEPA Reviewer, 2000-2002

- Yosemite Valley Plan. Conducted NEPA review for a variety of sections within Final Yosemite Valley Plan for the USDI National Park Service, Yosemite National Park.

Project Archaeologist, 2000-2002

- Goldendale Power Plant Project. Completed record search, conducted archaeological survey, and co-authored technical section for environmental document for proposed power plant within the City of Goldendale, Washington

Project Archaeologist, 2000-2001

- Kosciusko Island Timber Sales. Conducted archaeological reconnaissance of coastline areas along Kosciusko Island, Alaska. Conducted for the USDA National Forest Service, Tongass National Forest, Alaska

Field Director, 2000

- Lake Don Pedro Resort Project. Directed archaeological survey for proposed resort/housing development along Lake Don Pedro, California.

Project Archaeologist, 2000

- Atkinson Pedestrian Bridge Project. Completed record search, conducted archaeological survey, and authored technical report for the City of Roseville, California.

Project Archaeologist, 2000-2003

- South Mist Pipeline Extension Project. Conducted archaeological reconnaissance along route of proposed 60- to 90-mile long natural gas pipeline and alternatives within western Oregon for Northwest Natural Gas Company, Portland, Oregon.

Project Archaeologist, 2000

- Ediz Hook Expansion Project. Conducted archaeological reconnaissance for proposed facility expansion of United States Coast Guard Station on Ediz Hook, Port Angeles, Washington

Section 106 Compliance Review, 1999-2000

- Conducted Section 106 Review for FEMA of various projects funded as a result of the Northridge Earthquake, Los Angeles County, California.

Project Archaeologist, 1999-on going

- Potrero Power Plant Application for Certification. Completed record search, conducted archaeological survey, and authored technical section for environmental document for Southern Energy of California in preparation of power plant expansion, San Francisco, California.

Project Archaeologist, 1999-2002

- Contra Costa Power Plant Application for Certification. Completed record search, conducted archaeological survey, and authored technical section for environmental document for Southern Energy of California in preparation of power plant expansion, Antioch, California.

Project Archaeologist, 1999-2000

- Interim Measures, FMC Test Track Facility. Monitoring of remediation efforts at FMC Plant for FMC, Inc., San Jose, California.

Project Archaeologist, 1999

- North Bend Gravel Quarry Project. Completed record search, conducted archaeological survey, and authored technical section for environmental document for Snoqualmie County, Washington.

Project Archaeologist, 1999

- Presidio Parking Project. Archival research and monitoring of geotechnical investigation for proposed parking facility in the Presidio of San Francisco. Conducted for the Presidio Trust, San Francisco, California.

Project Archaeologist, 1999

- Richmond Harbor Project. Archaeological survey for

proposed harbor development within the City of Richmond, California for Catellus, Inc.

Project Archaeologist, 1999-2001

- Fourth Street Bridge Project. Archaeological survey for bridge reconstruction for the City of San Francisco.

Project Archaeologist, 1999-2001

- Bickford Ranch Development Project. Impact assessment and preparation of mitigation plan for proposed housing development for Placer County, California.

Project Archaeologist, 1999-2001

- Orchard Hotel/665 Bush Street Project. Construction monitoring for proposed hotel on Nob Hill within the City of San Francisco for 665 Bush Street, Inc.

Project Archaeologist, 1998-2000

- Western Hub Gas Transmission Project. Archaeological survey and technical report for proposed 32-mile-long gas pipeline and alternatives through the Delta region of central California for Western Hub Properties.

Project Archaeologist, 1998-2000

- Wake Island Project. Archaeological survey and monitoring of subsequent remediation activities on Wake Island for the United States Air Force/Navy.

Project Archaeologist, 1998-2000

- 150 California Street Project. Construction monitoring for a proposed high-rise development within Financial District of San Francisco, California for LaSalle Partners Limited.

Project Archaeologist, 1998

- Yosemite Lodge Project. Directed fieldwork and co-authored report (with Kathleen Hull, Russ Bevill, and Geoff Spaulding) of archaeological test excavations in Yosemite National Park. Conducted for the USDI National Park Service, Yosemite National Park, California.

Project Archaeologist, 1997-1999

- Pacific Bell Park Project. Conducted archival research and construction monitoring for baseball park being constructed for San Francisco Giants by Kajima Urban Development Company.

Project Archaeologist, 1997-98

- Alturas Intertie Project Conducted archaeological survey and test excavations along route of proposed transmission line across northeastern California for Sierra Pacific Power Company, Reno, Nevada.

Project Archaeologist, 1997-98

- Penn Mine Remediation Project. Completed various cultural resources tasks including survey, site recordation, test excavations, and archival research for various historic properties within the Penn Mine Mining District, Campo Seco, California for OHM Remediation Services Corp.

Project Archaeologist, 1997

- American Canyon Wastewater Treatment Facility. Conducted archaeological survey of proposed treatment plant and prepared EIS report on cultural resource studies for City of American Canyon, Napa County, California.

Project Archaeologist, 1997-1998

- Mount Hood National Forest. Conducted archaeological survey of 11 miles of roadway slated for demolition and conducted test excavations at four sites within the Fish Creek drainage for USDA National Forest Service, Mt. Hood National Forest, Oregon.

Project Archaeologist, 1997

- Deschutes National Forest. Conducted archaeological survey of 3,500 acres and re-recorded 125 previously identified sites in central Oregon for USDA National Forest Service, Deschutes National Forest, Oregon.

Project Archaeologist, 1997

- Norden Snowshed Facility Project. Conducted archaeological survey of vicinity contaminated by a diesel fuel spill for Union Pacific Railroad.

Project Archaeologist, 1996-ongoing

- Gap Project. Archaeological testing and construction monitoring for proposed high-rise development within Financial District of San Francisco, California for the Gap Inc.

Project Archaeologist, 1996-1997

- State Civic Center Project. Providing archaeological monitoring services during construction of the new State

Civic Center complex in San Francisco, California for HSH Design/Build, Inc.

Project Archaeologist, 1996

- Orrick Land Exchange. Archaeological survey of Bureau of Land Management holdings situated within Siskiyou County, California. Study completed for the Trust for Public Lands.

Project Archaeologist, 1995-1996

- Caltrain Extension Project. Member of team analyzing effect of project to cultural resources for the Peninsula Joint Powers Board.

Project Archaeologist, 1995-1998

- Archaeological Synthesis and Research Design for Yosemite National Park. Contributed to the synthesis of archaeological data completed within park and to the development of the park-wide research design.

Project Archaeologist, 1995-1996

- NEC Electronic, Inc., Development Project. Completed record search, conducted archaeological survey, and prepared EIS report on cultural resource studies for City of Roseville, Placer County, California.

Field Supervisor, 1995-1997

- Cross Cascades Transmission Project. Archaeological survey of transmission corridor between Seattle and Pasco, Washington for Olympic Pipeline Company.

Project Archaeologist, 1995-1996

- Norbridge Extension Project. Completed record search, conducted archaeological survey, and prepared EIS report on cultural resource studies for Alameda County Department of Public Works.

Project Archaeologist, 1995

- Union Pacific-Southern Pacific Merger. Member of team analyzing effect of project to cultural resources for Union Pacific Corporation.

Field Supervisor, 1995

- Big Springs Archaeological Project. Archaeological test excavation of prehistoric site near Lake Almanor, Lassen County, California for USDA, Lassen National Forest.

Field Supervisor, 1995

- Whiskeytown Archaeological Project. Archaeological test excavation of prehistoric site on Whiskeytown National Recreation Area, near Redding, Shasta County, California.

Project Archaeologist, 1995

- Point Chico Support Building, U.S. Coast Guard Station Bodega Bay. Archaeological monitoring of construction on Doran Beach, Sonoma County, California.

Project Archaeologist, 1994-1996

- Hanford Nuclear Facility. Various cultural resource assessments for U.S.D.O.E. and their sub-contractors upon the Hanford Nuclear Facility, Washington.

Project Archaeologist, 1994-1996

- Long-Term Water Supply Project. Archaeological survey and impact assessment for Kern County Water Agency, Bakersfield, California.

Project Archaeologist, 1994-1997

- Presidio of San Francisco. Archaeological monitoring of construction/rehabilitation projects of historic structures within the Presidio of San Francisco, Golden Gate National Recreation Area, California (ongoing).

Project Archaeologist, 1994-1998

- Alameda County Department of Public Works. Archaeological investigations for various projects within Alameda County, California (ongoing).

Field Supervisor, 1994-1995

- Old Wawona Road Recordation Project. Archaeological survey of historic road corridor, Yosemite National Park, California.

Field Supervisor, 1994-1995

- Tuolumne Meadows Sewer Replacement Project. Archaeological testing and data recovery excavations for National Park Service within Yosemite National Park, California.

Project Archaeologist, 1994-1996

- Richmond Parkway Project. Archaeological testing for a proposed roadway expansion within Richmond, Contra Costa County, California.

Field Supervisor, 1994

- Little Pinnacle Springs Archaeological Investigation. Archaeological test excavation of prehistoric site in Mendocino National Forest, California.

Project Archaeologist, 1994

- Juneau Connector Project. Archaeological survey and testing for proposed roadway between Juneau and Skagway, Alaska.

Project Archaeologist, 1993-1995

- Cultural resources inventory of the American River Watershed Investigation, Sutter and Sacramento Counties, California. Supervised a portion of the archaeological survey and site recordation for the U.S. Army Corps of Engineers.

Project Archaeologist, 1993-1995

- Mead-Adelanto Project. Participated in archaeological survey for proposed transmission line and monitored subsequent construction for Los Angeles Department of Water and Power.

Field Director, 1993-1994

- Stampede-Merril Timber Sale, Sierra and Nevada counties, California. Supervised archaeological survey of over 8,000 acres of land within the Sierraville and Truckee Ranger districts for the USDA Forest Service for proposed timber sale projects.

Project Archaeologist, 1993

- State Route 168, Fresno County, California. Completed archaeological investigation of a historic home-site on Academy for a proposed Caltrans road-widening project.

Field Director, 1993

- Travis Site, Six Rivers National Forest, Trinity County, California. Directed archaeological test excavation at site near Ruth Reservoir for USDA Six Rivers National Forest.

Project Archaeologist, 1993

- East Dublin-Pleasanton, Alameda County, California. Conducted subsurface testing for proposed Bay Area Transit District Expansion Project.

Staff Archaeologist, 1993

- Eight Fathom Bight, southeastern Alaska. Conducted archaeological survey of 3,500 acres on Chichagof Island, Alaska for Tongass National Forest.

Project Archaeologist, 1992

- Naval Weapons Systems Training Facility, Boardman, Oregon. Completed record search, prepared sensitivity model, conducted archaeological survey, and prepared EIS report on cultural resource studies.

Field Supervisor, 1992

- Sawmill Campground Expansion, Mono County, California. Supervised archaeological survey and limited excavation at seven sites along Robinson Creek for the USDA Toiyabe National Forest in conjunction with proposed campground improvements.

Field Supervisor, 1992

- Pit 3, 4, and 5 Hydroelectric Project Data Recovery. Supervised archaeological excavations at several sites at Lake Britton in conjunction with a bank stabilization program. Worked with Native American monitors on removal and re-burial of human remains encountered.

Field Supervisor, 1992-1993

- State Route 49, Nevada County, California. Supervised archaeological survey of proposed route alternatives near Grass Valley (ongoing).

Project Archaeologist, 1992

- State Route 84, West Sacramento, Yolo County, California. Archaeological survey and cultural resources sections for improvements.

Field Director, 1992

- Sacramento - San Joaquin River Delta, Solano and Sacramento Counties, California. Archaeological survey for proposed improvements to 25.5 miles of levee.

Field Director, 1991

- Eldorado National Forest, California. Directed archaeological survey of over 22,000 acres of land for salvage timber sales.

Field Supervisor, 1991

- Manenggon Hills Development Project. Archaeological

data recovery excavations for a 1300-acre housing and golf development near Yona, Guam.

Field Supervisor, 1991

- Yosemite-Foresta Survey, Mariposa County, California. Archaeological survey and post-fire surface evaluation of Big Meadow/Foresta area of Yosemite National Park.

Project Archaeologist, 1991

- 150 California Street Project. Archaeological testing and technical report for a proposed high-rise development in Financial District of San Francisco, California for PacTel Properties.

Staff Archaeologist, 1991

- Kern River Pipeline Cultural Resource Survey, Nevada. Cultural resource data recovery excavations along the 150-mile section of the pipeline through southern Nevada.

Field Supervisor, 1990-1991

- State Route 41, Fresno County, California. Served as field supervisor and junior report author for archaeological test excavations of two sites in Coarsegold for a proposed Caltrans road-widening project.

PUBLICATIONS**SELECTED PROFESSIONAL REPORTS**

Archaeological Survey of the Union Pacific Railroad Norden Response Action, Nevada and Placer Counties, California (with Russell Bevill, Michael S. Kelly, and Elena Nilsson). Report prepared for Union Pacific Railroad Company, Omaha, Nebraska. Prepared by Dames & Moore, 1997.

Report for the Archaeological Monitoring Services, Task Order 53. Building 10 Funston Avenue, Presidio of San Francisco. Report prepared for USDI National Park Service, Golden Gate National Recreation Area, San Francisco, California. Prepared by Dames & Moore, 1997.

Report for the Archaeological Monitoring and Subsurface Investigation of the Grant Property at 453 C Street, City of Richmond, Contra Costa County, California. Report prepared for the City of Richmond, Public Works Agency, California. Prepared by Dames & Moore, 1996.

Archaeological Investigation for Task Order 51. Preliminary Design Services for Overnight Accommodations, Presidio of San Francisco. Report prepared for USDI National Park Service, Golden Gate National Recreation Area, San

Francisco, California. Prepared by Dames & Moore, 1996.

Archaeological Evaluation of CA-LAK-1156, Little Pinnacle Spring, Mendocino National Forest, Lake County, California (with Kathleen Hull and Russell Bevill). Report prepared for USDA Forest Service, Mendocino National Forest, Willows, California. Report prepared by Dames & Moore, 1995.

Report for Archaeological Monitoring Services Point Chico Support Building, United States Coast Guard Station Bodega Bay, Sonoma County, California. Report prepared for United States Coast Guard Facilities and Design Center Pacific, Seattle, Washington. Prepared by Dames & Moore, 1995.

Archaeological Investigation for Task Order 34. Preliminary Design Services for Overnight Accommodations, Presidio of San Francisco. Report prepared for USDI National Park Service, Golden Gate National Recreation Area, San Francisco, California. Prepared by Dames & Moore, 1995.

Archaeological Monitoring Services Zone 5 Line H Flood Control Channel Bat Spruce Street Crossing, Newark, Alameda County, California. Report prepared for the County of Alameda, Public Works Agency, Hayward, California. Prepared by Dames & Moore, 1995.

Archaeological Reconnaissance of Foothill Road, Mile 4.48(R36010), Alameda County, California. Report prepared for the County of Alameda, Public Works Agency, Hayward, California. Prepared by Dames & Moore, 1995.

Archaeological Reconnaissance of Palomares Road, Road, Mile 5.18 (R36007), Alameda County, California. Report prepared for the County of Alameda, Public Works Agency, Hayward, California. Prepared by Dames & Moore, 1995.

Archaeological Reconnaissance of the Zone 3A Line H Flood Control Channel (F03C31), Hayward, California. Report prepared for the County of Alameda, Public Works Agency, Hayward, California. Prepared by Dames & Moore, 1995.

Archaeological Reconnaissance of the Zone 6 Line F Flood Control Channel Between Curtner Road and Paseo Padre Parkway, Fremont, California. Report prepared for the County of Alameda, Public Works Agency, Hayward, California. Prepared by Dames & Moore, 1995.

Interim Report for Archaeological Monitoring Services Task Order 28 Water Treatment Plant-Custom Plant Presidio of San Francisco. Report prepared for USDI National Park Service, Golden Gate National Recreation Area, San

Francisco, California. Prepared by Dames & Moore, 1995.

Archaeological Investigation for Task Order 27. Preliminary Design Services for Overnight Accommodations, Presidio of San Francisco. Report prepared for USDI National Park Service, Golden Gate National Recreation Area, San Francisco, California. Prepared by Dames & Moore, 1994.

Archaeological Reconnaissance of the Proposed Subacute Treatment Facility, Fairmont Hospital Campus, San Leandro, California. Report prepared for the County of Alameda, Public Works Agency, Hayward, California. Prepared by Dames & Moore, 1994.

Historic Study Report/Extended Phase I Survey of CA-FRE-2905H. Report prepared for the California Department of Transportation, District 6, Fresno, California. Prepared by Dames & Moore, 1994.

Negative Archaeological Survey Report. Jefferson Boulevard/SR 84 Road Improvement. Report prepared for the City of West Sacramento, California. Prepared by Dames & Moore, 1994.

Archaeological Survey Report. Route 49, Lime Kiln Road to Grass Valley. Report prepared for the California Department of Transportation, District 6, Fresno, California. Prepared by Dames & Moore, 1993.

Post-fire Archaeological Survey of Devils Postpile National Monument, Madera County, California (with Kathleen L. Hull). Report prepared for USDI National Park Service, Sequoia-Kings Canyon National Parks, Three Rivers, California. Prepared by Dames & Moore, 1993.

Negative Archaeological Survey Report. East Dublin/Pleasanton BART Station. Report prepared for the Bay Area Rapid Transit District, Oakland, California. Prepared by Dames & Moore, 1993.

Archaeological Survey and Evaluation for the Proposed Sawmill Campground Expansion, Bridgeport Ranger District, Toiyabe National Forest (with Kathleen L. Hull). Report prepared for USDA Forest Service, Toiyabe National Forest, Sparks, Nevada. Prepared by Dames & Moore, 1993.

The Archaeological Investigation of a World War II-era Type 95 Japanese Tank (Site #16) Within the Manenggon Hills Project, Yona, Guam. Submitted to Micronesian Archaeological Research Services, Inc. 1993.

Cultural Resources Survey. Sacramento River Systems Evaluation Phase IV, Sacramento and Solano Counties, California (with Elena Nilsson). Report prepared for the United States Department of the Army, Sacramento District, Corps of Engineers. Prepared by Dames & Moore. 1993.

Archaeological Survey Report, Silver Insect Salvage Sale (with Michael S. Kelly). Report prepared for USDA National Forest Service, Eldorado National Forest. Dames & Moore, 1991.

Archaeological Survey Report, Amador Survey Project (with Sandra S. Flint and Michael S. Kelly). Report prepared for USDA National Forest Service, Eldorado National Forest. Dames & Moore, 1991.

Archaeological Survey Report, Solsbury Archaeological Survey Project (with Sandra S. Flint and Michael S. Kelly). Report prepared for USDA National Forest Service, Eldorado National Forest. Dames & Moore, 1991.

Phase II Evaluations at Archaeological Site CA-MAD-1737, Madera County, California (with Kathleen L. Hull). Report prepared for California Department of Transportation, District 6. Dames & Moore, 1991.

Phase II Evaluations at Archaeological Site CA-MAD-1744/H, Madera County, California (with Kathleen L. Hull). Report prepared for California Department of Transportation, District 6. Dames & Moore, 1991.

Archaeological Testing, 150 California Street Project for Pactel Properties. Report prepared for Pactel Properties. Dames & Moore, 1991.

Fieldwork Summary: Generals Highway Archaeological Project (SEKI 89A). Archaeological Test Excavations at Hospital Rock and Potwisha, Sequoia National Park, California. USDI National Park Service, Yosemite National Park, 1990.

Fieldwork Summary: Generals Highway Archaeological Project (SEKI 88C). Archaeological Test Excavations at Hospital Rock and Potwisha, Sequoia National Park, California. USDI National Park Service, Yosemite National Park, 1990.

Archaeological Clearance Report for the Canyon View Waterline Replacement in Sequoia-Kings Canyon National Parks (SEKI 89H). USDI National Park Service, Yosemite

National Park, 1989.

Archaeological Clearance Report for the Concessionaires Residential Area Sewerline Replacement in Sequoia-Kings Canyon National Parks (SEKI 89I). USDI National Park Service, Yosemite National Park, 1989.

Archaeological Clearance Report for the Boundary Fence Along South-West Boundary of Sequoia-Kings Canyon National Parks (SEKI 89C). USDI National Park Service, Yosemite National Park, 1989.

Archaeological Clearance Report for the New Waterline in Silver City, Sequoia-Kings Canyon National Parks (SEKI 89D). USDI National Park Service, Yosemite National Park, 1989.

Archaeological Clearance Report for the Remote Solar Panel to Power Composting Toilet in South Fork Campground, Sequoia-Kings Canyon National Parks (SEKI 89F). USDI National Park Service, Yosemite National Park, 1989.

Archaeological Clearance Report for the Lewis Creek Structure Removal and Replacement in Sequoia-Kings Canyon National Parks (SEKI 89J). USDI National Park Service, Yosemite National Park, 1989.

Archaeological Clearance Report for the Roads End Cabin Removal and Kiosk Removal and Replacement in Sequoia-Kings Canyon National Parks (SEKI 89G). USDI National Park Service, Yosemite National Park, 1989.

An Archaeological Survey of the Proposed American Canyon Class III Landfill, East of American Canyon, Napa County, California. Cultural Resources Facility, Sonoma State University, Rohnert Park, California, 1988.

An Archaeological Survey of the Wilkinson Property (A.P. 53-120-41) at 13280 Arnold Drive in Glen Ellen, Sonoma County, California. Cultural Resources Facility, Sonoma State University, Rohnert Park, California, 1988.

An Archaeological Investigation of the Proposed Villa Royale Subdivision at Stony Point Road (A.P. 125-241-02), Santa Rosa, Sonoma County, California. Cultural Resources Facility, Sonoma State University, Rohnert Park, California, 1986.

An Archaeological Study for City Trunk Sewer, a Water Main Alignment, and a Water Reservoir Tank Site (7820 Rancho de Amigos), Cloverdale, Sonoma County, California (with Leigh Jordan) Cultural Resources Facility, Sonoma State

University, Rohnert Park, California, 1985.

An Archaeological Investigation for Portions of Jack London Ranch Near Glen Ellen, Sonoma County, California (with Allan Bramlette). Cultural Resources Facility, Sonoma State University, Rohnert Park, California, 1985.

An Archaeological Survey of the Napanook Vineyard, (A.P. 27-421-08), Near Yountville, Napa County, California. Cultural Resources Facility, Sonoma State University, Rohnert Park, California, 1985.

Archaeological Investigation of the Richard Keith & Company Property at 1884 Amy Street, (A.P. 036-181-50), Santa Rosa, Sonoma County, California (with David Bieling). Cultural Resources Facility, Sonoma State University, Rohnert Park, California, 1984.

PAPERS PRESENTED

Archaeology on the Edge: Recent Data Recovery Excavations at Lake Britton. Paper presented at the Annual Meeting of the Society for California Archaeology, Asilomar, 1993.

Archaeological Test Excavations at CA-TRI-1297 (Travis Site), Six Rivers National Forest. Paper presented at the Society for California Archaeology, Northern Data Sharing Meetings, Sacramento, 1993.

Archaeology on the Edge: Recent Data Recovery Excavations at Lake Britton. Paper presented at the Society for California Archaeology, Northern Data Sharing Meeting, Sacramento, 1992.



Michael S. Kelly

Principal Archaeologist, MA, RPA

Overview

Mr. Kelly manages URS Corporation's cultural resources program for the Pacific Northwest Region. Major responsibilities include management and direction of archaeological studies throughout the Pacific Northwest, northern California, and the Great Basin regions, proposal preparation and business development, report preparation, and technical review. Mr. Kelly has more than 28 years experience in cultural resources management and archaeological investigations.

Areas of Expertise

Prehistoric and Historical
Archaeology

Pacific Northwest, California,
Great Basin, and Pacific Regions

Cultural Resources Management

Years of Experience

With URS: 25 Years

With Other Firms: 3 Years

Education

MA/1986/Anthropology and
Historical Archaeology/University
of Nevada, Las Vegas

BA/1978/Anthropology/
University of California, Santa
Barbara

Project Specific Experience

Federal Projects

Principal Archaeologist, Yucca Mountain Railroad Environmental Impact Study, Nevada (2006-2007): Sample archaeological inventory and preparation of cultural resource documentation in support of environmental impact analysis of a proposed 340-mile rail corridor through central Nevada. Ongoing.

Historical Archaeologist, Priority 3 Excavations, Yosemite National Park, California (2006-2007): Archaeological evaluation of 15 historic and prehistoric sites in Yosemite Valley, Yosemite National Park, California. Ongoing.

Principal Archaeologist, Kasilof Road Relocation Project, Federal Emergency Management Agency, Kenai Borough, Alaska (2005): Archaeological inventory of a proposed road realignment, Kenai Peninsula, Alaska.

Principal Archaeologist, Mesquite Airport Replacement Project, Federal Aviation Administration, Mesquite, Nevada (2005-2007): Archaeological inventory of a proposed airport facility, Clark County, Nevada.

Principal Archaeologist, Quillayute River Project, US Coast Guard, Clallam County, Washington (2003): Archaeological inventory and tribal consultation for a US Coast Guard facility expansion.

Principal Investigator, Lower Yosemite Falls Project, National Park Service, Yosemite National Park, California (2002-2003): Testing, evaluation, and data recovery at three historic sites in Yosemite Valley.

Principal Archaeologist, Elwha River Restoration Project, US Bureau of Reclamation, Port Angeles, Washington (2002-2005): Archaeological inventory and monitoring of groundwater testing operations in support of dam removal and restoration of the Elwha River, Olympic Peninsula, Washington.



Project Director, Ely Fuel Reduction Project, Bureau of Land Management, White Pine County, Nevada (2001-2002): Inventory of approximately 10,000 acres in east central Nevada to assist BLM with fire management practices.

Principal Investigator, Kosciusko Island Project, US Forest Service, Tongass National Forest, Alaska (2000-2001): Inventory of high sensitivity coastal areas and documentation of prehistoric sea cave occupation sites on Kosciusko Island, southeast Alaska.

Senior Archaeologist, Kawich Range Stratified Archaeological Sampling Project, US Air Force, Nellis Air Force Range, Nevada (1999-2002): Archaeological sampling study of a 35,000-acre area in Nye County, south-central Nevada.

Senior Archaeologist, Hagerman National Fish Hatchery, University of Idaho, Hagerman, Idaho (2001): Archaeological inventory and preparation of a cultural resource management plan for a fish hatchery in central Idaho, for the University of Idaho and the U.S. Fish and Wildlife Service.

Principal Investigator, Air Station Port Angeles, US Coast Guard, Clallam County, Washington (2000): Archaeological surface and subsurface survey, USCG Group/Air Station Port Angeles, Ediz Hook, Washington.

Principal Investigator, Gold Hill Archaeological Project, US Forest Service, Lane County, Oregon (1998-2000): Archaeological data recovery excavations in the Cascade Range of central Oregon.

Senior Archaeologist, Banks Lake and Potholes Reservoir Resource Management Plans, USBR, Douglas and Grant Counties, Washington (1998-2000): Preparation of cultural resources overviews and summary inventories for two Bureau of Reclamation projects, central Washington.

Senior Archaeologist, Fish Creek Restoration Project, US Forest Service, Clackamas County, Oregon (1997-1999): Archaeological inventory, evaluation, and data recovery within the Clackamas River watershed, Mt. Hood National Forest, Oregon.

Senior Archaeologist, Deschutes Archaeological Inventory and Recordation Project, US Forest Service, Deschutes County, Oregon (1997): Inventory of 3500 acres and recordation of 135 archaeological sites on the Deschutes National Forest, Oregon.

Senior Archaeologist, Long-Damon Project, US Forest Service, Modoc County, California (1996-1997): Post-fire inventory of approximately 8500 acres and recordation of 325 sites on the Modoc National Forest.



Senior Archaeologist, Hanford Site, Department of Energy (DOE) Richland Operation, Richland, Washington (1995-1997): Assisted DOE Cultural Resources Program Manager in project management, policy development, regulatory compliance, and Native American consultation.

Task Manager, Yosemite Valley and Wawona Archaeological Investigations, National Park Service, Yosemite National Park, California (1995): Assisted in the preparation of technical reports for miscellaneous archaeological survey, test excavation, and data recovery projects undertaken by the National Park Service in Yosemite National Park from 1985 to 1990.

Expert Witness, ARPA Consultation, US Forest Service, Stanislaus National Forest, California (1994-1995): Provided impact assessment to the United States Department of Agriculture for use in legal proceedings involving damage to archaeological resources on Federal land under the Archaeological Resource Protection Act (ARPA).

Project Manager and Field Director, Eagle Lake Project, US Forest Service, Lassen County, California (1994-1995): Directed field investigations for archaeological test excavations at site at CA-Las-549, Lassen National Forest, northeastern California.

Senior Archaeologist, Cross-Site Transfer System, Department of Energy, Hanford, Washington (1994-1995): Analysis of impacts to archaeological sites during development of hazardous waste storage and transportation facilities at the Hanford Site, Washington.

Senior Archaeologist, Whidbey Island Naval Air Station, Whidbey Island, Washington, (1993-1994): Preparation of an Historical and Archaeological Resource Protection (HARP) Plan for NAS Whidbey Island properties in the Puget Sound, Washington and eastern Oregon.

Project Manager, Stampede/Merril Timber Sales, Nevada and Sierra counties, California (1993-1994): Managed archaeological survey of 8,000 acres of timber lands on the Truckee District, Tahoe National Forest.

Task Leader, Eight Fathom Timber Sale EIS, Chichagof Island, Alaska (1993-1994): Archaeological research design, inventory, and resource documentation for USDA Forest Service, Tongass National Forest.

Senior Archaeologist, Tiller Data Recovery Project, Tiller, Oregon (1993): Data recovery excavations at a single prehistoric site for the USDA Forest Service, Umpqua National Forest, south-central Oregon.



Senior Archaeologist, Naval Weapons Systems Training Facility, Boardman, Oregon (1992-1993): Prepared Cultural Resource Inventory Plan and performed a sample survey and archaeological sensitivity model, in conjunction with land-use modification studies.

Principal Investigator, Historic architectural and archaeological survey, Jackson Park Housing Complex, Bremerton, Washington (1992-1993): Archaeological inventory and sensitivity analysis prepared for U.S. Navy.

Task Manager, Ushk Bay EIS, Chichagof Island, Alaska (1992): Archaeological inventory and resource documentation, under contract to USDA Forest Service, Tongass National Forest.

Senior Archaeologist, Waterfront Shops EIS and Dry Dock EIS, Bangor Subase, Puget Sound, Washington (1992): Archaeological survey and resource documentation, under contract to Department of the Navy.

Expert Witness, Travis Site, Six Rivers National Forest, Trinity County, California (1991): Provided impact assessment and expert testimony on behalf of the United States Department of Agriculture during legal proceedings involving the inadvertent excavation of archaeological resources on Federal land under the Archaeological Resource Protection Act (ARPA).

Principal Investigator, Cultural Resource Inventory, Eldorado National Forest (1991): Archaeological survey of approximately 23,000 acres; Georgetown, Amador, and Pacific Ranger Districts.

Project Manager and Historical Archaeologist, Foresta, Big Meadow, and McCauley Meadow, Mariposa County, California (1991): Post-fire archaeological survey and surface evaluation within the A-Rock fire area, USDI National Park Service, Yosemite National Park.

Principal Investigator, Black Gulch Archaeological Survey, Plumas National Forest, California (1990-1991): Cultural resource inventory of approximately 5000 acres in the northern Sierra Nevada. Recordation of over 50 historic gold mining sites and communities.

Principal Investigator, McKenzie Timber Sale Survey, Plumas National Forest, California (1989): Archaeological inventory of a 3900 acre parcel in the northern Sierra Nevada; primary focus was upon historic mining sites.

Principal Investigator, Chris, Eureka, Garabini, and Mohawk Timber Sales, Plumas National Forest, California (1988): Archaeological inventory of approximately 6000 acres in the northern Sierra Nevada; recordation focused on nineteenth century mining sites.



Project Archaeologist, SUTCET Project, Inyo County, California (1988): Archaeological evaluation of three prehistoric sites on the China Lake Naval Weapons Center.

Project Archaeologist, DARCOM Archaeological Overview, Umatilla, Oregon (1984-1985): Preparation of the archaeological and environmental sections of a cultural resource overview for the Umatilla Army Depot, northeastern Oregon.

Project Archaeologist, Fort Irwin Archaeological Project, San Bernardino County, California (1982-1985): Mitigation of 14 archaeological sites in the central Mojave Desert as part of the No Name West Basin Data Recovery Project, Fort Irwin, California.

Power Projects

Principal Archaeologist, Pine Tree Canyon Wind Energy Project, Kern County, California (2003-2008): Archaeological inventory, evaluation, and data recovery for a wind energy project in the Tehachapi Range, California, for the Los Angeles Department of Water and Power.

Principal Archaeologist, Horizon Wind Energy Projects, San Bernardino, Lassen, and Plumas Counties, California (2005-2008): Archaeological inventory and sensitivity analysis for various wind energy feasibility studies throughout northern and southern California. Ongoing.

Principal Archaeologist, Clipper Wind Energy Projects, Benton County, Washington; Elko and Esmeralda Counties, Nevada (2007): Archaeological inventory and sensitivity analysis for various wind energy feasibility studies in Washington and Nevada.

Principal Archaeologist, Toquop Energy Project, Lincoln County, Nevada (2006-2008): Archaeological inventory of a 31-mile rail line corridor associated with environmental permitting of a proposed coal-fired power plant, southeastern Nevada. Ongoing.

Principal Archaeologist, Bradwood Landing LNG Project, Clatsop County, Oregon (2006-2008): Archaeological inventory and resource report preparation in support of permitting of a liquefied natural gas plant and associated infrastructure, northwestern Oregon. Ongoing.

Principal Archaeologist, Long Valley-Haiwee Transmission Line Project, Inyo County, California (2006-2007): Archaeological inventory and evaluation along a 9.5-mile transmission line corridor in the Owens Valley, eastern California, for the Los Angeles Department of Water and Power.

Principal Archaeologist, Celilo-Sylmar Transmission Line, Inyo and Kern counties, California (2003-2005): Archaeological inventory of a



Los Angeles Department of Water and Power transmission line corridor from Bishop to Mojave, California.

Principal Archaeologist, Cotterel Mountains Wind Development Project, Cassia County, Idaho (2003-2005): Archaeological inventory of a proposed wind development project in south central Idaho.

Senior Archaeologist, Salton Sea Unit 6 Project, Imperial County, California (2002): Archaeological inventory of proposed geothermal energy facilities in the Colorado Desert, southern California.

Senior Archaeologist, Plymouth Generating Facility, Benton County, Washington (2002-2003): Archaeological inventory of a proposed energy facility in southeastern Washington.

Principal Investigator, Bighorn Power Generation Project, Clark County, Nevada (2001-2002): Archaeological inventory, evaluation, and data recovery for a proposed energy generation facility and transmission line, southern Nevada, for Reliant Energy, Inc.

Principal Investigator, Meadow Valley Generation Project, Lincoln and Clark counties, Nevada (2001-2002): Archaeological inventory and evaluation for a proposed energy generation facility and transmission line, southern Nevada, for PG&E National Energy Group.

Senior Archaeologist, Umatilla Generating Project, Umatilla County, Oregon (2000-2002): Archaeological inventory of a proposed energy generating facilities in northeastern Oregon.

Senior Archaeologist, Goldendale Energy Project, Skamania County, Washington (2000-2002): Archaeological inventory and site evaluation for a proposed energy facility in the vicinity of Goldendale, Washington, for Calpine Energy.

Senior Field Director, Alturas Intertie Project, Modoc County, California (1997-2000): Archaeological data recovery excavations at selected sites on the Modoc National Forest, northeastern California, in conjunction with transmission line construction, for Sierra Pacific.

Principal Investigator and Project Manager, California-Oregon Transmission Project, Shasta County, California (1987-1990): Archaeological inventory and evaluation of a 340-mile transmission line corridor from southern Oregon to central California; data recovery investigation of four prehistoric sites in the southern Cascade region of northern California.

Field Director, Elk Creek Lake and Lost Creek Lake Archaeological Testing Project, Elk Creek, Oregon (1989-1990): Archaeological test excavation and National Register Evaluations at a series of prehistoric sites in the Rogue River Valley of southern Oregon, for the Portland



District, US Army Corps of Engineers. Conducted in conjunction with Mountain Anthropological Research.

Project Archaeologist, Coso Geothermal Project, Inyo County, California (1986-1987): Archaeological testing and evaluation of cultural resources at the Sugarloaf Mountain obsidian source, under contract with the Los Angeles Department of Water and Power.

Project Archaeologist, PG&E Gas Plant Project, California (1986): Coordinated the preparation of historic overviews of 84 historic gas plants throughout northern California.

Project Archaeologist, Geothermal Public Powerline Project, north-central California (1985): Cultural resources inventory for a transmission line corridor study in the North Coast Range of California.

Pipeline Projects

Principal Archaeologist, Coyote Springs Pipeline, Clark County, Nevada (2006-2007): Archaeological inventory of a 25-mile natural gas pipeline corridor, southern Nevada.

Principal Archaeologist, Los Angeles Aqueduct Project, Kern, Inyo, and Los Angeles Counties, California (2000-2007): Inventory and site recordation along the First and Second Los Angeles Aqueducts, conducted for the Los Angeles Department of Water and Power.

Principal Archaeologist, Mist Pipeline Expansion Project, Washington, Clackamas, and Marion counties, Oregon (2000-2004): Archaeological inventory and site documentation along approximately 90 miles of pipeline corridor in northwestern Oregon, conducted for Northwest Natural Gas Company.

Senior Archaeologist, Northwest Natural Gas Pipeline Expansion Project, Washington and Columbia counties, Oregon (1997-2000): Archaeological inventory of expanded pipeline corridors along a 60-mile pipeline corridor in northwestern Oregon.

Senior Archaeologist, Cross-Cascades Pipeline, Washington (1995-1999): Archaeological inventory of a proposed 240-mile oil products pipeline from western Washington to central and eastern Washington, for Olympic Pipeline Company.

Senior Archaeologist and Assistant Project Manager, Kern River Gas Transmission Pipeline Project, Utah, Nevada, and California (1990-1994): Managed cultural resource studies for an 840-mile pipeline from Utah to California; directed archaeological inventory, evaluation, and data recovery for the Nevada portion of the Kern River Pipeline, extending approximately 150 miles from northwestern Utah to southeastern California.



Telecommunications Projects

Principal Archaeologist, CalTech Geodetic Monitoring Stations, Clark and Nye Counties, Nevada (2005): Archaeological monitoring of proposed global positioning system monitoring and communication sites, southern Nevada, for the California Institute of Technology.

Senior Archaeologist, Golgotha Butte Site, Skamania County, Washington (2000): Assistance with consultation with the Yakama Tribe over the siting of a communications tower adjacent to a traditional cultural property in south central Washington, for Spectrasite Communications Company.

Project Archaeologist, Rialto-Yuma Fiber-Optics Project, Riverside and Imperial Counties, California (1988): Cultural resource inventory of a 200-mile corridor across the Colorado Desert of southern California.

Project Archaeologist, Seattle-Spokane Fiber-Optics Survey, Washington (1986): Cultural resources survey along a proposed fiber optics cable route between Seattle and Spokane, Washington, under contract to US Sprint.

Transportation Projects

Principal Archaeologist, Eielson Branch Realignment Project, Alaska Railroad Corporation, Fairbanks, Alaska (2005-2006): Archaeological inventory of approximately 20 miles of proposed railroad corridor for extension of the Alaska Railroad from Fairbanks to Fort Wainwright, Alaska.

Principal Archaeologist, Lincoln City Highway Improvement Project, Lincoln City, Oregon (2005): Archaeological inventory of proposed improvements to Highway 101, Lincoln City, Oregon.

Principal Archaeologist, Central Oregon Highway Bridges Project, Malheur and Harney Counties, Oregon (2003-2004): Archaeological evaluation of four prehistoric sites in central eastern Oregon, for Oregon Department of Transportation.

Principal Archaeologist, Eastside Corridor Project, Douglas County, Washington (2001-2002): Archaeological inventory of alternative transportation corridors along State Route 28, East Wenatchee, Washington.

Senior Archaeologist, South Medford Interchange Project, Jackson County, Oregon (2000-2002): Archaeological inventory and site evaluation for proposed highway interchange modifications, south-central Oregon, for Oregon Department of Transportation.



Senior Archaeologist, Highway 62 Corridor Study, Jackson County, Oregon (1998-2000): Archaeological inventory of proposed transportation corridor alternatives in the vicinity of Medford, south central Oregon, for Oregon Department of Transportation.

Senior Archaeologist, Bear River Access Study, Franklin County, Idaho (1997): Archaeological inventory of a proposed access road corridor in the vicinity of the Oneida Narrows of the Bear River, southeastern Idaho.

Senior Archaeologist, Juneau Access Road Improvement Project, southeast Alaska (1994): Cultural resource inventory of a 72-mile corridor from Juneau to Skagway for Alaska Department of Transportation.

Task Manager, Cultural Resources Inventories, Route 49, Nevada County; Route 84, Alameda County; Route 16/49, El Dorado and Sacramento Counties; Gold Flat/Wolf Creek Road, Nevada County, (1989-1993): Archaeological survey of selected highway improvement corridors in central California, for California Department of Transportation.

Project Manager, State Route 41, Fresno County, California (1990-1991): Archaeological test excavations at two sites in Coarsegold, central Sierra Nevada, California, for California Department of Transportation.

Development Projects

Senior Archaeologist, Whittel Estate Archaeological Survey, Washoe County, Nevada (1998): Archaeological survey of a 54-acre parcel on the east shore of Lake Tahoe, in conjunction with a Bureau of Land Management land transfer.

Task Manager, Manenggon Hills Development Project, Guam (1991): Assisted with management of archaeological investigations at over 90 archaeological sites for MDI Guam Corporation.

Task Manager, North Las Vegas Land Transfer, Clark County, Nevada (1990): National Register evaluation of four prehistoric sites in the Las Vegas Valley, Nevada, in conjunction with a 4000-acre BLM land transfer.

Project Archaeologist, 343 Sansome Street Project, San Francisco, California (1988-1989): Historic archaeological testing and data recovery at a Gold Rush era commercial site in downtown San Francisco; under contract with Gerald D. Hines Interests.



Water Resources Projects

Historical Archaeologist, Penn Mine Historic Mining District, Calaveras County, California (1998): Archaeological inventory, recordation, and evaluation of historic mining and homesteading features in the Sierra foothills of central California.

Senior Field Director, American River Watershed Investigation, Sacramento County, California (1992-1996): Archaeological research design, inventory plan, inventory, and testing project, American River Basin, north central California.

Project Manager, Pit No. 3, 4, 5 Hydroelectric Re-licensing Project, Shasta County, California (1991-1995): Data recovery investigation of eight prehistoric sites within the Lake Britton Archaeological District; under contract with Pacific Gas and Electric Company.

Project Manager, Pit No. 1 Hydroelectric Re-licensing Project, Shasta County, California (1991-1993): Archaeological inventory, Pit River and Fall River areas, northeastern California, for Pacific Gas and Electric.

Principal Investigator, Lake Britton Archaeological Monitoring Project, California, (1990-1991): Monitoring of vandalism and erosion at archaeological sites in the Lake Britton Archaeological District, Shasta County, California, under contract with Pacific Gas and Electric.

Historical Archaeologist, Eastern Sierra Hydroelectric Project, Mono County, California (1989): Evaluation of historic archaeological sites in the eastern Sierra Nevada; under contract to Southern California Edison.

Project Archaeologist, Pit 3, 4, and 5 Hydroelectric Re-licensing Project, Shasta County, California (1985-1987): Testing and evaluation of 27 prehistoric archaeological sites in the Lake Britton Archaeological District, under contract with Pacific Gas and Electric Company.

Professional Societies/Affiliates

Register of Professional Archaeologists

Society for American Archaeology

Society for Historical Archaeology

Society for California Archaeology: Northern California Vice President
1992-1993

Publications

A list of selected publications is available upon request.



Chronology

1983-Present: URS Corporation, Portland, Oregon

1982-1983: Wirth Environmental Services

1980-1982: University of Nevada, Las Vegas, Research/Teaching Assistant

Mark Kile

EDUCATION

M. A. (with distinction) Interdisciplinary Studies Anthropology/ Geography, 2003

California State University California, Stanislaus, Turlock, CA.

B.A., Anthropology /Archaeology, Minor Geography, 2000

Dean's List

2004 Field School: Great Basin, University of Nevada, Reno, Summer
Interdisciplinary

2008 – Guest Lecturer, California State University, Stanislaus

2006 – Principal Investigator, Owner, Culturescape

2002 – Field Technician, Applied Earthworks

2002 – Field Technician, Far Western Anthropological Research Group Inc., Davis, CA

1998 – Archaeological Field Technician, The Foundation, CSU Stanislaus

Student Assistant, Central California Information Center

OVERVIEW

Mr. Kile conducts field transects, excavation, mapping, recordation, laboratory analysis, organization of site records, records search, use of Total Station, and Geographical Information Systems. He is familiar with Trimble GeoXT Garmin and Magellan locational positioning devices (ARCVIEW 3.2), Filemaker Pro, and Microsoft office.

PUBLICATIONS/TECHNICAL REPORTS

(Work performed as Field Supervisor for Applied Earthworks)

Nettles, Wendy M., Randy Baloian, Barry A. Price, and Mark Kile

2008 *National Register of Historic Places Eligibility Evaluation of the Sweetwater Gold Mine in Mariposa County, California*. Applied EarthWorks, Inc., Fresno, California. Submitted to Sierra National Forest, Clovis, California.

Price, Barry A., Randy Baloian, and Mark Kile

2008 *National Register of Historic Places Eligibility Evaluation of the San Joaquin/Big Dreamer Tungsten Mine, Madera County, California*. Applied EarthWorks, Inc., Fresno, California. Submitted to Sierra National Forest, Clovis, California.

CEQA REPORTS AS PRINCIPAL INVESTIGATOR FOR CULTURESCAPE

Kile, M. C.

2008 *Cultural Resource Inventory for Tentative Subdivision of APN 017-480-037*

Submitted to Charles S. Worley, Mariposa California. (209) 966-2323

Mark Kile

Kile, M.C.

2008 Cultural Resource Inventory for Tentative Subdivision of APN ROS 1489-4 MCR
Submitted to Dustin Macdonald Mariposa, California (209) 742--7870

Kile, M.C.

2008 Cultural Resource Inventory for Tentative Subdivision of APN 001-090-004
La Grange, California Submitted to K and Z LLC (310) 889-9091

Kile, M.C.

2007 Cultural Resource Inventory for Tentative Subdivision of APN 001-150-002
Coulterville, California Submitted to Gustavo Gonzales (209) 765-6780

Kile, M.C.

2007 Cultural Resource Inventory for Tentative Subdivision [APN 016-250-048]
Submitted to Cyndi Gates Catheys Valley, California. (707) 333-7770

Kile, M.C.

2007 Cultural Resource Inventory for Tentative Subdivision APN 014-010-086
Submitted to Thomas Wieg Et Al, Mariposa California (209) 742-7788

Kile, M.C.

2007 Cultural Resource Inventory for Proposed Minor Subdivision Submitted to Wieg
Development LLC and Pine and Oaks LLC Mariposa, California. (209) 742-7788

Kile, M.C.

2007 Cultural Resource Inventory for Proposed Subdivision Submitted to Conrad B.
and Cindy J. Fournier, Merced, California. (209) 723-3911

Kile, M.C.

2006 Cultural Resource Inventory for Proposed Minor Subdivision Submitted to Mary
Lou and Clifford Gardner, Mariposa, California. (209) 966-7624

Kile, M.C.

2006 Cultural Resource Inventory for Proposed Minor Subdivision Submitted to Phillip
Sammet and Kimberly Campbell, Mariposa, California. (831) 372-3200

Kile, M.C.

2006 Chaulkin Subdivision LDA 2005-229 Survey Submitted to Mike and Diane
Chaulkin, Coulterville, California. (209) 878-3260

Kile, M.C.

2006 Caltrans Contract 10-OP7704 Emergency Road Widening Highway 120
Moccasin California Submitted to Teichert Construction, Turlock Ca.
Contact: Rick Spielman (209) 632-6600

Mark Kile

Kile, M.C.

2006 *Blue Bonnet Estates, Submitted to Louie and Joan Edwards, Mariposa California.*
(209) 966-2151

SELECTED WORK EXPERIENCE

- 2009 Barstow, URS, Field Technician, Phase I Survey, Solar III project
- 2009 Bakersfield, URS, Field Technician, Transmission Line Survey
- 2008 Auburn/Truckee, Applied Earthworks, Field Technician Yuba/ Bear River, Phase I FERC re-licensing
- 2008 Tehachapi, URS, Field Technician, Phase II recovery, Pine Tree Wind Farm Project
- 2008 Guest Lecturer, California State University Stanislaus
- 2008 Mariposa, Culturescape, Principal Investigator, Phase I and Extended Phase I Resource Inventory Survey of 70 acres for Charles Worley proposed subdivision
- 2008 Mariposa, Culturescape, Principal Investigator, Phase I resource inventory survey of 10 acres for Macdonald proposed subdivision
- 2007 Coarsegold, NRCM, Field Technician, Phase I Resource Survey of 300 acres for Chuckchansi proposed subdivision
- 2007 San Luis Obispo, Applied Earthworks, Monitor, South St. Waterline Replacement
- 2007 San Luis Obispo, Applied Earthworks, Field Tech, Sierra Vista Phase III Excavation SLO-44
- 2007 Strawberry, Applied Earthworks Field Tech III, FERC Transmission permit site status, Donnell-Curtis line Survey
- 2007 Mariposa, Applied Earthworks, Field Supervisor, Sweetwater Mine Evaluation
- 2007 North Fork, Applied Earthworks, Field Supervisor, San Joaquin/ Big Dreamer mine Evaluation
- 2007 Coarsegold, Applied Earthworks, Field Supervisor, Al Miki Ranch Proposed Subdivision
- 2007 Stockton, Applied Earthworks, Monitor
- 2007 Bass Lake, Applied Earthworks, Field Supervisor, Seismic Retrofit of the Crane Valley Dam
- 2007 Coulterville, Culturescape, P. I., Gonzalez Tentative Subdivision Survey
- 2007 Mariposa, Culturescape, P. I., Gates Tentative Subdivision Survey
- 2007 Mesquite, Far Western, Field Tech, Historic Mines evaluation Survey May
- 2007 Mariposa, Culturescape, P. I., Fournier Tentative Subdivision Survey

Mark Kile

2007 Mariposa, Culturescape, P. I., Weig, Pines and Oak Tentative Subdivision Survey

2007 Vandenberg AFB, Applied Earthworks, Field Tech Phase II Recovery

2006 Vandenberg AFB, Applied Earthworks, Field Tech Cantonment Survey

2006 Mariposa, Culturescape, P. I., Weig et al., Tentative Subdivision Survey

2006 Lake Arrowhead/Big Bear, Applied Earthworks, NRCS Emergency Survey

2006 Santa Margarita Ranch, May Survey

2006 Madera, Applied Earthworks, Field Tech HWY 41 Ranch Survey

2006 Paradise, Applied Earthworks, Field Tech FERC Permit Round Valley Survey

2006 Strawberry, Applied Earthworks, Field Tech, FERC Transmission Line permit

2006 Priest Grade, Culturescape, Monitor, Caltrans Contract 10- OP7704 Emergency Road Widening for Ferguson Slide, Highway 120

2006 Mariposa, Culturescape, P.I. Gardner Tentative Subdivision APN 014-010-031

2006 Mariposa, Culturescape, P.I. Sammet Tentative Subdivision APN 017—50-008

2006 Coulterville, Culturescape, P.I. Chaulkin Tentative Subdivision APN 001-1400016

2006 Mariposa, Culturescape, P.I. Blue Bonnet Estates Tentative Subdivision Survey

2006 Mariposa, Applied Earthworks, Field Tech Spring Hill Development Survey

2005 Yosemite, Applied Earthworks, Monitor

2005 San Luis Obispo, Applied Earthworks, Monitor

2005 Colgate-Smartsville, Transmission Line Realignment Survey

2005 Dugway Proving Ground (UTTR), Far Western, Field Tech Survey

2005 Arroyo Grande, Far Western, Field Tech, Extended Phase I Excavation

2005 Hungry Valley, Far Western, Field Tech, Phase II recovery

2005 Yosemite, Applied Earthworks, Field Tech Wawona Phase II Recovery

2005 Vandenberg AFB, Applied Earthworks Phase III Recovery

2004 Nipomo Mesa, Far Western, Field Tech, Survey

2004 Vandenberg AFB Applied Earthworks, Field Tech, Phase II Recovery

2004 Yosemite, Applied Earthworks, Field Earthworks, Phase II Recovery

2004 Pilar Point, Applied Earthworks, Field Tech, Phase II Recovery

2004 Los Osos, Far Western, Field Tech, Phase III Recovery

2003-04 Sloan, NV, Far Western, Field Tech, Survey

Mark Kile

- 2003 Santa Cruz, Far Western, Field Tech, Survey
- 2003 China Lake/Ridgecrest, Far Western, Field Tech, Survey
- 2003 Salinas, Applied Earthworks, Monitor
- 2003 Contra Costa County, Applied Earthworks, Monitor
- 2003 Sonora, Far Western, Field Tech, Survey
- 2002 Sonora, Far Western, Caltrans Bypass Project, Field Tech, Phase III Recovery
- 2002 New Cuyama, Far Western, Field Tech, Phase II Recovery

PROFESSIONAL AFFILIATIONS

Society of American Archaeologists
Society of California Archaeologists
Register of Professional Archaeologists

CONTACT INFORMATION

Address: 6182 Carter Rd.
Mariposa, CA 95338
Telephone: 209- 966-3327
e-mail: mck@sierratel.com

AREAS OF EXPERTISE

- Cultural Resources
- Archaeology

EDUCATION

B.S. (2001), California Polytechnic University, San Luis Obispo, Social Sciences, concentration in Environmental Geography; minor in Anthropology/Geography

REGISTRATIONS/ SPECIAL TRAINING

Competent Person/Trench Safety-certified (8-Hour).

First Aid/CPR Certification

FIRM AFFILIATION

URS

PROFESSIONAL HISTORY

URS Corp, 2006 to present.

Archaeological Project Leader, California Department of Parks and Recreation (DPR), 2001-2006

Crew Chief and Archaeological Technician, Cultural Resource Management Services (CRMS), 2002-2006

Archaeological Technician, Applied Earthworks, Inc. 2005-2006.

REPRESENTATIVE EXPERIENCE

- Responsible for undertaking and supervising cultural resources studies in California and Nevada. Duties include conducting excavation and survey, report preparation, analysis, field supervision, construction monitoring, and proposal preparation. Joined URS in 2006.

Staff Archaeologist, 2008

- Ten-Section Oil Field Project, Bakersfield, California. Conducted cultural resource inventory and survey of the 1700-acre project area. Responsible for field planning, organization of crew, and recordation. Ongoing.

Staff Archaeologist, 2008

- Willow Pass Generating Station, Pittsburg, California. Conducted cultural resource survey and record search for the project area.

Staff Archaeologist, 2008

- Solar II Cultural Resource Inventory, El Centro, California. Conducted survey and recordation dozens of sites within the 7000-acre project area. Responsible for leading and organizing crew and daily activities.

Staff Archaeologist, 2008

- Oakland Airport Land Acquisition, Oakland, California. Conducted cultural resource survey and research, and preparation of technical document.

Staff Archaeologist, 2007-2008

- Pine Tree Canyon Wind Energy Project, Kern County, California. Archaeological inventory and evaluation of a wind energy project near Tehachapi, California, for the Los Angeles Department of Water and Power.

Staff Archaeologist, 2007-2008

- Downtown/Riverfront Streetcar Project in Sacramento, California. Conducted field reconnaissance and prepared technical memo and EIR documents, satisfying CEQA requirements.

Staff Archaeologist, 2007-2008

- Historic Streetcar Extension Project in San Francisco, California. Conducted field reconnaissance and prepared

URS

Crew Chief, Cal Poly Foundation, Cal Poly SLO, 2001-2005.

Archaeological Technician, Garcia and Associates, 2005.

Archaeological Technician, Far Western Anthropological Research Group 2001-2005.

Archaeological Technician, Albion Environmental, 2004.

Archaeological Technician, Tremaine and Associates, 2003.

Archaeological Technician, Chambers Group, 2002.

Archaeological Technician, EDAW, 2002.

PROFESSIONAL AFFILIATIONS

Society for California Archaeology

technical memo and EIS documents, satisfying Sec. 106 requirements.

Staff Archaeologist, 2006-2007

- Yucca Mountain Railroad Environmental Impact Study, Nevada. Sample archaeological inventory, intensive pedestrian survey and site recordation, and preparation of cultural resource documentation in support of environmental impact analysis of a proposed 340-mile rail corridor through central Nevada.

Staff Archaeologist, 2006-2007

- Priority 3 Excavations, Yosemite National Park, California. Conducted excavations of 15 historic and prehistoric sites in Yosemite Valley; responsible for all safety issues, including trench safety/shoring. Ongoing.

Staff Archaeologist, 2006

- SMF Master Plan. Conducted intensive survey and prepared technical memo and EIS cultural documents for planned improvements at the Sacramento National Airport, California.

Staff Archaeologist, 2006-2007

- Yosemite Pre-Burn Survey. Conducted survey and site recordation within two areas of western Yosemite National Park.

Staff Archaeologist, 2007

- Placer Parkway Corridor Preservation Project. Aided in the editing and final production of the draft report for Placer and Sutter Counties, California.

Staff Archaeologist, 2006

- Lake Don Pedro Resort Project. Conducted survey and excavations for proposed resort/housing development along Lake Don Pedro, California.

Staff Archaeologist, 2006

- Milsap Bar Campground Improvement Project. Supervised and conducted excavations at a multi-component site within the Plumas National Forest, California.

Archaeological Technician, 2002-2006

- Los Angeles Aqueduct Project, Kern County, California. Inventory and site recordation along the First and Second

Los Angeles Aqueducts, conducted for the Los Angeles Department of Water and Power.

Archaeological Project Leader/Crew Chief, 2006

Data Recovery at CA-SLO-10, Spooner Ranch House. Conducted archaeological excavations for the DPR, and aided in directing Cal Poly field school students during excavations within Montana de Oro State Park, California.

Archaeological Project Leader/Crew Chief, 2006

Survey of approximately 1500 acres. New State Acquisition: Hearst Property, within San Simeon State Park, California.

Archaeological Technician, 2005

Bull Testing Facility Project, conducted excavations for proposed development Cal Poly, San Luis Obispo, California.

Archaeological Technician, 2005

Brown Road Project. Conducted Excavations at Point Sal on Vandenberg Air Force Base, California.

Archaeological Technician, 2005

Conducted a survey of a private parcel in Parkfield, California. Responsible for new discovery and survey report.

Archaeological Technician, 2005

Strawberry/LaPorte cultural inventory survey. Performed for the Plumas National Forest, California.

Archaeological Technician, 2005

Data Recovery at CA-SLO-2359 project. Conducted excavations prior to the development of a private parcel.

Archaeological Technician, 2005

Tranquillone Mountain Project. Conducted excavations at three sites along Honda Creek, Vandenburg Air Force Base, California.

Crew Chief, 2005

Los Osos Sewer Project. Conducted excavations at several sites, and was responsible for Trench Shoring/Safety activities prior to the construction of the Los Osos Sewer, performed for the LOCSD, Los Osos, California.

Crew Chief, 2005

Cal Poly Archaeological Field School. Aided in the excavation of CA-SLO-9, for the Cal Poly Foundation, San

Luis Obispo, California.

Archaeological Technician, 2005

Conducted a survey of a private parcel in Paso Robles, California prior to the development of the lot. Responsible for new discovery and the production of the survey report.

Archaeological Monitor, 2005

Monitored the construction of a private lot for the presence of cultural materials. Responsible for new discoveries and report preparation.

Archaeological Technician 2005

Conducted a survey of a private parcel in San Miguel, California. Responsible for new discovery and the production of the survey report.

Archaeological Technician, 2005

Conducted a survey of a private parcel in Bradley, California. Responsible for new discovery and the production of the survey report.

Archaeological Technician, 2005

Emergency Salvage Excavations of a shell midden in Gaviota, California. Conducted excavations and was responsible to wet screening operation. Performed for Chevron.

Archaeological Project Leader/Monitor, 2004-2005

Morro Bay State Park Campground Renovation Project. Conducted archaeological excavations and monitoring of sites within the campground. Responsible for the documentation of new discovery and coordination with construction crews, Morro Bay State Park, DPR, California.

Crew Chief, 2004

Test excavations of 13 sites within Camp Roberts and Camp San Luis, California. Conducted excavations, responsible for crew coordination, post-field analysis, and laboratory work.

Archaeological Technician, 2004

Butte Meadows Project. Conducted excavations at three sites within Lassen National Forest, California.

Archaeological Monitor, 2004

Oak Shores Development Project. Conducted archaeological monitoring of for the development of a private development in Oak Shores, California.

Archaeological Monitor, 2004

Spectrum at Shadow Hills Project. Conducted archaeological monitoring and was responsible for new discovery and the report production, Indio, California.

Archaeological Technician, 2004

Conducted the cultural resource inventory of a private parcel in anticipation of development in San Ardo, California.

Archaeological Technician, 2004

Conducted excavations at a private parcel in Los Osos, California in anticipation of the lot's development.

Archaeological Project Leader, 2003-2004

Sea West Ranch Project. Conducted the cultural resource inventory of the Sea West acquisition. Duties included site recordation, and report production, performed for the SLO Coast District of the DPR, California.

Crew Chief, 2004

Cal Poly Field School. Conducted excavations and aided in directing students in the process of excavation of a site within Fort Hunter Liggett, California.

Archaeological Technician, 2004

Conducted excavations of a prehistoric site discovered during construction for a private client in Indio, California

Archaeological Technician, 2004

Conducted test excavations prior to the development of a private parcel in Nipomo, California.

Archaeological Technician, 2004

Los Osos Sewer Project. Conducted excavations and was responsible for trench safety/shoring, for the LOCSO, Los Osos, California.

Archaeological Monitor, 2004

Conducted archaeological monitoring of a housing development for King Ventures, Nipomo, California. Responsible for new discovery and monitoring report production.

Archaeological Monitor, 2004

Conducted archaeological monitoring at the Eckford Residence, Arroyo Grande, California.

Archaeological Technician, 2003

Santa Ysabel widening project. Conducted test excavations at several sites prior a street improvement, performed for Caltrans, Los Osos, California.

Archaeological Technician, 2003

Bridge Survey Project. Conducted archaeological survey of three bridges within the Cuesta College property, California.

Archaeological Technician, 2003

Highway 108 improvement project. Survey of several private parcels in anticipation of a proposed highway bypass, performed for Caltrans in Sonora, California.

Archaeological Technician, 2003

Highway One improvement project. Survey of 8 miles along Highway One, Santa Cruz, California.

Archaeological Project Leader, 2001-2006

Archaeological Site Assessment of Archaeological sites within San Simeon, Montana de Oro, Pismo Beach, and Morro Bay State parks. Duties included site evaluation and recordation, and report production, DPR, California.

Archaeological Technician, 2003

Test excavations of six sites within Camp Roberts, California
Excavations at Camp Roberts, California.

Crew Chief, 2003

Cal Poly Field School. Conducted excavations and aided in teaching field school students the processes of excavation. Fort Hunter Ligget, California.

Archaeological Technician, 2003

Sacramento City Hall Annex Projects. Conducted excavations at a prehistoric site discovered during the construction of the Sacramento City Hall Annex, California.

Archaeological Technician, 2003

District 5 rural highway survey project, Caltrans. Conducted arch. reconnaissance for historical features along Highway One in Big Sur, California

Archaeological Technician, 2002-2003

Jawbone Canyon Project. Conducted archaeological survey with duties including site reconnaissance and site recordation. Performed for the BLM off-road vehicle impact assessment,

Ridgecrest, California.

Archaeological Technician, 2002-2003

Palm Desert BLM Project. Conducted archaeological survey with duties including site reconnaissance and site recordation. Performed for the BLM off-road vehicle impact assessment, Palm Desert, California.

Archaeological Technician, 2002

Yosemite Falls Archeological Evaluation Project. Conducted site recordation and evaluation excavations of archaeological sites within the Yosemite Falls vicinity of Yosemite National Park.

Crew Chief, 2002

Cal Poly Field School. Conducted excavations and aided in teaching field school students the processes of excavation. Fort Hunter Liggett, California.

Archaeological Monitor, 2002

Blythe Natural Gas Pipeline Project. Conducted archaeological monitoring of pipeline construction. Blythe, California.

Archaeological Technician, 2001

Arroyo De Los Chinos project. Conducted excavations of prehistoric sites prior the anticipated re-alignment of Highway One north of San Simeon, California.

Crew Chief, 2001

Cal Poly Field School. Conducted excavations and aided in teaching field school students the processes of excavation. Fort Hunter Liggett, California.

Publications

Selected Professional Reports and Contributions

- 2006 Sacramento International Airport EIS and EIR for Master Plan Improvements, Cultural Resources Technical Memo.
- 2005 Archaeological Survey of +/- 74 Acres at 68591 Vineyard Canyon Road, Parkfield, Monterey County, California. Report submitted to a private client.
- 2005 Results of the Archaeological Monitoring for 480 Stimson Street, Pismo Beach, San Luis Obispo

- County, California. Report submitted to a private client.
- 2005 Archaeological Inventory Survey of 320 Acres, on Two Parcels, in Lockwood, Monterey County, California. Report submitted to a private client. (Authored with Todd Hannahs)
- 2005 Phase I Archaeological Inventory Survey of a ~3000' Utility Corridor along Highway 41 in Creston, San Luis Obispo County, California. Report submitted to SBC.
- 2005 Phase I Archaeological Survey of +/- 5 Acres on Monterey Rd., Paso Robles, San Luis Obispo, California. Report submitted to a private client.
- 2005 Phase I Archaeological Survey of 5 acres at the Southwest Corner of 11th and N Streets in San Miguel, San Luis Obispo County, California. Report submitted to a private client.
- 2005 Phase I Archeological Survey of the Kenyon Property: 40 Acres at 75529 Deer Pass Road, Bradley, Monterey County, California. Report submitted to a private client.
- 2005 Results of the Archaeological Monitoring for the Spectrum at Shadow Hills Development, Indio, Riverside County, California. Report submitted to a private client.
- 2004 Phase I Archaeological Inventory Survey of 4880 Villa Creek Road, Cayucos, San Luis Obispo County, California. Report Submitted to a private client.
- 2004 Phase I Archaeological Inventory Survey of 6550 Squire Knoll Road, San Luis Obispo County, California. Report Submitted to a private client.
- 2004 Phase I Archaeological Inventory Survey of Cingular Site VY-945-03 San Luis Obispo, San Luis Obispo County, California. Report submitted to a private client.
- 2004 Phase I Archaeological Inventory Survey of 2 Acres at 780-782 W. Tefft Street, Nipomo, San Luis Obispo County, California. Report submitted to a private client.
- 2004 Jones, Terry L., Judith Porcasi, Kenneth W. Gobalet, and Leroy Laurie

CA-SLO-215: A Milling Stone _Expression at Morro Bay, San Luis Obispo County, California. In: Emerging from the Ice Age: Early Holocene Occupations on the California Coast. Edited by Ethan Bertrando and Valerie A. Levulett. San Luis Obispo County Archaeological Society Occasional Paper No. 17.

2003 Estero Bay, Limekiln, Morro Bay, Morro Strand, and Pismo Beach State Parks Archaeological Site Assessment: 2003. Submitted to the California Department of Parks and Recreation.

2002 Montana De Oro State Park Archaeological Site Assessment: 2002. Submitted to the California Department of Parks and Recreation.

2002 San Simeon State Park Archaeological Site Assessment: 2002. Submitted to the California Department of Parks and Recreation.

In Progress, Archaeological Monitoring Report for the Morro Bay State Park Campground Renovation Project, to be submitted to the California Department of Parks and Recreation.

In Progress, Phase I Archaeological Survey of the Sea West Ranch, to be submitted to the California Department of Parks and Recreation.



Sarah M. Mattiussi

Staff Archaeologist

Overview

Ms. Mattiussi has 8 years experience working in northern Mexico, the Baja California Peninsula and Southern California as a staff archaeologist, collaborator, assistant and director in various projects.

Project Specific Experience

BPAE-HE-CA Project Bakersfield, Kern County, California, Phase I Archaeological Assessment.

Niland Power Plant Project Niland, Imperial County, California, Cultural Resources Construction Monitoring.

Solar II/Bureau of Land Management (BLM) El Centro, California, (Prehistoric/Historic), Class III Cultural Resource Investigation.

Other Experience

Stantec Consulting, Staff Archaeologist

Coachella Valley Housing Coalition Development, Coachella, California, Cultural Resources Construction Monitoring.

The Abbey Company Project, Palm Springs, California, Phase I Archaeological Assessment.

The Roosevelt Heights Development LLC Project, County of Riverside California, Phase I Archaeological Assessment .

Alta Mesa Wind Corporation/ Bureau of Land Management (BLM), Palm Springs, California, (Prehistoric/Historic), Class III Cultural Resource Investigation.

CK Development, Bermuda Dunes, California, Cultural Resources Construction Monitoring.

Palm Ridge LLC, Palm Springs, California, Phase I Archaeological Assessment.

Quail Ranch, Moreno Valley, California, (Prehistoric/Historic), Phase I Cultural Resource Investigation and Phase II Archaeological Testing/Evaluation of Significance.

Indio Trails, Indio California, Phase I Archaeological Assessment.

INAH (National Institute of Anthropology and History), Assistant To Project Director/Staff Archaeologist

“Salvamento Arqueológico Predio San Bruno” Loreto BCS, México, Phase I Archaeological Assessment.

“Salvamento Arqueológico Agua Viva – Loreto Bay” Loreto BCS, México, Phase III Archaeological Excavation and Salvage.

Areas of Expertise

Archaeological assessments
Literature searches and archival research
Project coordination
Photography

Years of Experience

With URS: 1 Year
With Other Firms: 7 Years

Education

BA/Archaeology/2004/National School of Anthropology and History, Mexico City
Photography/1997/Escuela Activa de Fotografía, Mexico City



“Recorrido de superficie para la identificación, registro e investigación de sitios arqueológicos en la Sierra de la Giganta BCS” Loreto BCS, México, Phase I Archaeological Assessment.

“Estudios Sobre la Prehistoria de Nuevo León – ESPN”, Nuevo León, Mexico, Phase III Archaeological Excavation.

“Archaeology of Cedros Island – PAIC”, Baja California, Mexico, Phase I Archaeological Assessment/ Phase II Testing/Evaluation of Significance.

Abrigo El Escorpión” Ej. Erendira, Baja California, Mexico, Phase III Archaeological Excavation.

“Rescate Energía Costa Azul – RECA,” Ensenada, Baja California, Mexico Phase II Testing/Evaluation of Significance and Phase III Archaeological Excavation.

“En Busca de la Ruta de Juan Bautista de Anza – Mexicali”, Baja California, Mexico, Phase I Archaeological Assessment.

“Arqueología en Nuevo León”, Nuevo León, México, Phase I Archaeological Assessment Laboratory work.

Field and Laboratory Co-Director

“Libramiento Mexicali 02-MXL-02 – FIARUM” Mexicali, Baja California, Mexico, Phase I Archaeological Assessment.

Teaching Assistant

“Arqueología en Nuevo León”, Nuevo León, Mexico, Phase I Archaeological Assessment.

Professional Societies/Affiliates

Member, Society for California Archaeology

Languages

Spanish
English
Italian
French

Publications and Presentations

Nixon, Rachael and Sarah Mattiussi, 2007, *Phase I Archaeological Assessment for the Abbey Company Project, Palm Springs, Riverside County, California*. Stantec Consulting, Palm Desert, California Submitted to The Abbey Company, Long Beach, California.

Mattiussi, Sarah and Rachael Nixon, 2007, *Phase I Archaeological Assessment for the Roosevelt Heights Development LLC Project County of Riverside, California*. Stantec Consulting, Palm Desert, California Submitted to Roosevelt Heights Development, LLC, Westlake Village, California.

Mattiussi, Sarah and Rachael Nixon, 2007, Class I Cultural Resource Investigation for the Alta Mesa Project: 308 acres located northwest of



the City of Palm Springs, Riverside County, California. Stantec Consulting Palm Desert, California Submitted to the Bureau of Land Management (BLM), North Palm Springs, California.

Mattiussi, Sarah and Rachael Nixon, 2007, Monitoring Report for the CK Development Project: 7 Acres Located at the corner of Country Club Drive and Yucca Lane Bermuda Dunes, Riverside County, California. Stantec Consulting Palm Desert, California Submitted to CK Development Group Ltd. Palm Desert, California.

Nixon, Rachael and Sarah Mattiussi, 2007, *Draft Quail Ranch - Phase I Archaeological Survey And Phase II Archaeological Testing Report: Riverside County, California*. Stantec Consulting, Palm Desert, California Submitted to Quail Ranch, Palm Springs, California.

Nixon, Rachael and Sarah Mattiussi, 2007, Phase I Cultural Resources Investigation of the Palm Ridge, LLC Project: 20 Acres Located Within the City Of Palm Springs, Riverside County, California. Stantec Consulting Palm Desert, California Submitted to Palm Ridge, LLC Palm Springs, California.

Mouriquand Leslie, Rachael Nixon and Sarah Mattiussi, 2007, *Cultural Resources Monitoring report: 17ac Pavilion located in the City of La Quinta, CA, Riverside County*. Stantec Consulting Palm Desert, California Prepared for Thomas Enterprises, Inc. Newman GA and submitted to the Eastern Information Center, Riverside, California.

Nixon, Rachael and Sarah Mattiussi, 2007, *Phase I Cultural Resources Investigation for the Indio Trail Project: Indio, CA*. Stantec Consulting, Palm Desert, California. Submitted to Palm Desert Heights Development Group LLC, Mission Viejo, California

Recent Discoveries of the inhabitants of the Mexicali Valley 38th Society for California Archaeology Annual Meeting, 2004, Riverside, California
Published in Proceedings of the Society for California Archaeology Vol. 18.

Contact Information

Sarah M. Mattiussi
URS Corporation
8181 E. Tufts Avenue
Denver, CO 80237
ph: 303-694-2770
fax: 303-394-3946
sarah_mattiussi@urscorp.com

Kurt Richards Mclean

EDUCATION

1995–1996 San Diego City College. Anthropology/Archaeology Program.

RELATED COURSEWORK

California Indian Studies, Native Cultures of the Greater Southwest (Honors), Physical Anthropology, Cultural Anthropology, History of Mexico (Honors), English 101 and 205 (Honors), 1996 Archaeological Field Class, Rancho Peñasquitos, California (CA-SDI-5220/H).

PROFESSIONAL EXPERIENCE

- 2008-present **Crew Chief/Monitor.** Solar II Project on BLM lands near Plaster City, CA. Contract with Sterling Energy Systems and URS Corporation (San Diego, CA). Conducted a BLM Class III Archaeological Survey.
- 2008-present **Crew Chief.** Solar I and Solar III Projects on BLM lands near Newberry Springs, CA. Contract with Sterling Energy Systems and URS Corporation (San Diego, CA). Conducted a BLM Class III Archaeological Survey.
- 2009 **Field Technician** Camp Pendleton Base-wide Utility Improvement Project. Contract with the Department of the Navy and EDAW/AECOM (San Diego CA office). Phase II testing of numerous sites in divergent areas of Marine Base.
- 2008 **Field Technician,** NLIP Levee Improvement Project. Contract with State of California/Army Corps of Engineers and EDAW/AECOM (Sacramento CA office). Phase I and II testing along Sacramento River in North Sacramento.
- 2008 **Field Technician,** California/Nevada Pipeline project on, primarily, BLM lands between Barstow, CA and Primm, NV. Contract with Kinder-Morgan and URS Corporation (San Diego, CA). BLM Class III Archaeological Survey.
- 2008 **Field Technician,** Solar II Project on BLM lands near Plaster City, CA, Contract with Sterling Energy Systems and URS Corporation (Denver/San Diego, CA). Conducted a BLM Class III Archaeological Survey.
- 2008 **Field Technician.** Antelope Valley–East Kern Water Agency North Buttes WSSP Water Banking Project. Contract with Boyle Engineering

- and Applied EarthWorks, Inc. Phase I archaeological survey and archaeological site documentation.
- 2008 **Field Technician.** Phase I Studies for the Desert Knolls Wash Improvement Project. Applied EarthWorks, Inc. contract with the San Bernardino County Department of Public Works. Phase I archaeological survey and archaeological site documentation
- 2008 **Crew Chief.** Travertine Point Specific Plan, located northwest of the Salton Sea in western Riverside and Imperial Counties. Applied EarthWorks, Inc. contract with Federated Insurance. Phase I archaeological survey and archaeological site documentation.
- 2007-2008 **Crew Chief.** State Route 58 Realignment Project through Kramer Junction, San Bernardino County. Contract with Caltrans District 8 and Applied EarthWorks, Inc. Phase I archaeological survey and archaeological site documentation.
- 2007-2008 **Crew Chief.** State Route 58 Realignment Project near Hinkley, San Bernardino County. Contract with Caltrans District 8 and Applied EarthWorks, Inc. Phase I archaeological survey and archaeological site documentation.
- 2007 **Field Director.** Emergency Watershed Improvement Project on the Los Coyotes Band of Mission Indians Reservation in San Diego County. Applied EarthWorks, Inc. Contract with the Natural Resources Conservation Service. Phase I archaeological surveys of approximately, 30 linear miles on the Los Coyotes Reservation slated for tree thinning and removal; Identification and documentation of more than 60 cultural resources.
- 2007 **Crew Chief.** U.S. Route 395 Rumble Strip, Restripe, and Realignment Project, San Bernardino County. Applied EarthWorks, Inc. contract with Caltrans, District 8. Phase I archaeological surveys of approximately 17 linear miles of U.S. 395, north of Adelanto; identification and documentation of six cultural resources.
- 2007 **Field Director.** Phase I Cultural Resources Inventory of Wildwood Canyon State Park, Western San Bernardino County. Applied EarthWorks, Inc. contract with State of California Department of Parks and Recreation. Phase I archaeological surveys of approximately 800 acres north of Interstate 10; identification and documentation of numerous cultural resources.
- 2006–2007 **Field Technician.** Mid-County Parkway Project, Riverside County. Contract with LSA and Applied EarthWorks, Inc. on behalf of the Riverside County Transportation Commission and Caltrans District 8. Phase I archaeological
- 2006 **Field Technician.** Emergency Data Recovery Excavations at CA-RIV-5211. Emergency excavation of a large Cahuilla cremation cemetery.
- 2006 **Field Director.** State Route 177 Emergency Culvert Repair Project, eastern Riverside County. Applied EarthWorks, Inc. contract with

- Caltrans, District 8. Phase I archaeological surveys of approximately six linear miles of SR 177, eastern Riverside County.
- 2006 **Field Technician.** State Route 74 Emergency Culvert Repair Project, eastern Riverside County. Applied EarthWorks, Inc. contract with Caltrans, District 8. Responsible for overseeing Phase I archaeological surveys of approximately four linear miles of SR 74, western Riverside County; identification and documentation of six cultural resources.
- 2006 **Field Technician.** Turner Springs Phase II Testing and Evaluation Project, western San Bernardino County. Applied EarthWorks, Inc. contract with Parsons Transportation Group. Phase II testing and evaluation of five prehistoric sites located at Turner Springs, west of Victorville.
- 2006 **Field Technician.** U.S. Route 95 Rumble Strip, Restripe, and Realignment Project, San Bernardino County. Applied EarthWorks, Inc. contract with Caltrans District 8. Responsible for overseeing Phase I archaeological surveys of approximately 6 linear miles of U.S. 95, eastern San Bernardino County; identification and documentation of six cultural resources.
- 2006 **Field Director.** Daggett City Materials Site, Riverside County. Applied EarthWorks, Inc. contract with Caltrans District 8. Phase I archaeological surveys of approximately 320 acres north of Interstate 10, western Riverside County; identification and documentation of seven cultural resources.
- 2006 **Crew Chief.** City of Yucaipa Specific Plan and Environmental Impact Report. Applied Earthworks, Inc. contract with P&D Consultants. Phase I archaeological surveys of approximately 1,220 acres along Interstate 10, western Riverside County; identification and documentation of 11 cultural resources.
- 2006 **Crew Chief.** State Route 74 Fire Evacuation Route Fuel Reduction Project, western Riverside County. Applied EarthWorks, Inc. contract with the Natural Resources Conservation Service. Phase I archaeological surveys of approximately 1,150 acres on either side of SR 74 from Pinyon Pines to Valle Vista in western Riverside County; identification and documentation of 20 cultural resources.
- 2005 **Field Technician.** The Mojave Water Agency Water Banking Project, San Bernardino County. Contract with J. Monroe Consulting Services and Applied EarthWorks, Inc. on behalf of the Mojave Water Agency. Phase I archaeological survey of approximately 1,500 acres; identification and documentation of three cultural resources.
- 2004–2008 **Field Director/ Crew Chief/Field Technician.** Natural Resources Conservation Service Southern California Tree Mortality and Emergency Watershed Protection Program. Contract with the Natural Resources Conservation Service and Applied EarthWorks, Inc. Responsible for overseeing Phase I archaeological surveys of more than 10,000 acres in the San Bernardino Mountains, the San Jacinto Mountains, and various

areas throughout San Diego County; site identification and recordation of more than 200 cultural resources.

- 2003 **Independent Contractor/Monitor.** Michael Brandman and Associates, Irvine, California. Monitored construction activities for Navajo Road Sewer Pipeline, Apple Valley, California. Responsibilities included extensive note taking, coordination with construction supervisors and personnel, final summary report, documentation of cultural features and artifact collection.
- 2003 **Archaeological Monitor.** Chambers Group, Inc., Irvine, California. Monitored construction activities at San Bernardino Valley Community College in San Bernardino, California. Responsibilities included extensive note taking, coordination with construction supervisors and personnel, documentation of cultural features, and artifact collection.
- 2003 **Laboratory Assistant.** LSA and Associates, Irvine, California. Laboratory work on CA-ORA-269. Duties included artifact sorting, classification, documentation of special artifacts, shell identification, and cataloging. Also organized field documents (unit records, profiles, field logs).
- 2003 **Field Technician.** Chambers Group, Inc., Irvine, California. Survey near Sonora, California, including areas around Chinese Camp, California. Responsibilities included use of GPS unit for determining survey area boundaries, site recordation, lithic descriptions, milling feature descriptions, and detailed site mapping.
- 2003 **Field Technician.** Earth Tech, Colton, California. Participated in a comprehensive Phase II data recovery program of 18 prehistoric sites on Edwards Air Force Base in the Mojave Desert region. Responsibilities included site relocation using topographic maps and/or hand-held GPS units, site grid layout, extensive excavation, artifact collection, field identification, surface collection, sample collection, feature recordation, hearth excavation (10+ on project), extensive note taking, soil and charcoal sampling, orientation of new personnel.
- 2003 **Field Technician.** LSA and Associates, Irvine, California. Participated in final extensive Phase III investigations of a San Joaquin Hill rock shelter site (CA-ORA-269). Responsibilities included unit excavation, feature mapping, sample collection, site grid set-up, and training/orientation of personnel. Also responsible for documentation of site stratigraphy and soil deposition patterns by recording/mapping nearly 50 unit sidewall profiles.
- 2003 **Interpreter.** Instituto de Culturas Nativas (CUNA), Ensenada, Baja, California. Participated in the Manzanita Band of the Kumeyaay Nation's Your Cultural Gathering on the Manzanita Reservation near Boulevard, California. Responsibilities included cultural interpretation and language translation of questions and answers between workshop participants and Pai Pai and Kumiai (Kumeyaay) elders during traditional arts (ceramics, basketry, bow and arrow construction, traditional food and medicine

preparation, agave fiber extraction, and net making) workshops, as well as on ethnobotany excursions within the community. Organized daily schedules and coordinated assignments for other translators while attending to the needs of elders.

- 2003 **Interpreter.** Instituto de Culturas Nativas (CUNA), Ensenada, Baja, California. Participated in traditional ceramic (Tizon Brownware) manufacture workshop in Santa Catarina, Baja, California, Mexico. Responsibilities included cultural interpretation and language translation of questions and answers between workshop participants and Pai Pai elders. Also assisted group on ethnobotany excursions within the community.
- 2003 **Field Technician.** Science Applications International Corp., Santa Barbara, California. Assisted with a 6 square kilometer survey and site recordation assessment project on Twenty-Nine Palms Marine Base in Twenty-Nine Palms, California. Responsibilities included leading crew on transects, extensive use of GPS unit for determining survey area boundaries, site recordation, lithic typology and classification descriptions, and detailed site mapping.
- 2003 **Interpreter.** Instituto de Culturas Nativas (CUNA), Ensenada, Baja, California. Participated in traditional juncus basket making workshop in San Jose de la Zorra, Baja California, Mexico. Responsibilities included cultural interpretation and language translation of questions and answers between workshop participants and Kumiai (Kumeyaay) elders. Also assisted group on ethnobotany excursions within the community.
- 2002 **Field Technician.** Pacific West Archaeological Services, Julian, California. Assisted with investigation of several historic sites in Indio, California, as well as sites located in the historic district of San Bernardino, California. Duties included site investigations including unit excavation, screening, artifact collection, field identification, surface collection, and extensive note taking.
- 2002 **Field Technician/Archaeological Monitor.** EDAW, San Diego, California. Assisted with emergency burial excavations at the Hellman Ranch property in Seal Beach, California (CA-ORA-260, -261, -262, -263/852, -264, -1472). More than 20 Native American (Tongva-Gabrieleno) remains were discovered during ongoing monitoring of four previously tested sites. Responsibilities included excavation and removal of individuals for repatriation and reburial, coordination with Native Americans, and monitoring of grading activities. All work performed with ongoing construction and time restraints.
- 2002 **Field Technician/Archaeological Monitor.** EDAW, San Diego, California. Participated in excavations of prehistoric deposits encountered near Palo Verde, California encountered during monitoring of the North Baja Pipeline (Edinburgh, Arizona, to Algodones, California). Duties included site investigation, including screening and artifact collection, field identification, surface collection, sample collection, extensive note taking, and orientation of personnel. Additional responsibilities of

ensuring the crew members followed projects “Heat Exhaustion Prevention Policy.”

- 2002 **Field Technician.** LSA and Associates, Irvine, California. Participated in extensive initial Phase III investigations of a San Joaquin Hills rock shelter site (CA-ORA-269). Responsibilities included unit excavation, feature mapping, sample collection, site grid set-up, and training/orientation of personnel. Also responsible for documentation of site stratigraphy and soil deposition patterns by recording/mapping nearly 60 unit sidewall profiles, including cross site trenches.
- 2002 **Field Technician.** Earth Tech, Colton, California. Participated in a comprehensive Phase II data recovery program of 95 prehistoric and historic sites on Edwards Air Force Base in the Mojave Desert region. Responsibilities included site relocation using topographic maps and/or hand-held GPS units, site grid layout, artifact collection, field identification, surface collection, sample collection, extensive excavation, feature recordation, hearth excavation (15+ on project), extensive note taking, soil and charcoal sampling, orientation of new personnel.
- 2002 **Interpreter.** Instituto de Culturas Nativas (CUNA)/San Diego Archaeological Society, Ensenada, Baja California, and San Diego, California. Participated in traditional adobe brick making workshop in La Huerta, Baja California, Mexico. Responsibilities included cultural interpretation and language translation (Spanish-English) of questions and answers between workshop participants and Kumiai (Kumeyaay) elders. Also assisted group on excursions within the community to visit numerous historic adobe sites/homes.
- 2001 **Crew Chief.** LSA and Associates, Irvine, California. CETAP Transmission Corridor Alternative Project. Responsible for leading survey crews on an extensive transportation corridor survey throughout Riverside County, California. In addition to direction of personnel, responsibilities included reading/interpreting aerial and topographic maps, site recordation, extensive use of GPS units for both survey and recording, site mapping, and public relations with local landowners.
- 2001 **Field Technician.** EDAW, San Diego, California. Assisted with follow-up excavations in and around several prehistoric sites at the Hellman Ranch property in Seal Beach, California to investigate several subsurface anomalies encountered using Ground Penetrating Radar. Duties included screening, artifact collection, field identification, surface collection, sample collection, and extensive note taking.
- 2001 **Field Technician.** Chambers Group, Inc., Irvine, California. Assisted with the investigations of a late-period prehistoric sites in Del Mar, California, for the Pacific Highlands Ranch Project. Duties included archaeological site investigation using various methods including unit excavation, screening, artifact collection, field identification, surface collection, and extensive note taking.

- 2001 **Crew Chief.** Tierra Environmental, San Diego, California. Assisted with supervision of investigations for data recovery program at a historic community landfill and a prehistoric seasonal camp in Huntington Beach, California. Supervision responsibilities included direction of personnel, site grid layout, training/orientation of personnel, and collection and review of field paperwork. Also included screening, artifact collection, field identification, surface collection, sample collection, and extensive note taking.
- 2001 **Field Technician.** Earth Tech, Colton, California. Phase II data recovery program of 87 prehistoric and historic sites on Edwards Air Force Base. Duties included site relocation using topographic maps, hand-held GPS units, site grid layout, excavation, feature recordation, hearth excavation, artifact collection, field identification, surface collection, sample collection, extensive note taking, soil and charcoal sampling, orientation of new personnel.
- 2001 **Field Technician.** KEA Environmental (now EDAW), San Diego, California. Assisted with the investigation of several prehistoric sites on Camp Pendleton Marine Base, San Diego County, California. Duties included unit excavation, screening, artifact collection, field identification, surface collection, and extensive note taking.
- 1999–2001 **Associate Archaeologist.** Chambers Group, Inc., Irvine, California. Level (3) Long Haul Fiber Optic Project, California Loop Segments, Sacramento to San Bernardino, San Jose to Burbank. Responsibilities included permit interpretation and enforcement, training and orientation of staff, writing of site testing summaries, report contributions, extensive monitoring of heavy equipment, excavation crew chief, burial removal and relocation, large linear surveys, extensive note taking, coordination with construction supervisors and personnel, and documentation of cultural features. Work took place in rigorous environments of the Central California Coast (Los Angeles, Ventura, Santa Barbara, San Luis Obispo counties) as well as in the Mojave Desert region (Los Angeles, San Bernardino, Kern counties).

TECHNICAL REPORTS

- 2001 *Salvage Excavation of a Burial Feature at CA-SBA-1213.* Prepared for Level (3) Communications. Contributing author.
- 2000 *Archaeological Testing Program Report, Presence/Absence Testing at CA-SBA-54, Santa Barbara County, California.* Prepared for Level (3) Communications. Contributing author.

ADDITIONAL EXPERIENCE/SKILLS

- Bilingual, speaking, reading, and writing Spanish and English.

- Active participant/volunteer with the Instituto de Culturas Nativas, assisting with events, workshops, and other cultural events involving Northern Baja California tribes (Kumiai, Pai Pai, Kiliwa). This is in addition to my paid work.
- Ceramic replication. Through my work with Pai Pai elder Josefia Ochurte, and more recently Dahría, I have produced numerous replicas of traditional Tizon Brownware ceramic vessels.
- General biological/environmental training, including Desert Tortoise, Joshua tree habitat, and raptors, acquired during project in sensitive habitats.
- Intimate knowledge of Mexican culture through long-term residency and travels within the country.
- Extensive pipeline and general construction archaeological monitoring experience.
- General knowledge of construction practices and methods through past work experience in construction/fabrication fields (former Union Ironworker and general construction laborer).

CONTACT INFORMATION

1312A Seacoast Drive, Imperial Beach, California, 91932

Cellular: 619.850.6587, Home/Fax: 619.446.6922, Message: 619.575.8863

Email: chamuco13@earthlink.net

Areas Of Expertise

- Cultural Resource Planning
- Section 106, NHPA Compliance
- Prehistoric and Historic Archeology

Education

M.A., Archaeology
Northern Arizona
University (2001)

B.A., Anthropology
Northern Arizona
University (1999)

Professional History

Years with URS: 2

Years with other firms: 12

Permits

BLM Utah

Bureau of Reclamation
State of Montana,
Nebraska, South Dakota,
North Dakota, Kansas

Register of Professional
Archaeologists listed

REPRESENTATIVE EXPERIENCE

Mr. McNutt has been an active archaeologist in the Western United States since 1995. His educational training and professional experience has provided him with a field of expertise and experience that spans a wide range of areas and fields across the western half of the continent. Mr. McNutt has participated in research, survey, site recording, data recovery, and report writing for archaeology and anthropology projects in California, Wyoming, Colorado, Utah, Arizona, Oklahoma, and Missouri.

His work in the west has given Mr. McNutt expertise in numerous site types and temporal periods. He has experience with recordation, excavation, data collection, and reporting of various site types including Pan-regional Paleoindian and Archaic lithic scatters and habitation sites, Southern and Central California lithic scatter, habitation, and trail sites, Plains Native American prehistoric and historic artifact, habitation, and religious sites; Prehistoric and Protohistoric sites related to Numic and Athapaskan groups, Basketmaker II-III cave and open-air-habitation sites, prehistoric and historic Puebloan, Prescott, Fremont, Numic, Athapaskan, and European culture rock art sites, and Pueblo I-IV habitation and agricultural sites.

Mr. McNutt is also experienced with Spanish, Mexican, and European historic-period mining, herding, homesteader, agriculture, oil development and urban sites. He is specialized in flaked stone and prehistoric architectural analysis, and has extensive experience in ceramic analysis, groundstone analysis, historic structure and artifact analysis, site mitigation and reporting, and Native American ethnohistory and ethnography.

REPRESENTATIVE PROJECTS

Archaeologist Crew Chief, Gateway West Transmission Line, Wyoming Segment (2008-ongoing). Field Survey, Site recording, method development, field guide development, report writing.

Archaeologist Field Director and Crew Chief, HECA Hydrogen Power Plant Project, Kern County, California (2008-ongoing). Field survey, site recording, GPS training

and program development, report writing.

Archaeologist Crew Chief, Solar II project, Imperial County, California (2008) Field Survey, site recording.

Archaeologist, I-15 Washington to Cottonwood Creek project, Washington County, Utah (2008-ongoing). Site reevaluation, report writing.

Archaeologist, Miner's Village Property, Weld County, Colorado (2007) Field Survey, site recording, report writing.

Archaeologist, Southern Star Sedalia Pipeline Survey, Johnson County MO (2007) Field survey, report writing.

Archaeologist, Utah DOGM Abandoned Mine Survey, Tooele County, UT (2007-ongoing). Field Survey, site recording, report writing.

Archaeologist, Southern Star Pocasset Pipeline Survey, Lincoln County, OK (2007). Field survey, report writing.

Archaeologist, Rueter-Hess Reservoir Project, Douglas County, CO (2007-on going). Field testing, report writing.

Archaeologist, Inventory of Cultural Resources for the Colorado Division of Wildlife near Radium Colorado (2007): Report writing, editing, research, and production.

Archaeologist Field Director, Cultural Inventory of the Fischer Draw 2 Fuel Treatment Project, Jackson County, Colorado (2007): Field Direction, transect survey and report preparation.

Archaeologist, DM&E Railroad Expansion, South Dakota (2007): Conducted University of South Dakota report editing.

Archaeologist, Overland Pass Pipeline, Wyoming (2006-2007): Conducted site Report editing and data management.

Archaeologist, Class III Cultural Resources Inventory of Yarmony Mountain II Fuel Treatment Project, Eagle County, Colorado (2006): Data synthesis, report writing, editing, and production.

Archaeologist, Class III Cultural Resource Inventory of the Sunset Real Estate Development; Weld County, Colorado (2006): Data synthesis, report writing, editing, and production.

Archaeology Crew Chief, Quarter Circle 9 Beta; Johnson County, Wyoming (2006): Conducted block Survey and site recording.

Archaeology Crew Chief, Devon Zulu POD; Johnson County,

Wyoming (2006): Conducted block Survey and site recording.

Archaeology Crew Chief, Grouse Mountain Fuel Reduction; Grand County, Colorado (2006): Conducted block survey and site recording.

Archaeology Crew Chief, Black Ridge Fuel Reduction; Mesa County, Colorado (2006): Conducted block survey, site recording, project write up, production and editing.

Archaeology Crew Chief, Breaks II Fuel Reduction; Mesa County, Colorado (2006): Conducted block survey, site recording, project write up, production and editing.

Archaeology Crew Chief, Jaw Ridge Fuel Reduction; Mesa County, Colorado (2006): Conducted block survey, site recording, project write up, production and editing.

Archaeology Crew Chief, 28-Hole Fuel Reduction; Mesa County, Colorado (2006): Conducted block survey, site recording, project write up, production and editing.

Archaeology Crew Chief, XTO Well Pads; Mesa County, Colorado (2006): Conducted road and block survey of proposed well sites.

Archaeology Field Director and Crew Chief, Kaitlin 3-D Seismic; Sweetwater County, Wyoming (2006): Conducted seismic survey, site recording, linear site recording, artifact analysis, report write-up.

Archaeology Field Director and Crew Chief, Tokewana Fuel Reduction; Uinta County, Wyoming (2006): Conducted block survey, site recording, and report write-up.

Archaeology Field Director and Crew Chief, MOXA 3-D; Lincoln/Sweetwater Counties, Wyoming (2006): Conducted seismic survey, site recording, site avoidance mitigation, and report write-up.

Archaeology Field Director and Crew Chief, Columbine Springs 3-D Seismic; Rio Blanco, Garfield/Uintah Counties, Colorado/Utah (2005-2007): Conducted seismic survey, site recording, helicopter air-support coordination, site avoidance mitigation, and report write-up and editing.

Archaeology Crew Chief, Dry Willow POD 1; Campbell County, WY (2005): Conducted block survey and site recording.

Archaeology Field Director and Crew Chief, Wolf Springs

Ranch Data Recovery; Huerfano County, Colorado (2005): Data Recovery and excavations of historic and prehistoric sites. Conducted mapping, site recording, excavation, artifact analysis, sample analysis, human remains mitigation, and report write-up.

Archaeology Field Director, Edgewater Christian Church Stabilization Monitoring; Jefferson County, Colorado (2005): Monitored excavations and renovations of historic building, conducted on-site artifact analysis and report write-up.

Archaeology Crew Chief, Cattle Crossing Over the Ralston-Clear Creek Canal; Jefferson County, Colorado (2005): Conducted mapping, photo documentation, and analysis of a historic bridge and canal system.

Archaeology Crew Chief, XTO Well Pads; Campbell County, WY (2005): Conducted block survey, site recording, testing, and report write up.

Archaeology Assistant Crew Chief, ARCH Monitoring @ Perse Place; Douglas County, Colorado (2005): Conducted data synthesis and report write up.

Archaeology Crew Chief, Field Monitor; 17-Mile House Barn; Arapahoe County, Colorado (2005 – ongoing): Conducted heavy equipment excavation monitoring, test excavations, and report write-up.

Archaeology Crew Chief, Field Monitor; 17-Mile House ARCH; Arapahoe County, Colorado (2005 – ongoing): Conducted heavy equipment excavation monitoring, test excavations, and report write-up.

Archaeology Crew Chief, XTO Hartzog Draw; Campbell County, WY (2005): Conducted block survey, site recording and testing.

Archaeology Crew Chief, CH4 South Butte; Campbell County, WY (2005): Conducted block survey, site recording and testing.

Archaeology Crew Chief, CH4 Energy Pumpkin Buttes; Campbell County, WY (2005): Conducted block survey, site recording and testing.

Archaeology Crew Chief, Greenwood Seismic 3D; Morton County, Kansas (2005): Conducted linear and block survey of proposed seismic source and receiver lines. Edited reports and surveyor data.

Archaeology Assistant Crew Chief, Entrega Pipeline Cultural

Resources Program; Carbon County, WY. Bureau of Land Management, Rawlins Field Office: Took part in project planning and assisted in access surveys, and site testing.

Archaeologist, Pumpkin Buttes Cultural Resources Ethnohistoric, Ethnographic, and Traditional Cultural Properties Investigations, Campbell County, WY, for the Bureau of Land Management, Buffalo Field Office (Dec. 2004-Jan. 2005): Complied prehistoric and historic site records, and produced cultural summaries for Native American groups associated with the Powder River Basin.

Archaeology Assistant Crew Chief, CH4 Pumpkin Creek; Campbell County, WY, Bureau of Land Management, Buffalo Field Office (Jan. 2005): Conducted block survey of proposed well pad and pipeline areas. Project included recording historic and prehistoric sites, and isolated remains.

Archaeology Assistant Crew Chief, Pee Gee Pod, Sheridan County, WY, Bureau of Land Management, Buffalo Field Office: Conducted block survey of proposed well pad and pipeline areas. Project included recording historic and prehistoric sites, and isolated remains.

Archaeology Assistant Crew Chief, Hay Canyon Pipeline Survey, SWCA Inc.; Grand County, Utah (2004): Conducted a linear survey of a proposed natural gas pipeline. Project included the recording of prehistoric and historic artifacts and rock art panels.

Archaeology Assistant Crew Chief, Plymouth Rock Well Pads Survey, SWCA Inc.; Moffat County, Colorado (2004): Surveyed 10 acre blocks and associated linear access routes to proposed gas well pads.

Archaeology Assistant Crew Chief, Garfield Martin Livestock Loop Pipeline Survey, SWCA Inc.; Moffat County Colorado (2004): Conducted linear survey along a proposed pipeline right-of-way. Recorded artifact scatters and rock art panels.

Archaeology Assistant Crew Chief, Williams East Bullwhacker, SWCA Inc.; Johnson County, WY, Bureau of Land Management, Buffalo Field Office (Oct. 2004): Conducted block survey of proposed well pad and pipeline areas. Project included recording historic and prehistoric sites, and isolated remains.

Archaeology Assistant Crew Chief, CH4 Hartzog Draw Survey, SWCA Inc.; Campbell County, WY, Bureau of Land Management, Buffalo Field Office (Dec. 2004-Jan. 2005):

Conducted block survey of proposed well pad and pipeline areas. Project included recording historic and prehistoric sites and isolated remains. Assisted in data entry and report production.

Archaeology Assistant Crew Chief, XTO Hartzog Draw Survey, SWCA Inc.; Campbell County, WY, Bureau of Land Management, Buffalo Field Office: Conducted block survey of proposed well pad and pipeline areas. Project included recording historic and prehistoric sites and isolated remains. Assisted in data entry and report production.

Archaeology Assistant Crew Chief, Hams Fork 3D Seismic Survey, SWCA Inc.; Lincoln County, WY, Bureau of Land Management, Kemmerer Field Office (Oct. 2004: 2 Weeks Work): Conducted linear seismic and receiver line survey. Photographed and recorded prehistoric and historic isolated remains, and took part in report production.

Archaeology Assistant Crew Chief, Flaked Stone Analyst, Animas La-Plata Recovery Project, SWCA Inc.; La Plata County, Colorado (2002-2004): Responsible for the analysis of all flaked stone artifacts recovered from field excavations. During the field season took part in, and helped manage the recording and excavation of Archaic through Pueblo I associated sites and features. Monitored mechanical excavations, and conducted digital photography, site mapping and write up.

Archaeologist, Hildale Utah Sewage Lagoon Data Recovery, SWCA Inc.; Washington County, Utah (2002): Conducted unit and feature excavations of several Virgin Anasazi pit structure complexes. Conducted mechanical excavation monitoring and site recording during sewage lagoon and pipeline construction.

Archaeologist, Bullhead City Drainage Project, SWCA Inc.; Mohave County, Arizona (2002): Block survey of several areas surrounding the town of Bullhead City.

Archaeologist, Prescott National Forest Fuel Reduction Survey, SWCA Inc; Yavapai County, Arizona (2001-2002): Took part in block survey, site recording, and site monitoring before fuel thinning within the National Forest.

Archaeologist, Talking Rock Ranch Project, SWCA Inc; Yavapai County, Arizona (2000 and 2002): Conducted rock art and artifact scatter recording and testing during Phase II site testing.

Back Country Archaeologist, Architectural Documentation
Save Americas Treasures, National Park Service; Mesa Verde
National Park, Montezuma County, Colorado (2001): Created
plan and profile maps, and conducted detailed recordation of
Pueblo II and III Cliff dwellings to prepare them for
stabilization and long term monitoring. Also participated in
site monitoring and recordation as a wild-land firefighter.

Joshua B. Peabody
Anthropologist/Zooarchaeologist

EDUCATION

M.A., Anthropology, 2004, University of California, Santa Cruz

B.A., Anthropology, 2001, California State University Chico, California

SPECIALIZED ENVIRONMENTAL TRAINING

- NEPA compliance training, USDA Forest Service
- 40-hour HAZWOPER training
- Current Red Cross electronic defibrillator and CPR training
- Human vs. non-human identification of bone workshop, CSUC

EMPLOYMENT HISTORY

URS CORPORATION Chico, CA, Cultural Resource Manager February 2007-
November 2008

Project oversight and management working with a variety of governmental agencies, including National Parks, Department of Reclamation, Department of Agriculture, Forest Service, Bureau of Land Management, County of Butte, City of Chico, Chico State University, and Los Angeles Department of Water and Power. Prepared environmental and cultural management reports, developed proposals and small- to large-scale project budgets, and manage office and fieldwork. Supervised up to 11 employees, including payroll and job training.

CHICO RESEARCH FOUNDATION, Chico, CA, Cultural Resource Manager, June
2006 – February 2007

Prepared cultural resource management reports. Supervised employees and managed fieldwork. Assisted in the development of proposals, budgets, and the management of contracts.

USDA FOREST SERVICE, Pioneer, CA, Environmental Planner (District Archeologist)
March 2005-March 2006

Provided contract oversight and management. Worked with a variety of intra-agency departments, including Grazing, Timber, Fire, Hydrology, and Biology Departments. Prepared environmental and cultural management reports, developed Requests for Proposals and developed annual budgets, manage office and fieldwork. Supervised employees, volunteers, and worked with the public during interpretive activities.

Joshua B. Peabody

U.C. SANTA CRUZ RESEARCH ASSOCIATE – MOSS LANDING, CA

Researched animal bone and cultural sites. Taught students how to interpret and analyze animal bones and associated cultural sites.

RESEARCH AND ENVIRONMENTAL REPORTS

Peabody, Joshua B. (2005). *Grazing management plan for the Mokelumne Ranger District*. On file at Eldorado National Forest District office, Pioneer, California.

Contributions to the Eldorado National Forest Off-Highway-Vehicle Management Plan and Environmental Impact Statement. (2006).

Peabody, Joshua B. (2001). *Archaeological Inventory of the Stony Ridge QLG/DFPZ and Group Selection Project*. On file at Plumas National Forest District office, Blairsden, California.

Peabody, Joshua B. (2000). *Archaeological Reconnaissance of 700 Acres on the Devils Garden Ranger District, Modoc National Forest*. On file at USDA Forest Supervising Office, Modoc National Forest, Alturas, California.

Peabody, Joshua B. and C.J. O'Brien (1999). *Cementum Increment Analysis of Deer Teeth from San Jose, California*. Archaeological Research Program, Chico, California.

PUBLIC PRESENTATIONS

- *How and Why the Quadratic Crown Height Method of Age Estimation Does Not Work*. With Diane Gifford-Gonzalez. Poster presented at the 2004 SAA Conference, Montreal, Canada.
- *Prehistoric Deer Hunting in the western Sierras*. UCSC Department of Anthropology Brown Bag Lunch Series, October 7, 2003.
- *Zooarchaeology: an Overview*. Lecture given for Anthropology 3, Introduction to Archaeology, Spring 2004.
- *The Time of the Season, Dental Increment Analysis in Archaeology*. With C.J. O'Brien. California State University, Chico-Anthropology Forum, March 16, 2000.

CONTACT INFORMATION

1520 Boucher Street #1
Chico, CA 95928
Phone: 530.966.3766
E-mail: joshuaB@gmail.com



Brian S. Shaw

Historian and Architectural Historian

Overview

Brian Shaw has more than 8 years of experience conducting historical research and documenting and evaluating historic properties. Mr. Shaw is certified in Section 106 review by the Advisory Council on Historic Preservation, served for two years as the Historic Preservation Coordinator for the City of Aurora, Colorado, and is experienced in preparing documents in accordance with the guidelines of the California SHPO. Mr. Shaw has completed several historic property inventories, historic documentations, and other cultural resources compliance projects in California, Colorado, North Dakota, Minnesota, and Japan. Mr. Shaw will be completing a MA degree in Architectural and Public History and Historic Preservation from the University of Colorado in the spring of 2009, and fully meets the Secretary of the Interior's Standards for history and architectural history.

Areas of Expertise

Architectural History
Section 106 Reviews
Historic Preservation

Years of Experience

With URS: 1 Year
With Other Agencies: 7 Years

Education

MA/Public History and Public Policy (Certificate in Historic Preservation)/University of Colorado/May 2009
BA/History and Political Science/Metropolitan State College/1988

Registration/Certification

Section 106 Reviews
Historic Structure Assessment

Project Specific Experience

Architectural Historian, Imperial County, California, Stirling Energy, Solar 1 Class III Intensive Field Survey, 2008-2009:

Inventory and evaluation of historic-age built environment resources within the area of potential effects for a proposed solar power generating facility.

Architectural Historian, Yokota Air Force Base, Tokyo, Japan, Field Survey, 2009:

Inventory and evaluation of 60 pre-World War II built environment resources on former Imperial Japanese Air Force bases, and development of historic context for post-war occupation of Japan.

Architectural Historian, Cass County, North Dakota, FEMA, Fargo Flood Water Diversion Project, 2008-2009:

Inventory and evaluation of historic-age built environment resources within the area of potential effects for a planned systems of dikes and canals.

Architectural Historian, Fresno County, California, San Joaquin Solar 1 & 2 Power Plant, Field Survey, 2008:

Inventory and evaluation of historic-age built environment resources within the area of potential effects for a proposed solar power generating facility.

Architectural Historian, Black Hawk, Colorado, BLM Land Exchange, 2008:

Wrote historic context on regional hard rock mining and performed evaluation of historic-age built environment resources within the area of potential effects for a proposed land exchange between Bureau of Land Management and City of Black Hawk.

Architectural Historian, Denver Metropolitan Area, Regional Transportation District, North Metro Light Rail Expansion, 2008-2009:

Inventory and evaluation of more than 220 historic-age built environment resources within the area of potential effects for a planned multi-county light rail expansion.



Architectural Historian, Kern County, California, HECA Field Survey, 2008: Inventory and evaluation of historic-age built environment resources within the area of potential effects for a proposed solar power generating facility.

Other Related Experience

City of Aurora, Aurora, Colorado, Preservation Service Coordinator: Developed applications for potential city designated landmarks by researching and analyzing historical importance of a particular site using primary and secondary sources. Developed first post-World War II contextual study and survey program for City of Aurora. Satisfied Section 106 review requirement for federally funded community development projects by performing architectural surveys of historic buildings. Identified and assessed potential historic resources for private contractors performing NEPA Environmental Assessments at sites within the City of Aurora. Also assisted Urban Renewal and Community Development programs with rehabilitation projects on historic structures and served as a staff liaison to the City of Aurora's Historic Preservation Commission, a Certified Local Government. Oversaw City designated historic sites and landmarks and managed restoration and maintenance projects.

Colorado Historical Society, Manager, Historic Marker Program, Denver, CO: Supervised the Colorado Historical Society's (CHS) Historic Marker program, an innovative statewide effort that helped tell the stories of local communities through interpretive signage and school programs. Worked extensively with community groups, advocacy groups, and governmental officials from the local, county, and state level on preservation and historical research projects. Developed two new historic interpretation programs in cooperation with the Colorado Department of Transportation (CDOT), the Regional Transportation District (RTD), and the Federal Highway Administration (FHWA), placing historic signage at Light-Rail Stations, Park-n-Rides and other high profile areas.

Professional Societies/Affiliates

National Trust for Historic Preservation – Forum level

Society of Architectural Historians

American Historical Association

American Association for State and Local History

Appendix C2
Architectural Historian Resumes

CHERYL E. BROOKSHEAR

Historian/Architectural Historian, JRP Historical Consulting, LLC

Ms. Brookshear has experience in many areas of general historical research and cultural resources management. Since joining JRP in 2006, she has conducted primary and secondary research at several public and private repositories in California. Ms. Brookshear has contributed to cultural resources management projects in many roles from field recordation of historic to site-specific research, to writing of historical context material for Section 106 and CEQA compliance documents. Her work at JRP has included preparation of agricultural, industrial, and residential histories for a variety of property types for projects that have also included engineering features such as power generation facilities and water control structures. In her previous experience, Ms. Brookshear conducted research in various government records as part of a documentation project for the Hearthstone Historic House Museum, Appleton, Wisconsin, as well as completing site surveys and research for National Register of Historic Places nominations as part of her graduate work in Pennsylvania. Ms. Brookshear qualifies as a historian and architectural historian under the United States Secretary of the Interior's Professional Qualification Standards (as defined in 36 CFR Part 61).

Prior to joining JRP in 2006, Ms. Brookshear served as Curator of Education for Hearthstone Historic House Museum, Appleton, Wisconsin, and Communications Assistant for the Milwaukee Art Museum, Milwaukee, Wisconsin. She also completed the Wisconsin Department of Transportation Training Session for Architecture History Consultants (2006), and FEMA IS-00253 training for coordinating environmental and historic preservation compliance (2006). Ms. Brookshear earned her Master's of Science in Historic Preservation from the University of Pennsylvania in 2000.

Relevant Experience

- Historical Resources Inventory and Evaluation Report for Arroyo Grande Creek Watershed Management Program, San Luis Obispo County, California. Prepared for Morro Group, 2009. In Progress.
- Historical Resources Inventory and Evaluation Report for Washington Square Commercial Center Project, Marysville, California. Prepared for Planning Partners, 2009. In Progress.
- Cultural Resources Management Plan Lawrence Berkeley National Laboratory, Berkeley, California. Prepared for Lawrence Berkeley National Laboratory, 2009. In Progress.
- Historical Resources Inventory and Evaluation Report for Alta Vista Solar Tower Project, Los Angeles County, California. Prepared for Tetra Tech, 2008. In Progress.
- Supplemental Historical Resources Inventory and Evaluation Report for KRCD – CPP Gas Pipeline, Kings River Conservation District, California. Prepared for Navigant Consulting, 2008. In Progress
- Historical Resources Inventory and Evaluation Report for Sutter Medical Center Santa Rosa, Santa Rosa, California. Prepared for URS, 2008.
- Historical Resources Inventory and Evaluation Report Willow Pass, Pittsburg, California. Prepared for URS, 2008.

- Finding of Effect for Old Town Cordelia Improvement Project, Solano County, California. Prepared for County of Solano, 2008. In Progress.
- Historical Resources Inventory and Evaluation for Silicon Valley Rapid Transit Corridor EIS, Alameda and Santa Clara County, California. Prepared for Circle Point, 2008. In Progress.
- Existing Settings Report for the Downtown/Riverfront Streetcar, Sacramento, California. Prepared for URS, 2008. In Progress.
- Historical Resources Inventory and Evaluation Report Rockville Trails Estates Rock Boundary Walls, Rockville, California. Prepared for Far Western Anthropology Group, 2007.
- Historical Resources Inventory and Evaluation Report Anaheim Municipal Power Station, Anaheim, California. Prepared for URS, 2007.
- Historical Resources Inventory and Evaluation for the Fair Oaks Water District Administration Master Plan. Prepared for Foothill Associates, 2007.
- Historical Resources Inventory and Evaluation Report for the Proposed Ely Energy Center, Ely, Nevada. Prepared for Far Western Anthropology Group, 2007.
- Historical Resources Inventory and Evaluation Report for the Proposed Ocotillo Energy Center, Desert Hot Springs, Riverside County, California. Prepared for URS, 2007.
- Historical Resources Inventory and Evaluation Report for the proposed Highgrove Power Plant Project. Prepared for CH2M Hill Corporation, 2007.
- Historical Resources Inventory and Evaluation Report for the Proposed Bullard Energy Center; Herndon, Fresno County, California. Prepared for URS, 2006.
- Historical Resources Inventory and Evaluation Report for the Proposed Hughson Substation Relocation and Transmission Lines on East Whitmore Avenue, Hughson, Stanislaus County, California. Prepared for Point Environmental Services, 2006.
- Historical Resources Inventory and Evaluation Report for the Jack McNamara Field Terminal. Prepared for URS Corporation, 2007. In Progress.
- Historical Resources Inventory and Evaluation Report for the proposed Etiwanda Expansion Project. Prepared for URS Corporation, 2007.
- Historic American Engineering Record, Contra Costa Canal Intake Segment, North of Oakley, Contra Costa County. Prepared with Far Western Anthropological Research Group for County of Solano and Contra Costa Water District, 2007.
- Historical Resources Evaluation Report for the proposed Newman downtown plaza, including inventory and evaluation of potential contributing elements of a historic district. Prepared for Coastplans for City of Newman, Stanislaus County, 2007.
- Inventory and Evaluation, South Bay Power Plant, Chula Vista, San Diego County, California. Prepared for CH2MHill, 2006.
- Historic Resources Inventory and Evaluation for the Sacramento International Airport. Prepared for URS Corporation, 2006.
- DRMS Phase 1/Levee Repair DWR. Prepared for URS Corporation, 2006. In Progress.

- Historical Resources Evaluation Report, Historic Property Survey Report, and Finding of Effect, Old Town Cordelia Improvement Project. Prepared with Far Western Anthropological Research Group for County of Solano, 2006.

RAND F. HERBERT
Principal, JRP Historical Consulting, LLC

Mr. Herbert's academic fields of specialization were in California and Western United States history. For more than 28 years, Mr. Herbert has worked as a consulting historian on a wide variety of historical research and cultural resources management projects, as a researcher, writer, and project manager. He has managed, written, or worked on building inventory and evaluation projects for a variety of government agencies such as Caltrans and the Department of Defense. He has given numerous lectures on the topics of public history, and has provided expert witness services and testimony in more than a dozen cases or administrative proceedings. Based on his level of education and experience, Mr. Herbert qualifies as a historian/architectural historian under the United States Secretary of the Interior's Professional Qualification Standards (as defined in 36 CFR Part 61).

Professional Background

Mr. Herbert has taught history at community colleges in Sacramento and Solano counties, and regularly teaches a graduate seminar in public history at California State University, Sacramento (2001-present). In 1990, he was elected chairman of the California Council for the Promotion of History (CCPH) and served a two-year term. He served as one of CCPH's representatives on California Resources Secretary Douglas Wheeler's Historic Preservation Task Force (1992-1994); and on the National Cultural Alliance's Cultural Awareness Campaign, California Steering Committee. Mr. Herbert is a Registered Professional Historian (#508) with CCPH, and a member of the National Council on Public History, California Historical Society, and Ninth Circuit Court Historical Society. Mr. Herbert earned his M.A.T. in History from the University of California, Davis and his B.A. in History from the University of California, Berkeley.

Relevant Experience

Power/AFC-related:

- Preparation of Mitigation Plan for Humboldt Bay Power Plant Decommissioning. Prepared for CH2M Hill, 2009. In progress.
- Historical Resources Inventory and Evaluation Report for the proposed Alta Vista AFC. Prepared for Tetra Tech, Inc, 2008.
- Response to Ivanpah BrightSource AFC Data Requests. Prepared for CH2M Hill, 2008.
- Historical Resources Inventory and Evaluation Report for KRCD - CPP Gas Pipeline, Kings River Conservation District, California, Including Supplemental Report. Prepared for Navigant Consulting, 2008.
- Historical Resources Inventory and Evaluation Report for the proposed Anaheim Municipal Power Station AFC. Prepared for URS Corporation, 2007-2008.
- Historical Resources Inventory and Evaluation Report for the Proposed Ocotillo Energy Center, Desert Hot Springs, Riverside County, California. Prepared for URS, 2007.
- Historical Resources Inventory and Evaluation Report for the proposed Etiwanda Expansion Project. Prepared for URS Corporation, 2007.
- Historical Resources Inventory and Evaluation Report for the proposed Highgrove Power Plant Project. Prepared for CH2M Hill Corporation, 2007.

- Inventory and Evaluation, South Bay Power Plant, Chula Vista, San Diego County, California. Prepared for CH2MHill, 2006.
- Response to Mt. Eden AFC Data Requests. Prepared for CH2M Hill, 2006.
- Response to Colusa Power Plant AFC Data Requests. Prepared for URS, 2006.
- Historical Resources Inventory and Evaluation Report for the Proposed Bullard Energy Center; Herndon, Fresno County, California. Prepared for URS, 2006.
- Historical Resources Inventory and Evaluation Report for the Proposed Hughson Substation Relocation and Transmission Lines on East Whitmore Avenue, Hughson, Stanislaus County, California. Prepared for Point Environmental Services, 2006.
- Historical Resources Inventory and Evaluation Report for the Proposed Panoche Energy Center, Panoche, California. Prepared for URS Corporation, 2006-2007.
- Merced Irrigation District Transmission Lines, Merced County, California. Prepared for Russell Associates and Merced Irrigation District, 2005-2006.
- Historic Properties Survey, AFC, City of San Francisco Potrero Energy Facility. Prepared for CH2M Hill Corporation, 2003-2004.
- Historic Properties Survey, AFC, Salton Sea Geothermal Project, Imperial County, California. Prepared for CH2M Hill Corporation, 2002-2003.
- Historic Properties Survey, AFC Enron Roseville Energy Facility, Placer, Sacramento, Sutter and Yolo Counties, California. Prepared for URS Corporation, 2001-2002.
- Cosumnes Power Plant Pipeline AFC, Sacramento, California. Prepared for CH2M Hill Corporation, 2001.
- Historic Properties Report Western Area Power Administration Transmission Line Corridors: Sacramento County, California. Prepared for Far Western Anthropological Research Group, 2001.

Other Cultural Resources Projects:

- Historic Resources Inventory and Evaluation Report, and Finding of Effect Report, for the Dumbarton Rail Corridor, San Mateo and Alameda Counties, California. Prepared for Parsons, 2008. In Progress.
- Nominations to National Register of Historic Places and Historic American Engineering Record for Hunters Point Commercial Drydock Historic District and Drydock 4, Hunters Point Naval Shipyard, San Francisco, California. Prepared with Far Western Anthropological Research Group for Naval Facilities Engineering Command Southwest, 2008. In Progress.
- Ball Mansion, Alamo, Contra Costa County, California. Prepared for ECORP Consultants, Inc, 2008.
- Calaveras Dam Replacement Project - Historical Research and Analysis, Alameda County, California. Prepared for URS Corporation, 2008.
- City and County of San Francisco Water System Improvement Program Projects - Extension of Planning Department Major Environmental Analysis Staff for Reviewing Historic Resource Studies. Prepared for URS Corporation, 2007. In Progress.

- Historic Resources Inventory and Evaluation Report for Ten Buildings on Naval Base Ventura County, Port Hueneme, California. Prepared with SWCA Environmental for Naval Facilities Engineering Command Southwest, 2007. In Progress.
- Historic Resources Survey and Eligibility Investigations for Thirteen Buildings at Naval Air Station, North Island, San Diego, California. Prepared with SWCA Environmental for Naval Facilities Engineering Command Southwest, 2007-2008.
- Inventory and Evaluation of Six Bridges in the City of Oakland, Alameda County, California. Prepared for URS Corporation, 2007.
- Addendum to Inventory, Evaluation, and Impacts Analysis Technical Reports for the Silicon Valley Rapid Transit Corridor (BART) EIS/EIR Alternatives. Prepared for Santa Clara VTA, under contract with Circle-Point, 2007-2008.
- Historic Documentation for Quarters A and B at Naval Coal Depot (Fleet Industrial and Supply Center, Quarters A), Naval Base Point Loma, San Diego, California. Prepared with SWCA Environmental for SWCA Environmental/Naval Facilities Engineering Command Southwest, 2007-2008.
- Historic Resources Inventory and Evaluation Report: Las Gallinas Chlorine Contact Basin and Clear Well Project. Prepared for URS Corporation, 2007-2008.
- Finding of Effects for Caltrain San José Diridon Train Station Offices Improvement Project, San Jose, California. Prepared for VBN, 2006.
- Historic Resources Inventory and Evaluation Report, Placer Ranch Offsite Road and Utility Corridors, Placer County, California. Prepared for URS Corporation, 2006.
- Historical Resources Evaluation Report for the Highway 101 Greenbrae Corridor Improvement Project, Marin County, California. Prepared for Carter & Burgess, 2006.
- Addendum to Technical Memorandum to Historical Resources Evaluation Report for SVRTC EIS / EIR Alternatives (BART), Santa Clara County, California. Prepared for Circle Point, 2006-2007.
- Historic American Engineering Record, Test Towers (Buildings 70021 and 70022), NAWS China Lake, Kern County, California. Prepared for ESS, 2006-2007.
- Historic Properties Inventory and Evaluation Report: Colusa Generation Station, Colusa County, California. Prepared for URS Corporation, 2006-2007.
- Historic Resources Inventory and Evaluation for the Sacramento International Airport. Prepared for URS Corporation, 2006-2007.
- Historic Resources Inventory and Evaluation Report of the Fresno/Yosemite International Airport, Fresno County, California. Prepared for URS Corporation, 2006-2007.
- Historical Resources Impact Analysis Report for the Railyards Project in Sacramento, California. Prepared for EIP - PBS&J, 2006-2007.
- Historical Resources Inventory and Evaluation Report for the Bercut-Richards Packing Company Property on North 7th Street, Sacramento, California for the Township 9 Project. Prepared for EIP - PBS&J, 2006-2007.
- Historical Resources Inventory and Evaluation Report: Sierra Vista Project, Placer County, California. Prepared for URS Corporation, 2006-2007.

- Monitoring of the San Mateo 1903 Underpasses for the Caltrain San Mateo Crash Beams Project, San Mateo, California. Prepared for Parsons, 2006-2007.
- Historic Resources Inventory and Evaluation: Unlined Portions of Turlock Irrigation District Main Canal and Cross Ditch #1, Stanislaus County, California. Prepared for URS Corporation, 2006.
- Historic Resources Report, Santa Clara Valley Water District Dams, Santa Clara County, California. Prepared for MHA/SCVWD, 2006.
- Historical Resources Evaluation Report, Placer Parkway Corridor Preservation Tier 1 EIS/Program EIR, Placer and Sutter Counties, California. Prepared for URS Corporation, 2006.
- Photodocumentation for Building 89, Naval Station San Diego, California. Prepared with Far Western Anthropological Research Group for Naval Facilities Environmental Command, Southwest, 2006.
- Historic Resources Inventory and Evaluation for Riolo Vineyard Specific Plan EIR, Placer County, California. Prepared for URS Corporation, 2005. In Progress.
- Historic Resources Inventory and Evaluation Report, Napa Salt Marsh Restoration Area, Napa County, California. Prepared for URS Corporation, 2005. In Progress.
- Southwest Div. On-Call Cultural Resources Consulting Contract. Prepared for Navy: Southwest Division NAVFACENGCOM, San Diego, 2005. In Progress.
- Inventory and Evaluation Report and CEQA Impacts Analysis Report for 1938 Broadway Project, Oakland, Alameda County, California. Prepared for URS Corporation, 2005-2008.
- Historical Resource Evaluation Reports for the Lake Tahoe Environmental Improvement Project on State Route 89 and US50, El Dorado County, California. Prepared with URS Corporation for Caltrans District 3, 2005-2007.
- Naval Air Station, Fallon Integrated Cultural Resources Management Plan. Prepared with Far Western Anthropological Research Group for NAS Fallon and the Southwest Division, Naval Facilities Engineering Command, 2005-2007.
- Trans Bay Cable Project, Historical Resources Study, Contra Costa County and San Francisco County, California. Prepared for URS Corporation, 2005-2007.
- Contra Costa Canal Inventory and Recordation. Prepared for Contra Costa Water District, 2005-2006.
- Historic Inventory and Evaluation Report and Finding of Effect Report for the Peninsula Joint Powers Board South San Francisco Station and Track Work Project, San Mateo County, California, Caltrain Mileposts 06.10 to 10.60. Prepared for Parsons Transportation Group, 2005-2006.
- Historic Properties Survey Report for the D Street Bridge Rehabilitation Project, Petaluma, Sonoma County, California. Prepared with URS Corporation for Caltrans District 4, 2005-2006.
- Historic Resources Evaluation Report: Buckhorn Grade Improvement Project, Shasta and Trinity Counties, California. Prepared for URS Corporation, 2005-2006.

- Inventory and Evaluation of High Water Bridge at Camp Roberts, Monterey County, California. Prepared with Tetra Tech for US Army National Guard Reserve, 2005-2006.
- Lava Cap Mine Historical Resource Inventory and Evaluation, Nevada County, California. Prepared for CH2MHill, 2005-2006.
- Quail Hollow Road Bridge Replacement Project, Santa Cruz County, California. Prepared for URS Corporation, 2005-2006.
- Emeryville Park Avenue Initial Study, Historical Resources Section, Alameda County, California. Prepared for URS Corporation, 2005.
- Historic American Buildings Survey, Signal Corps Radar (S.C.R) 296 Station 5 Transmitter Building Foundation and Fort Barry Bonita Ridge Access Retaining Wall, Marin County, California. Prepared for Associated Cultural Resource Experts, LLC, 2005.
- Historic Context Report and DPR 523 Form, Lauer Dam, Modoc County, California. Prepared for Far Western Anthropological Research Group, 2005.
- Historic Resource Evaluation Report: Rumrill Boulevard Bridge Replacement Project, San Pablo, Contra Costa County, California. Prepared for California Department of Transportation, District 4, 2005.
- Historic Resource Inventory and Evaluation: Eastern Sierra Regional Airport, Inyo, California. Prepared for URS Corporation, 2005.
- Historic Resources Evaluation Report and Finding of Effect for SR 152/156 Interchange Project, Santa Clara and San Benito Counties, California. Prepared for Santa Clara Valley Transit Authority, 2005.
- Yosemite Village (Fresno) Building Inventories, Fresno County, California. Prepared for URS Corporation, 2005.
- Edwards AFB Phase II, Kern County, California. Prepared for Tetra Tech, 2004-On Going.
- Historical Resources Evaluation Report, Finding of Effect Report, Historic American Engineering Record Documentation: Replacement of the Somersville Road Bridge over Contra Costa Canal (28C0201) City of Antioch, Contra Costa County, California. Prepared for T.Y. Lin International and City of Antioch, 2004-2007.
- Historic Properties Inventory and Evaluation: AC Transit East Bay Bus Rapid Transit Project, Alameda County, California. Prepared for Parsons Transportation Group, 2004-2006.
- Historic Resources Evaluation Report: The Lewelling Boulevard/East Lewelling Boulevard Improvement From Hesperian Boulevard to Mission Boulevard (SR-185) Eden Township, Alameda County, California. Prepared for URS Corporation, 2004-2005.
- Historic Resources Evaluation Report for Commerce Avenue Extension Project, Concord, California. Prepared for HDR Engineering, 2004.
- Historic Resources Inventory and Evaluation Report for Placer Ranch, Roseville, California. Prepared for URS Corporation, 2004.

- Historic Resources Report: Lower Owens River Channel Obstruction Survey, Owens Valley, California. Prepared for Montgomery Watson Harza and Far Western Anthropological Research Group, 2004.
- Historic Resources Report: Marin Rod and Gun Club Pier. Prepared for URS Corporation, 2004.
- National Register of Historic Places Nomination and Historic American Buildings Survey for Senior Officer's Quarters District, Yerba Buena Island, and Buildings 1, 2, and 3, Treasure Island, San Francisco, California. Prepared for US Navy, 2003-2007.
- NAWS China Lake Mining Sites Preliminary Survey, Twenty Mule Team Route, and New York Mine, and 69 mines at China Lake, Kern, San Bernardino and Inyo Counties, California. Prepared for Epsilon Systems Inc, 2003-2006.
- Phase II Cultural Resources Evaluation of Selected World War II and Cold War Era Buildings and Structures, Edwards Air Force Base, California. Submitted to U. S. Army Corps of Engineers, Sacramento District. Prepared with TetraTech, Inc. for Air Force Flight Test Center, Base Historic Preservation Office, Edwards Air Force Base, California, 2003-2006.
- Historic Resources Evaluation Report: Highway 101 HOV Lane Widening and Improvements Project, Old Redwood Highway, Petaluma to Rohnert Park Expressway, Rohnert Park, Sonoma County, California, and Highway 101 HOV Lane Widening and Improvements Project, Steele Lane in Santa Rosa to Windsor River Road in Windsor, Sonoma County, California. Prepared for Parsons Transportation Group, Caltrans, 2003-2005.
- California Park Hill Railroad Tunnel Project Historical Resources Inventory and Evaluation Report, Marin County, California. Prepared for URS Corporation and Marin County, 2003-2004.
- Design Guidelines and Project Considerations Regarding Santa Clara Depot and San Jose Diridon Station as Historic Properties for the Peninsula Corridor Joint Powers Board Caltrain Santa Clara to San Jose Corridor Improvement Project. Prepared for HNTB Corporation, 2003-2004.
- Historic Resources Evaluation Report for Bridge Replacement Project of Main Street Cambria Bridge in San Luis Obispo County, California. Prepared for T.Y. Lin International, 2003-2004.
- Historic Resources Evaluation Report for Bridge Replacement Project of Moonstone Beach Drive in San Luis Obispo County, California. Prepared for T.Y. Lin International, 2003-2004.
- Historic Resources Evaluation Reports for Bridge Replacement Project of Picachio Road Bridge in Cayucos, San Luis Obispo County, California. Prepared for T.Y. Lin International, 2003-2004.
- Historic Resources Evaluation Report. Lagoon Valley Project, Vacaville, California. Prepared for EIP Associates, 2003-2004.
- Historic Resources Evaluation Report: Waterfront Drive Extension Project, Eureka, Humboldt County, California. Prepared with North State Resources, Inc. for City of Eureka and California Department of Transportation, 2003-2004.

- Historic Resources Inventory and Evaluation Report of Sacramento Regional Transit Folsom Boulevard Rail Maintenance Facility Project City of Sacramento, Sacramento County, California. Prepared for EIP Associates, 2003-2004.
- Historic Resources Inventory and Evaluation, Oroville Division of State Water Project, Butte County, California. Prepared for California Department of Water Resources and Sonoma State University Anthropology Center, 2003-2004.
- Historic Property Survey Report, Historic Resources Evaluation Report, and Finding of Effect, Elk Grove Boulevard Improvement Project, City of Elk Grove, Sacramento County, California. Prepared for City of Elk Grove, 2003.
- Historic Resources Evaluation Report: Spreckels Boulevard Bike Path Project, Monterey, California. Prepared for Denise Duffy and Associates, 2003.
- Historic Resources Inventory & Evaluation Report: Reclamation District 348 Levee Rehabilitation Project, San Joaquin County, California. Prepared for Hanson Engineering, 2003.
- Historical Resources Evaluation Report, Stone Coal Road Bridge (03C0092) Over the Pit River in Modoc County, California. Prepared for North State Resources, Caltrans, 2003.
- Letter Report Regarding Federal Communications Commission Section 106 Compliance for Verizon Wireless' Antenna Projects at 11 Grove Street, Watsonville, California. Prepared for URS Corporation, 2003.
- Letter Report Regarding Historic Architectural Resources in Area of Potential Effects for Proposed Sacramento Regional Transit Bus Maintenance Facility McClellan Park, Sacramento, California. Prepared with EIP Associates for Sacramento Regional Transit, 2003.
- Mitigation, Camellia Cottage, University California Davis Medical Center, Sacramento. Prepared with William B. Dewey for EIP Associates, 2003.
- Placerville Waste Treatment Preliminary Assessment, El Dorado County, California. Prepared for Robertson-Bryan, Inc, 2003.
- Via Marisol Bridge Replacement and Rehabilitation Bridge 53C-0053, Via Marisol, Los Angeles County, California. Prepared for Parsons Transportation Group, 2003.
- Statewide Historic Context and Inventory and Evaluation of all pre-1960 Concrete Arch, Timber Truss, Concrete Truss, and Suspension Bridges and Evaluation of Los Angeles Monumental Bridges. Prepared with Far Western Anthropological Research Group for Caltrans, 2002-2008.
- Historic Property Survey Report and Historic Resources Evaluation Report and Finding of Effect for Beverly Boulevard Over Glendale Boulevard Project, Bridge 53C0045, Los Angeles, California. Prepared for CH2M Hill for City of Los Angeles, 2002-2006.
- Historic Context Report, Roadway Bridges in California, 1936 to 1959, and Statewide Inventory and Evaluation of all pre-1960 Metal Truss, Movable, and Steel Arch Bridges. Prepared with Pacific Legacy for Caltrans, 2002-2004.
- Historic Resources Evaluation Report for Proposed Improvements to Interstate 680 - State Route 4 Interchange, Contra Costa County, California. Prepared for URS Corporation, 2002-2004.

- Historic Resources Evaluation Report, Historic Property Survey Report and Finding of Effect, Glendale-Hyperion Bridge, Los Angeles, California. Prepared for CH2M Hill, 2002-2004.
- Commodore Schulyer F. Heim Memorial Bridge Project, Los Angeles County, California. Prepared for CH2M Hill, Inc. for the Port of Los Angeles, 2002-2003.
- Historic American Buildings Survey of Four Buildings, China Lake Propulsion Laboratory, NAWS China Lake, Kern, San Bernardino and Inyo Counties, California. Prepared with Epsilon Systems, Inc. for Navy, 2002-2003.
- Historic Property Survey and Evaluation for the Humboldt Road at Bruce Avenue Improvements Project, Chico, California. Prepared for City of Chico, 2002-2003.
- Historic Resources Evaluation Report and Finding of Effect, First Street Bridge and Street Widening Bridge 53C-1166, Los Angeles, California. Prepared for Parsons Transportation, Inc, 2002-2003.
- Historic Resources Evaluation Report for Proposed Improvements to Highway 12 Between Interstate 80 and Napa Junction, Solano County, California. Prepared for Caltrans, 2002-2003.
- Historic Resources Evaluation Report for the Proposed Improvements to Highway 101 Between Eureka and Arcata, California. Prepared for URS Corporation, 2002-2003.
- Historic Resources Evaluation Report for USBR Resources within the Millerton Recreation Management Plan, Madera County, California. Prepared for URS Corporation, 2002-2003.
- Historic Resources Evaluation Report for USBR's Friant-Kern Canal, Fresno County, California. Prepared for URS Corporation, 2002-2003.
- Historical Resources Evaluation Report: I-580 Eastbound HOV Lane Project Hacienda Drive to East of Greenville Road, Alameda County, California. Prepared with Parsons Transportation Group for Alameda County Transit Authority, 2002-2003.
- DPR 523 Primary Form for Historic Buildings and Structures in the Study Area for Silicon Valley Power's Pico Power Project in Santa Clara, California. Prepared for Foster Wheeler Environmental, 2002.
- Evaluation of 25-Mile Segments of the Union Pacific and Southern Pacific Railroads in Los Angeles County, California. Prepared for Alameda Corridor East Authority, 2002.
- Historic Architectural Inventory and Evaluation Report on US395 Clear Acre Lane/Sutro Street Interchange Complex, Reno, Nevada. Prepared for CH2MHill, 2002.
- Historic Architectural Survey and Evaluation Report for the Mossdale Landing Urban Design Concept and Gold Rush Boulevard Project, San Joaquin County, California. Prepared for EDAW, Inc. and Pacific Union Homes, 2002.
- Historic Architectural Survey Report for Conversion of a 2-Lane Highway to a 4-Lane Expressway on State Route 119 Between Cherry Avenue and Tupman Road, Kern County, California. Prepared with Far Western Anthropological Research Group for Caltrans, 2002.
- Historic Resources Evaluation Report of Shinn Road Bridge, Los Angeles County, California. Prepared with Parsons State and Municipal Division, for County of Los Angeles Department of Public Works, 2002.

- Historic Resources Evaluation Report: Congress Avenue Curb and Gutter, Sidewalk Improvement Project, Monterey County, California. Prepared for Caltrans and City of Pacific Grove, 2002.
- Historic Resources Inventory and Evaluation, University of California Davis Medical Center: Sacramento County Hospital Buildings, Sacramento County, California. Prepared for EIP Associates, 2002.
- Historical Resources Evaluation Report South Midtown Area Revitalization and Transportation Plan (SMART), Sacramento County, California. Prepared for EIP Associates, 2002.
- Historical Resources Evaluation Report, Circle Bridge, Mosquito Ridge Road, California Forest Highway 96, Tahoe National Forest, Placer County, California. Prepared for Department of Agriculture, US Forest Service, 2002.
- Historical Resources Evaluation Report, Hayfork Creek Bridge, 5C0183, Hayfork, Trinity County, California. Prepared for Hughes Environmental Consultants, 2002.
- Preliminary Assessment of Historic Significance of Twenty-one Buildings in the Vicinity of the Exxon Mobile Refinery Congeneration Project, Torrance, California. Prepared for URS Corporation, 2002.
- Historic Resources Evaluation Report, North Spring Street Bridge, Los Angeles, California. Prepared for URS Corporation, 2001-2008.
- Consultation to Caltrans District 4 for Section 106 Mitigation Measures, Carquinez Bridge Replacement Project, Contra Costa and Solano Counties, California. Prepared with Parsons Transportation Group for Caltrans, 2001-2004.
- Historic Architectural Survey Report and Finding of Effect, Larkin Street Bridge Earthquake Retrofitting Project, Monterey, California. Prepared for Boyle Engineering and Denise Duffy & Associates, 2001-2004.
- Historic Architectural Survey Report for Highway 4 Widening Project, Contra Costa County, California. Prepared for Parsons Transportation Group, 2001-2004.
- Historic Resources Evaluation Report, NID Lower Cascade Canal-Banner/ Cascade Pipeline Project, Nevada County, California. Prepared with Stantec Consulting for Nevada Irrigation District, 2001-2003.
- Historic Resources Evaluation Report, Silicon Valley Rapid Transit Corridor EIS/EIR Alternatives, Santa Clara County, California. Prepared for Earthtech, 2001-2003.
- Consultation to URS Corporation and the City of San Francisco for EIS/EIR for Development of Treasure Island and Yerba Buena Island, California. Prepared for URS Corporation and City of San Francisco, 2001-2002.
- Historic Architectural Survey Report and Finding of Effect, Caltrain Extension to Transbay Terminal Joint Development Project, San Francisco, San Mateo and Santa Clara Counties, California. Prepared for DeLeuw Cather Inc, 2001-2002.
- Historic Architectural Survey Report, Jellys Ferry Road Bridge Project (8C0043), Tehama County, California. Prepared for Hughes Environmental Consultants, 2001-2002.
- National Register of Historic Places Inventory and Evaluation of Previously Unevaluated World War II and Cold War Era Buildings, Parks Reserve Forces Training Area,

Alameda and Contra Costa Counties, California. Prepared for Parks Reserve Forces Training Area, 2001-2002.

- Nomination to the National Register of Historic Places, Jackson Fay Brown House, Dixon, California. Prepared for Parsons Transportation Group, 2001-2002.
- Bridge Evaluation of Hayfork Nine Mile Bridge (5C0067) Hyampom Road, Trinity County, California. Prepared for North State Resources on behalf of Trinity County, 2001.
- Historic Architectural Survey Reports for the Cordelia Road Bridge (23C0037) Replacement and the Gordon Valley Road Bridge (23C0165) Replacement, Solano County, California. Prepared for Solano County Transportation Department, 2001.
- Historic Resources Evaluation Report of the Gunn Street Bridge Replacement Project, Kelseyville, Lake County, California. Prepared for Lake County, 2001.
- Historic Resources Evaluation Report of the Morrill Road Bridge Replacement Project, Riverbank, California. Prepared for City of Riverbank, 2001.
- Historic Resources Evaluation Report, Modesto Irrigation District, Main Canal, Riverbank, California. Prepared for City of Riverbank, 2001.
- Historic Resources Inventory and Evaluation Report for the Proposed Veterans Administration National Cemetery Southwest of Dixon, Solano County, California. Prepared for URS Corporation, 2001.
- Historic Resources Inventory and Evaluation Report of the Cal-Ore Telephone Company Fiber Optics Project, Klamath County, Oregon and Siskiyou County, California. Prepared for Far Western Anthropological Research Group, 2001.
- Inventory and Evaluation of Previously Unevaluated Buildings at Tooele Army Depot. Prepared with CH2MHill for Sacramento District, Corps of Engineers, 2001.
- Inventory and Evaluation: National Register of Historic Places Eligibility of the Montague Depot Museum, Montague, California. Prepared for City of Montague, 2001.
- National Register of Historic Places Inventory and Evaluation of Fifteen World War II and Cold War Era Buildings and Structures at Tooele Army Depot, Tooele County, Utah. Prepared with CH2MHill for Sacramento District, Corps of Engineers, 2001.
- Supplemental Historic Architectural Survey and Evaluation Report for Oakland Army Base, Alameda County, California. Prepared with URS Corporation for City of Oakland, 2001.
- Historic Resources Inventory and Evaluation, Spring Valley Water Company's Alameda Creek System, Alameda County, California. Prepared for San Francisco Public Utilities Commission, 2000-2002.
- Inventory and Evaluation of Historic Resources, Caltrain Electrification Project, San Francisco to Gilroy (MP 0.0 to 77.4), San Francisco, San Mateo and Santa Clara Counties, California. Prepared for Parsons Transportation Group, 2000-2002.
- Alameda County Transit M.I.S. Phase I Historic Building Survey, California. Prepared for Parsons Transportation Group, 2000-2001.
- San Francisco Airport Expansion-Supplementary Historic Resources Evaluations of Runway Structures, San Francisco County, California. Prepared for URS Corporation, 2000-2001.

- Historic Architectural Survey and Evaluation of Mirrassou Residences, Los Gatos, California. Prepared for Pinn Brothers Construction, Inc, 2000.
- Historic Architectural Survey Report. Highway Improvements State Route 65 in Lincoln, California. Prepared with EIP Associates for Caltrans, 2000.
- Historic Resources Evaluation Report. Olive Trees on East Gibson Road and Bourn Drive/Court, Woodland, California. Prepared for EIP Associates, 2000.
- Historic Resources Inventory and Evaluation Report, Transmission Lines in the Stanislaus Corridor, Alameda County, California. Prepared for California Public Utilities Commission, 2000.
- Historic Architectural Survey Report for Grade Separations, Alameda Corridor-East Project, Los Angeles County, California. Prepared for DeLeuw, Cather Inc, 1999-2001.
- Southeast Area Traffic System (SEATS) Project, Sacramento, California. Prepared with EIP Associates for City of Sacramento, 1999-2000.
- Highway 25 By Pass Project, Hollister, San Benito County, California. Prepared with DeLeuw Cather, Inc for Caltrans, 1998-2000.
- Historic Resources Inventory and Evaluation Report for the Sacramento-Folsom Light Rail Extension Corridor Project, Sacramento County, California. Prepared for DeLeuw Cather Inc, 1998-2000.
- Historic Resource Evaluation Report: California Southern Railroad Line, San Diego, California. Prepared for Parsons Transportation Group, 1998.
- Inventory and Evaluation Projects for US Marine Corps in California (Camp Pendleton, MGACC Twentynine Palms, Marine Corps Recruit Depot). Prepared with Foster Wheeler Environmental Corporation for Marine Corp, 1997-2000.
- Historic Resource Evaluation of the Old Moccasin Powerhouse, Tuolumne County, California. Prepared for San Francisco Public Utilities Commission, Hetch Hetchy Water and Power, 1997-1998.
- Evaluation of National Register of Historic Places Eligibility, Rio Vista Army Reserve Center, Rio Vista, Solano County, California. Prepared for US Army Corps of Engineers, Sacramento District, 1996-1997.
- Historic Resources Evaluation of the Naval Radio Receiving Station, Imperial Beach, San Diego County. Prepared with KEA Environmental for SWDIV, 1996-1997.
- Historic American Buildings Survey for St. Peter's Chapel, Mare Island Naval Shipyard, Solano County, California. Prepared for Woodward Clyde, 1996.
- Inventory and Evaluation of the Indian Ditch System, Rush Creek, California. Prepared for Los Angeles Department of Water and Power, 1996.
- Inventory and Evaluation of Water Diversion Facilities, Los Angeles Aqueduct, Mono Extension. Prepared for Los Angeles Department of Water, 1996.
- Water Conveyance Systems in California: Historic Context Development and Evaluation Procedures, 1997-2000. Prepared for California Department of Transportation, Environmental Program/Cultural Studies Office, 1995-2000.
- Evaluation of Historic Significance Under CEQA (National Register Eligibility), Nishi Farm Complex, Davis, California. Prepared for City of Davis, 1995.

- Historic American Engineering Record, Pardee Dam Complex, Calaveras County, California. Prepared with Field Documentation Services (photography) and Woodward-Clyde Consultants, Inc for East Bay Municipal Utility District, 1995.
- Historic Architectural Survey, Sacramento Light Rail Southern Extension Project, Sacramento, California. Prepared for Sacramento Regional Transit District, 1995.
- National Register Evaluation of Mare Island Naval Shipyard, Solano County, California. Prepared for Tetra Tech, Inc., San Francisco, 1995.
- National Register Evaluation of World War II Buildings and Sites at McClellan Air Force Base, Sacramento County, California. Prepared for Woodward-Clyde Consultants, Inc, 1995.
- National Register Evaluation, Sacramento Air Depot River Docks Complex. Prepared for Army Corps of Engineers, Sacramento District, 1995.
- Historic Resources Evaluation Report on the Western Pacific Railroad, Sutter and Yuba Counties, California. Prepared with Woodward-Clyde Consultants for Caltrans, 1994.
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- Highway 58 Tier 1 Route Assessment, Kern County, California. Prepared for DeLeuw Cather, 1992-1995.
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- History and Cultural Resources Study of the Sacramento San Joaquin Delta. Prepared for California State Lands Commission, 1978.
- History of California Water Resources Development and the Drought of 1975-1977. Prepared for Teknekron, Inc, 1977.

Heather Norby

Historian, JRP Historical Consulting, LLC

Ms. Norby's experience at JRP includes many aspects of historical research, writing, and cultural resources management. Since joining JRP in 2008, she has worked on a number of cultural resource evaluations, and has conducted primary and secondary research at numerous repositories. Currently, she is contributing to a National Register of Historic Places nomination and Historic American Engineering Record for the Hunters Point Commercial Drydock Historic District. Ms. Norby qualifies as a historian under the United States Secretary of the Interior's Professional Qualification Standards.

Professional Background

Ms. Norby received her B.A. in history from the University of California, Davis in 2000, and her M.A. in history from the University of California, Berkeley in 2002. As part of her graduate coursework, she wrote an urban, spatial analysis of downtown Pittsburg, California. Prior to joining JRP, Ms. Norby taught United States history at community colleges in the San Francisco East Bay and the Sacramento areas.

Relevant Experience

- National Register of Historic Places Nomination/Historic American Engineering Record for Hunters Point Commercial Drydock Historic District. Prepared for Southwest Division, Naval Facilities Engineering Command, Department of the Navy, 2009. In Progress.
- Historical Resources Inventory and Evaluation Report for Ventura River Project and Cachuma Project. Prepared for U.S. Bureau of Reclamation, 2009. In Progress.
- Historical Resources Inventory and Evaluation Report for Alta Vista Solar Tower Project, Los Angeles County, California. Prepared for Tetra Tech, 2008.

Other Experience

- Historical Resources Evaluation, Hilltop Place, Carmel. Prepared for Jim Caldwell, Architect, 2009. In Progress.
- Historical Resources Inventory and Evaluation. Roman Plunge Renovation and Replacement Project. Prepared for Naval Facilities Engineering Command Southwest, 2009. In progress.
- Lawrence Berkeley National Laboratory Cultural Resources Management Plan, Berkeley, Alameda County, California. Prepared for Lawrence Berkeley National Laboratory, 2008. In progress.
- Historic Resources Inventory and Evaluation, Van Ness Bus Rapid Transit Project. Prepared for San Francisco County Transportation Authority, 2008. In progress.
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- Historical Research into Construction and Performance of Non-Urban, Federal Project Levees along the San Joaquin River, California. Prepared for Kleinfelder, 2008.

GREG W. RAINKA

Research Assistant III, JRP Historical Consulting, LLC

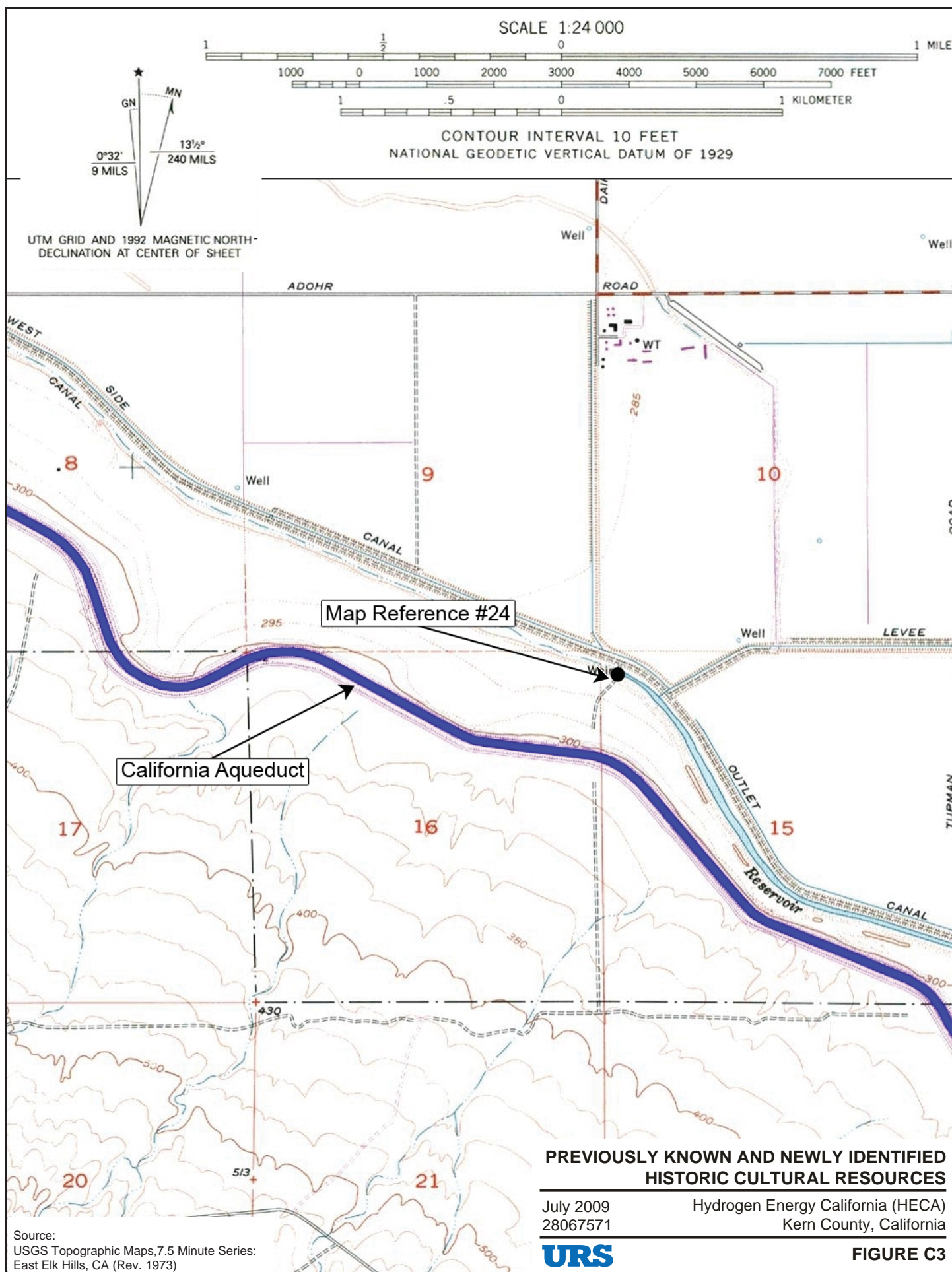
Mr. Rainka received his M.S. in Historic Preservation from the School of the Art Institute of Chicago and his B.A. in General Science from Linfield College in McMinnville, Oregon. He has been with JRP since March of 2009, and has assisted with a number of historic resource evaluations.

His professional architectural resource management experience encompasses both urban and rural contexts. Mr. Rainka has performed intensive evaluations of structures ranging from 19th century vernaculars to turn-of-the-century high styles, to mid-century modern types. In Chicago, he was employed as a Preservation Planning Associate at Granacki Historic Consultants, where he carried out a variety of projects.

Relevant Experience

- Inventory and Evaluation of Finney Substation, Modesto Irrigation District, Modesto, California. Prepared for Point Impact Analysis, LLC., 2009.
- Inventory and Evaluation of Buildings within the HECA Project area, Buttonwillow, California. Prepared for URS, 2009.
- Historic Resources Inventory and Evaluation Report for TRIP Projects, Bakersfield, California. Rosedale and Centennial Corridors. Prepared for HNTB, 2009.
- Village of Oswego, Illinois Historic Resources Survey. Prepared for the Village of Oswego, 2008.
- Village of Glen Ellyn, Illinois Historic Resources Survey. Prepared for the Village of Glen Ellyn, 2008.

Appendix C3
Historic Cultural Resources Figure



Appendix B
Biological Resources

Appendix B1
Biological Resources Responses

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DATA ADEQUACY RECOMMENDATION ID 7

The Project Site is primarily an actively cultivated agricultural field. Agricultural ditches surround and cross through the Project Site. Intermittently present water in these ditches provides habitat for amphibians, such as bullfrog (*Rana catesbiana*), Pacific treefrog (*Hyla regilla*), Western toad (*Bufo boreas*), and Western spadefoot (*Spea hammondi*).

The proposed carbon dioxide, natural gas, and potable water linear facilities are predominantly situated in desert saltbush scrub. Desert saltbush (*Atriplex polycarpa*) is the dominant shrub. Bladderpod (*Isomeris arborea*) and cheesebush (*Hymenoclea salsola*) are scattered throughout this area. The shrubs provide habitat for a variety of lizards, including side blotch lizard (*Uta stansburiana*), Great Basin whiptail (*Aspidoscelis tigris tigris*), and the state and federally endangered blunt-nosed leopard lizard (*Gambelia sila*). The northeast portion of the Elk Hills area was burned in 1997, leaving the charred remnants of many shrubs. The herbaceous layer is dominated by annual herbs, including fiddleneck (*Amsinckia menziesii* var. *intermedia*), filaree (*Erodium* spp.), goldfields (*Lasthenia californica*), and non-native grasses such as red brome (*Bromus madritensis* ssp. *rubens*), and Mediterranean grass (*Schismus barbatus*). A population of Hoover's eriastrium (*Eriastrum hooveri*, California Native Plant Society [CNPS] 4.2) is present south of the Elk Hills School in the town of Tupman.

DATA ADEQUACY RECOMMENDATION ID 8

The majority of land to the northwest, north, and northeast of the project area is used for agricultural purposes; much of the land to the west, south, and east is mostly vegetated but these areas have been developed for oil production. The agricultural lands are a mix of cotton, alfalfa, wheat, barley, almonds, pistachio, and other fruit trees and row crops. Common wildlife species within the agricultural areas include bullfrog (*Rana catesbiana*), Pacific treefrog (*Hyla regilla*), Western toad (*Bufo boreas*), side blotch lizard (*Uta stansburiana*), Great Basin whiptail (*Aspidoscelis tigris tigris*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), cattle egret (*Bubulcus ibis*), American kestrel (*Falco sparverius*), killdeer (*Charadrius vociferus*), mourning dove (*Zenaida macroura*), Say's phoebe (*Sayornis saya*), black phoebe (*Sayornis nigricans*), Western kingbird (*Tyrannus verticalis*), common raven (*Corvus corax*), European starling (*Sturnus vulgaris*), Northern mockingbird (*Mimus polyglottos*), cliff swallow (*Petrochelidon pyrrhonota*), horned lark (*Eremophila alpestris*), American pipit (*Anthus rubescens*), house finch (*Carpodacus mexicanus*), white-crowned sparrow (*Zonotrichia leucophrys*), Western meadowlark (*Sturnella neglecta*), Brewer's blackbird (*Euphagus cyanocephalus*), brown-headed cowbird (*Molothrus ater*), domestic dog (*Canis familiaris*), raccoon (*Procyon lotor*), and coyote (*Canis latrans*).

Undeveloped vegetated areas surrounding the project area to the west, south, and east are dominated by desert saltbush scrub with some willow-cottonwood riparian areas. Common wildlife species found in this area include bullfrog, Pacific treefrog, Western toad, side blotch lizard, Great Basin whiptail, American kestrel, mourning dove, Say's phoebe, Western kingbird, common raven, Northern mockingbird, rock wren (*Salpinctes obsoletus*), cliff swallow, horned lark, American pipit, white-crowned sparrow, lark sparrow (*Chondestes grammacus*), Western meadowlark, kangaroo rats (*Dipodomys* spp.), black-tailed jackrabbit (*Lepus californicus*), San Joaquin kit fox (*Vulpes macrotis mutica*), and coyote.

The documented sensitive plant communities within 10 miles of the Project Site include Great Valley mesquite scrub, valley sink scrub and valley saltbush scrub (CNDDDB 2009, see Revised AFC Figure 5.2-3). Great Valley mesquite scrub occurs approximately 4 miles northeast, 9 miles east, and 8 miles southeast of the project site. Valley sink scrub occurs approximately 5 miles northeast and 11 miles southeast of the site. Valley saltbush scrub occurs approximately eight miles west-northwest, 10 miles north, and 9 miles northeast of the Project Site. Though not mapped in the California National Diversity

Data Base (CNDDDB), the Kern River is significant biological resource. The closest portion of the river is approximately 6 miles southeast of the Project Site; the proposed natural gas pipeline would be installed under the Kern River using horizontal directional drilling techniques.

The Elk Hills have numerous sensitive plant species documented within 10 miles of the Project site. Sensitive plant species documented in the Elk Hills area are included in the Revised AFC Table 5.2-5. The carbon dioxide, potable water, and natural gas pipelines would pass through some of this area.

DATA ADEQUACY RECOMMENDATION ID 9

Figures 1 through 17 are attached to this appendix. Figure 1 provides an overview of the survey findings in relation to the Project Site and linear facilities. For the remaining figures, the following provides a brief description for sensitive biological resources detected during the project-related field surveys.

Hoover's eriastrum (*Eriastrum hooverii*) – Figure 2

A population of approximately 1,000 individuals of Hoover's eriastrum, a small sensitive plant listed as CNPS 4.2, was observed during the spring 2009 surveys (Figure 2).

Western spadefoot toad (*Spea hammondi*) – Figure 3

Two small pools of water (approximately 10 feet apart) were found southeast of Tupman Road and the Kern River Drainage. Both pools are captured within the one circle shown on Figure 3. Each pool had more than 100 individual Western spadefoot toad tadpoles. Both pools dried up soon thereafter with 100 percent mortality of the tadpoles.

Blunt-nosed leopard lizard (*Gambelia sila*) – Figures 4 through 7

2008 – Survey results for the 2008 surveys and the associated figure are included in Appendix B2 of the Revised AFC Supplement. Detailed maps of the survey area and results are included in Figure 4 through 7 of this appendix.

2009 – Surveys are still in progress. To date, only one first-year male has been found.

Burrowing owl (*Athene cunicularia*) – Figures 8 through 10

Figure 8 shows the area where there is potential suitable habitat for burrowing owls. Within this area, two more detailed maps are provided in Appendix B1 of this Revised AFC Supplement and described below.

2008 – A minimum of three individuals were seen in the former proposed project area (Figure 9).

2009 – A lone individual was seen on one day near the intersection of Tupman Road and the Kern River Drainage (Figure 10). There were no associated burrows and the individual has not been seen on numerous followup visits. This bird was likely a transient individual.

Loggerhead shrike (*Lanius ludovicianus*) – Figure 11

Numerous shrikes have been seen in the area, though no nests have been located. Figure 11 shows the general areas where shrikes have been seen on a regular basis. This figure is not at 1:6000 scale because there were no specific features (i.e., nests) to document.

California horned lark (*Eremophila alpestris actia*) – Figure 12

Though no longer listed as a California Species of Special Concern, lark observations were documented. Numerous larks have been seen in the area; no nests have been located. Figure 12 shows the areas where larks have been seen on a regular basis. This figure is not at 1:6000 scale because there were no specific features (i.e., nests) to document.

Nelson's antelope ground squirrel (*Ammospermophilus nelsoni*) – Figures 13 and 14

Figures 13 and 14 show the areas where Nelson's antelope ground squirrels have been seen. The majority of observations are near the town of Tupman.

San Joaquin kit fox (*Vulpes macrotis mutica*) – Figure 15

Figure 15 shows the area in which kit fox sign has been seen. This figure is not at 1:6000 scale because there were no specific features (i.e., active natal dens) to document.

American badger (*Taxidea taxus*) – Figures 16 and 17

Figure 16 shows the area in which a badger sign was observed consisting of an excavated small mammal burrow showing claw marks on side of tunnel. This figure is not at 1:6000 scale because there were no specific features (i.e., active den) to document. Figure 17 also shows the location of a badger skull which was observed during surveys.

DATA ADEQUACY RECOMMENDATION ID 10

See response to Data Adequacy Recommendation Identification 7 above.

DATA ADEQUACY RECOMMENDATION ID 11

Please see Appendix B2 of this Revised AFC Supplement for the results of the 2008 surveys.

For 2009, as a result of discussions with the California Department of Fish and Game (CDFG), URS has surveyed the proposed natural gas/potable water linear facilities and portions of the Kern River Drainage. The area surveyed in 2008 was not resurveyed because the area is no longer proposed as the project site and numerous individual blunt-nosed leopard lizards (BNLL) were detected.

To date, 11 of the 12 BNLL adult surveys for 2009 have been completed. During these surveys, one male first-year BNLL was sighted approximately 500 feet to the northwest of the Elk Hills school along the natural gas/potable water linear. The individual was located during the fifth 2009 survey and has not been seen in subsequent surveys. No other BNLL have been observed during the 2009 surveys.

Please see Appendix B3 of this Revised AFC Supplement for the CNDDDB forms.

Please see Appendix B4 of this Revised AFC Supplement for the resumes.

DATA ADEQUACY RECOMMENDATION ID 12

Please see Appendix B2 of this Revised AFC Supplement for the results of the 2008 surveys.

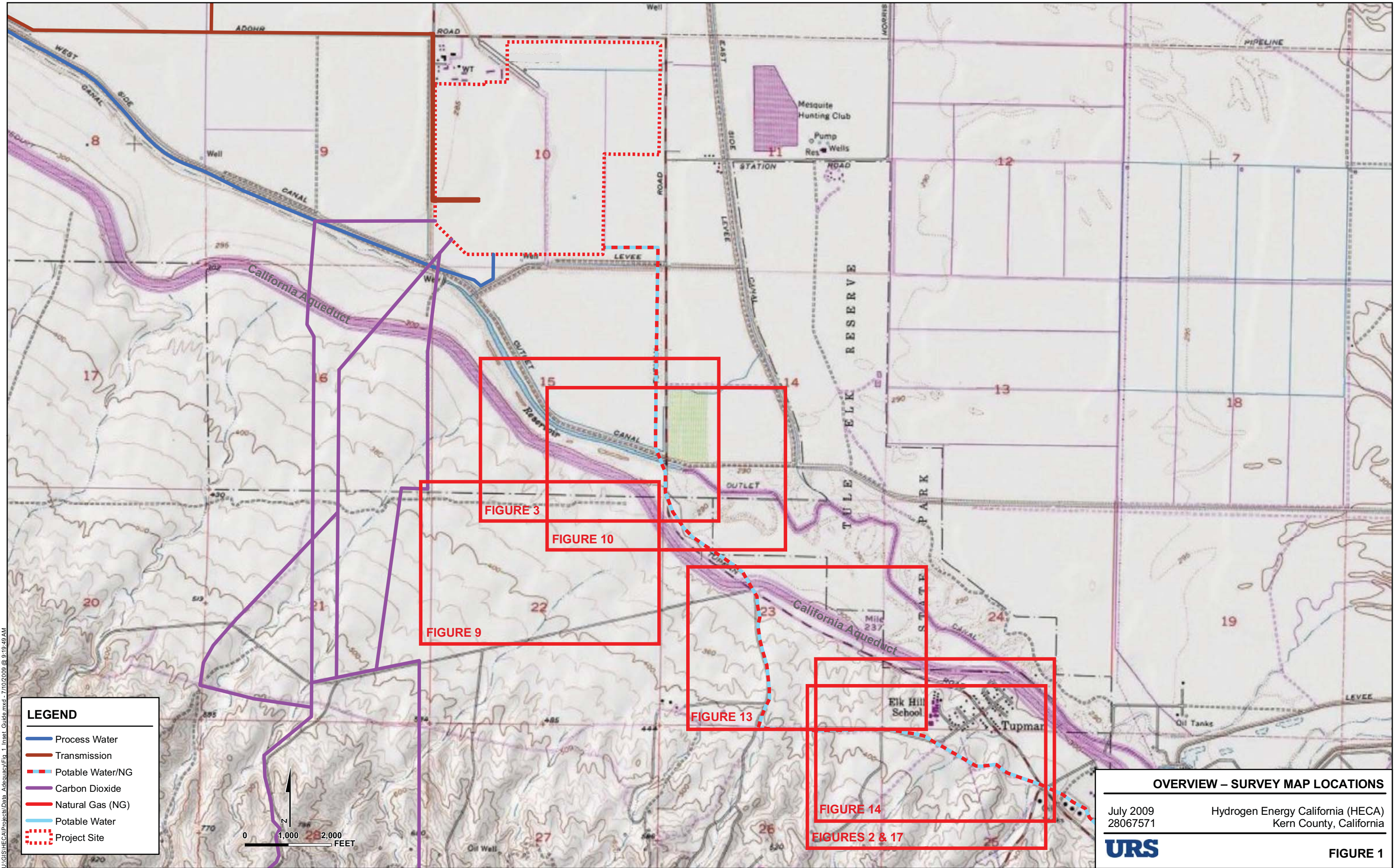
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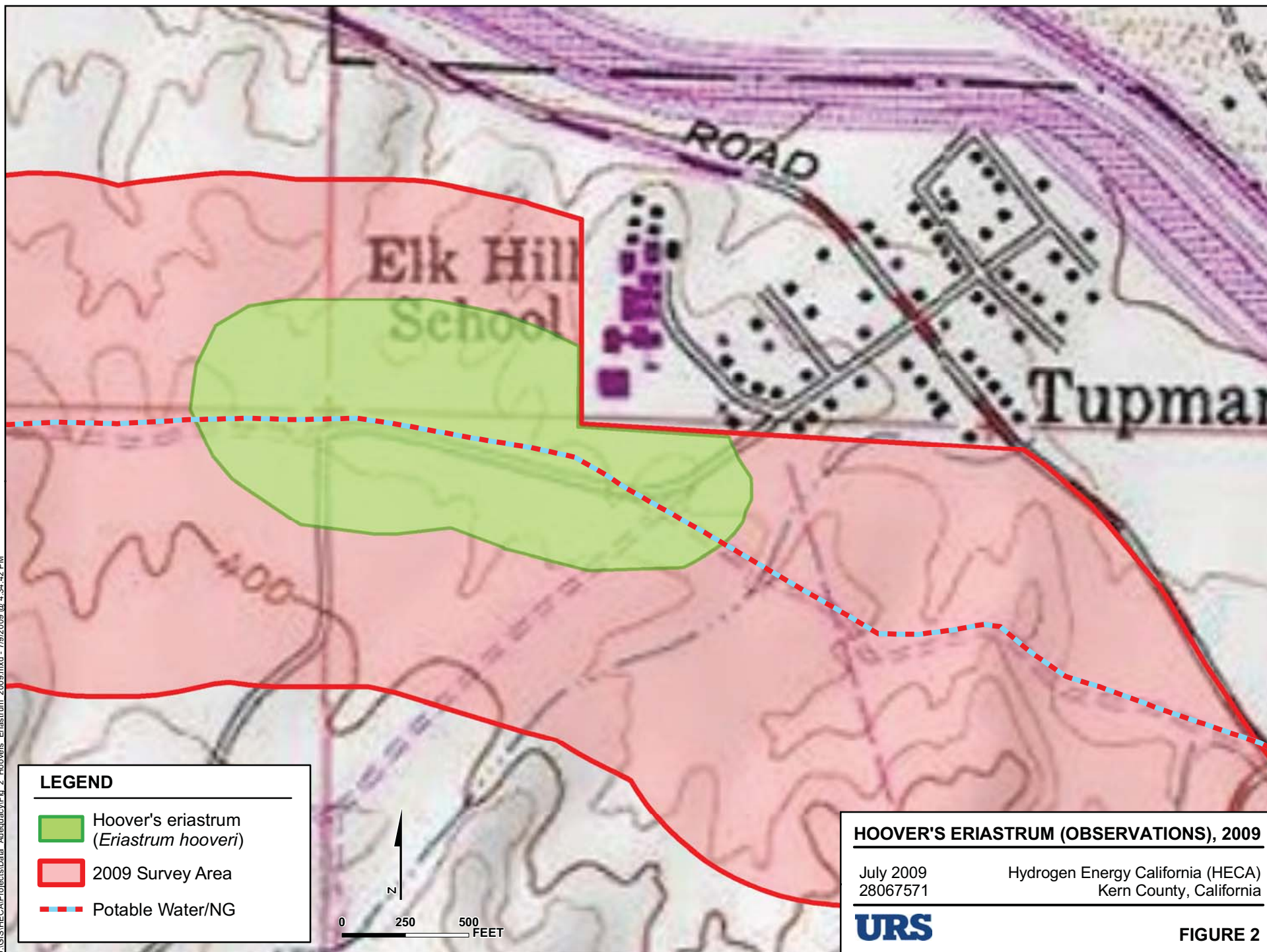
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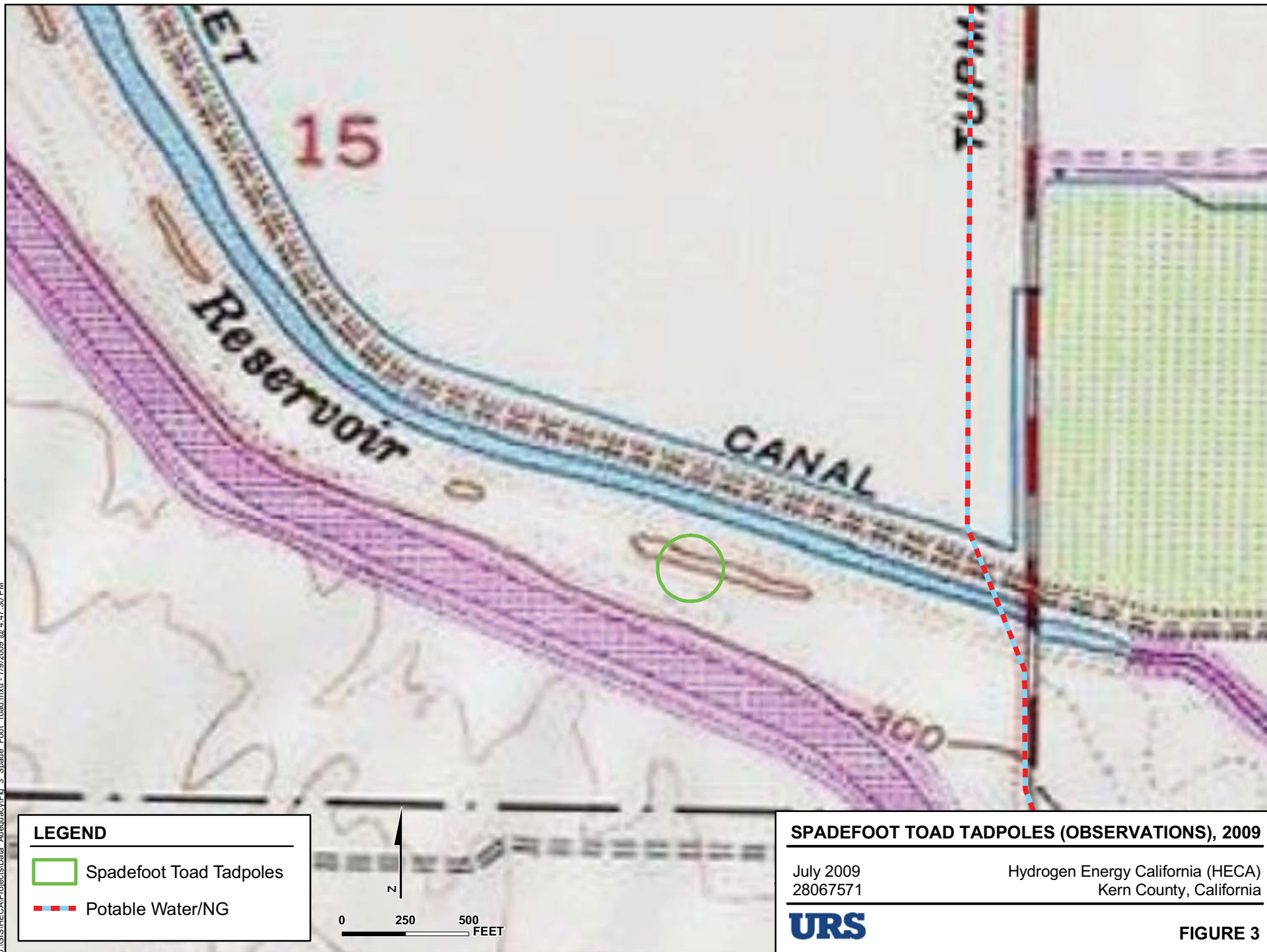
The following is a list of contacts whereby Applicant has had informal discussions regarding mitigation lands and mitigation banking in the region:

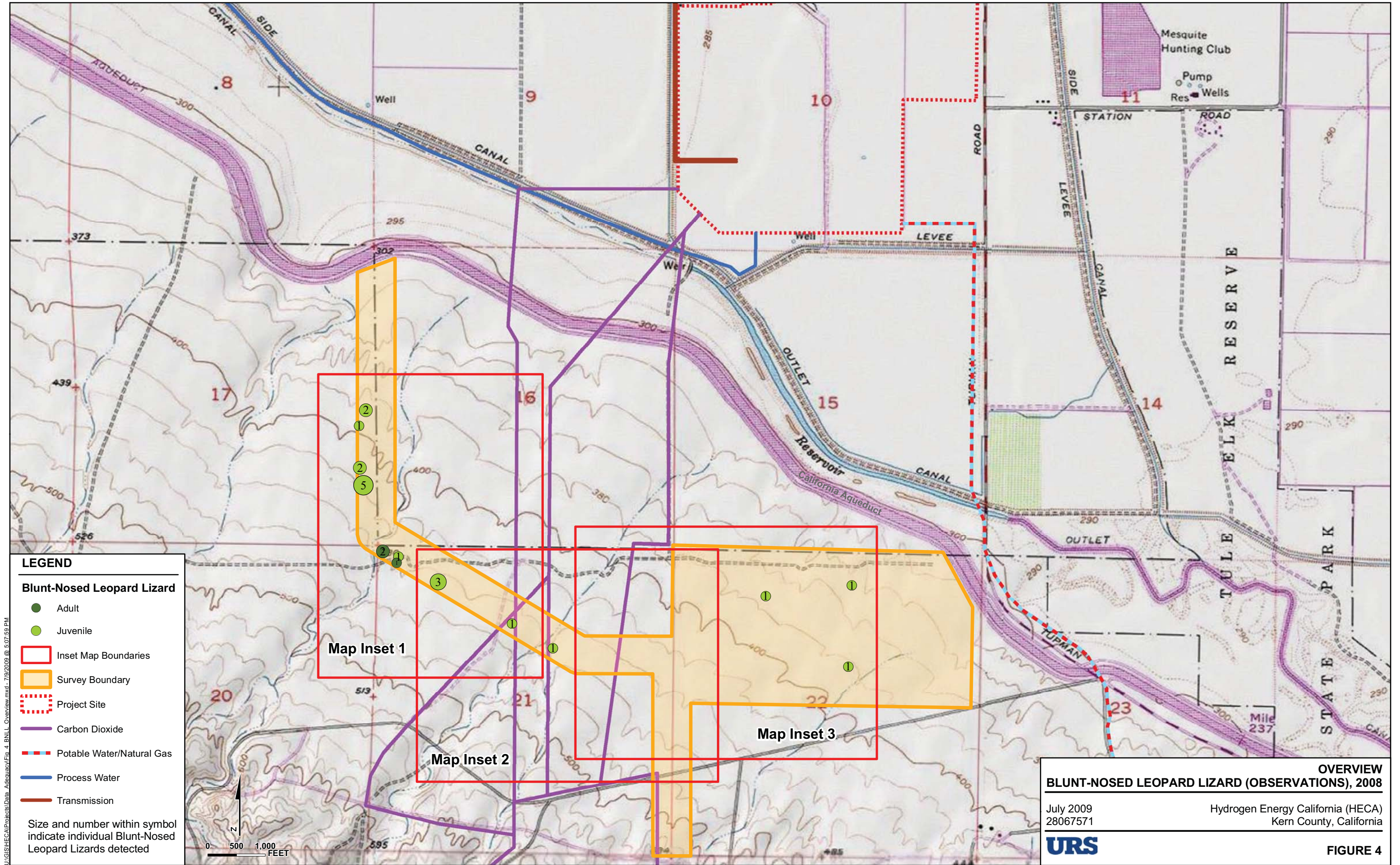
- Kern Water Bank Authority, Cheryl Harding, 1620 Mill Rock Way, Suite 500, Bakersfield, CA 93311, (661) 398-4900
- Occidental of Elk Hills, Bill Dixon and Mike Glavin, Occidental of Elk Hills, Inc., 28590 Highway 199, Taft, CA 93268, (661) 858-0249
- Center for Natural Lands Management, 215 West Ash Street, Fallbrook, CA 92028, (760) 731-7790



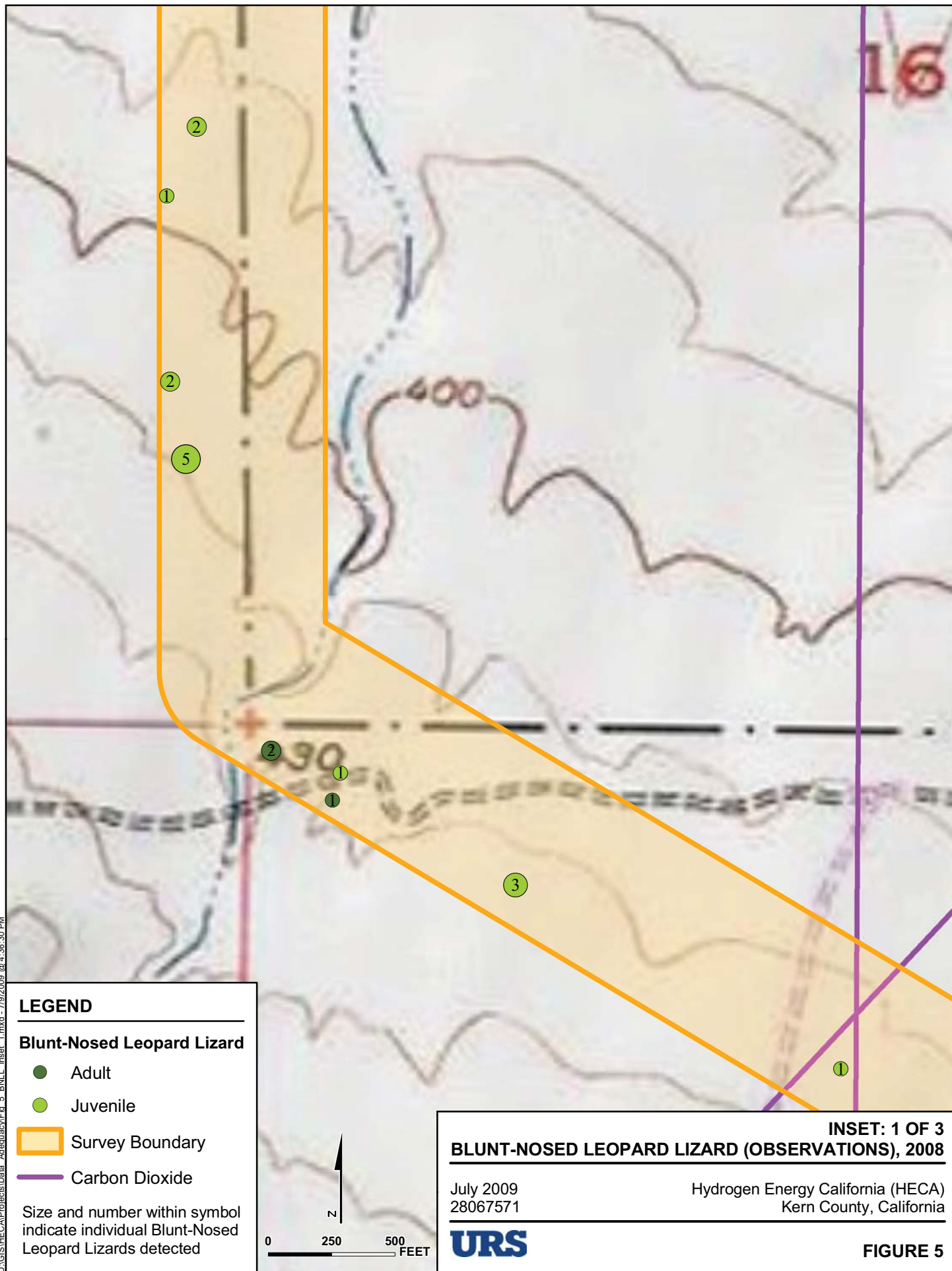
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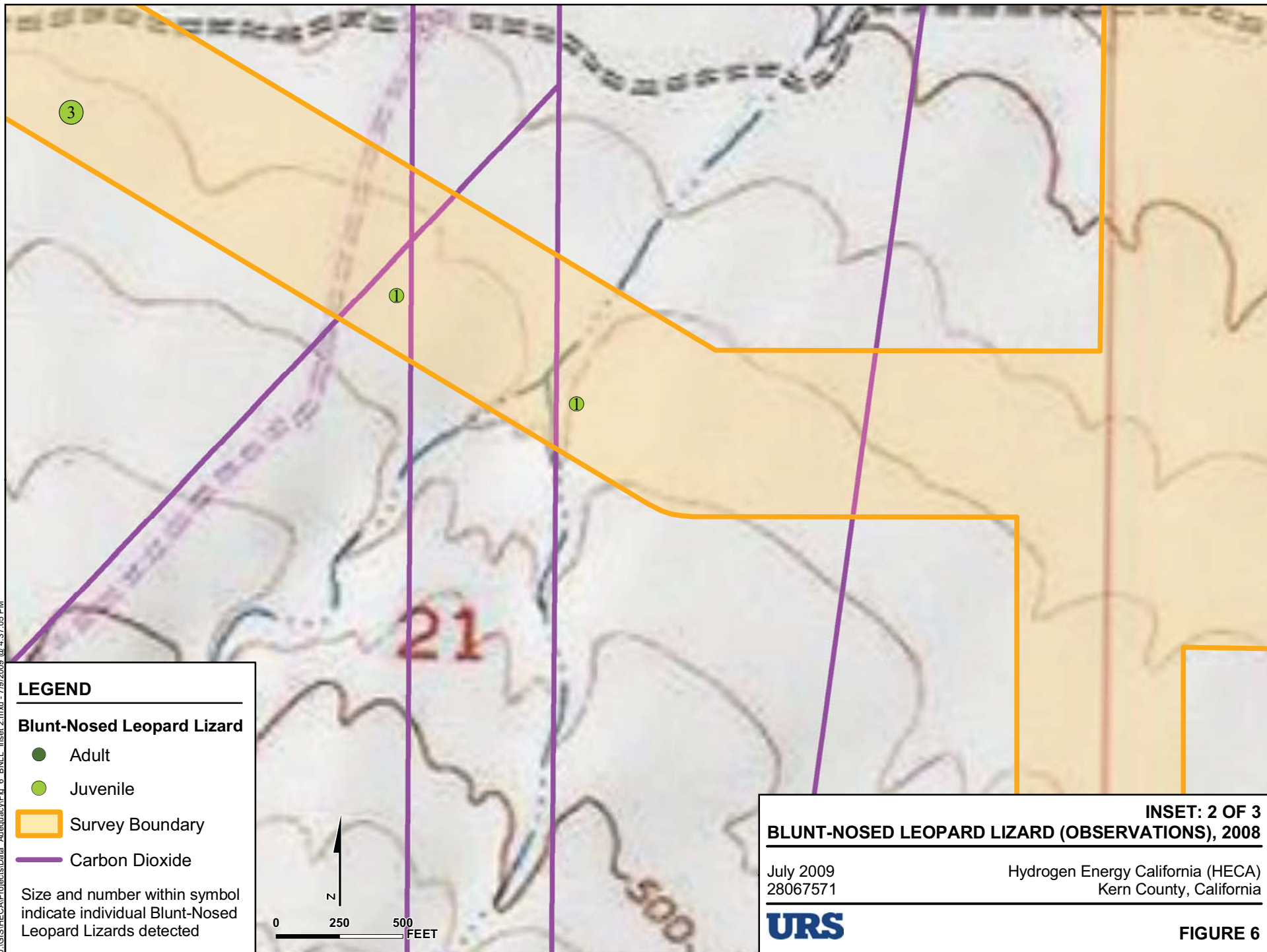




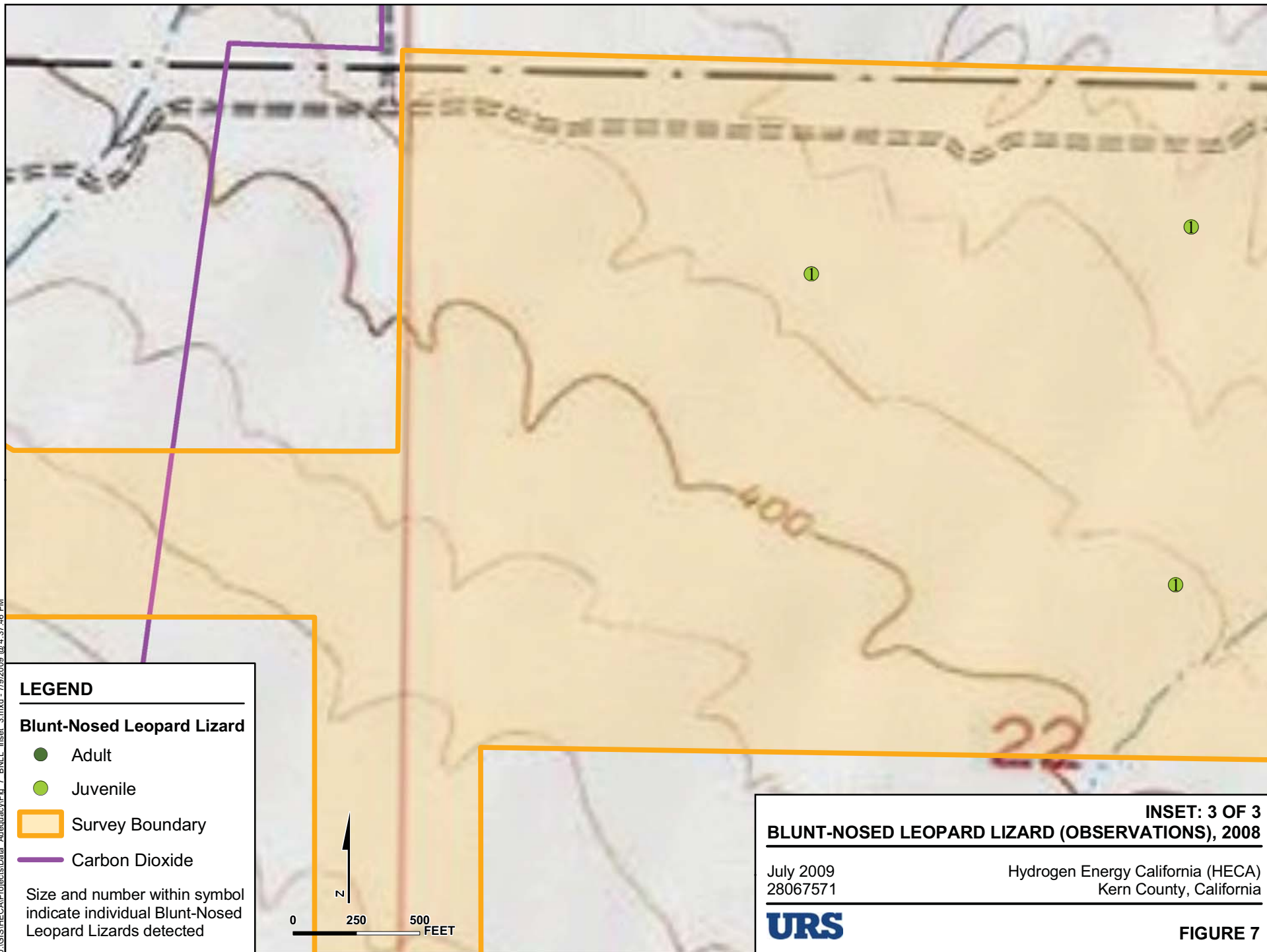


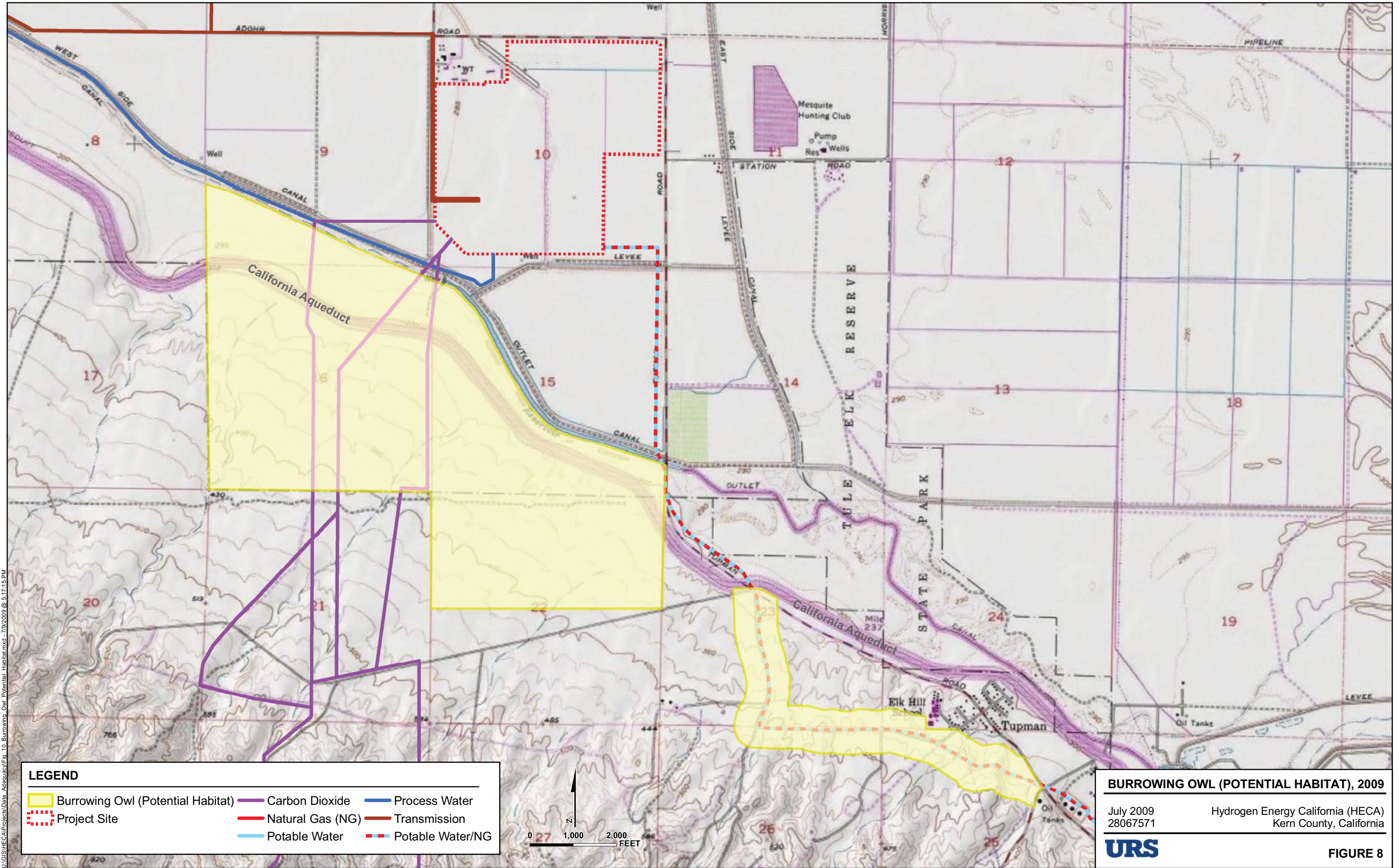
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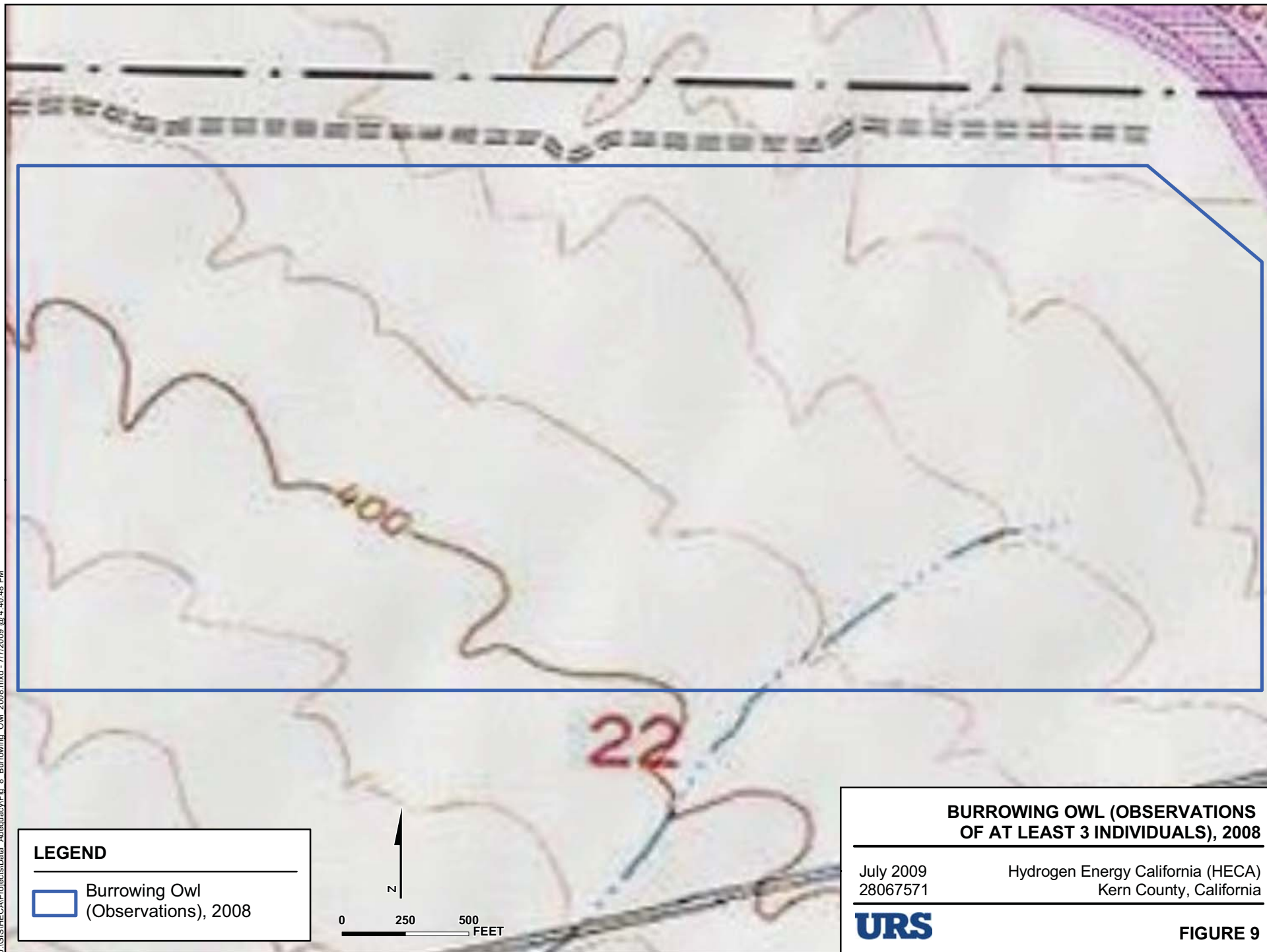


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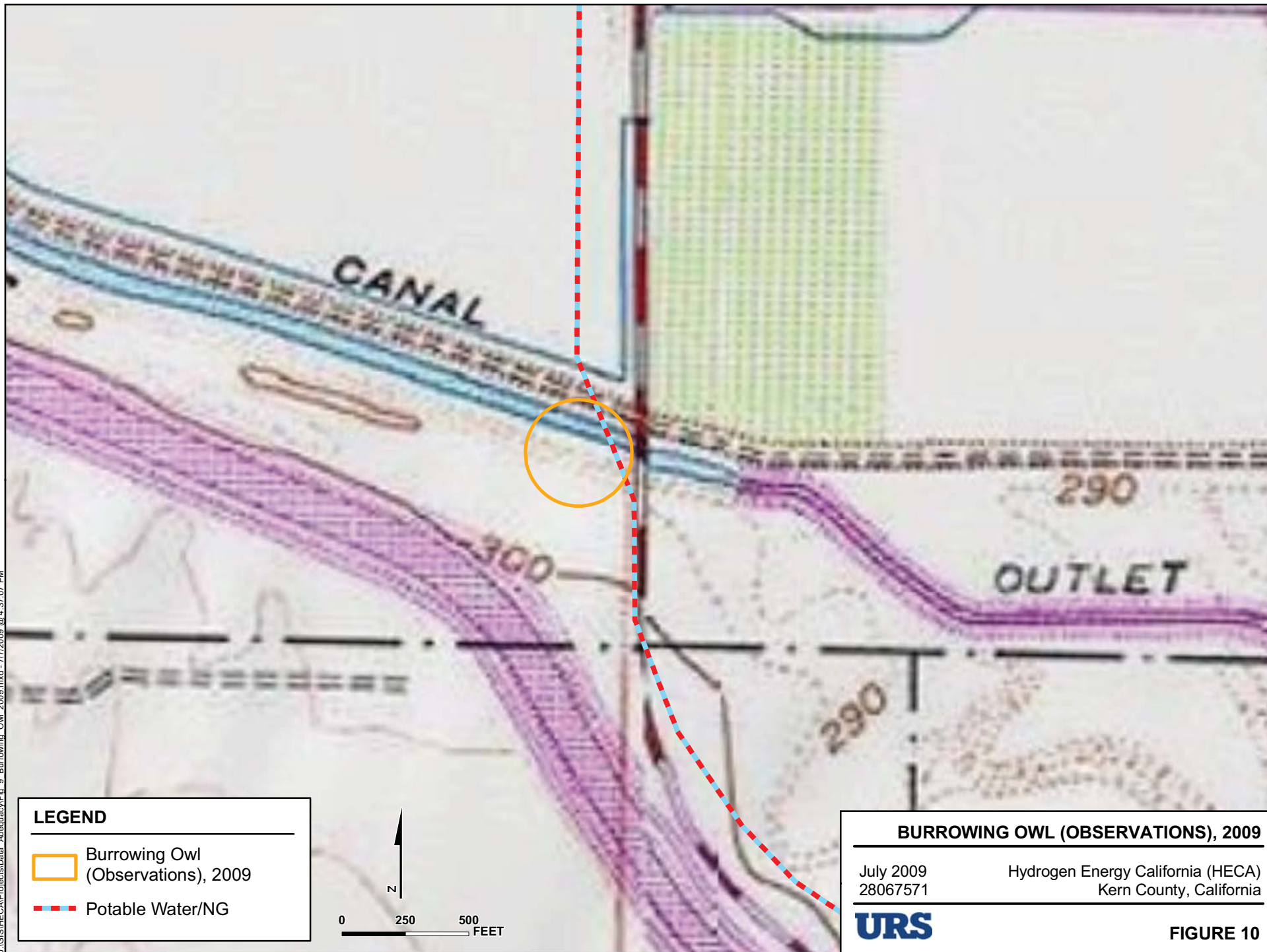


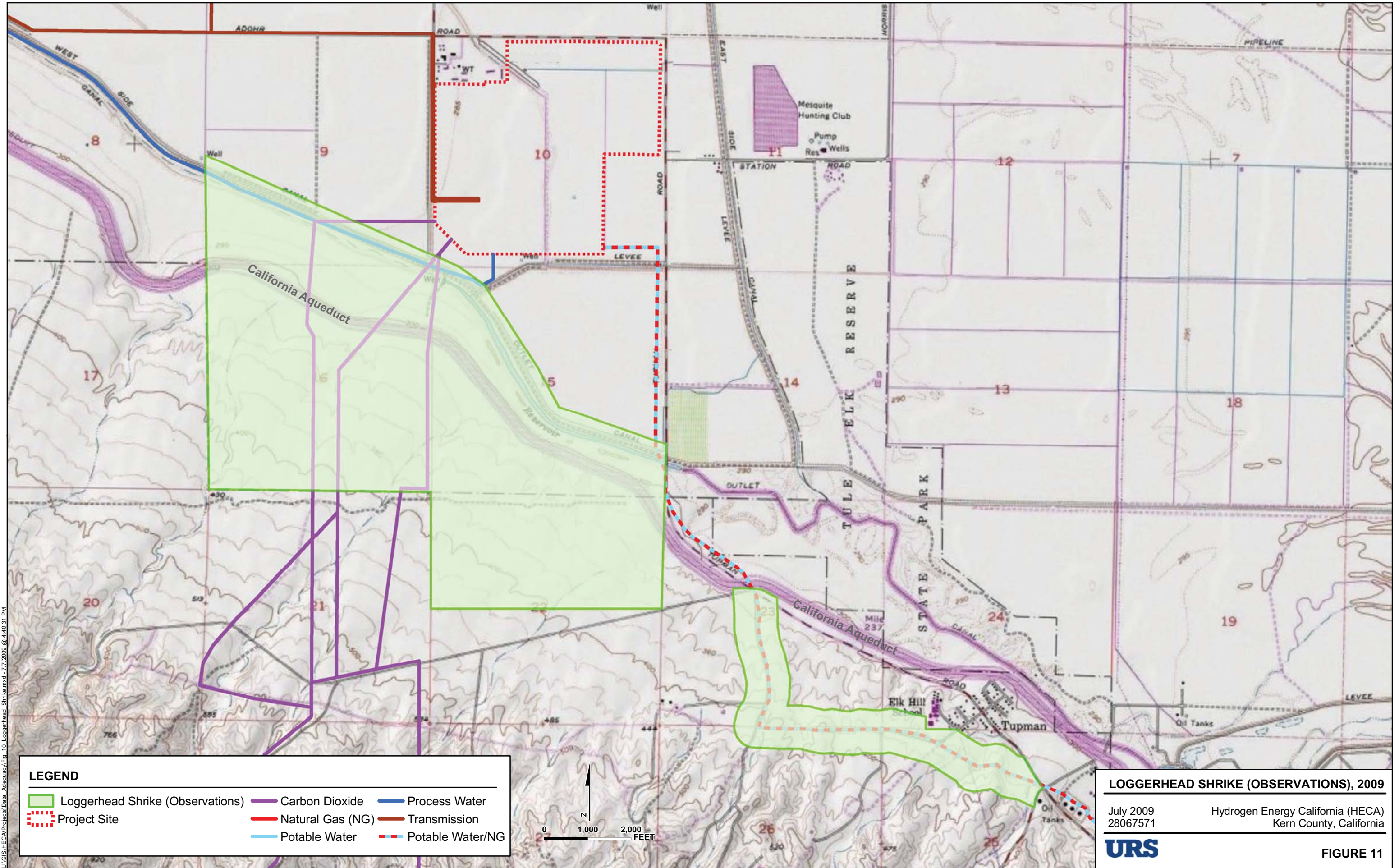


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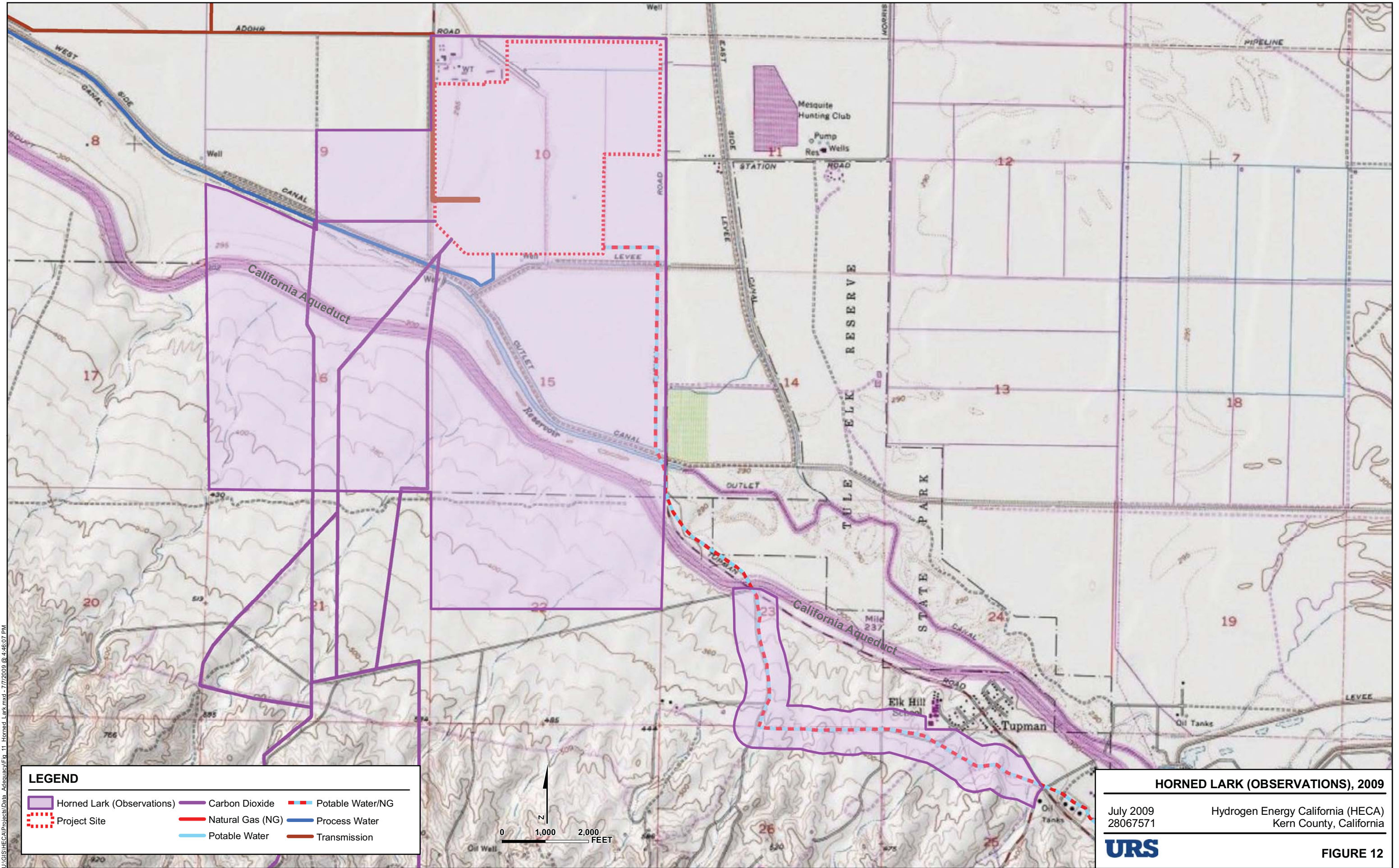


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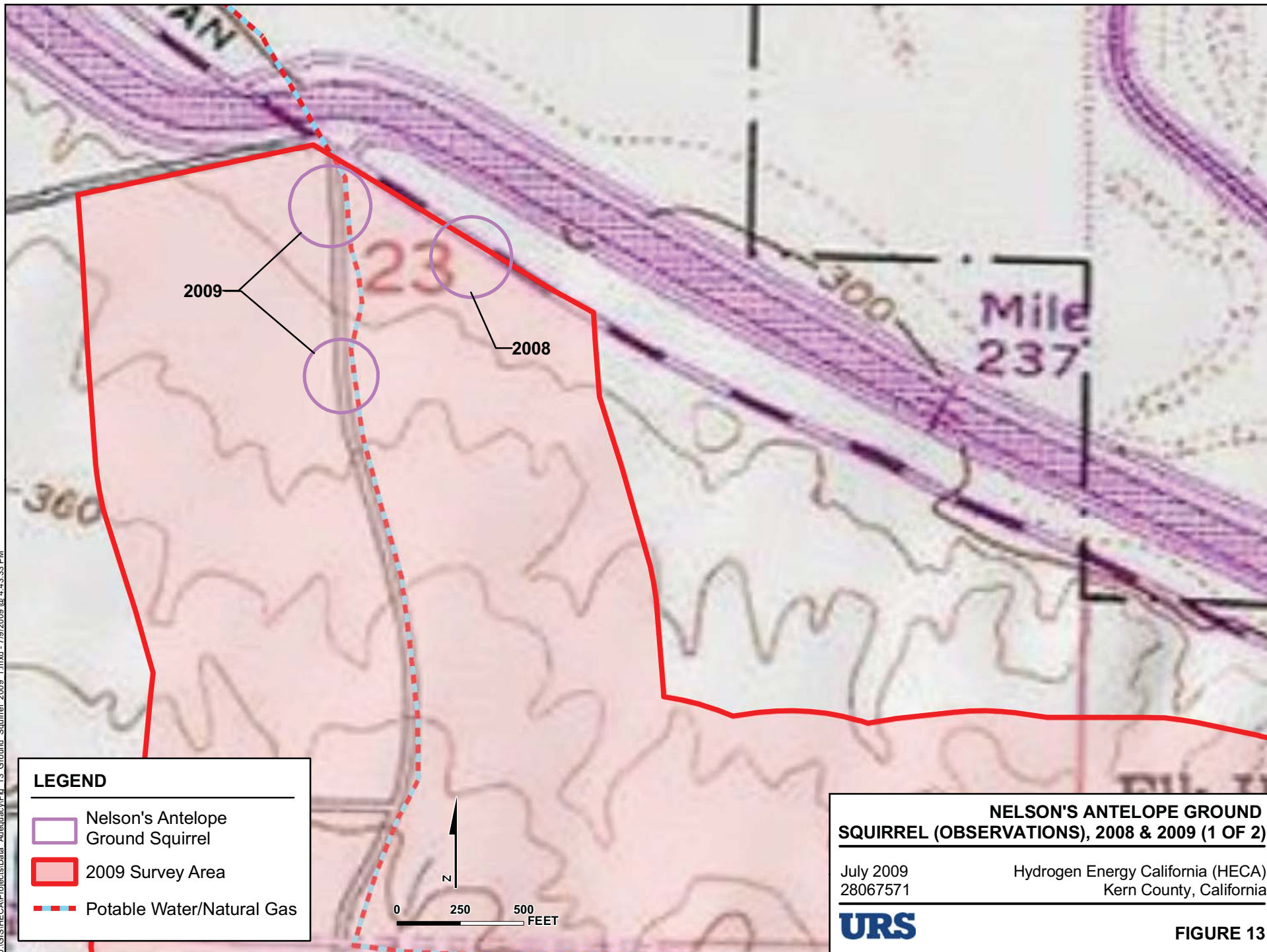


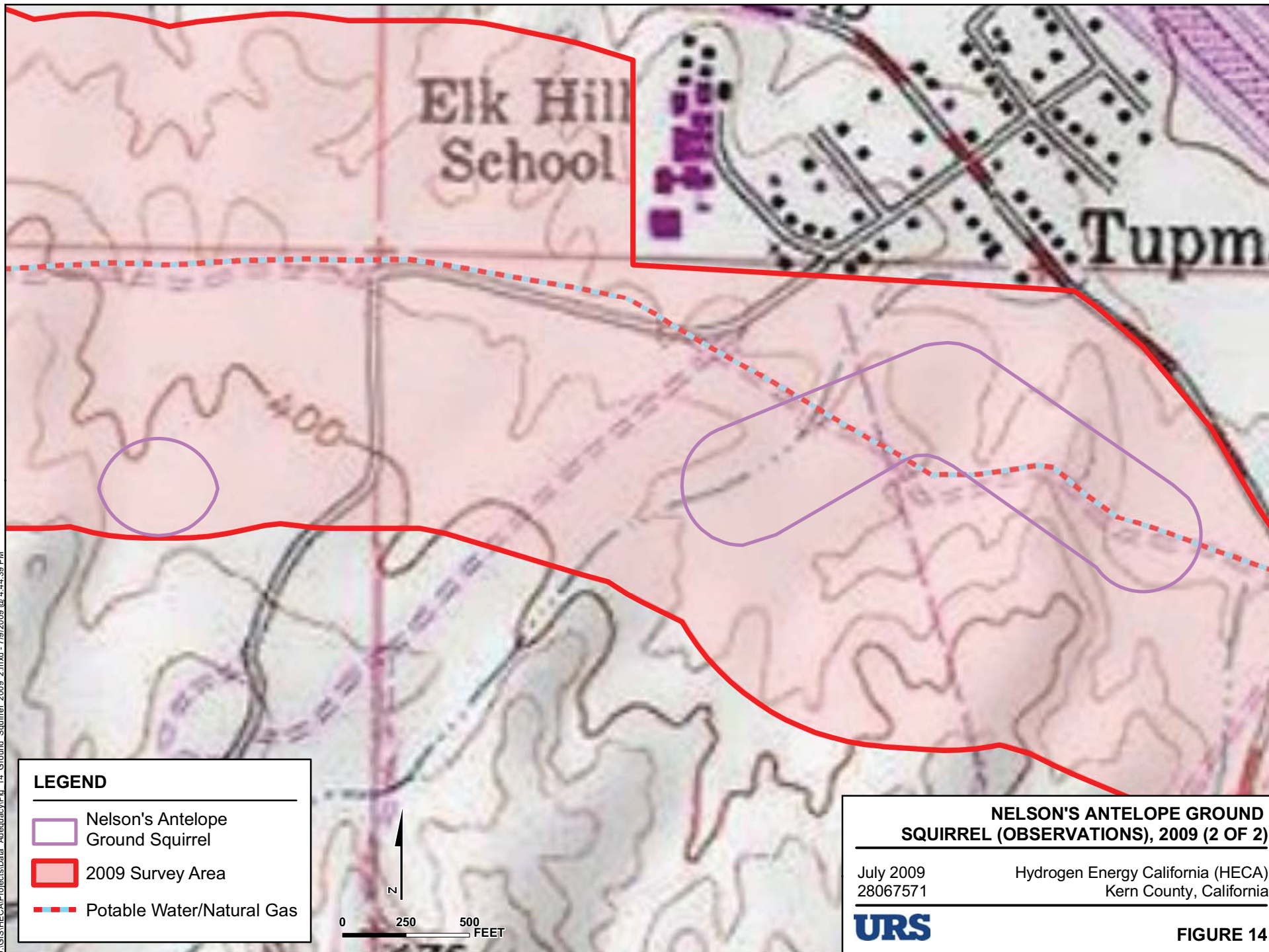


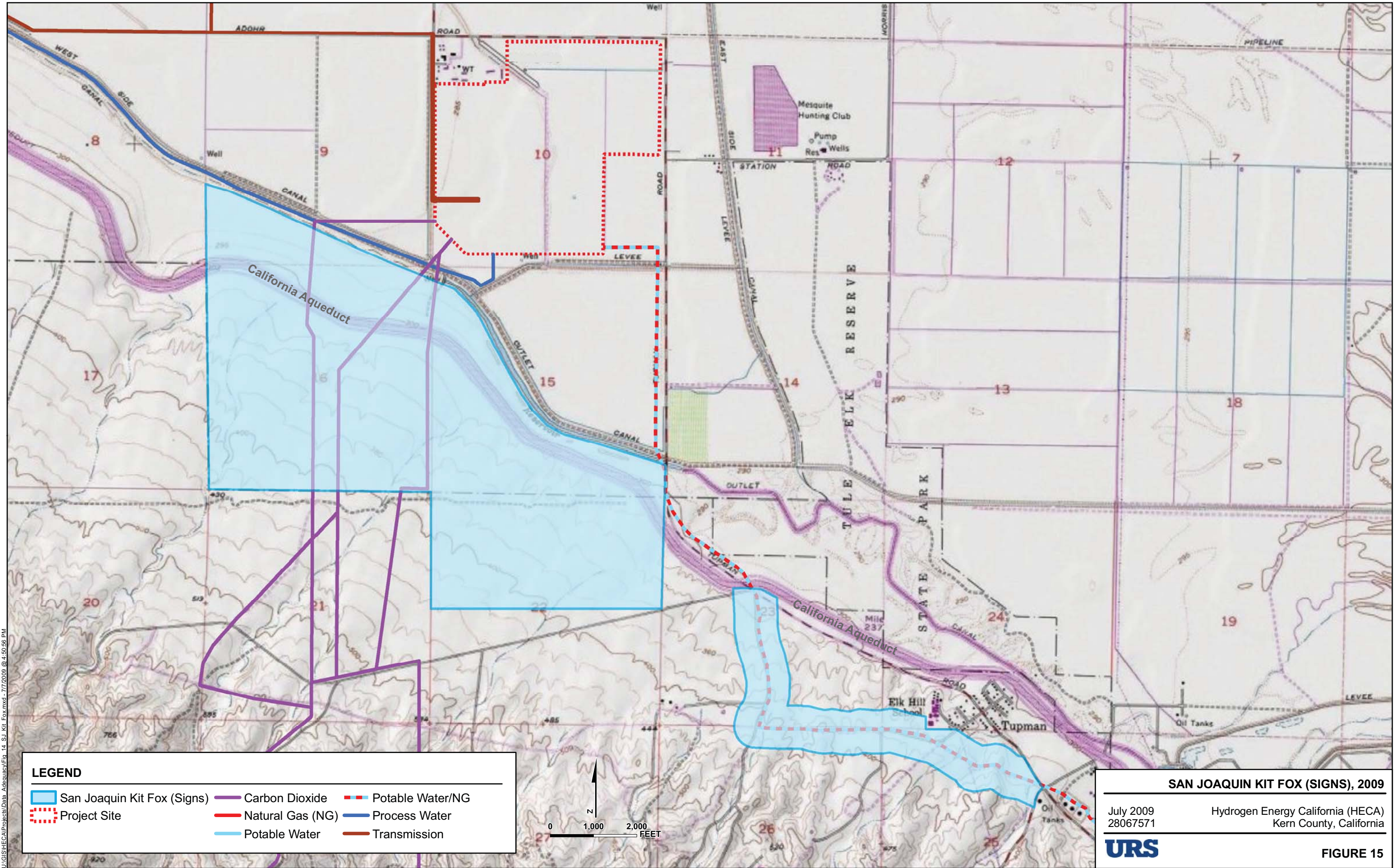
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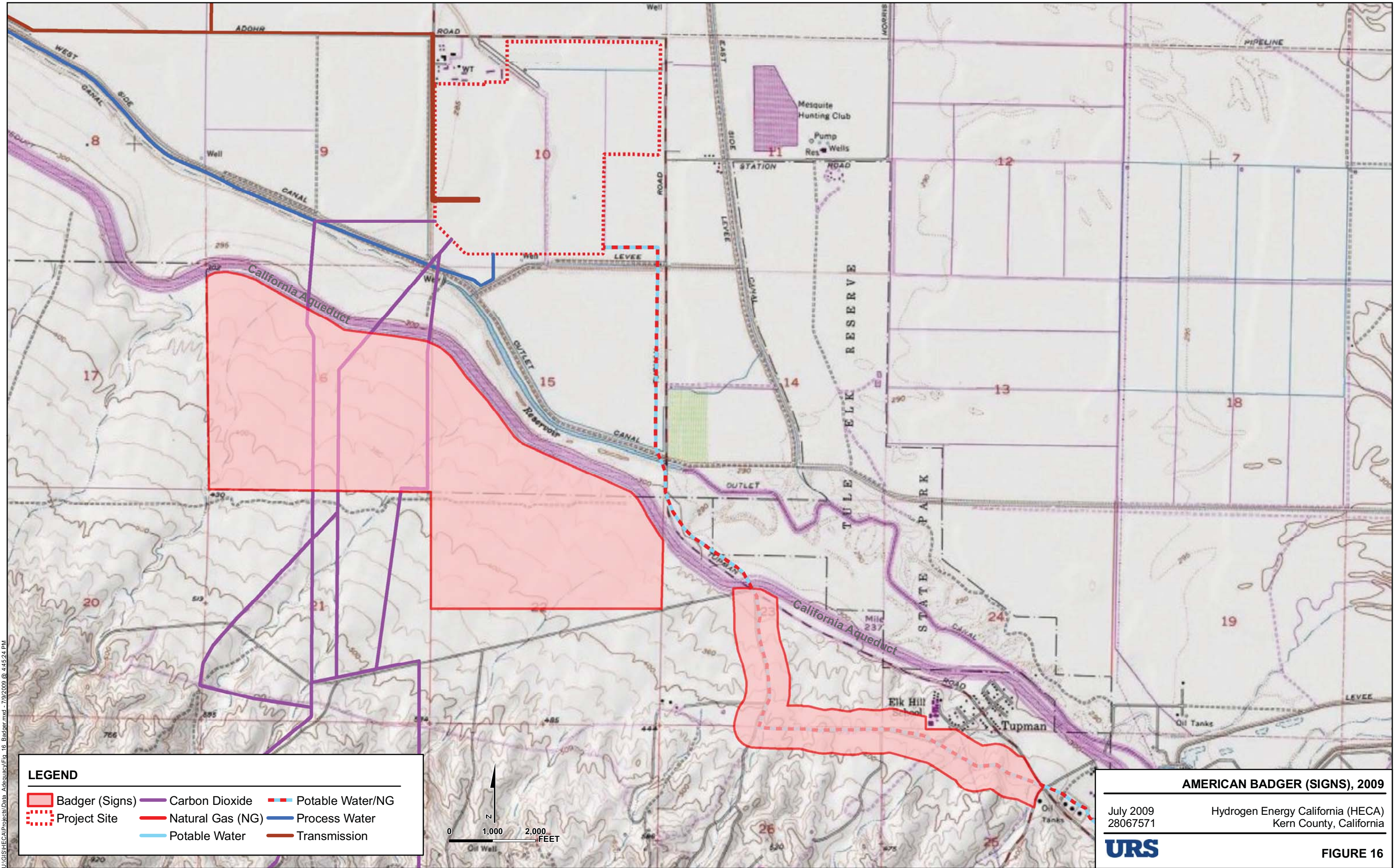
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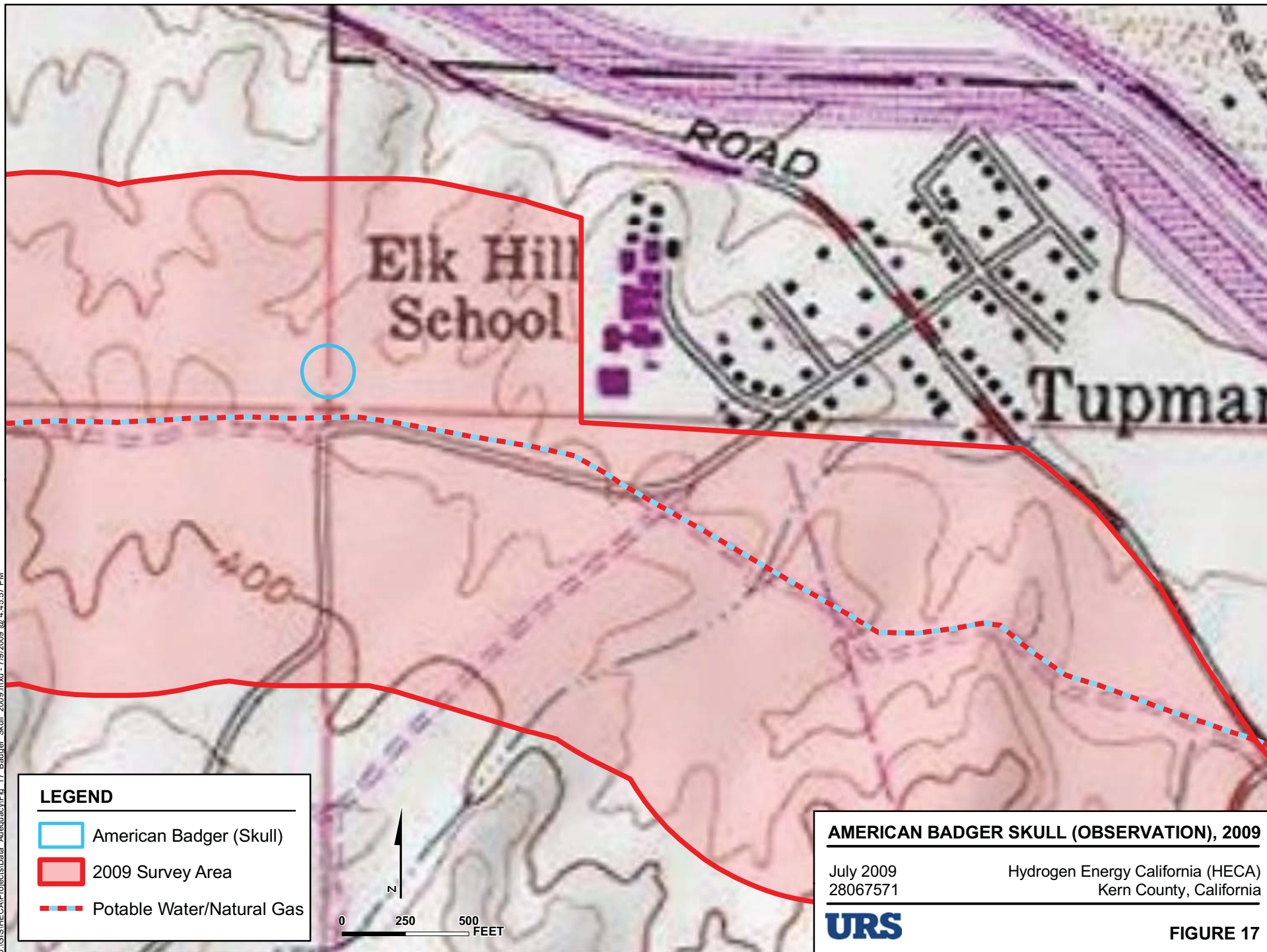


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Appendix B2
Results of Blunt-Nose Leopard Lizard Survey Results – 2008

Results of Blunt-Nose Leopard Lizard Survey – 2008 Hydrogen Energy California (HECA) Project

Surveys for the blunt-nosed leopard lizard (BNLL; *Gambelia sila*) were conducted in 2008 as part of an assessment of the potential impacts on biological resources resulting from construction of the proposed Hydrogen Energy California (HECA) Project. The 2008 surveys were conducted between July 28 and August 31, 2008 on Township 30 South Range 24 East Sections 16, 17, 21, and 22 in the East Elk Hills 7.5 minute U.S. Geological Survey (USGS) quadrangle (see Figure 1). This is no longer the proposed Project Site, although linear facilities pass through the same general area south of the California Aqueduct.

BLUNT-NOSED LEOPARD LIZARD

Current BNLL populations are located in scattered sites in the San Joaquin Valley and adjacent foothills. These populations are found between elevations of 100 to 2,400 feet in sparsely vegetated semiarid grasslands, alkali flats, large washes, and low foothills. The decline of this species is attributable to conversion of habitat to agriculture, urban development, livestock grazing, oil, mineral and water development, and off-road vehicle use (Stebbins 2003). The species was listed as Federally Endangered in 1967 and Endangered by California in 1971; the species is also a Fully Protected species under California Department of Fish and Game (CDFG) Code which states that these species "....may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species."

The BNLL is a medium-large, carnivorous lizard of the Crotaphytidae family. They forage opportunistically on the ground and feed on grasshoppers, cricket, moths, and other lizards, including smaller leopard lizards. They use mammal burrows, shrubs, or structures for shelter to escape high temperatures or elude potential predators.

Adult BNLL come out of hibernation in late March and remain active until late June or July, when they return underground to hibernate. Juvenile BNLL begin hatching in July and remain aboveground to late October (Germano, 2009). BNLL mate from late April through May and the females usually lay eggs between May and June. The usual clutch size is three eggs, but it can range from two to six. Females usually produce one clutch per year, although occasionally they produce two. Females may breed during their first spring, but males may not breed until they are large enough to secure a territory (Tollestrup 1982, 1983).

SURVEY METHODS

URS biologists and a subcontractor, Alex Brown and Associates, performed surveys to verify BNLL presence in portions of Sections 16, 17, 21, and 22, Township 30 South, Range 24 East in the East Elk Hills 7.5 minute USGS quadrangle (see Figure 1). The surveys were conducted July 28 through 31 and August 4, 11, and 26 through 31, 2008. All surveys were conducted according to *Approved Survey Methodology for the Blunt-Nosed Leopard Lizard* (CDFG, 2004). Surveys between July 28 and July 31 fell between the adult and juvenile survey periods defined

in the 2004 protocol guidelines. Surveys were conducted within the weather parameters set forth by the aforementioned protocols to the greatest extent possible.

SURVEY RESULTS

The survey area was sparsely covered by non-native vegetation dominated by red-brome (*Bromus madritensis*), fiddleneck (*Amsinckia menziesii*), and red-stem filaree (*Erodium cicutarium*).

BNLL were not observed during the July surveys, but were observed during August surveys. Twenty individual BNLL was the maximum daily count. Table 1 summarizes the findings of the surveys and shows the wide fluctuation in day-to-day population estimates. These fluctuations could be due, in part, to the changes in weather but likely also have to do with the very narrow survey area. Table 2 summarizes the locations of BNLL with global positioning system (GPS) coordinates. The locations of observed BNLL are depicted in Figure 1.

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- Tollestrup, K., 1983. The social behavior of two species of closely related leopard lizards, *Gambelia silus* and *Gambelia wislizenii*. *J. Tierpsychol.* 62:307-320.

Table 1
Summary of Observations from Blunt-Nosed Leopard Lizard Surveys, 2008

		Time		Air Temperature (Degrees Celsius)		Lizard Sitings		
Surveyors	Date	Start	End	Start	End	<i>Gambelia sila</i>	<i>Uta stansburiana</i>	<i>Aspidoscelis tigris tigris</i>
Alex Brown and Associates	7/28/2008	11:07	15:00	30.4	42.3	0	40	2
Alex Brown and Associates	7/29/2008	10:05	15:30	26.4	43.2	1	283	2
Alex Brown and Associates	7/30/2008	7:30	13:30	25.1	36.9	0	440	4
Alex Brown and Associates	7/31/2008	8:00	14:00	25.1	37	0	423	4
URS Corporation and Quad Knopf	8/4/2008	10:00	10:40	34	36	0	173	1
URS Corporation and Quad Knopf	8/11/2008	8:31	11:00	29	33.5	1	140	23
URS Corporation and Quad Knopf	8/27/2008	7:55	9:40	27.5	29.5	1	239	44

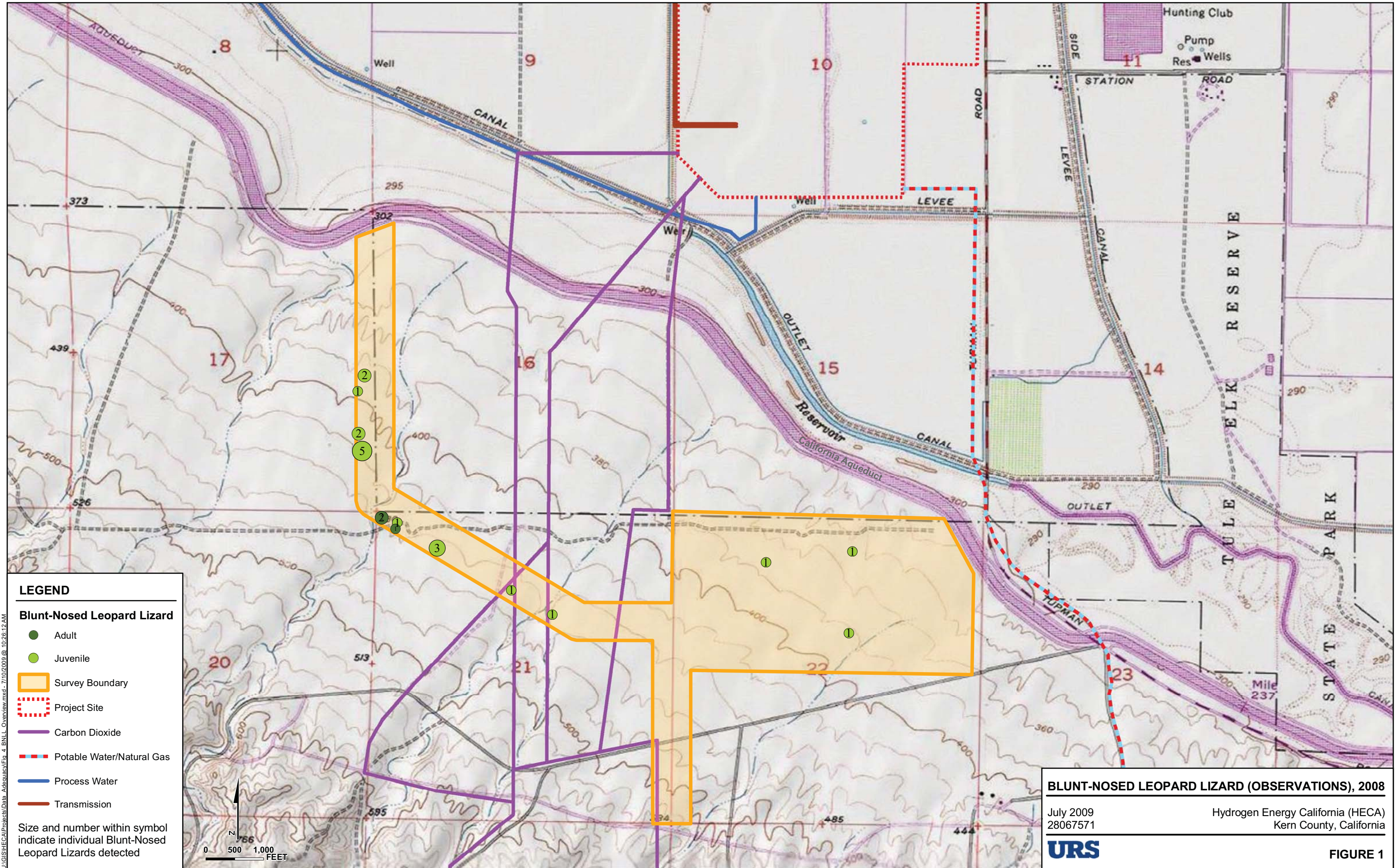
Table 1 (cont.'d)
Summary of Observations from Blunt-Nosed Leopard Lizard Surveys, 2008

		Time		Air Temperature (Degrees Celsius)		Lizard Sitings		
Surveyors	Date	Start	End	Start	End	<i>Gambelia sila</i>	<i>Uta stansburiana</i>	<i>Aspidoscelis tigris tigris</i>
URS Corporation and Quad Knopf	8/27/2008	9:50	10:30	30	36	0	170	16
URS Corporation and Quad Knopf	8/28/2008	8:00	9:30	29	33	20	92	12
Alex Brown and Associates	8/28/2008	7:46	9:12	28.7	29.6	0	343	1
URS Corporation, Alex Brown and Associates, and Quad Knopf	8/29/2008	7:33	9:37	25	34	2	233	20
URS Corporation and Quad Knopf	8/29/2008	7:30	8:40	25	32	0	37	4
Alex Brown and Associates	8/31/2008	7:35	9:43	26.4	31.4	0	323	3

Table 2
Summary of Blunt-Nosed Leopard Lizard GPS Locations, 2008

Date	Easting*	Northing*	Number of Individuals	Age
August 28	0281694	3909692	1	sub-adult
August 28	0281479	3909824	1	sub-adult
August 28	0281090	3910049	3	hatchling
August 28	0280871	3910153	1	adult
August 28	0280798	3910214	2	adult
August 28	0280699	3910565	5	hatchling
August 28	0280681	3910659	2	hatchling
August 28	0280679	3910882	1	hatchling
August 28	0280716	3916965	2	sub-adult
August 28	0282824	3909957	1	juvenile
August 29	0283258	3909579	1	hatchling
August 29	0280881	3910186	1	hatchling

*UTM NAD83 Zone 11N



Appendix B3
CNDDB Forms

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 03/17/2009

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Eriastrum hooveri*

Common Name: Hoover's eriastrum

Species Found? ☒ Yes ☐ No If not, why? _____

Total No. Individuals ~1,000 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDDB occurrence? ☒ no ☐ unk.
Yes, Occ. # _____

Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Robin Murray

Address: 2625 S. Miller Street
Santa Maria, CA 93455

E-mail Address: Robin_A_Murray@URSCorp.com

Phone: (805) 361-1129

Plant Information

Phenology: _____% vegetative _____% flowering 0% fruiting

Animal Information

adults # juveniles # larvae # egg masses # unknown
☐ breeding ☐ wintering ☐ burrow site ☐ rookery ☐ nesting ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: Kern Landowner / Mgr.: Occidental of Elk Hills

Quad Name: Tupman Elevation: 350 feet

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H ☐ M ☐ S ☐ Source of Coordinates (GPS, topo. map & type): _____

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H ☐ M ☐ S ☐ GPS Make & Model _____

DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ OR Geographic (Latitude & Longitude) ☐

Coordinates: See Figure 1.

Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope):

Degraded allscale scrub is the dominant plant community. It has been burned in the past and shows few signs of regeneration. The herbaceous layer is dominated by non-native grasses. Aspect is north, slope ranges from 0 to 10%.

Other rare taxa seen at THIS site on THIS date:
(separate form preferred)

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☒ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use: Oil production on site, agricultural use and California Aqueduct to north

Visible disturbances: None observed

Threats: None anticipated

Comments: Population appears very healthy

Determination: (check one or more, and fill in blanks)

- ☒ Keyed (cite reference): Identified by Robin Murray using the Jepson Manual
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☐ Other: _____

Photographs: (check one or more)

Slide Print Digital
Plant / animal ☐ ☐ ☐
Habitat ☐ ☐ ☐
Diagnostic feature ☐ ☐ ☐

May we obtain duplicates at our expense? yes ☐ no ☐

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 03/23/2009

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Spea hammondi*

Common Name: Western spadefoot

Species Found? ☒ Yes ☐ No If not, why? _____

Total No. Individuals ~200 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDDB occurrence? ☒ no ☐ unk.
Yes, Occ. # _____

Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Robin Murray

Address: 2625 S. Miller Street
Santa Maria, CA 93455

E-mail Address: Robin_A_Murray@URSCorp.com

Phone: (805) 361-1129

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

adults # juveniles 200 # larvae # egg masses # unknown
☐ breeding ☐ wintering ☐ burrow site ☐ rookery ☐ nesting ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: Kern Landowner / Mgr.: Unknown

Quad Name: Tupman Elevation: 200 feet

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: ☐ H ☐ M ☐ S Source of Coordinates (GPS, topo. map & type): _____

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: ☐ H ☐ M ☐ S GPS Make & Model _____

DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ OR Geographic (Latitude & Longitude) ☐

Coordinates: See Figure 2.

Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope):

Degraded allscale scrub is the dominant plant community. The herbaceous layer is dominated by non-native grasses. Slope is 0%.
Tadpoles found in two small, shallow depressions in the soil.

Other rare taxa seen at THIS site on THIS date:
(separate form preferred)

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☐ Fair ☒ Poor

Immediate AND surrounding land use: Agricultural use to north, California Aqueduct to south. Area appears to be an illegal dump site.

Visible disturbances: Illegal trash dumping

Threats: Evaporation of water source prior to metamorphosis

Comments: Site revisited in April 2009, desiccated tadpoles found. Appears unlikely that the water source persisted long enough for the tadpoles to metamorphose.

Determination: (check one or more, and fill in blanks)

- ☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☒ By another person (name): David Kisner
☐ Other: _____

Photographs: (check one or more)

Slide Print Digital
Plant / animal ☐ ☐ ☐
Habitat ☐ ☐ ☐
Diagnostic feature ☐ ☐ ☐

May we obtain duplicates at our expense? yes ☐ no ☐

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 05/20/2009

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Gambelia sila*

Common Name: Blunt-nosed leopard lizard

Species Found? ☒ Yes ☐ No If not, why? _____

Total No. Individuals 1 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDDB occurrence? ☒ no ☐ unk.
Yes, Occ. # _____

Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Robin Murray

Address: 2625 S. Miller Street
Santa Maria, CA 93455

E-mail Address: Robin_A_Murray@URSCoro.com

Phone: (805) 361-1129

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

1
adults # juveniles # larvae # egg masses # unknown
☐ breeding ☐ wintering ☐ burrow site ☐ rookery ☐ nesting ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: Kern Landowner / Mgr.: Occidental of Elk Hills

Quad Name: Tupman Elevation: 363 feet

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H ☐ M ☐ S ☐ Source of Coordinates (GPS, topo. map & type): GPS

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H ☐ M ☐ S ☐ GPS Make & Model Garmin Rino

DATUM: NAD27 ☐ NAD83 ☒ WGS84 ☐ Horizontal Accuracy 3 meters _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ OR Geographic (Latitude & Longitude) ☒

Coordinates: N 35.29725 W 119.35947

Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope):

Degraded allscale scrub is the dominant plant community. It has been burned in the past and shows few signs of regeneration. The herbaceous layer is dominated by non-native grasses. Aspect is north, slope ranges from 0 to 10%.

Other rare taxa seen at THIS site on THIS date:
(separate form preferred)

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☒ Fair ☐ Poor

Immediate AND surrounding land use: Oil production on site, agricultural use and California Aqueduct to north

Visible disturbances: None observed

Threats: Vehicles on paved road nearby

Comments: General lizard population is very healthy (Uta stansburiana [sideblotch lizard] and Aspidoscelis tigris tigris [whiptail] are abundant)

Determination: (check one or more, and fill in blanks)

- ☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☒ By another person (name): Alyssa Berry and Cletis England, level II surveyors
☐ Other: _____

Photographs: (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes ☐ no ☐

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 03/26/2009

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Taxidea taxus*

Common Name: American badger

Species Found? ☒ Yes ☐ No If not, why? _____

Total No. Individuals 1 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDDB occurrence? ☒ no ☐ unk.
Yes, Occ. # _____

Collection? If yes: _____
Number Museum / Herbarium

Reporter: Robin Murray

Address: 2625 S. Miller Street
Santa Maria, CA 93455

E-mail Address: Robin_A_Murray@URSCorp.com

Phone: (805) 361-1129

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

1
adults # juveniles # larvae # egg masses # unknown
☐ breeding ☐ wintering ☐ burrow site ☐ rookery ☐ nesting ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: Kern Landowner / Mgr.: Occidental of Elk Hills

Quad Name: Tupman Elevation: 360 feet

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H ☐ M ☐ S ☐ Source of Coordinates (GPS, topo. map & type): _____

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H ☐ M ☐ S ☐ GPS Make & Model _____

DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ OR Geographic (Latitude & Longitude) ☐

Coordinates: See Figures 3 and 4.

Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope):

Degraded allscale scrub is the dominant plant community. It has been burned in the past and shows few signs of regeneration. The herbaceous layer is dominated by non-native grasses. Aspect is north, slope ranges from 0 to 10%.

Other rare taxa seen at THIS site on THIS date:
(separate form preferred)

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☐ Fair ☒ Poor

Immediate AND surrounding land use: Oil production on site, agricultural use and California Aqueduct to north

Visible disturbances: None observed

Threats: Vehicles on paved road nearby

Comments: Carcass of badger found. Cause of death undetermined. No living individuals located.

Determination: (check one or more, and fill in blanks)

- ☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: Sight identified

Photographs: (check one or more)

Slide Print Digital
Plant / animal ☐ ☐ ☐
Habitat ☐ ☐ ☐
Diagnostic feature ☐ ☐ ☐

May we obtain duplicates at our expense? yes ☐ no ☐

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 05/15/2008

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Ammospermophilus nelsoni*

Common Name: Nelson's antelope squirrel

Species Found? ☒ Yes ☐ No If not, why? _____

Total No. Individuals 1 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDDB occurrence? ☐ no ☒ unk.
Yes, Occ. # _____

Collection? If yes: _____
Number Museum / Herbarium

Reporter: Robin Murray

Address: 2625 S. Miller Street
Santa Maria, CA 93455

E-mail Address: Robin_A_Murray@URSCorp.com

Phone: (805) 361-1129

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

1
adults # juveniles # larvae # egg masses # unknown
☐ breeding ☐ wintering ☐ burrow site ☐ rookery ☐ nesting ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: Kern Landowner / Mgr.: Occidental of Elk Hills

Quad Name: Tupman Elevation: 250 feet

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H ☐ M ☐ S ☐ Source of Coordinates (GPS, topo. map & type): _____

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H ☐ M ☐ S ☐ GPS Make & Model _____

DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ OR Geographic (Latitude & Longitude) ☐

Coordinates: See Figure 5.

Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope):

Degraded allscale scrub is the dominant plant community. It has been burned in the past and shows few signs of regeneration. The herbaceous layer is dominated by non-native grasses. Aspect is north, slope ranges from 0 to 10%.

Other rare taxa seen at THIS site on THIS date:
(separate form preferred)

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☒ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use: Oil production on site, agricultural use and California Aqueduct to north

Visible disturbances: None observed

Threats: Vehicles on paved road nearby

Comments:

Determination: (check one or more, and fill in blanks)

- ☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☒ By another person (name): David Kisner
☐ Other: _____

Photographs: (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes ☐ no ☐

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 05/21/2009

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Ammospermophilus nelsoni*

Common Name: Nelson's antelope squirrel

Species Found? ☒ Yes ☐ No If not, why? _____

Total No. Individuals 4 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDDB occurrence? ☐ no ☒ unk.
Yes, Occ. # _____

Collection? If yes: _____
Number Museum / Herbarium

Reporter: Robin Murray

Address: 2625 S. Miller Street
Santa Maria, CA 93455

E-mail Address: Robin_A_Murray@URSCorp.com

Phone: (805) 361-1129

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

4
adults # juveniles # larvae # egg masses # unknown
☐ breeding ☐ wintering ☐ burrow site ☐ rookery ☐ nesting ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: Kern Landowner / Mgr.: Occidental of Elk Hills

Quad Name: Tupman Elevation: 250 Feet

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H ☐ M ☐ S ☐ Source of Coordinates (GPS, topo. map & type): _____

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H ☐ M ☐ S ☐ GPS Make & Model _____

DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ OR Geographic (Latitude & Longitude) ☐

Coordinates: See Figures 5 and 6.

Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope):

Degraded allscale scrub is the dominant plant community. It has been burned in the past and shows few signs of regeneration. The herbaceous layer is dominated by non-native grasses. Aspect is north, slope ranges from 0 to 10%.

Other rare taxa seen at THIS site on THIS date:
(separate form preferred)

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☒ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use: Oil production on site, agricultural use and California Aqueduct to north

Visible disturbances: None observed

Threats: Vehicles on paved road nearby

Comments:

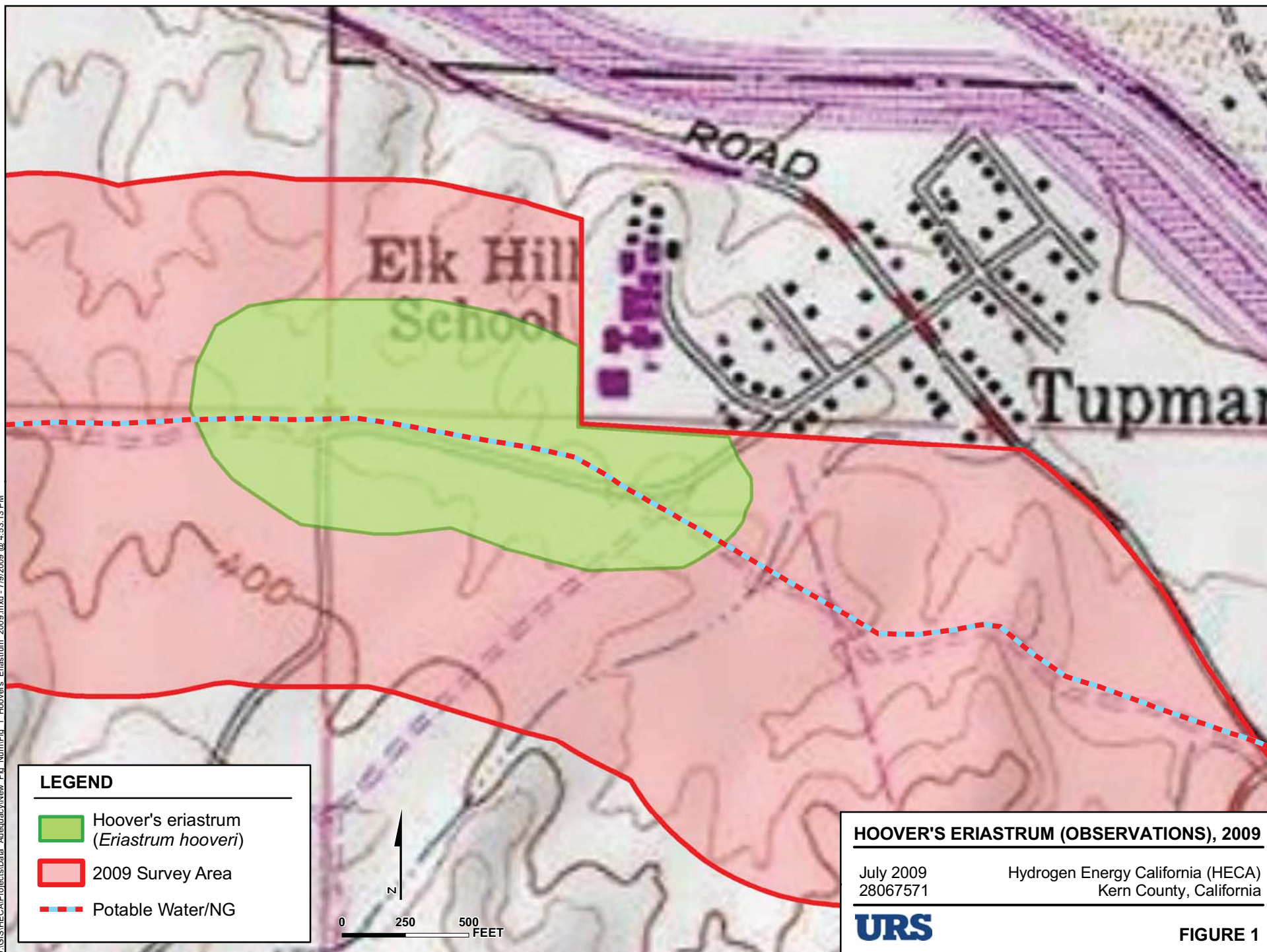
Determination: (check one or more, and fill in blanks)

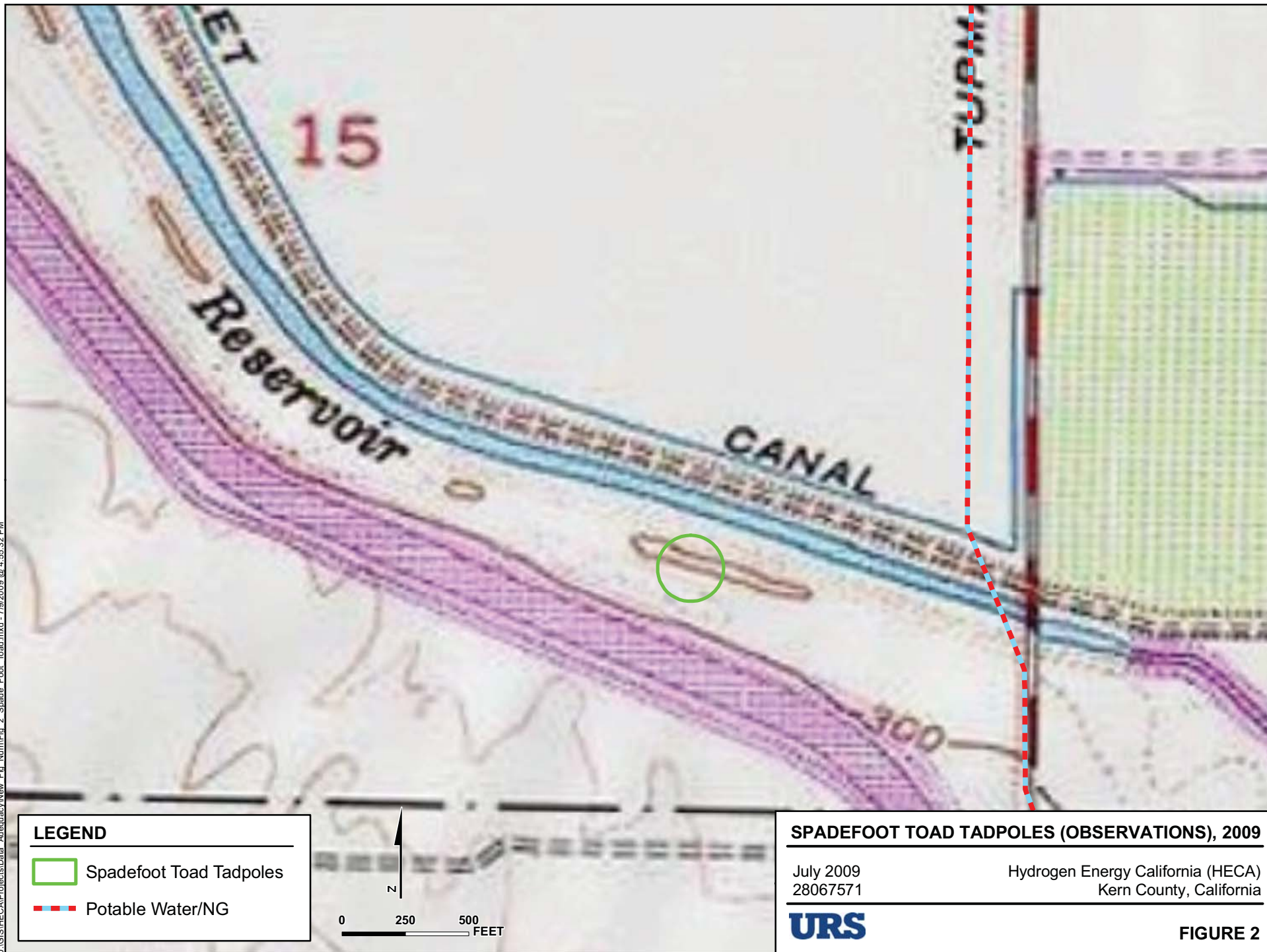
- ☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: Sight identified

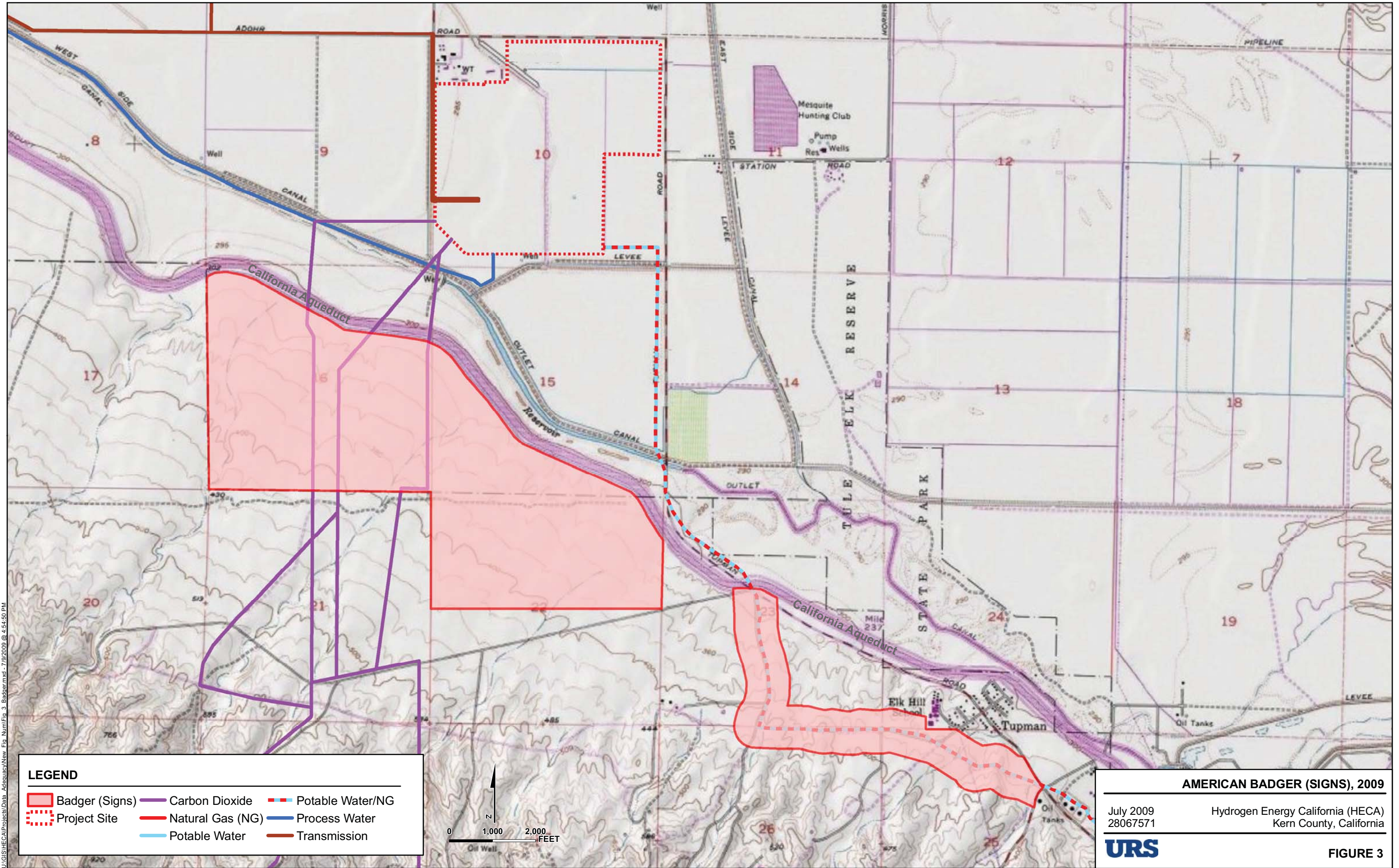
Photographs: (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes ☐ no ☐







U:\GIS\HECA\Projects\Data_Adequacy\New_Fig_Num\Fig_3_Badger.mxd - 7/9/2009 @ 4:54:50 PM

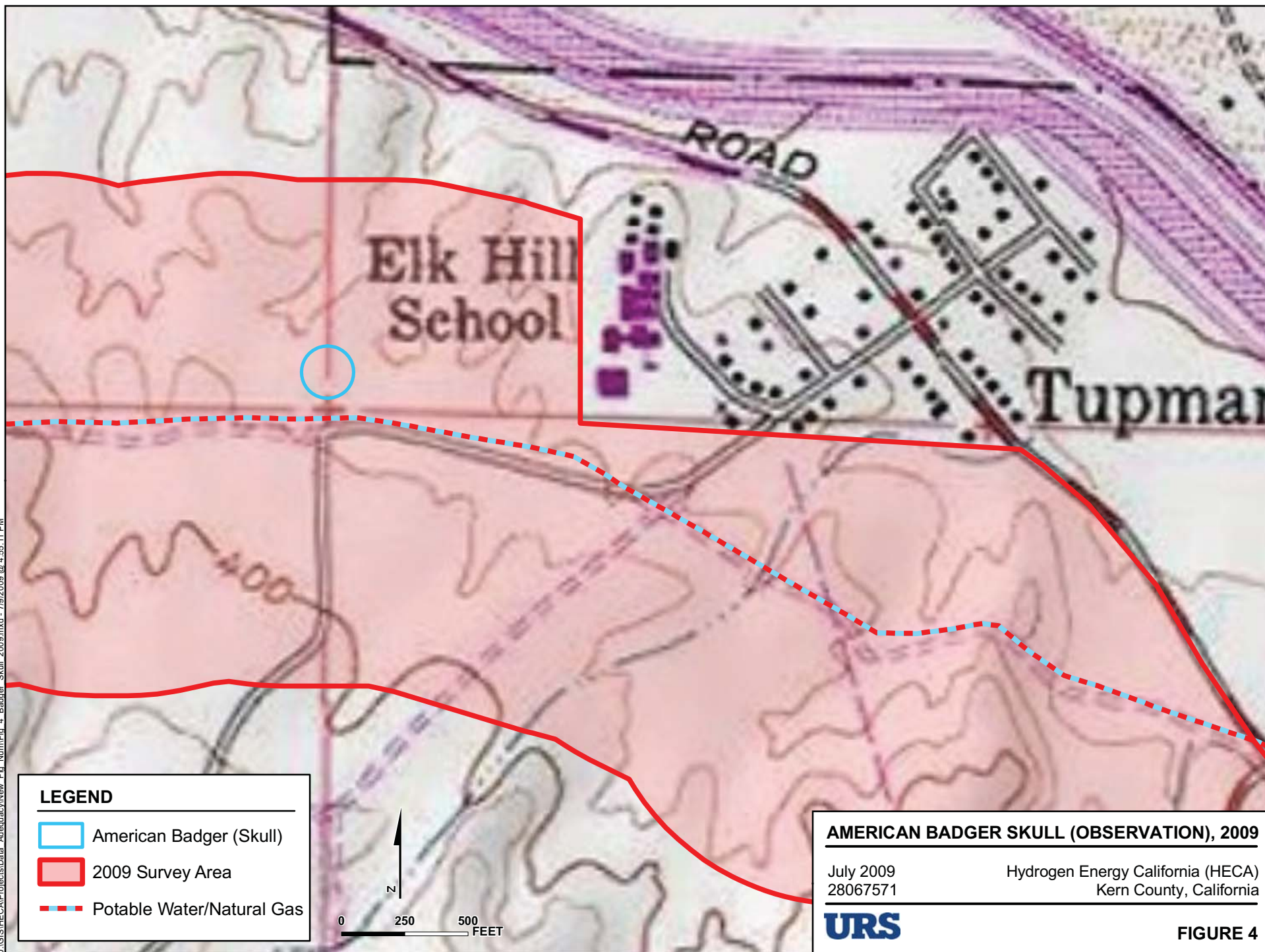
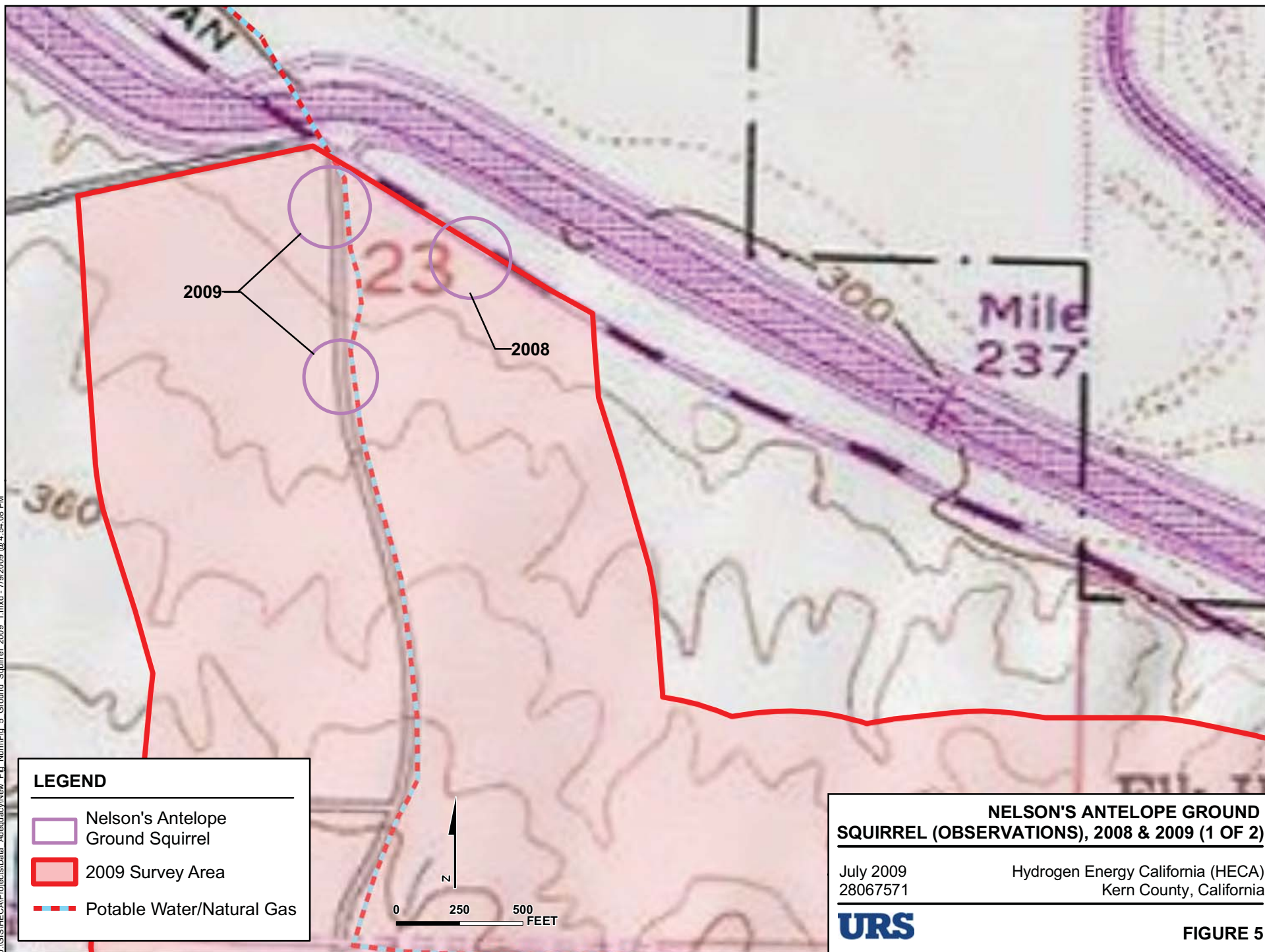
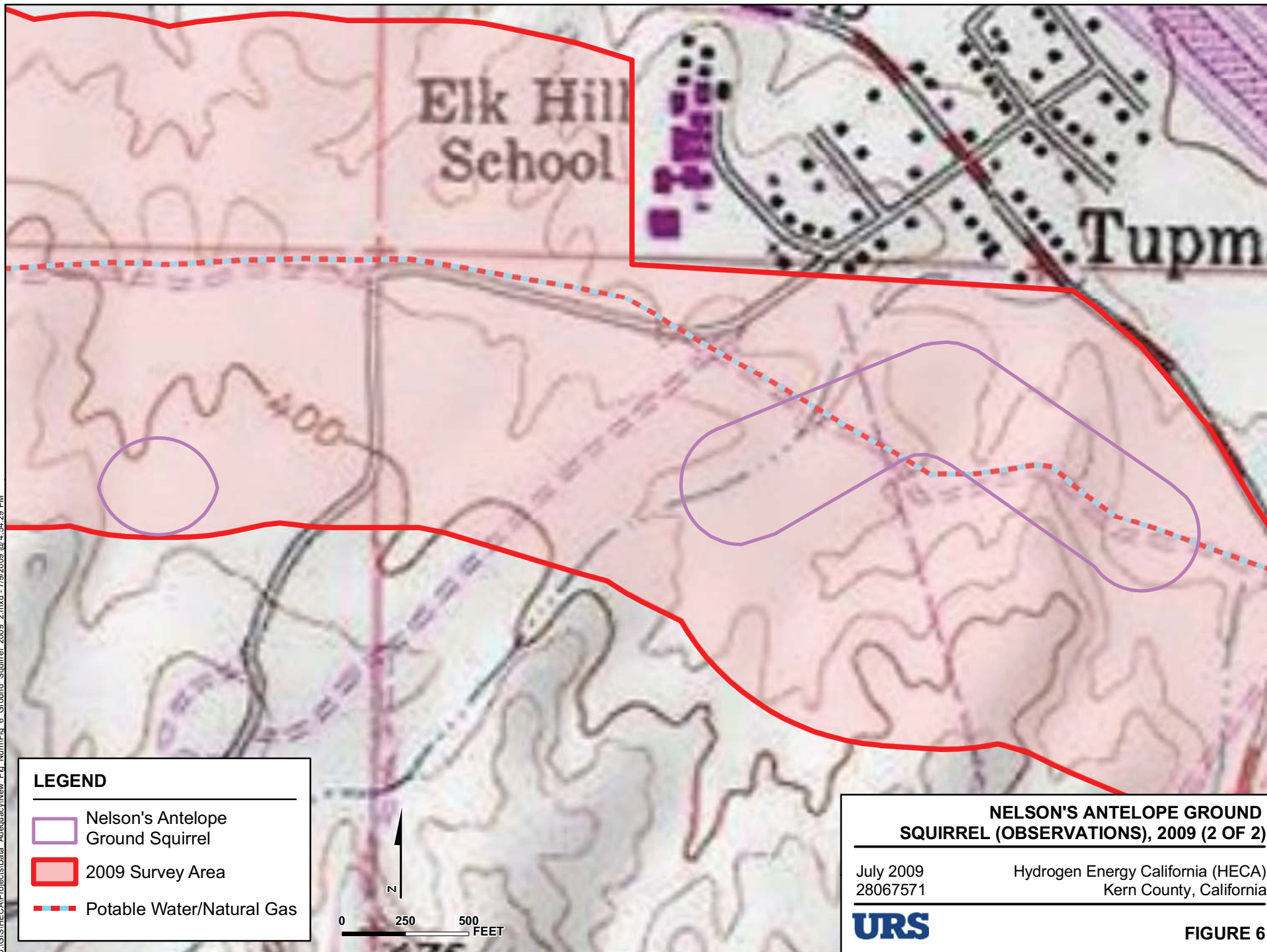


FIGURE 4



U:\GIS\HECA\Projects\Data_Adequacy\New_Fig_Num\Fig 6 Ground Squirrel 2009 2.mxd - 7/9/2009 @ 4:54:28 PM



Appendix B4
Biologist Resumes



Jessica Birnbaum

Biologist

Areas of Expertise

Environmental Compliance
Field Investigation
Planning
Biological Assessments
Vegetation/Rare Plant surveys
General Wildlife Surveys
Endangered Species Surveys-
Level II Blunt-Nosed Leopard
Surveyor
Construction Compliance and
Monitoring
GPS and GIS mapping

Years of Experience

With URS: 1.5 Years
With Other Firms: 2 Years

Education

MS/Natural Resources: Planning
and Interpretation/2007/
Humboldt State University
BS/Biology/2002/Trinity College

Overview

Mrs. Birnbaum is a Biologist in the URS Santa Barbara Office. She provides environmental assessment of planning projects (CEQA, NEPA and environmental regulations, permitting, and compliance) and fieldwork. She has supported document preparation, including editing for clarity and accuracy and writing portions of documents. Mrs. Birnbaum's position at URS also involves botanical and wildlife surveys, endangered species habitat assessment, vegetation and stream monitoring, and habitat restoration.

Project Specific Experience

Biologist, Blunt-Nosed Leopard Lizard Surveys, Bakersfield, CA, Hydrogen Energy California (HECA), May 2009-present: The HECA project is an Integrated Gasification Combined-Cycle power plant that will take petroleum coke, biomass, coal, or blends of each, combined with non-potable water, to convert them into hydrogen and carbon dioxide (CO₂). The hydrogen gas will be used to fuel a net 250-megawatt power station that will provide new, clean electric power to 150,000 homes in the local community. Conducting protocol level surveys for blunt-nosed leopard lizard.

Biologist, Botanical Surveys and Blunt-Nosed Leopard Lizard Surveys, California Valley, CA, Renewable Energy, March 2009-present: Mrs. Birnbaum led botanical surveys and wrote the botanical report for the proposed project site. She is currently conducting protocol surveys for blunt-nosed leopard lizards.

Planner, Santa Barbara, CA. Ekwill Street and Fowler Road Extensions Project, California Department of Transportation and the City of Goleta, October 2008-June 2009: The City of Goleta's (City's) Community Services Department is proposing infrastructure improvements in a portion of the City called "Old Town." This area can be described generally as mixed-use as it includes commercial, industrial, retail, residential and agricultural uses. Much of the Proposed Project is located within the Coastal Zone. Wrote Biological Environment section.

Planner, Western Goleta Slough Wetland Restoration Project, Santa Barbara County, CA, The Land Trust for Santa Barbara County, November 2008-April 2009: Supported preparation of environmental documents, including the Project Description and Restoration Plan. Mrs. Birnbaum also assisted in obtaining environmental permits.

Biologist, Restoration and Stormwater Monitoring, Santa Barbara, CA. Santa Barbara Airport Wetland Restoration Project, City of Santa Barbara, June 2008-present: Assisted in restoration for 65 acres of wetland, coastal sage scrub, and riparian habitats. Monitoring program consisting of point-intercept transect and quadrant data collection and



maintenance monitoring. Participated in native seed collection. Supported the production of annual reports detailing restoration success. Conducted stormwater sampling throughout airport impact areas and drafted report.

Planner, Newhall Ranch EIS/EIR, June 2008-March 2009: URS was retained by a land development firm to prepare a joint EIS/EIR and supporting documentation evaluating the issuance of a long-term 404 permit and master 1600 agreement. Mrs. Birnbaum is a supporting biologist and planner on the project, aiding in the drafting of environmental review documents.

Biologist, Lower Ventura River Algae Inventory, October 2008-present: Surveys of freshwater algae in the lower Ventura River in an effort to determine the effects of tertiary-treated effluent on algal distribution and abundance.

Biologist, 550 mw Solar Thermal Site in Johnson Valley, CA, Renewable Energy, June-July 2008: Performed USFWS protocol desert tortoise surveys on a 9,315-acre site and 10-mile-long transmission and gas routes. Coordinated with regulatory agencies on biological resource issues and potential mitigation. Technical reporting and environmental review is currently in preparation.

Field Biologist, Small Mammal Surveys and Jurisdictional Wetland Determination, California Valley, CA, Renewable Energy, July 2008: URS is aiding with their planned 250 MW solar ranch, which would be located in San Luis Obispo County's California Valley. Mrs. Birnbaum conducted small mammal surveys and jurisdictional wetland delineation surveys for the proposed project site.

Field Biologist, Desert Tortoise Surveys, San Bernardino Mojave Desert CA, Renewable Energy, May 2008: URS scope currently includes protocol biological surveys for a large-scale solar project site being considered in the San Bernardino County, California, including Desert Tortoise surveys. Mrs. Birnbaum conducted presence/absence surveys for the Desert Tortoise.

Field Biologist, Urban Levee Geotechnical Evaluation Program in Woodland, CA, DWR, March 2008 – June 2008: DWR's geotechnical exploration, includes testing and analysis of state and Federal levees. Mrs. Birnbaum monitored the drill crews to ensure that no sensitive biological resources are compromised. Survey efforts concentrate upon monitoring for Giant Garter Snake as the levee area is considered ideal habitat for the species, as well as Valley Elderberry Beetle, Riparian Brush Rabbit, Tri-Colored Blackbird, Bank Swallows and San Joaquin Kit Foxes.

Field Biologist, CalNev Pipeline Project, Las Vegas to San Bernadino, Kinder-Morgan, Biological Resources, March – April 2008: Kinder Morgan Energy Partners, L.P. is expanding the 550-mile CALNEV pipeline system. URS is conducting a biological survey for 150 miles of Desert Tortoise habitat, the area being surveyed is approximately



500 feet wide, and covers the possible routes for the pipeline. Mrs. Birnbaum conducted presence/absence surveys for the Desert Tortoise.

Assistant Planner, Lassen Wind Project, Lassen County, CA, Sacramento Municipal Utility District, Time and Materials, March – May 2008: URS prepared the Bureau of Land Management (BLM) Right-of-Way Application and Plan of Development (POD) for a 150- to 300-MW wind power project on BLM land. The POD included the optimal initial project layout for wind turbine generators WTGs, temporary land uses for the construction phase, permanent land uses for operations and maintenance (O&M), the power collection system, substations, transmission lines, and an O&M facility. The POD also included federal agency cost recovery, potential issues and conflict areas, environmental and cultural resource studies, public interests and concerns, potential alternative site locations, and financial obligations to be assumed. The project is sited in a newly recognized wind resource area and is the focus of a new 50-kV electric power transmission line in northern California.

Environmental Planner, Solar PV Site Feasibility Analysis, California, NextLight Renewable Power, LLC, February –April 2008: URS prepared a report summarizing the results of identifying and prioritizing potential development sites, identifying county contacts, and preliminary consultations with agency representatives. Mrs. Birnbaum consulted with county planners to identify local opportunities or constraints for solar photovoltaic development and conducted field investigations of potential sites. The site facility would generate 50 to 100 MW and cover 80 to 240 acres.

Assistant Planner/Field Biologist, Phase 3 EIR, Solano Wind Project, Collinsville-Montezuma Hills Wind Resource Area, Near Rio Vista, CA, for SMUD, 2007 – June 2008: The district proposes to permit and construct up to 84 wind turbine generators (WTGs) on 4,655 acres. Mrs. Birnbaum assisted URS planners in regard to CEQA requirements, preparing and distributing the Final EIR, and developing siting plans for the WTGs. She also monitored on-site construction activities to ensure compliance with environmental standards.

Field Biologist, California Emergency Levee Erosion Repair, Stockton and Sacramento, CA, for California Department of Water Resources, 2007 – 2008: Mrs. Birnbaum is conducting biological field surveys, including for Kit Foxes and Elderberry plants, for the Sacramento and American Rivers in the Central Valley Region. As part of this work, she is locating and protecting sensitive species and habitats within levee reconstruction areas.

Planner, John Garcia Environmental Studies Center Project, Environmental Checklist, Rio Linda, CA, for Grant Joint Union High School District, January – February 2008: This regional environmental study center on 70 acres provides for the study of



indigenous plants, animals, reptiles, fishes, and migratory birds. Mrs. Birnbaum drafted CEQA/NEPA Environmental Checklist for the project, detailing all issues (biological resources, noise, traffic, etc.) that must be addressed before construction may take place.

Specialized Training

- Blunt-nosed Leopard Lizard Identification Workshop
May 2009

Languages

Basic conversational/written proficiency in French and Spanish.

Chronology

6/08- Present: URS Corporation, Santa Barbara, CA.

11/07 – 6/08: URS Corporation, Sacramento, CA.

01/05 – 08/07: Masters of Science study, Humboldt State University.

06/04 – 11/04: Biological Technician, USDA Forest Service – Sierra Nevada Research Center, Quincy, CA.

06/03 – 10/03: Team Leader, Student Conservation Association – Seeds of Success, Prineville, Oregon.

Contact Information

130 Robin Hill Road, Suite 100

Santa Barbara, CA 93117

805-964-6010 ext. 421 phone

805-964-0259 fax

Jessica_birnbaum@urscorp.com

Alexander Doyle Brown

Wildlife Biologist

8703 Lyn River Ct. Apt D,
Bakersfield, CA 93312

661-619-4688
alittlebrown1@gmail.com

Educational Background

B.S., Biology: June 2003. California State University, Bakersfield, 9001 Stockdale Hwy. 93311.

Work Experience

4/08- Present: Independent Wildlife Biologist. Specializing in surveys for Threatened and Endangered Species of the San Joaquin Valley.

8/02- Present: Wildlife Biologist contracted through Center for Natural Lands Management. Duties included assisting Preserve manager with habitat restoration, study grid maintenance, small mammal trapping, vegetation surveys, and pit fall trapping. Greg Warrick 661-387-9453

11/07- 3/08: Wildlife Biologist for URS Corp. Duties included Habitat assessments, surveys for sensitive wildlife species, and various office tasks. Wayne Vogler 805-729-7604.

6/06- 10/07: Associate Environmental Scientist for Quad Knopf, Inc. Duties included small mammal trapping for monitoring and presence/absence surveys, Pre-activity surveys for various oil related and construction activities, report writing, biological monitoring, and data entry. Supervisor Glen Mears 661-616-2600

5/01- 6/06: Wildlife Biologist for Endangered Species Recovery Program (ESRP). Duties consisted primarily of trapping, radio collaring, and monitoring of San Joaquin kit fox through telemetry and track stations. Additional duties included, but were not limited to, small mammal trapping for sensitive species of rodents and shrews, surveying for and capturing blunt-nosed leopard lizards, skunk trapping and radio collaring, various surveys for sensitive plant and animal species. Volunteer from end of employment through present for various research projects. Dr Brian Cypher – ESRP 661-835-7810.

5/01- 8/05 (summers): Biological Assistant for research project observing the effects of cattle grazing upon endangered species in Lokern, CA. Duties included lizard transect surveys, live trap census for sensitive rodent species, as well as invertebrate monitoring through the use of pit falls. Dr. David Germano, 661-654-2471.

4/02- 10/03: Survey Crew Leader for Blunt-nosed leopard lizard surveys along Hwy 65. Duties also included small mammal live trap surveys and San Joaquin kit fox spotlighting. Contracted for Caltrans through Dr David Germano, 661-654-2471.

12/01- 5/02: Contract work through Analysts International for Chevron-Texaco. Duties consisted of establishment of computer training labs, institution and maintenance of numerous office computers, and some desktop support. Michael Burt 661-978-4382

Alexander Doyle Brown
2009

1/02- 3/02: Student assistant for the Facility for Animal Care and Treatment (FACT). Duties were comprised handling and rehabilitation of injured wildlife, cage cleaning and maintenance, public education, supervision of volunteers and students, and facility maintenance. Marlene Benton 661-654-3167

5/00- 5/01: Student assistant for California Department of Water Resources. Conducted environmental surveys for sensitive wildlife species as well as data entry and permit applications. Margie Graham, Environmental Specialist III, California Department of Water Resources: 916-653-0844; margieg@water.ca.gov

1/00- 6/01: Student assistant. Identified fish species from fossil remains. Duties also included various work with vertebrate zoology. Dr Kenneth Gobalet, CSUB 661-654-3038

Skills & Experience

- Knowledge of telemetry equipment and experience with carnivore tracking
- Experience performing necropsies upon animals of varying conditions
- Proficient writing skills with familiarity with PC and Mac systems
- Able to work in group or solitary situations
- Dependable, hard working, and able to work in diverse conditions
- Experience in plant identification
- Substantial experience with animal identification from bone, scats, and tracks
- Experience PIT tagging and trapping of small mammals and lizards
- Acquainted with GPS/ GIS and Topographic Map reading
- Extensive experience surveying for and handling San Joaquin kit fox
- Experience surveying for and handling Blunt-nosed leopard lizards (Level II Researcher)
- Currently acquiring trapping experience with Mojave ground squirrels (*Spermophilus mohavensis*)
- Additional comprehensive experience surveying for and handling various Raptors, Western pond turtles, Heteromyid sp., San Joaquin antelope squirrel, other rodent species, and sensitive plant species.

Certificates

- Completion of the Desert Tortoise Council Annual Surveying, Monitoring, and Handling Techniques Workshop. Training included survey techniques for individuals and their sign, assessment of habitat, handling techniques, and burrow construction. 2007.
- California Oil Producers PASSPORT training
- Persons Leading Work. Chevron, February 2008



David Compton

Biologist

Areas of Expertise

Ornithology
Southwestern Willow Flycatcher
Protocol Surveys
Restoration Monitoring
Habitat assessment

Years of Experience

With URS: <1 Year
With Other Firms: 10 Years

Education

MA/U.S. History/1984/Marquette
University
BA/History/1982/Christian
Brothers College

Registration/Certification

Recovery Permit TE101148-1
Scientific Collecting Permit SC-
7918

Overview

Mr. Compton has passionately pursued an interest in birds since 1993 and since 1998 has used his skills in this area to design and conduct bird surveys in a variety of habitats in southern California. Working in the field for nearly 10 years, he has experience in resource inventory, restoration monitoring, habitat assessment, and construction monitoring. He holds a USFWS recovery permit and a CDFG scientific collecting permit.

URS-Specific Experience

Wildlife Surveys

Wintering Bird Surveys, Antelope Valley, CA. 24 hours. Designed and conducted point count and walking transect surveys to determine presence and relative abundance of all avian species at a site of more than 2000 acres. Compiled data and reported on results. December 2008 to February 2009.

Wintering Bird Surveys, California Valley, CA. 16 hours. Designed and conducted point count and walking transect surveys to determine the presence and relative abundance of all avian species at a site of nearly 2000 acres. Compiled data and authored report on results. March 2009.

Breeding Bird Surveys, Antelope Valley, CA. Designed and conducted point count and straight-line transect surveys to determine the presence and relative abundance of all avian species at a site of approximately 2000 acres. April to May 2009.

Burrowing Owl Surveys, Antelope Valley, CA. 52 hrs. Searched for suitable burrows and owls, checked burrows for owl pellets and whitewash, and monitored the movements of burrowing owls during dusk surveys, on a site of approximately 2000 acres. March through May 2009.

Burrowing Owl Surveys, near Palm Springs, CA. 5 hours. Searched for suitable burrows and owls as part of preconstruction surveys. February 2009.

General Wildlife Surveys, near Bakersfield, CA. 8 hours. Performed reconnaissance surveys for all wildlife, with special attention to evidence of the presence of burrowing owls and San Joaquin kit foxes. December 2008.



Vegetation Surveys

Juvenile Joshua Tree Inventory, Antelope Valley, CA. 15 hrs. Mapped the extent of Joshua tree woodlands, designated a Sensitive Ecological Area in Los Angeles County, on a site of approximately 2000 acres. January and March 2009.

Botanical Survey, California Valley, CA. Participated in a botanical survey of a nearly 2000-acre site.

Botanical Survey, Antelope Valley, CA. Participated in a botanical survey of a site of approximately 2000 acres.

Project-Specific Experience

Santa Barbara Airport Tidal Circulation Project, March 2001 to February 2001, May 2003 to present: Participated in a project conducted by URS Corporation at Goleta Slough at the Santa Barbara Municipal Airport, Santa Barbara, California, assessing the feasibility of restoring tidal circulation to parts of the estuary that are now isolated by berms and blocked culverts. The first stage involved designing and conducting bird surveys in the vicinity of the airport to assess current bird uses in the estuary and the surrounding area. The second stage involved an experiment studying the impact on airport bird-strike hazards of restoring tidal circulation to small areas of the estuary.

Bird Island Monitoring, May 2005 to February 2008: Working for the Santa Barbara Audubon Society (SBAS), monitored bird use of structures offshore of Sandpiper Golf Course, near Goleta, California, and completed annual reports to SBAS on the findings. The offshore remnant of an oil pier at this location previously hosted nesting Brandt's cormorants and roosting brown pelicans, the latter federally listed as endangered. The structure, considered a hazard, was removed in 2005 and replaced with four new structures specially designed to accommodate the nesting and roosting birds.

Vandenberg Air Force Base Riparian Point Counts, May to June 2003, 2004, 2005, and 2008: Working for the University of California, Santa Barbara, on their contract with Vandenberg Air Force Base, Santa Barbara County, California, performed point counts in riparian areas on base. These surveys were part of the contract for monitoring southwestern willow flycatcher breeding during these years.

Vandenberg Air Force Base Willow Flycatcher Surveys, May to July 2005, 2006, and 2007: As part of a project conducted by the University of California, Santa Barbara (UCSB), completed surveys for three seasons at Vandenberg Air Force Base, Santa Barbara County, California, for southwestern willow flycatchers, a riparian-breeding taxon federally listed as endangered. Performed most of the surveys, which were conducted according to the protocol outlined by the U.S. Fish and Wildlife Service.



Lake Casitas Natural Resources Management Plan, January 2005 to November 2006: Subcontracting under URS Corporation on a Bureau of Reclamation project, helped conduct surveys of water-dependent birds, riparian breeding birds, and birds of prey at Casitas Lake, Ventura County, California.

Belding's Savannah Sparrow Surveys, May 2001, May 2006: Participated in surveys of coastal salt marshes in southern Santa Barbara County for Belding's savannah sparrow, listed as endangered by the California Department of Fish and Game. Survey results for Carpinteria Salt Marsh in 2001 and Goleta Slough in 2001 and 2006 were submitted through Dick Zembal to California Department of Fish and Game as part of their effort to monitor the California Belding's population.

Cachuma Lake Natural Resources Management Plan, August 2001 to March 2003: Subcontracting under URS Corporation on a Bureau of Reclamation project, designed surveys of water-dependent birds and riparian breeding birds at Cachuma Lake County Park, Santa Barbara County, California; directed a team of participants in these surveys; and wrote the section on the lake's avian life for the management plan.

Spring Seabird Migration Count, March through May, 1999 to 2003: In 2000–2003, coordinated the Santa Barbara Audubon Society's project monitoring the spring migration of seabirds past Goleta Point, Goleta, California. Tasks included coordinating up to twenty volunteers and writing a report summarizing the data for the first 3 years of the project.

Santa Ynez River Riparian Bird Surveys, May to October 2000: Participated in riparian bird surveys and habitat assessment for URS Corporation, which was preparing an EIR in connection with the renewal of the Bureau of Reclamation's water rights to Bradbury Dam, on the Santa Ynez River, Santa Barbara County, California. Compiled a report on the surveys that assessed overall riparian bird habitat, as well as the status of the federally endangered southwestern willow flycatcher on the river.

Santa Clara River Point Counts and General Riparian Bird Surveys, June to July 2000: Working as part of a group contracted by the U.S. Fish and Wildlife Service to do least Bell's vireo work and assess avian productivity on the Santa Clara River, Ventura and Los Angeles counties, California, performed point counts and walking transect surveys.

Willow Flycatcher and Bell's Vireo Surveys, Point Counts, June to August 1998: For the University of California, Santa Barbara, surveyed sections of the Santa Ynez River from Buellton to the coast for southwestern willow flycatchers and least Bell's vireos, and performed willow flycatcher presence-absence surveys, point counts, and general surveys at riparian areas on Vandenberg Air Force Base.



Riparian Breeding Bird Survey, U.S. Forest Service, May to June

1996: Worked for a season on a long-term project to monitor the year-to-year presence of birds at designated riparian sites in the Cleveland, San Bernardino, Angeles, and Los Padres national forests in southern California. Did point counts at eight to ten sites per day over a five-week period.

Other Field Biology Projects

Monitoring Pipeline Replacement at Goleta Slough, September to

October 2003: University of California, Santa Barbara, project, subcontractor under Vince Semonsen.

Bohnett Park Restoration, May to July 2003: Assessed breeding bird activity, City of Santa Barbara project, subcontractor under URS Corporation.

White-tailed Kite Population Monitoring, October 1997 to April

2000: Volunteer for unofficial University of California, Santa Barbara, project.

Burrowing Owl Surveys, Vandenberg Air Force Base, October 1998

to September 1999: Volunteer project for Vandenberg Air Force Base.

Other Ornithology-related Activities

Santa Barbara County Coordinator for North American Birds, June

2000 to present: Collect information on rare bird sightings in Santa Barbara County, California, and prepare information incorporated into a regional report appearing in the publication North American Birds (formerly Field Notes). This job requires in-depth knowledge of local bird distribution and extensive ties in the local birding community.

California Bird Records Committee, January 2006 to January 2009

(chair, January 2008 January 2009): Voted on the validity of reports of rare birds across the state. This requires detailed knowledge of bird distribution in the state and broad knowledge about bird identification.

Book Editing for Western Field Ornithologists (WFO), April 2006 to

April 2007: Copyedited two WFO-published books on ornithology-related topics: Rare Birds of California, (2007), edited by Robert A. Hamilton et al. for the California Bird Records Committee, and California Bird Species of Special Concern (2008), edited by W. David Shuford and Thomas Gardali for California Department of Fish and Game.

Professional Societies/Affiliates

- Western Field Ornithologists
- California Bird Records Committee



Specialized Training

- Have performed bird surveys in a variety of habitats, including riparian, coastal salt marsh, and near-shore waters
- Have designed bird surveys for both short- and long-term projects
- Permitted to do presence-absence surveys for southwestern willow flycatchers
- Demonstrated ability to assemble information gathered over short- and long-term projects into a coherent final report; strong verbal skills
- In-depth knowledge of southern California bird distribution

Chronology

12/08-3/09: Biologist, URS Corporation
6/98-11/08: independent contractor

Contact Information

URS Corporation
130 Robin Hill Road, Suite 100
Santa Barbara, CA 93117
Tel: 805.964.6010
Fax: 805.964.0259
David_compton@urscorp.com



Ronald R. Cummings

Senior Biologist

Overview

Mr. Cummings has 20 years of experience in wildlife and fisheries management: 18 years as Wildlife Biologist with USDA Forest Service, and 2 years as a Fisheries Volunteer with the Peace Corps in Ecuador, South America. He has extensive experience in project and sub-watershed level NEPA analysis for determining effects and mitigations for species and habitats. This includes extensive experience writing Biological Evaluations (BE), Biological Assessments (BA), and portions of Environmental Assessments (EA); and some experience writing portions of Environmental Impact Statements (EIS). Mr. Cummings is also experienced in writing habitat assessments; habitat improvement projects; wildlife surveys; program planning; employee supervision; ESA Section 7 Consultation with USDI FWS; cooperation with other agencies such as NPS, CDFG, BLM, Caltrans, PG&E, County Governments and private individuals. He has a general working knowledge of West Coast habitats and species, with emphasis on **Northern spotted owls (Federal listed)**, **California spotted owl**, **burrowing owl**, **great gray owl**, **Northern goshawk**, **peregrine falcon (previously Federal listed)**, **bald eagle (Federal listed)**, **willow flycatcher**, **mule deer**, **Pacific fisher**, **kit fox**, **blunt nosed leopard lizard (Federal listed)**, and **valley elderberry longhorn beetle (Federal listed)**. Proficient in MS Word, basic proficiency in Excel, PowerPoint, and ArcView mapping.

Areas of Expertise

Wildlife field surveys
Environmental analysis
NEPA and ESA Section 7
Consultation
Biological Evaluations
Biological Assessments
Habitat management

Years of Experience

With URS: <1 Year
With Other Firms: 20 Years

Education

BS/General Biology/1985/Oregon
State University, Corvallis, OR

Registration/Certification

HAZWOPER 40-hour
PASSPORT Contractor Safety

Project-Specific Experience

Senior Biologist, URS Corporation, Santa Barbara, CA.

- Senior Biologist on the Biology Team under the Environmental Division of the Santa Barbara office.
- Conducted biological field assessments for proposed solar power projects in the Carrizo Plain and San Joaquin and Antelope Valleys, California.
- Species included **burrowing owl**, **blunt nosed leopard lizard**, **San Joaquin kit fox**, small mammals, and avian species as well as terrestrial habitat and wildlife corridor assessments.
- Performed an inventory of Joshua tree seedlings within a proposed project site.
- Assisted in the preparation of project analysis documents including Biological Constraints Analysis (BCA) and Burden of Proof for Sensitive Ecological Areas within Los Angeles County.



Wildlife Biologist, Mariposa and Minarets Ranger Districts, Sierra National Forest, North Fork, California District, September 1992 to June 2006:

- Served as terrestrial wildlife representative on many project planning Interdisciplinary Teams to ensure projects complied with applicable laws & regulations (ESA, NEPA, NFMA, Forest Plan, etc.).
- Projects included timber sales, OHV use areas, mining claims, forest stand improvement, habitat enhancements, campground management, road construction and reconstruction, prescribed burns, watershed improvement, special use permits, recreational events, telecommunications and electrical infrastructure, plantation management, gopher control, and broad-scale management plans including wilderness areas and sub-watershed-scale environmental assessments.
- Developed habitat and species mitigation measures as part of project planning process. Wrote dozens of BEs, BAs, and sections of EA analysis documents such as Affected Environment, Current Condition, Mitigations, and Project Effects. Was project manager for one timber sale project and a gopher control project (wrote the entire EA for each). Contributed to the development of an EIS for the long-term management of the Ansel Adams and John Muir wilderness areas. Also developed and analyzed stand-alone habitat improvement projects.
- Performed species-specific field surveys using standardized survey protocols including: California spotted owl, great gray owl, bald eagle, peregrine falcon, willow flycatcher, and Pacific fisher. Planned district wildlife and habitat survey program including personnel and equipment needs.
- Maintained data and wrote reports on the operational aspects of the wildlife program.
- Served as District WL liaison with cooperating agencies including NPS, BLM, FWS, CDFG, Caltrans, PG&E, County Governments, Tribal Governments, Private Consulting Firms, and private individuals.
- Program Manager for District wildlife program. Developed projects, planned budget, supervised survey crews and volunteers, provided public information and wildlife interpretation, integrated wildlife program with other District resources and programs.
- Performed other duties supporting the District resource management effort: firefighting duties including map-making and radio operation, timber-sale marking, assisting archeological explorations, serving on District Safety Committee and Employee Association, assisted Fish Biologist and Botanist with field work.

Wildlife Biologist, Klamath and Chemult Ranger Districts, Winema National Forest, Klamath Falls, OR. February 1989 to September 1992:

- Primary duty was managing the districts Northern spotted owl survey program: planning and performing surveys, managing survey crews, mapping and reporting results, mapping spotted owl habitat areas.



- Performed on project planning Interdisciplinary Teams to provide wildlife input and mitigation measures for timber management, prescribed burns, and other projects. Learned the NEPA process and Section 7 ESA consultation.

Awards

“Beyond War Award”, Peace Corps, 1987

Returned to OSU in 1992 for one term to complete wildlife management courses required to qualify as a District Wildlife Biologist. Made the Deans List that term.

Specialized Training

2009 Blunt-nosed leopard lizard survey protocol

2009 PASSPORT Contractor Safety Orientation

2009 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER)

2000 Managing Forested Ecosystems

1999 Wildlife Habitat and Plant Management

1999 Leadership Improvement Training

1998 Fire Behavior S-290

1996 Ecosystem Management Workshop

1995 40-Hour Supervisory Training

1993 Resource and Fuels Interaction

Chronology

09/1985 – 10/1987: Peace Corps, Ecuador, South America

02/1989 – 09/1992: USDA Forest Service, Winema National Forest, Klamath Falls, Oregon

09/1992 – 06/2006: USDA Forest Service, Sierra National Forest, North Fork, California

06/2006 – 12/2008: Advanced Living Solutions, Mariposa, California (Self Employed)

12/2008 – Current: URS Corporation, Santa Barbara, California

Contact Information

URS Corporation

130 Robin Hill Road, Suite 100

Santa Barbara, CA 93117

Tel: 805.964.6010

Fax: 805.964.0259

Ronald_cummings@urscorp.com



Katheryn A. Eldredge

Biologist

Areas of Expertise

Wildlife Biology, Botany

Years of Experience

With URS: <1 Year

With Other Firms: 27 Years

Education

B.S., Biology, 1993, California State University, Bakersfield

B.A., Anthropology, 1978
California State University,
Bakersfield

Overview

Ms. Eldredge has over 27 years of industry experience, 18 of which are as a biologist. Her experience includes coordinating and conducting all on-site biologically related facets of clients' projects, such as pre- and post-plant and animal surveys, monitoring site activities, and administering project-specific endangered species training. She also coordinates and conducts all off-site biologically related tasks, including permit writing, pre- and post-project reporting, preparing trapping and monitoring plans for listed species, and contributing biological input into multifaceted reports, such as EIRs. Ms. Eldredge's experience also includes coordinating and conducting listed species surveys to agency protocol levels, including the blunt-nosed leopard lizard; consulting with clients and regulatory agencies; developing and implementing revegetation requirements; and managing cultural resources for a major oil and gas operator.

Project-Specific Experience

Trapping and Handling, Biologist, Elk Hills, CA: Performed live trapping for several endangered and listed animal species, including the San Joaquin kit fox, San Joaquin antelope squirrel, giant kangaroo rat, San Joaquin pocket mouse, and short-nosed kangaroo rat.

Seismic Studies, Biologist, throughout CA: Monitored seismic crews, surveyors, and shot-hole crews. Wrote initial report and work plan prior to initiation of project. Wrote daily reports, acquired permits as needed for listed species, and conducted pre-activity surveys.

Population Monitoring, Biologist, Kern County, CA: Performed driving and walking transects during summer and fall months to monitor blunt-nosed leopard lizard population. At least 100 positive identifications were made for this species. Surveys were performed at CDFG protocol level. Species-specific surveys for small mammals and San Joaquin kit fox were performed at protocol levels. Kit fox monitoring experience included den monitoring, dusting dens and identifying tracks, assessment of usage (active and natal), and spotlighting.

Baseline Studies, Biologist, Cuyama Valley, CA: Performed line intersect and density plant studies for acquisition of initial habitat baseline information. Summarized results into report format.

Permit and Document Writing, Biologist, throughout CA: Wrote biological input for EIRs and HCPs. Completed state and federal Incidental Take Permits and Lake and Streambed Alteration Permit for CDFG. Wrote documentation needed to support CEQA regulations.



Revegetation and Restoration, Biologist, throughout CA: Preparation and implementation of revegetation and restoration plans. Performed tasks such as monitoring, reporting, supervising initial restoration/planting activities, and made field corrections to sites.

Conservation Planning, Biologist, throughout CA: Located and acquired suitable mitigation lands that met local state and federal requirements. Assisted in land acquisition in cooperation with mitigation land banks.

Cultural Resources Management, Anthropologist, Elk Hills, CA: Managed all aspects of cultural resources at the Naval Petroleum No. 1 facility, including contribution to Cultural Resources Management Plan, maintenance of known sites, and management of local prehistoric and historic artifact collection.

Specialized Training

Blunt-nosed Leopard Lizard Identification Class

Wetlands Delineation

Chronology

01/09-Present: URS Corporation, Biologist, Bakersfield, CA

12/00-01/09: RAM Environmental Engineering, Biologist, Bakersfield, CA

06/98-12/00: Quad-Knopf, Inc., Biologist/Cultural Resources Manager, Elk Hills, CA

12/03-03/97: Enterprise Advisory Services, Inc., Biologist/Cultural Resources Manager, Elk Hills, CA

03/93-12/93: EG&G Energy Measurements, Inc., Biologist/Cultural Resources Manager, Elk Hills, CA

01/92-03/92: Biosystems Analysis, Inc., Biological Technician, Bakersfield, CA

08/91-11/92: The Planning Center, Biological Technician, Bakersfield, CA

03/90-08/91: Quad Consultants, Biological Technician, Bakersfield, CA

11/86-02/90: Chevron USA, Inc., Environmental/Geological Technician, Bakersfield, CA

03/81-11/86: Gulf Oil Corporation, Geophysical Technician, Bakersfield, CA

Contact Information

URS Corporation
1518 Mill Rock Way, Suite 102
Bakersfield, CA 93311 United States
Tel: 661.398.9912
Fax: 661.617.1889
katheryn_eldredge@urscorp.com

Julian Valenzuela

12719 High Country Dr 93312 Cellular: (661) 703-3677 Home: (661) 588-2333

Vernvalenzuela@aol.com

Education: *California State University, Bakersfield*
Bachelor of Science, December 2002
Major: Biology (Emphasis: Ecology/Human Physiology)
Minor: Chemistry/Biochemistry

Bakersfield College
Associates of Arts in Liberal Studies, May 1999
Firefighter I Academy Certificate, May 19, 2004

Work Experience:

April 2008 *Independent Wildlife Biologist* **San Joaquin Valley**
Present Specializing in surveys for Threatened and Endangered Species of the San Joaquin Valley.

January 2007 *Bakersfield City Firefighter* **Bakersfield, CA**
Present Augment and assist the Bakersfield Fire Department in the protection of life and property from the effects of fire and other emergencies through effective and efficient fire suppression, emergency medical service and rescue.

February 2004 *NuSil Technologies* **Bakersfield, CA**
January 07 **Chemist I** - Process/Research development of silicone synthesis, laboratory experiments, analytical testing, titrations, and equipment installation/maintenance. Laboratory record keeping and presentations of safety topics.

Summer 2003 *Wildlife Biologist-*
Wildlife Biologist -Trapped various kangaroo rat species at different locations using Sherman live traps and PIT-tags (under Dr. David Germano). Trapped San Joaquin antelope squirrel on grids at various locations (with Larry Saslaw, current field biologist for BLM Metro Division). Also tracked and surveyed Blunt Nose Leopard Lizard on Highway 65 (Caltrans), and conducted present/not-present spot lighting for kit fox.

January 2003 *Endangered Species Recovery Program* **Bakersfield, CA**
February 2004 **Wildlife Biologist** - Tracking, trapping, and handling animals listed as endangered species using Global Positioning System equipment. Mapping locations using Geographical Information System software. Habitat survey and assessment of the Friant Kern Canal for endangered species and burrowing activity along the canal bank.

Summer 2002 **Wildlife Biologist**-trapping various kangaroo rat species at different locations under Dr. David Germano, using Sherman live traps and PIT-tags. Trapping on grids at various locations for Amo Squirrel (with Larry Saslaw, current field biologist for BLM Metro Division). Tracking and surveying Blunt Nose Leopard Lizard. Habitat survey for Blunt Nose Leopard Lizard on Highway 65 (Caltrans). Kit fox spot lighting, checking for present/non-present.

Summer Intern:
June to *Center for Disease Control and Prevention* **Atlanta, GA**
September 2000 **Office of Health and Safety Summer intern-** Assisted in instructing classes pertaining to hazardous waste containment. Respirator training and fitting, ranging from air filtration to self-contained breathing apparatus. Experiences in monitoring of carcinogenetic materials, and asbestos detection.

References: Available upon request.

Appendix A

Air Quality

Appendix A1
Air Quality Responses

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DATA ADEQUACY RECOMMENDATION 1

To mitigate potential adverse environmental impacts during construction, the Project will designate and retain an onsite Air Quality Construction Mitigation Manager (AQCMM) who will be responsible for directing and documenting compliance with permit conditions.

The Project will provide an Air Quality Construction Mitigation Plan (AQCMP) for approval, which details the steps that will be taken and the reporting requirements necessary to ensure compliance with permit conditions.

The Project will perform the following activities to reduce fugitive dust emissions during construction:

- Construction roads and work areas will be watered as needed to mitigate fugitive dust emissions.
- Entry ways into the Project Site will be graveled or treated with dust suppressants to prevent track out and paved entries will be swept daily.
- Equipment tires shall be inspected and cleaned free of dirt prior to leaving the construction site.
- Long-term soil storage stock piles will be treated with dust suppressants or covered.
- Construction vehicles used for bulk material transport on public roadways will be covered or the materials will be wetted during load out to reduce fugitive dust emissions.

The following construction mitigation measures will be used for engine emissions:

- The construction equipment will be maintained and tuned in accordance to the engine manufacturer's specifications.
- Construction equipment will be fueled with ultra-low sulfur diesel.
- Electric welders, electric air compressors, and other electric construction equipment will be used as much as practical to reduce the requirement for combustion engine operated equipment.
- Construction equipment used will comply with the applicable San Joaquin Valley Air Pollution Control District (SJVAPCD), State of California, and U.S. Environmental Protection Agency (U.S. EPA) standards.
- Soot filters will be used on heavy construction equipment where it is practical for the engine type.
- Diesel-heavy construction equipment shall not remain running at idle for more than 5 minutes, to the extent practical.

A portion of the total Project emission reduction credits will be surrendered prior to the start of construction to serve as construction emission offsets.

DATA ADEQUACY RECOMMENDATION 2

The Authority to Construct and Permit to Operate application was submitted to the SJVAPCD on June 26, 2009. The SJVAPCD is required to issue a response within 30 days of receipt. However, the Applicant has been in communication with SJVAPCD in an effort to expedite the issuance of the completeness letter.

DATA ADEQUACY RECOMMENDATION 3

A typical hydrogen-rich fuel composition (undiluted) and key characteristics are summarized in Table 1. This composition was used during preliminary engineering for the emission estimates presented in the Revised AFC.

Table 1
Summary of Hydrogen-Rich Fuel Composition (Undiluted) and Key Characteristics

Component	Volume (%)
Hydrogen	89.4
Carbon monoxide	1.3
Carbon dioxide	5.8
Nitrogen	2.5
Argon	1.0
Methane	0.05
Characteristic	Value
Average molecular weight	5.7 lb/lbmole
Heating value	294.0 Btu/scf (HHV)
Heating value	249.0 Btu/scf (LHV)

Plant Heat Rate Information

At site average ambient conditions and full load operation, the estimated gross heat rate for the 7FB combustion turbine on various fuels is estimated in Table 2.

Table 2
Estimated Gross Heat Rate for the 7FB Combustion Turbine

Fuel Type	Heat Rate, Btu/kW-hr (HHV)
Hydrogen-rich fuel	9,310
Natural gas	10,190
Co-fired hydrogen and natural gas	9,880

The corresponding approximate net heat rates, based on gaseous fuel energy, for the overall plant are summarized in Table 3.

Table 3
Net Heat Rates for Overall Plant

Fuel Type	Heat Rate, Btu/kW-hr (HHV)	
	Without Duct Firing	With Duct Firing
Hydrogen-rich fuel	9,390	9,780
Natural gas	7,370	7,770
Co-fired hydrogen and natural gas	9,330	9,750

The estimated gross heat rate for the Auxiliary Combustion Gas Turbine (LMS100) at site average ambient conditions and full load operation is about 8,820 Btu/kW-hr (HHV).

DATA ADEQUACY RECOMMENDATION 4

Petroleum coke and coal are the two types of feedstock delivered to the Project Site. Trucks carrying petroleum coke would travel to the Project Site from various refineries in the Carson Area, the Santa Maria Area, and the Bakersfield Area. Trucks carrying coal would travel to the Project Site from the nearby transloading terminal. Coal would be transported into the state by rail to the nearby transloading terminal from mines in the western United States. There are two operating scenarios. The first operating scenario uses 100 percent petroleum coke and occurs 80 percent of the time. The second operating scenario uses 75 percent coal and 25 percent petroleum coke (on a BTU basis) and occurs 20 percent of the time. Therefore, the petroleum coke is the predominant feedstock representing about 85 percent of the total feedstock and coal is only a fraction of the feedstock representing about 15 percent on average.

Heavy-heavy duty diesel truck emission factors were obtained from the California Air Resources Board (CARB) on-road emissions model EMFAC2007. It was assumed in the Revised AFC that all trucks delivering petroleum coke and coal would be diesel trucks. For trucks traveling to and from the Project Site, only model 2010 trucks were used. This constitutes a commitment by the Applicant to enter into transportation contracts only with haulers who will agree to use exclusively model year 2010 compliant trucks (or better) for these deliveries. The use of truck models prior to model year 2010 will be prohibited by contract as a pollution control technology.

Absent this commitment, haulers could employ trucks having a range of date of manufacture. The EMFAC2007 model default uses a distribution of truck ages based on registration data and a range of truck models spanning 45 years. The 45-year range runs from 1971 through 2015 in this case ending with the estimated Project startup year. Exhaust emissions from these types of trucks are regulated by the date of manufacture of the truck. Regulations require more recent model year trucks to emit less air pollution than less recent model year trucks. Significant emission reductions are required for model year 2010.

The amount of emission reduction resulting from the commitment to model year 2010 trucks compared to the default 45-year distribution of truck model years is shown by pollutant in Table 4. Therefore, the reductions in Table 4 are the effective control efficiencies resulting from the pollution control technology proposed. The reductions shown in Table 4 represent a statewide truck fleet. Results by individual air basin may vary slightly.

Table 4
Pollutant-Specific Emission Reduction from
Control of Truck Model Year

Pollutant	Reduction (%)
NO _x	65
CO	52
SO ₂	2
VOCs	59
PM ₁₀	60

About 15 percent of the feedstock will be coal which will be delivered to the nearby transloading terminal by rail transportation as noted above. Unlike dedicated trucks carrying only feedstock bound for the Project, trains will transport other types of freight for other railroad customers along with the coal bound for the Project. Locomotives travel for longer distances, are assigned various routes, add and drop railcars at sidings along the route, and frequently cross state lines. In addition, all estimated emissions from the rail transport of HECA-bound coal within the jurisdiction of each individual air quality control agency along the rail route are below applicable pollutant-specific significant emission thresholds established by each respective agency.

For these reasons it would not be practical nor warranted for the Applicant to approach the railroad companies to request exclusive use of lower-emitting locomotives to transport coal bound for the Project similar to the truck commitment discussed above. California state regulation requires intrastate diesel-electric locomotives that operate 90 percent of the time in the state to use only California ultra-low sulfur (15 parts per million) diesel fuel. Therefore, other than adjustment for the use of California ultra-low sulfur diesel fuel for these locomotives, no additional control technology beyond the standard emissions from rail transportation is necessary.

DATA ADEQUACY RECOMMENDATION 5

Please see Appendix A2 for SF6 emissions estimate for the project.

DATA ADEQUACY RECOMMENDATION 6

Appendix A3 presents a listing of commissioning activities for the Gasification Block, Air Separation Unit, and Balance of Plant facilities. This table also includes preliminary estimates of the criteria pollutant emissions and durations associated with each activity.

Regarding the monitoring techniques to be used during commissioning, they will be essentially the same as the techniques planned for normal, post-commissioning operation. Stack emissions will be monitored by certified continuous emission monitoring systems (CEMS) where required by regulation and/or permit conditions. Stack emissions will also be verified by periodic stack testing where required by regulation and permit conditions. Various process instrumentation and analyzer systems primarily installed for purposes of process control will also provide monitoring information for key process stream flow rates and compositions. Finally, the plant data logging systems and operator recordkeeping will provide historical process information regarding the commissioning activities referenced above.

Appendix A2
SF6 Emissions Estimate

Table A2
Hydrogen Energy California SF6 Emissions Estimate

Breaker	Quantity	SF6 Lbs/Bkr	Annual Leakage Rate	Leakage Lbs/Yr (per breaker)	Leakage Lbs/Yr (all breakers)	CO2e Emissions (metric tons/Yr)*
230 kV Circuit Breakers	10	216	1%	2.16	21.60	234.14
18 kV Circuit Breakers	2	73	1%	0.73	1.46	15.83
CO2e emissions (metric tons/Yr)						249.97

* Based on 1 lb SF6 = 23,900 CO₂e lbs.

Sources: SF6 inventory and maximum leakage rates from electrical equipment suppliers

SF6 factor for CO₂ greenhouse equivalency factor from U.S. EPA (see <http://www.epa.gov/electricpower-sf6/faq.html>)

Appendix A3
Gasification Block, Air Separation Unit,
and Balance of Plant Commissioning Activities

Table A3
Hydrogen Energy California Gasification Block, Air Separation Unit, and Balance of Plant Commissioning

Gasification & BOP Commissioning / Testing Phase	Hours of Operation	Equipment Load	Emission Control Status	So_x (lb)	NO_x (lb)	CO (lb)	VOC (lb)	PM₁₀ (lb)
Test Firewater Diesel Pump	6	100%	Normal	0.0	10.8	19.2	0.1	1.0
Test Diesel Generators (total both 2,000 KW units)	20	100%	Normal	0.6	62.0	36.0	3.2	13.6
Auxiliary Boiler Burner and FGR Tuning	96	25% to 100%	Tuning	17.4	306.5	630.1	68.1	42.6
Auxiliary Boiler Source Testing	64	100%	Operating	18.5	99.9	336.0	36.3	45.4
Auxiliary Boiler Operation to Support Commissioning	672	100%	Operating	194.5	1,048.9	3,528.2	381.4	476.8
ASU Cooling Tower	7,000	50% 4500 TDS	Normal	0.0	0.0	0.0	0.0	3,150.0
Gasification Cooling Tower	7,000	50% 4500 TDS	Normal	0.0	0.0	0.0	0.0	3,500.0
Gasifier Warmup Vents (refractory cure & standby)	1,968	100%	Normal	72.3	3,896.6	3,188.2	248.0	283.4
Thermal Oxidizer – SRU Refractory Cure and Heating	576	Minimum	Normal	5.9	316.8	259.2	20.2	23.0
Functional Testing Flares on Natural Gas	72	Reduced	Normal	25.5	998.6	1,006.4	24.2	37.6
Flare Operation to Support Commissioning	1,517	25% to 100%	Normal	49,615.6	130,368.0	689,088.0	0.0	0.0
Thermal Oxidizer – Support Commissioning	711	Min to 100%	Normal	7,844.0	1,668.9	1,407.8	68.2	68.2
CO ₂ Vent	672	25% to 100%	Normal	0.0	0.0	213,696.0	5,040.0	0.0
Total (lbs)				57,794.2	138,777.2	913,195.1	5,889.7	7,641.6
Total (tons)				28.9	69.4	456.6	2.9	3.8

Appendix D
Transmission System Design

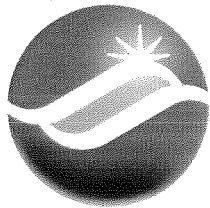
Appendix D1
Interconnection Feasibility Study Plan

Interconnection Feasibility Study Plan

Generation Interconnection

Hydrogen Energy International LLC

Hydrogen Energy California Project



California ISO
Your Link to Power

March 20, 2008

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	<u>Attachment 1 Generation Projects</u>	

1. Project Summary

Hydrogen Energy International LLC, an Interconnection Customer (IC), has submitted a completed Interconnection Request (IR) to the California Independent System Operator Corporation (CAISO) for their proposed Hydrogen Energy California Project (Project). The Project proposes to build an Integrated Gasification Combined Cycle facility co-generating power and CO₂ in a 1 on 1 configuration. The major equipment consists of two combustion turbine generators, one duct fired heat recovery steam generator, and one steam turbine generator. The project proposes to produce a maximum of 400 MW with net output of 383.1 MW to the CAISO Controlled Grid. The proposed Commercial Operation Date of the Project is September 1, 2014. The Project will interconnect to Pacific Gas and Electric Company's (PG&E's) Midway Substation via the 230 kV Bus. The alternate point of interconnection will be looping into the Midway – Wheeler Ridge 230 kV Lines via a new PG&E owned switching station.

2. Interconnection Feasibility Study Scope Summary

An Interconnection Feasibility Study (IFS) will be performed in accordance with the Federal Energy Regulatory Commission's (FERC's) Large Generator Interconnection Procedures (LGIP). The IFS will:

1. Preliminarily evaluate the feasibility of the proposed interconnection on the CAISO Controlled Grid
2. Identify transmission system impacts caused solely by the interconnection of the Project under various system conditions
3. Identify system reinforcements (Interconnection Facilities and Network Upgrades) necessary to mitigate the adverse impacts, if any, caused by the Project
4. Provide a non-binding good faith estimate of cost responsibility and a non-binding time to construct
5. Describe expected results in the Interconnection System Impact Study (ISIS)

This IFS Study Plan will form the basis for the IFS Agreement (IFSA) by defining the scope, content, assumptions, and terms of reference of the IFSA.

3. Study Fee

The CAISO's estimated study fee for performing the IFS is \$55,000. The final cost to complete the IFS will be based on the actual cost. According to the LGIP, a \$10,000 deposit is required when the IC executes and returns the IFSA to CAISO within 30 calendar days (CD) from the receipt of the IFSA.

CAISO will provide the IC a record of actual costs for performing the IFS. If the actual cost is higher than the collected deposit, CAISO will invoice the IC for the remaining balance. If the actual cost is less than the collected deposit, CAISO will refund the balance to the IC.

4. Schedule

Table 4-1 shows the tentative milestones/schedules associated with the IFS.

Table 4-1: Study Schedule

Task	Milestone Description	Target Date
1	CAISO tenders an IFSA to the IC	March 20, 2008
2	CAISO receives executed IFSA, \$10,000 Study Deposit, and Attachment A to Appendix 1 Technical Data from IC	+30 Calendar Days from receipt by IC
3	CAISO Issues Final Report to IC.	+ 60 CD
4	IFS Results Meeting	+10 BD

Per the LGIP, the IC must execute and return the attached IFSA with the deposit of \$10,000 within 30 calendar days (CD) from the receipt of IFSA. If the IC fails to return an executed IFSA and the deposit within 30 CD from receipt, the IR will be deemed withdrawn and will be processed pursuant to Section 3.8 of the LGIP.

5. Project and Interconnection Information

Table 5-1 provides general information about the Project.

Table 5-1: Hydrogen Energy California Project General Information

Project Location	Kern County, California
PG&E Planning Area	Kern Division
Number and Type of Generators	2 Combustion Turbine generators including one LM6000, 1 Duct Fired Heat Recovery Steam Generator, 1 Steam Turbine Generator
Maximum Generator Output	396 MW (400 MW nominal)
Generator Auxiliary Load	12.9 MW
Maximum Net Output to Grid	383.1 MW
Power Factor	0.85 Lag to 0.95 Lead
Step-up Transformer	Three transformers will be used: One 230/18 kV 170/227/283 MVA with 9% impedance at 170 MVA Base, One 230/13.8 kV 36/48/60 MVA with 9% impedance at 36 MVA Base, and One 230/18 kV 125/167/208 MVA rated Transformer with 9% impedance at 125 MVA Base
Description Of Interconnection Configuration	Interconnect to the Midway 230 kV Bus Section "F"
Connection Voltage	230 kV
Description Of Alternate Interconnection Configuration	Loop into the Midway – Wheeler 230 kV Lines via new PG&E owned switching station
Alternate Connection Voltage	230 kV

Figure 5-1 provides the map for the Project and the transmission facilities in the vicinity. Figure 5-2 shows the single line diagram of the Project.

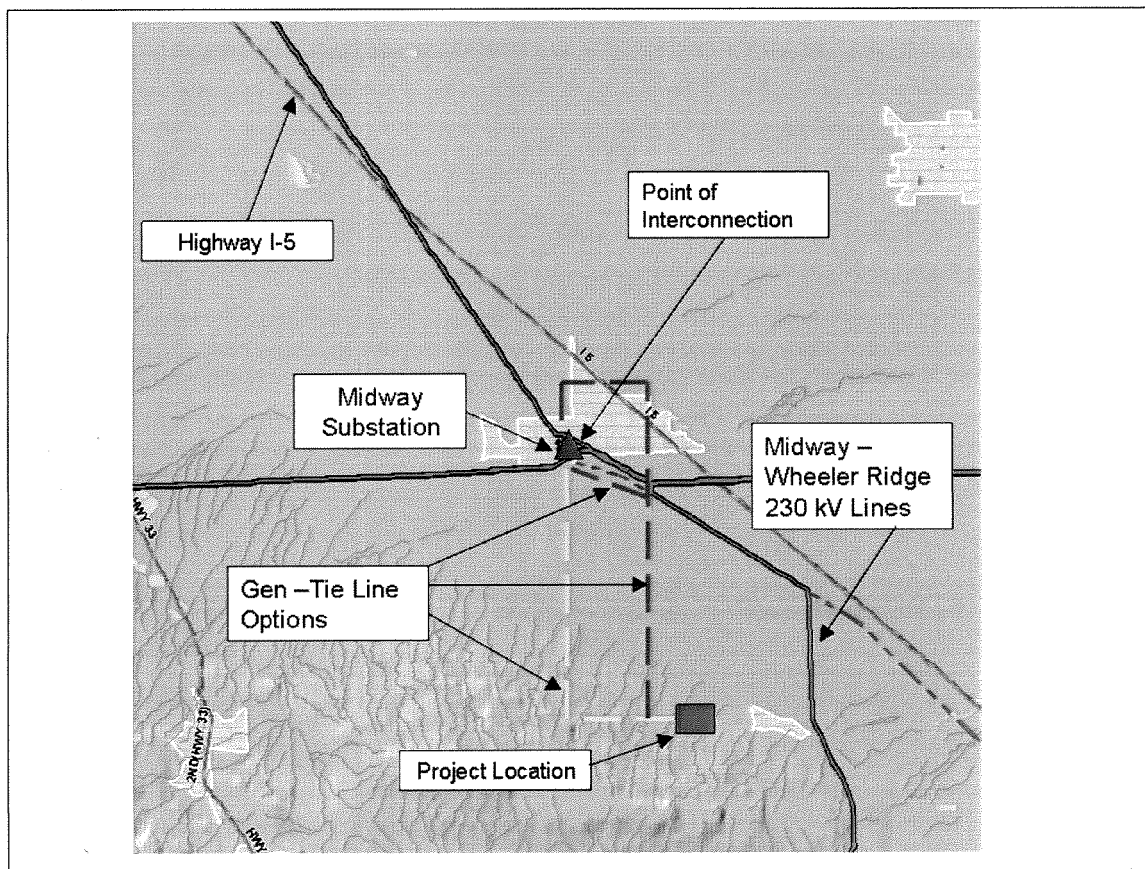


Figure 5-1: Location Map

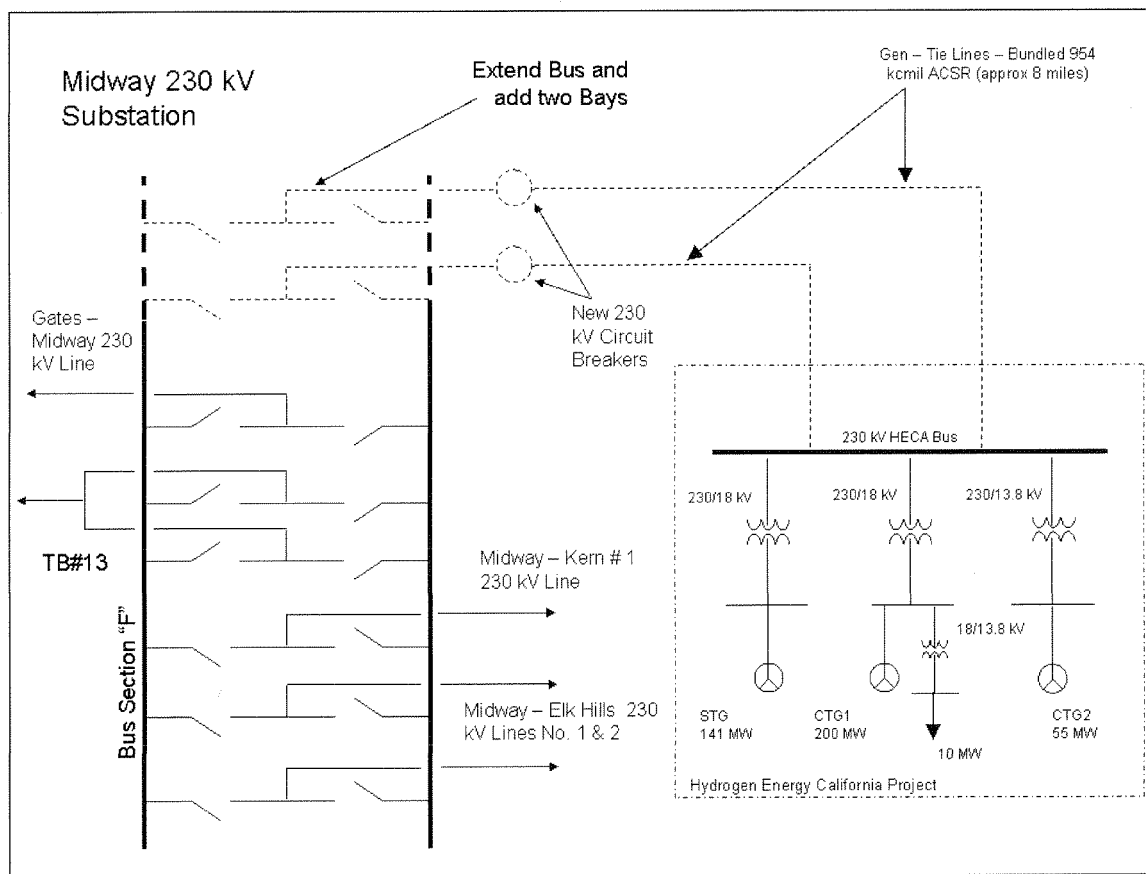


Figure 5-2: Conceptual Single-Line Diagram

6. Study Assumptions

The IFS will be conducted under the following assumptions:

- 1) The Project's winter rated output is 396 MW, however, this same rating will be used for summer study. The auxiliary load is 12.9 MW. The maximum net output of the Project to the CAISO Controlled Grid is 383.1 MW.
- 2) The expected Commercial Operation Date of the Project is September 1, 2014.
- 3) The Project has one 230/18 kV 170/227/283 MVA rated Transformer with 9% impedance at 170 MVA Base, one 230/13.8 kV 36/48/60 MVA rated Transformer with 9% impedance at 36 MVA Base, and one 230/18 kV 125/167/208 MVA rated Transformer with 9% impedance at 125 MVA Base.
- 4) The IC will engineer, procure, construct, own, and maintain its project facility.
- 5) The IC will engineer, procure, construct, own, and maintain the generator tie lines.

- 6) This study will be performed on a future year to take into account all proposed generating facilities existing in the CAISO Generation Queue located in PG&E's service territory with higher queue position. Based on the March 2008 Queue List, September 1, 2014 is the date in which the proposed Project will be in service. September 1, 2014 is the latest online date in the queue. Therefore the future year study will use 2015 summer base cases.

7. Power Flow Study Base Cases

Two power flow base cases will be used to evaluate the feasibility of the proposed interconnection and the transmission system impacts of the Project. While it is impractical to study all combinations of system load and generation levels during all seasons and at all times of the day, these base cases represent extreme loading and generation conditions for the study area.

The CAISO and PG&E cannot guarantee that the Project can operate at maximum rated output 24 hours a day, year round, without system impacts, nor can the CAISO and PG&E guarantee that the Project will not have system impacts during the times and seasons other than those studied in the IFS.

The following power flow base cases will be used for the analysis in the IFS:

2015 Summer Peak Full Loop Base Case:

Power flow analysis will be performed using PG&E's 2015 Summer Peak Full-Loop Base Case (in General Electric Power Flow format). This base case was developed from PG&E's 2007 base case series and has a 1-in-10 year extreme weather load level for the Fresno Division.

2015 Summer Off-Peak Full Loop Base Case:

Power flow analysis will also be performed using the 2015 Summer Off-Peak base case to evaluate potential congestion on transmission facilities during the Off-Peak system conditions. The summer off-peak load level assumed in the base case will be about 50% of the summer peak load level.

These base cases will model all approved PG&E transmission reliability projects that will be operational by 2015. These base cases will also model all proposed generation projects ahead of this Project in the CAISO Queue. However, some generation projects that are electrically far from the proposed project will be either turned off or modeled with reduced generation to balance the loads and resources in the power flow model. The major generation projects included are shown in [Attachment 1](#).

8. Detailed Interconnection Feasibility Study Scope

The IFS will determine the impact of the Project on the CAISO Controlled Grid. The specific studies conducted are outlined below:

8.1 Steady State Power Flow Analysis

Power Flow analysis will be performed using the base cases described in [Section 7](#). These base cases will be used to simulate the impact of the Project during normal operating conditions, as well as during single (CAISO Category "B") and selected multiple (CAISO Category "C") contingency conditions. The study will cover the transmission facilities within PG&E's Kern, Fresno, and Los Padres Divisions.

The single (CAISO Category "B") and selected multiple (CAISO Category "C") contingencies include the following outages:

8.1.1 CAISO Category "B"

- All single generator outages within the study area.
- All single (60 - 230 kV) transmission circuit outages within the study area.
- All single (60 – 230 kV) transformer outages within the study area.
- Selected overlapping single generator and transmission circuit outages for the transmission lines and generators within the study area.

8.1.2 CAISO Category "C"

- Selected bus (60-230 kV) outages within the study area.
- Selected outages caused by selected breaker failures (excluding bus tie and sectionalizing breakers) at the same above bus section.
- Selected combination of any two-generator/transmission line/transformer outages (except ones included above in Category "B") within the study area.
- Selected outages of double circuit tower lines (60-230 kV) within the study area.

8.2 Short Circuit Analysis

Short circuit studies will be performed to determine the maximum fault currents on various buses in the vicinity of the Project. The IFS will assess the impact of increased fault duty resulting from the added generation. Equipment that may become overstressed as a result of increased fault duty will be identified.

8.3 Reactive Power Deficiency Analysis

With the proposed project included in the system model, CAISO Category "B" and "C" contingencies will be analyzed to identify any reactive power deficiency:

- Whether the results show voltage drops of 5% or more from the pre-project levels, or
- Whether the results fail to meet applicable voltage criteria.

A post-transient power flow analysis will be performed, if deemed necessary, after considering the network topology or power transfer paths involved when a significant amount of power transfer occurs.

8.4 Point of Interconnection - Configuration

The IC's preferred method of interconnection is to interconnect at the Midway Substation on Section "F" of the 230 kV Bus. PG&E will work with the CAISO to determine the method of interconnection.

8.5 Substation Evaluation

The substation evaluation will identify any existing equipment requiring upgrades to mitigate overstress or overload caused by the Project.

8.6 Transmission Line Evaluation

PG&E's transmission line evaluation will identify any existing transmission lines or equipment requiring upgrades to mitigate overload or overstress caused by the Project.

8.7 Land Evaluation

For the IFS, PG&E's Corporate Real Estate Department will not perform an evaluation to determine if any new land rights are necessary to upgrade PG&E facilities that may be impacted by the interconnection of the Project, such as constructing the new generator tie line and reinforcing of existing PG&E transmission lines, if required.

A land right evaluation will be provided when the project progresses to the Interconnection Facilities Study (IFAS).

8.8 Cost Estimates and Time to Construct/Schedule Estimates

The IFS will provide a list of required facilities and a non-binding good faith estimate of cost responsibility and a non-binding good faith estimate of time to construct these facilities.

9. Environmental Evaluation/ Permitting

9.1 CPUC General Order 131-D

PG&E is subject to the jurisdiction of the California Public Utilities Commission (CPUC) and must comply with CPUC General Order 131-D (Order) on the construction, modification, alteration, or addition of all electric transmission facilities (i.e., lines, substations, etc.). This includes facilities to be constructed by others and deeded to PG&E. The Order exempts PG&E from obtaining a formal permit from the CPUC on facilities over 200 kV provided the planned facilities involve the replacement of existing facilities or supporting structures with equivalent facilities or structures, the minor relocation of existing facilities, the conversion of existing facilities to underground or the placing of new or additional conductors, insulators, or their accessories on or replacement of structures already built. These exemptions do not apply under certain circumstances when significant environmental impacts may be caused by the work. If the project does not qualify for an exemption, PG&E will need to seek formal approval from the CPUC (i.e., Certificate of Public Convenience and Necessity) taking as much as 18 months or more since the CPUC may decide to conduct its own environmental evaluation (i.e., Negative Declaration or Environmental Impact Report).

For cases where PG&E can claim a valid exemption, PG&E would file an Advice Letter with the CPUC and publish public notice of the proposed construction of the facilities. The noticing process takes about 90 days if no protests are filed, but should be done as early as possible so that a protest does not delay construction. PG&E has no control over the time it takes the CPUC to respond when issues arise. If the protest is granted, PG&E will then need to apply for a formal permit to construct the project (i.e., Certificate of Public Convenience and Necessity).

Facilities built or modified under this procedure must also be designed to include electric and magnetic field (EMF) mitigation measures pursuant to PG&E "EMF Design Guidelines of New Electrical Facilities: Transmission, Substation and Distribution".

Please see Section III, B.1(f) in General Order 131-D. This document can be found in the CPUC's web page at:

http://www.cpuc.ca.gov/PUBLISHED/GENERAL_ORDER/589.htm

9.2 CPUC Section 851

PG&E is subject to the jurisdiction of the California Public Utilities Commission (CPUC) and must comply with Public Utilities Code Section 851, which among other things requires CPUC approval of leases and licenses to use PG&E property. This includes rights-of-way granted to third parties for interconnection facilities. Obtaining CPUC approval for a Section 851 application can take several months, and requires compliance with the California Environmental Quality Act (CEQA). PG&E recommends that Section 851 issues be identified as early as possible so that the necessary application can be prepared and processed.

10. Stand-by Power

The IFS will not address any requirements for stand-by power that the Project may require. The IC should contact their PG&E Generation Interconnection Services representative regarding this service.

Note: The IC is urged to contact their PG&E Generation Interconnection Services representative promptly regarding stand-by service in order to ensure its availability for the Project start-up date.

11. Re-study

The IFS is performed according to the assumptions shown in the Sections titled "Study Assumptions" and "Power Flow Study Base Cases". If these assumptions are changed, a re-study according to the LGIP may be required to re-evaluate the Project's impact on the CAISO Controlled Grid. The IC would be responsible for paying for any such updating re-study.

ATTACHMENT 1 – GENERATION PROJECTS

PG&E Generation Projects					
Project ID #	Project Name	Nearest Facility	Capacity (MW)	Latest Expected On-Line Date	Modeled In Study Cases
1	Confidential	Russell	92	2007	Yes

Non-PG&E Generation Projects to Be Modeled in Base Case per On-line Year					
Project ID #	Project Name	Nearest Facility	Capacity (MW)	Latest Expected On-Line Date	Modeled In Study Cases
SMUD	Confidential	Rancho Seco (SMUD)	500	2007	Yes
TID	Confidential	Walnut (TID)	250	2007	Yes
SVP	Confidential	SSS (SVP)	320	2008	Yes

PG&E Generation Projects - ISO Generation Interconnection Queue						
CAISO Queue Number	Project ID #	Project Name	Nearest Facility	Capacity (MW)	Latest Expected On-Line Date	Modeled In Study Cases
2	1	Confidential	Contra Costa	590	11/1/2009	YES
6	2	Confidential	Tesla	1156	12/31/2010	YES
9	3	Confidential	Morro Bay	1200	1/1/2008	YES
16	P0302	Confidential	Cabrillo	120	10/1/2008	YES
22	P0304	Confidential	New Birds Landing SW STA	38	12/31/2011	YES
24	P0401	Confidential	High Winds/Contra Costa	150	11/28/2008	YES
28	P0402	Confidential	Potrero	145.1	6/1/2008	YES
29	P0403	Confidential	Collector Station at Geysers #17 & Fulton Line	201	7/1/2009	YES
30	P0404	Confidential	San Francisco Airport	48.7	6/1/2008	YES
37	P0409	Confidential	Tesla	74.9	1/1/2010	YES
38	P0411	Confidential	Humboldt Power Plant Substation	146.4	7/1/2008	YES

PG&E Generation Projects - ISO Generation Interconnection Queue						
39	P0412	Confidential	Birds' Landing Switchyard	200	12/31/2008	YES
40	P0413	Confidential	East Shore	118	3/1/2007	YES
42	P0418	Confidential	McCall 115 kV Bus	300	3/31/2013	YES
45	P0424	Confidential	East Shore	361	6/1/2010	YES
52	P0435	Confidential	Panoche Substation	401	9/30/2009	YES
54	P0504	Confidential	Panoche Substation	119.9	1/1/2009	YES
57	P0506	Confidential	Cottonwood-Vaca Dixon 230 kV lines	715	1/1/2010	YES
60	P0513	Confidential	Kern Oil Substation (115 kV)	94	1/31/2009	YES
67	P0526	Confidential	Eastshore 230 kV Bus	245	7/31/2008	YES
74	P0528L	Confidential	Pit 3-Round Mountain 230 kV	102	12/15/2007	YES
75	P0529	Confidential	Le Grand- Chowchilla 115 kV	10.5	10/5/2007	YES
76	P0530	Confidential	Merced #1 70 kV	10.5	10/5/2007	YES
81	P0532L	Confidential	PG&E Geysers #17 Fulton 230 kV Line	55	11/1/2007	YES
98	P0602L	Confidential	Diablo Canyon	37	1/1/2006	YES
99	P0603L	Confidential	Diablo Canyon	45	6/8/2006	YES
108	P0609L	Confidential	Lambie-Contra Costa 230 kV	128	3/1/2011	YES
111	P0610L	Confidential	Chevron 70 kV Tap	20	8/31/2009	YES
113	P0611L	Confidential	Birds' Landing Switchyard	30	4/1/2009	YES
128	P0615L	Confidential	Mc Call 230 kV Bus	565/600	12/1/2010	YES
152	P0616L	Confidential	Mesa-Divide #1 & #2 115 kV Lines	105	12/31/2009	YES
155	P0617L	Confidential	Oakland C Substation 115 kV Bus	300	12/1/2010	YES
166	P0701L	Confidential	Morro Bay – Midway 230 kV Line	210	12/31/2010	YES
171	P0702L	Confidential	Vaca – Tesla 500 kV Line	500	12/31/2011	YES
172	P0703L	Confidential	Tesla – Bellota 230 kV Line	508	5/15/2011	YES
177	P0704L	Confidential	Bahia-Moraga 230 kV Line	100	12/31/2011	YES
184	P0706	Confidential	Geysers #3 – Cloverdale 115 kV Line	35	1/1/2010	YES
187	P0708	Confidential	Geysers – Fulton 230 kV Line	50	1/1/2011	YES
194	P0709	Confidential	Loop 230kV Lines near Carrizo Plain Sub	190	12/31/2011	YES
196	P0710	Confidential	Borden Substation 230 kV Bus	508	7/1/2011	YES
208	Q208	Confidential	Tracy – Herdlyn 69kV Line	2	9/1/2008	YES

PG&E Generation Projects - ISO Generation Interconnection Queue						
211	Q211	Confidential	230 kV Bus at Caribou Substation	201	10/31/2008	YES
212	Q212	Confidential	Bridgeville Substation	50	10/30/2010	YES
222	Q222	Confidential	Birds Landing Substation	100.5	12/31/2010	YES
235	Q235	Confidential	Tesla – Tracy #1 230 kV Line	630	6/1/2011	YES
236	Q236	Confidential	Tesla Substation 230 kV Bus	630	6/1/2011	YES
238	Q238	Confidential	Tembler – San Luis Obispo 115 kV Line	45	12/1/2008	YES
239	Q239	Confidential	Midway – Morro Bay 230 kV Line	250	12/1/2010	YES
242	Q242	Confidential	Morro Bay – Midway 230 kV Line	390	9/1/2012	YES
247	Q247	Confidential	Borden Substation 230 kV Bus	67	7/1/2011	YES
248	Q248	Confidential	Tesla - Bellota 230 kV lines	67	5/15/2011	YES
249	Q249	Confidential	Moss-Landing-Salinas-Soledad 115 kV #1 and #2 lines	200	2/1/2010	YES
250	Q250	Confidential	Redbud-Cortina 115 kV line	200	8/1/2009	YES
253	Q253	Confidential	Cabrillo Substation 115 kV	40	12/31/2011	YES
254	Q254	Confidential	Gates Substation 230 kV bus	600	6/1/2012	YES
257	Q257	Confidential	New Fairfield Substation 230 kV bus	575	6/1/2011	YES
258	Q258	Confidential	Contra Costa Substation 230 kV bus	520	2/1/2012	YES
259	Q259	Confidential	Rio Oso Substation 115 kV bus	345	2/1/2012	YES
260	Q260	Confidential	Loop Gold Hill - Eight Mile Road 230 kV line	260	2/1/2012	YES
261A	Q261A	Confidential	Mendota – San Joaquin – Helm 70 kV Line	5	4/15/2009	YES
262	Q262	Confidential	Birds Landing Substation	390.6	4/15/2012	YES
266	Q266	Confidential	Rio Oso Substation 230 kV	325	2/1/2012	YES
267	Q267	Confidential	Gold Hill – Eight Mile 230 kV	280	4/16/2012	YES
268	Q268	Confidential	Tesla – Manteca 115 kV Line via Schulte Switchyard	145	4/15/2012	YES
269	Q269	Confidential	Tesla Substation 230 kV Bus	371.3	4/15/2012	YES
272	Q272	Confidential	Henrietta 70 kV Bus	150	5/1/2010	YES
275	Q275	Confidential	Loop Vaca Dixon-Peabody & Vaca Dixon-Lambie 230 kV lines	630	9/1/2012	YES

PG&E Generation Projects - ISO Generation Interconnection Queue						
276	Q276	Confidential	Contra Costa Switchyard 230 kV	650	1/15/2012	YES
280	Q280	Confidential	Fort Bragg Substation 60 kV Bus	40	6/1/2012	YES
281	Q281	Confidential	Loop Tesla – Stagg and Tesla – Eight Mile 230 kV Lines	500	12/31/2010	YES
282	Q282	Confidential	Tap Dairyland – Mendota 115 kV Line	29	12/31/2008	YES
283	Q283	Confidential	Gates 230 kV Substation	106.8	3/1/2010	YES
284	Q284	Confidential	Ukiah Substation 115 kV Bus	115	4/15/2012	YES
288	Q288	Confidential	Morro Bay – Gates 230 kV Line	375	7/1/2011	YES
293	Q293	Confidential	Helm – Kerman 70 kV Line	5.2	6/1/2009	YES
299	Q299	Confidential	Hanford Switchyard 115 kV Bus	28	5/1/2010	YES

Appendix D2

Large Generator Interconnection Study Process Agreement

STUDY AGREEMENT RECEIVED BY GRID ASSETS

DOCUMENT: One fully executed original of the
Large Generator Interconnection Study Process
Agreement

IC: Hydrogen Energy Int'l LLL
PROJECT: Hydrogen Energy California

RECEIVED:

RECEIVED

NOV 24 2008

**CALIFORNIA ISO
NEW RESOURCE INTERCONNECTION**

LARGE GENERATOR INTERCONNECTION STUDY PROCESS AGREEMENT

THIS AGREEMENT is made and entered into this 19th day of November, 2008 by and between Hydrogen Energy International LLC, a Limited Liability Company organized and existing under the laws of the State of Delaware, ("Interconnection Customer,") and the California Independent System Operator Corporation, a California nonprofit public benefit corporation existing under the laws of the State of California, ("CAISO"). The Interconnection Customer and the CAISO each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, the Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by the Interconnection Customer dated March 26, 2007; and

WHEREAS, the Interconnection Customer desires to interconnect the Large Generating Facility with the CAISO Controlled Grid; and

WHEREAS, the Interconnection Customer has requested the CAISO to conduct or cause to be performed Interconnection Studies to assess the system impact of interconnecting the Large Generating Facility to the CAISO Controlled Grid and to specify and estimate the cost of the equipment, engineering, procurement and construction work needed on the Participating TO's electric system in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the CAISO Controlled Grid;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the CAISO's FERC-approved Large Generation Interconnection Procedures in CAISO Tariff Appendix GG ("LGIP") or the Master Definitions Supplement, Appendix A to the CAISO Tariff, as applicable.
- 2.0 The Interconnection Customer elects and the CAISO shall conduct or cause to be performed Interconnection Studies, including any accelerated Interconnection Study, consistent with the LGIP in accordance with the CAISO Tariff.
- 3.0 The scope of the Interconnection Studies shall be subject to the assumptions set forth in Appendices A and B to this Agreement.
- 4.0 The Interconnection Studies will be based upon the technical information provided by the Interconnection Customer in the Interconnection Request, as may be modified as the result of the Scoping Meeting, subject to any modifications in accordance with Section 6.7.2 of the LGIP and modifications to the proposed Commercial Operation Date of the Large Generating Facility permitted by the LGIP. The CAISO reserves the right to request additional technical information from the Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Interconnection Studies. If the Interconnection Customer modifies its designated

Point of Interconnection, Interconnection Request, or the technical information provided therein is modified, the Interconnection Studies may be modified as specified in the LGIP.

- 5.0 The Interconnection Study report for each Interconnection Study shall provide the information specified in the LGIP.
- 6.0 The Interconnection Customer shall provide an Interconnection Study Deposit, a Site Exclusivity Deposit, if applicable, and other Interconnection Financial Security for the performance of the Interconnection Studies in accordance with the provisions of Sections 3.5.1 and 9 of the LGIP.

Following the issuance of an Interconnection Study report, the CAISO shall charge and the Interconnection Customer shall pay its share of the actual costs of the Interconnection Study pursuant to Sections 3.5.1 and 7.8 of the LGIP.

Any difference between the deposits made toward the Interconnection Study process and associated administrative costs, including any accelerated studies, and the actual cost of the Interconnection Studies and associated administrative costs shall be paid by or refunded to the Interconnection Customer, in the appropriate allocation, in accordance with Section 3.5.1 of the LGIP.

- 7.0 Pursuant to Section 3.7 of the LGIP, the CAISO will coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems. The CAISO may provide a copy of the Phase I Interconnection Study results to an Affected System Operator and the Western Electricity Coordinating Council. Requests for review and input from Affected System Operators or the Western Electricity Coordinating Council may arrive at any time prior to interconnection.
- 8.0 Substantial portions of technical data and assumptions used to perform the Phase I Interconnection Study, such as system conditions, existing and planned generation, and unit modeling, may change after the CAISO provides the Interconnection Study results to the Interconnection Customer. Interconnection Study results will reflect available data at the time the CAISO provides the Phase I Interconnection Study report to the Interconnection Customer. The CAISO shall not be responsible for any additional costs, including, without limitation, costs of new or additional facilities, system upgrades, or schedule changes, that may be incurred by the Interconnection Customer as a result of changes in such data and assumptions.
- 9.0 **[NOT USED]**
- 10.0 The CAISO shall maintain records and accounts of all costs incurred in performing the Interconnection Study in sufficient detail to allow verification of all costs incurred, including associated overheads. The Interconnection Customer shall have the right, upon reasonable notice, within a reasonable time at the CAISO's offices and at its own expense, to audit the CAISO's records as necessary and as appropriate in order to verify costs incurred by the CAISO. Any audit requested by the Interconnection Customer shall be completed, and written notice of any audit dispute provided to the CAISO representative, within

one hundred eighty (180) calendar days following receipt by the Interconnection Customer of the CAISO's notification of the final costs of the Interconnection Study.

- 11.0 In accordance with Section 3.8 of the LGIP, the Interconnection Customer may withdraw its Interconnection Request at any time by written notice to the CAISO. Upon receipt of such notice, this Agreement shall terminate, subject to the requirements of Section 3.5.1 and 13.1 of the LGIP.
- 12.0 Pursuant to Section 4 of the LGIP, this Agreement shall become effective upon the date the fully executed Agreement is received by the CAISO. If the CAISO does not receive the fully executed Agreement and deposit or other Interconnection Financial Security pursuant to Section 3.5.1 of the LGIP, then the Interconnection Request will be deemed withdrawn upon the Interconnection Customer's receipt of written notice by the CAISO pursuant to Section 3.8 of the LGIP.
- 13.0 Miscellaneous.
- 13.1 Dispute Resolution. Any dispute, or assertion of a claim, arising out of or in connection with this Agreement, shall be resolved in accordance with Section 13.5 of the LGIP.
- 13.2 Confidentiality. Confidential Information shall be treated in accordance with Section 13.1 of the LGIP.
- 13.3 Binding Effect. This Agreement and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.
- 13.4 Conflicts. In the event of a conflict between the body of this Agreement and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this Agreement shall prevail and be deemed the final intent of the Parties.
- 13.5 Rules of Interpretation. This Agreement, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this Agreement, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement (including this Agreement), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any applicable laws and regulations means such applicable laws and regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article or Section of this Agreement or such Appendix to this Agreement, or such Section of the LGIP or such Appendix to the LGIP, as the case may be; (6) "hereunder", "hereof", "herein", "hereto" and words

of similar import shall be deemed references to this Agreement as a whole and not to any particular Article, Section, or other provision hereof or thereof; (7) "including" (and with correlative meaning "include") means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, "from" means "from and including", "to" means "to but excluding" and "through" means "through and including".

- 13.6 Entire Agreement. This Agreement, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, any Party's compliance with its obligations under this Agreement.
- 13.7 No Third Party Beneficiaries. This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.
- 13.8 Waiver. The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by the Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Participating TO or CAISO. Any waiver of this Agreement shall, if requested, be provided in writing.

Any waivers at any time by any Party of its rights with respect to any default under this Agreement, or with respect to any other matter arising in connection with this Agreement, shall not constitute or be deemed a waiver with respect to any subsequent default or other matter arising in connection with this Agreement. Any delay, short of the statutory period of limitations, in asserting or enforcing any right under this Agreement shall not constitute or be deemed a waiver of such right.

- 13.9 Headings. The descriptive headings of the various Articles and Sections of this Agreement have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this Agreement.
- 13.10 Multiple Counterparts. This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

- 13.11 Amendment. The Parties may by mutual agreement amend this Agreement by a written instrument duly executed by both of the Parties.
- 13.12 Modification by the Parties. The Parties may by mutual agreement amend the Appendices to this Agreement by a written instrument duly executed by both of the Parties. Such amendment shall become effective and a part of this Agreement upon satisfaction of all applicable laws and regulations.
- 13.13 Reservation of Rights. The CAISO shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by another Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.
- 13.14 No Partnership. This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon any Party. No Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, another Party.
- 13.15 Assignment. This Agreement may be assigned by a Party only with the written consent of the other Party; provided that a Party may assign this Agreement without the consent of the other Party to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement; and provided further that the Interconnection Customer shall have the right to assign this Agreement, without the consent of the other Party, for collateral security purposes to aid in providing financing for the Large Generating Facility, provided that the Interconnection Customer will require any secured party, trustee or mortgagee to notify the other Party of any such assignment. Any financing arrangement entered into by the Interconnection Customer pursuant to this Section will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify the other Party of the date and particulars of any such exercise of assignment right(s). Any attempted assignment that violates this Section is void and ineffective. Any assignment under this Agreement shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

California Independent System Operator Corporation

By 

Printed Name

LAURA J. MANZ, VICE PRESIDENT
MARKET & INFRASTRUCTURE DEVELOPMENT

Title

9/29/2008
Date

Hydrogen Energy International LLC

By 

Printed Name

Robert J Middlemore

Title

Project Delivery Manager

Date

November 19, 2008

Appendix A

Large Generator Interconnection Study Process Agreement

ASSUMPTIONS USED IN CONDUCTING THE PHASE I INTERCONNECTION STUDY

The Phase I Interconnection Study will be based upon the information set forth in the Interconnection Request and agreed upon in the Scoping Meeting held on February 14, 2008, subject to any modifications in accordance with Section 6.7.2 of the LGIP, and the following assumptions:

Designation of Point of Interconnection and configuration to be studied:

- **Midway Substation 230kV Bus**

Deliverability status requested (please select one):

☒ Full Capacity

☐ Energy Only

Appendix D3
CAISO Letter



September 29, 2008

Via FedEx delivery

Bob Middlemore
Hydrogen Energy
One World Trade Center Suite 1600
Long Beach, CA 90831

Dear Bob Middlemore,

On September 26, 2008 the Federal Electric Reliability Council (FERC) ruled on the California Independent System Operator's (CAISO) filing to reform its Large Generator Interconnection Process (124 FERC ¶61,292). In order to comply with Section 3.1 of *Appendix 2 to Large Generator Interconnection Procedures (LGIP) Relating to the Transition Cluster* (attached) for the Hydrogen Energy California project, enclosed you will find:

1. An invoice for the amount required to increase your project's deposit to the new \$250,000 threshold. Further, if you have not yet demonstrated Site Exclusivity (formerly known as Site Control), an additional amount is noted to increase your Site Exclusivity Deposit up to the new \$250,000 threshold. The Site Exclusivity Deposit can be avoided if you demonstrate Site Exclusivity by the compliance date listed below. Information necessary to wire transfer the additional deposit(s) to the CAISO is enclosed.
2. Two (2) partially executed originals of the Large Generator Interconnection Study Process Agreement for the new study process for the Hydrogen Energy California project between Hydrogen Energy International LLC and CAISO for execution by Hydrogen Energy International LLC. **Please sign, date, and fill in the name and title of the signatory where indicated in the signature block on the signature page of each of the originals and fill in the date of Hydrogen Energy International LLC's execution where indicated on the first line of the Agreement to note the "entered into" date of the Agreement. Please provide the required information on Appendix A.** Completed Appendix B is due prior to commencement of the Phase II Interconnection Study. Please return one of the two fully executed and dated originals to my attention at **California ISO, 151 Blue Ravine Road, Folsom, CA 95630**. The second original is for your records.

Compliance with all requirements listed in Section 3.1 Appendix 2 to Large Generator Interconnection Procedures (LGIP) Relating to the Transition Cluster is mandatory no later than November 25, 2008 (60 Calendar Days from the effective date of Appendix 2 to the LGIP). Failure to comply by November 25, 2008 will result in the immediate withdrawal of the Project from the Transition Cluster.

Additionally, Order 2001 requires all pro forma agreements be filed in the Electric Quarterly Report (EQR); therefore, **the ISO requests that the DUNS number for Hydrogen Energy International LLC be included in your return transmittal letter.** Since the DUNS number is a required field within the EQR, it is imperative that you supply that information for our files. If you have any questions regarding the DUNS number, please contact Roni Reese by email at reese@caiso.com or by phone at (916) 608-7027.

We appreciate your assistance in this matter. If you have any questions, please feel free to contact me by email at lwright@caiso.com or by phone at (916) 351-4470.

Sincerely,

Linda Wright

Linda Wright
Project Specialist

Enclosures (3)

cc: without enclosures
Ed Fishback, CAISO
Barbara Madrid, PGE



California ISO
Your Link to Power

California Independent
System Operator Corporation

LGIP TRANSITION CLUSTER DEPOSIT INVOICE

Invoice #: 50241TCD

Date: 9/29/2008

PAYMENT MUST BE RECEIVED BY: 11/25/2008

Project Number: 50241

Project Name: HYDROGEN ENERGY CALIFORNIA

Required Study Deposit to be included in the Transition Cluster	\$250,000.00
Current amount of Study Deposit with CAISO	(\$20,000.00)
Additional Study Deposit Required	<u>\$230,000.00</u>
Required In Lieu of Site Control (Site Exclusivity) Deposit	\$250,000.00
Current amount of Deposit In Lieu of Site Control with CAISO	(\$10,000.00)
Additional Deposit Required In Lieu of Site Control (Site Exclusivity)	<u>\$240,000.00</u>
Total Additional Deposits Required	<u>\$470,000.00</u>

REMIT PAYMENT TO:

By Wire: Bank of America - ABA # 026009593

Acct # 14994-20225

By Check: The California Independent Systems Operator

P.O. BOX 639015

Folsom, CA 95763-9015

For Inquiries Contact: Julie Balch at
916-608-5873 or jbalch@caiso.com



California ISO
Your Link to Power

California Independent
System Operator Corporation

California ISO Banking Information:

Bank of America
1860 Gateway Boulevard
Concord, CA 94520

Contact: Kim Preston, Bank of America
916-326-3118

Account Number: 14994-20225

Routing Number 026009593
(ABA)

Fed Wires ONLY

Federal Tax ID # 94-3274043
CA ISO is a Corporation



CAISO Tariff Appendix GG
Appendix 2 to
Large Generator Interconnection Procedures (LGIP)
Relating to the Transition Cluster

3.1 General Requirements for Large Generating Facilities.

An Interconnection Request deemed to be included in the Transition Cluster in accordance with the decision of FERC in Docket No. ER08-960-000 will be deemed to have been withdrawn from the Transition Cluster unless the Interconnection Customer provides, within sixty (60) days from the effective date of this Appendix 2 to the LGIP, all of the following: (i) a Transition Cluster Interconnection Study Deposit, (ii) a statement of the requested deliverability status, (iii) a preferred Point of Interconnection and voltage level and all other technical data required by the LGIP, if not already submitted to the CAISO, and (iv) demonstration of Site Control or a posting of a Site Control Deposit of \$250,000. The demonstration of Site Control must be, at a minimum, through the anticipated Commercial Operation Date of the new Large Generating Facility or increase in capacity of the existing Generating Facility.

Section 3.8 of the LGIP shall not apply to a failure to satisfy the requirements of this Section 3.1 of this Appendix 2 to the LGIP.

Appendix D4
CAISO Receipt Response

O'Brien, John

From: Fishback, Edward [EFishback@caiso.com]
Sent: Monday, December 15, 2008 3:07 PM
To: O'Brien, John
Cc: Middlemore, Robert
Subject: RE: Confirmation of Hydrogen Energy Study
Attachments: Hydrogen Energy California Interconnection Request - Valid; GIPR Timelines 7-18-08 (2).xls

John,

Per our phone conversation Acknowledgment of you Interconnection Request was complied with in the attached e-mail sent 2/7/2008.

The transition cluster timeline you requested is identified below and in the attached "GIPR Timelines 7-18-2008(20.xls" file that also identifies timelines for the future GIPR clusters 1 & 2.

Transitional Cluster Timeline

GIPR approved by FERC Sept. 26, 2008

Letters for increased deposits and technical sent October 1st

Reminder notice will go out November 3rd – accurate completed technical data required

All deposits and technical data due no later than November 25, 2008.

Phase 1 Interconnection Study (240 CD) – starts no later than December 1, 2008

Phase 1 Interconnection Study Results to IC – no later than July 28, 2009 (240 CD study timeline)

Scoping Meetings – July 29-September 27 (within 60 CD after study results issued)

Phase 2 Interconnection Study (330 CD)– commence no later than Nov. 25, 2009 (60 CD after Ph 1 issued)

Phase 2 Interconnection Study Results to IC – October 21, 2010 (330 CD study timeline)

Ed Fishback
 Project Manager
 California ISO
 151 Blue Ravine Road
 Folsom, CA 95630
 Phone (916) 608-5836
 Cell (916) 802-6401
 Fax (916) 351-2264

From: O'Brien, John [mailto:John.O'Brien@hydrogenenergy.com]

7/6/2009

Sent: Monday, December 15, 2008 10:05 AM
To: Fishback, Edward
Subject: Confirmation of Hydrogen Energy Study

Hi Ed,

Will CAISO prepare a formal receipt of the Interconnection Study that was sent ~two weeks ago and send to Hydrogen Energy?

Please advise.

Thank you,

John O'Brien

Appendix D5
CAISO Proof of Receipt

Vendor

80377787

Name

CALIFORNIA ISO

City

FOLSOM

St	Doc	Account	DocumentNo	Doc. Date	General ledger amt	Paying Date	Text	Document Header Text	Entry Date	Reference	Print date	Print Date
<input type="checkbox"/>	1946	80377787	2000134008	11/17/2008	230,000.00	11/17/2008		20081117-WIRE	11/14/2008		11/17/2008	11/17/2008
<input type="checkbox"/>	1946	80377787	1900012019	09/25/2008	230,000.00-	11/11/2008	RECEIVED DATE-10/18/08 FNID328435448	ZBHPPROJECT/FN328435448	11/11/2008	50241TCD	11/17/2008	10/18/2008
<input type="checkbox"/>	1946	80377787	2000140002	11/24/2008	240,000.00	11/24/2008		20081124-WIRE	11/21/2008		11/24/2008	11/24/2008
<input type="checkbox"/>	1946	80377787	1900046034	09/29/2008	240,000.00-	11/20/2008	RECEIVED DATE-10/23/08 FNID328483958	ZBHPPROJECT/FN328483958	11/20/2008	50241TCD	09/29/2008	09/29/2008