

# Petition to Amend Final Commission Decision Panoche Energy Center 06-AFC-5C



Submitted to:

**The California Energy Commission**

October 2008

Submitted by:

**Panoche Energy Center, LLC**

with support from

**URS**

2020 East First Street, Suite 400

Santa Ana, California 92705

Petition to Amend Final Commission Decision  
Panoche Energy Center  
06-AFC-5C

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October 23, 2008

**BY HAND DELIVERY**

Mr. Dale Rundquist  
Compliance Project Manager  
California Energy Commission  
1516 Ninth Street, MS-15  
Sacramento, CA 95814

**Re: Panoche Energy Center Project (06-AFC-5C)  
Petition to Amend**

Dear Mr. Rundquist:

On behalf of Panoche Energy Center, LLC ("Owner"), please find the accompanying Petition to Amend ("Petition") requesting the California Energy Commission to approve an amendment to the December 19, 2007 Final Decision for the Panoche Energy Center ("PEC"). Specifically, the Petition addresses an expansion of the existing Panoche Electrical Substation by an additional 6.5 acres to include the installation of a new Breaker-and-a-Half ("BAAH") bus configuration, as well as rearranging the electric transmission lines to connect to the BAAH ("Proposed Substation Expansion").

The December 2007 Final Decision concluded that the PEC complied with all applicable laws, ordinances, regulations and standards ("LORS"). As discussed in detail throughout Section 5.0 of the accompanying Petition, the proposed substation expansion will comply with all applicable LORS and will not adversely affect PEC's ability to comply with all applicable LORS. In addition, because the Proposed Substation Expansion involves similar environmental analyses and conclusions as determined and approved for PEC, we anticipate Staff's review of this Petition will be straightforward.



Mr. Dale Rundquist  
October 23, 2008  
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We look forward to Staff's review of this Petition. In the meantime, if you have any questions, please do not hesitate to contact me directly at (916) 447-0700.

Very truly yours,

Melissa A. Foster

MAF:kjh  
Enclosures

cc: Panoche Energy Center, LLC  
John A. McKinsey, Stoel Rives LLP  
Maggie Fitzgerald, URS Corporation

**P E T I T I O N T O A M E N D F I N A L  
C O M M I S S I O N D E C I S I O N**

**P A N O C H E E N E R G Y C E N T E R**

06-AFC-5C

Submitted to

California Energy Commission

Submitted by

Panoche Energy Center, LLC

October 2008

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- APPENDIX B BIOLOGICAL RESOURCES
- APPENDIX C CULTURAL RESOURCES
- APPENDIX D PHASE I
- APPENDIX E PHASE II

## **1.0 SUMMARY OF AMENDMENT**

Panoche Energy Center, LLC files this Petition to Amend (Petition) requesting the California Energy Commission to approve an amendment to the December 19, 2007 Final Decision for the Panoche Energy Center (PEC), which expands the environmental review of PEC to include the environmental effects of a required expansion of the Panoche Electrical Substation (Substation) by Pacific Gas & Electric (PG&E) and related modifications of the permanent connection with PEC. This Petition describes in detail and sets forth an environmental analysis of the expanded Substation (“Proposed Substation Expansion”) and an evaluation of the potential effects on resources as compared to the previous environmental evaluation in PEC’s Application for Certification (AFC) proceeding and related Final Decision. As part of the evaluation set forth herein, the final Conditions of Certification (COCs) were reviewed and proposed changes to affected COCs are included where necessary.

### **1.1 OVERVIEW OF AMENDMENT**

PEC is a 400 megawatt (MW) simple-cycle power plant currently under construction on adjacent property west of the Substation. PEC included the expansion of the existing Substation by 2.5 acres. These modifications proposed herein will expand the existing Substation.

The proposed modifications will increase the acreage of the existing Substation by an additional 6.5 acres. PG&E determined that the Proposed Substation Expansion requires an additional 6.5 acres of land to accommodate the installation of a new Breaker-and-a-half (BAAH) bus configuration in order to improve the long-term reliability of the Substation. The electric transmission lines will also be reconfigured to improve the Substation’s reliability.

Essentially, these modifications expand the environmental footprint of the Substation connecting to PEC by 6.5 acres, but these acres are of the same character and composition as the rest of the PEC facilities, namely pomegranate orchards. Thus, the proposed changes do not present any issues that have not already been addressed and considered in the original PEC process. Accommodating the increased 6.5 acres simply requires expanding mitigation required in several COCs.

While this Petition comprehensively addresses and analyzes the Proposed Substation Expansion, it does not readdress or reanalyze the previously approved PEC.

### **1.2 CUMULATIVE IMPACTS**

Section 5.0 of this Petition addresses each environmental area that may experience potential impacts due to the Proposed Substation Expansion. A cumulative impacts assessment is included within each issue area. The Proposed Substation Expansion, however, will not result in significant, unmitigated cumulative impacts and the modifications will not result in impacts in excess of those already analyzed by the CEC during the original AFC proceeding. Furthermore, the Proposed Substation Expansion will not change the assumptions or conclusions made in the CEC’s Final Decision for PEC.

### **1.3 LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)**

The December 2007 Final Decision certifying PEC concluded that the project complied with all applicable laws, ordinances, regulations and standards (LORS). As discussed in detail throughout Section 5.0, the Proposed Substation Expansion will not affect PEC's ability to comply with all applicable LORS.

## **2.0 CONSISTENCY WITH SECTION 1769**

Title 20 of the California Code of Regulations, section 1769 (Section 1769) requires a discussion of a requested amendment's consistencies with requisite LORS and whether requested modifications are based upon new information that changes or undermines the assumptions, rationale, findings, or other bases of a Final Commission Decision. In addition, if a project is no longer consistent with its license, Section 1769 requires that the applicant provide an explanation as to why the modification should be permitted.

Pursuant to and consistent with Section 1769, this Petition provides a complete description of, and an explanation for, the Proposed Substation Expansion, rationale for the Proposed Substation Expansion, LORS compliance analysis, and any proposed changes to the COCs set forth in the December 19, 2007 CEC Final Decision for PEC. Further, the analysis herein contains a discussion of the potential effect of the Proposed Substation Expansion on nearby property owners, the public, and parties to this proceeding.

### **2.1 NECESSITY OF PROPOSED CHANGE**

Sections 1769(a)(1)(B) and 1769(a)(1)(C) require a discussion of the necessity for the Proposed Substation Expansion and whether such Expansion is based on information known by Panoche Energy Center, LLC during the AFC proceeding. PEC's Petition is based upon new information, which was unknown to PEC during the AFC proceeding. Specifically, the Proposed Substation Expansion is required to accommodate several interconnection design changes that were identified by PG&E after the CEC's Final Decision was issued in December 2007.

As the CEC fully evaluated the environmental impacts of PEC in the Final Decision, the Proposed Substation Expansion must be addressed as a consequent modification of the AFC proceeding as an amendment to the 2007 Final Commission Decision for PEC, rather than a wholly separate project. The Proposed Substation Expansion is a foreseeable "but-for" consequence of the AFC proceeding and, therefore, must be evaluated as part of the PEC project. (*San Joaquin Raptor/Wildlife Rescue Ctr. v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 731-34 (noting that the development and necessary sewer expansion to serve the development were part of the same project and were improperly addressed in two separate environmental review documents); *see also Laurel Heights Improvement Ass'n of San Francisco, Inc. v. Regents of the Univ. of California* (1988) 47 Cal.3d 376, 396-98 (noting that environmental review documents must address reasonably foreseeable consequences of project and their effects).) Accordingly, addressing the Proposed Substation Expansion as wholly separate from or outside of the PEC would be improper piecemealing of the project. (*San Joaquin Raptor/Wildlife Rescue Ctr.*, 27 Cal.App.4th at 734).

## **3.0 CHANGES TO DESCRIPTION**

### **3.1 INTRODUCTION**

The Proposed Substation Expansion is required to accommodate several interconnection design changes identified by PG&E after the CEC issued the Final Decision in 2007 and to provide an optimal interconnection point between the previously approved PEC and the existing Substation. The previously approved PEC is a 400 megawatt (MW) simple-cycle power plant currently being constructed on adjacent property west of the existing Substation. The previously approved PEC included the expansion of the existing Substation by 2.5 acres.

The proposed changes to PEC would increase the acreage of the previously approved Substation expansion by an additional 6.5 acres. The existing Substation and the previously approved 2.5 acre expansion will not accommodate a BAAH. The Proposed Substation Expansion would accommodate the installation of a new BAAH bus configuration, as well as the rearranging of electric transmission lines to connect to the new BAAH, both of which will improve long-term Substation reliability.

### **3.2 SUBSTATION EXPANSION LOCATION**

The Proposed Substation Expansion Site (Site) is located in a rural area of Fresno County, California, generally southeast of the intersection of West Panoche Road and Davidson Avenue. The nearest city is Mendota, approximately 16 miles to the northeast. Interstate 5 (I-5) is approximately 1.5 miles west and the California Aqueduct is approximately three miles to the east. Agricultural uses are prevalent throughout the vicinity of the Site, including the cultivation of pomegranates, almonds, grapes, and field crops. Several rural residences are also located in the vicinity. Industrial uses in the vicinity include the existing Substation, the Calpeak Plan Check Power generation Facility, and the Wellhead Power Generation Facility. Specifically, the Proposed Substation Expansion Site is located in Township 15 South, Range 13 East (Mount Diablo Baseline Meridian). The Assessor Parcel Number is 027-060-81S.

### **3.3 SITE DESCRIPTION**

The Site is located in an agricultural area surrounded by pomegranate trees. Power line easements are located along the western boundary (refer to Figure 1.3-1 *Project Architectural Rendering*). The surface is composed of sands, silts, and clays common to alluvial fan deposits in the area with generally loose and dry soils.

#### **3.3.1 Topography**

The Site is essentially flat with a slight slope downward toward the northeast. The elevation of the Site vicinity is approximately 420-feet above mean sea level and slopes gently down to the northeast at approximately one percent grade (refer to Figure 3.2-1 *General Project Vicinity*).

#### **3.3.2 Geologic Setting and Seismology**

The Site is located in the western San Joaquin Valley within the Central Valley, also known as the Great Valley geomorphic province. More specifically, the Site is located southeast of Panoche Creek on the Panoche Creek alluvial fan. The fan is one of a belt of coalescing alluvial

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fans 12 to 19 miles wide, and located on the east flank of the Coast Ranges between the flood plains of the San Joaquin River and Fresno Slough in the trough of the valley to the northeast and the foothills of the Coast Range to the southwest. The geologic setting and seismology would not differ from that of the adjacent approved PEC. Section 5.3 of this Petition, *Geologic Hazards and Resources*, discusses geology and seismology in greater detail. Refer to Figure 5.3-2A and 5.3-2B, *Site Geologic Map*.

### **3.3.3 Hydrological Setting**

The western San Joaquin Valley can be characterized as semi-arid. The valley experiences long, hot, dry summers and relatively mild winters. The average annual temperature is 63.2 degrees Fahrenheit and average annual precipitation is 11.23 inches. The hydrological setting would not differ from that of the adjacent approved PEC site.

## **3.4 DESCRIPTION OF PROPOSED SUBSTATION EXPANSION**

The Proposed Substation Expansion would occur in a rural area of Fresno County, California, generally southeast from the intersection of West Panoche Road and Davidson Avenue. The proposed changes to PEC involve an additional 6.5 acres for the expansion of the existing Substation, which would be expanded to the south side of the existing Substation to accommodate the installation of a new BAAH bus configuration, as well as rearranging the electric transmission lines to connect to the new BAAH.

### **3.4.1 Overview**

For the purposes of this Petition, the proposed changes set forth below only address and analyze the additional 6.5 acre Proposed Substation Expansion. Specifically, this Petition involves:

- Expanding the Substation by an additional 6.5 acres from that approved in the Final Decision;
- Modifying and expand Substation equipment to accommodate a new interconnection scheme; and
- Rearranging electric transmission lines to connect to the new BAAH.

#### Irrigation Ditch Realignment

Approximately 1,145-feet of the existing irrigation ditch would be realigned around the perimeter of the additional 6.5 acre area. The irrigation ditch would be excavated using a backhoe to the current dimension (approximately two feet deep by three feet wide). No improvements (i.e., concrete lining, riprap, etc.) would be made to the irrigation ditch.

#### Substation Expansion

The Substation would be expanded an additional 6.5 acres on the southwest corner of the previously approved Substation expansion. The changes to the substation expansion would include clearing vegetation and grading to establish proper drainage and to create a building site for the additional bus work. Site grading would also involve compaction of the area. Vegetation removal would principally involve removal of pomegranate trees located in adjacent orchards. Following Site preparation, foundations, containment basins, raceways and underground conduit

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would be installed. During construction, and following initial excavation, a security fence would be erected around the perimeter of the Proposed Substation Expansion area. The security fence between the Proposed Substation Expansion area and the existing Substation would remain in place during construction. Reinforced concrete subsurface footings and concrete slabs would be installed along with the grounding grid. Above ground steel structures, circuit breakers, transformers, switchgears, buses and other electrical equipment would be installed after the concrete cures. Equipment would be bolted or welded to slabs and footings to meet or exceed the seismic requirements. All equipment would be grounded using the Substation ground grid. Once installation is complete, and as necessary during construction, gravel would be laid over the Proposed Substation Expansion area and the fence separating the existing Substation from the Proposed Substation Expansion area would be removed.

#### Structure Assembly

Minor relocations would be performed on the electric transmission lines to allow connection into the new BAAH bus configuration. The site of each Tubular Steel Pole (TSP) structure would be graded to create a level surface. Work crews would assemble the structures on the ground and erect towers using a large crane onto the concrete foundation. The two abandoned electric transmission structures would be removed. Nine TSP structures at a height of 100-feet, consistent with existing TSP structure heights, would be installed to accommodate connection into the new BAAH. Refer to Figure 3.6-1, *Single Line Diagram* and Figure 3.6-2, *Project Transmission Facility*.

#### **3.4.2 Site Access**

Access to the Proposed Substation Expansion area would remain the same as access to PEC. The main corridor of travel to access the Site would continue to be along I-5 with direct access along West Panoche Road.

#### **3.4.3 Site Layout**

Implementation of the changes discussed in this Petition will be situated on 6.5 acres of land to the southwest of the existing Substation (See Figure 3.4-1, *Project Site Plan*). Approximately 1,145-feet of the existing irrigation ditch would be realigned around the perimeter of the Proposed Substation Expansion area. The 6.5-acre Proposed Substation Expansion area would create a flag-shaped parcel of land adjacent to the previously approved 2.5-acre Substation expansion area.

#### **3.4.4 Power Plant Cycle**

The changes discussed in this Petition would not affect the previously approved PEC power plant cycle.

#### **3.4.5 Major Electrical Equipment and Systems**

The Proposed Substation Expansion would not affect major electrical equipment and systems of the previously approved PEC.

### **3.4.6 Fuel Gas System**

The Proposed Substation Expansion would not affect fuel gas systems as compared with the previously approved PEC project.

### **3.4.7 Water Supply and Treatment**

The Proposed Substation Expansion would not affect water supply or water treatment as compared with the previously approved PEC project.

### **3.4.8 Waste Management**

The Proposed Substation Expansion would result in construction waste including packing materials, excess construction materials including paper, wood, metal, wires, or other basic building materials, temporary weather covers, consumable abrasives, cutting tools, broken tools, parts and electrical and electronic components, construction equipment maintenance materials, empty containers, and other solid waste and typical refuse generated by construction crews.

Solid waste will be segregated and recycled where practical. Non-recyclable waste will be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill. Some hazardous wastes, such as welding materials and dried paint, may be generated during construction. Hazardous materials would be handled and disposed of in accordance with applicable laws, ordinances, regulations, and standards. Hazardous wastes will be recycled or disposed of in a licensed Class I disposal facility, as appropriate.

Operation of the Proposed Substation Expansion is not anticipated to generate any waste.

### **3.4.9 Management and Disposal of Hazardous Material and Hazardous Waste**

The Proposed Substation Expansion would not have any affect on the management and disposal of hazardous materials and hazardous wastes as addressed for the previously approved PEC project.

### **3.4.10 Emissions Control and Monitoring Equipment**

The Proposed Substation Expansion would not affect PEC emissions control or monitoring equipment.

### **3.4.11 Fire Protection System**

The Proposed Substation Expansion would not affect PEC fire protection systems.

### **3.4.12 Plant Auxiliaries**

The Proposed Substation Expansion would not affect PEC plant auxiliaries.

### **3.4.13 Heating, Ventilation, and Air Conditioning**

The Proposed Substation Expansion would not affect heating, ventilation, or air conditioning as addressed for the previously approved PEC project.

### **3.4.14 Plumbing**

The Proposed Substation Expansion would not affect plumbing as addressed for the previously approved PEC project.

## **3.5 CIVIL/STRUCTURAL FEATURES**

The following section describes the buildings, structures, and other civil/structural features that will be constructed as part of the Proposed Substation Expansion.

### **3.5.1 Overview**

Implementation of the Proposed Substation Expansion would begin by clearing vegetation and grading to establish proper drainage, and create a building site for the additional bus work. A security fence will be installed around the Proposed Substation Expansion area. Site grading would involve soil compaction and vegetation removal would involve the removal of pomegranate trees located adjacent to the Site. Reinforced concrete subsurface footings and concrete slabs would be installed along with a grounding grid. Aboveground steel structures, circuit breakers, switches, buses, Modular Protection, Automation, and Control (MPAC) building, battery building, and other electrical equipment would be installed after the concrete cures. Equipment would be bolted or welded to the slabs and footings to meet or exceed the seismic requirements. All equipment would be grounded using the Substation ground grid.

### **3.5.2 Stacks**

The Proposed Substation Expansion would not result in the construction of additional stacks.

### **3.5.3 Buildings**

Buildings for the Proposed Substation Expansion include a low profile 230kV MPAC building approximately 98-feet in length, and a low profile battery building to support the new equipment to be included in the Proposed Substation Expansion.

### **3.5.4 Transformer Foundations and Fire Walls**

The Proposed Substation Expansion would not result in the construction or installation of additional transformer foundations or fire walls.

### **3.5.5 Yard Tanks**

The Proposed Substation Expansion would not result in the construction or installation of yard tanks.

### **3.5.6 Roads**

The Proposed Substation Expansion would not result in the construction of additional roads or result in the improvement of any existing roads from those discussed for the previously approved PEC project.

### **3.5.7 Site Security Fencing**

During construction and following initial excavation, a security fence would be erected around the perimeter of the Proposed Substation Expansion area. The security fencing between the new construction and the existing Substation would remain in place during construction. Once construction is completed, the security fencing separating the existing Substation from the Proposed Substation Expansion area would be removed.

### **3.5.8 Site Grading and Drainage**

The 6.5 acre Site will be graded. (See Figure 3.4-3, *Grading and Drainage Plan*.)

As mentioned above, approximately 1,145-feet of the existing irrigation ditch would be realigned around the perimeter of the Proposed Substation Expansion area. The irrigation ditch would be excavated using a backhoe to the current dimension (approximately two feet deep by three feet wide). No improvements (i.e., concrete lining, riprap, etc.) would be made to the irrigation ditch.

### **3.5.9 Site Flood Issues**

The Site is located in the Westside Sub-basin of the San Joaquin Valley Groundwater Basin. Aquifers underlying the Site include a lower confined zone and an upper semi-confined zone that is separated by the Corcoran Clay of the Tulare Formation. Due to this low groundwater table and nature of the alluvial deposits, the potential for liquefaction to occur is considered remote. A shallow unlined ditch north of the Site is included within the special flood hazard area inundated by the 100-year flood with no base flood elevation determined by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map. Furthermore, the Site is generally located within areas determined to be outside the 500-year floodplain.

### **3.5.10 Sanitary System**

The Proposed Substation Expansion would not result in the construction or installation of a sanitary system.

### **3.5.11 Earthwork**

The Site is currently an agricultural area consisting of pomegranate trees. Excavation will consist of the removal and disposal of vegetation and grading to establish proper drainage. Site grading would involve importing approximately 10,000 to 15,000 cubic yards of soil to establish finish grade. Graded areas will be smooth, compacted, free from irregular surface changes, and sloped to drain. If contaminated material is discovered during excavation, the material will be disposed of in accordance with applicable LORS.

## **3.6 ELECTRICAL INTERCONNECTION**

PEC will be connected via a gen-tie line into a new bay (Bay 6) of the new BAAH bus configuration when construction of the BAAH is completed.

### **3.6.1 Panoche Substation Expansion**

As previously discussed, the Proposed Substation Expansion is necessary to provide an optimal interconnection point between the previously approved PEC and the existing Substation and is

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necessary for the long-term reliability of the Substation. The proposed changes to PEC would increase the acreage of the approved Substation expansion by an additional 6.5 acres. The Proposed Substation Expansion would accommodate the installation of a new BAAH bus configuration, as well as rearranging the electric transmission lines to connect to the new BAAH to improve Substation long-term reliability.

### **3.6.2 Transmission Line Specifications**

The interconnection with PEC includes:

- Eighteen SF6 gas circuit breakers;
- Circuit breaker switches;
- Bus support structures;
- Foundations;
- Fencing; and
- Any other components necessary to interconnect PEC and the Substation.

### **3.6.3 Transmission Structures**

The proposed 230kV transmission line structures will be low profile bus support steel structures approximately 55 feet in height and 54 feet in width.

### **3.6.4 Panoche Energy Center Transmission System Evaluation**

The Proposed Substation Expansion would not result in changes to the System Impact Study nor would a new Interconnection System Impact Study be required. The previously prepared Facilities Study prepared by PG&E in March 2006 is anticipated to be satisfactory for the Proposed Substation Expansion because the core means of protection and the power characteristics and magnitude remain the same.

## **3.7 PIPELINE**

The Proposed Substation Expansion would not result in the construction of or installation of pipelines.

### **3.7.1 Natural Gas Supply Line**

The Proposed Substation Expansion would not result in the construction of or installation of natural gas supply lines.

## **3.8 CONSTRUCTION**

The Proposed Substation Expansion will not affect construction of the power block itself, only the work done at the Substation. Construction of the Substation was scheduled to occur and will occur, as changed, in conjunction with various phases of power block construction. As before, PG&E will perform all work at the Substation and will continue to own and operate the Panoche Substation.

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Proposed Substation Expansion construction work will involve incremental increases in the type of work already approved for the existing approved Substation expansion. PG&E will accomplish network improvements including the replacement of the 230kV and 115kV breakers. Rough grading and security fence installation activities will occur first. then foundations, conduits, grounds, and outdoor equipment will be installed.

The workforce for the Proposed Substation Expansion will vary depending on the month of construction and type of construction involved but will minimally exceed the expected number of peak substation expansion workforce detailed in the AFC (see AFC p. 5.11-10; Table 5.11-5). The peak workforce for the approved Substation expansion was anticipated to be 19 laborers. The peak workforce for the Proposed Substation Expansion is 20 to 25 laborers. This increase is necessary to complete construction activities such as fence construction, footing and foundation installation, conduits, and the installation of breakers, switches, structures, bus and overhead work, and to realign the irrigation ditch. These numbers are comparable to the existing approved Substation work within the Final Commission Decision and reflect only a minor, de minimus increase compared to the overall project workforce and activity.

#### **3.8.1 Power Plant Facility**

The Proposed Substation Expansion would not affect the previously approved PEC power plant facility.

### **3.9 OPERATIONS AND MAINTENANCE**

#### **3.9.1 Introduction**

This section discusses the operation and maintenance procedures that will be followed to ensure safe, reliable, and environmentally acceptable operation of the Proposed Substation Expansion and transmission system.

#### **3.9.2 Power Plant Facility**

The Proposed Substation Expansion would not affect the previously approved PEC facility operations or maintenance activities.

#### **3.9.3 Transmission System Operation and Maintenance**

Operation of the transmission equipment at the Proposed Substation Expansion area would be controlled remotely from a PG&E control center. Telecommunication lines would connect the Proposed Substation Expansion area and line alarms to the PG&E control center.

Furthermore, all structures at the Proposed Substation Expansion area would be inspected on the ground on a regular, monthly basis to ensure proper operation and identify and protect against corrosion, and misalignment. Routine inspections include the inspection of hardware, insulator keys, and conductors. Emergency inspection would occur as needed.

#### **3.9.4 Pipelines**

The Proposed Substation Expansion would not result in the construction or installation of pipelines.

### **3.10 FACILITY CLOSURE**

The Proposed Substation Expansion would not be adversely affected by the temporary or permanent closure of the previously approved PEC facility.

#### **3.10.1 Temporary Closure**

The Proposed Substation Expansion would not be adversely affected by the temporary closure of the previously approved PEC facility. In the case of a temporary closure at the PEC facility, the number of transmission line elements at the Proposed Substation Expansion area would be reduced from twelve to eleven.

#### **3.10.2 Permanent Closure**

The Proposed Substation Expansion would not be adversely affected by the permanent closure of the previously approved PEC facility.

#### **3.10.3 Closure Mitigation**

The Proposed Substation Expansion would not affect closure mitigation of the previously approved PEC.

### **3.11 SAFETY, AVAILABILITY, AND RELIABILITY**

The Proposed Substation Expansion would not affect the safety or availability of the previously approved PEC project. The Proposed Substation Expansion is necessary for the long-term reliability of the existing Substation.

#### **3.11.1 Safety Precautions and Emergency Systems**

The Proposed Substation Expansion would not affect the safety precautions or emergency systems being implemented as part of the design and construction of the previously approved PEC.

#### **3.11.2 Aviation Safety**

The Proposed Substation Expansion would not affect aviation safety of the previously approved PEC.

#### **3.11.3 Transmission Line Safety and Nuisance**

The Proposed Substation Expansion would not adversely affect transmission line safety or create nuisance beyond those currently experienced in the area. The Proposed Substation Expansion will be constructed in conformance with State of California, General Order No. 95, pertaining to the construction of overhead electric lines and other applicable safety standards. The slight change in the routing of the generator connection lines is entirely in the same affected area previously analyzed for the approved PEC.

#### **3.11.4 Facility Availability**

The Proposed Substation Expansion would not affect the availability, operating life, or service factor of the previously approved PEC facility.

### **3.11.5 Equipment Reliability and Redundancy**

The Proposed Substation Expansion would have a positive affect on equipment reliability and redundancy of the previously approved PEC. The Proposed Substation Expansion is necessary for the long-term reliability of the existing Substation.

### **3.11.6 Power Plant Performance Efficiency**

The Proposed Substation Expansion would not affect the performance or efficiency of the previously approved PEC.

### **3.11.7 Fuel/Water Availability**

The Proposed Substation Expansion would not affect the fuel or water availability for the previously approved PEC.

### **3.11.8 Quality and Control**

The general contractor, the design-engineer contractor, and all significant vendors, suppliers, and subcontractors for the Proposed Substation Expansion would be required to develop a specific quality program prior to beginning work. Each program would define quality goals, processes to measure events, and incentive programs. Quality standards would include safety and environmental compliance objectives.

## **3.12 LAWS, ORDINANCES, REGULATIONS, AND STANDARDS**

The applicable LORS are included for each technical discipline in their respective sections within this Petition.

## **4.0 ALTERNATIVES**

The Proposed Substation Expansion is necessary to ensure the long-term reliability of the Substation and therefore has a net benefit for PEC. While the only “alternative” to the Proposed Substation Expansion is “no expansion,” such alternative would result in a potentially unreliable interconnection and, thus, unreliability of generation on the power grid.

## 5.0 ENVIRONMENTAL INFORMATION

### 5.1 INTRODUCTION

This section presents a description of the affected environment, potential environmental consequences and potential cumulative impacts that are associated with the Proposed Substation Expansion, along with measures to mitigate or avoid adverse impacts as appropriate. Supporting information to determine compliance with applicable LORS is included within the discussion in each applicable section. A discussion of any proposed changes or additions to the approved COCs is also included within each environmental resource section.

The environmental assessments presented in this section are meant to comply with CEC requirements, including those of the California Environmental Quality Act (CEQA). In general, each section follows the same format of presenting the affected environment and existing Site conditions, followed by the environmental consequences of the proposed project with measures proposed to mitigate significant adverse impacts.

Information regarding the Proposed Substation Expansion location, Site description, and a description of the Proposed Substation Expansion are discussed in Sections 3.2, 3.3, and 3.4 of this Petition.

### 5.2 AIR QUALITY

This Petition evaluates the effects on air quality due to the 6.5-acre Proposed Substation Expansion and does not readdress or reanalyze the previously approved PEC.

#### 5.2.1 Affected Environment

##### Existing Conditions

The Proposed Substation Expansion Site is within the San Joaquin Valley Air Basin, which includes the counties of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and Kern. The San Joaquin Valley Air Basin has one of the most severe ozone air pollution problems in the state. The air basin is unique in that not one major urban area is the source of air pollutants, but rather the source is from areas spread out all across the basin. Table 5.2-1 shows the attainment status of the project area with respect to both the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards.

**Table 5.2-1 Federal and State Ambient Air Quality Standards**

<b>Pollutant</b>	<b>Federal Standards</b>	<b>California Standards</b>
Ozone	Non-attainment	Non-attainment
PM <sub>10</sub>	Non-attainment	Non-attainment*
PM <sub>2.5</sub>	Non-attainment	Non-attainment
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment

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Pollutant	Federal Standards	California Standards
Sulfates	No Federal Standards	Attainment
Lead	No Federal Standards	Attainment
Hydrogen Sulfide	No Federal Standards	Unclassified
Visibility Reducing Particles	No Federal Standards	Unclassified

\*In October 2006 the EPA determined that the San Joaquin Valley had attained the federal ambient air quality standard for PM<sub>10</sub>. The EPA is in the process of affirming the October 2006 determination.

Sources: EPA 2007; CARB 2007

## 5.2.2 Environmental Consequences

In general, impacts associated with air quality are anticipated to be minor, temporary, and short-term in nature. Increased emissions of PM<sub>10</sub> would likely occur as a result of soil disturbance associated with tree removal, construction activities, and movement of construction equipment. However, the use of water as a dust suppressant during construction activities and the subsequent application of acceptable soil stabilizing techniques would reduce potential emissions. Implementing reduced idling times for construction equipment and using ultra-low sulfur diesel fuel and properly tuned and maintained equipment will reduce fuel combustion emission from these sources.

A small short-term increase in emissions of fuel combustion pollutants (oxides of nitrogen or NO<sub>x</sub>, carbon monoxide or CO, sulfur dioxide or SO<sub>2</sub>, volatile organic compounds or VOC and particulate matter, both PM<sub>10</sub> and PM<sub>2.5</sub>) from the operation of diesel equipment and vehicles would occur during construction. However, as shown below, these emissions will be less than the construction amounts calculated and analyzed for the previously approved PEC facility, including the previously approved 2.5 acre Substation expansion, and would occur at a different time from the activities producing maximum emissions from those activities. Once construction of the Proposed Substation Expansion is complete, there would be minimal impacts to air quality resulting only from vehicles and other mobile equipment that may be used for the operation and maintenance of the facilities. The operational phase of the Proposed Substation Expansion will result in no increase in stationary source emissions.

The Proposed Substation Expansion would not change the existing air quality, meteorology, or topography beyond what was identified for the previously approved PEC.

Emissions for the Proposed Substation Expansion were calculated based on the following construction schedule of approximately 19 months. The first phase entails clearing the Site and will last approximately one (1) month. The second phase (site grading) will last approximately two (2) months. The Proposed Substation Expansion (erection of structures) will occur during approximately the 14 months following the completion of site grading. The final phase, clean-up, should last less than 2 months and will have negligibly small pollutant emissions.

Typical construction equipment for the level of effort needed for the Proposed Substation Expansion is summarized in Table 5.2-2. Several pieces of equipment will be used in more than one construction phase.

**Table 5.2-2 Equipment Required For Substation Expansion**

<b>Equipment</b>	<b>Use</b>
Dozer	Substation grading/leveling
Road roller	Substation compaction
Water truck	Dust and fire control
2-ton flatbed truck	Equipment hauling
Backhoe	Excavate irrigation ditch
Dump truck	Haul equipment, remove trees
Aerial lift	Structure erection
Loader	Load debris and trees into trucks
Pickup truck	Transport laborers
Welders	Welding
50 to 100 ton crane	Structure erection/removal

Detailed information on assumed equipment usage for each phase and associated pollutant emissions is provided in an Excel spreadsheet in Appendix A. The previously approved PEC AFC and responses to data requests provide the initial construction emission calculations for separate phases of the previously approved PEC.

Emission information for the Proposed Substation Expansion was calculated based on the expected equipment use for each phase of construction for the Proposed Substation Expansion. Site grading had the greatest amount of emissions and is thus the worst-case construction phase for the Proposed Substation Expansion in terms of maximum short-term emissions. The worst-case construction phase for the permitted PEC was also the site grading phase, but involved a larger equipment fleet. The same calculation procedures were used for both the approved PEC and the Proposed Substation Expansion.

Tables 5.2-3 and 5.2-4 present the estimated worst-case equipment exhaust and fugitive dust emission rates during construction activities associated with Proposed Substation Expansion. These are the only emissions not accounted for in the analysis of PEC construction impacts.

**Table 5.2-3 Maximum Equipment Exhaust Emission Rates Due to Site Grading**

(All values in pounds per hour for the indicated averaging times)

	<b>CO 1-hr</b>	<b>CO 8-hr</b>	<b>NO<sub>x</sub> 1-hr</b>	<b>NO<sub>x</sub> Annual</b>	<b>PM<sub>10</sub> 24-hr</b>	<b>PM<sub>10</sub> Annual</b>	<b>PM<sub>2.5</sub> 24-hr</b>	<b>PM<sub>2.5</sub> Annual</b>	<b>SO<sub>2</sub> 1- hr</b>	<b>SO<sub>2</sub> 3-hr</b>	<b>SO<sub>2</sub> 24- hr</b>	<b>SO<sub>2</sub> Annual</b>
Proposed 6.5 Acre Substation Expansion	2.10	2.10	6.37	1.28	0.23	0.07	0.21	0.026	0.01	0.01	0.0042	0.0012

**Table 5.2-4 Fugitive Dust Emission Rates Due to Site Grading**  
 (All rates are in pounds per hour for the indicated averaging times)

	<b>PM<sub>10</sub> 24-hr</b>	<b>PM<sub>10</sub> Annual</b>	<b>PM<sub>2.5</sub> 24-hr</b>	<b>PM<sub>2.5</sub> Annual</b>
Proposed 6.5 acre Substation Expansion	1.21	0.44	0.26	0.09

The maximum emission rates in Tables 5.2-3 and 5.2-4 for construction of the Proposed Substation Expansion are well below the corresponding maximum values for all pollutants that were approved for the substantially larger PEC construction effort. Thus, it is justifiable to assume that the worst-case construction scenario (the phase that creates the most pollutant emissions) remains the site grading activities associated with the approved PEC. Additional dispersion modeling to evaluate the Proposed Substation Expansion impacts would result in lower predicted impacts than those already found to be acceptable in the previously approved PEC.

**5.2.3 Cumulative Impacts**

There are no additional cumulative impacts due to operation of the expanded Substation because the operation of the expanded Substation will have negligibly small emissions of air pollutants.

**5.2.4 Mitigation Measures – Emissions Offsets**

The same mitigation measures for the previously approved PEC would apply to construction of the Proposed Substation Expansion. No air quality mitigation measures are proposed for the operational phase of the Proposed Substation Expansion, as there will be no stationary sources of emissions associated with operation of the expanded Substation.

**5.2.5 LORS**

There are no additional LORS applicable to the Proposed Substation Expansion beyond the LORS identified for the previously approved PEC.

**5.2.6 Involved Agencies and Agency Contacts**

The contacts at air quality regulatory agencies for the Proposed Substation Expansion would be the same as those listed for the previously approved PEC.

**5.2.7 Permits and Permitting Schedule**

The Proposed Substation Expansion will not require an Authority to Construct or Permit to Operate from SJVAPCD because there will be no stationary sources of air pollutants for the expanded Substation. However, the air quality construction mitigation plan and SJVAPCD dust control plan submitted for the previously approved PEC construction effort will be expanded to include the Proposed Substation Expansion or new plans specific to the Proposed Substation Expansion will be prepared.

### **5.2.8 References**

There are no additional references.

### **5.2.9 Conditions of Certification**

The COCs issued by the CEC as part of the previously approved PEC are applicable and sufficient to ensure that emissions from the Proposed Substation Expansion will remain below relevant significance levels. No new COCs pertaining to air quality are required for the Proposed Substation Expansion.

## **5.3 GEOLOGIC HAZARDS AND RESOURCES**

### **5.3.1 Affected Environment**

As discussed in Sections 3.2, 3.3, and 3.4, the Proposed Substation Expansion Site is located southeast of Panoche Creek on the Panoche Creek alluvial fan. See Figures 5.3-2A and 5.3-2B, *Site Geologic Map*. The fan is one of a belt of coalescing alluvial fans 12 to 19 miles wide and located on the east flank of the Coast Ranges between the flood plains of the San Joaquin River and Fresno Slough. The Site is located near the head of the largest fans in the region, near its intersection with the smaller Tumey Gulch alluvial fan to the south. Elevations of the alluvial fans range from approximately 130 feet above mean sea level at the base to 900 feet above mean sea level at the apexes. The Site elevation is approximately 420 feet above mean sea level and older alluvium underlain by tertiary sediments, cretaceous marine deposits, and prôt-tertiary basement rocks.

### **5.3.2 Environmental Consequences**

No adverse effect on geological resources is expected from the Proposed Substation Expansion .

### **5.3.3 LORS Compliance**

This section addresses LORS applicable to Proposed Substation Expansion geologic hazards and resources. All applicable elements of the California Building Code, Chapters 16 and 33, are addressed in the approved PEC AFC. The Proposed Substation Expansion will comply with applicable geological hazards and resources LORS described in the previously approved PEC AFC.

### **5.3.4 References**

There are no additional references.

### **5.3.5 Cumulative Impacts**

As the various projects in the cumulative impact evaluation will be responsible for complying individually with applicable geologic hazards and resources LORS, no cumulative impacts on geologic hazards and resources are expected as a result of the Proposed Substation Expansion.

### **5.3.6 Conditions of Certification**

No new COCs pertaining to geologic hazards and resources are required for the Proposed Substation Expansion.

## 5.4 AGRICULTURE AND SOILS

This section describes the affected environment and the environmental effects of the Proposed Substation Expansion on agriculture and soils in accordance with CEC requirements. As appropriate, agriculture and soils-related mitigation measures are also included in this section. The Proposed Substation Expansion will comply with applicable agriculture and soils LORS described in the AFC for the previously approved PEC.

### 5.4.1 Affected Environment

As discussed in Sections 3.2, 3.3, and 3.4, the Proposed Substation Expansion is located in a rural area of Fresno County, California, generally southeast of the intersection of West Panoche Road and Davidson Avenue. Agricultural uses are prevalent throughout the vicinity including the cultivation of pomegranates, almonds, grapes, and field crops. Several rural residences are also located in the vicinity. Industrial uses in the vicinity include the PG&E Panoche Substation, the Calpeak Plan Check Power Generation Facility, and the Wellhead Power Generation Facility.

The Site is located in an agricultural area surrounded by pomegranate trees. Power line easements are located along the western and southern boundaries. The Site is essentially flat with a slight slope downward towards the northeast. The elevation of the vicinity is approximately 420-feet above mean sea level and slopes gently down to the southeast at approximately one percent grade. The surface is composed of sands, silts, and clays common to alluvial fan deposits in the area with generally loose and dry soils.

### Soil Resources

Soils are mapped and described as “soil series.” The locations and properties of the soil series were identified from data and maps prepared by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS). A list of soil types is included in Table 5.4-1 and mapped in Figure 5.4-1, *Agricultural Soils Surrounding Project Site*. The WSS Database contains official USDA soil survey information as viewable maps and tables for more than 2,300 soil surveys in the United States and its territories. The Proposed Substation Expansion area has been disturbed through agricultural production on the Site. Refer to Section 5.3 Geological Hazards and Resources for the characteristics of the subsurface soils.

**Table 5.4-1 Soil Types in the Western Part of Fresno County**  
 (in Proximity to Project Site)

<b>Map Unit Symbol</b>	<b>Map Unit Name</b>
406	Guijarral Sandy Loam, 2 to 5 Percent Slopes
442	Panoche Clay Loam, 0 to 2 Percent Slopes
445	Excelsior Sandy Loam, 0 to 2 Percent Slopes
447	Excelsior Sandy Loam, Sandy Substratum, 0 to 2 Percent Slopes
477	Westhaven Clay Loam, 0 to 2 Percent Slopes

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<b>Map Unit Symbol</b>	<b>Map Unit Name</b>
478	Cerini Sandy Loam, 0 to 2 Percent Slopes
479	Cerini Clay Loam, 0 to 2 Percent Slopes
491	Cerini Clay Loam, Subsided, 0 to 5 Percent Slopes
492	Panoche Loam, Subsided, 0 to 5 Percent Slopes
493	Panoche Clay Loam, Subsided, 0 to 5 Percent Slopes
590	Cerini-Anela-Fluvaquents, Saline-Sodic, Association, 0 to 2 Percent Slopes
960	Excelsior, Sandy Substratum-Westhaven Association, Flooded, 0 to 2 Percent Slopes
982	Water

The Proposed Substation Expansion Site is located close to or within areas adjacent to the Diablo Range susceptible to near-surface subsidence due to hydrocompaction of soils. Near-surface subsidence produced by initial wetting of these soils has destroyed or damaged ditches, canals, roads, wells, pipelines, electric transmission towers, and buildings and has made the irrigation of crops difficult. The Site has been irrigated for agricultural use for many years which lessens the likelihood of near-surface subsidence following the Proposed Substation Expansion.

Settlement can occur in poorly consolidated soils during ground shaking. Earthquake induced settlement can cause distress to structures supported on shallow foundations, damage to utilities that serve pile-supported structures, and damage to lifelines that are commonly buried at shallow depths. The presence of loose, unsaturated granular soil layers at the Site could result in some seismic-induced settlement that would need to be taken into account during foundation design.

The native soils present at the expansion site consist of the Panoche Series (refer to Figure 5.4-1). The Panoche Series soils typically slope at zero (0) to two (2) percent, with medium runoff. The Panoche Series soil in the Proposed Substation Expansion Site is the Panoche clay loam, 0 to 2 percent slopes.

Panoche clay loam soils are Capability Unit Classification I, with Capability Subclass VIIc. There are no major limitations and few overall limitations for this soil. Permeability of this Panoche soil is moderate, with an available water capacity that is high or very high. Effective rooting depth is 60 inches or more. As stated, runoff is medium, and the hazard of water erosion is slight.

The surface layer is light brownish gray clay loam about 7 inches thick. The upper 9 inches of the subsoil is light brownish gray loam. The next 27 inches is light gray loam over 14 inches of light brownish gray loam. The lower part to a depth of 72 inches is light brownish gray sandy loam. The soil is calcareous throughout. In some areas the surface layer is clay, sandy clay loam, or loam.

As stated above, the Site has been disturbed by agricultural production. The Panoche Series soil identified and discussed above represents the soil conditions in the construction zones.

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The Proposed Substation Expansion Site is relatively flat, unpaved, and does not have existing unnatural runoff drainage (refer to Figure 5.4-2, *Existing Land Use Surrounding Project Site*, for a depiction of paved/unpaved surface areas at the PEC site).

Transmission Lines. Minor relocations would be performed on the electric transmission lines to allow connection into the new BAAH bus configuration. The site of each TSP structure would be graded to create a level surface. Work crews would assemble the structures on the ground and erect towers using a large crane onto the concrete foundation. The two abandoned electric transmission structures would be removed. Nine TSP structures at a height of approximately 100-feet, consistent with existing TSP structure heights, would be installed to accommodate connection into the new BAAH.

Offsite Pipelines. No offsite pipelines are associated with the Proposed Substation Expansion.

Worker Parking and Equipment Staging Sites. There will not be any offsite locations for worker parking and equipment staging. Worker parking and equipment staging will be located within the nine (9) acres designated for the complete expansion of the Substation, which includes both the proposed 6.5 acre expansion area and the 2.5 acre expansion area previously approved as a part of the PEC project. The soil series for the parking and equipment staging are identical to the construction area.

### **Agriculture and Prime Farmland**

The Proposed Substation Expansion Site and adjacent land are designated by the California Department of Conservation (CDC) as prime farmland. Prime farmland, as defined by the USDA and CDC, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. The impact on Prime agricultural lands related to the Proposed Substation Expansion is described in Section 5.9 Land Use.

### Williamson Act

The California Land Conservation Act of 1965, otherwise known as the Williamson Act, was adopted by the Legislature for the purposes of promoting the general welfare and the protection of the public interest in agricultural land. (Gov't. Code § 51220(f).) To accomplish these purposes, any city or county may establish an agricultural preserve to define the boundaries of those areas within which it will be willing to enter into contracts with property owners to restrict the use of their land to agricultural, recreational, or open space uses. (Gov't. Code § 51240.)

In adopting the Williamson Act, the Legislature specifically contemplated the possibility that some land would be necessary for a federal, state, or local agency, or other qualified person's public improvement. A "public improvement" means facilities or interests in real property, including easements, rights-of-way and interests in fee title, owned by a public agency or person. (Gov't. Code § 51290.5.) For purposes relevant to this analysis, "person" means one authorized to acquire property by eminent domain. (Gov't. Code § 51291(a).) Although PG&E does not expect to use it, PG&E has the authority to acquire property by eminent domain for the Proposed Substation Expansion. PG&E will, therefore, be a "person" developing a "public improvement" for purposes of the Williamson Act.

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Any contract entered into under the Williamson Act is deemed automatically void when the underlying land is acquired by a public entity or person in lieu of eminent domain for a public improvement. (Gov't. Code § 51295.) The contract shall be deemed void as to the property actually taken or acquired regardless of whether the land acquired is the entire parcel of land subject to the contract, a portion that is less than all the land subject to a contract, or an interest that is less than the fee title of an entire parcel or any portion thereof. (*Id.*)

The underlying land for the Proposed Substation Expansion is being acquired by PG&E in lieu of eminent domain. The Williamson Act agricultural preserve contract for the 6.5 acres acquired will therefore be deemed null and void. (Gov't. Code § 51295.)

## **5.4.2 Environmental Consequences**

### **Construction-Related Impacts**

Significance criteria have been selected based on the CEQA Guidelines as well as performance standards adopted by responsible agencies. An impact may be considered significant from an agriculture and soil standpoint if the Proposed Substation Expansion results in:

- Substantial soil erosion or loss of topsoil;
- Degradation or loss of available agricultural land, agricultural activities, or agricultural land productivity in the project area;
- Alteration of agricultural land characteristics due to air emissions; or
- Conversion of Prime or Unique Farmland, or Farmland of Statewide Importance, to non-agricultural use.

Construction impacts on soil resources can include increased soil erosion and soil compaction. Soil erosion causes the loss of topsoil and can increase the sediment load in the surface receiving waters downstream of the construction Site. The magnitude, extent, and durations of this construction-related impact depends on the erodibility of the soil (slight, as discussed above), the proximity of the construction activity to a receiving water, the degree of contamination of the excavated soil stockpiles, and the construction methodologies, duration, and the season.

### **Proposed Substation Expansion Site**

Proposed Substation Expansion construction activities (including Site preparation) will include tree removal and grubbing, grading, foundation installation, conduit and grounding installation, structure installation, wire pulling, connections, and terminations, pre-testing activities, final testing, clean-up and final site grading. Land disturbances related to the Proposed Substation Expansion will be conducted on a 6.5 acre Site. A construction staging area will be located within the total 9 acre Site designated for the complete expansion of the Substation, which includes the 2.5 acre expansion area previously approved as part of PEC.

The Proposed Substation Expansion will include irrigation ditch realignment and Substation expansion as addressed in detail in Section 3.4.1. The Proposed Substation Expansion also includes structure assembly, discussed in Section 3.4.1 and in more detail below:

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#### Structure Assembly

Minor relocations would be performed on the electric transmission lines to allow connection into the new BAAH bus configuration. The site of each TSP structure would be graded to create a level surface. Work crews would assemble the structures on the ground and erect the TSP structures using a large crane onto concrete foundations. Nine TSP structures at a height of approximately 100-feet, consistent with existing TSP and tower structure heights, would be installed to accommodate connection into the new BAAH. All abandoned electric transmission structures would be removed.

Overall, site grading will be minimal, as the final grade at the Site will be similar to the relatively flat existing grade. Excavation work will consist of the removal, storage, and/or disposal of sand, gravel, vegetation, organic matter, loose rock, and debris to the lines and grades necessary for construction. Material suitable for backfill will be stored in stockpiles at designated locations using proper erosion protection methods. Excess material will be removed from the Site and disposed of at an acceptable location. During the construction phase of the Proposed Substation Expansion, erosion and sediment control measures, such as mulching, jute netting, culverts, sediment detention basins, etc., will be temporarily installed as required by local regulations.

Areas to be backfilled will be prepared by removing unsuitable material and rocks. The bottom of an excavation will be examined for loose or soft areas. Such areas will be excavated fully and will be backfilled with compacted fill.

Backfilling will be done in layers of uniform, specified thickness. Soil in each layer will be properly moistened to facilitate compaction to achieve specified density. To verify compaction, representative field density and moisture-content tests will be made during compaction. Structural fill supporting foundations, roads, parking areas, etc., will be compacted to at least 95 percent of the maximum dry density as determined by the ASTM D1557. Embankment, dikes, bedding for buried piping, and backfill-surrounding structures will be compacted to at least 90 percent of the maximum dry density. General backfill placed in remote and/or unsurfaced areas will be compacted to at least 85 percent of the maximum dry density.

Short-term increases in soil erosion are expected to occur during the construction phase. The erosion characteristics of the Panoche Series mapped at the location of the Proposed Substation Expansion are slight.

Project-related soil erosion will be minimized through implementation of erosion control measures described in Section 5.4.3. Therefore, impacts from soil erosion are expected to be insignificant.

The Proposed Substation Expansion will result in soil compaction due to site grading. Compaction makes the soil more dense, reducing pore space and impeding water and gas movement through this medium. This can result in increased runoff, erosion, and sedimentation. The incorporation of erosion control measures described in Section 5.4.3 during construction of the Proposed Substation Expansion will result in less than significant impacts from soil compaction.

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Site preparation and construction of the Proposed Substation Expansion may potentially involve excavation of contaminated soils. Contaminated excavated soils, if encountered, will be stored temporarily in construction zones and removed for disposal or treatment and recycling. Management of contaminated excavated materials will be conducted in accordance with applicable federal, state, and local regulations, as described in Section 5.14 (Waste Management). Therefore, the impact to the potential receiving waters will be less than significant. As applicable, the engineering fill will be imported to replace excavated materials that are not suitable for replacement.

Following construction, wind and water erosion on developed portions of the Site will be reduced because the Proposed Substation Expansion Site will be compacted, covered with asphalt, concrete, and/or gravel, and drainage will be controlled. Implementation of the Applicant-committed erosion control measures discussed in Section 5.4.3 is expected to limit impacts to the soils resource at the Proposed Substation Expansion Site to acceptable levels.

Operation of the Proposed Substation Expansion will not expose soils and vegetation to significant increased levels of air pollutants as discussed in Section 5.2 (Air Quality).

#### Williamson Act Compliance

This Proposed Substation Expansion will comply with the Williamson Act. The underlying land for the Proposed Substation Expansion is being acquired by PG&E in lieu of eminent domain. The Williamson Act agricultural preserve contract for the 6.5 acres acquired will therefore be deemed null and void. (Gov't. Code § 51295.)

#### Transmission Lines

Minor relocations would be performed on the electric transmission lines to allow connection into the new BAAH bus configuration. The impacts on native soils as a result of these relocations are expected to be insignificant.

#### Offsite Pipelines

The Proposed Substation Expansion will not include alteration of existing offsite pipelines.

#### Worker Parking and Equipment Staging Site

The proposed worker parking and equipment staging sites are not paved, and therefore, will have exposed soils. Consequently, graveling will have to occur. Erosion control measures (more fully described in Section 5.4.3) will be implemented during grading to help maintain water quality, protect property from erosion damage, and prevent accelerated soil erosion or dust generation. No significant impacts to native soils, receiving waters, or area agricultural lands are anticipated at or near the Site.

### **5.4.3 Mitigation Measures**

The Proposed Substation Expansion Site and surrounding areas are currently in agricultural production. Anticipated impacts to the surrounding area from the Proposed Substation Expansion will be minimized by the implementation of required erosion control plans and storm water pollution prevention plans. No mitigation is proposed as impacts to soils during construction and operation are minimal.

#### **Temporary Erosion Control Measures**

Typically, temporary erosion control measures include revegetation, slope stabilizers, dust suppression, construction of berms and ditches, and sediment barriers. For the Proposed Substation Expansion, base rock will be utilized for erosion control. Base rock is effective against wind and water erosion for slopes of less than five percent.

During construction of the Proposed Substation Expansion employment of control measures will minimize both the water and wind-blown erosion of soil from the Site. Spraying clean water on the soil in construction areas will help to suppress dust. In addition, sediment barriers such as straw bales or silt fences, may also be utilized to slow runoff and trap sediment. Generally, placement of barriers will occur at the base of exposed slopes below disturbed areas. Placing barriers around the Proposed Substation Expansion and the property boundary serves as prevention against sediment leaving the Site.

Because the Proposed Substation Expansion Site is relatively level, standard surface erosion control techniques should be effective. Soil stockpiles generated during construction will be covered and protected from rainfall if left on-site for extended periods of time.

All temporary erosion control measures shall be maintained in good condition throughout the duration of the construction period.

#### **Permanent Erosion Control Measures**

Due to the Site's flatness, runoff collection, and drainage system, additional long-term measures are neither warranted nor necessary.

### **5.4.4 Applicable Law, Ordinances, Regulations, and Standards**

There are no additional LORS applicable to the Proposed Substation Expansion beyond the LORS identified for the previously approved PEC. The Proposed Substation Expansion will comply with applicable agriculture and soils LORS evaluated for the previously approved PEC.

### **5.4.5 References**

There are no additional references.

### **5.4.6 Cumulative Impacts**

Soil erosion and sedimentation impacts associated with the Proposed Substation Expansion will not be significant and will not be cumulatively considerable in combination with negligible impacts from the previously approved PEC. The Proposed Substation Expansion is going to be constructed on previously disturbed land, a pomegranate orchard, which will be paved over.

Therefore, the location is not expected to have an effect on revegetation potential. Agricultural impacts are described in Section 5.9 Land Use. Impacts related to the potential excavation of contaminated soils will not be significant because all excavated materials will be handled in accordance with the procedures described in Section 5.14 (Waste Management).

#### **5.4.7 Conditions of Certification**

The Proposed Substation Expansion generally poses the same effect to agriculture and soils as the previously approved PEC. Any incremental effect caused by the Proposed Substation Expansion does not raise the impact of the Proposed Substation Expansion and PEC as a whole above the present level of significance. No new LORS have been created since the previously approved PEC AFC list. No modifications to existing agriculture and soils COCs are necessary.

### **5.5 WATER RESOURCES**

This section describes the affected environment and the environmental effects of the Proposed Substation Expansion on water resources in accordance with CEC requirements. The Proposed Substation Expansion will comply with applicable water resources LORS described in the previously permitted PEC.

#### **5.5.1 Existing Site Conditions**

The Proposed Substation Expansion Site is located in the Westside Sub-basin of the San Joaquin Valley Groundwater Basin; the Westside Sub-basin consists mainly of land in the Westlands Water District. The sub-basin is bordered on the southwest by the Pleasant Valley Groundwater Sub-basin and on the west by Tertiary marine sediments of the Coast Ranges, on the north and northeast by the Delta-Mendota Groundwater Sub-basin, and on the east and southeast by the Kings and Tulare Lake groundwater sub-basins. The Westlands Water District has determined that the perennial yield of groundwater in the Westside Sub-basin is 200,000 acre-feet. The groundwater in the Westside Sub-basin is generally of the sulfate or bicarbonate type.

#### **5.5.2 Project Water and Wastewater Needs**

There will be no increased use of water or wastewater for the Proposed Substation Expansion.

#### **5.5.3 Water Resources and Wastewater Management**

There will be a port-a-potty and wash station on site that will use potable water. No water from Westlands Water District will be necessary for the Proposed Substation Expansion.

#### **5.5.4 Effect of Proposed Project on Water Resources**

No adverse effect on water resources is expected from the Proposed Substation Expansion.

#### **5.5.5 Available Documents and Information**

Section 5.5.5 of the previously approved PEC AFC summarizes the available water resources documents and information. No additional information is needed.

### **5.5.6 Stipulated Conditions**

Section 5.5.6 of the previously approved PEC AFC summarizes the stipulated conditions that apply to water resources. No additional information is needed.

### **5.5.7 Mitigation Measures**

The Proposed Substation Expansion does not require changes to the COCs identified in the Soil and Water Resources section of the previously approved PEC Final Decision.

### **5.5.8 Water-related Law, Ordinances, Regulations and Standards (LORS)**

Section 5.5.8 of the previously approved PEC AFC summarizes the applicable LORS that apply to water resources, as well as the applicable permits that will be required for the Proposed Substation Expansion. The water-related LORS discussed in the approved PEC AFC are applicable to this proposed modification as well. The Proposed Substation Expansion will comply with all previously-identified LORS.

### **5.5.9 References**

There are no additional references.

### **5.5.10 Cumulative Impacts**

As the various projects in the cumulative impact evaluation will be responsible for complying individually with applicable water resources LORS, no cumulative impacts on water resources are expected as a result of the Proposed Substation Expansion.

### **5.5.11 Conditions of Certification**

The Proposed Substation Expansion does not require changes to the previously issued Water Resources COCs.

## **5.6 BIOLOGICAL RESOURCES**

### **5.6.1 Affected Environment**

The Proposed Substation Expansion area was historically vegetated with sagebrush and native grass covered arid landscape (JRP Historical Consulting, 2006). As a result of heavy agricultural and industrial use in the area, no native vegetation is currently present within the Proposed Substation Expansion area. Existing conditions within the Proposed Substation Expansion area consist of an active pomegranate orchard. The active orchard is adequately characterized in Section 5.6.1 of the approved PEC AFC. The adjacent areas include Panoche Road and agriculture facilities primarily consisting of apricot and pomegranate trees.

For the purposes of this Petition, the biological survey area (also referred to as the “survey area”) is defined as the additional 6.5 acre Proposed Substation Expansion’s physical ground disturbance footprint, plus an approximate one (1) mile buffer. The intended use of this section is to disclose and evaluate the existing habitat conditions with the survey area and determine the

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potential for occurrence of biological resources<sup>1</sup>, common and special-status species<sup>2</sup>, their habitats<sup>3</sup>, and other special aquatic resource areas.<sup>4</sup> Proposed Substation Expansion-related effects to biological resources shall be presented within this section.

### **Survey Methods**

Biological field surveys were conducted within the survey area by URS biologists Ken McDonald, and Dennis Miller (resumes included in Appendix B) in July 2008 according to the CEC regulations (CEC, 2000). Prior to beginning the field surveys, available information was reviewed from resource management plans and other relevant documents to determine locations and types of biological resources that have the potential to exist within and adjacent to the survey area. The June 2008 California Natural Diversity Database (CNDDDB) and California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Plants of California were queried for records of occurrence of common and special-status species, and their habitats within the following USGS 7.5-minute quadrangles: Hammonds Ranch, Broadview Farms, Firebaugh, Chounet Ranch, Chaney Ranch, Coit Ranch, Tumey Hills, Monocline Ridge, and Levis quadrangles (Figure 5.6-1 of the AFC).

The pedestrian-based field evaluation of the survey area was performed to assess general and dominant vegetation types, community<sup>5</sup> sizes, habitat types, and species present within communities. Community types were based on observed dominant vegetation composition and density. Vegetation classifications of plant communities in the study area were derived from the criteria and definitions of Holland (1986) and Sawyer and Keeler-Wolf (1995). Plants were identified to the lowest taxonomic level sufficient to determine whether plant species observed were non-native, native, or special-status. Scientific and common species names were recorded according to Hickman (1993). This method of floristic survey was conducted to ensure that special-status plant species were not inadvertently overlooked because they were not targeted for surveys. Accordingly, meandering transects were utilized in order to provide adequate visual coverage of the survey area. Field adjustments were made to account for differences in terrain, vegetation density, and so forth to ensure satisfactory visual coverage of the survey area. Where access to the entire survey area was not possible as a result of private property or other physical barriers, observations were made from nearest appropriate vantage points with binoculars or via aerial photographs to document and verify the presence or absence of biological resources.

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<sup>1</sup> For the purposes of this Petition, biological resources include plants, wildlife, and habitats that occur, or have the potential to occur, within the Project's survey area.

<sup>2</sup> For the purposes of this analysis, "special-status species" include any species that has been afforded special recognition by federal, state, or local resources agencies (e.g., U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG)) and/or resource conservation organizations (e.g., California Native Plant Society (CNPS)). The term "special-status species" excludes those avian species solely identified under Section 10 of the Migratory Bird Treaty Act (MBTA) for federal protection. Nonetheless, MBTA Section 10 protected species are afforded avoidance and minimization measures per state and federal requirements.

<sup>3</sup> A "habitat" is defined as the place, or type of locale where a plant or animal naturally or normally lives and grows.

<sup>4</sup> For the purposes of this analysis, special aquatic resource areas are defined as potential: U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA); Regional Water Quality Control Board (RWQCB) legal authority in accordance with Section 401 of the CWA; and California Department of Fish and Game (CDFG) jurisdiction pursuant to Section 1600 (et seq.) of the California Fish and Game Code (CFGC).

<sup>5</sup> A community is an assemblage of populations of plants, animals, bacteria, and fungi that live in an environment and interact with one another, forming a distinctive living system with its own composition, structure, environmental relationships, development, and functions (Whittaker 1975).

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Wildlife presence/absence assessments were performed for birds, mammals, amphibians, and reptiles within the survey area. The presence of a wildlife species was based on direct observation, wildlife sign (e.g., tracks, burrows, nests, scat), or vocalization. Field data compiled for wildlife included the species scientific name, common name, habitat, and evidence of sign when no direct observations were made. Scientific and common species names are recorded based on specialized field guides and related literature (Burt & Grossenheider, 1980; Elbroch, 2003; Halfpenny Ph.D., 2000; NatureServe, 2008; Sibley, 2000; Stebbins, 2003).

Furthermore, potential for occurrence of special-status species were determined for the survey area. The survey area was assessed in the field for its potential to support both common and special-status plant and animal species based on habitat suitability comparisons with reported occupied habitats (CDFG; CDFG & WFO, 2008; Hickman, 1993; Holland, 1986; NatureServe, 2008; Sawyer & Keeler-Wolf, 1995) (CNDDDB 2008; CDFG 2007a; CDFG 2007b). The following potential for occurrence definitions were utilized to determine the need for subsequent focused surveys within the study area, and assess Proposed Substation Expansion change-related effects:

**Absent:** Species distribution is restricted by substantive habitat requirements, which do not occur within the survey area, and no further survey or study is obligatory to determine likely presence or absence of this species.

**High:** Species distribution is restricted by substantive habitat requirements, which occur within the survey area, and further survey or study is necessary to determine likely presence or absence of species.

**Present:** Species or species sign were observed to be present.

In summation, where there was no suitable habitat present for a particular special status species within the survey area, or only negligible suitable habitat was present, the species was considered to be absent. The High categories correspond to a recommendation of conducting a focused survey within the study area to determine if the species is present or absent. The High and Present categories may, in certain circumstances, obligate subsequent focused surveys or implementation of specific programs to avoid, minimize, or compensate for adverse impacts.

Additionally, USGS topographic maps were examined to determine the locations of potential special aquatic resource areas within the survey area. Those portions of the survey area suspected of containing special aquatic resource areas (e.g., Waters of the United States, wetlands, Waters of the State) were also assessed by visual observation in the field. Potential special aquatic resource areas were evaluated by determining the presence of definable channels and/or hydrophytic vegetation, riparian habitat, and hydrologic regime within and adjacent to the study area.

## **Plant Communities**

The Proposed Substation Expansion area consists of the same plant communities detailed in Section 5.6.1.2 of the approved PEC AFC (e.g., pomegranate orchard). Furthermore, no additional plant species were observed during the 2008 survey. Table 5.6.2 of the approved PEC AFC includes a plant species list.

## **Wetlands**

Section 5.6.1.3 of the CEC approved PEC AFC adequately summarizes the limits of Clean Water Act and California Fish and Game Code (CFGF) Section 1600 (et. seq.) jurisdiction within the Proposed Substation Expansion survey area. No special aquatic resource areas (e.g., Waters of the United States, wetlands, Waters of the State, sensitive riparian or riverine habitats) were detected within the Proposed Substation Expansion area.

## **Wildlife**

The Proposed Substation Expansion area consists of the same wildlife communities detailed in Section 5.6.1.4 of the approved PEC AFC (e.g., pomegranate orchard). Furthermore, no additional wildlife species were observed during the 2008 survey. Table 5.6.2 of the CEC approved PEC AFC includes a wildlife species list.

## **Special-Status Species**

Plants. No special-status plant species were observed during the 2008 field survey and there are no records of special status species within the Proposed Substation Expansion area.

Wildlife. No special-status wildlife species were observed during the 2008 field survey and there are no records of special status species within the Proposed Substation Expansion area.

Please refer to Figure 5.6-2, *Biological Resources Within 1 Mile of the Project Site*, for a map of the survey area and vicinity with identification of any biological resources within a 1-mile radius of the Proposed Substation Expansion.

## **Special Environmental Areas in the Project Vicinity**

Section 5.6.1.6 of the CEC approved PEC AFC summarizes the Special Environmental Areas (SEA) within the survey area. No SEA's were observed during the 2008 field surveys.

## **5.6.2 Environmental Consequences**

Potential and expected direct and indirect impacts to biological resources within the survey area are discussed below. Significant impacts are those that would involve the loss of a special status plant or wildlife species, or degradation of their habitat. The Proposed Substation Expansion would have significant impacts to vegetation and wildlife if it would:

- Cause a fish or wildlife population to drop below self-sustaining levels (California Environmental Quality Act [CEQA] Guidelines, Section 15065 (a));
- Threaten to eliminate a plant or animal community (CEQA Guidelines, Section 15065 (a));
- Substantially affect, reduce the number, or restrict the range of the unique, rare, or endangered species of animal or plant, or the habitat of the species (CEQA Guidelines, Section 15065 (a), Appendix G (c), Appendix I (II.4.b) and (II.5.b));
- Substantially diminish or reduce habitat for fish, wildlife, or plants (CEQA Guidelines, Section 15065 (a), Appendix G (t));
- Interfere substantially with the movement of resident or migratory fish or wildlife species (CEQA Guidelines, Appendix G (d));

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- Change the diversity of species, or number of any species of plants (including trees, shrubs, grass crops, and aquatic plants) or animals (bird, land animals including reptiles, fish and shellfish, benthic organisms, or insects) (CEQA Guidelines, Appendix I (II.4.1) and (II.5.a));
- Introduce new species of plants or animals into an area, or act as a barrier to the normal replenishment of existing species (CEQA Guidelines, Appendix I (II.4.c) and (II.5.c));
- Deteriorate existing fish or wildlife habitat (CEQA Guidelines, Appendix I (II.5.d)); or
- Conflict with any regional Habitat Conservation Plans (HCPs).

The above criteria are used to evaluate the Proposed Substation Expansion impacts to plant communities and wildlife. The potential impacts associated with the construction and operation of the Proposed Substation Expansion are discussed below.

### **Potential Impacts of the Proposed Substation Expansion**

The Proposed Substation Expansion would not result in significant impacts to biological resources because it would not:

- Cause a fish or wildlife population to drop below self-sustaining levels;
- Threaten to eliminate a plant or animal community;
- Substantially affect, reduce the number, or restrict the range of the unique, rare, or endangered species of animal or plant, or the habitat of the species;
- Substantially diminish or reduce habitat for fish, wildlife, or plants;
- Interfere substantially with the movement of resident or migratory fish or wildlife species;
- Change the diversity of species, or number of any species of plants (including trees, shrubs, grass crops, and aquatic plants) or animals (bird, land animals including reptiles, fish and shellfish, benthic organisms, or insects);
- Introduce new species of plants or animals into an area, or act as a barrier to the normal replenishment of existing species;
- Deteriorate existing fish or wildlife habitat; or
- Conflict with any regional Habitat Conservation Plans.

Less-than-significant impacts associated with construction and operations of the Proposed Substation Expansion are discussed further below.

### Site Preparation and Construction Impacts

The Proposed Substation Expansion involves the expansion of the existing Substation by an additional 6.5 acres. The Proposed Substation Expansion would accommodate the installation of a new BAAH bus configuration, as well as improve the reliability within the Substation. Construction of these new facilities, including Proposed Substation Expansion area grading, is not expected to adversely affect any common or special status species, or special aquatic resource areas. The Proposed Substation Expansion area is heavily disturbed and developed for agricultural production. As a result, the environmental consequences of Proposed Substation Expansion will occur within an existing setting that has already been degraded and disturbed (the Proposed Substation Expansion footprint includes a pomegranate orchard).

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Accordingly, Proposed Substation Expansion impacts are not anticipated to extend beyond the anthropogenically-disturbed project area. To that end, any biological resource present in the Proposed Substation Expansion area are assumed to have acclimated and developed tolerance to substantial noise, light, and other influences resulting from the presence of an active orchard (e.g., vehicular traffic, noise, light, dust, vehicle emissions, maintenance, and harvesting activities).

There is a potential for impacts to nesting and migratory birds, and raptors within the Proposed Substation Expansion area; as a result of vegetation removal that may provide suitable nesting, roosting, foraging, and refuge habitats. Therefore, compliance implementation guidance is provided as a means of avoiding, minimizing, and compensating for adverse impacts to biological resources. The Proposed Substation Expansion area is confined to areas previously disturbed. Adverse effects within the Proposed Substation Expansion area are expected to predominantly impact commonly occurring, ornamental and non-native species.

Raptors and migratory song birds may nest or roost on existing structures, shrubs, or trees within or adjacent to the Proposed Substation Expansion area. Impacts to these species may include habitat loss and potential temporary displacement from construction activities. Proposed Substation Expansion change activities may also temporarily deter wildlife from foraging in the Proposed Substation Expansion area and in surrounding lands. However, impacts would occur only during active construction and within a relatively small portion of the survey area. Short-term adverse impacts of the Proposed Substation Expansion change on foraging in the surrounding lands adjacent to the Proposed Substation Expansion area are considered to be insignificant, given that animals that currently forage within these project area adjacent lands are assumed to be acclimated to this human-influenced environment. Given that common species occur throughout the region in large numbers, it is not anticipated that Proposed Substation Expansion change activities within the Proposed Substation Expansion area would result in a trend toward state or federal listing, additional protection, apparent changes in habitat availability, or loss of viability for any of these species. Furthermore, the Proposed Substation Expansion change is not likely to adversely affect any special-status plant or animal species, adversely affect annual production, or substantially change migration or foraging patterns.

#### Air Emissions and Noise

Increases in air emissions (Section 5.2) and noise (Section 5.12) as a result of the construction of the Proposed Substation Expansion is not expected to cause significant impacts to wildlife. The project area provides limited habitat for wildlife due to high agricultural use. Most of the wildlife species observed within the Proposed Substation Expansion area are species that are often found in disturbed or developed areas and are expected to adapt to the new noise levels and air emissions.

#### **Operations and Maintenance Impacts**

Potential impacts to biological resources as a result of the operations and maintenance associated with the Proposed Substation Expansion include air emissions, noise, and collision hazards. These potential impacts are discussed further below.

### Air Emissions

Impacts to wildlife in the area as a result of air emissions are less than significant because the common wildlife that occurs in the vicinity of the Proposed Substation Expansion area is expected to adapt to these conditions. Since native vegetation is lacking within the Proposed Substation Expansion area, no impacts to native vegetation associated with air emissions are anticipated.

### Noise

The Proposed Substation Expansion will generate some noise; however, most of the Proposed Substation Expansion vicinity is agricultural and noise levels are minimal. The potential impacts are considered less than significant because the area is already disturbed by intense agricultural use.

### Collision Hazards

The transmission line structures associated with the additional Proposed Substation Expansion will be approximately 100 feet tall, which may include a 15-foot-high grounding mast. Birds that would most likely be affected include migrating waterfowl and other species and some migratory song birds that tend to migrate at night. Fog or low cloud cover can further add to the problem. Since the area has low quality habitat for birds, the collision hazards in the area of the Site are anticipated to be low and less than significant.

### **Impacts on Special-Status Species**

No federally-listed or state-listed threatened or endangered species are expected to occur in the Proposed Substation Expansion area due to lack of suitable habitat. No impacts are expected as a result of the Proposed Substation Expansion. The majority of the special-status species reported are located near the Tumey Hills at least 4.2 miles from the Proposed Substation Expansion area.

### **Impacts to Wildlife Corridors**

The survey area includes no recognized wildlife linkages or movement corridors. The survey area has not been identified as an important landscape linkage – it doesn't connect two large blocks of natural open space essential for the long-term wildlife viability. No significant impacts to wildlife movement are expected.

### **Parking, Laydown, and Access Road**

The proposed parking, laydown, and access road is within the Proposed Substation Expansion area. No impacts associated with construction and operations of the Proposed Substation Expansion are expected.

### **5.6.3 Avoidance and Minimization Measures**

Refer to the previously approved PEC AFC section for stipulations that must be implemented to avoid and minimize impacts to common wildlife and any potential wildlife species.

#### **5.6.4 Mitigation Measures**

The Proposed Substation Expansion will require the purchase of additional mitigation credits at the Krayenhagen Hills Conservation Bank to offset potential impacts to the San Joaquin Kit Fox (SJKF). The purchase of such credits was addressed by the USFWS in the August 21, 2007 Biological Opinion issued for PEC and specifies actions that are required to avoid, minimize, or compensate for any potentially significant impacts to the SJKF and their habitat. USFWS identified the Krayenhagen Hills Conservation Bank as a preferred location to purchase mitigation credits at 1.1:1 acres for permanent disturbance and 0.3:1 for temporary disturbance. Existing condition of certification BIO-10 covers this additional mitigation credit requirement. No other mitigation measures are proposed or required.

#### **5.6.5 Applicable Laws, Ordinances, Regulations, and Standards**

The Proposed Substation Expansion includes the same biological resources identified for the approved PEC and the LORS discussed in the approved PEC AFC are applicable to the Proposed Substation Expansion as well.

#### **5.6.6 References**

Burt, W.H. and Grossenheider, R.P. 1980. *A Field Guide To Mammals: North America; north of Mexico*. New York, NY: Houghton Mifflin Company.

California Department of Fish and Game. 2007a, 2007b, 2008. Natural Diversity Database (CNDDDB). 2006b. Central Valley Bay-Delta Branch website <http://www.delta.dfg.ca.gov/gallery/shearowl.asp>

California Energy Commission. 2000. Rules of Practice and Procedure and Plant Site Certification Regulations.

California Native Plant Society. 2007 and 2008. Rare Plant Database.

Elbroch, M. 2003. *Mammal Tracks & Sign, A Guide to North American Species*. Mechanicsburg, PA: Stackpole Books.

Halfpenny, J.C. 2000. *Scats and Tracks of the Desert Southwest, A Field Guide to the Signs of 70 Wildlife Species*. Helena, MT: Falcon Publishing, Inc.

Hickman, J.C. (ed) 1993. *The Jepson Manual: Higher Plants of California*. Berkeley: University of California Press.

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California (California Department of Fish and Game The Resources Agency, ed). Sacramento, CA.

JRP Historical Consulting. 2006. Historical Resources Inventory and Evaluation Report for the Panoche Energy Center.

NatureServe. 2008. NatureServe Explorer: NatureServe.

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Sawyer and Keeler-Wolf. 1995. *A Manual of California Vegetation*. Sacramento, CA: California Native Plant Society.

Stebbins, R.C. 1985. *A field guide of western reptiles and amphibians*. Second edition, revised. Houghton Mifflin Company, Boston, Massachusetts.

### **5.6.7 Cumulative Impacts**

Section 5.6.2.3 of the approved PEC AFC summarizes the projects within a five-mile radius of PEC (including the existing Substation) that could potentially contribute to cumulative impacts. No additional cumulative impacts of significance are anticipated with the Proposed Substation Expansion.

### **5.6.8 Conditions of Certification**

There are no proposed changes to the biological resources COCs associated with the Proposed Substation Expansion.

## **5.7 CULTURAL RESOURCES**

This section discusses the cultural resources environment and potential effects of the proposed modifications to the approved PEC.

### **5.7.1 Affected Environment**

The affected environment for the Proposed Substation Expansion is the same as that described and evaluated for the approved PEC. As with the approved PEC, the Proposed Substation Expansion is located in a region characterized by primarily agricultural development situated near reclaimed land upon what was once marshland connected to the Tulare Lake. Agricultural development characterizes the vicinity immediately surrounding the Site. Natural habitats for the most part have been displaced by developments associated with the various agricultural activities, primarily orchards. Prior to development, Tulare Lake and the marsh setting of the general area would have supported diverse fauna and flora.

### **5.7.2 Environment Consequences**

The Proposed Substation Expansion will require excavation throughout the 6.5 acre footprint of the Proposed Substation Expansion area. The Proposed Substation Expansion footprint is currently a pomegranate orchard, and has been moderately disturbed by agricultural activity. A record search for the approved PEC project area including a ½ mile buffer was conducted in May 2006. No previously recorded resources were identified (refer to Figure 5.7-3, *Previous Cultural Surveys*). The Native American Heritage Commission (NAHC) was contacted on May 4, 2006. Informational letters were sent to six contacts identified by the NAHC on May 9, 2006. Follow-up telephone calls were made to all individuals who did not respond to the letter. None of the contacts expressed concerns regarding the PEC project. The entire 6.5 acre Proposed Substation Expansion area was subject to pedestrian survey on July 24, 2008 by archaeologists Brian Hatoff, MA, RPA, and Dean Martorana, MA, RPA from URS Corporation. No archaeological resources were identified. A survey for built environment resources within ½ mile of the project area was conducted by JRP Historical in 2006. All resources, including the Substation, were evaluated and none were found to be eligible for listing on federal, state, or local registers. The

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Substation, although more than 50 years old, is of a type ubiquitous in California and has undergone Substation alteration throughout the period of its use. The Appendix C Cultural Resources Technical Report includes a full accounting of cultural resource investigations conducted in support of the Proposed Substation Expansion.

### **5.7.3 Mitigation**

No known cultural resources will be impacted by the Proposed Substation Expansion; however, ground-disturbing activity may result in impacts to unknown cultural resources. Existing mitigation measures set forth in the Cultural Resources Mitigation and Monitoring Plan (CRMMP) will be implemented for the Proposed Substation Expansion, and a Cultural Resources Monitor (CRM) will be on-site for all ground disturbing activities.

### **5.7.4 LORS Compliance**

The Proposed Substation Expansion will comply with applicable cultural resource LORS described in the AFC for the approved PEC.

### **5.7.5 References**

Please see Appendix C Cultural Resources Technical Report for a complete list of references.

### **5.7.6 Cumulative Impacts**

The Proposed Substation Expansion poses the same effect to cultural resources as the previously approved PEC.

### **5.7.7 Conditions of Certification**

No modifications to the Cultural Resources COCs or mitigation measures are recommended.

## **5.8 PALEONTOLOGICAL RESOURCES**

### **5.8.1 Introduction**

This section summarizes the potential environmental impacts on paleontological resources that may result from the Proposed Substation Expansion.

### **5.8.2 Affected Environment**

#### **Geographic Location**

The affected environment for the Proposed Substation Expansion area is the same as that as that evaluated for the approved PEC.

#### **Regional Geologic Setting**

The general geology of the San Joaquin Valley was summarized in the approved PEC AFC. The geology in the vicinity of the Proposed Substation Expansion is identical to that of PEC and is discussed in more detail in Sections 3.2, 3.3, and 3.4 of this Petition.

## **Resource Inventory Methods**

A baseline paleontological resource inventory of the Proposed Substation Expansion Site was based largely on the Paleontological Resources Technical Report of the previously approved PEC because the geology of both sites is highly likely to be identical. The Paleontological Resources Technical Report relied on a review of the available geological and paleontological literature, an archival search conducted at the University of California Museum of Paleontology (UCMP), and a field survey of project vicinity. These methods were consistent with CEC (2000) and SVP (1995) guidelines. In addition, information on the stratigraphy and subsurface geology likely to be present under the Proposed Substation Expansion was obtained during paleontological monitoring of earth-moving construction activities of the approved PEC from January through July, 2008. During PEC construction, excavations exposed up to 30 feet (~9 meters), and the bottom 18 feet (~5.5 meters) were determined to be fossiliferous.

The same paleontological assessment criteria used for the approved PEC was used for the Proposed Substation Expansion.

## **Resource Inventory Results**

**Stratigraphic Inventory.** The unconsolidated and semi-consolidated sediments composing the Panoche Creek alluvial fan, that encompasses both PEC and Proposed Substation Expansion sites, can be divided into three informally named stratigraphic units (Lettis, 1982a, 1982b). They are, from oldest to youngest: the middle to late Pleistocene “Los Banos alluvium”, the late Pleistocene to possibly early Holocene “San Luis Ranch alluvium”, and a thin veneer of Holocene “Patterson alluvium”. The Paleontological Resources Technical Report of the previously approved PEC provides a more detailed description of each stratigraphic unit. Each of these stratigraphic units has been found to yield fossil remains at previously recorded localities within the Central Valley (Bull 1964, Lettis 1982a, 1982b, Beard and Landon, 1988) and all three will be impacted by the Proposed Substation Expansion.

**Paleontological Resource Inventory.** An inventory of the paleontologic resources of each stratigraphic unit likely to be impacted at the Site is presented below and the paleontological importance of these resources is assessed. Based on the results of the archival record search at University of California Museum of Paleontology (UCMP), a search of the available literature, a field survey, and Society for Vertebrate Paleontology (SVP) guidelines (1995), it was considered that both the “Los Banos” and “San Luis Ranch alluvium” have high sensitivity, because both stratigraphic units had previously yielded vertebrate and plant fossils. The “Patterson alluvium” was considered to have low sensitivity because it has not been known to produce fossils. Monitoring construction for the approved PEC has supported the paleontological sensitivity determinations made by previously approved PEC AFC. Numerous microvertebrate fossils as well as other fossils have been salvaged from sediments interpreted as being “Los Banos” and “San Luis alluvium”. So far, fossil discoveries from PEC include rodent teeth and bones, lizard jaws, fragments of fresh water bivalves, pollen/spores, and dinoflagellates. No fossils have been salvaged from the “Patterson alluvium” during monitoring activities for the previously approved PEC.

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The paleontological sensitivity of the stratigraphy for the Proposed Substation Expansion Site remains the same as determined in the Paleontological Resources Technical Report of the previously approved PEC. The older two stratigraphic units have produced significant paleontological resources elsewhere in the Central Valley and produced abundant fossil remains during monitoring and mitigation of the nearby PEC site. Therefore, the “Los Banos” and “San Luis alluvium” are still considered to have high sensitivity. The “Patterson alluvium” retains its determination of low sensitivity because no fossil remains have been discovered during monitoring for the previously approved PEC.

### **5.8.3 Environmental Consequences**

Potential impacts on paleontological resources resulting from the Proposed Substation Expansion can be divided into construction-related impacts and operation-related impacts. Construction-related impacts to paleontological resources primarily involve terrain modification (excavations and drainage diversion measures). Paleontologic resources, including an undetermined number of fossil remains and unrecorded fossil sites; associated specimen data and corresponding geologic and geographic Site data; and the fossil-bearing strata, could be adversely affected by (i.e., would be sensitive to) ground disturbance and earth moving associated with construction of the Proposed Substation Expansion. Direct impacts would result from vegetation clearing, grading of roads and the new BAAH bus configuration site, backhoe excavation of irrigation ditches, auguring for foundations for electrical towers or poles, excavation of containment basins, raceways, underground conduits, and excavations for concrete subsurface footings, concrete slabs, and the grounding grid and any other earth-moving activity that disturbs or buries previously undisturbed fossiliferous sediments, making those sediments and their paleontologic resources unavailable for future scientific investigation. The potential environmental effects from construction and operation of the Proposed Substation Expansion on paleontological resources are presented below.

#### **Potential Impacts from Project Construction**

The Proposed Substation Expansion Site is located on fossiliferous Pleistocene and Holocene-age alluvial deposits informally named the “Los Banos alluvium”, “San Luis Ranch alluvium”, and “Patterson alluvium.” Excavations deeper than four feet at the proposed Substation expansion Site, such as those for tubular steel pole foundations, and deep site grading, have the potential to result in adverse impacts to significant paleontological resources. However, the construction of supporting facilities, such as fencing, laydown areas, clearing vegetation, irrigation ditch realignment, and parking areas, have very low potential to cause adverse impacts to significant paleontological resources, as they will involve ground disturbance only to the “Patterson alluvium.”

#### **Potential Impacts from Project Operation**

No impacts on paleontological resources are expected to occur from the operation of the Proposed Substation Expansion.

#### **5.8.4 Cumulative Impacts**

If the Project were to encounter paleontological finds during construction, the potential cumulative impacts would be low, with implementation of mitigation measures already established for the previously approved PEC.

#### **5.8.5 Mitigation Measures**

Existing mitigation measures set forth in the Paleontological Resources Mitigation and Monitoring Plan (PRMMP) will be implemented for the Proposed Substation Expansion, and a Paleontological Resources Monitor (PRM) will be on-site for all ground disturbing activities.

#### **5.8.6 Involved Agencies and Agency Contacts**

There is no state or local agencies having specific jurisdiction over paleontological resources.

#### **5.8.7 Laws, Ordinances, Regulations, and Standards**

The Proposed Substation Expansion will comply with applicable paleontological resource LORS evaluated for the approved PEC.

#### **5.8.8 Permits Required and Permit Schedule**

No state or county agency requires a paleontological collecting permit to allow for the recovery of fossil remains discovered as a result of construction-related earth moving on state or private land in a project site.

#### **5.8.9 References**

- Beard, S., and Laudon, J., 1988. Data for ground-water test holes I Fresno County, western San Joaquin Valley, California, June to August 1985: U. S. Geological Survey Open-File Report 88-78, 39 p.
- Bull, W. B., 1964a, Geomorphology of segmented alluvial fans in western Fresno County, California: U. S. Geological Survey Professional Paper 352-E, p. 89-129,
- Bull, W.B., 1964b. Alluvial fans and near-surface subsidence in western Fresno County, California: U. S. Geological Survey Professional Paper 437-A, 71 p.
- California Energy Commission (CEC). 2007 Rules of practice and procedure and power plant site certification regulations, April 2007: California Energy Commission, Sacramento, CA, 128 p.
- Fisk, L.H., and Haasl, David M., 2008, Panoche Energy Center, Petition to Amend, Paleontological Resources Inventory and Impact Assessment, PaleoResource Consultants (PRO).
- Lettis, W. R., 1982a, Late Cenozoic stratigraphy and structure of the western margin of the central San Joaquin Valley, California: unpublished doctoral dissertation, University of California, Berkeley, CA, 316 p.

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Lettis, W. R., 1982b, Late Cenozoic stratigraphy and structure of the western margin of the central San Joaquin Valley, California: U. S. Geological Survey Open-File Report 82-526, 203 p.

### **5.8.10 Conditions of Certification**

The Proposed Substation Expansion will result in the same type and level of impacts to paleontological resources as the previously approved PEC and therefore no modifications to existing COCs are necessary.

## **5.9 LAND USE**

This section describes potential affects that the Proposed Substation Expansion may have on land use, and evaluates the potential impacts to these resources as a result of the Proposed Substation Expansion.

### **5.9.1 Affected Environment**

The affected environment of the Proposed Substation Expansion is the same as that for the approved PEC. As described in Section 3.0 of this Petition, the Proposed Substation Expansion involves 6.5 acres of land on the southwest corner of the existing Substation. The 6.5 acre Proposed Substation Expansion area would create a flag-shaped parcel of land adjacent to the previously approved PEC 2.5 acre Substation expansion area. The Proposed Substation Expansion footprint is within the same assessors parcel number as the approved PEC (027-060-78S) and is currently used for agriculture, specifically pomegranate orchard.

### **General Plan and Zoning Designations**

The general plan and zoning designations for the Proposed Substation Expansion are the same as that described in the approved PEC AFC. As with the approved PEC, the Proposed Substation Expansion area is consistent with the Fresno County General Plan and zoning designation. The Proposed Substation Expansion area is designated as Agriculture by the Land Use Element of the Fresno County General Plan and has a zoning designation of AE-20, Exclusive Agriculture District (refer to Figure 5.9-2, *Zoning Designations Surrounding Project Site* and Figure 5.9-3, *Existing Land Use Surrounding Project Site*). As with the approved PEC, this land use has an unclassified conditional use for energy production in the AE Zone district.

### **Williamson Act**

As discussed in Section 5.4 of this Petition, the Proposed Substation Expansion area and nearly all surrounding lands are subject to Williamson Act agricultural preservation contracts.

### **5.9.2 Environmental Consequences**

#### **General Plan and Zoning**

As stated in the Final Commission Decision for the approved PEC, Fresno County's Department of Public Works and Planning determined that the approved PEC power generating facility is consistent with the County General Plan and zoning ordinance. General Plan policy LU-A.3 allows certain non-agricultural uses in areas designated Agriculture and provides examples of uses that could be allowed. An "electrical substation" is one of the examples of allowed non-

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agricultural uses listed. The County of Fresno provided a notice of determination of General Plan Conformity of the approved PEC on August 8, 2007. The Proposed Substation Expansion is consistent with this determination. The Proposed Substation Expansion would not preclude or unduly restrict existing or planned land uses.

Also, akin to the approved PEC, the Proposed Substation Expansion would not disrupt or divide the physical arrangement of an established community.

### **Williamson Act Compliance**

The Proposed Substation Expansion area is currently subject to a Williamson Act agricultural preservation contract. PG&E will acquire the land for the Proposed Substation Expansion in lieu of eminent domain. (Gov't. Code § 51295.) Therefore, pursuant to the Government Code, the Williamson Act contract on these 6.5 acres will be deemed null and void.

### **Loss of Agricultural Lands**

Construction of the Proposed Substation Expansion will permanently convert 6.5 acres of prime, irrigated farmland to a non-agricultural use. To mitigate for the loss of an additional 6.5 acres of farmland associated with the Proposed Substation Expansion, the project owner will pay an additional fee to the land trust. A new Condition of Certification LAND-4 is recommended requiring the payment of this additional fee to mitigate for the additional loss of 6.5 acres of agricultural land. With this mitigation, the potential impact is reduced to an insignificant level.

There are no other potential environmental impacts to land use identified for the Proposed Substation Expansion. The Proposed Substation Expansion will not disrupt or divide an existing community or interfere with current or potential future neighboring land uses and is consistent with County land use policies and regulations.

#### **5.9.3 Mitigation Measures**

The Proposed Substation Expansion will cause no significant adverse land use impacts and will not conflict with existing land use activities in the area. However, since the Proposed Substation Expansion will convert an additional 6.5 acres of agricultural land use to a non-agricultural use, the project owner will contribute funds to a land trust for the preservation of agricultural lands to mitigate for the loss of the additional 6.5 acres of agricultural land.

#### **5.9.4 Applicable Laws, Ordinances, Regulations and Standards**

The Proposed Substation Expansion will comply with all applicable Land Use LORS described for the approved PEC.

#### **5.9.5 References**

There are no additional references.

### **5.9.6 Cumulative Impacts**

The Proposed Substation Expansion will not result in any significant cumulative impacts to land use beyond those addressed for the approved PEC. The only incremental impacts related to land use that could occur would be the loss of an additional 6.5 acres of agricultural lands. However, with the adoption of the below proposed additional COC to the CEC's existing Land Use COCs, the potential impact would be reduced to an insignificant level.

### **5.9.7 Conditions of Certification**

This Petition does not require changes to any of the conditions identified in the Land Use section of the PEC Conditions of Certification. However, the adoption of a new condition, LAND-4, is proposed to reduce the impact to agricultural lands from the Proposed Substation Expansion to an insignificant level.

**LAND-4** The project owner shall mitigate for the loss of 6.5 acres of prime farmland for the additional Substation expansion at a one-to-one ratio.

**Verification:** The project owner shall provide a mitigation fee payment to an agricultural land trust such as the San Joaquin River Parkway and Conservation Trust or any other land trust that has been previously approved by the Compliance Project Manager (CPM) at least 30 days prior to the start of construction of the Substation expansion. The fee payment will be determined by an independent appraisal conducted on available, comparable, farmland property on behalf of the agricultural land trust. The project owner shall pay all costs associated with the appraisal. The project owner shall provide documentation to CPM that the fee has been paid and that the 6.5 acres of prime farmland and/or easements shall be purchased within three years of start of operation as compensation for the 6.5 acres of prime farmland to be converted by PEC. The documentation also shall guarantee that the land/easements purchased by the trust will be located in Fresno County and will be farmed in perpetuity. If no available land or easements can be purchased in Fresno County, then the purchase of lands/easements in other Central Valley Counties is acceptable. The project owner shall provide to the CPM updates in the Annual Compliance Report on the status of farmland/easement purchase(s).

## **5.10 SOCIOECONOMICS**

This section describes the potential impact to the social and economic structure within the Proposed Substation Expansion vicinity and region resulting from the 6.5 acre Proposed Substation Expansion. This discussion considers potential impacts to population, housing, public services and utilities, fiscal resources, and indirect and induced economic impacts. Additionally, this section considers environmental justice analysis, applicable LORS, cumulative impact analysis, and conditions of certification.

The criteria used in determining whether project-related socioeconomic impacts would be significant are presented in Appendix G, CEQA Guidelines. The criteria are the same as that presented in the approved PEC AFC.

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As with the approved PEC, the methodology used to analyze environmental justice aspects of the Proposed Substation Expansion follow the United States Environmental Protection Act's (EPA's) *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses* (1998).

#### **5.10.1 Affected Environment**

As with the previously approved PEC, the Proposed Substation Expansion is located in a rural unincorporated area of Fresno County, California. The Proposed Substation Expansion area is generally southeast of the intersection of West Panoche Road and Davidson Avenue, and approximately 1.5 miles east of Interstate-5. The nearest city is Mendota, which is roughly 16 miles northeast of the Proposed Substation Expansion area, and the California Aqueduct is approximately 3 miles to the east.

The existing Substation is located on a parcel with an assessor's parcel number (APN) 027-060-61U, and the Proposed Substation Expansion would occur on an adjacent parcel (APN 027-060-81S). The Proposed Substation Expansion is located in a rural area with no immediately surrounding residences or businesses. The Proposed Substation Expansion does not involve displacement of residences, communities, or businesses.

This socioeconomic analysis addresses economic and demographic conditions at the following resolutions. The socioeconomic study area pertaining to population and housing (as consistent with the PEC AFC, 2006) includes the unincorporated area of Fresno County within the Proposed Substation Expansion vicinity and Fresno County as a whole. The Proposed Substation Expansion area pertaining to the regional workforce and indirect and induced economic impacts for the Proposed Substation Expansion consists of Fresno County. The environmental justice analysis evaluates the demographics and poverty for the population located within a six-mile radius of the Site.

#### **5.10.2 Environmental Consequences**

##### **5.10.2.1 Population and Housing**

###### **Population, Housing, and Workforce during Construction Phase**

Construction of the Proposed Substation Expansion is expected to require a slight increase of workers during the peak construction (proposed peak of 23 workers [average of 20 to 25 workers], compared to the previously estimated 19 workers [PEC Final Commission Decision, 2007]), but would not increase the overall average number of workers needed.. As discussed in the PEC Final Staff Assessment (FSA) (Section 4.8, Socioeconomics) the construction workforce employed during the construction of PEC would be expected to commute to the area from areas within a two-hour commuting distance, or stay in nearby hotels for the duration of the PEC project rather than to relocate permanently to the project area. As a result, the Proposed Substation Expansion is expected to result in a negligible, if any, impact to population during construction.

Since no significant number of new workers (i.e., the slight increase in workers during peak construction, but no increase in the overall average number of workers needed) would be hired specifically for construction of the Proposed Substation Expansion, and workers would be

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expected to commute to the project area, the Proposed Substation Expansion is anticipated to result in negligible impacts to housing. Also, the Proposed Substation Expansion is expected to result in less than significant impacts to lodging and temporary housing, due to the availability of lodging in the Proposed Substation Expansion vicinity, as previously analyzed in the PEC AFC. Additionally, since the Proposed Substation Expansion would require a slight increase of additional workers during the peak construction period, the Proposed Substation Expansion would result in a negligible impact to the regional workforce.

### **Population, Housing, and Workforce during Operation**

Operation of the Proposed Substation Expansion does not involve employment of additional employees and thus would result in no additional impacts to the population, housing, and regional workforce.

#### **5.10.2.2 Environmental Justice**

##### **Environmental Justice Screening Analysis**

The environmental justice screening process analyzes the Proposed Substation Expansion's potential for high and adverse environmental effects or health effect falling disproportionately upon a low income or minority population (Executive Order 12898). Typical environmental justice concerns pertaining to environmental or health effects include a project's impacts to housing, traffic, noise, water quality, public health, and public services.

As previously analyzed in the approved PEC AFC (Section 5.10.4.2 Environmental Justice Screening Analysis), the area does not contain a low-income population within the environmental justice screening area. The area does contain Hispanic or Latino minority populations (97.84 percent). However, based on the analysis presented in Section 5.10.2.1 (Population and Housing), 5.11 (Traffic and Transportation), 5.12 (Noise), 5.5 (Water Resources), 5.16 (Public Health and Safety), and 5.10.2.3 (Public Services and Utilities), the Proposed Substation Expansion is not expected to result in significant impacts to the environmental justice concerns pertaining to environmental or health effects. As a result, this analysis concludes that the Proposed Substation Expansion would not result in environmental justice impacts.

#### **5.10.2.3 Public Services and Utilities**

##### **Public Services**

The Proposed Substation Expansion would not significantly increase the number of construction workers and would result in no increase in operation workers. As a result, the Proposed Substation Expansion would result in a negligible, if any, temporary increase to the population; therefore, the Proposed Substation Expansion would not create the need for new or expanded schools, libraries, and park facilities. The Proposed Substation Expansion area is served by fire protection, medical, and law enforcement services identified in the previously approved PEC AFC (Section 5.10.5). Construction and operation of the Proposed Substation Expansion involves a negligible change in workers and design parameters and would not require new or expanded police, fire, or medical facilities.

## **Utility Systems**

As discussed in Section 3.0, the Proposed Substation Expansion would not involve changes to electrical service, natural gas systems, water supply and treatment systems, or sanitary systems.

### **5.10.2.4 Fiscal Resources**

#### **Property Tax**

Following completion of the Proposed Substation Expansion, the Substation will be reassessed for property value and tax rate. Based on preliminary discussion with the California Board of Equalization (BOE) (Thompson, 2008), a rough estimate of the applied tax rate for facilities associated with electrical generation is 1.1 percent. The estimated capital cost for the Proposed Substation Expansion is \$23 million. Based on this value, the additional property tax assessed for the Proposed Substation Expansion during the first year of operation (2010) is expected to be approximately \$253,000.

#### **Sales Tax**

The Proposed Substation Expansion area is subject to a Fresno County 7.975 percent sales tax. The Proposed Substation Expansion is estimated to result in \$80,000 expenditures in locally-purchased materials and supplies, which are expected to be purchased within Fresno County. Based on the estimated \$80,000 in expenditures for locally-purchased materials and supplies to accommodate the Proposed Substation Expansion, the Proposed Substation Expansion would result in approximately \$6,380 in sales tax revenues. Cost estimates are based on 2008 dollars.

#### **Indirect and Induced Economic Effects**

Construction of the Proposed Substation Expansion is expected to require no increase to the average number of construction workers or construction worker salary previously analyzed for the approved PEC. The Proposed Substation Expansion would require an estimated \$80,000 in expenditures for locally-purchased materials and supplies, which would result in secondary (indirect and induced) impacts. IMPLAN Profession Version 2.0.1025 was used to create an input/output model assessing the secondary economic impacts (indirect and induced impacts) resulting from the Proposed Substation Expansion. The modeling impact was based on an estimated initial capital cost of \$23 million for the Proposed Substation Expansion, estimated expenditures of \$80,000 for locally-purchased (Fresno County) materials and supplies, and no additional construction workers or construction worker labor income.

The resulting indirect and induced effects of the Proposed Substation Expansion occurring within Fresno County would be an additional one job, and approximately \$18,117 and \$6,711 in indirect and induced income impacts, respectively (based on the annual local construction expenditure for materials and supplies). The Proposed Substation Expansion output for dollars generated for other industries supplying the power generation industry was estimated at \$45,318 and \$19,989 for indirect and induced impacts to output, respectively. The dollar estimates are provided in 2008 dollars.

Once construction of the Proposed Substation Expansion is completed, operation of the Substation would not require additional operation workers, change in operation worker salaries, or operations and maintenance costs previously analyzed for the approved PEC. Hence, operation of the Proposed Substation Expansion is not expected to result in indirect and induced economic and employment effects in addition to impacts previously determined for the approved PEC.

### **5.10.3 Cumulative Impacts**

The Proposed Substation Expansion would require a negligible increase, if any, of construction workers, and no increase in operation workers with respect to the population and workforce previously identified for the PEC project. Additionally, as discussed previously in Section 5.10.3.1, the Proposed Substation Expansion is neither expected to cause increases in housing, nor significant adverse effects to temporary lodging. As a result, the Proposed Substation Expansion is not expected to result in cumulatively significant adverse socioeconomic impacts.

### **5.10.4 Applicable Laws, Ordinances, Regulations and Standards**

The Proposed Substation Expansion is subject to the socioeconomic-related LORS identified for the approved PEC. No additional LORS have been identified that are considered to be applicable to socioeconomic issues for the Proposed Substation Expansion.

### **5.10.5 References**

California Board of Equalization (BOE). 2008. Phone conversation with Ken Thompson. Phone log dated August 1, 2008. (URS Corporation, Jennifer Wu).

### **5.10.6 Conditions of Certification**

The Proposed Substation Expansion does not require changes to the COCs identified for the approved PEC.

## **5.11 TRAFFIC AND TRANSPORTATION**

This section presents a discussion of the potential impacts of the Proposed Substation Expansion. The discussion below includes the environmental consequences associated with the Proposed Substation Expansion during construction and operation; cumulative impacts; mitigation measures; applicable LORS; and COCs.

### **5.11.1 Affected Environment**

The Proposed Substation Expansion area remains consistent with the affected environment presented for the approved PEC. For a map of roadways and ADT volumes, refer to Figure 5.11-2, *Project Study Area*.

### **5.11.2 Environmental Consequences**

#### **Substation Construction Worker Trips**

During peak Proposed Substation Expansion construction there is a minimal increase in manpower needs between the previously approved 2.5 acre Substation expansion and the Proposed Substation Expansion.

**Table 5.11-1 Comparison of Peak Substation Construction Worker Trips**

	Daily Trips	AM Peak Hour Trips		PM Peak Hour Trips	
		In	Out	In	Out
Previously Approved Substation Expansion Workers (2.5 acres)	38	19	0	0	19
Proposed Substation Expansion (6.5 acres)	2 to 12	1 to 6	0	0	1 to 6
Total Substation Expansion Workers (previously approved 2.5 acres plus proposed 6.5 acre expansion)	40 to 50	20 to 25	0	0	20 to 25

As shown in Table 5.11-1, during their respective peak construction worker months, the previously approved 2.5 acre Substation expansion is anticipated to utilize 19 construction workers per day as compared to the total 9.0 acre Substation expansion, which would require up to 20 to 25 workers on-site, resulting in a minor incremental increase of 1 to 6 workers on-site for the Proposed Substation Expansion. Based on the above findings, there is only a minimal increase in workers during the peak construction between the previously approved Substation expansion and the Proposed Substation Expansion. Thus, the Proposed Substation Expansion will have no significant additional effect or impact on traffic and transportation.

**Soil Import Trips**

Table 5.11-2 compares number of trucks used to haul site fill material during a three-week schedule between the previously approved Substation expansion (2.5 acres) and proposed total Substation expansion (the previously approved expansion (2.5 acres) plus the Proposed Substation Expansion (6.5 acres), for a total of 9.0 acres).

**Table 5.11-2 Soil Import Truck Movement Trips**

	Soil Import Volume (cubic yards)	Equivalent Belly Truck Loads <sup>[1]</sup>	Duration	Trucks/Day	Passenger Car Equivalent <sup>[2]</sup>
<b>Approved 2.5 Acre Expansion (part of PEC)</b>	7,400	370	3 weeks (18 days)	20	60
<b>Total 9.0 Acre Expansion (approved 2.5 acres plus 6.5 acre Proposed Substation Expansion area)</b>	15,000 <sup>[3]</sup>	750	3 weeks (18 days)	42	126
<b>Increase</b>	<b>7,600</b>	<b>380</b>		<b>22</b>	<b>66</b>

[1] – Belly truck capacity of 20 cubic yards. Truck catalogs show 14, 15, 16 cubic yards capacity.

[2] – Used a PCE factor of 3.

[3] – Used maximum need from an estimated range of 10,000 to 15,000 cubic yards.

Based on the proposed total expansion truck haul trips for site fill materials, the estimated 42 truck trips or 126 passenger car equivalent trips could be reasonably accommodated by the existing roadway capacity of I-5 and Panoche Road. Thus, the Proposed Substation Expansion will have no significant additional effect or impact on traffic and transportation.

**Other Materials and Construction Delivery Trips**

Table 5.11-3, summarizes the anticipated miscellaneous construction delivery trips for the total 9.0 acre Substation expansion in addition to the construction worker and fill material trips presented above.

**Table 5.11-3 Other Construction Trips**

	<b>Duration</b>	<b>Trucks/Day</b>	<b>Passenger Car Equivalent<sup>[1]</sup></b>
<b>Cement Trucks</b>	5 weeks (30 days)	3 <sup>[2]</sup>	9
<b>Other Deliveries<sup>[3]</sup></b>	4 months (96 days)	1 <sup>[4]</sup>	3
<b>Total</b>		<b>4</b>	<b>12</b>

[1] – Used a PCE factor of 3.

[2] – Cement deliveries range from 2-3 trucks per day for five weeks with the exception to the pouring of the building pad which require 4 trucks.

[3] – Semi-tractors, flat beds etc.

[4] – Maximum trips is 4 to 6 trucks a day, the average is 6 trucks total in a week or 1 truck daily on a 6-day work week.

Based on the worst case anticipated miscellaneous construction delivery trips for the total Substation expansion, the estimated 4 truck trips or 12 passenger car equivalent trips could also be reasonably accommodated by the existing roadway capacity of I-5 and Panoche Road. Thus, the Proposed Substation Expansion will have no significant additional effect or impact on traffic and transportation.

**Traffic Impact Summary**

Due to the low trip generation potential of construction of the Proposed Substation Expansion as compared to the previously approved PEC construction and operations analysis, no further quantitative traffic analysis was conducted beyond those presented in the previously approved PEC documentation.

The qualitative traffic assessment finds that the construction of the Proposed Substation Expansion will not result in significant traffic impacts.

The qualitative traffic assessment finds that the operation of the Proposed Substation Expansion will not result in significant traffic impacts.

**5.11.3 Mitigation Measures**

The same traffic mitigation measures for the previously approved PEC would apply to the construction of the Proposed Substation Expansion. No traffic mitigation measures are necessary for the Proposed Substation Expansion

#### **5.11.4 Applicable LORS**

All relevant and applicable traffic and transportation LORS presented in the PEC AFC will be complied with and followed for the Proposed Substation Expansion

#### **5.11.5 References**

*Relevant Traffic Information from List of Data Needs*, 2008, July 28, 2008. URS Corporation

#### **5.11.6 Cumulative Impacts**

Findings of no significant cumulative impacts as described in Section 5.11 of the previously approved PEC AFC remain the same for the Proposed Substation Expansion.

#### **5.11.7 Conditions of Certification**

The Proposed Substation Expansion does not require changes to the Traffic and Transportation COCs identified in the Traffic and Transportation section of the PEC Final Decision.

### **5.12 NOISE**

This section analyzes the noise exposure from the Proposed Substation Expansion. The proposed changes having the greatest influence on noise include:

- Increase of the Substation area by an additional 6.5 acres;
- Modification and expansion of Substation equipment to accommodate a new interconnection scheme; and,
- Rearrangement of electric transmission lines to connect to the BAAH.

The effects of these modifications on noise exposure are discussed below.

#### **5.12.1 Affected Environment**

The affected environment for the Proposed Substation Expansion is the same as that described in the approved PEC AFC and in Sections 3.2, 3.3, and 3.4 of this Petition.

#### **5.12.2 Environmental Consequences**

A detailed noise model incorporating the previously approved PEC design features was developed by Kimley-Horn and Associates, Inc. The results of the analysis were presented in the approved PEC AFC and are summarized in the following paragraphs. As is the case on all projects at this stage of development, the data presented is representative of the anticipated Proposed Substation Expansion equipment noise emission levels and resulting overall project noise levels. The noise analysis will continue to be refined as detailed design efforts progress to ensure the overall project noise objectives are met.

Table 5.12-1 presents the noise levels for the additional equipment used to develop the model of the Proposed Substation Expansion. The additional equipment consists of an increase in the number of transformer units versus an introduction of a new equipment types. All other noise source levels are included in the previously approved PEC AFC.

**Table 5.12-1 Summary of Octave Band Sound Power Levels of Proposed Substation Expansion Equipment (dB Flat)**

<b>Equipment</b>	<b>31.5</b>	<b>63</b>	<b>125</b>	<b>250</b>	<b>500</b>	<b>1K</b>	<b>2K</b>	<b>4K</b>	<b>8K</b>	<b>Overall dB</b>
Substation Transformer	95	101	103	98	98	82	87	82	75	107

Note: Sound power levels are based on currently available data and do not reflect attenuation due to mitigation measures such as barriers, shielding, enclosures, buildings, etc

Source: PEC AFC

Table 5.12-2 presents the anticipated steady state noise level of the previously approved PEC under full load at the locations identified in Condition of Certification NOISE-4 as presented in the approved Final Commission Decision.

**Table 5.12-2 Predicted Project Noise Level (dBA L90)**

<b>Location</b>	<b>Approx. Distance to Project (ft)</b>	<b>Project Noise Level (dBA L90)</b>
ML1	1,900	49
ML2	800	58
ML3	3,300	42

Source: FCD

Table 5.12-3 presents the cumulative levels based on the available monitoring and approved PEC project noise level data. These data are published in the Final Commission Decision and indicate a maximum cumulative increase of 19 dBA L90.

**Table 5.12-3 Summary of Cumulative Noise Levels (dBA L90)**

<b>Location</b>	<b>Ambient Background Level (dBA L90)</b>	<b>Project Noise Level (dBA L90)</b>	<b>Cumulative Noise Level (dBA L90)1</b>	<b>Predicted Change (dBA L90)</b>
ML1	42	49	<b>56</b>	+14
ML2	39	58	<b>58</b>	+19
ML3	41	42	<b>47</b>	+6

Note: Cumulative levels also include noise levels generated by the SPP project. See NOISE Table 4 of CEC-800-2007-004-CMF.

Source: Final Commission Decision (CEC-800-2007-004-CMF)

Table 5.12-4 presents the cumulative levels from the Final Commission Decision and the resulting cumulative noise levels from the Proposed Substation Expansion. As shown in Table 5.12-4, the cumulative noise levels, including the Proposed Substation Expansion equipment, are identical to the noise levels contained in the Final Commission Decision and no noise impacts will result from the Proposed Substation Expansion.

**Table 5.12-4 Predicted Project Noise Level With Proposed Changes (dBA L90)**

<b>Location</b>	<b>Cumulative Noise Level from FCD (dBA)</b>	<b>Cumulative Noise Level with Proposed Changes (dBA)</b>	<b>Net Change (dBA)</b>
ML1	<b>56</b>	<b>56</b>	<b>0</b>
ML2	<b>58</b>	<b>58</b>	<b>0</b>
ML3	<b>47</b>	<b>47</b>	<b>0</b>

Source: URS Corporation

Conditions of Certification NOISE-4 and NOISE-5 of the PEC Final Commission Decision detail the conditions upon which the levels in Table 5.12-3 are acceptable. The Proposed Substation Expansion will have no effect on the overall sound levels of the approved PEC. Thus, the PEC Final Commission Decision COCs do not need to be modified.

### **5.12.3 Mitigation Measures**

No additional noise mitigation measures are required due to the Proposed Substation Expansion.

### **5.12.4 Laws, Ordinances, Regulations, and Standards**

The Proposed Substation Expansion does not require any change in applicability to any LORS referenced in the PEC AFC or the PEC Final Commission Decision.

### **5.12.5 Involved Agencies and Agency Contacts**

No additional agency involvement is required due to the Proposed Substation Expansion.

### **5.12.6 Permits Required and Permit Schedule**

No additional permits or permit schedules are required due to the Proposed Substation Expansion.

### **5.12.7 References**

There are no additional references.

### **5.12.8 Cumulative Impacts**

No additional cumulative impacts result from the Proposed Substation Expansion.

### **5.12.9 Conditions of Certification**

No modifications or additions to noise COCs for the approved PEC are required for the Proposed Substation Expansion.

## **5.13 VISUAL RESOURCES**

The Proposed Substation Expansion would not involve substantial changes to the findings and conclusions in Section 5.13, Visual Resources of the previously approved PEC AFC.

### **5.13.1 Affected Environment**

Section 5.13.1 of the previously approved PEC AFC describes the inventory of visual resources within the vicinity of the previously approved PEC project site, including a description of the regional landscape setting, the visual sphere of influence (VSOI) of the approved PEC, and inventory methods and results. The Proposed Substation Expansion is located within the VSOI identified for the approved PEC; therefore, the Proposed Substation Expansion would not require significant changes to the description provided in Section 5.13.1 in the previously approved PEC AFC. In addition, the Proposed Substation Expansion Site is currently in agricultural production with pomegranate trees (refer to Figure 5.13-2, *Architectural Rendering of Project Site* and Figure 5.13-5, *Aerial of Immediate Project Vicinity*).

The previously approved PEC AFC identified three Key Observation Points (KOPs) for the approved PEC project. KOP No. 1 was identified as a group of three residences located across West Panoche Road north of the PEC site, KOP No. 2 as a group of five residences adjacent to the existing PG&E Substation along West Panoche Road, and KOP No. 3 as the elevated intersection of West Panoche Road and Interstate (I-5). Both groups of residences, identified as KOPs No. 1 and 2, have since been relocated, will no longer be used for residential purposes, and therefore are no longer considered sensitive visual receptors.

### **5.13.2 Environmental Consequences**

As the Proposed Substation Expansion area is located back from the road and adjacent to the existing Substation, the approved PEC site, and three other power plant sites in the immediate vicinity, the Proposed Substation Expansion would have a negligible effect on visual resources within the VSOI. Given that the proposed modifications are negligible, per e-mail correspondence with Mr. Mark Hamblin (CEC) to Amy Gramlich (URS) on July 25, 2008, it was concluded that no new visual sensitive receptors or KOPs are identified in the immediate area and the simulations created for each of the three KOPs presented in the previously approved PEC AFC will not be revised. The Proposed Substation Expansion would not significantly change the visual analysis prepared and approved for PEC. Therefore, the Proposed Substation Expansion would not create increased visual resource impacts.

The assessment of environmental consequences presented in the previously approved PEC AFC is adequate to represent impacts to visual resources from the Proposed Substation Expansion.

### **5.13.3 Cumulative Impacts**

Construction and operation of the Proposed Substation Expansion will not induce any significant cumulative impacts with respect to visual resources.

### **5.13.4 Mitigation Measures**

The Proposed Substation Expansion would not change the findings and conclusions discussed in Section 5.13, Visual Resources, of the previously approved PEC AFC. No increased visual impacts would occur. Therefore, no mitigation measures are recommended; consistent with the Final Commission Decision for the previously approved PEC.

### **5.13.5 Applicable Laws, Ordinances, Regulations, and Standards**

Construction and operation of the Proposed Substation Expansion will conform with all applicable LORS related to visual resources identified for the previously approved PEC.

### **5.13.6 References**

Bureau of Land Management, Visual Resource Management Inventory and Contrast Rating System. 1986.

California Energy Commission, Systems Assessment and Facilities Siting Division, Environmental Protection Office, personal correspondence, Mr. Mark Hamblin. 2008.

### **5.13.7 Cumulative Impacts**

Construction and operation of the Proposed Substation Expansion will not induce any significant cumulative impacts with respect to visual resources.

### **5.13.8 Conditions of Certification**

The Proposed Substation Expansion does not require changes to the visual resources COCs identified in the PEC Final Commission Decision.

## **5.14 WASTE MANAGEMENT**

This section presents a discussion of potential impacts from the generation, storage, and disposal of hazardous and non-hazardous wastes from the Proposed Substation Expansion. Included in the discussion below are descriptions of the potential waste streams to be generated during construction and operation of the Proposed Substation Expansion, descriptions of applicable waste disposal sites to be used by the Proposed Substation Expansion, proposed waste mitigation methods to minimize impacts to the environment, and applicable LORS.

### **5.14.1 Affected Environment**

The affected environment of the Proposed Substation Expansion is described in detail in Sections 3.2, 3.3, and 3.4 of this Petition. As described in more detail below in Section 5.14.2, Environmental Consequences, the Proposed Substation Expansion may generate small quantities of hazardous and non-hazardous wastes during the construction phase.

### **5.14.2 Environmental Consequences**

The analysis of impacts related to waste management is based on significance criteria described in Section 5.14.2 of the previously approved AFC.

The Proposed Substation Expansion would result in small amounts of construction waste including packing materials, excess construction materials including paper, wood, metal, wires, or other basic building materials, temporary weather covers, consumable abrasives, cutting tools, broken tools, parts and electrical and electronic components, construction equipment maintenance materials, empty containers, and other solid waste and typical refuse generated by construction crews.

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Solid waste will be segregated and recycled where practical. Non-recyclable waste will be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill. Some hazardous wastes, such as welding materials and dried paint may be generated during construction. Hazardous wastes would be handled and disposed of in accordance with applicable LORS. Hazardous wastes will be recycled or disposed of in a licensed Class I disposal facility, as appropriate.

Wastewater generated during construction will include sanitary wastes, and stormwater runoff. Construction-related wastewater will be managed according the applicable LORS and the approved PEC AFC.

Operation of the Proposed Substation Expansion is not anticipated to generate any waste.

Non-hazardous and hazardous waste landfills to be used during construction of the proposed project are identified in Table 5.14-1 Waste Recycling/Disposal Facilities of the previously approved PEC AFC. Hazardous and non-hazardous waste generated during construction of the Proposed Substation Expansion is not expected to significantly impact available landfill capacity.

#### **5.14.3 Mitigation Measures**

Implementation of Mitigation Measures WM-1 through WM-7 as described in the previously approved PEC AFC provide waste management procedures for handling non-hazardous and hazardous wastes. No additional mitigation measures are necessary for the Proposed Substation Expansion.

#### **5.14.4 Applicable Laws, Ordinances, Regulations, and Standards**

Construction and operation of the Proposed Substation Expansion will conform with all applicable LORS related to waste management summarized for the previously approved PEC. Section 5.14.4 of the approved PEC AFC summarizes the applicable LORS that govern the handling of non-hazardous and hazardous wastes, as well as the applicable permits that will be required for the Proposed Substation Expansion.

#### **5.14.5 References**

There are no additional references.

#### **5.14.6 Cumulative Impacts**

The Class I and Class III landfills and recycling facilities in the vicinity of the Proposed Substation Expansion Site have adequate recycling and disposal capacities for the Proposed Substation Expansion. Therefore, cumulative impacts from the Proposed Substation Expansion Site and other projects in the region are not expected to be significant.

#### **5.14.7 Conditions of Certification**

The Proposed Substation Expansion does not require changes to the waste management COCs identified in the previously approved PEC Final Decision.

## **5.15 HAZARDOUS MATERIALS HANDLING**

This section presents a discussion of the potential impacts from storage and use of hazardous materials during construction and operation of the Proposed Substation Expansion.

### **5.15.1 Affected Environment**

The affected environment of the Proposed Substation Expansion is described in detail in Sections 3.2, 3.3, and 3.4 of this Petition. As described in more detail below in Section 5.15.2, Environmental Consequences, the implementation of Proposed Substation Expansion will use and store small quantities of hazardous materials during the construction and operational phases of the Proposed Substation Expansion.

### **5.15.2 Environmental Consequences**

The analysis of impacts related to waste management from the Proposed Substation Expansion is based on significance criteria described in Section 5.15.2 of the previously approved PEC AFC.

The Proposed Substation Expansion would result in small amounts of construction-related hazardous materials to be used during construction, operation, and maintenance of the Proposed Substation Expansion. These materials include fuels, oils, lubricants and cleaning chemical required to operate installation, construction and maintenance equipment, and are included in the previously approved PEC AFC.

As described in the previously approved PEC AFC, a Hazardous Materials Business Plan (HMBP) which outlines hazardous materials handling, storage, spill and release response, and reporting procedures was to be prepared prior to construction activities. The HMBP prepared for the previously approved PEC will be applicable for the Proposed Substation Expansion. Impacts associated with the use of hazardous materials during construction are anticipated to be less than significant as a result of the implementation of procedures and mitigation measures as discussed in the previously approved PEC AFC.

### **5.15.3 Mitigation Measures**

Implementation of Mitigation Measures HAZMAT-1 through HAZMAT-9, as described in the previously approved PEC AFC, provides management procedures for the handling of hazardous materials during construction and operation of the Proposed Substation Expansion. These procedures and programs will minimize potential construction-related and operations-related impacts to a less than significant level. No further mitigation is proposed.

### **5.15.4 Applicable Laws, Ordinances, Regulations, and Standards (LORS)**

Construction and operation of the Proposed Substation Expansion will conform with all applicable LORS related to hazardous materials handling. Section 5.15.4 of the previously approved PEC AFC summarizes the applicable LORS that govern the use and storage of hazardous materials, as well as the applicable permits that will be required for the Proposed Substation Expansion.

### **5.15.5 References**

There are no additional references.

### **5.15.6 Cumulative Impacts**

Based on land uses in the surrounding area and the limited amount and type of hazardous materials to be used as part of the Proposed Substation Expansion, no significant cumulative impacts due to hazardous material handling are expected from future projects in combination with the Proposed Substation Expansion.

### **5.15.7 Conditions of Certification**

The Proposed Substation Expansion does not require changes to the Conditions of Certification identified in the Hazardous Materials Handling section of the PEC Final Decision.

## **5.16 PUBLIC HEALTH AND SAFETY**

### **5.16.1 Affected Environment**

Please see the Public Health section of the previously approved PEC AFC for a discussion of existing conditions in the vicinity of the PEC project Site, which are identical for the Proposed Substation Expansion, except that construction of the PEC is now underway.

### **5.16.2 Environmental Consequences**

Temporary exhaust emissions from construction equipment and fugitive dust generated by construction activities will occur as a result of the Proposed Substation Expansion. However, any associated impacts on human health due to construction of the Proposed Substation Expansion will be smaller than the previously approved PEC. Both the magnitude and duration of the Proposed Substation Expansion construction emissions of toxic air contaminants duration will be too short to pose a significant health risk.

The Proposed Substation Expansion will have no sources of toxic air contaminants, with the possible exception of very small intermittent emissions associated with mobile sources used for worker transport to and from the Proposed Substation Expansion and on-site equipment maintenance and repairs.

### **5.16.3 Cumulative Impacts**

There are no additional cumulative impacts to those addressed for the approved PEC due to operation of the Proposed Substation Expansion, because the operational expanded Substation will have negligibly small emissions of toxic air contaminants.

### **5.16.4 Mitigation Measures**

The same construction mitigation measures described in the Public Health and Safety section of the previously approved PEC AFC are applicable to the Proposed Substation Expansion. The operations of the Proposed Substation Expansion will cause no emissions of toxic air contaminants, except very small amounts associated with vehicle and equipment activities for maintenance and repair tasks. Accordingly no additional mitigation measures during operations are necessary.

### **5.16.5 Laws, Ordinances, Regulations and Standards**

The Proposed Substation Expansion will conform with all applicable LORS related to public health and safety summarized for the previously approved PEC.

### **5.16.6 Involved Agencies and Agency Contacts**

Regulatory agencies and agency contacts for public health issues related to the Proposed Substation Expansion are the same as those described in the previously approved PEC AFC.

### **5.16.7 Permits Required and Permit Schedule**

Permitting requirements for the Proposed Substation Expansion are no different from those described in the Public Health and Safety section of the previously approved PEC AFC.

### **5.16.8 References**

There are no additional references.

### **5.16.9 Cumulative Impacts**

There are no additional cumulative impacts due to operation of the Proposed Substation Expansion, because the operational expanded Substation will have negligibly small emissions of toxic air contaminants. Please refer to the Public Health section of the previously approved PEC AFC and responses to data requests submitted to the CEC for information on the cumulative public health impacts of the previously approved PEC.

### **5.16.10 Conditions of Certification**

The COCs for protection of public health that were included in the PEC Final Commission Decision are applicable and sufficient to ensure that impacts to health from the Proposed Substation Expansion will remain below a level of significance.

## **5.17 WORKER SAFETY**

This section addresses safety and health issues and describes or outlines systems and procedures that will be implemented to provide occupational safety and health protection for the Proposed Substation Expansion workers, proposed worker safety mitigation methods to minimize impacts to the Proposed Substation Expansion workers, and applicable LORS. All applicable elements of the Title 8 California Code of Regulations (CCR), General Industry Safety Orders (GISO), Construction Safety Orders (CSO), and Electrical Safety Orders (ESO), are addressed in the previously approved PEC AFC.

### **5.17.1 Affected Environment**

The affected environment of the Proposed Substation Expansion is described in detail in Sections 3.2, 3.3, and 3.4 of this Petition.

### **5.17.2 Environmental Consequences**

Construction, operation, and maintenance activities may expose workers to the hazards identified in Table 5.17-1 of the previously approved PEC AFC. Exposure to these hazards can be minimized through adherence to appropriate engineering design criteria and administrative controls, use of applicable personal protective equipment (PPE), and compliance with all applicable health and safety LORS. The programs, regulations, and preventive measures intended to control potential worker health and safety impacts associated with these hazards are described in the previously approved PEC AFC and encompass a comprehensive health, safety, and fire prevention program and an accident/injury prevention program intended to ensure healthful and safe operations at the Proposed Substation Expansion Site.

### **5.17.3 Mitigation Measures**

No significant unavoidable adverse impacts to worker safety are anticipated from the Proposed Substation Expansion.

### **5.17.4 Applicable Laws, Ordinances, Regulations, and Standards**

The Proposed Substation Expansion will conform with all applicable LORS related to worker safety. Section 5.17.4 of the previously approved PEC AFC summarizes the applicable LORS that govern worker safety, as well as the applicable permits that will be required for the Proposed Substation Expansion.

### **5.17.5 References**

There are no additional references.

### **5.17.6 Cumulative Impacts**

As the various projects within the vicinity will be responsible for complying individually with applicable worker safety requirements, no cumulative impacts on worker safety are expected as a result of the Proposed Substation Expansion.

### **5.17.7 Conditions of Certification**

The Proposed Substation Expansion does not require changes to the COCs identified in the Worker Safety section of the previously approved PEC Final Commission Decision.

## **5.18 CUMULATIVE IMPACTS**

Discussion of potential cumulative impacts to environmental resources are included within each environmental analysis section. There are no potentially significant unmitigable cumulative impacts to environmental resources for the Proposed Substation Expansion.

## **6.0 LIST OF FIGURES**

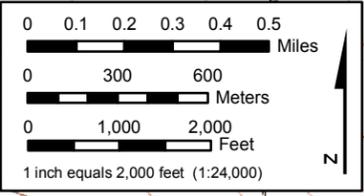
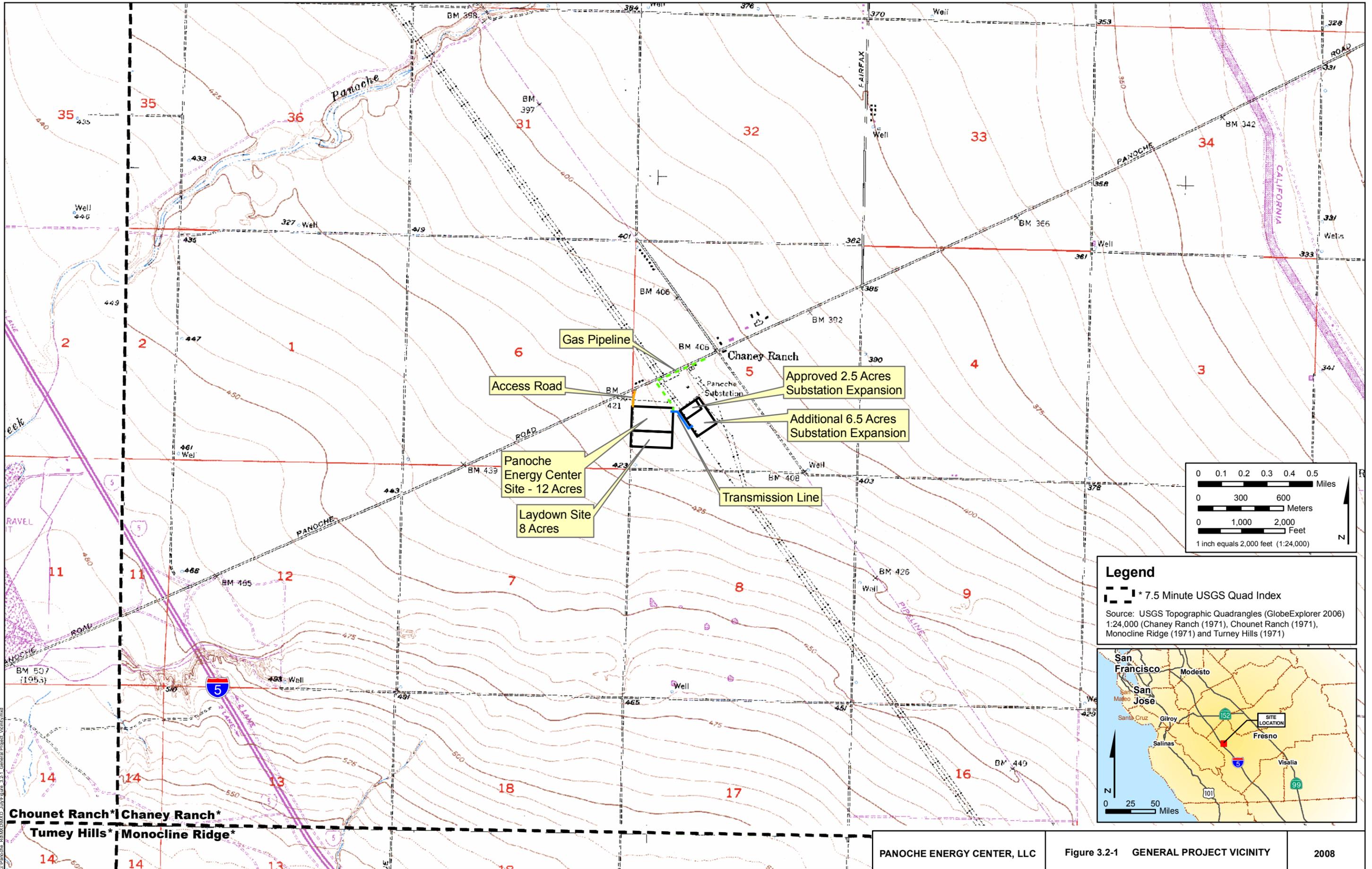
The following figures are attached to this Petition:

- 1.3-1 Project Architectural Rendering
- 3.2-1 General Project Vicinity
- 3.4-1 Project Site Plan
- 3.4-3 Grading and Drainage Plan
- 3.6-1 Single Line Diagram
- 3.6-2 Panoche Transmission Facilities
- 5.3-2A Site Geologic Map
- 5.3-2B Site Geologic Map
- 5.4-1 Agricultural Soils Surrounding Project Site
- 5.4-2 Existing Land Use Surrounding Project Site
- 5.6-2 Biological Resources within 1 Mile of the Project Site
- 5.7-3 Previous Cultural Surveys
- 5.9-2 Zoning Designations Surrounding Project Site
- 5.9-3 Existing Land Use Surround Project Site
- 5.11-2 Project Study Area
- 5.13-2 Architectural Rendering of Project Site
- 5.13-5 Aerial of Immediate Project Vicinity



© Panoche Energy Center, LLC July 2008. 4.3.1 Project Architectural Rendering.mxd

PANOCHÉ ENERGY CENTER, LLC	Figure 1.3-1 PROJECT ARCHITECTURAL RENDERING	2008
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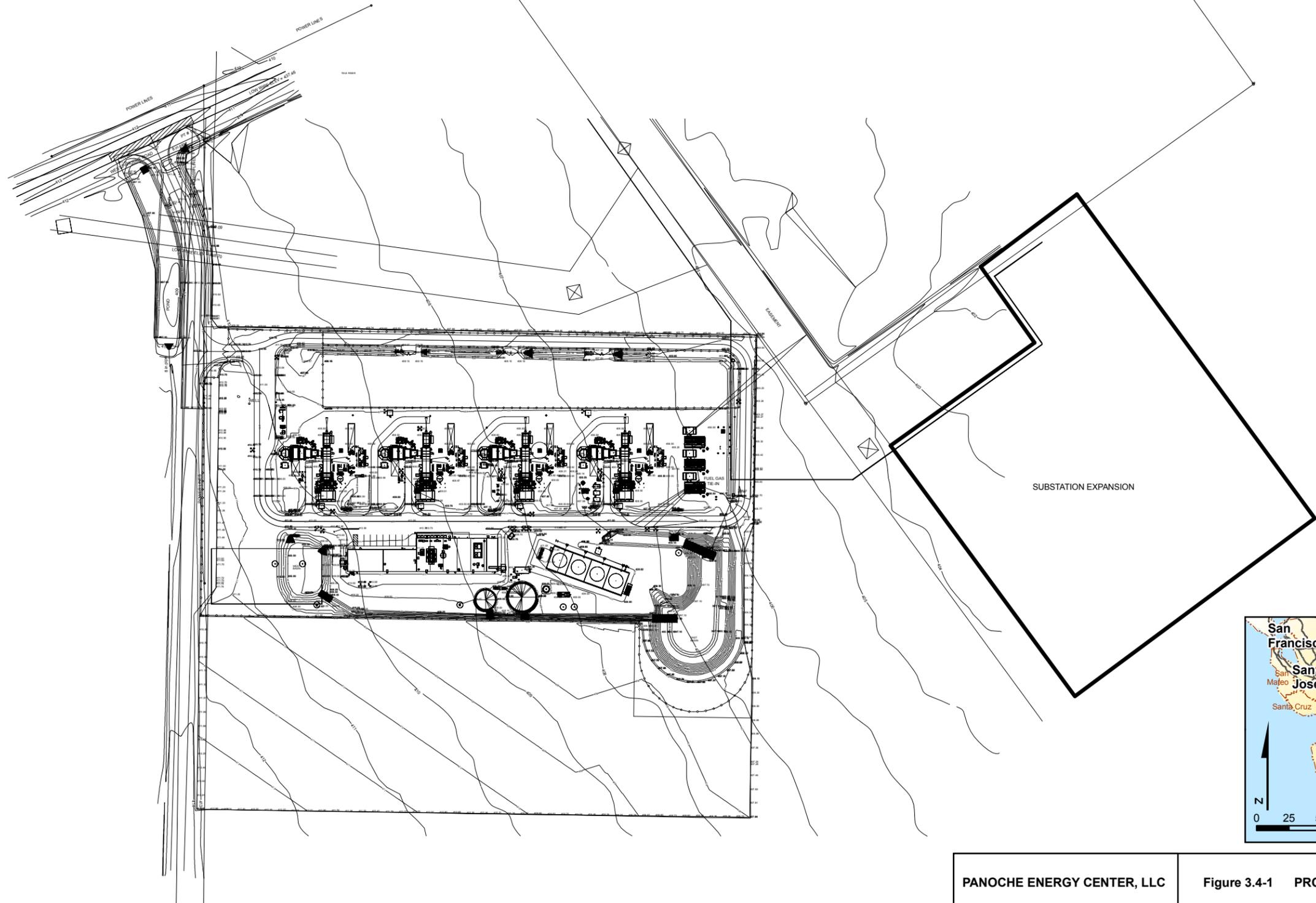
**Legend**

---\* 7.5 Minute USGS Quad Index

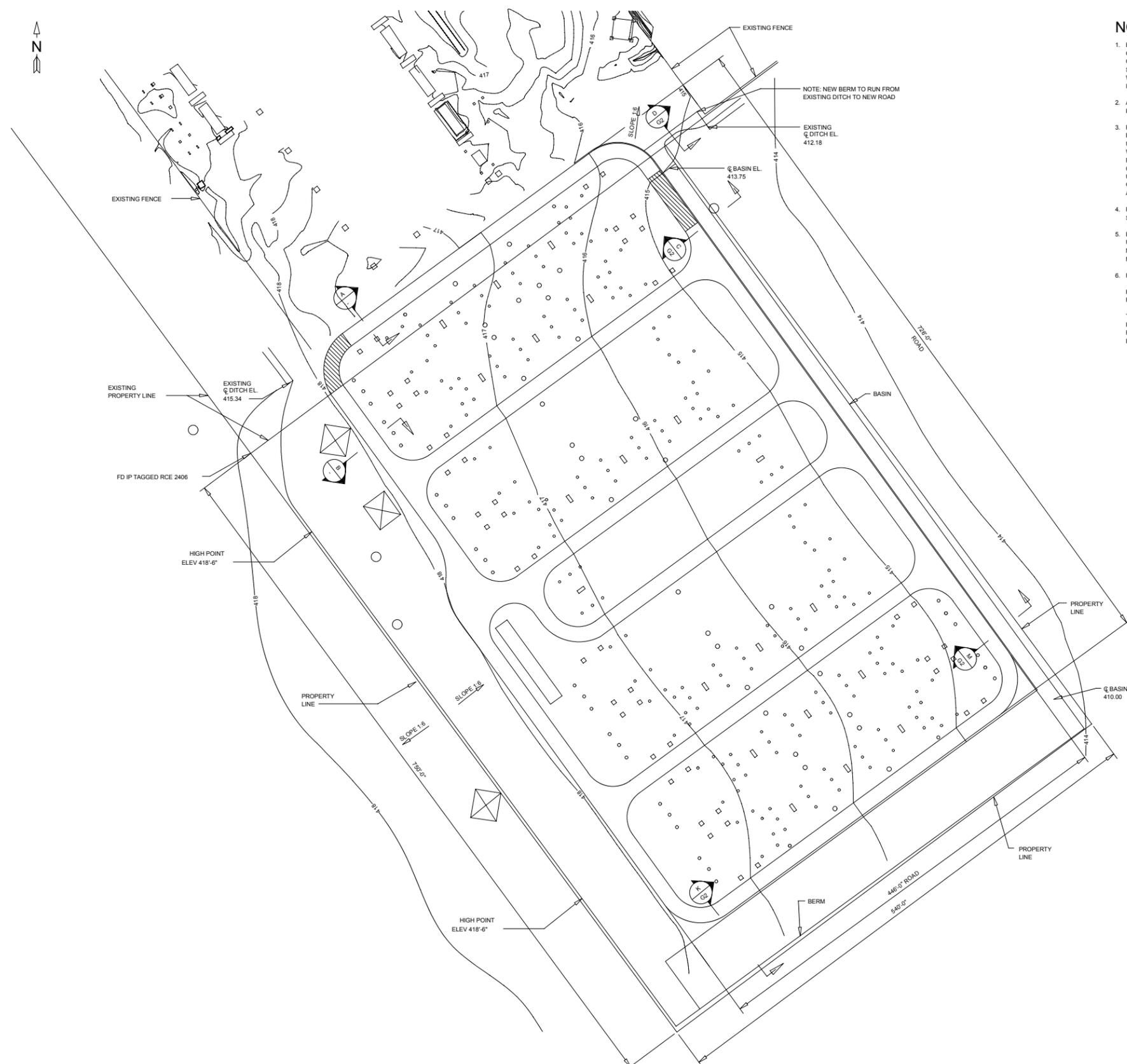
Source: USGS Topographic Quadrangles (GlobeExplorer 2006) 1:24,000 (Chaney Ranch (1971), Chounet Ranch (1971), Monocline Ridge (1971) and Turney Hills (1971))



Chounet Ranch\* | Chaney Ranch\*  
 Tumey Hills\* | Monocline Ridge\*

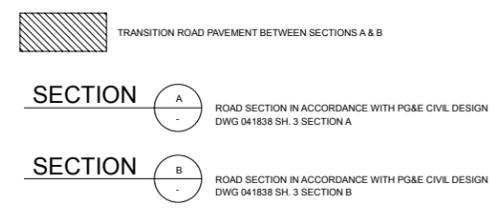


C:\Panoche\_R&M\DWG July\Figure 3.4-1 Project Site Plan.mxd

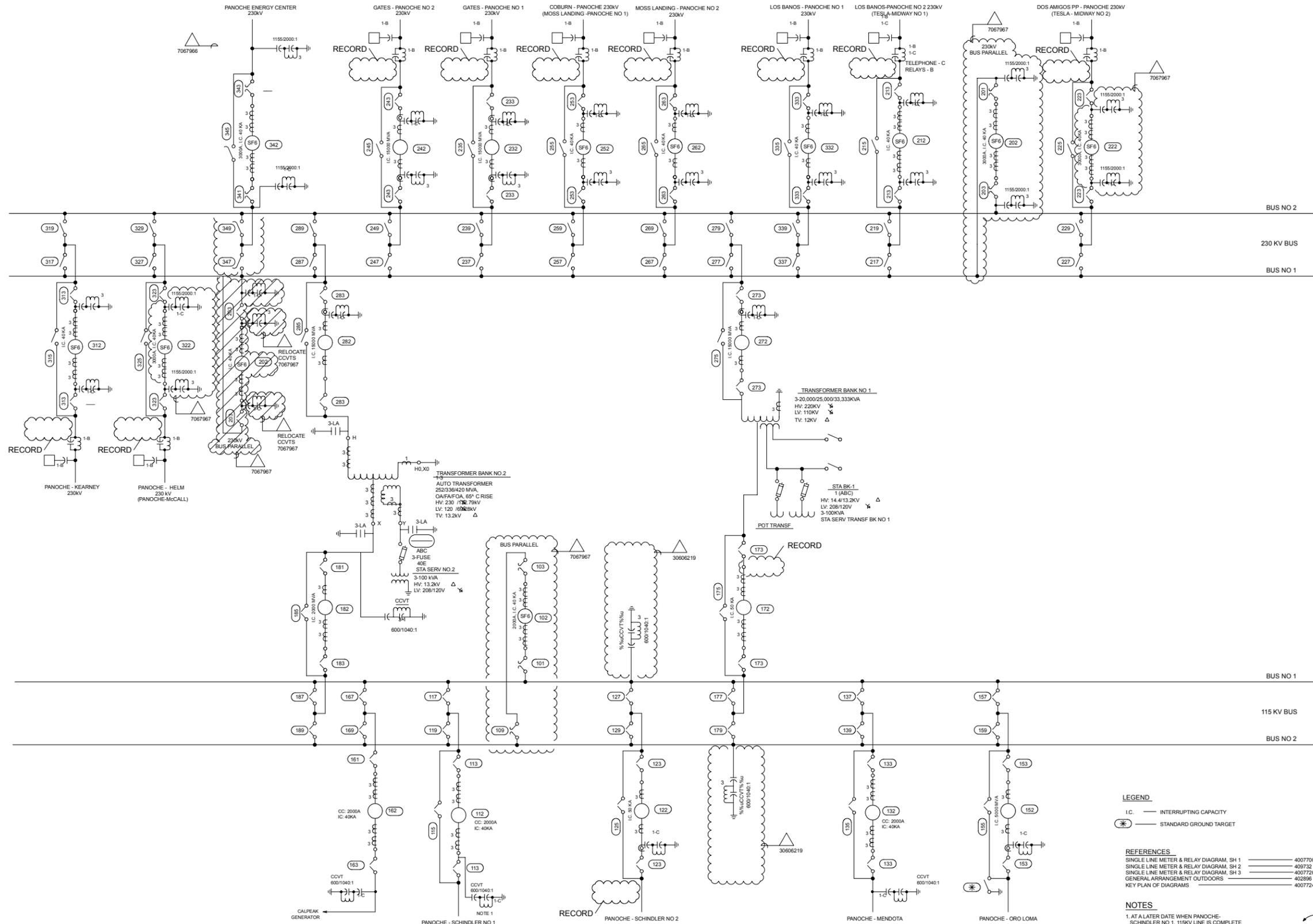


**NOTES:**

1. ENTIRE FINAL YARD SURFACE SHALL CONSIST OF A 4" MINIMUM THICKNESS OF 3/4" MAXIMUM SIZE AGGREGATE BASE COMPACTED TO 95% MAXIMUM DENSITY AND SHALL EXTEND 3' BEYOND THE FENCE LINE. AGGREGATE BASE SHALL CONFORM TO THE REQUIREMENTS OF "CLASS 2 AGGREGATE BASE" AS DESCRIBED BY THE CALTRANS STANDARD SPECIFICATIONS, EXCEPT THAT THE COARSE AGGREGATE SHALL CONSIST OF MATERIAL OF WHICH AT LEAST 90% BY WEIGHT SHALL BE CRUSHED PARTICLES. YARD SHALL BE ROUGH GRADED DURING FOUNDATION AND STRUCTURE INSTALLATION AND THEN BROUGHT TO FINAL GRADE AT THE COMPLETION OF THE PROJECT.
2. ALL GRADED AREAS WITHIN THE FENCE SHALL BE TREATED WITH A PRE-EMERGENT HERBICIDE APPROVED BY PG&E PRIOR TO PLACEMENT OF THE AGGREGATE BASE.
3. ROADWAYS SHALL BE PAVED WITH A 2" COMPACTED THICKNESS OF ASPHALT CONCRETE. THE ASPHALT CONCRETE SHALL BE INSTALLED FOLLOWING THE FINAL COMPACTION OF THE YARD SURFACE AGGREGATE BASE. COMPACTION OF THE MATERIAL UNDER ROADWAY PLUS 3' EACH SIDE SHALL BE 95% MINIMUM MAXIMUM DENSITY TO DEPTH OF 30". MATERIAL SHALL COMPLY WITH THE TECHNICAL PROVISIONS IN SECTION 39 OF THE CALTRANS STANDARD SPECIFICATIONS. AN EVEN COAT OF SC-70 EMULSIFIED ASPHALT SHALL BE APPLIED TO ALL SURFACES RECEIVING ASPHALT CONCRETE. PAVING SHALL BE TYPE B PER CALTRANS STANDARD SPECIFICATION WITH 1/2" MAXIMUM SIZE AGGREGATE, ASPHALT CONCRETE. ASPHALT BERMS SHALL UTILIZE 3/8" AGGREGATE IN THEIR TYPE B ASPHALT CONCRETE. THE BITUMINOUS BINDER SHALL BE AR-4000 PENETRATION GRADE ASPHALT. ALL NEWLY FINISHED ASPHALT CONCRETE SURFACES SHALL BE TREATED WITH SLOW-SETTING EMULSIFIED ASPHALT FOG SEAL, APPLIED IN CONFORMANCE WITH SECTION 37 OR THE CALTRANS STANDARD SPECIFICATION.
4. FENCING SHALL BE IN 20' MAXIMUM SECTIONS AND SHALL BE GALVANIZED CHAIN LINK & FABRIC AND BE TOPPED WITH 3 STRANDS OF BARB WIRE. FENCE SHALL BE IN ACCORDANCE WITH PG&E STANDARD DRAWING ES 059659 THRU ES 059665.
5. EXCAVATED MATERIAL FROM SITE MAY BE USED AS FILL MATERIAL TO BRING THE YARD TO THE SPECIFIED GRADE. THE UPPER 1 TO 2" OF THE SITE SHALL BE SURFACE STRIPPED TO REMOVE ORGANIC MATERIAL. ORGANIC MATERIAL SHALL NOT BE INCORPORATED INTO FILL. THE TOP 12" OF UNDISTURBED SOIL SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY. FILL MATERIAL SHALL BE PLACED IN 8" MAXIMUM LIFTS AND COMPACTED TO 90% OF MAXIMUM DENSITY.
6. FOR QUESTIONS CONTACT:  
 PETER LUM - PG&E  
 PHONE: 540-874-2343  
  
 TOM REISINGER - GE ENERGY  
 PHONE: 812-469-9716  
 FAX: 812-469-9727  
 EMAIL: TOM.REISINGER@GE.COM



C:\Panoche\_Renewable\July\Figure 3.4-3 Grading and Drainage Plan.mxd



**LEGEND**

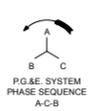
I.C. — INTERRUPTING CAPACITY  
 \* — STANDARD GROUND TARGET

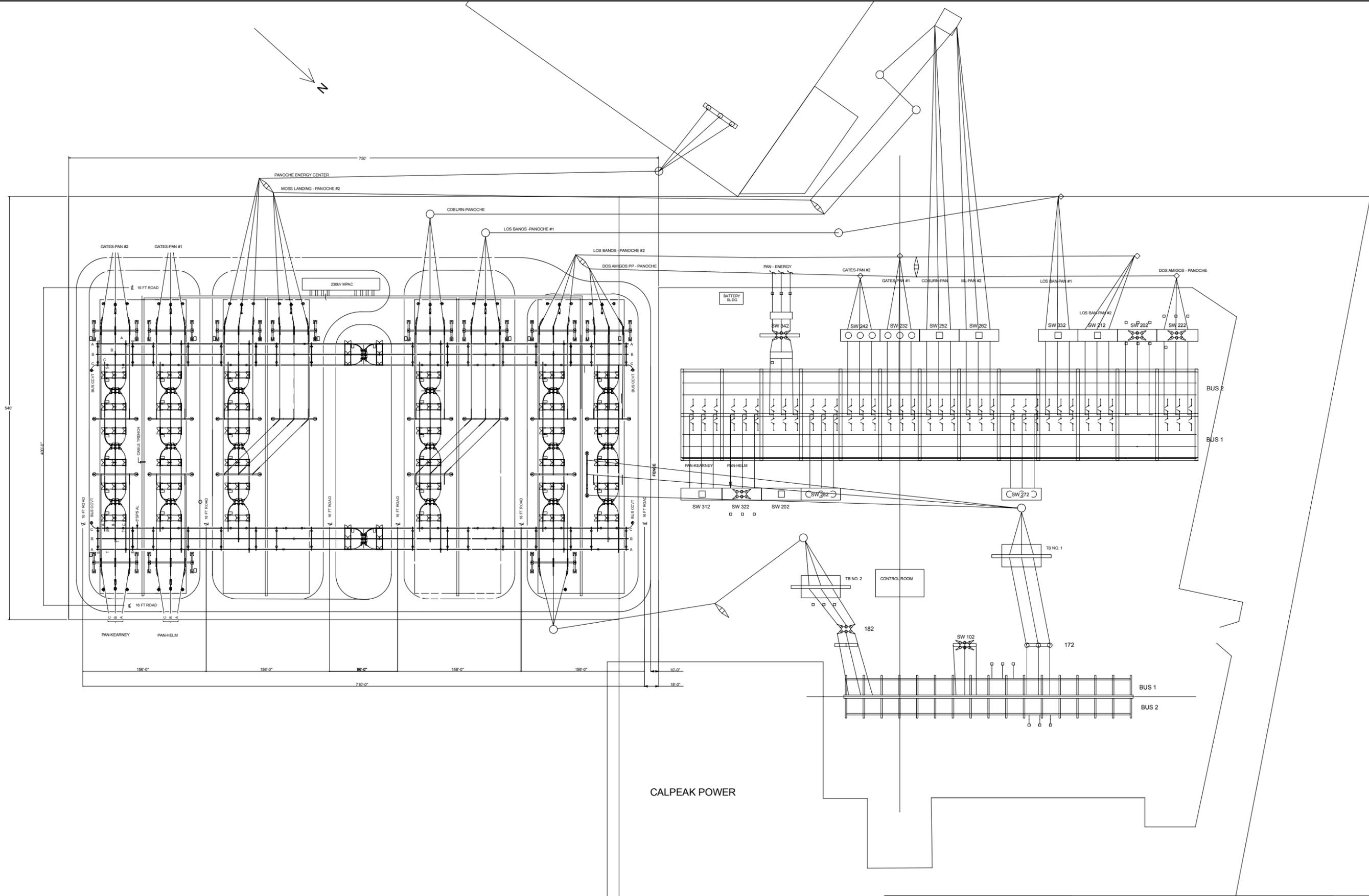
**REFERENCES**

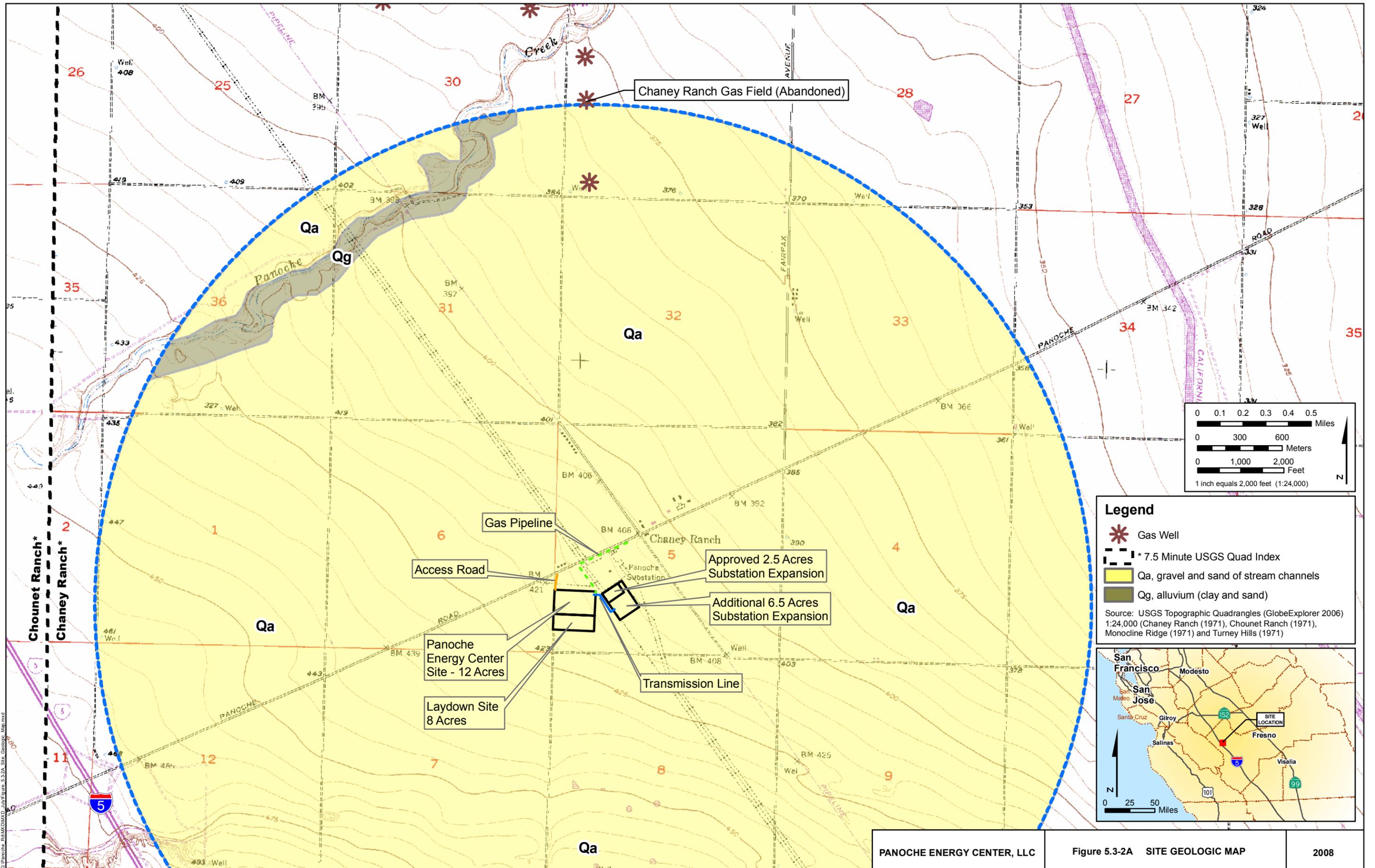
SINGLE LINE METER & RELAY DIAGRAM, SH 1 ————— 4007700  
 SINGLE LINE METER & RELAY DIAGRAM, SH 2 ————— 4007732  
 SINGLE LINE METER & RELAY DIAGRAM, SH 3 ————— 4007720  
 GENERAL ARRANGEMENT OUTDOORS ————— 402896  
 KEY PLAN OF DIAGRAMS ————— 4007724

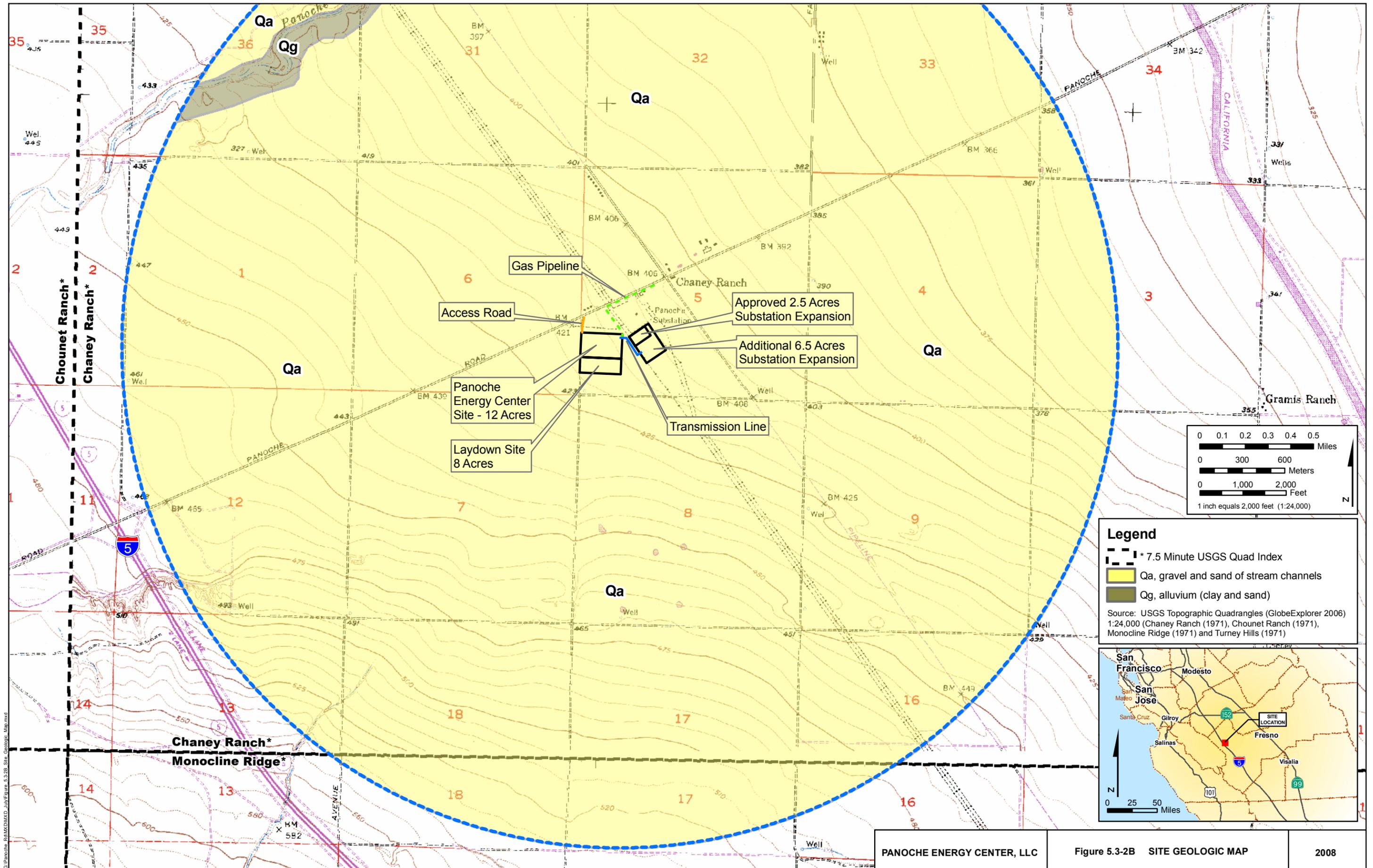
**NOTES**

1. AT A LATER DATE WHEN PANOCH-SCHINDLER NO 1, 115KV LINE IS COMPLETE CS112 CCVT CONNECTION WILL BE RELOCATED TO THE LINE SIDE OF SW113









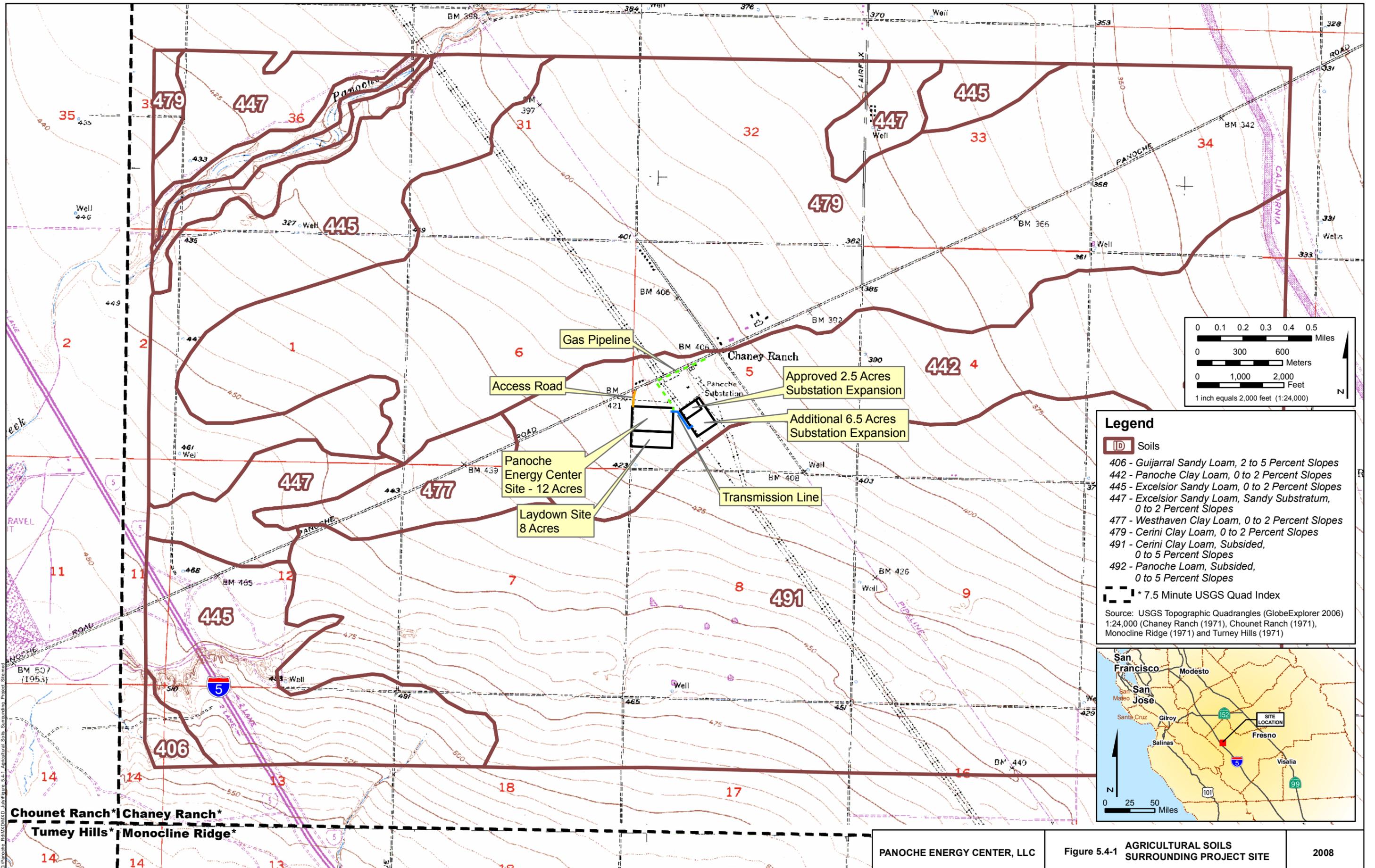
©Panoche Energy Center, LLC July 2008. Site Geologic Map.mxd

**Legend**

- \* 7.5 Minute USGS Quad Index
- Qa, gravel and sand of stream channels
- Qg, alluvium (clay and sand)

Source: USGS Topographic Quadrangles (GlobeExplorer 2006) 1:24,000 (Chaney Ranch (1971), Chounet Ranch (1971), Monocline Ridge (1971) and Turney Hills (1971))





**Legend**

**[ID]** Soils

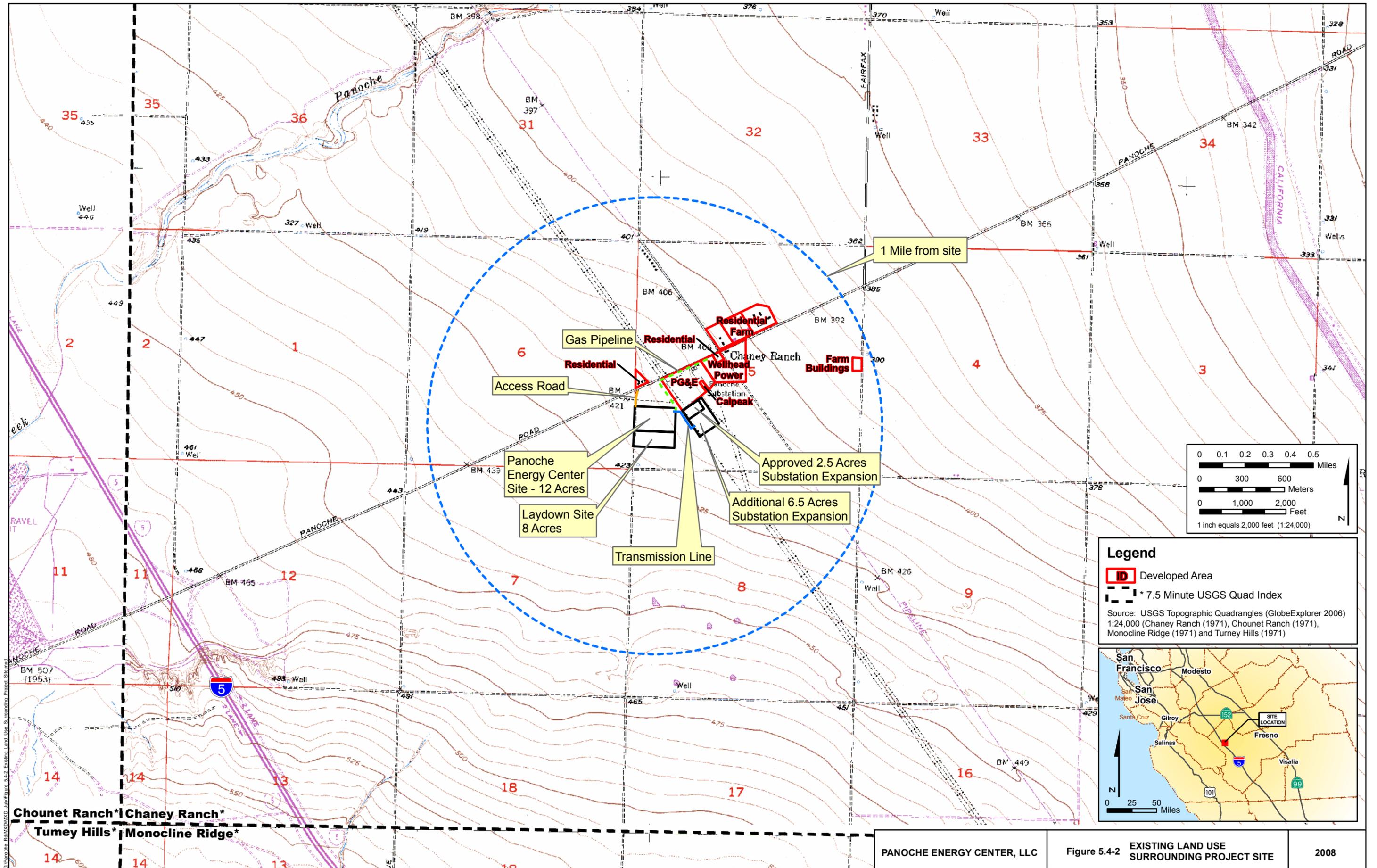
- 406 - Gujarral Sandy Loam, 2 to 5 Percent Slopes
- 442 - Panoche Clay Loam, 0 to 2 Percent Slopes
- 445 - Excelsior Sandy Loam, 0 to 2 Percent Slopes
- 447 - Excelsior Sandy Loam, Sandy Substratum, 0 to 2 Percent Slopes
- 477 - Westhaven Clay Loam, 0 to 2 Percent Slopes
- 479 - Cerini Clay Loam, 0 to 2 Percent Slopes
- 491 - Cerini Clay Loam, Subsided, 0 to 5 Percent Slopes
- 492 - Panoche Loam, Subsided, 0 to 5 Percent Slopes

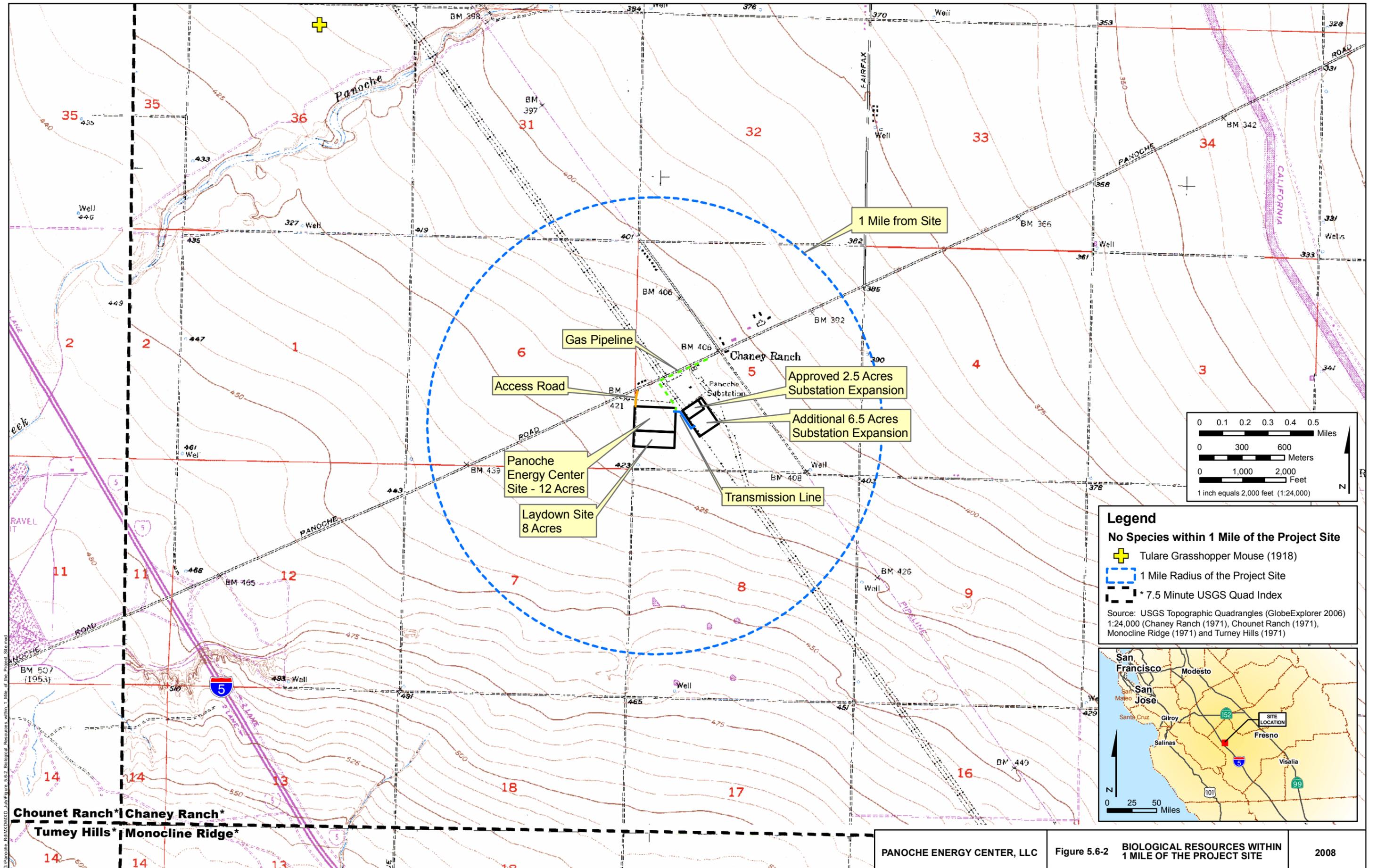
**[Dashed Box]** \* 7.5 Minute USGS Quad Index

Source: USGS Topographic Quadrangles (GlobeExplorer 2006) 1:24,000 (Chaney Ranch (1971), Chounet Ranch (1971), Monocline Ridge (1971) and Turney Hills (1971))



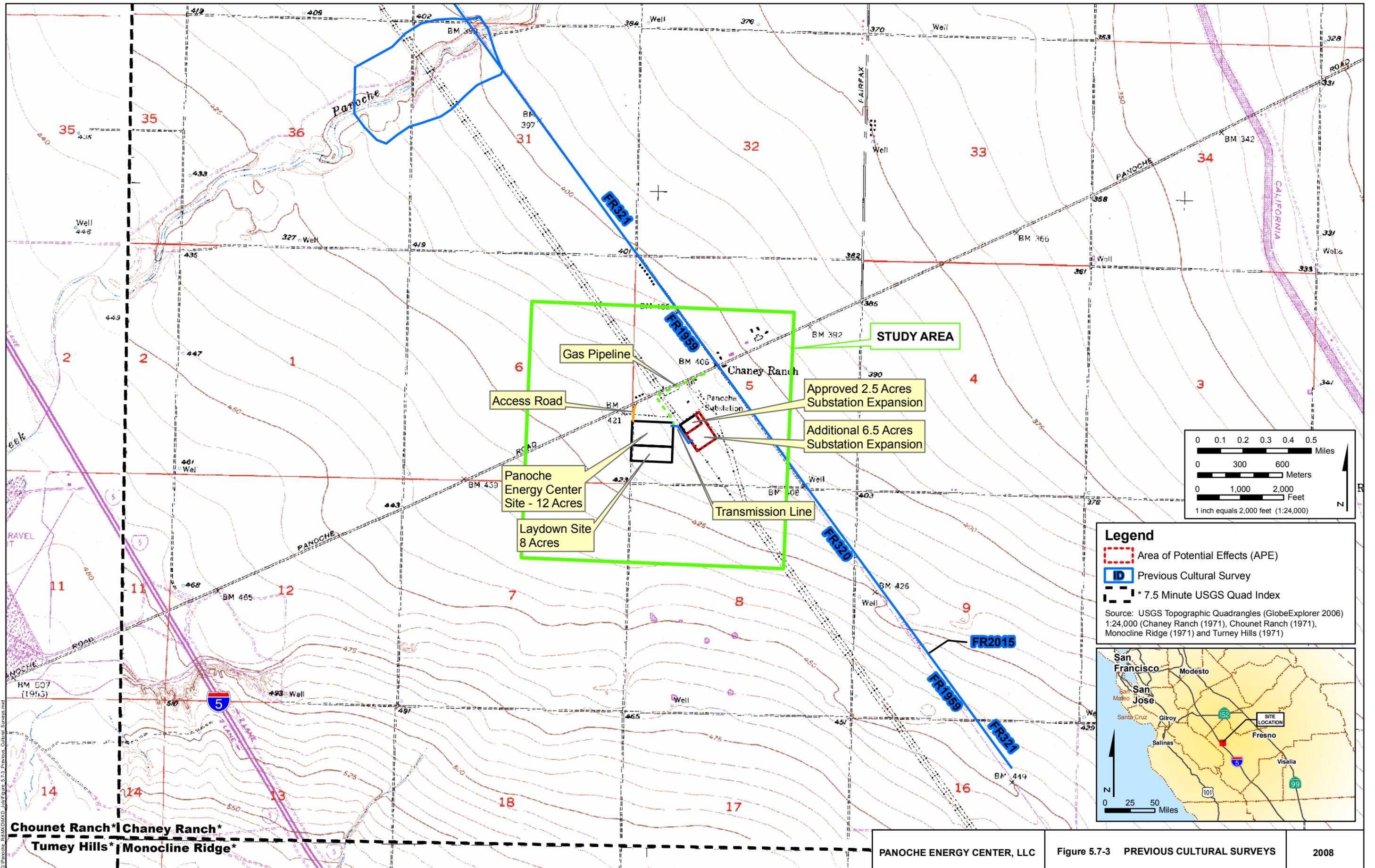
Chounet Ranch | Chaney Ranch\*  
Tumey Hills\* | Monocline Ridge\*

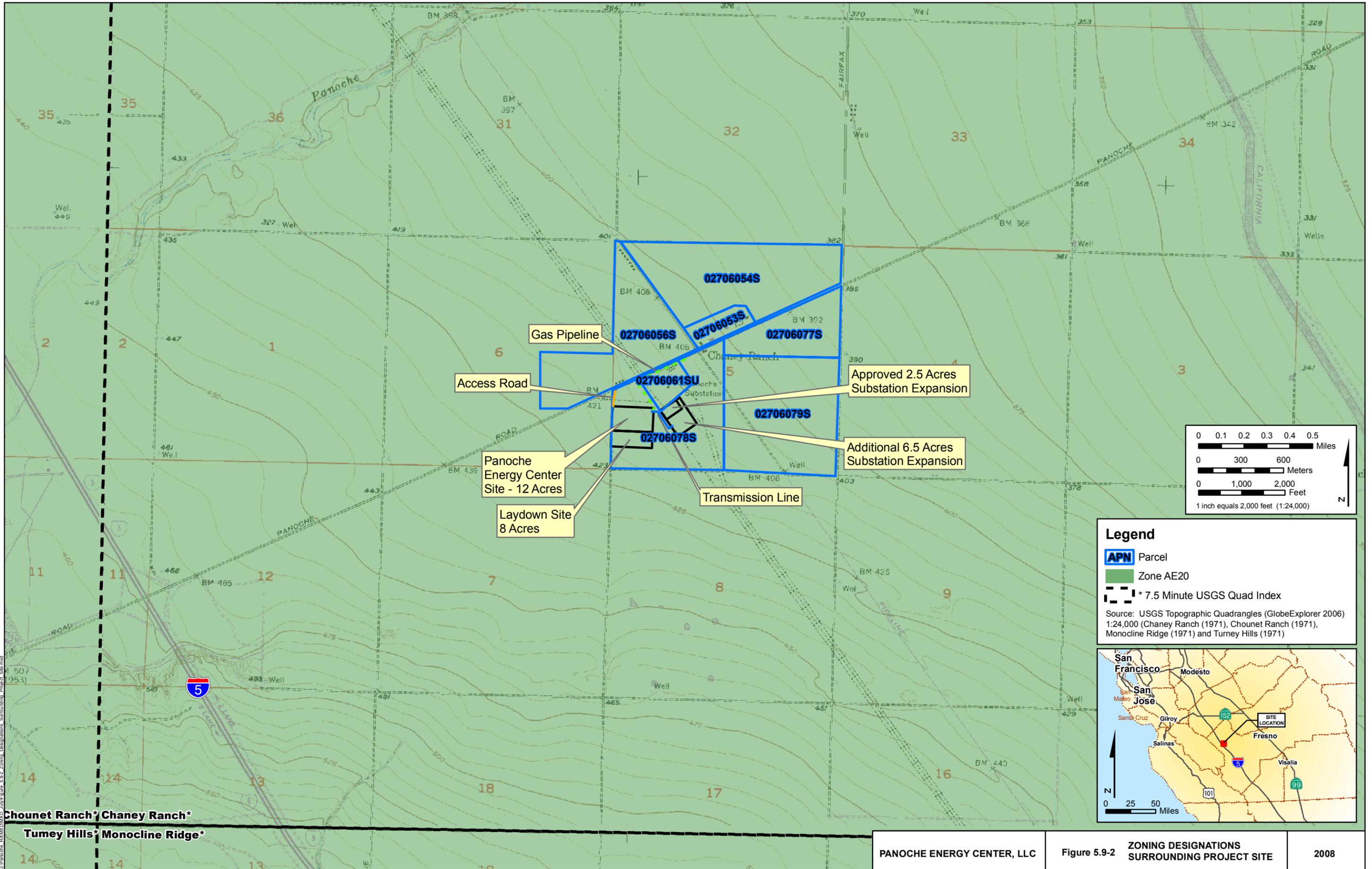




C:\panoche\ROM\CHM\CD July\Figure 5.6-2 Biological Resources within 1 Mile of the Project Site.mxd  
 11/15/07 10:53 AM

Chounet Ranch\* | Chaney Ranch\*  
 Tumey Hills\* | Monocline Ridge\*





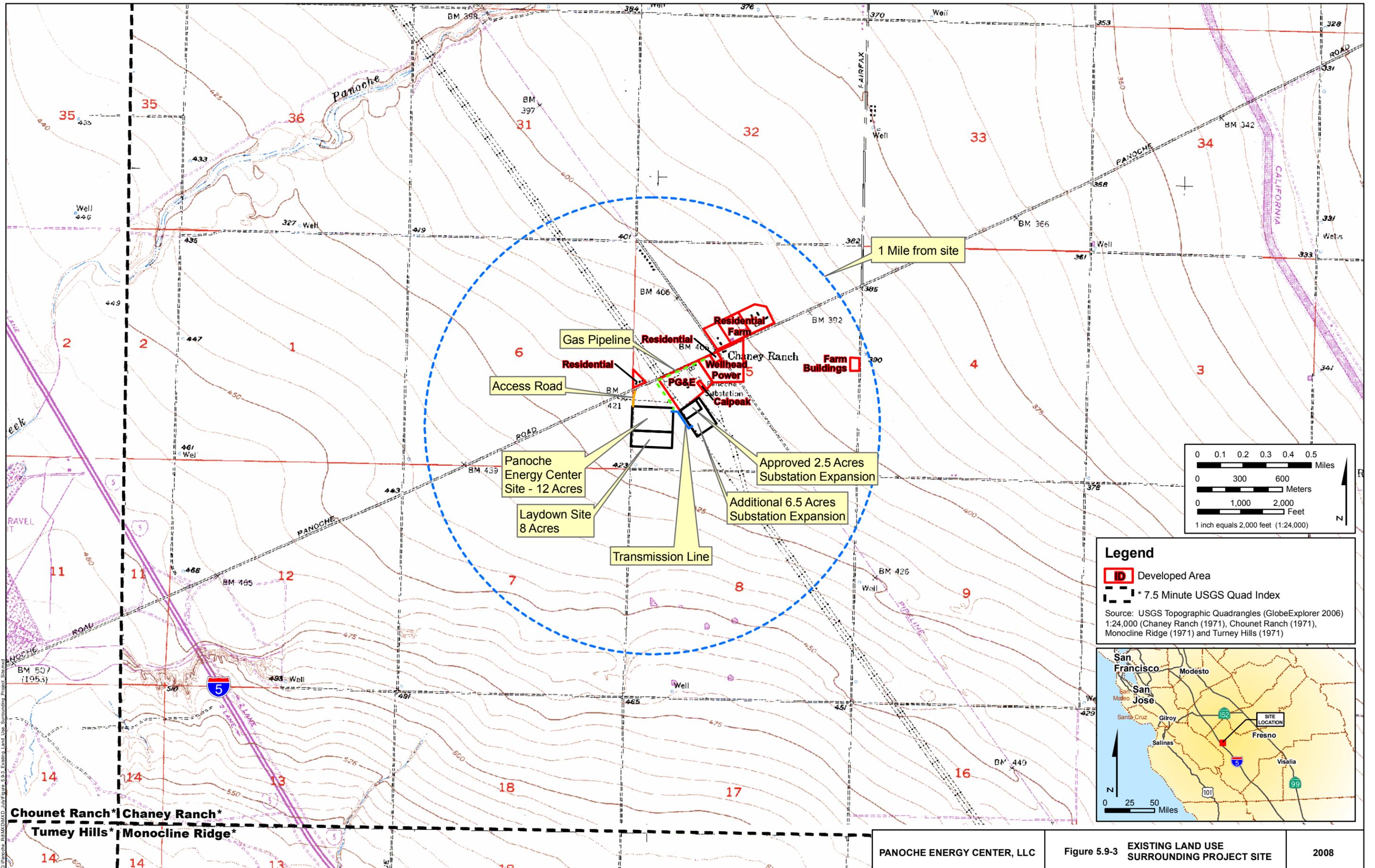
©Panoche Energy Center, LLC. July 2008. Designations, Surrounding Project Site map.

Chounet Ranch\* Chaney Ranch\*  
 Tumey Hills\* Monocline Ridge\*

PANOCH ENERGY CENTER, LLC

Figure 5.9-2 ZONING DESIGNATIONS SURROUNDING PROJECT SITE

2008



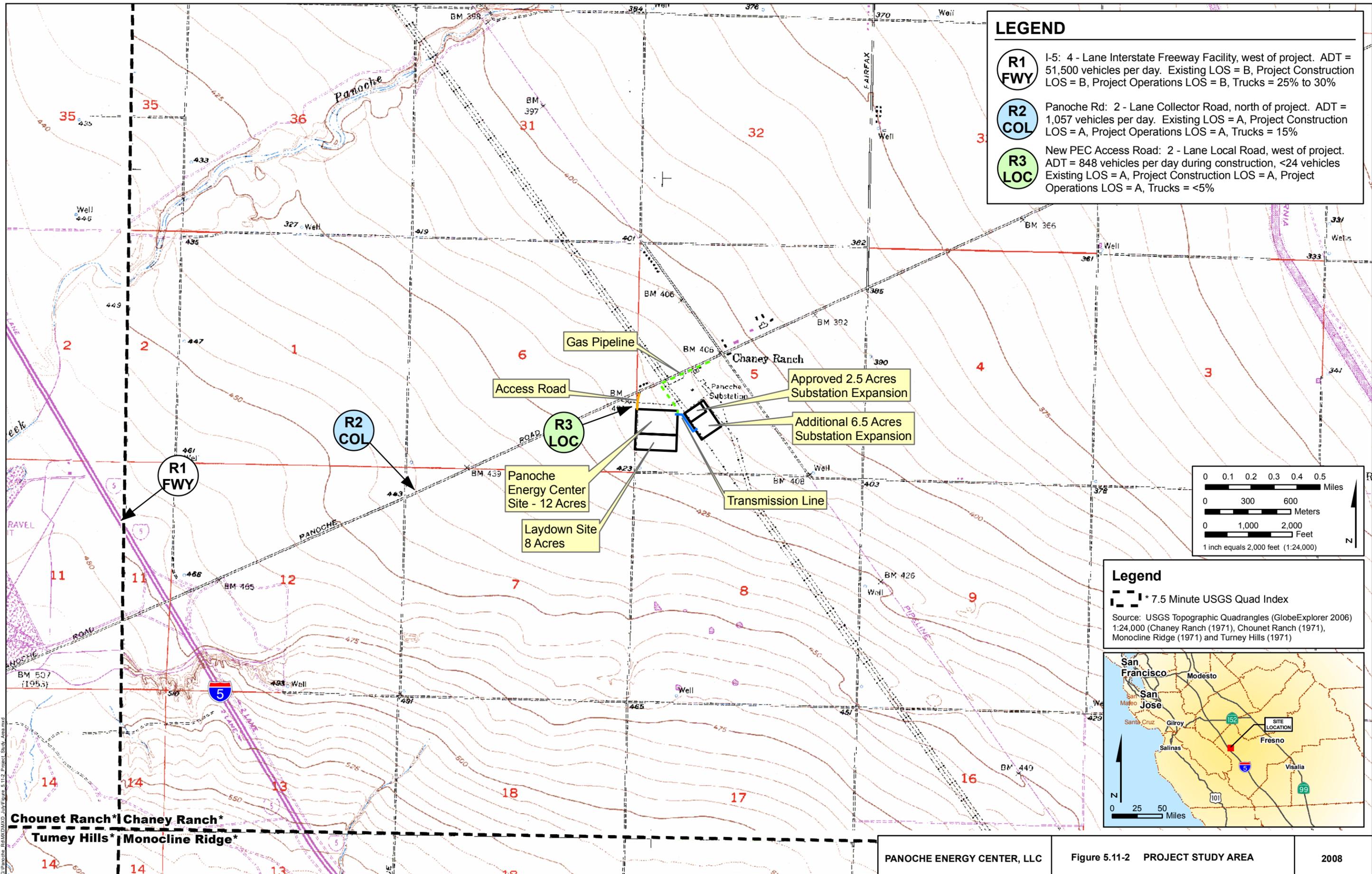
Chounet Ranch\* | Chaney Ranch\*  
 Tumey Hills\* | Monocline Ridge\*

PANOCH ENERGY CENTER, LLC

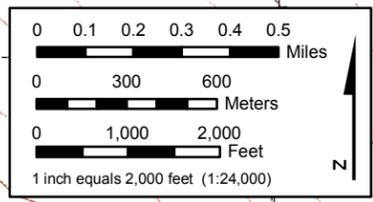
Figure 5.9-3 EXISTING LAND USE SURROUNDING PROJECT SITE

2008

C:\panoche\ROAM\CHOU... 8.9.3 Existing Land Use Surrounding Project Site.mxd



LEGEND	
<b>R1 FWY</b>	I-5: 4 - Lane Interstate Freeway Facility, west of project. ADT = 51,500 vehicles per day. Existing LOS = B, Project Construction LOS = B, Project Operations LOS = B, Trucks = 25% to 30%
<b>R2 COL</b>	Panoche Rd: 2 - Lane Collector Road, north of project. ADT = 1,057 vehicles per day. Existing LOS = A, Project Construction LOS = A, Project Operations LOS = A, Trucks = 15%
<b>R3 LOC</b>	New PEC Access Road: 2 - Lane Local Road, west of project. ADT = 848 vehicles per day during construction, <24 vehicles Existing LOS = A, Project Construction LOS = A, Project Operations LOS = A, Trucks = <5%



**Legend**  
 [Symbol] \* 7.5 Minute USGS Quad Index  
 Source: USGS Topographic Quadrangles (GlobeExplorer 2006) 1:24,000 (Chaney Ranch (1971), Chounet Ranch (1971), Monocline Ridge (1971) and Turney Hills (1971))



Chounet Ranch\* | Chaney Ranch\*  
 Tumey Hills\* | Monocline Ridge\*



© Panoche Energy Center, LLC July 2008. Architectural Rendering of Project Site.mxd

PANOCH ENERGY CENTER, LLC	Figure 5.13-2 ARCHITECTURAL RENDERING OF PROJECT SITE	2008
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**APPENDIX A  
AIR QUALITY**

Substation emissions summary

NEW SUBSTATION EXPANSION EQUIPMENT EXHAUST  
EMISSIONS FROM WORST-CASE CONSTRUCTION ACTIVITY

short term: SITE GRADING in months 2 and 3 long term: Months 1-12  
( all values in pounds per hour)

6.5 acres/9 acres = 0.72

	<b>9 acres</b>	<b>6.5 acres</b>
CO 1-hr, 8-hr	2.91	2.10
NOx 1-hr	8.82	6.37
NOx Annual	1.77	1.28
PM10 24-hr	0.32	0.23
PM10 Annual	0.09	0.07
SO2 1-hr, 3-hr	0.01	0.01
SO2 24-hr	0.01	4.21E-03
SO2 Annual	1.64E-03	1.19E-03
PM2.5 24-hr	0.30	0.21
PM2.5 Annual	0.085	0.06

NEW SUBSTATION EXPANSION FUGITIVE DUST  
EMISSIONS FROM WORST-CASE CONSTRUCTION

short term: CLEARING and GRUBBING in month 1 long term: Months 1-12  
( all values in pounds per hour)

	<b>9 acres</b>	<b>6.5 acres</b>
PM10 24-hr	1.67	1.21
PM10 Annual	0.61	0.44
PM2.5 24-hr	0.35	0.26
PM2.5 Annual	0.13	0.09

(Note: These emissions are for the whole 9 acre substation. To see emissions for only 6.5 acres of the substation, see the summary tab)

**Substation Expansion - Diesel Fired Equipment**

Activity occurs in months 4 through 17 only. (19 month substation schedule minus the 2 months on end of schedule that will have negligible dust emissions = 17 months)

Equipment	Quantity	Hours/Day	Horsepower	Days/year	Emission factors (lb/hr)						Hourly Emissions (lb/hr)						Daily Emissions (lb/day)					
					PM10	PM2.5	CO	VOC	NOx	SOx	PM10	PM2.5	CO	VOC	NOx	SOx	PM10	PM2.5	CO	VOC	NOx	SOx
Lift	1	6	120	264	0.043	0.039	0.234	0.079	0.436	0.000	0.04	0.04	0.23	0.08	0.44	0.00	0.26	0.24	1.40	0.47	2.62	0.00
Flatbed Truck	1	4	250	264	0.071	0.065	0.510	0.193	1.999	0.002	0.07	0.07	0.51	0.19	2.00	0.00	0.28	0.26	2.04	0.77	8.00	0.01
Welder	2	8	25	264	0.009	0.008	0.073	0.029	0.115	0.000	0.02	0.02	0.15	0.06	0.23	0.00	0.14	0.13	1.17	0.47	1.84	0.00
Pickup	1	2	120	264	0.043	0.039	0.234	0.079	0.436	0.000	0.04	0.04	0.23	0.08	0.44	0.00	0.09	0.08	0.47	0.16	0.87	0.00
Backhoe	1	6	80	264	0.049	0.045	0.388	0.147	0.487	0.000	0.05	0.05	0.39	0.15	0.49	0.00	0.30	0.27	2.33	0.88	2.92	0.00
Crane	1	6	250	264	0.054	0.049	0.388	0.139	1.387	0.001	0.05	0.05	0.39	0.14	1.39	0.00	0.32	0.30	2.33	0.84	8.32	0.01
<b>Total</b>											<b>0.28</b>	<b>0.25</b>	<b>1.90</b>	<b>0.70</b>	<b>4.97</b>	<b>0.005</b>	<b>1.38</b>	<b>1.27</b>	<b>9.73</b>	<b>3.59</b>	<b>24.57</b>	<b>0.02</b>

**Worker and delivery vehicles onsite substation expansion**

Onroad Vehicle	Fuel Type	Vehicle Count	Weight (lbs)	Vehicle Type	EF (lbs/mile)				
					TOC	CO	NOx	PM <sub>10</sub>	SO <sub>2</sub>
Passenger Vehicles	G/D	25	4000	LDA	1.38E-03	1.28E-02	1.36E-03	8.00E-05	9.00E-06
Heavy delivery truck	Diesel	5	26000	HHDT	3.29E-03	1.28E-02	4.18E-02	2.00E-03	4.01E-05
Concrete truck	Diesel	3	26000	HHDT	3.29E-03	1.28E-02	4.18E-02	2.00E-03	4.01E-05

Emission factors from SCAQMD Emission Factors for Onroad Vehicles for 2007 from EMFAC2002--Offroad (version 2.2)  
Vehicle count assumed based on number of workers/deliveries/trucks needed for this construction phase

**EMISSION CALCULATION FOR VEHICLES Onsite substation expansion**

Onroad Vehicle	Total Days	Trips or Hours/Day/Unit	Round Trip Distance (miles)	Daily Total VMT	Daily emissions (lbs/hr)						Daily Emissions (lbs/day)					
					VOC	CO	NOx	PM <sub>10</sub>	SO <sub>2</sub>	PM2.5	TOC	CO	NOx	PM <sub>10</sub>	SO <sub>2</sub>	PM2.5
Passenger Vehicles	264	1	1	25	0.003	0.032	0.003	0.000	0.000	0.000	0.035	0.321	0.034	0.002	0.000	0.002
Heavy delivery truck	264	1	1	5	0.002	0.006	0.021	0.001	0.000	0.001	0.016	0.064	0.209	0.010	0.000	0.009
Concrete truck	264	1	1	3	0.001	0.004	0.013	0.001	0.000	0.001	0.010	0.038	0.126	0.006	0.000	0.006
<b>Total</b>					<b>0.006</b>	<b>0.042</b>	<b>0.037</b>	<b>0.002</b>	<b>0.000</b>	<b>0.002</b>	<b>0.061</b>	<b>0.423</b>	<b>0.369</b>	<b>0.018</b>	<b>0.001</b>	<b>0.017</b>

From PEC\_PTA\_Comments\_10 15 08.DOC: Construction of the Proposed Substation Expansion is not expected to require workers in addition to the worker estimates previously identified in the PEC Final Commission Decisic  
PM2.5 emission factors from updated CEIDARS List with PM2.5 fractions. PM2.5 numbers obtained by multiplying the PM10 values by fraction in CEIDARS list for onroad or offroad diesel vehicles.  
10 hours of construction per day  
22 days per month

Total Hourly Emissions (lbs/hr) Substation Expansion					
PM <sub>10</sub>	PM2.5	CO	VOC	NOx	SO <sub>2</sub>
0.28	0.26	1.94	0.70	5.01	0.00

**Annual Emissions (tons/yr)**

lbs/hr \* hrs/day \* days/mon \* months of activity/yr

Months 1-12 (Activity: Month 1 clear & grub; Months 2-3 grading; Months 4-12 expansion)					
PM10	PM2.5	CO	VOC	NOx	SOx
0.406	0.373	2.823	1.011	7.743	0.007

Months 2-13 (Activity: Months 2-3 grading; Months 4-13 expansion)					
PM10	PM2.5	CO	VOC	NOx	SOx
0.399	0.367	2.776	0.994	7.452	0.007

Months 3-14 (Activity: Months 3-14 expansion)					
PM10	PM2.5	CO	VOC	NOx	SOx
0.383	0.353	2.670	0.960	7.034	0.007

Months 4-15 (Activity: Months 4-15 expansion)					
PM10	PM2.5	CO	VOC	NOx	SOx
0.368	0.339	2.563	0.926	6.616	0.006

Months 5-16 (Activity: Months 5-16 expansion)					
PM10	PM2.5	CO	VOC	NOx	SOx
0.368	0.339	2.563	0.926	6.616	0.006

Months 6-17 (Activity: Months 6-17 expansion)					
PM10	PM2.5	CO	VOC	NOx	SOx
0.368	0.339	2.563	0.926	6.616	0.006

**Cleaning and Grubbing - Diesel Fired Equipment**

Activity occurs in month 1 only.

Equipment	Quantity	Hours/Day	Horsepower	Days/year	Emission factors (lb/hr)						Hourly Emissions (lb/hr)						Daily Emissions (lb/day)					
					PM10	PM2.5	CO	VOC	NOx	SOx	PM10	PM2.5	CO	VOC	NOx	SOx	PM10	PM2.5	CO	VOC	NOx	SOx
Wheeled Loader	1	7	120	22	0.078	0.072	0.442	0.148	0.860	0.001	0.08	0.07	0.44	0.15	0.86	0.00	0.55	0.50	3.09	1.04	6.02	0.01
Tracked Dozer	1	7	250	22	0.124	0.114	0.884	0.314	2.800	0.002	0.12	0.11	0.88	0.31	2.80	0.00	0.87	0.80	6.19	2.20	19.60	0.01
Dump Trucks	1	6	250	22	0.071	0.065	0.510	0.193	1.993	0.002	0.07	0.07	0.51	0.19	1.99	0.00	0.43	0.39	3.06	1.16	11.96	0.01
Water Trucks	1	4	250	22	0.071	0.065	0.510	0.193	1.999	0.002	0.07	0.07	0.51	0.19	2.00	0.00	0.28	0.26	2.04	0.77	8.00	0.01
<b>Total</b>											<b>0.34</b>	<b>0.32</b>	<b>2.35</b>	<b>0.85</b>	<b>7.65</b>	<b>0.007</b>	<b>2.12</b>	<b>1.95</b>	<b>14.38</b>	<b>5.17</b>	<b>45.58</b>	<b>0.04</b>

**Worker and delivery vehicles onsite cleaning and grubbing**

Onroad Vehicle	Fuel Type	Vehicle Count	Weight (lbs)	Vehicle Type	EF (lbs/mile)				
					TOC	CO	NOx	PM <sub>10</sub>	SO <sub>2</sub>
Passenger Vehicles	G/D	15	4000	LDA	1.38E-03	1.28E-02	1.36E-03	8.00E-05	9.00E-06

**EMISSION CALCULATION FOR VEHICLES Onsite cleaning and grubbing**

Onroad Vehicle	Total Days	Trips or Hours/Day/Unit	Round Trip Distance (miles)	Daily Total VMT	Hourly emissions (lbs/hr)						Daily Emissions (lbs/day)					
					VOC	CO	NOx	PM <sub>10</sub>	SO <sub>2</sub>	PM2.5	TOC	CO	NOx	PM <sub>10</sub>	SO <sub>2</sub>	PM2.5
Passenger Vehicles	264	1	1	15	0.002	0.019	0.002	0.000	0.000	0.000	0.021	0.192	0.020	0.001	0.000	0.001

Total Hourly Emissions (lbs/hr) Cleaning and Grubbing					
PM <sub>10</sub>	PM2.5	CO	VOC	NOx	SO <sub>2</sub>
0.34	0.32	2.36	0.85	7.65	0.01

**Site Grading - Diesel Fired Equipment**

Activity occurs in months 2 and 3 only.

Equipment	Quantity	Hours/Day	Horsepower	Days/year	Emission factors (lb/hr)						Hourly Emissions (lb/hr)						Daily Emissions (lb/day)					
					PM10	PM2.5	CO	VOC	NOx	SOx	PM10	PM2.5	CO	VOC	NOx	SOx	PM10	PM2.5	CO	VOC	NOx	SOx
Wheeled Loader	1	7	120	44	0.078	0.072	0.442	0.148	0.860	0.001	0.08	0.07	0.44	0.15	0.86	0.00	0.55	0.50	3.09	1.04	6.02	0.01
Tracked Dozer	1	7	250	44	0.124	0.114	0.884	0.314	2.800	0.002	0.12	0.11	0.88	0.31	2.80	0.00	0.87	0.80	6.19	2.20	19.60	0.01
Water Truck	1	4	250	44	0.071	0.065	0.510	0.193	1.993	0.002	0.07	0.07	0.51	0.19	1.99	0.00	0.28	0.26	2.04	0.77	7.97	0.01
Compactor	1	6	150	44	0.074	0.068	0.546	0.161	1.167	0.001	0.07	0.07	0.55	0.16	1.17	0.00	0.44	0.41	3.27	0.97	7.00	0.01
Dump Trucks	1	6	250	44	0.071	0.065	0.510	0.193	1.993	0.002	0.07	0.07	0.51	0.19	1.99	0.00	0.43	0.39	3.06	1.16	11.96	0.01
<b>Total</b>											<b>0.42</b>	<b>0.38</b>	<b>2.89</b>	<b>1.01</b>	<b>8.81</b>	<b>0.008</b>	<b>2.57</b>	<b>2.36</b>	<b>17.65</b>	<b>6.13</b>	<b>52.56</b>	<b>0.05</b>

**Worker and delivery vehicles onsite site grading**

Onroad Vehicle	Fuel Type	Vehicle Count	Weight (lbs)	Vehicle Type	EF (lbs/mile)				
					TOC	CO	NOx	PM <sub>10</sub>	SO <sub>2</sub>
Passenger Vehicles	G/D	15	4000	LDA	1.38E-03	1.28E-02	1.36E-03	8.00E-05	9.00E-06

**EMISSION CALCULATION FOR VEHICLES Onsite site grading**

Onroad Vehicle	Total Days	Trips or Hours/Day/Unit	Round Trip Distance (miles)	Daily Total VMT	Hourly emissions (lbs/hr)						Daily Emissions (lbs/day)					
					VOC	CO	NOx	PM <sub>10</sub>	SO <sub>2</sub>	PM2.5	TOC	CO	NOx	PM <sub>10</sub>	SO <sub>2</sub>	PM2.5
Passenger Vehicles	264	1	1	15	0.002	0.019	0.002	0.000	0.000	0.000	0.021	0.192	0.020	0.001	0.000	0.001

Total Hourly Emissions (lbs/hr) Site Grading					
PM <sub>10</sub>	PM2.5	CO	VOC	NOx	SO <sub>2</sub>
<b>0.42</b>	<b>0.38</b>	<b>2.91</b>	<b>1.01</b>	<b>8.82</b>	<b>0.01</b>

Note:

Equipment list from client  
 Emission factors from CARB Off-road Mobile Source Emission Factors (2006-2020). (2007 data used). Values presented are scaled to match the HP presented.  
 PM2.5 emission factors from updated CEIDARS List with PM2.5 fractions. PM2.5 numbers obtained by multiplying the PM10 values by fraction in CEIDARS list for onroad or offroad diesel vehicles.  
 Hydraulic Lift is Forklift

**EMISSION RATES (pounds per hour)**

CO 1-HR	CO 8-HR	NOx 1-HR	NOx Annual
2.91	2.91	8.82	1.77
PM10 24-HR	PM10 Annual	PM2.5 24-HR	PM2.5 Annual
0.32	0.093	0.30	0.085
SO2 1-HR	SO2 3-HR	SO2 24-HR	SO2 Annual
7.88E-03	7.88E-03	5.83E-03	1.64E-03

Minor differences between inputs and calculated values are due to rounding differences.

**Bulldozing**

Activity occurs in months 2 and 3 only.

$E = p * 1 * G^{1.5} / H^{1.4}$  PM10 Emissions from bulldozing (lb/hr)  
 EPA AP-42 Table 11.9-1 EMISSION FACTOR EQUATIONS FOR UNCONTROLLED  
 OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES (Overburden)  
 0.75 p = particle size multiplier = 0.75 for PM10  
 18 G = Silt content (%) (from Table A9-9-F-1 for flue dust - fine soils located at site)  
 16 H = Moisture content of surface material (%) (from Table A9-9-F-2 for moist dirt)  
 1.18 lb/hr of PM10

Equipment	Quantity	Hours/Day	Days/year	Watering Control Efficiency	PM10 Emissions (lb/hr)	PM10 Emissions (lb/day)	PM10 Emissions (tons/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (lb/day)	PM2.5 Emissions (tons/yr)
Tracked Dozer	1	7	44	85%	0.18	1.24	0.03	0.04	0.28	0.01

22 construction days per month  
 2 duration of activity (months)

Water efficiency from CEQA Table 11-4 watering 3 times daily or using chemical suppressants

**Grading**

Activity occurs in months 2 and 3 only.

$E = p * .051 * (S)^{2.0}$   
 0.6 p = particle size multiplier = 0.60 for PM10  
 5 S = avg speed of vehicle (mph) (from AP-42 Table 11.9-3)  
 0.77 lb/VMT EPA AP-42 Table 11.9-1 EMISSION FACTOR EQUATIONS FOR  
 PM10 UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES

Equipment	Quantity	Hours/Day	Days/year	Miles travelled per hour	Watering Control Efficiency	PM10 Emissions (lb/hr)	PM10 Emissions (lb/day)	PM10 Emissions (tons/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (lb/day)	PM2.5 Emissions (tons/yr)
Compactor	1	6	44	2	85%	0.23	1.38	0.03	0.05	0.31	0.01

Water efficiency from CEQA Table 11-4 watering 3 times daily or using chemical suppressants

**Truck filling or storage pile emptying**

PM10 emissions per ton of material handled (SCAQMD Table A9-9)  
 0.02205 lb/ton

**Truck dumping**

PM10 emissions per ton of material handled (SCAQMD Table A9-9)  
 0.009075 lb/ton

Equipment	Quantity	Hours/Day	Days/year	Material Handled (ton/day)	Material Handled (ton)	Watering Control Efficiency	PM10 Emissions (lb/hr)	PM10 Emissions (lb/day)	PM10 Emissions (tons/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (lb/day)	PM2.5 Emissions (tons/yr)
Wheeled Loader	1	7	44	569	25,047	85%	0.27	1.88	0.23	0.06	0.42	0.01
Dump Trucks	1	6	44	569	25,047	85%	0.13	0.77	0.10	0.03	0.17	0.00
<b>Total</b>							<b>0.40</b>	<b>2.66</b>	<b>0.33</b>	<b>0.09</b>	<b>0.59</b>	<b>0.01</b>

Water efficiency from CEQA Table 11-4 watering 3 times daily or using chemical suppressants

495 yd3/day                      569 ton/day                      20 trucks/day  
 21,780 yd3                      25,047 tons                      2300 density of soil (lb/yd3)  
 (USDA NRCS Physical Soil Properties from Fresno County  
 Western Part for Panoche Clay Loam soil)

assume all soil moved in first 2 months (44 days)  
 assume each dump truck carries 25 yd3 = 28.75 tons

9 acres                      21,780 square yds, assume depth of 0.5 yd of soils moved

**Cover Storage Pile**

Activity occurs in months 2 and 3 only.

SCAQMD Table A9-9-E

$E = 1.7 * G/1.5 * (365-H)/235 * I/15 * J$

PM10 Emission factor from wind erosion of storage piles per day per acre  
 15 G = Silt content (%) (from Table A9-9-E-1 for blended dirt)  
 98 H = Number of days with >= 0.01 inches of precipitation per year (from Panoche Junction COOP weather station WRCC)  
 8 I = Percentage of time that the unobstructed wind speed exceeds 12 mph at mean pile height  
 0.5 J = Fraction of TSP that is PM10 = 0.5  
 5.151 lb/acre/day

wind speed percentage based on 1984-92 (9 yrs) of wind speed data (actual hours > 10 knots) as recorded at Fresno Air Terminal data from EPA SCRAM website

fug dust grading

Source	Quantity	Size of Pile (acre)	Hours/Day	Days/year	Watering Control Efficiency	PM10 Emissions (lb/hr)	PM10 Emissions (lb/day)	PM10 Emissions (tons/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (lb/day)	PM2.5 Emissions (tons/yr)
Cover Storage Pi	1	0.5	24	365	85%	0.02	0.39	0.07	0.00	0.09	0.02

Water efficiency from CEQA Table 11-4 watering 3 times daily or using chemical suppressants  
pile size assumed

**Travel on unpaved road**

**Trucks**

Activity occurs in months 5 and 6 only.

$$F = 2.1 * G/12 * H/30 * (J/3)^{0.7} * (I/4)^{0.5} * (365-K)/365$$

SCAQMD Table A9-9-D

**EMISSION RATES (pounds per hour)**

PM10 24-HR	PM10 Annu	PM2.5 24-H	PM2.5 Annual
0.7114	0.1050	0.1579	0.0095

Emission factor for vehicle travel on unpaved roads (lb/VMT)

10 G = Surface silt loading (%) (from Table A9-9-D-1 for crushed limestone road)

5 H = Mean vehicle speed (mph)

10 I = Mean number of wheels on vehicle (from Table A9-9-D-3)

13 J = Mean vehicle weight (ton) (from Table A9-9-D-3)

98 K = Mean number of days per with at least 0.01 inches of precipitation (from Panoche Junction COOP weather station Western Regional Climate Center)

0.942 PM10 lb/VMT

Minor differences between inputs and calculated values are due to rounding differences.

Equipment	Quantity	Hours/Day	Days/year	Miles travelled per hour	Watering Control Efficiency	PM10 Emissions (lb/hr)	PM10 Emissions (lb/day)	PM10 Emissions (tons/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (lb/day)	PM2.5 Emissions (tons/yr)
Service Truck	2	2	44	1	85%	0.28	0.56	0.01	0.06	0.12	0.00
Service Trucks will operate 2 hours at end of day, not during daily activities											
Water Truck	1	4	44	5	85%	0.71	2.82	0.06	0.15	0.60	0.01
Dump Truck	1	6	44	4	85%	0.56	3.39	0.07	0.12	0.72	0.02
<b>Subtotal heavy trucks</b>						<b>1.27</b>	<b>6.21</b>	<b>0.14</b>	<b>0.27</b>	<b>1.32</b>	<b>0.03</b>

**Vehicle travel on unpaved road**

Activity occurs in months 5 and 6 only.

$$F = 2.1 * G/12 * H/30 * (J/3)^{0.7} * (I/4)^{0.5} * (365-K)/365$$

SCAQMD Table A9-9-D

Emission factor for vehicle travel on unpaved roads (lb/VMT)

10 G = Surface silt loading (%) (from Table A9-9-D-1 for crushed limestone road)

5 H = Mean vehicle speed (mph)

4 I = Mean number of wheels on vehicle (from Table A9-9-D-3)

3 J = Mean vehicle weight (ton) (from Table A9-9-D-3)

98 K = Mean number of days per with at least 0.01 inches of precipitation (from Panoche Junction COOP weather station Western Regional Climate Center)

0.213 PM10 lb/VMT

Minor differences between inputs and calculated values are due to rounding differences.

Equipment	Quantity	Hours/Day	Days/year	Miles travelled per hour	Watering Control Efficiency	PM10 Emissions (lb/hr)	PM10 Emissions (lb/day)	PM10 Emissions (tons/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (lb/day)	PM2.5 Emissions (tons/yr)
Worker Vehicles	15	0.3	44	0.25	85%	0.12	0.03	0.00	0.03	0.01	0.00
<b>Subtotal worker vehicles</b>						<b>0.12</b>	<b>0.03</b>	<b>0.00</b>	<b>0.03</b>	<b>0.01</b>	<b>0.00</b>
<b>TOTALdust unpaved roads</b>						<b>1.39</b>	<b>6.24</b>	<b>0.14</b>	<b>0.29</b>	<b>1.32</b>	<b>0.03</b>

Assumed maximum travel speed is 5 mph

Equipment weight from SCAQMD Table A9-9-D-3 for Waste Dump trucks

Water efficiency from CEQA Table 11-4 watering 3 times daily or using chemical suppressants

PM2.5 emission factors from updated CEIDARS List with PM2.5 fractions.

PM2.5 numbers obtained by multiplying the PM10 values by fraction in CEIDARS list for appropriate fugitive dust sources.

**EMISSION RATES (pounds per hour)**

PM10 24-HR	PM2.5 24-HR
1.4882	0.3226

**Bulldozing**

Activity occurs in month 1 only.

$$E = p * 1 * G^{1.5} / H^{1.4}$$

PM10 Emis: PM10 Emissions from dirt pushing (lb/hr)  
 EPA AP-42 Table 11.9-1 EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES (Overburden)

- 0.75 p = particle size multiplier = 0.75 for PM10
- 18 G = Silt content (%) (from Table A9-9-F-1 for flue dust - fine soils located at site)
- 16 H = Moisture content of surface material (%) (from Table A9-9-F-2 for moist dirt)
- 1.18 lb/hr of PM10

22.00 days of activity per month

1 duration of activity (months)

Equipment	Quantity	Hours/Day	Days/year	Watering	PM10	PM10	PM10	PM2.5	PM2.5	PM2.5
				Control Efficiency	Emissions (lb/hr)	Emissions (lb/day)	Emissions (tons/yr)	Emissions (lb/hr)	Emissions (lb/day)	Emissions (tons/yr)
Tracked Dozer	1	7	22	85%	0.177	1.24	0.01	0.04	0.26	0.00
Wheeled Loader	1	7	22	85%	0.177	1.24	0.01	0.04	0.26	0.00
				<b>Total</b>	<b>0.354</b>	<b>2.48</b>	<b>0.03</b>	<b>0.08</b>	<b>0.53</b>	<b>0.01</b>

Water efficiency from CEQA Table 11-4 watering 3 times daily or using chemical suppressants

**Travel on unpaved road**

Activity occurs in month 1 only.

$$F = 2.1 * G/12 * H/30 * (J/3)^{0.7} * (I/4)^{0.5} * (365-K)/365$$

SCAQMD Table A9-9-D

Emission factor for vehicle travel on unpaved roads (lb/VMT)

- 16 G = Surface silt loading (%) (from Table A9-9-D-1 for farm road)
- 5 H = Mean vehicle speed (mph)
- 10 I = Mean number of wheels on vehicle (from Table A9-9-D-3)
- 13 J = Mean vehicle weight (ton) (from Table A9-9-D-3)
- 98 K = Mean number of days per year with at least 0.01 inches of precipitation (from Panoche Junction COOP weather station Western Regional Climate Center)
- 1.507 PM10 lb/VMT

Equipment	Quantity	Hours/Day	Days/year	Miles	Watering	PM10	PM10	PM10	PM2.5	PM2.5	PM2.5
				travelled per hour	Control Efficiency	Emissions (lb/hr)	Emissions (lb/day)	Emissions (tons/yr)	Emissions (lb/hr)	Emissions (lb/day)	Emissions (tons/yr)
Service Truck	2	2	22	1	85%	0.45	0.90	0.01	0.10	0.19	0.02
Service Trucks will operate 2 hours at end of day, not during daily activities											
Water Truck	1	4	22	5	85%	1.13	4.52	0.05	0.24	0.96	0.04
Dump Truck	1	6	22	4	85%	0.90	5.42	0.06	0.19	1.15	0.07
				<b>Total</b>		<b>2.03</b>	<b>10.85</b>	<b>0.12</b>	<b>0.53</b>	<b>2.30</b>	<b>0.13</b>

Assumed maximum travel speed is 10 mph

Water efficiency from CEQA Table 11-4 watering 3 times daily or using chemical suppressants

PM2.5 emission factors from updated CEIDARS List with PM2.5 fractions.

PM2.5 numbers obtained by multiplying the PM10 values by fraction in CEIDARS list for appropriate fugitive dust sources.

**Vehicle travel on unpaved road**

Activity occurs in months 5 and 6 only.

$$F = 2.1 * G/12 * H/30 * (J/3)^{0.7} * (I/4)^{0.5} * (365-K)/365$$

SCAQMD Table A9-9-D

Emission factor for vehicle travel on unpaved roads (lb/VMT)

- 10 G = Surface silt loading (%) (from Table A9-9-D-1 for crushed limestone road)
  - 5 H = Mean vehicle speed (mph)
  - 4 I = Mean number of wheels on vehicle (from Table A9-9-D-3)
  - 3 J = Mean vehicle weight (ton) (from Table A9-9-D-3)
  - 98 K = Mean number of days per with at least 0.01 inches of precipitation (from Panoche Junction COOP weather station Western Regional Climate Center)
  - 0.213 PM10 lb/VMT
- Minor differences between inputs and calculated values are due to rounding differences.

Equipment	Quantity	Hours/Day	Days/year	Miles	Watering	PM10	PM10	PM10	PM2.5	PM2.5	PM2.5
				travelled per hour	Control Efficiency	Emissions (lb/hr)	Emissions (lb/day)	Emissions (tons/yr)	Emissions (lb/hr)	Emissions (lb/day)	Emissions (tons/yr)
Worker Vehicles	15	0.3	44	0.25	85%	0.12	0.03	0.00	0.03	0.01	0.00
<b>Subtotal worker vehicles</b>						<b>0.12</b>	<b>0.03</b>	<b>0.00</b>	<b>0.03</b>	<b>0.01</b>	<b>0.00</b>
<b>TOTALdust unpaved roads</b>						<b>2.15</b>	<b>10.88</b>	<b>0.12</b>	<b>0.55</b>	<b>2.31</b>	<b>0.13</b>

Assumed maximum travel speed is 5 mph

Water efficiency from CEQA Table 11-4 watering 3 times daily or using chemical suppressants

PM2.5 emission factors from updated CEIDARS List with PM2.5 fractions.

PM2.5 numbers obtained by multiplying the PM10 values by fraction in CEIDARS list for appropriate fugitive dust sources.

**MODEL EMISSION RATE INPUTS (pounds per hour)**

PM10 24-HR      PM2.5 24-HR  
 1.6696      0.3540

fug dust expansion

**Travel on unpaved road**

Activity occurs in months 4 through 17 only.

$$F = 2.1 * G/12 * H/30 * (J/3)^{0.7} * (I/4)^{0.5} * (365-K)/365$$

SCAQMD Table A9-9-D

Emission factor for vehicle travel on unpaved roads (lb/VMT)

10 G = Surface silt loading (%) (from Table A9-9-D-1 for crushed limestone road)

5 H = Mean vehicle speed (mph)

4 I = Mean number of wheels on vehicle (from Table A9-9-D-3)

9.06 J = Mean vehicle weight (ton) (average from equipment listed below)

98 K = Mean number of days per with at least 0.01 inches of precipitation (from Panoche

Junction COOP weather station Western Regional Climate Center)

0.463 PM10 lb/VMT

Equipment	Quantity	Hours/Day	Days/year	Miles travelled per hour	Watering Control Efficiency	PM10 Emissions (lb/hr)	PM10 Emissions (lb/day)	PM10 Emissions (tons/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (lb/day)	PM2.5 Emissions (tons/yr)
Service Trucks	2	2	308	1	85%	0.14	0.28	0.04	0.03	0.06	0.01
Service Trucks will operate 2 hours at end of day, not during daily activities											
Flatbed Truck	1	4	308	0.25	85%	0.02	0.07	0.01	0.00	0.01	0.00
Crane	1	6	308	0	85%	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	1	6	308	0.5	85%	0.03	0.21	0.03	0.01	0.04	0.01
Pickup Truck	1	2	308	0.5	85%	0.03	0.07	0.01	0.01	0.01	0.00
Hydraulic Lift	1	6	308	1	85%	0.07	0.42	0.06	0.01	0.09	0.01
Concrete truck	3	4	308	0.5	85%	0.10	0.42	0.06	0.02	0.09	0.01
Delivery truck	5	2	308	0.25	85%	0.09	0.17	0.03	0.02	0.04	0.01
Passenger vehicle	25	0.3	308	0.25	85%	0.43	0.11	0.02	0.09	0.02	0.00
<b>Total</b>						<b>0.16</b>	<b>0.76</b>	<b>0.12</b>	<b>0.03</b>	<b>0.16</b>	<b>0.02</b>

Equipment weight from Caterpillar website (www.cat.com/cda)

Water efficiency from CEQA Table 11-4 watering 3 times daily or using chemical suppressants

PM2.5 emission factors from updated CEIDARS List with PM2.5 fractions.

PM2.5 numbers obtained by multiplying the PM10 values by fraction in CEIDARS list for appropriate fugitive dust sources.

Equipment	Weight (tons)
Backhoe	11.78
Hydraulic Lift	7.74
Crane	15.00
Flatbed	8.00
Pickup	2.00
Delivery Truck	13.00
Concrete Truck	13.00
Pass Vehicle	2.00
	72.52
	9.06
<b>TOTAL AVERAGE</b>	

**EMISSION RATES (pounds per hour)**

PM10 24-HR      PM2.5 24-HR

0.095      0.020

Minor differences between inputs and calculated values are due to rounding differences.

fug dust annual

**Annual Fugitive Dust Emissions (tons/yr)**

lbs/hr \* hrs/day \* days/mon \* months of activity/yr

Months 1-12 (Activity: Month 1 clear & grub; Months 2-3 grading; Months 4-12 expansion)

<b>PM10</b>	<b>PM2.5</b>
0.606	0.130

Months 2-13 (Activity: Months 2-3 grading; Months 4-13 expansion)

<b>PM10</b>	<b>PM2.5</b>
0.432	0.093

Months 3-14 (Activity: Months 3-14 expansion)

<b>PM10</b>	<b>PM2.5</b>
0.126	0.027

Months 4-15 (Activity: Months 4-15 expansion)

<b>PM10</b>	<b>PM2.5</b>
0.126	0.027

Months 5-16 (Activity: Months 5-16 expansion)

<b>PM10</b>	<b>PM2.5</b>
0.126	0.027

Months 6-17 (Activity: Months 6-17 expansion)

<b>PM10</b>	<b>PM2.5</b>
0.126	0.027

22 days/month  
10 hours/day

**APPENDIX B**  
**BIOLOGICAL RESOURCES**



## Areas of Expertise

Wildlife Biology, CEQA/NEPA  
Compliance, Project Management

## Years of Experience

With URS 7 Years

## Education

B.S./1998/Environmental Sciences  
with emphasis in Biology/ Northern  
Arizona University

## Registration/Certification

**USFWS Recovery Permit No. TE-  
134334-0**

- California Gnatcatcher  
(Presence/Absence Surveys)
- San Bernardino Kangaroo  
Rat (Presence/Absence  
Surveys)

## Supplemental Education/Training

- 38-Hour Army Corps of  
Engineers Wetland  
Delineation & Management  
Training by the Wetland  
Training Institute (2006)
- Fairy Shrimp Identification  
by Mary Belk (2006)
- Southwestern Willow  
Flycatcher Identification  
Workshop by Southern  
Sierra Research Station  
(2006)
- CEQA Training workshop  
sponsored by AEP (2002  
and 2005)
- San Diego Sensitive  
Butterflies Workshop:  
Focusing on Eight Local  
Species Conducted by David  
Faulkner and Michael Klein.  
San Diego Natural History  
Museum. (2002)
- Desert Tortoise surveying,  
monitoring, and handling  
workshop by the Desert  
Tortoise Council  
(November 2001)
- HAZWOPER 40 hour  
OSHA Training (2000-  
current)

## Lincoln Hulse

*Biologist*

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### Overview

Mr. Hulse has an extensive background in field research, ecological studies and project management. As a biologist Mr. Hulse has participated in projects which include vegetation mapping, small mammal trapping, special status species identification and bird and plant surveys. He also has a strong knowledge of federal, state, and local environmental regulations and policies. He has prepared numerous biological reports, assessments, permit applications, and restoration plans to demonstrate compliance with the California Coastal Act, Clean Water Act (CWA), California Fish and Game Codes, federal and state Endangered Species Acts (ESA), California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), and the California Energy Commission (CEC). The following describes Mr. Hulse's experience in greater detail.

### Project Specific Experience

**Panoche Energy Center Project, Fresno County, CA, Panoche Energy Center, LLC.** Project Biologist for the Panoche Energy Center Application for Certification and subsequent Data Adequacy and Data Request responses. The Panoche Energy Center (PEC) is a proposed simple-cycle power generation project that consists of four (4) General Electric LMS100 natural gas-fired combustion turbine generators (CTGs). The total net generating capacity is 400MW with each CTG capable of generating 100MW. The proposed plant will be owned and operated by Panoche Energy Center, LLC. The electricity generated by this project would be in support of a contract with Pacific Gas and Electric (PG&E).

Panoche Energy Center, LLC is seeking approval from the California Energy Commission (CEC) to construct and operate a power generation facility within western Fresno County. The GE LMS100 is the first inter-cooled gas turbine system developed especially for the needs of the power generation industry. The LMS100 is designed for cyclic applications with 10-minute starts that provide flexible power generation for peaking and intermediate solutions.

**Burlington Northern Santa Fe Railway Company (BNSF); Cajon Third Main Track Summit to Keenbrook Project.** Prepared Biological Assessment and Biological Evaluation to document compliance with NEPA, CEQA, federal and state Endangered Species Acts for the new BNSF third main track through Cajon Pass. The project spans approximately 16 miles. Coordinated formal consultation with the USFWS pursuant to Section 7 of the Endangered Species Act of 1973 (as amended) and CDFG 2081 Take Permit. Developed restoration plans, field survey protocols, and mitigation packages in accordance with local and federal agency standards. The Cajon Pass is recognized as one of the most important landscape linkages in southern California as it connects two of the largest remaining blocks of



natural open space essential for long-term wildlife viability. August 2005-ongoing

**Caltrans, State Route 805, Least Bell's Vireo (LBVI) surveys, San Diego, California.** Participated in USFWS protocol presence/absence surveys for Least Bell's Vireo (*Vireo bellii pusillus*), at several locations along SR 805. Two Least Bell's Vireo pairs and territories identified. May-June 2006

**FEMA, Santa Ana River, Least Bell's Vireo (LBVI) surveys, Riverside, California.** Participated in USFWS protocol presence/absence surveys for Least Bell's Vireo (*Vireo bellii pusillus*), at one location along the Santa Ana River. One Least Bell's Vireo pair and territory identified. May-June 2006

**Prima Deschecha Landfill Least Bell's Vireo (LBVI) surveys and construction monitoring.** Managed monitoring crew during groundwater protection composite liner construction adjacent to occupied LBVI habitat. Multiple LBVI and CAGN detected during monitoring and surveys. August-October 2006.

**San Bernardino Kangaroo Rat Trapping Project, Yucaipa, California.** Participated in Presence/Absence USFWS protocol trapping project for San Bernardino Kangaroo Rat (federally listed endangered species) under supervision of Dr. Richard Friesen Permit # TE-775896. Field activities included setting and baiting traps, handling and identification of captured mammals. 375 trap nights July 2006

**Biological Reconnaissance, Caltrans Clinton Keith Road Interchange and I-15, Riverside County, California.** Participated in biological reconnaissance survey at I-15 and Clinton Keith Road interchange in Riverside County, California. Surveys included habitat characterization, flora and fauna inventory. Reports included NES-MI and MSHCP consistency report. March 2006

**Gnatcatcher surveys, Dana Point Headlands Development Project, Dana Point, CA.** Performed California gnatcatcher (*Poliophtila californica californica*) nesting surveys for the Dana Point Headlands project. Multiple pairs and nests detected. March 2006- August 2006.

**Desert Tortoise Surveys, Mojave Desert (west of Barstow), California.** Performed pre-construction Desert Tortoise surveys for proposed nursery products facility project. Two tortoises and multiple tortoise sign detected. April 2006.

**Desert Tortoise Surveys, Barstow, California.** Performed pre-construction Desert Tortoise surveys and Desert Tortoise Monitoring for Horizon Wind Energy

**Gnatcatcher Surveys, Rio Hondo College.** Participated in USFWS protocol presence/absence surveys for California Gnatcatchers (*Poliophtila californica californica*). June-August 2006

**Biological Reconnaissance Oak Glen 80 – Cinnamon Forest Homes, Yucaipa, San Bernardino County.** Conducted surveys on the 80-acre site proposed for development, to identify wildlife and vegetation communities and the distribution and relative abundance of general and sensitive wildlife habitats on the property. The surveys were conducted by walking the



property and recording plant and wildlife observations on standardized field data sheets. Plant communities on the project sites were identified and qualitatively described. Biological resources on the property were inventoried and the potential for the presence of sensitive plant and wildlife species and sensitive habitats was assessed; focusing on those species listed as threatened or endangered by the state and federal agencies. June 2006

**Biological Reconnaissance, Narco channel, California.** Participated in biological reconnaissance survey at the Narco channel. Surveys included habitat characterization, flora and fauna inventory. The channel is being reconfigured to increase flow capacity and to reduce bacteria and particulate levels through the use of biological filtration. Restoration is occurring within the City of Laguna Niguel in Narco Channel, a tributary to Sulphur Creek. The restored habitat will be monitored for 3 to 5 years

**Los Angeles County Department of Public Works (LACDPW). Malibu road repair project, Los Angeles County, California.** Performed biological assessments and prepared necessary biological reports for LACDPW road repair projects at multiple sites in the Malibu Hills. Surveys included habitat characterization, flora and fauna inventory. July 2005-Ongoing

**Prima Deschecha Landfill Least Bell's Vireo (LBVI) surveys and construction monitoring.** Monitored noise levels and construction of large catch basin adjacent to occupied LBVI habitat. Multiple LBVI and CAGN detected during monitoring and surveys. August-September 2005.

**Caltrans SR-52 Road Widening Project, San Diego County, California.** Participated in USFWS protocol presence/absence surveys for Least Bell's Vireo (*Vireo bellii pusillus*), along SR-52. Eight Least Bell's Vireo pairs and territories identified. May- June 2005

**Biological Monitor, Dana Point Headlands Development Project, Dana Point, CA.** Served as a biological monitor during initial grading and vegetation removal activities at a residential development project. As per county requirements, a responsibility included flushing resident California gnatcatchers (*Poliptila californica californica*) from brush so as to minimize potential takes.

**Biological Monitor, Mountain View Power Plant and Pipeline Project, San Bernardino, CA.** Served as a biological monitor during construction of gas valve station associated with an upgraded power plant. Responsibilities included compliance oversight during construction activities. Small mammal exclusion fence for San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*) was installed and maintained throughout the 5-month long project.

**Los Angeles County Department of Public Works (LACDPW). Templin Highway repair project, Los Angeles County, California.** Performed a biological assessment and prepared necessary biological reports for LACDPW Templin Highway road repair project. Surveys included habitat characterization, flora and fauna inventory. July 2005

**Biological Reconnaissance, Caltrans SR 74 Participated** in biological reconnaissance surveys along SR 74 in Orange County, California. Surveys included habitat characterization, flora and fauna inventory, and identification of sensitive plant and wildlife species. June 2005



**Biological Reconnaissance, Caltrans Clinton-Keith/I-215 Interchange, Riverside county, California.** Participated in biological reconnaissance surveys along I-215 and Clinton/Keith road in Riverside County, California. Surveys included habitat characterization, flora and fauna inventory, July 2005

**Kinder Morgan Energy Partners (KMEP), Emergency wash out Pre-construction and during construction monitoring for the repair of the Calnev pipeline within Cajon and Lytle Creek California.** Performed pre construction San Bernardino Kangaroo Rat (SBKR) surveys and during construction monitoring for KMEP. January- March 2005

**Invasive Predator Control, Caltrans I-5 Freeway Biological Mitigation Project Widening Project, San Diego/Orange County Line, CA.** Participated in invasive predator control surveys in San Mateo Creek/Lagoon, west of I-5, just south of San Clemente, CA. Targeted invasive predators included bullfrogs, crayfish, and mosquito fish. Protected species include Arroyo Toad (*Bufo californicus*) and Tidewater Goby (*Encyclogobius newberryi*). March -September 2004 and March -September 2005

**San Bernardino Kangaroo Rat Trapping and Monitoring Project, Mountain View Power Plant, San Bernardino County, California.** Participated in Presence/Absence USFWS protocol trapping project for San Bernardino Kangaroo Rat (federally listed endangered species) under supervision of Dr. Richard Friesen, Permit # TE-775896. Field activities included setting and baiting traps, handling and identification of captured mammals. 200 trap nights September 2004

**Delhi Sands Flower Loving Fly (DSFLF), Monitoring Project, Mountain View Power Plant Construction Project, Colton, California.** Monitored pipeline construction through DSFLF (federally listed endangered species) habitat. October 2004-January 2005

**Kinder Morgan Energy Partners (KMEP), Pre-Construction Surveys from Halloran Springs Road to KMEP Pump Station in Baker, California.** Performed pre construction Desert Tortoise surveys for KMEP from Halloran Springs Road to Baker, California. One Desert Tortoise detected during the surveys. September 2004

**Biological Assessment, Metropolitan Water District (MWD) Habitat Conservation Plan, Riverside and San Bernardino Counties, CA.** Participated in biological reconnaissance surveys along parcels managed by MWD in association with the Colorado River Aqueduct. Surveys included habitat characterization, flora and fauna inventory, and identification of sensitive plant and wildlife species. April 2004, March 2005- April 2005

**Los Angeles Department of Water and Power (LADWP) Interset Tower replacement project, Kern County California.** Performed pre and during construction Desert Tortoise surveys and monitoring for LADWP linear tower replacement construction project from Mojave to Lone Pine California. October- December 2003

**Kinder Morgan Energy Partners (KMEP), Emergency wash out repair Zzyzx road California.** Performed pre construction Desert Tortoise surveys for KMEP emergency pipeline repair near Zzyzx California. August 2003



**Endangered Species Survey, Center for Natural Lands Management, March Air Force Base, Riverside County, CA.** Participated in an initial population density survey for Stephens' Kangaroo Rat (SKR, *Dipodomys stephensi*) on lands managed as a reserve. Activities included live-mammal trapping within the reserve. 300 trap nights July 2003

**Small Mammal Trapping, Dana Point Headlands Development Project, Dana Point, CA.** Participated in protocol USFWS presence/absence trapping surveys for Pacific Pocket Mouse (*Perognathus longimembris pacificus*). 850 trap nights June 2003

**Los Angeles Department of Water and Power (LADWP) Interset Tower replacement project, Kern County California.** Performed pre and during construction Desert Tortoise surveys and monitoring for LADWP linear tower replacement construction project near Indian Wells California. September 2002

**Caltrans Pacific Pocket Mouse Trapping Project, I-5 Freeway, San Diego County California.** Participated in Presence/Absence USFWS protocol trapping project for Pacific Pocket Mouse (federally listed endangered species) under supervision of Dr. Richard Friesen Permit # TE-775896. Field activities included setting and baiting traps, handling and identification of captured mammals. 1000 trap nights August-June 2003.

**Otay Mesa River Wash Gnatcatcher nest surveys and construction monitoring.** Monitored Drilling and performed nest surveys for the endangered California Gnatcatcher within the Otay Mesa River Wash. Multiple pairs detected during the monitoring from February 2004 to April 2004.

**Caltrans SR 7 Burrowing Owl Monitoring and Exclusion Project.** Located and excluded approximately 50 California State sensitive Burrowing owls (*Athene cunicularia*) along State Route 7 near Calexico California. Project also included weekly Burrowing Owl construction monitoring. January 2004

**Hill Canyon Wastewater Treatment Plant, Thousand Oaks California.** Monitored construction of Treatment plant expansion and mitigated wetlands area. Monitoring included directing heavy equipment around sensitive species, vegetation identification, and water quality testing. July 2003- March 2004

**Threatened and Endangered Species Survey, Caltrans SR-76 Road Widening Project, San Diego County, CA.** Participated in USFWS protocol presence/absence surveys for Least Bell's Vireo (*Vireo bellii pusillus*), Arroyo Toad (*Bufo californicus*), and California Gnatcatchers (*Poliophtila californica californica*) along SR-76 and adjoining San Luis Rey River. Six Least Bell's Vireo pairs and territories identified. June 2003

**Caltrans Route 58 Bypass project Mojave, California.** Performed pre-construction Desert Tortoise surveys and weekly Desert Tortoise Monitoring for Caltrans route 58-bypass construction project. May 2001-February 2004.

**San Bernardino Kangaroo Rat Trapping Project, Redlands, California.** Participated in Presence/Absence USFWS protocol trapping project for San Bernardino Kangaroo Rat (federally listed endangered species) under supervision of Dr. Richard Friesen Permit # TE-775896.



Field activities included setting and baiting traps, handling and identification of captured mammals. 1250 trap nights July-October 2002

**Desert Tortoise Surveys, Nellis Air Force Base, Nevada.** Performed focused surveys for the Desert Tortoise within two alternative sites for the proposed Nevada Training Initiative (NTI). Nellis AFB, Nevada: May-June 2002.

**Pacific Pocket Mouse Trapping Project, Dana Point, California.** Participated in Presence/Absence USFWS protocol trapping project for Pacific Pocket Mouse (federally listed endangered species) under supervision of Dr. Richard Friesen Permit # TE-775896. Field activities included setting and baiting traps, handling and identification of captured mammals. 1050 trap nights August-September 2002.

**Migratory Bird Study, CalEnergy Company, Inc., Salton Sea, CA.** Performed monthly shorebird surveys to determine the flight patterns of migratory birds in the area of proposed geothermal plants and associated transmission lines along the southeast end of California's Salton Sea. Surveys were conducted from October 2001 March 2002.

**Desert Tortoise Surveys, Las Vegas, Nevada.** Performed over 200 hours of supervised Desert Tortoise pre-construction species density surveys with permitted Biologist. Projects in Nevada associated with proposed power plant sites and miles of proposed power lines. July-Sept 2001

**FEMA Gnatcatcher Surveys, San Bernardino County, California.** Assisted permitted Biologist Rick Bailey with Presence/Absence surveys for the CA Gnatcatcher (federally listed endangered species). Surveys also included the endangered plant species Nevin's Barberry. June 2001.

**San Bernardino Kangaroo Rat Habitat Surveys, Redlands, California.** Participated in identifying and mapping habitats for the San Bernardino Kangaroo Rat (federally listed endangered species). Field activities include identification of heteromyidae diagnostic signs within various habitats (i.e., burrows, scat, runways, tracks, dust baths, etc.). Associated project responsibilities included plant identification, plant community mapping, and rare plant surveys. Nov 2001-Jan 2002.

#### **Professional Societies/Affiliates**

Wildlife Society 2002

Audubon Society 2003



## Areas of Expertise

California's Native Flora;

Special Status Species Surveys, Monitoring, and Habitat Assessment;

Native Habitat Restoration and Monitoring;

Vegetation Mapping and Quantitative Botanical Surveys;

Functional and Data Analysis;

CFGC, ESA, and CEQA/NEPA compliance; and

Wildlife Biology, Biological Monitoring, Biological Resource Assessment, Desert Tortoise Surveys, Burrowing Owl Surveys, and Flora and Fauna Identification

## Years of Experience

With URS 8 Years

## Education

B.S./1999/Botany /Humboldt State University, Arcata, California

- B.S./1999/Environmental Biology/ Humboldt State University, Arcata, California

## Ken McDonald

*Botanist/Restoration Ecologist*

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### Overview

Mr. McDonald is a botanist and restoration ecologist with 8 years of relevant environmental consulting experience. He specializes in the identification, analysis, and restoration of California vegetation. Mr. McDonald has conducted surveys of plant communities throughout California. He participated and lead field based: focused and quantitative vegetation surveys; vegetation mapping; supported the development of revegetation plans; performing restoration compliance inspections, data analysis, functional analysis, and so forth. Ken has also supported the preparation of a variety of environmental compliance documents. Mr. McDonald has prepared numerous biological reports, assessments, and restoration plans to demonstrate compliance with the California Coastal Act, Clean Water Act (CWA), California Fish and Game Codes (CFGC), federal and state Endangered Species Acts (ESA), California Environmental Quality Act (CEQA), and National Environmental Policy Act (NEPA), etc.

### ***Project Specific Experience:***

#### **Solar I Desert Tortoise Presence/Absence Surveys, San Bernardino County, CA.**

Conducted a 15,000 acre desert tortoise survey for a proposed solar/thermal generating facility. Performed protocol desert tortoise surveys, vegetation community mapping, rare plant surveys, and an assessment of special aquatic resource areas.

#### **Solar II Flat-Tailed Horned Focused Surveys, Imperial County, CA.**

Conducted a 7000 acre Flat tail horned lizard survey for a proposed solar/thermal generating facility. Performed protocol Flat tail horned lizard surveys, vegetation community mapping, rare plant surveys, and an assessment of special aquatic resource areas.

#### **Southern California Edison, Palmdale, CA; Project Botanist**

Performed vegetation community mapping along a 43 mile transmission line proposed for upgrades. Compiled data and vegetation maps for submission to the California Public Utility Commission (CPUC).

#### **City of Selma, Fresno County, CA; Project Botanist**

Conducted literature review, reconnaissance biological surveys, and vegetation mapping of the City of Selma, California. The



purpose of the surveys was to describe the existing biological resources and habitat quality as it occurs within a specific portions within the City of Selma.

**Riparian Restoration and Enhancement Plan for Santa Margarita River, Naval Air Station, Camp Pendleton, San Diego County -- Geofon Incorporated; Project Restoration Ecologist**

Vegetation community mapping and supporting the creation of a conceptual mitigation plan. Assisted in the development of a restoration plan and a habitat monitoring plan for the Camp Pendleton Marine Air Station. Monitored restoration and enhancement of existing least Bell's vireo habitat and riparian vegetation adjacent to the helicopter landing area on Camp Pendleton. Monitored construction for biological compliance.

**Environmental Services on the SR-125 Project, San Diego County -- Otay River Constructors; Project Botanist**

Vegetation community mapping and surveying for sensitive plant species. Assisted with creation of a Mitigation Monitoring Plan, special aquatic resource permitting, development of a Biological Assessment, and so forth. Additional tasks included supporting the development and implementation an environmental awareness training program, and other tasks during construction of the Caltrans Gap Connector portion of the SR-125 Toll Road route.

**Line 85 Natural Gas Replacement Project, Kern County -- Sempra Energy Utilities/Southern California Gas Company; Project Botanist**

Conducted sensitive plant surveys. Provided complete biological permitting services for an approximately 21.5-mile natural gas pipeline replacement project in the Grapevine/Lebec, in Kern and northern Los Angeles County.

**Tonner Hills Restoration and Implementation Monitoring Plan, Brea, Orange County -- Nuevo Energy/Ullom Associates; Project Botanist and Restoration Ecologist**

Data base search and sensitive plant field surveys, vegetation mapping, exotic plant removal monitoring, construction monitoring, and restoration implementation and maintenance monitoring. Approximately 120 acres of native vegetation communities were restored or enhanced. Special aquatic resource area evaluations were also conducted.



**Biological Resource Assessment of a Surface Mining Quarry, Sanger, Fresno County -- Vulcan Materials Company; Project Botanist**

Conducted literature review and performed a vegetation surveys. Plant communities were identified and mapped. The project included the expansion of mining activities on the existing extraction and processing site.

**Fiber-Optic Communications Innerduct Project, multiple counties, California -- Level 3 Communications; Project Botanist/Monitoring Biologist**

Responsibilities included assisting in the preparation of environmental documentation, and biological monitoring of in areas supporting habitat of special status species and special aquatic resource areas. The project area crossed 40 states and serves 50 U.S. cities, with a total of 15,000 miles of fiber-optic network. Approximately 75 percent of the buried fiber-optic cable system is located within railroad right-of-ways, with the rest located within highway right-of-ways and limited private land.

**Professional Societies/Affiliates**

California Native Plant Society

Southern California Botanists

Society for Ecological Restoration – California

California Native Grass Association

California Invasive Plant Council

California Botanical Society

Botanical Society of America

The American Society of Plant Taxonomists

Audubon Society – Sea and Sage Chapter



### **Areas of Expertise**

Wildlife Biology, Biological Monitoring, Biological Resource Assessment, Desert Tortoise Surveys, and Flora and Fauna Identification

### **Years of Experience**

With URS < 1 Year

### **Education**

MS Biology - California State University Long Beach (CSULB)

BS Ecology and Environmental Biology – CSULB

AA - Los Angeles Harbor College

### **Dennis Miller**

*Staff Biologist*

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#### **Overview**

Mr. Miller professional expertise includes: biological resource assessments (e.g., identification of flora and fauna, vegetation mapping, etc.) and biological monitoring.

#### **AUSRA Blunt-nosed Leopard Lizard Presence/Absence Surveys, San Luis Obispo County, CA.**

Conducted focused surveys for blunt-nosed leopard lizard over a roughly two (2) square mile fallow agricultural area in the Chorizo Plains.

#### **Solar I Desert Tortoise Presence/Absence Surveys, San Bernardino County, CA.**

Conducted a 15,000 acre desert tortoise survey for a proposed solar/thermal generating facility. Performed protocol desert tortoise surveys, vegetation community mapping, rare plant surveys, and an assessment of special aquatic resource areas.

#### **Solar II Flat-Tailed Horned Focused Surveys, Imperial County, CA.**

Conducted a 7000 acre Flat tail horned lizard survey for a proposed solar/thermal generating facility. Performed protocol Flat tail horned lizard surveys, vegetation community mapping, rare plant surveys, and an assessment of special aquatic resource areas.

#### **References**

##### **Dr. Patrick Mock**

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##### **Lenny Malo M.S.**

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##### **Lincoln Hulse**

URS Santa Ana Senior Biologist  
2020 East 1<sup>st</sup> Street, Suite 400



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**APPENDIX C**  
**CULTURAL RESOURCES**

CULTURAL RESOURCES  
TECHNICAL REPORT

PETITION TO AMEND  
PANOCHÉ ENERGY CENTER  
(06-AFC-5C)

*Prepared for*

Panoche Energy Center, LLC

*Prepared by*

Brian Hatoff, MA, RPA  
Maureen Kick, MA, RPA

August 1, 2008

**URS**

URS Corporation  
1333 Broadway, Suite 800  
Oakland, CA 94612

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Figure 2 Area of Potential Effects

Figure 3 North Valley Yokuts Ethnohistoric Villages

Appendix B Resumés of Key Personnel

Appendix C Department of Parks and Recreation Forms

### List of Acronyms

AFC	Application for Certification
APE	area of potential effects
BAAH	Breaker-and-a-half bus configuration
B.P.	before present
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CRHR	California Register of Historic Resources
CRMMP	Cultural Resources Monitoring and Mitigation Plan
SSJVIC	Southern San Joaquin Valley Information Center
LORS	Laws, ordinances, regulations, and standards
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PEC	Panoche Energy Center
PRC	(California) Public Resources Code
PTA	Petition to Amend
RPA	Registered Professional Archaeologist
SHPO	State Historic Preservation Officer
URS	URS Corporation

**TITLE:** Cultural Resources Report for the Panoche Energy Center Petition to Amend, Panoche Substation Extension

**AUTHORS:** Brian Hatoff, RPA, and  
Maureen S. Kick, RPA

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1333 Broadway, Suite 800  
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**DATE:** August 1, 2008

**SOURCE OF COPIES:** Southern San Joaquin Valley Information Center, California State University, Bakersfield, Bakersfield, CA

**ABSTRACT:**

Panoche Energy Center (PEC) proposes to expand the existing Panoche Electrical Substation an additional 6.5 acres to provide an optimal interconnection point between the previously approved PEC and the existing substation. The previously approved PEC is a 400megawatt simple-cycle power plant currently being constructed on adjacent property west of the existing substation. The previously approved PEC included the expansion of the existing substation by 2.5 acres. This technical report addresses and analyzes the impacts of the additional 6.5-acres expansion only and not the previously approved PEC project, and reports the results of the cultural resources investigation conducted to inventory and assess the significance of cultural resources that could be affected by the proposed modification.

Because the proposed modifications are within close proximity to the recently approved PEC project, previously conducted literature review and survey information were utilized. Similarly, no new Native American consultation was initiated, as the proposed modifications are adjacent to the previously permitted project, and the Native American contacts identified by the Native American Heritage Commission had no concerns regarding this area.

Portions of the Proposed 6.5-acre Substation Expansion area were not surveyed during archaeological investigations for the PEC, therefore, an intensive pedestrian survey of the Proposed Substation Expansion area and a 200-ft buffer area was conducted. This and all previous surveys and monitoring activities within the project vicinity have been negative for cultural resources.

No cultural resources were identified within the vicinity of the Proposed Substation Expansion, therefore, the Proposed Substation Expansion will result in no significant impacts to known cultural resources or unique archaeological resources are anticipated. While the probability of encountering resources during construction activities is low, significant impacts to unknown subsurface resources could occur. To reduce impacts associated with unanticipated discoveries, the measures set forth in the Cultural Resources Mitigation and Monitoring Plan would be implemented, and Cultural Resources Monitors will be on site for ground disturbing activities

## 1.1 INTRODUCTION

Panoche Energy Center (PEC) proposes to expand the existing Panoche Electrical Substation an additional 6.5 acres to provide an optimal interconnection point between the previously approved PEC and the existing Substation. The previously approved PEC is a 400 megawatt simple-cycle power plant currently being constructed on adjacent property west of the existing Substation. The previously approved PEC included the expansion of the existing Substation by 2.5 acres.

The Proposed Substation Expansion would increase the acreage of the existing Substation by 6.5-acres. The existing Substation cannot adequately accommodate the interconnection without the additional expansion and associated equipment. The Proposed Substation Expansion would accommodate the installation of a new Breaker-and-a-Half (BAAH) bus configuration, as well as rearranging the electric transmission lines to connect to the new BAAH to improve the reliability within the Substation. It should be noted that this Petition to Amend (PTA) document addresses and analyzes the additional 6.5-acres to the existing Substation only and not the previously approved PEC project.

California Energy Commission (CEC) regulations require that the Proposed Substation Expansion undergo environmental assessment. Under the California Environmental Quality Act (CEQA), the potential impacts of the Proposed Substation Expansion to cultural resources must be evaluated. Although not considered a Federal undertaking at this time, the Proposed Substation Expansion has been concurrently assessed with regard to requirements of Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, set forth as 36 CFR 800.

This document, prepared by URS Corporation (URS), is a technical report of the methods and results of the cultural resources inventory and associated activities. The purpose of this study is to inventory and assess the significance of cultural resources that could be affected by the Proposed Substation Expansion.

### 1.1.1 Regulations and Compliance Overview

Cultural resources work was conducted in compliance with the CECs *Instructions to the California Energy Commission Staff for the Review of and Information Requirements for an Application for Certification* (CEC 1992) and *Rules of Practice and Procedure & Power Plant Site Certification Regulations Revisions* (CEC 2006).

Laws, ordinances, regulations, and standards (LORS) pertinent to the identification, assessment of significance, and assessment of and mitigation of adverse effects to cultural resources are identified in Section 6. All cultural resources work for this project was carried out under the direct supervision of an archaeologist who meets the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation. The report was prepared by the following individuals:

- Brian W. Hatoff, Senior Project Archaeologist, M.A., and Registered Professional Archaeologist (RPA) – 30 years experience in cultural resources management and archaeological studies in the western United States; Cultural Resources Specialist for the PEC project.

- Maureen Kick, Archaeologist, M.A., and RPA – six years experience in cultural resources management and archaeological studies in North America and two years of experience in California; Alternate Cultural Resources specialist for the PEC project.
- Dean Martorana, M.A., and RPA – eight years of experience in cultural resource management and archaeological studies throughout California.

Key personnel resumés are included as Appendix B.

Although this is not considered a “Federal undertaking”, the legal framework for addressing cultural resources at the Federal and State level are generally equivalent and are used somewhat interchangeably in the following discussion. Consideration was also given to criteria for eligibility for the National Register of Historic Places, identified at 36 CFR 60.4.

The State of California references cultural resources in the CEQA Public Resources Code (PRC) Division 13, Sections 21000-21178; archaeological and historical resources are specifically treated under Sections 21083.2 and 21084.1, respectively. California PRC 5020.1 through 5024.6 (effective 1992) creates the California Register of Historic Resources (CRHR) and sets forth requirements for protection of historic cultural resources. The criteria for listing properties in the CRHR are in Section 15064.5 (a)(2)-(4) of the CEQA Guidelines, which provide the criteria from Section 5024.1 of the PRC. The CRHR is in the California Code of Regulations Title 14, Chapter 11.5. The CRHR criteria closely parallel those of the NRHP. The eligibility criteria for listing properties in the NRHP are codified in CFR 36 Part 60 and explained in guidelines published by the Keeper of the National Register.

## 1.2 PROJECT LOCATION AND DESCRIPTION

### 1.2.1 Project Location and Components

The Proposed Substation Expansion to the existing approved PEC project are located in a rural area of Fresno County, California, generally southeast of the intersection of West Panoche Road and Davidson Avenue. The nearest city is Mendota, approximately 16 miles northeast of the site. Interstate 5 (I-5) is approximately 1.5-miles west and the California Aqueduct is approximately three miles to the east. Land use in the vicinity is primarily agricultural; pomegranates, almonds, grapes, and field crops are cultivated. Several rural residences are also located in the vicinity. Industrial facilities in the vicinity include the PG&E Panoche Substation, the Calpeak Plan Check Power Generation Facility, and the Wellhead Power Generation Facility. Specifically, the site where the Proposed Substation Expansion is located in Township 15 South, Range 13 East (Mount Diablo Baseline Meridian). The Assessor Parcel Number is 027-060-81S. The address of the existing Panoche Substation is 43729 Panoche Road, Firebaugh, CA 93622.

The site is located in an agricultural area currently supporting a pomegranate orchard. Power line easements are located along the western boundary. The site is essentially flat with a slight slope downward towards the northeast. The elevation of the vicinity is approximately 420-feet above mean sea level and slopes gently down to the southeast at approximately one percent grade. The surface is composed of sands, silts, and clays common to alluvial fan deposits in the area with generally loose and dry soils.

The following changes to the previously approved PEC project are proposed.

- Increase the Panoche Substation expansion by an additional 6.5-acres;
- Modify and expand Substation equipment to accommodate a new interconnection scheme; and
- Rearrangement of electric transmission lines to connect to the new BAAH bus configuration.

The Proposed Substation Expansion will be located on 6.5-acres of land at the southwest corner of the existing Substation. Approximately, 1,145-feet of the existing irrigation ditch would be realigned around the perimeter of the Substation expansion area. The 6.5-acre Proposed Substation Expansion area would create a flag-shaped parcel of land adjacent to the previously approved PEC project's 2.5-acre Substation expansion area. The following components of the Proposed Substation Expansion have the potential to impact cultural resources.

#### *Irrigation Ditch Realignment*

Approximately 1,145-feet of the existing irrigation ditch would be realigned around the perimeter of the Proposed Substation Expansion 6.5-acre area. The irrigation ditch would be excavated using a backhoe to the current dimension (approximately two feet deep by three feet wide). No improvements (i.e., concrete lining, riprap, etc.) would be made to the irrigation ditch.

### *Substation Bay Expansion*

The Substation would be expanded on the southwest corner of the existing Substation by an additional 6.5 acres. The changes to the bay expansion would include clearing vegetation and grading to establish proper drainage, and create a building site for the additional bus work. Site grading would also involve the soil compaction of the area. Vegetation removal would principally involve removal of pomegranate trees located in adjacent orchards. Following site preparations, foundations, containment basins, raceways and underground conduit would be installed. During construction and following initial excavation, a security fence would be erected around the perimeter of the Substation. The security fence between the additional 6.5-acres and the existing Substation would remain in place during construction. Reinforced concrete subsurface footings and concrete slabs would be installed along with the grounding grid. Aboveground steel structures, circuit breakers, transformers, switchgears, buses and other electrical equipment would be installed after the concrete cures. Equipment would be bolted or welded to slabs and footings to meet or exceed the seismic requirements. All equipment would be grounded using the Substation ground grid. Once installation is complete and as necessary during construction, gravel would be laid over the expansion area and the fence separating the existing Substation from the Proposed Substation Expansion would be removed.

### *Access Routes*

Access to the site would remain the same and would result in no changes. The main corridor of travel to access the site would continue to be along I-5 with direct travel to the Substation along West Panoche Road.

#### **1.2.2 Area of Potential Effects**

The archaeological area of potential effects (APE) for this project is comprised of the 6.5 acre footprint of the Proposed Substation Expansion. There are no additional access routes or linear components of the Proposed Substation Expansion. Figure 2 depicts the APE for the Proposed Substation Expansion.

## 2.1 ENVIRONMENTAL SETTING

The climate of eastern Fresno County is classified as Mediterranean with mild, moderately wet winters, and hot dry summers. Regional climate is controlled primarily by the Pacific high-pressure system over the eastern Pacific Ocean, although local climate is strongly influenced by topography. Precipitation occurs mainly during the months of November through April and is generally associated with winter storm systems. Any rainfall that occurs during the summer is usually light and associated with isolated showers or thunderstorms.

Central California was subjected to a series of climatic fluctuations over the past several millennia. Generally warm/dry episodes were interspersed with intermittent cool/moist periods (Moratto et al. 1978). The Altithermal Period (a warm/dry episode) ended approximately 2,900 years ago leading to changes in animal and plant populations and distributions. A subsequent climatic cooling trend was established for the next 1,400 years which was then somewhat abruptly replaced by climatic warming which continues to the present. Following the introduction of livestock by European Americans the abundant and widespread native grasslands of central California were replaced by non-native species that dominate today.

Shorter-term climatic and ecological fluctuations also may have been significant to human use of the study area. The Recess Peak Glacial Advance, marked by cooler temperatures and increased precipitation, began sometime around 2,700 to 2,800 years ago (Banks & Orlin 1984: 3.2), and reached a peak with record amounts of annual rainfall between 1,900 and 1,500 years ago. Rainfall then declined rapidly and gave way to warmer climate, which predominated between about 1,500 and 900 years ago. After this time, pulses in glaciations have continued to result in alternating epochs of warm dry climate and cooler moister climate into modern times. A worldwide phenomenon know as Medieval Climatic Anomaly may have been expressed in the study area by two prolonged periods of drought, between 1,300 and 1,100 BP and again between 800 and 650 BP (Ingram 1955). Perhaps most marked of recent climatic fluctuations is the so-called “Little Ice Age”, a period of prolonged cooler winters between 650 and 150 BP (Simons 2002).

Prior to their draining in the mid-19th century, the San Joaquin Valley contained large lakes and marshes, including Tulare Lake, Buena Vista Lake, and the Fresno Slough. Tulare Lake was a large freshwater lake, and a related marshland covered the study area. These lakes, marshlands, rivers, and streams provided habitat for a wide variety of aquatic birds and plants, freshwater mollusks, amphibians, and fish (Moratto 1984).

## 2.2 PREHISTORIC SETTING

California has supported a continuous cultural occupation for at least the last 10,000 years (Elsasser 1978). The cultural occupation of the northern San Joaquin Valley can be divided into three time periods or horizons, which help to define the practices and subsistence patterns of the people of that region. The designations Early, Middle and Late Horizons were developed as a chronological sequence by Beardsley (1948, 1954) based upon his work in the Sacramento-San Joaquin Delta region to the San Francisco Bay area (Elsasser 1978:37).

### 2.2.1 Early Period

The Early Period in California generally refers to the time frame between roughly 10,000 and 7,000 years before present (B.P.). Early Period components have been identified along the fossil lakeshores of Tulare Lake and Buena Vista Lake, in the east central and southwestern portions of the San Joaquin Valley, respectively. Lithic (stone) artifact assemblages associated with the Early Period in the San Joaquin Valley are characterized by the presence of stemmed projectile points. The Witt site, on the fossil lakeshore of Tulare Lake also featured ‘fluted’ and concave based projectile points, associated with terminal Pleistocene ‘Clovis’ assemblages in other regions of North America (Moratto 1984). The Buena Vista Lake site (CA-KER-116), in Kern County, is the other primary San Joaquin Valley site yielding Early Period stemmed points from lower layers in the stratigraphy. Stemmed points have also been recovered from several sites in the foothills at the margins of the valley, namely at the Skyrocket sites (CA-CAL-629, -630) in the Calaveras County foothills, and at the Clark’s Flat site (CA-STA-S342) in the Stanislaus County foothills. Other Early Period lithic artifacts include cobble core tools (choppers and scrapers) and flake tools, as well as crescent-shaped, leaf-shaped, ovate, and lanceolate bifaces. Groundstone artifacts of this period are typically expedient, showing light use wear, and often exhibit multiple forms of use wear.

### 2.2.2 Middle Period

The Middle Period (7,000-2,500 B.P.) is characterized by an increase in groundstone implements and by ‘Pinto’ or ‘Stanislaus Stemmed’ projectile points. These points have been recovered at CA-KER-116, the Witt site, the Skyrocket sites, and the Clark’s Flat site. While much of the flaked-stone tool assemblage in the Middle Period is similar to that of the Early Period, the presence of more groundstone milling equipment with extensive use wear suggests a greater reliance on hard seeds than in the Early Period.

### 2.2.3 Late Period

The Late Period refers to the time period between approximately 2,500 B.P. and European contact, at which time Native American lifeways were recorded in the ethnographic/historic record. The material culture patterns observed at contact emerged during the Late Period, and the ethno-historic record provides a valuable resource for understanding Late Period archaeology. The archaeological record for the Late Period reveals a significantly different suite of material culture than that seen in Middle Period assemblages. Heavily utilized mortar and pestle technology (associated primarily with acorn processing), and bow and arrow technology, both emerge during the Late Period. Large occupation sites, representing semi-permanent and permanent villages emerge during this time as well. On the western margins of the San Joaquin Valley, these village sites typically feature dark-colored midden deposits, multiple excavated house pit depressions, and large, excavated communal structures. Other artifacts typical of Late Period deposits include freshwater and marine shell ornaments, ornaments and utilitarian implements of steatite and faunal bone, obsidian from eastern California sources, and notched cobbles thought to be associated with fishing.

**2.3 ETHNOGRAPHY**

The Proposed Substation Expansion is located within the boundaries of the Northern Valley Yokuts territory, at the northeastern end of the San Joaquin Valley, near Little Panoche Creek. Ethno-linguistic groups throughout the Northern California territories interacted with each other along their boundaries, and as such the ethno-linguistic boundaries are not considered permanent. The following discussion is summarized from Wallace (1978).

“Yokuts” is a term applied to a large and diverse number of people inhabiting the San Joaquin Valley and Sierra Nevada foothills of central California. The Northern Valley Yokuts inhabited a 40- to 60-mile-wide area straddling the San Joaquin River, south of the Mokelumne River, east of the Diablo Range, and north of the sharp bend that the San Joaquin River takes to the northeast. The Southern Valley Yokuts inhabited the San Joaquin Valley south of the bend in the river. Although they were divided geographically and ecologically, they had similar linguistic styles. For the Northern Valley Yokuts, the San Joaquin River and its main tributaries served as a lifeline to the valley (Wallace 1978:462).

The Northern Valley tribes closely resembled the Yokuts groups to the south, although there were some cultural differences. The northerners had greater access to salmon and acorns, two important dietary resources, and some of their religious practices reflected the influences of groups to their north, such as the Miwok. While inhumation was the usual practice in the southern valley, the Northern Valley Yokuts either cremated their dead or buried them in a flexed position (Wallace 1978:464, 468).

The Northern Valley Yokuts built their riverside villages on mounds along the water’s edge to avoid the spring floods, which were a result of heavy Sierra snow melts. Living beside rivers and streams provided plentiful river perch, Sacramento pike, salmon, and sturgeon. Hunting provided waterfowl such as geese and ducks as well as land animals such as antelope, elk, and brown bear although by all indications fish constituted a majority of the diet. The surrounding woodland, grasslands, and marshes provided acorns, tule root, and seeds.

A chief headed the tribelet (small, usually village-centered corporate groups typical of prehistoric California), which averaged around 300 people. Family houses were round or oval, sunken, with a conically shaped pole frame, and covered with tule mats. Each village also had a lodge for dances and other community functions, as well as a sweathouse (Wallace 1978:462-464).

The Northern Valley Yokuts used bone harpoon tips used for fishing, stone sinkers for nets, chert projectile points for hunting, mortars and pestles, scrapers, knives, and bone awl tools to procure and manufacture food. Marine shells, procured from coastal peoples, were used for necklaces and other adornments, and marine shell beads sometimes accompanied the deceased. They used tule reed rafts to navigate the waterways for fishing and fowling. The Yokuts also manufactured a range of intricate baskets for a variety of purposes, including storing, cooking, eating, winnowing, hopper mortars, and the transport of food materials. Very little is known of the Northern Valley Yokuts’ clothing, but drawings of their tattoos show that they served not only as a decoration but also as a form of identity (Wallace 1978:464).

Historic accounts from an unnamed Spanish expedition in 1810 and 1811 recall that the Spaniards named one of the Yokuts’ village Pescadero (“fisherman”) after seeing the Indians catching fish. During the time of Mexican land grants, Rancho Pescadero north of Tracy was

named for the Yokuts village. According to early accounts, the Yokuts traded with neighboring tribes and were fairly peaceful. Initially, the Diablo Range served as a natural barrier against heavy recruitment by the coastal Spanish missions. However, by the early 19th century, Spanish, and later, Mexican missionaries began to explore the inner valleys in search of neophytes. The Yokuts became irritated with the intrusion, and soon began fighting back and stealing horses from rancheros and missions in retaliation for intrusion. Eventually, the Northern Valley Yokuts were decimated by missionization, usurpation of land by rancheros, “49ers”, farmers, and epidemics, malaria being the most devastating, in 1833.

## 2.4 HISTORIC SETTING

### 2.4.1 Early European Contact and the Missions

The study area is located near a former marshland that was connected to Tulare Lake. Up to the second half of the 19th-century, this lake was the largest freshwater lake west of the Great Lakes. This lake was also home to several bands of Yokuts, to whom fugitives from the missions would often flee.

Though the Spanish missions were concentrated in the coastal areas of California, Spanish soldiers and priests made frequent forays into the San Joaquin Valley. The area surrounding Tulare Lake was a frequent target of Spanish parties searching for fugitives (Cook 1976; Smith 2004), and it is likely that fugitive-seeking expeditions also brought back unwilling converts from the this region (Cook 1976).

An 1804 expedition to find land on which to establish a mission was met with disinterest and a lack of cooperation on the part of the Tulare Indians. Further unsuccessful attempts to find land for an interior mission were made in 1806 and 1813. Father Zalvidea’s journals of an 1806 expedition to capture runaway neophytes in the San Joaquin Valley described the valley as a dry, miserable place, not suitable for settlement. This description helped to discourage attempts at settlement for over a decade (Smith 2004).

From the 1820’s through the 1840’s parties from the missions, Anglo-American and French fur trappers, and Russian explorers began to explore the San Joaquin Valley. These explorations caused international tensions, but also increased the American interest in California that had initially been sparked by the belief in Manifest Destiny. In 1848, at the conclusion of the Mexican-American War (1846-1848), California was among the lands ceded to the United States as part of the peace settlement.

Although dangers such as raids by the Yokuts were common, land in the San Joaquin Valley began to be granted by the Mexican authorities in the 1840’s, a practice that continued when the U.S. government took possession of California.

### 2.4.2 The Gold Rush and Agricultural Boom

John Sutter discovered gold near his mill near Sacramento in 1848. Though he and his men originally tried to keep it secret, word soon got out and the Gold Rush began. The Central Valley and the Sierra Nevada were soon host to a teeming mass of placer miners and those who sought to make a living either by providing for the needs and desires of, or else making victims of, these miners. The City of San Francisco sprang up almost overnight, several towns were

established throughout California, and many of those already established grew quickly as the population boomed. In 1850, California's population was deemed large enough for it to be eligible for statehood.

Near the study area, the town of Fresno City, west of the current location of the city of Fresno, was established at the head of the Fresno Slough to serve the needs of California's fledgling riverboat industry. Fresno County was formed out of part of the larger Mariposa County in 1856.

This general area was plagued by many of California's worst bandits, reportedly including the notorious Joaquin Murieta, though both the existence and the location of Joaquin Murieta has been questioned, throughout the mid-19th century.

As many would-be miners found mining too difficult, the competition too fierce, or the payout too small, many turned to farming the soils of the Central Valley. This eventually resulted in the draining of many of the swamps and lakes, including Lake Tulare near the study area.

Chinese workers, who had originally come to work in the mines, soon found themselves employed in the draining of California's waters, as well as in the capacity of farmhands. In addition to the well-known "Chinatowns" located in most large cities, and many small towns, in 19th century California, the Chinese workers left behind evidence of their activities in the form work camps, the remains of which are still occasionally visible on the landscape.

These Chinese workers, and later migrant workers from other parts of Asia, would be the frequent targets of anti-migrant hostilities, both in the state and federal legislatures, in the streets of California's towns, and in the state's agricultural fields. In the 1890's, Fresno was host to anti-Chinese riots among white workers (Takaki 1998).

With the draining of the lakes and swamps of California's Central Valley, it became possible to farm a much greater expanse of land. Agriculture first became a dominant business in the study area during the 1860's in the form of livestock ranching. In the 1870's, the coming of the railroad provided a larger market to farmers and also an easier mode of travel by which settlers could come to California, ushering an era of general farming (County of Fresno, 2006).

Irrigation began in the late 1860's, but remained controversial given the relatively limited water supply of the region. However, as irrigation became more common throughout the late 19th and early 20th centuries, the harsh, dry environment demonized by Zalvidea became a fertile, if still hot, agricultural powerhouse.

Throughout the remainder of the 19th century, Fresno County's population continued to grow, though it still remained relatively sparse as befits a primarily agricultural area. Many of the modern cities, including Fresno, Reedley, and Sanger were either founded or incorporated. Many of the markers of American culture, including newspapers, the railroad, and public transportation in the form of streetcars either were established or expanded in operation (Fresno Historical Society 2001).

### 2.4.3 The 20<sup>th</sup> Century through WWII

Fresno County's population growth rapidly increased during the first half of the 20th century, starting with a population of over 37,000 in 1900 and continuing to grow to 276,515 people by 1950. Canals, dams, and artificial bodies of water including Hume Lake were created to supply

water to both the people and agricultural fields of Fresno County. In 1914, Firebaugh, near which the study area is located, was incorporated. (Fresno County Historical Society 2001)

Throughout the tumultuous events of the early 20th century, including the early growth of the labor movement, WWI, the Great Depression, and conflicts between laborers native to California and migrant laborers from Asia, Central and South America, and, during the Great Depression, the south and Midwest of the United States, Fresno County continued to grow, and even prosper. The founding of new towns, newspapers, educational institutions (including a normal school and the first junior college in California), and the coming of mass-communication in the form of radio all served to tie Fresno County into the larger United States.

Increases in the price of Fresno's popular crops, such as raisins, raised land prices within the county and the growth of both staple and cash crops brought money to the area. South of the study area, the Kettleman Oil Fields were discovered in 1928, bringing yet another source of income to the area.

With the outbreak of WWII, anti-Japanese fervor led to the establishment of the Japanese internment camps in California and other parts of the western U.S. The establishment of temporary detention camps in eastern Fresno County and the Fresno Assembly Center would see this region play a role in WWII in addition to that of producing food, supplies, and soldiers.

#### 2.4.4 The Late 20th Century

As with the rest of California, the post-WWII return of soldiers and growth of families led to even further population growth. By 1950, Fresno County had a population of 276,515, and more cities continued to be incorporated throughout the 1940's and 1950's. By 1954, Fresno County had become the leading agricultural production county in the nation (Fresno Historical Society 2001), and the presence of agriculture, major transportation corridors (including State Highway 99, State Highway 152, Interstate 5, a railroad, and an airport converting from military to civilian use), industries, both related to agriculture and not, began to grow in and around Fresno.

Fresno County continued to grow throughout the second half of the 20th century, reaching a population of 799,407 by 2000 (Umbach 2002). An increasingly broad ethnic community has led to a rich cultural life in Fresno County, though it has also played a role in racial tension related to labor and immigration.

Though Fresno County is now home to many different industries, it has maintained its agricultural character.

### 3.1 LITERATURE REVIEW

A records search for previously recorded archaeological sites and previous cultural resource surveys within ½-mile radius of the Proposed Substation Expansion was conducted through the Southern San Joaquin Valley Information Center at California State University Bakersfield on October 2, 2006 (file number RS# 06-106). No cultural resources were previously recorded within the search radius and four cultural resources had been previously conducted within ½-mile of the Proposed Substation Expansion.

JRP Historical Consulting conducted the background historical research for this study. There results were presented as part of the approved PEC project, and are summarized in this report.

**Table 1. Previous Studies Conducted within the Study Area.**

<b>Study Number</b>	<b>Author</b>	<b>Date</b>	<b>Title</b>	<b>Within Project Area?</b>	<b>Positive for Cultural Resources?</b>
FR-00320	Canaday <i>et. al.</i>	1992	Archaeological Survey of Right –of-Way Corridor and Extra Work Spaces Construction Spread 5 B, California	No	Negative within ½ mile of the study area.
FR-00321	Moratto and Jackson	1990	Cultural Resources Assessment Report, PGT-PG&E Pipeline Expansion Project, Idaho, Washington, Oregon and California, Phase 1: Cultural Resources Inventory Atlas	No	Negative within ½ mile of study area.
FR-01959	Moratto <i>et.al.</i>	1994	Archaeological Investigations PGT-PG&E Pipeline Expansion Project, Idaho, Washington, Oregon and California	No	Negative within ½ mile of study area.
FR-02015	Aspen Environmental Group	2001	Los Banos-Gates 500 kV Transmission Project, Application No. 01-04-012, Draft Supplemental Environmental Impact Report	No	Negative within ½ mile of study area.

**4.1 NATIVE AMERICAN CONSULTATION**

Pursuant to the revised implementing regulations of the NHPA, found at Title 36 CFR Part 800.4(a) (4), URS Corporation, on behalf of PEC, contacted the Native American Heritage Commission (NAHC) on April 6, 2006, to request a review of its Sacred Lands File and a list of the individuals and groups that should be contacted regarding information or concerns related to the project areas. The search of the Sacred Lands File was negative; however, the NAHC provided a list of six individuals representing three organizations that may have knowledge or concerns regarding cultural resources in the area. Letters describing the project and a map depicting the proposed project were sent to these individuals on May 9, 2006. The letter inquired whether the individuals/organizations had any concerns regarding the project, or wished to provide input regarding cultural resources in the project APE. Follow-up telephone calls to these individuals who did not respond to the letter. None of the contacts expressed concerns regarding the project.

Information concerning consultation with Native American groups and individuals, including copies of the informational letter sent on behalf of the PEC are included as an appendix to the original Application for Certification

## 5.1 FIELD SURVEY

### 5.1.1 Prior Surveys in the Project Area

Portions of the 6.5-acre Proposed Substation Expansion area had been subject to intensive pedestrian survey in June 2006 during archaeological investigations for the approved 2.5-acre Substation expansion component of the PEC project. Additionally, archaeological surveys and monitoring were conducted for all ground disturbing activities related to the previously approved PEC project, which is in close proximity to the currently Proposed Substation Expansion.

JRP Historical Consulting conducted field surveys for built-environment resources on June 5, 2006 and January 22, 2007. Three agricultural/residential complexes, a section of Panoche Road and the Panoche Substation were identified within ½ mile radius of the proposed Substation expansion and were recorded and evaluated. Transmission lines associated with the Substation were also evaluated. The agricultural properties date to the 1940's and 1950's, and correspond with the mid-20<sup>th</sup> century agricultural expansion in northwestern Fresno County. Panoche Substation was likely constructed between 1937 and 1950, but has been substantially altered throughout its use period. It was determined that none of the identified resources met the criteria for listing in the NRHP or the CRHR. A complete report of these evaluations is available as part of the approved PEC project. Department of Parks and Recreation (DPR) forms for all evaluated resources are appended to this report.

All prior surveys and monitoring related to the approved PEC project have been negative for cultural resources.

### 5.1.2 Intensive Pedestrian Survey

The Proposed 6.5-acre Substation Expansion area was subject to a complete intensive pedestrian survey by URS archaeologists Brian W. Hatoff, M.A., RPA, and Dean Martorana, M.A., RPA, on July 23, 2008. Archaeological visibility was excellent. The surveyed area is an active pomegranate orchard, with sparse groundcover and little variance in elevation. No cultural resources, soil changes suggesting archaeological deposition, or other constituents such as charcoal or bone were observed on the grounds surface. The survey area was also examined for any evidence of historic artifacts, foundations or evidence of historic use. No foundations or other evidence of historic use was observed during the survey.

As required by the revised CEC regulations, a 200-foot wide buffer around the Proposed Substation Expansion area was surveyed. The survey was negative for cultural resources within the Proposed Substation Expansion area and buffer zone.

## 6.1 STATE, FEDERAL, LOCAL COMPLIANCE REQUIREMENTS

As this Proposed Substation Expansion will require State, Federal, and local compliance with LORS, a discussion of State, Federal, and local requirements is provided. This is followed by a discussion on assessing and determining significance, environmental consequences, as a result of Proposed Substation Expansion development, and mitigation requirements.

### 6.1.1 State Mandates

Cultural resources include archaeological and historical objects, sites and districts, historic buildings and structures, and sites and resources of concern to local Native Americans and other ethnic groups. Cultural resources which meet the criteria of eligibility to the CRHR are termed “historic resources”. Archaeological resources which do not meet CRHR criteria, may also be evaluated as “unique”; impacts to such resources could be considered significant as described below (CEQA Guideline revisions Oct. 26, 1998).

Before impacts or mitigation of impacts can be addressed, a site must first be determined to be a historic resource or a unique resource. For archaeological resources subsurface testing will be necessary to determine if a subsurface component is present, whether the extent of surface and/or subsurface materials will be affected by the proposed action, and to determine the resource(s) in question have the potential to answer local and regional research questions. If a resource is determined to be a historic resource or unique resource, a program to mitigate anticipated impacts must be implemented through avoidance or data recovery for archaeological resources; or for built environment resources by following the Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings and Guidelines for Rehabilitating Historic Buildings. Sites determined historic resources or unique resources need not be addressed as to mitigation of impacts.

### 6.1.2 Federal Mandates

Federal laws, procedures, and policies affecting the treatment of cultural resources include the Antiquities Act of 1906, Public Law 59-209, Executive Order 11593, Section 106 of the National Historic Preservation Act of 1966 (Public Law 89-665), as amended, Public Law 93-291, the National Environmental Policy Act of 1969 (Public Law 91-190), the Federal Land Policy Management Act of 1969 (Public Law 94-94-579), and regulations 36 CFR 60 and 36 CFR 800. For management purposes, a cultural resource must be recommended as either eligible or not eligible to the National Register of Historic Places to determine effect and the need for mitigation of potential effects. If the property (cultural resource) is determined eligible, then a determination of effect (36 CFR 800) must be provided. If the property is identified as not eligible, then no determinations of effect or mitigation measures are necessary. Recommendations are reviewed and approved by the State Office of Historic Preservation and the Advisory Council on Historic Preservation. Specific criteria for significance / importance determinations are addressed in Section 6.2.

### 6.1.3 Local Mandates

On the local level, the proposed mitigation will be in compliance with the Fresno County General Plan. The General Plan states that the goal of Fresno County is to identify, protect, and enhance important archaeological and historic resources within the County. In order to achieve this goal, a number of policies measures and programs targeting the management of cultural resources have been adopted by the County. In general compliance with CEQA and Section 106 satisfies the county's criteria for treatment of cultural resources. Table 2 identifies legal and regulatory authorities at the local level.

## 6.2 SPECIFIC CRITERIA FOR ASSESSING AND DETERMINING SIGNIFICANCE

In considering impact significance under the CEQA the significance of the resource itself must first be determined. Generally, under CEQA a historical resource (these include both built-environment and archaeological resources) is considered significant if it meets the criteria for listing on the CRHR criteria for inclusion on the CRHR are set forth in CEQA, Section 15064.5 and defined as follows:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individuals, or possesses high artistic values; or
4. Had yielded, or may be likely to yield, information important in prehistory or history.

Section 15064.5 of CEQA also assigns special importance to the remains of Native American and specifies procedures to be used when human remains are discovered. These procedures are spelled out under PRC 5097.98. Criteria for eligibility for the CRHR are very similar to those (detailed below) which qualify a property for the NRHP, under the NHPA. Note that a property that is eligible for the NRHP is also eligible to the CRHR.

Impacts to "unique archaeological resources" are also considered under CEQA, as described under PRC 21083.2. A unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets one of the following criteria:

- Contains information needed to answer important scientific questions and there is demonstrable public interest in that information;
- Has a special and particular quality, such as being the oldest of its type or the best available example of its type;
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.
- A non-unique archaeological resource means an archaeological artifact, object, or site which does not meet the above criteria.

To determine site significance through application of National Register criteria, several levels of potential significance which reflect different (although not necessarily mutually exclusive) values must be considered. As provided in 36 CFR 60.6 and 36 CFR 64: The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- 1) That are associated with events that have made a significant contribution to the broad patterns of our history; or
- 2) That are associated with the lives of persons significant in our past; or
- 3) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- 4) That have yielded, or may be likely to yield, information important in prehistory or history.

## 7.1 ENVIRONMENTAL CONSEQUENCES

At the state level, CEQA, Appendix G states that a project potentially would have significant impacts if it would cause substantial adverse change in significance of an historical resource (i.e., a cultural resource eligible to the CRHR, or archaeological resource defined as unique). A non-unique archaeological resource need be given no further consideration, other than the simple recordation of its existence.

At the federal level, the implementing regulations of Section 106 of the NHPA (36 CFR 800), impacts to identified cultural resources need to be considered only if the resource is a “Historic Property”; that is, only if it meets the criteria of eligibility for the NRHP (36 CFR 60.4).

Conclusions made in this section regarding the potential for encountering cultural resources, were based upon the background information collected for this project including a California Historical Resources Information System records search, an intensive pedestrian survey of the proposed APE, and the results of recent surveys and cultural resources monitoring in the immediate vicinity.

### 7.1.1 Proposed Substation Expansion

There are no previously recorded cultural resources located within the Proposed Substation Expansion vicinity. Intensive pedestrian survey of the proposed APE and a 200-ft buffer zone was negative for cultural resources. The Substation itself has been evaluated and fails to meet the criteria for inclusion in the NRHP or CRHR.

Based upon the results of recent cultural resources monitoring of ground disturbing activities at the adjacent approved PEC project, the likelihood that significant subsurface cultural resources are located within the Proposed Substation Expansion area is low. No adverse impacts are anticipated for the construction, operation or maintenance of the Proposed Substation Expansion area.

## 7.2 MITIGATION MEASURES

No specific actions are required for the Proposed Substation Expansion, as no significant cultural resources have been identified within the project APE. The protocols set forth in the Panoche Energy Center Cultural Resources Monitoring and Mitigation Plan (CRMMP) (URS 2008), including contingency measures and employee education, and cultural resources monitoring of ground disturbing activities will be in effect for this Proposed Substation Expansion.

## 7.3 LORS COMPLIANCE

The archaeological investigations described above served to identify all cultural resources that are present within the project APE. It is assumed that compliance with the more definitive standards of the NHPA will, thus, ensure compliance with cultural resource requirements under CEQA and all other applicable LORS.

No cultural resources were identified within the vicinity of the Proposed Substation Expansion, therefore, the Proposed Substation Expansion will result in no significant impacts to known

cultural resources or unique archaeological resources are anticipated. While the probability of encountering resources during construction activities is low, significant impacts to unknown subsurface resources could occur. To reduce impacts associated with unanticipated discoveries, the measures set forth in the CRRMP would be implemented, and Cultural Resources Monitors will be on site for ground disturbing activities.

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- 1995 Archaeological Investigations, PGT-PG&E Pipeline Expansion Project, Idaho, Washington, Oregon, and California (Volume I, II, III, IV, V). Report S-23674 on

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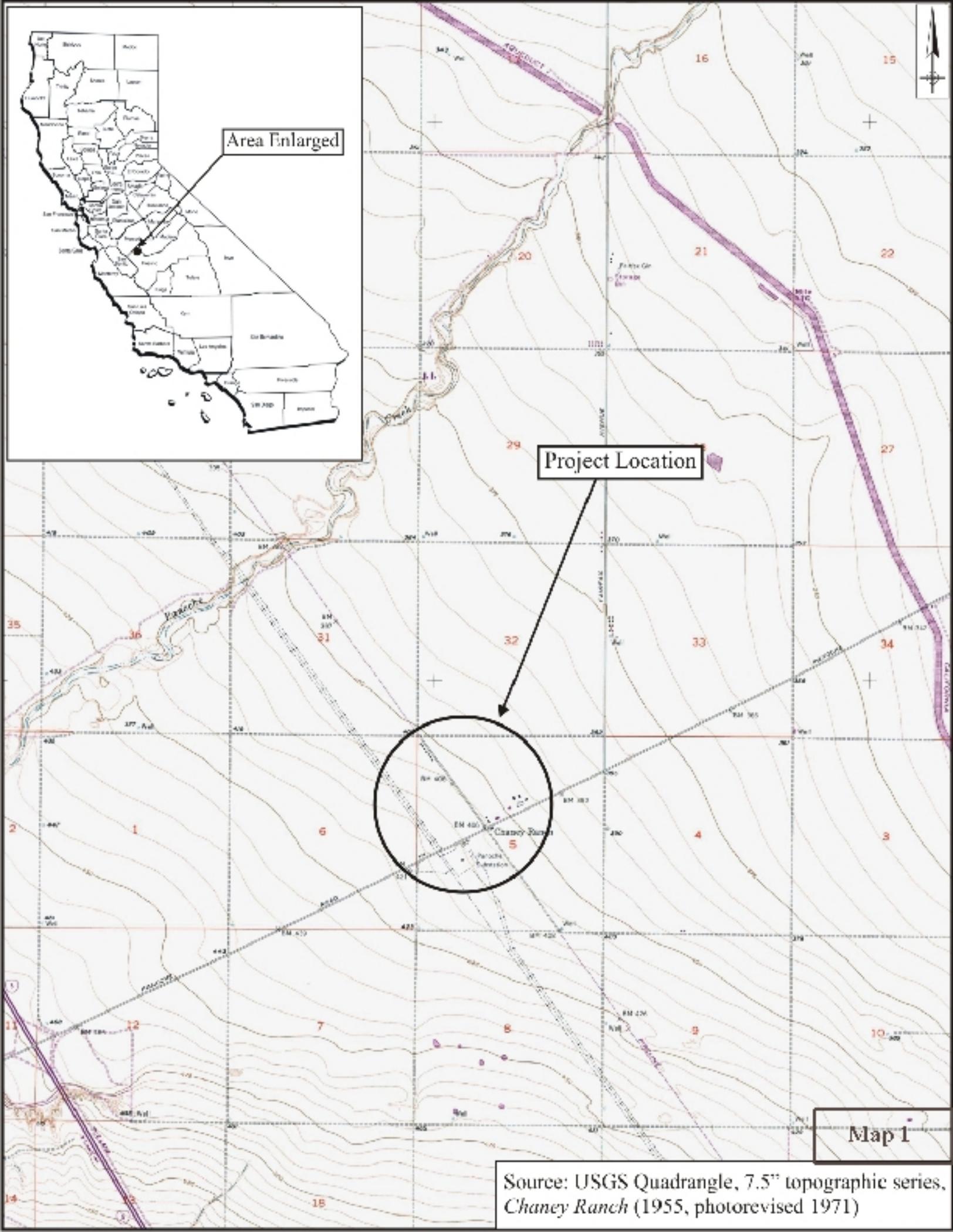
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**Appendix A**  
**Figures**

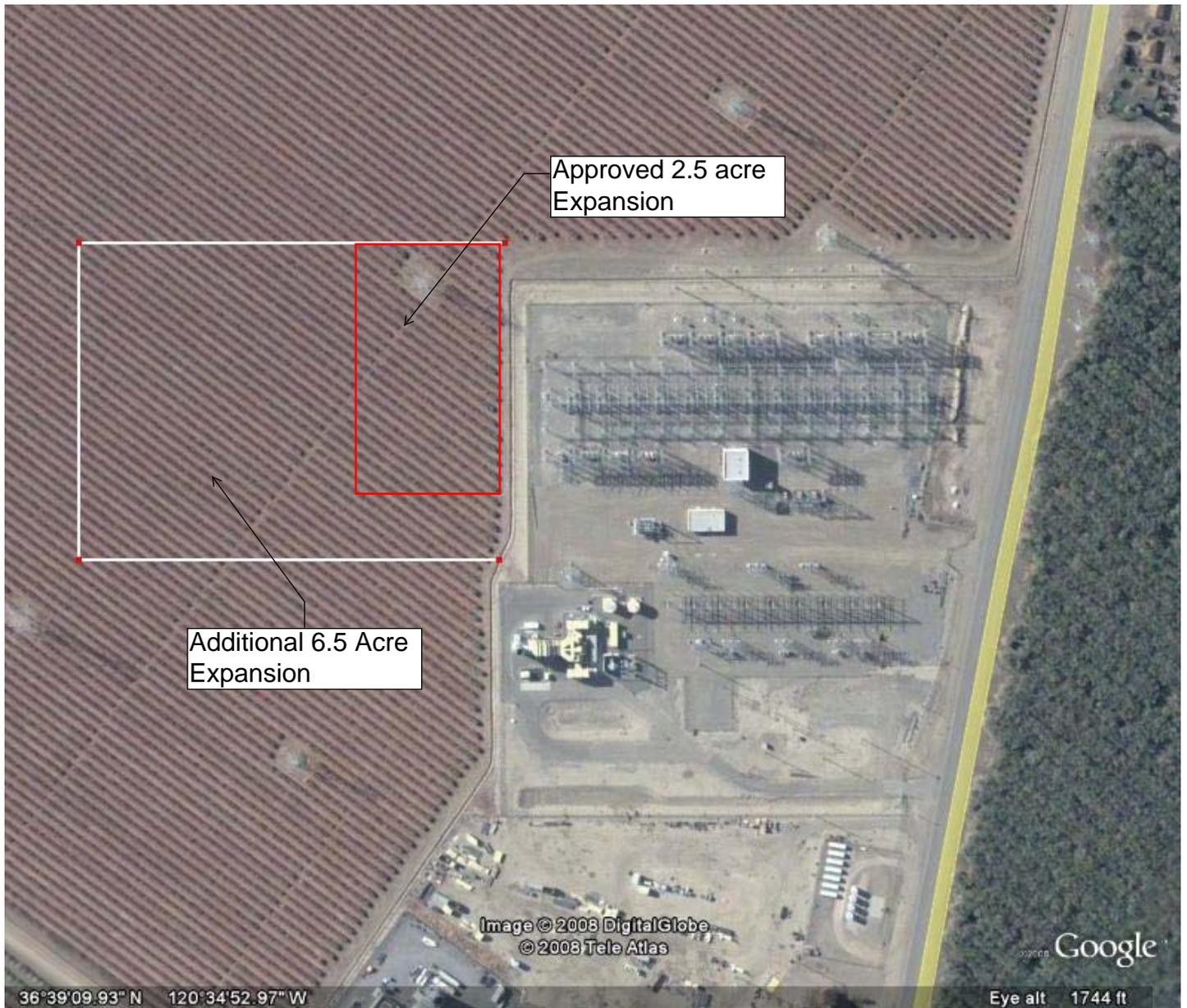


Area Enlarged

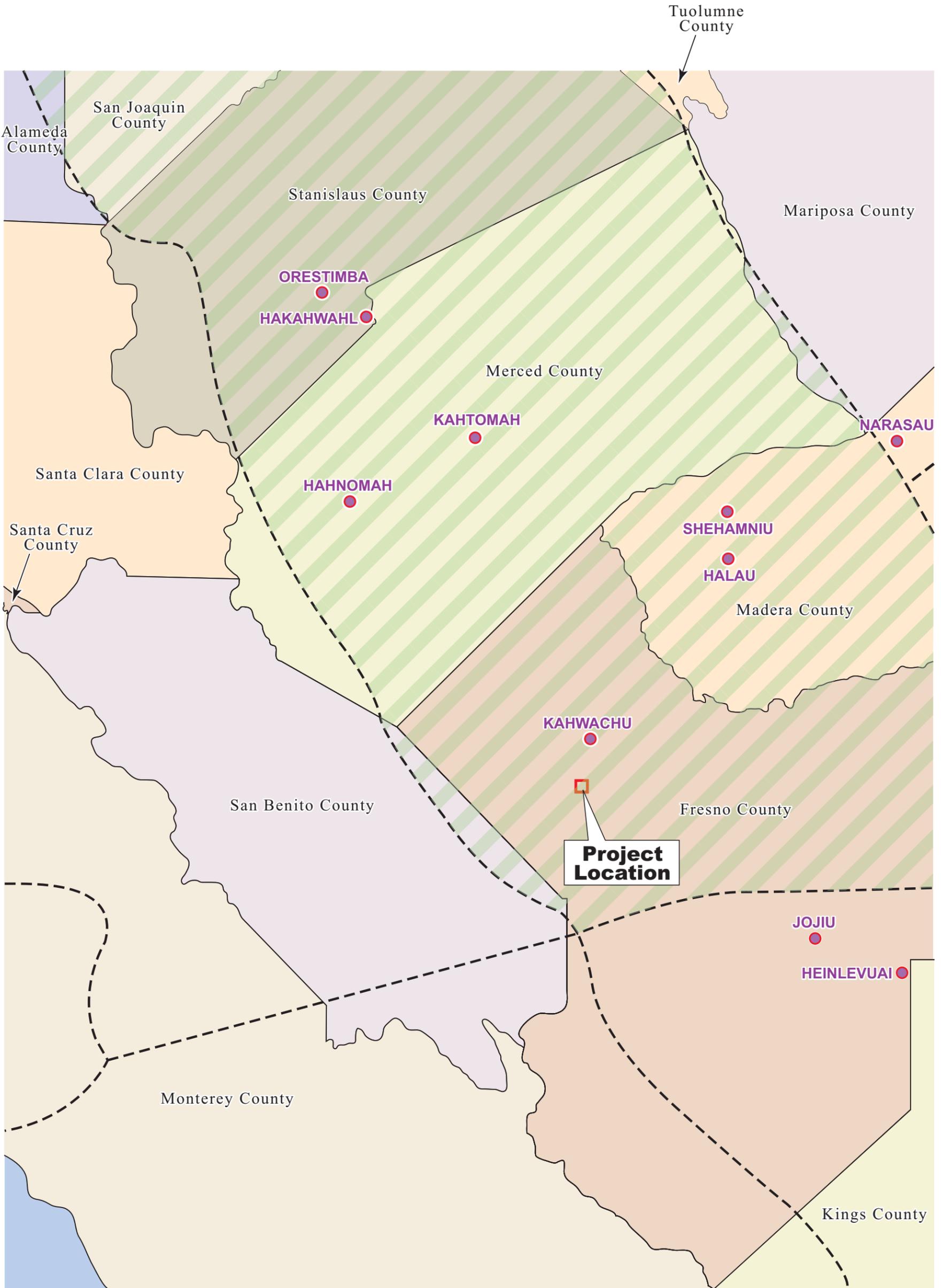
Project Location

Map 1

Source: USGS Quadrangle, 7.5" topographic series, Chaney Ranch (1955, photorevised 1971)

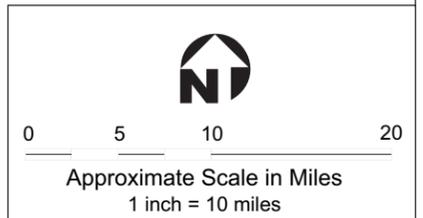


## PROPOSED PG&E PANOCHÉ SUBSTATION EXPANSION



**Legend**

-  Ethnolinguistic Boundaries
-  North Valley Yokuts Ethnohistoric Territory
-  Yokuts Villages (locations approximate, based on LATTA 1949)



**Appendix B**  
**Resumes of Key Personnel**



## **Brian W. Hatoff, R.P.A.**

*Senior Project Scientist*

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### **Areas of Expertise**

Cultural Resource Management  
Section 106, NHPA Compliance  
Prehistoric Archaeology

### **Years of Experience**

With URS: 16 Years  
With Other Firms: 16 Years

### **Education**

MA/Anthropology/1974/University of  
California, Davis  
BA/Anthropology/1971/University of  
California, Davis

### **Registration/Certification**

1999/Registered Professional  
Archaeologist/California/2006

### **Overview**

Mr. Hatoff has over 30 years of experience in the management of cultural resources with specialized expertise in the prehistoric archaeology and ecology of California and the Great Basin. He held primary responsibility for the management of cultural resources on 5.5 million acres of public lands in western Nevada and eastern California. In this role, he handled a wide array of undertakings including preparation of EIS/EA documentation, Section 106 compliance/evaluation/ review, Native American consultations pursuant to provisions of the American Indian Religious Freedom Act, cultural resource permitting, contract development and administration, preparation of cultural resource management plans for cultural and paleontological resources, and technical document preparation.

As a Senior Project Archaeologist in URS' cultural resources group Mr. Hatoff routinely manages major cultural resource studies in support of NEPA and CEQA-driven projects. Mr. Hatoff serves as the cultural resources lead for URS FEMA Region IX providing senior Section 106 compliance support for FEMA in California, Nevada, Hawaii and throughout the Pacific Basin. Representative project experience includes the following:

### **Project Specific Experience**

#### **Power Plants and Energy**

**Cultural Resources Specialist, Trans Bay Cable Project, Trans Bay Cable, LLC, Contra Costa and San Francisco Counties CA, 2005 – Present, \$3M+:** Directed cultural resources component of CEQA analysis for 55 mile submarine cable in San Francisco bay and construction of converter stations in Pittsburg and San Francisco.

**Cultural Resources Specialist, Sunrise II Power Project, Kern County, CA, Chevron-Texaco, 2001 – Present, \$1M+:** Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Served as designated Cultural Resources Specialist for the compliance phase of the project. Conducted field surveys, testing program and provided oversight for preparation of the cultural resources technical reports and cultural resources and paleontology AFC sections.

**Cultural Resources Specialist, Henrietta Peaker Project, Kings County, CA, GWF Power Systems, 2002 – 2003, \$650K:** Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Conducted field surveys and prepared cultural resources technical report and cultural resources and paleontology AFC sections. Directed construction compliance phase for cultural resources.

**Cultural Resources Specialist, Pittsburg District Energy Facility Project, Pittsburg, CA, Confidential Client, 1998 – 2000, \$750K:**



**Brian W. Hatoff, R.P.A.**

Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Conducted field surveys and prepared cultural resources technical report and cultural resources and paleontology AFC sections.

**Cultural Resources Specialist, La Paloma Generating Project, Buttonwillow, CA, La Paloma Generating Company, LLC, 1998 – 2001, \$1M+:** Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Conducted field surveys and prepared cultural resources technical report and cultural resources and paleontology AFC sections.

**Cultural Resources Specialist, Otay Mesa Generating Project, San Diego County, CA, Calpine Corporation, 1999 – Present, \$500K+:** Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Prepared AFC sections and directed subcontractors on complex, multi-component project.

#### **Water Resources**

**Cultural Resources Task Manager, Napa Salt Pond Restoration Project, Napa County, CA, California Department of Fish and Game, 2005 – Present, \$30K:** Cultural resources task manager for salt pond restoration project - directed archaeological survey program and technical report preparation.

**Cultural Resources Program Manager, Lower Guadalupe Flood Control Project, Santa Clara County, CA, Santa Clara Valley Water District (SCVWD), 2001 – Present, \$250K:** Cultural resources program manager for levee enhancement project; directed archaeological survey program and identified testing requirements for project.

**Project Manager, Littlerock Dam and Reservoir Restoration Project, Los Angeles County, CA, Littlerock Irrigation District, 1991 – 1992, \$1.8M:** EIS/EIR interim project manager, cultural resources task manager - responsible for all environmental permitting aspects of project including coordination of Section 404 requirements.

**Cultural Resources Specialist, Los Vaqueros Reservoir Project, Contra Costa County, CA, Contra Costa County Water District (CCWD), 1992, \$40K:** Special assistant to prime contractor, J.M. Montgomery Engineers. Assisted in successful preparation of multi-component document submitted to SHPO containing research design, site evaluations and findings of effect, and provide client technical guidance with Section 106 compliance issues.

#### **Linear Facilities – Pipelines, Transmission Lines, Transportation Projects**

**Cultural Resources Task Manager, San Ardo Pipeline Project, Monterey and Fresno Counties, Chevron Pipeline, 2006 – Present \$2.6M:** Directed cultural resources technical studies and Native American consultation in support of a fuel pipeline project in Monterey and Fresno Counties.



**Brian W. Hatoff, R.P.A.**

**Cultural Resources Task Manager, Jameson Canyon (Highway 12) Improvement Project, Caltrans District 4, 2003 – 2006, \$200K:**

Directed cultural resources studies (ASR, HRER, HPSR) in support of a highway improvement project in Solano and Napa Counties.

**Cultural Resources Task Manager, Route 4/I-680 Interchange Project, Contra Costa County, CA, Contra Costa Transportation Agency (CCTA), 2003 – 2004, \$1.3M:** Directed cultural resources studies (ASR, HRER, HPSR) in support of a highway improvement project in Contra Costa County.

**Cultural Resources Task Manager, Campus Parkway Project, Merced County, CA, Merced County Department of Public Works, 2001 – 2003, \$1.4M:** Directed cultural resources studies (ASR, HASR, HPSR) in support of a proposed road construction project in Merced County, CA under the aegis of Caltrans' Local Assistance Program.

**Cultural Resources Specialist, Tasman Light Rail Corridor Project, Santa Clara County, CA, Santa Clara Valley Transportation Authority (VTA), 2000, \$100K+:** Directed archaeological excavations at archaeological site SCL-12; wrote 66 page interpretive book on archaeology and ethnohistory in Santa Clara County; direct archaeological monitoring program during Tasman Corridor construction.

**Cultural Resources Specialist, Malin, Oregon to Round Mountain California Transmission Line and Access Road Maintenance Program - Western Area Power Administration (Western) Northeastern CA, 1995 – 1997, \$100K:** Directed cultural resources program for comprehensive Class I overview and Class III survey for over 100 miles of western-maintained facilities to ensure Section 106 compliance.

**Cultural Resources Specialist, West Kern Water District Pipeline Projects, Kern County CA, West Kern Water District, 2002, \$50K:** Co-directed cultural resources surveys of proposed pipeline routes near Taft, CA. Provided oversight for preparation of the cultural resources technical reports.

**Cultural Resources Asst. Task Manager, Mojave Pipeline Northward Expansion, Multiple Locations, CA, Mojave Pipeline Company, CA, 1992 – 1994, \$950K:** Comprehensive Class I Cultural Resources Overview for proposed 560-mile natural gas pipeline (documents prepared for FERC, BLM, and responsible for preparation and implementation of Class III technical report, California State Lands Commission, and California OHP).

**Cultural Resources Asst. Task Manager, Topock Interconnect , Topock, Arizona, Enron Corporation, 1993, \$200K:** Preparation (and successful implementation) of Treatment and Monitoring Program for natural gas pipeline pursuant to FERC, BLM and Arizona SHPO requirements; Native American consultation with Colorado River Indian Tribes and Fort Mohave Indian Tribe.

**Cultural Resources Task Leader, Alturas Transmission Line Project - CPUC and BLM, Northeastern, California and Western Nevada,**



**Brian W. Hatoff, R.P.A.**

**California Public Utilities Commission, 1994 – 1995, \$450K:** Cultural resources task leader for Class III surveys of 270 miles of transmission line ROW in northeastern California and western Nevada and preparation of cultural resource sections of CEQA/NEPA documents.

#### **Telecommunications**

**Cultural Resources Task Manager, Cell Towers, [City], [State], Verizon Communications, [Years], \$200K:** Directed cultural resources studies and preparation of technical and compliance documents in support of cell tower construction throughout California and southern Nevada. Section 106 compliance documents prepared in accordance with Programmatic Agreements in effect between the FCC and SHPO.

#### **Federal Agencies**

**Cultural Resources Task Leader, Multiple Projects, Multiple Locations including California, Nevada, Hawaii, Guam, Federal States of Micronesia and American Samoa, Federal Emergency Management Agency (FEMA), 1998 – Present, \$750K+:** Responsible for Section 106 compliance activities for hazard mitigation and technical assistance projects throughout California, Nevada and Pacific Basin including projects in Hawaii, American Samoa, Guam and the Federated States of Micronesia.

**Cultural Resources Task Leader, Federal Aviation Administration; San Francisco Airport Runway Expansion Project, San Francisco, CA, Federal Aviation Administration, 2000 – 2002, \$1.25M+:** Responsible for Section 106 and CEQA compliance activities in support of a joint EIS/EIR for the SFO Runway Expansion project. Cultural resources component included a major marine survey of San Francisco Bay as well as upland areas at SFO and surrounding area.

**Cultural Resources Asst. Task Leader, Archaeological Monitoring Program, Presidio of San Francisco, CA, U.S. Army Corps of Engineers (USACE) and National Park Service, 1994 – 1999, \$1M+:** Implementation of comprehensive archaeological monitoring program in hazmat setting, exploratory archaeological excavations in conjunction with a ground-penetrating-radar study, extensive on-going agency consultation/coordination.

**Cultural Resources Asst. Task Manager, McClellan AFB National Register District Revision, Sacramento, CA, U.S. Army Corps of Engineers (USACE), Sacramento District, 1996, \$75K:** Provided technical oversight and coordination for review of McClellan AFB to incorporate WW II-era structures into a revised Historic District. Effort culminated in Final Report with recommendations to USACE.

**Cultural Resources Task Manager, Project Archaeologist, Fallon NAS Cultural Resource Management Plan, [City], [State], Department of the Navy, 1994, \$75K:** Provided oversight for preparation of cultural resources management plan for Fallon NAS to guide their inventory and Section 106 compliance procedures.



Brian W. Hatoff, R.P.A.

**Professional Societies/Affiliates**

Register of Professional Archaeologists

**Awards**

2006/Special Recognition as a member of the NISTAC (consultants to FEMA) team for efforts related to Hurricanes of 2005.

1988/National Award for Volunteer Services Related to the Public Lands/Bureau of Land Management

**Languages**

French

**Specialized Training**

[Click [here](#) and type Year]/[Click [here](#) and type Training Course]

**Security Clearance**

[Click [here](#) and type Security Clearance Level]

**Publications**

Figures for Explanation: Scratched Petroglyphs at the Pistone Site in Western Nevada, with Eric. W. Ritter, In Archives of Great Basin Prehistory, No. 1, 1998. Coyote Press, Salinas, CA.

Archaeology and Ethnohistory in Santa Clara County, California: Cultural Resources Mitigation for the Tasman Corridor Light Rail Project, with Sally S. Morgan. Prepared for Santa Clara Valley Transportation Authority. 1998.

Book Review, Protecting the Past. George S. Smith and John Ehrenhard editors. CRC Press, Boca Raton, Florida, 1991. In, American Antiquity, Vol. 59, No. 2, 1994.

Archaeology and the Public: Future Directions, In Journal of California and Great Basin Anthropology, Vol. 14, No. 1, 1992.

A Prehistoric Bighorn Sheep Drive Complex, Clan Alpine Mountains, Central Nevada, with Kelly R. McGuire, In Journal of California and Great Basin Anthropology, Vol. 13, No. 1, 1991.

Archaeological Research in Churchill County. A Tale of Changing Perspectives, In Focus Vol. 1, No. 1. Churchill County Museum, Fallon. 1987.

The People of the Past/The Hidden Cave Experience with David Hurst Thomas, in Native American Annual, Vol. 1, No. 1. 1985a.

Management Objectives of the Hidden Cave Project, In Anthropological Papers of the American Museum of Natural History, Vol. 60. 1985b.

The Hidden Cave Archaeological Project: A Case Study in Creative Funding, In Contract Abstracts and CRM Archaeology, Vol. 2, No. 3. 1982.



**Brian W. Hatoff, R.P.A.**

Cultural Resources Management and the Public: A Case History, In American Society for Conservation Archaeology Report, Vol. 8, Nos. 5 and 6. 1981.

Sedimentological Analysis, In Guitarrero Cave, ed. Thomas Lynch, Academic Press, London, New York, San Francisco. 1980.

Cultural Resource Management at Grimes Point, in Nevada Archaeological Survey Reporter, Vol. 10, No. 2. 1977.

Late Pleistocene Pollen and Sediments: An Analysis of a Central California Locality, with Eric W. Ritter in The Texas Journal of Science, Vol. XXIX, Nos. 3 and 4.

The Mateo Ridge Site, with David Hurst Thomas, In Anthropological Papers of the America Museum of Natural History, Vol. 53, Part 3. 1976.

Chronological Placement of the Farmington Complex in Central California, with Eric W. Ritter and Louis A. Payen, In American Antiquity, Vol. 41, No. 3.

Archaeological Investigations in the BLM Battle Mountain District, in Nevada Archaeological Survey Reporter, Vol. 8, No. 1. 1975.

Geomorphology and Archaeology, with Eric W. Ritter, In Center for Archaeological Research at Davis Publication No. 4. 1974.

**Chronology**

02/91 – Present: URS Corporation, Senior Project Scientist, Oakland, CA  
08/75 – 01/91: U.S. Department of Interior, Bureau of Land Management, District Archaeologist, Las Vegas and Carson City, Nevada

**Contact Information**

URS Corporation  
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Oakland, CA 94612-1924  
Tel: 510.893.3600  
Direct: 510.874.3195  
Fax: 510.874.3268  
brian\_hatoff@urscorp.com



## **Maureen S. Kick, R.P.A.**

*Archaeologist*

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### **Overview**

Maureen Kick has over 10 years of experience in archaeology, and 5 years of experience in cultural resource management. She has worked on various projects throughout the U.S. and abroad, including Federal, Transportation, Telecommunication and Energy projects. Specific examples of her experience are described below.

### **Project Specific Experience**

#### **Energy**

**Alternate Cultural Resources Specialist, Panoche Energy Center, Firebaugh, CA, [Client], 2008, \$112K:** Responsible for developing and implementing a comprehensive mitigation and monitoring program and preparing progress reports and a cultural resources technical report conforming to California Energy Commission regulations.

**Archaeologist/Assistant Cultural Resources Task Manager, Underground Injection Control Program, McKittrick, CA, La Paloma Generating Company, 2007, \$15K:** Conducted Class I and Class III inventories and Native American consultation and prepared cultural resources technical report conforming to California Energy Commission regulations.

**Archaeologist, CPV Sentinel Power Plant, [City], [State], [Client], 2007 – Present, \$20K:** Prepared responses to data adequacies for cultural resources components of California Energy Commission Application for Certification (AFC).

**Field Technician, Ely Energy Center, Ely, NV, [Client], 2007, [Cost]:** Conducted Class III inventory for power plant project components as an archaeological consultant for Far Western Anthropological Research Group.

**Archaeologist, Solano Wind Project, Montezuma Hills, CA, Solano County Municipal Utility District, 2007 – Present, \$75K:** Conducted Native American consultation and produced cultural resources technical report in support of EIR.

**Archaeologist, San Ardo Pipeline, [City], [State], Chevron, 2007, \$1M+:** Conducted Class II inventory and cultural resources monitoring for geotechnical investigations.

#### **Transportation**

**Archaeologist, Berkeley/Albany Ferry Terminal, Berkeley, CA, WTA, 2007, \$25K:** Conducted Class I inventory, Native American consultation and prepared technical reports for cultural resources portions of EIR/EIS and conducted cultural resources impact analysis. Coordinated with subcontractor for assessment of historic resources.

#### **Water**

### **Areas of Expertise**

Historical archaeology  
Zooarchaeology

### **Years of Experience**

With URS: < 1 Year  
With Other Firms: 5 Years

### **Education**

MA/Anthropology/2006/Hunter College,  
CUNY  
BA/Anthropology/1996/Bryn Mawr College

### **Registration/Certification**

2007/Registered Professional Archaeologist/  
California/"[#]"  
2007/Red Cross First Aid/CPR  
2007/40 Hr. HAZWOPER  
2007/Chevron Loss Prevention



**Maureen S. Kick, R.P.A.**

**Archaeologist, Crystal Springs/San Andreas Transmission System, [City], [State], San Francisco Public Utilities Commission (SFPUC), 2007 – Present, [Cost]:** Conducted Class II surveys, cultural resources monitoring and crew education for geotechnical investigations.

**Archaeologist, Lower Guadalupe River Flood Control Project, [City], [State], Santa Clara Valley Water District (SCVWD), 2007, \$250K:** Served as cultural resources monitor for construction activities in Guadalupe River channel.

**Archaeologist, San Joaquin River Repair Site Prioritization, [City], [State], California Department of Water Resources (DWR), 2007 – Present, [Cost]:** Conducted Class II inventory, monitored engineering assessment of critical repair sites, and prepared cultural resources technical documents.

**Field Technician, Honey Lake Water Importation Project, Washoe County, NV, Vidler Water Company, 2006 – 2007, [Cost]:** Data recovery, hand excavation of features, soil/flotation sampling, profiling, mapping, photography.

#### **Telecommunications**

**Archaeologist, Verizon Wireless Facility, Herlong, CA, Verizon Wireless, 2007, \$15K:** Conducted cultural resources survey and prepared technical and compliance documents in support of cell tower construction. Section 106 compliance documents prepared in accordance with Programmatic Agreements in effect between FCC and SHPO.

**Archaeologist, Verizon Wireless Facility, Elko Airport, Elko, NV, Verizon Wireless, 2007, \$15K:** Conducted cultural resources survey and prepared technical and compliance documents in support of cell tower construction. Section 106 compliance documents prepared in accordance with Programmatic Agreements in effect between FCC and SHPO.

**Archaeologist, Verizon Wireless Facility, Glenbrook, NV, Verizon Wireless, 2007, \$15K:** Conducted cultural resource research and prepared technical and compliance documents in support of cell tower construction. Section 106 compliance documents prepared in accordance with Programmatic Agreements in effect between FCC and SHPO.

#### **State Agencies**

**Field Technician, Mossdale Crossing, Lathrop, CA, Caltrans, 2006, [Cost]:** Data recovery, hand excavation, soil/flotation sampling, screening.

**Field Technician, Piedras Blancas, San Simeon, CA, Caltrans, 2006, [Cost]:** Shovel testing, test excavation, wet screening of soils.

#### **Federal Agencies**

**Archaeologist, Bakersfield Area National Cemetery, Veterans Administration, [City], [State], [Client], 2007 – Present, [Cost]:** Conducted archaeological surveys and testing program and prepared cultural resources technical report for section 106 compliance.



Maureen S. Kick, R.P.A.

**Archaeologist, Chino Hills Vegetation Management, Chino Hills, CA, FEMA, 2007, \$50K:** Conducted Class 1 and Class III Inventories, conducted Native American consultation, and prepared technical report for hazard mitigation project. Section 106 compliance documents prepared in accordance with Programmatic Agreements in effect between FEMA and SHPO.

**Archaeologist, Oakland Vegetation Management, Oakland, CA, FEMA, 2007, [Cost]:** Conducted Class 1 inventory and conducted Native American consultation for hazard mitigation project.

**Archaeologist, San Diego Vegetation Management, San Diego, CA, FEMA, 2007, [Cost]:** Contributed and assisted in editing technical report for hazard mitigation project in San Diego County. Section 106 compliance documents prepared in accordance with Programmatic Agreements in effect between FEMA and SHPO.

**Archaeologist, Rubidoux Community Services District, Utility Repairs, Rubidoux, CA, FEMA, 2007, [Cost]:** Conducted Class I inventory and Native American consultation, and assisted in preparation of the technical report for technical assistance project.

**Archaeologist, Piru Disposal Site, Ventura County, CA, FEMA, 2007, [Cost]:** Conducted Class I inventory and Native American consultation, and assisted in preparation of the technical report for technical assistance project.

#### **Land Development**

**Field Technician, Murphys Creek Estates, Murphys, CA, 2006, [Cost]:** Shovel testing, test excavation, and recordation of bedrock mortar features.

#### **Professional Societies/Affiliates**

Society for California Archaeology/2006  
Society for American Archaeology/2004

#### **Awards**

[Click **here** and type Year]/[Award Name]/[Awarded by]

#### **Languages**

[Click **here** and type Language(s)]

#### **Specialized Training**

[Click **here** and type Year]/[Click **here** and type Training Course]

#### **Security Clearance**

[Click **here** and type Security Clearance Level]

#### **Publications**

*Native American Landscapes of St. Catherines Island*, David Hurst Thomas, American Museum of Natural History Scientific Publications, New York, 2007, contributing author.



**Maureen S. Kick, R.P.A.**

*Turtle: It's What's for Dinner.* Poster presented at the 2006 Society for American Archaeology Annual Meeting, San Juan, Puerto Rico. Co-authored with Beth Miller, Matthew Sanger, and Anna Semon.

*The Other Side of the Privacy Hedge: 1850 Feltonville and the Importation of Class into the Central New Jersey Hinterland.* Presented at the 2005 annual meeting of the Council for Northeast Historical Archaeology, Trenton, NJ. Co-authored with Matthew S. Tomaso, Liza Gijanto and Barbara Anello.

*What Do You Eat in Utopia? A Preliminary Analysis of Faunal Remains from the 19th Century Utopian Village of Feltonville, NJ.* Poster presented at Brooklyn College Annual Science Day Competition. Awarded 2nd Place, Graduate Division.

### **Chronology**

05/07 – Present: URS Corporation, Oakland, CA

11/06 – 4/07: Far Western Anthropological Research Group, Davis, CA

02/06 – 05/06: American Museum of Natural History, New York, NY

### **Contact Information**

URS Corporation

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Maureen\_Kick@urscorp.com



## Dean Martorana, RPA

Senior Archaeologist

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### Overview

Mr. Martorana has developed expertise in historical ecology, geophysical archaeology, archaeological field methods, and GIS applications to the field of archaeology. He is responsible for maintaining general environmental compliance during construction activities, assisting in the management of the archaeological record by monitoring established cultural inventories, analyzing the potential sociocultural impacts of proposed landscape change, and assessing site significance under CEQA/NEPA and Section 106 criteria by determining the research potential and cultural value associated with potentially impacted cultural resources.

### Areas of Expertise

Prehistoric Archaeology, Section 106 Compliance, CEQA/NEPA Compliance  
Geographic Information Systems

### Years of Experience

With URS: < 1Years  
With Other Firms: 7 Years

### Education

M.A., Anthropology, California State University, Long Beach 2000  
B.A., Psychology, California State University, Long Beach

### Registration/Certification

Certificate, Geographic Information Systems, SFSU  
Register of Professional Archaeologists (RPA)

### Project Specific Experience

**Cultural Resources Analyst , American Canyon Town Center Project EIR, American Canyon, CA, City of American Canyon, 2005, \$250K:** Conducting cultural resources analysis of the Town Center Specific Plan that would guide development of the 100-acre Town Center site. The site is partially within the American Canyon City limits and partially in unincorporated Napa County located east of Highway 29. The proposed land uses include an approximately 43-acre Mixed-Use Village at the center of the site that would include residential, commercial, civic, and open space uses. The primary issues are traffic and circulation, biological issues, and potential historic resources. The project would require an amendment to the General Plan, rezoning, annexation, and approval of a tentative subdivision map.

**Archaeologist, Asilomar State Beach and Conference Grounds General Plan Update and EIR, Pacific Grove, CA, California Department of Parks and Recreation, 2003, \$500K:** Participated in the development of a General Plan Update for Asilomar State Beach and Conference Grounds for the California Department of Parks and Recreation (DPR). Guided plan alternatives with respect to cultural resources including historic properties. Analyzed impacts to cultural resource in the environmental impact report (EIR).

**Lead Archaeologist, Baldwin Hallwood Mine Expansion Project EIR, Marysville, CA, Baldwin Hallwood Mine, 2004, \$250K:** Conducted field surveys and analysis, oversaw Native American consultation, prepared GIS maps of survey and identified resources for a cultural resources inventory report in support of a proposed mine expansion under CEQA jurisdiction.

**Cultural Resources Analyst, CALFED Los Vaqueros Reservoir Expansion Studies EIR/EIS, Contra Costa County, CA, Contra Costa County Water District (CCWD), 2004, \$1M:** Conducted archaeological and historical surveys, and distilled the final reports into the EIR/EIS. The Department of Water Resources and the U.S. Department of the Interior, Bureau of Reclamation (Reclamation) are the managers for the Los Vaqueros Expansion studies on behalf of



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CALFED. The Contra Costa Water District owns and operates the Los Vaqueros Reservoir. ESA is part of a team that provides comprehensive environmental planning and compliance services, including project definition, alternatives development and screening, environmental studies, CEQA, NEPA, and Endangered Species Act compliance, public outreach, and permitting for the project.

**Cultural Resources Investigator, Calpine Geysers Geothermal Plant On-call Services, Geysers, CA, Calpine Energy, 2002, \$250K:**

Checked for the existence of cultural resources in areas of proposed plant infrastructure changes. Conducted analysis of potential impacts to land use, agriculture, and public services, subsequently authoring CEQA documentation.

**Archaeologist, City of Grass Valley Idaho-Maryland Mine CEQA Documentation, Grass Valley, CA, City of Grass Valley, 2004, \$500K:**

Conducted archival research and pedestrian surveys for the proposed mining operations project areas, which identified a number of historical resources. Prepared CEQA documentation based on the results of the background and field studies and provided recommendations for further analysis.

**Archaeologist, City of Lathrop San Joaquin Bicycle Bridge Project, Lathrop, CA, City of Lathrop, 2005, \$100K:**

Authored a Cultural Resources Inventory and Survey Report for this project. Conducted pre-field archival research, archaeological reconnaissance, and generated site record forms for historical resources present in the area, generating reports in compliance with the California Office of Historic Preservation guidelines for archaeological report preparation.

**Archaeologist, City of Petaluma Recycled Water Pipeline Cultural Resources Evaluation, Petaluma, CA, Petaluma Water District, 2004, \$250K:** Conducted archival research and pedestrian surveys for the proposed pipeline and assessed the potential impacts to cultural resources from the purview of Section 106 of the National Historical Protection Act.

**Archaeologist, Crane Flat Environmental Education Campus Development Program EIS, Yosemite, CA, National Park Service, 2004, \$750K:** Assisted in conducting archaeological and historical surveys for this combined National Park Service and Yosemite National Institute project to distill the final reports into the EIS.

**Archaeologist, Delta Water Supply Project, Stockton, CA, Stockton Water, 2006, \$500K:** Conducted reconnaissance-level surveys, pre-field record search and historical surveys, and prepared an inventory report for Section 106 compliance for a 5-mile pipeline and water treatment facility in San Joaquin County. The inventory report included a detailed discussion of the geomorphology and stratigraphy using geologic maps and GIS to establish the archaeological potential for the project area.

**Archaeologist, DWR South Bay Aqueduct Improvement and Enlargement Project EIR, Bay Area, CA, DWR, 2004, \$1M:**

Providing Native American consultation in support of the Section 106



## Dean Martorana, RPA

compliance process. The project involved improvements and enlargement of the 44 mile South Bay Aqueduct system, which extends between Bethany Reservoir in Eastern Alameda County and the SBA Terminal Tank, located at Penitencia WTP in east San Jose.

**Archaeologist, Elk Grove 8th High School EIR, Elk Grove, CA, City of Elk Grove, 2003, \$250K:** Conducted archaeological field reconnaissance for the area for the proposed high school and authored the cultural resources section for the EIR. Responded to a large public response and incorporated changes, as necessary, to the final document.

**Archaeologist, Fort Ord Dunes State Park General Plan and EIR, Monterey, CA, California Department of Parks and Recreation, 2004, \$500K:** Historic resources were one of the primary issues to be addressed in the Fort Ord Dunes State Park General Plan and EIR. Identified and addressed cultural resource issues in the general plan and analyzed impacts to cultural resources in the EIR for the DPR. Conducted cultural resource surveys and determined best footprint for the nascent State Park on the basis of known resources.

**Cultural Resources Investigator, Hatch Ranch Residential Subdivision EIR, Lodi, CA, DH Horton, 2003, \$250K:** Conducted an initial site survey and literature search, and produced a subsequent cultural resource report and impact section for the EIR. He recorded existing cultural resources in accordance with DPR and Office of Historic Preservation standards and forms.

**Cultural Resources Analyst, Hillsborough City School District Environmental Review, Hillsborough, CA, Hillsborough School District, 2005, \$350K:** Currently conducting cultural resource assessment for the Hillsborough City School District (HCSD) for implementation of a new district-wide facilities Master Plan. The existing HCSD schools present a number of unique and challenging environmental issues; the main South Elementary School building currently straddles San Mateo Creek, and the North Elementary School campus has been determined to be eligible for listing in California Register of Historic Places. Implementation of the Master Plan will require special consideration of these resources.

**Cultural Resources Investigator, Gateway Village Project-Specific EIR, Fresno, CA, Madera County, 2005, \$500K:** Conducting cultural resources investigation for the Gateway Village project, a mixed-use development of residential, retail, office, open space, and public facilities located north of Fresno along State Route 41 in Madera County. The EIR will document potential impacts associated with implementation of the project's Area Plan, Specific Plan and Infrastructure Master Plan and will be used to the extent feasible by Madera County in approving subsequent phases of the project.

**Archaeologist, Jack London Square Redevelopment EIR, Oakland, CA, City of Oakland, 2005, \$500K:** ESA prepared an EIR for an Oakland waterfront redevelopment project that will add more than a million new square feet of space for business, entertainment and living space. The Jack London Square project will include offices, residences,



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shops, supermarket, a 250-room hotel with conference space, a 1,700-seat theatre and more than 1,200 new parking spaces. It also includes open space and a pedestrian walkway along the downtown estuary. In addition to air quality, noise and other common issues, the EIR addressed controversial traffic and parking matters as well as the impact on a historic local saloon in the middle of the development. The complex nature of the large, multi-phased project required clearly describing and analyzing potential impacts at nine development sites; ESA's analysis provided a foundation for a range of possible future development scenarios, a major goal of the developer. ESA also provided quick response and additional analysis as the project underwent modification and the city decision making process. The final EIR stood up to further project modifications, so no further supplemental environmental analysis was needed.

**Lead Archaeologist, Lancaster Water Reclamation Plant Storage Reservoir and Eastern Agricultural Sites Preliminary Cultural Resources Tasks, Lancaster, CA, City of Lancaster, 2005, \$500K:**

Conducted two field visits to determine the sensitivity of the project area for the presence of archaeological resources and for potentially significant historic architectural resources, prepared an archaeological sensitivity analysis, and conducted an inventory of historic architectural buildings. These studies were conducted to determine the appropriate level of cultural resources inventory, and the resulting recommended strategy was approved by cultural resources staff of the SWRCB in consultation with ESA and District's staff.

**Principal Cultural Resources Investigator, MacKerricher State Park Pudding Creek Trestle and Haul Road Project Technical Studies and EIR, Mendocino County, CA, California Department of Parks and Recreation, 2005, \$500K:**

Prepared technical studies and state environmental compliance documentation for a project which included rehabilitation of the Pudding Creek Trestle to provide multi-use trail opportunities, construction of the Perch Dune Boardwalk, and upgrading of the Laguna Point Boardwalk. Conducted detailed cultural resources investigations.

**Archaeologist, Mare Island Sanitary Sewer Rehabilitation Project, Vallejo, CA, City of Vallejo, 2004, \$250K:**

Conducted pre-field archival research, archaeological reconnaissance, and applied Section 106 compliance criteria to the proposed project. He generated Geographic Information Systems (GIS) map data reflecting areas of sensitivity per NEPA and Section 106 of the National Historical Preservation Act. Generated Cultural Resources Inventory and Survey Reports in compliance with the California Office of Historic Preservation guidelines for archaeological report preparation. Responded to comments from the State Water Resources Control Board and incorporated those comments into the document.

**Archaeologist, McGrath State Beach Adaptive Management Plan, Ventura, CA, California Department of Parks and Recreation, 2002, \$500K:**

Generated an environmental history of the Santa Clara rivermouth and reconstructed the land use patterns as they related to the



## Dean Martorana, RPA

estuarine habitats in Ventura County for this California Department of Parks and Recreation (DPR) State Beach. Historical aerial photography was used to reconstruct environmental changes and the subsequent land use changes. An assessment of the archaeological potential for the Beach was also conducted for interpretive and preservation purposes. Responses to agency and public comments were incorporated into the Final document.

**Archaeologist, Metromedia Fiber Networks PEA, Permit Assistance, and Compliance Monitoring, Los Angeles/San Francisco, CA, Metromedia, 2001, \$1M:** Augmented previously conducted background research with additional record searches for presence of archaeological sensitivity for multi-regional fiber optic routes throughout California. He was Field Archaeologist during the construction phase and checked for existence and condition of cultural properties during course of construction in support of mitigation outlined in CEQA document, conducting detailed field inspections and test excavations.

**Archaeologist, Metropolitan Water District of Southern California (MWD) As-Needed Environmental Planning Services, Los Angeles, CA, MWD, 2002, \$1M:** Conducted archival and field inspection of the MWD Mills Filtration Plant Project area. Prepared a technical memorandum summarizing the results of the study and made recommendations to avoid impacts to cultural resources posed by the project.

**Cultural Resources Analyst , Nacimiento Water Project Design-Phase Environmental Services, Paso Robles, CA, San Luis Obispo County, 2005, \$1M:** Conducted both archival and field work for the design of the Nacimiento pipeline alignment in support of the permitting process and Section 106 compliance. Field work so far completed consisted of ground testing for archaeological sites within the pipeline area of potential effect and made recommendations to avoid present archaeological deposits within the alignment; prepared a Cultural Resources Investigation Report and Avoidance Plan. Also, currently conducting Native American consultation to prepare a monitoring plan for the entire alignment.

**Cultural Resources Analyst, OCWD Santa Ana River Water Rights Application Program EIR, Santa Ana, CA, Orange County Water District, 2005, \$500K:** Conducted archival review of the known resources for the project area and made recommendations to mitigate impacts to cultural resources posed by the project. The PEIR describes OCWD's existing operations and assesses potential impacts from existing and proposed projects to capture Santa Ana River water and recharge the Orange County Groundwater Basin.

**Cultural Resources Analyst, PG&E Lakeville to Sonoma Transmission Line Project, Sonoma, CA, PG&E, 2006, \$750K:** Prepared the cultural resources section for an Initial Study for PGE's application for a Permit to Construct the Lakeville-Sonoma transmission line and substation modifications.



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**Cultural Resources Analyst, PG&E Potrero to Hunters Point 115 kV Cable Project, San Francisco, CA, PG&E, 2006, \$500K:** Authored the cultural resources section for the MND completed for PG&E's application for a Permit to Construct a 115 kV transmission line. The project includes the installation of approximately 2.5 miles of underground 115 kV single-circuit cable with a power rating of 200 megavolt amperes (MVA) to serve as a transmission line between PG&E's Potrero and Hunters Point switchyards, plus certain modifications to each of the switchyards and excavated materials storage and staging areas.

**Cultural Resources Analyst, PG&E Richmond-to-Pittsburg Pipeline Divestiture Environmental Review, Richmond, CA, PG&E, 2005, \$350K:** For PG&E's application to sell a 35-mile petroleum products pipeline between Richmond and a former PG&E Pittsburg power plant, prepared the cultural resources section of the MND.

**Archaeologist, Port of San Francisco Piers 27-31 Mixed-Use Recreation Project EIR, San Francisco, CA, Port of San Francisco, 2006, \$500K:** ESA prepared EIR for a controversial recreational project along the San Francisco waterfront that included construction of a new YMCA; a skateboard/BMX park; play courts; a marine sports basin for kayaking, sailing, and overnight docking; a passive public park; office space; and approximately 250,000 square feet of retail (including restaurants). The project included renovation of historic shipping terminals for office space, renovation of the pier structures, permitting from a variety of agencies, health issues related to water contact sports, and "fill" that included a wave attenuation structure and new piers.

**Archaeologist, Point-to-Point Networks On-call Environmental Services, [City], [State], [Client], [Years], [Cost]:** Observed and documented progress of construction projects to maintain overall compliance with applicable environmental laws and regulations, including CEQA and Storm Water Pollution Prevention Plans. Performed monitoring in archaeologically sensitive areas.

**Cultural Resources Investigator, Port of San Francisco Illinois Street Bridge EA, San Francisco, CA, Port of San Francisco, 2004, \$350:** Conducted a literature review for a proposed bridge crossing Islais Creek on the Southern Waterfront of San Francisco. Prepared a Cultural Resources Inventory Report and evaluation of the existing Third Street Nishkian Bridge per Section 106 of the National Historic Preservation Act for the United States Coast Guard, the lead agency for the project.

**Archaeologist, Port of Stockton Navy Drive Bridge Replacement Project, Stockton, CA, Port of Stockton, 2004, \$750K:** Conducted archival research and archaeological reconnaissance for a proposed bridge replacement. Assisted in the recordation of existing bridge for historical evaluation per the National Register of Historic Places criteria for compliance with NEPA and Section 106 of the National Historic Preservation Act. Co-authored the attendant Archaeological Survey Report (ASR) and Historic Property Survey Report (HPSR) for the project.



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**Archaeologist, Prairie Creek Redwoods State Park Public Use Improvements Project Initial Study/Mitigated Negative Declaration, Humboldt County, CA, California Department of Parks and Recreation, 2005, \$750K:** Prepared state environmental compliance documentation for several public use improvements at Prairie Creek Redwoods State Park, located in Humboldt County. Analyzed impacts to cultural resources associated with this DPR project, and recommended mitigation measures to minimize cultural resource impacts. The project components included undergrounding of electrical and telephone service, rehabilitation of historic structures, construction of new facilities, and replacement of Park septic systems. A primary issue of the project was the protection of cultural resources.

**Archaeologist, Reclamation District 2035 Fish Screen Diversion Project, Patterson, CA, Reclamation District 2035, 2004, \$350K:** Conducted archaeological analysis of proposed fish screen modifications in accordance with Section 106 of the National Historic Preservation Act.

**Cultural Resource Coordinator, Redwood National and State Parks Maintenance Facilities Environmental Assessment (EA), Eureka, CA, California Department of Parks and Recreation, 2005, \$500K:** Assessed information needs and conducting consultation with tribal and National Parks Service contacts regarding historic properties and traditional cultural properties potentially affected. Prepared an EA based on information gathered by tribal officers and park staff.

**Archaeologist, RMC Pacific Vernalis Quarry EIR, Firebaugh, CA, RMC, 2004, \$500K:** Conducted measures to identify cultural resources in the project area through a record search, contacts with Native Americans, and a field survey. Prepared EIR section reflecting the results of the background and field studies and provided mitigation measures to reduce impacts to less than significant.

**Cultural Resource Specialist, Santa Clara Station Area Plan EIR, Santa Clara, CA, Santa Clara Valley Transportation Authority (VTA), 2006, \$1M:** Conducted existing conditions surveys to address the permitting requirements of several federal agencies including the Federal Aviation Administration, the Federal Transit Authority, and local agencies such as Santa Clara County, and the potential effects of existing and proposed transportation facilities on potential land uses. ESA will also prepare an Environmental Impact Report to satisfy the requirements of the California Environmental Quality Act (CEQA). Mapped the existence of known cultural resources in the plan area. Future work will involve the design of avoidance and mitigation strategies for the CEQA documentation and Section 106 compliance.

**Archaeologist, Santa Maria Airport Expansion Project, Santa Maria, CA, Santa Maria Airport, 2007, \$500K:** Conducted a reconnaissance-level survey of the proposed project area and prepared the documentation for submittal to the SHPO for the FAA. The Inventory Report also included a discussion of the geomorphology in relation to the prehistoric era and the archaeological potential for the area.



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**Cultural Resources Investigator, Sigma Network Proponent's Environmental Assessment (PEA), Los Angeles, CA, Sigma, 2005, \$750K:** Conducted preliminary records research for a Proponent's Environmental Assessment (PEA) for Sigma Networks' construction of its proposed fiber optic network in the Los Angeles region. Authored compliance and mitigation sections for the proposed fiber optic installation.

**Archaeologist, Skyway Plaza EIR, Paradise, CA, City of Paradise, 2003, \$350K:** Conducted a site survey based on initial cultural resource study and determined archaeological potential for the project site. Produced the attendant cultural resource impact sections for the overall EIR.

**Archaeologist, SoCalGas' Application to Value and Sell Surplus Property at Playa del Rey and Marina del Rey, Playa del Rey, CA, The Gas Company, 2005, \$750K:** Conducted pre-field background data search and field surveys for cultural resources in Playa del Rey for the Southern California Gas Company (SoCalGas) proposal to sell numerous lots as-is. Integrated the results into an EIR for SoCalGas. Managed Native American concerns.

**Cultural Resources Investigator, Solano High Winds Project EIR, Montezuma Hills, CA, Solano County, 2002, \$750K:** Conducted initial research and authored CEQA documentation in visual resources, land use, agriculture, and cultural resources for a proposed windpower facility in the Montezuma Hills area of Solano County. Analyzed the cultural landscape for significance within purview of the California Register of Historic Resources.

**Cultural Resources Analyst, Soquel Creek Water District (SCWD) Conjunctive Use Water Supply Program EIR and Integrated Resources Plan, Santa Cruz, CA, SCWD, 2006, \$500K:** Performed archival research at the Northwest Information Center, Sonoma State University, and contacted the Native American Heritage Commission to determine if previously known historical resources exist within the project areas. Wrote the Cultural Resources section to the Program EIR that emphasized future analysis needs and mitigation strategies for future projects based on the results of the above research.

**Cultural Resources Analyst, Town Center Educational Complex MND, Natomas, CA, City of Sacramento, CA, 2005, \$350K:** Worked with the Natomas Unified School District (primary contract holder), Sacramento Public Library Authority, and Los Rios Community College District to complete the Mitigated Negative Declaration. This joint use project included a high school, community college, and public library. The proximity of the facilities to each other ultimately will provide the impetus for high school students to access the library and community college. At the same time, community college students also will be able to access the library. The educational complex is part of the North Natomas College Plan adopted by the City of Sacramento.

**Archaeologist, Ultramar Clean Fuels Expansion EIR, Martinez, CA, Martinez, CA, Ultramar, 2004, \$500K:** Performed a preliminary records



## Dean Martorana, RPA

search for presence of archaeological sensitivity. He conducted pedestrian surveys of proposed ground-disturbing construction on the refinery site in order to detect presence of cultural materials and co-authored cultural resources EIR subsections.

### Academic Research

**[Role], Navan Fort Excavations, [City], [State], [Client], [Years], [Cost]:** Conducted intensive field surveys using proton magnetometry to establish soil anomalies relevant to human activities in Navan Fort complex during 1997-1999 (Late Bronze-Age, Northern Ireland). Performed field photography for duration of project. Used field survey data to target excavations. Performed site excavations and recording of data (context, provenience mapping, and maintaining detailed records)

### Professional Societies/Affiliates

Society for American Archaeology

### Awards

[Click [here](#) and type Year]/[Award Name]/[Awarded by]

### Languages

[Click [here](#) and type Language(s)]

### Specialized Training

Geographic Information Systems, Certificate, San Francisco State University

Historic Resources Preservation, University of California, Davis Extension

Mitigating Environmental Impacts, University of California, Davis Extension

### Security Clearance

N/A

### Publications

Kennett, D.J., B. Voorhies, and D.A. Martorana. Central Place Foraging, Lotka-Volterra and the origins of maize-based food production on the Pacific coast of Southern Mexico. In Human Behavioral Ecology and the Origins of Food Production. Smithsonian Press, 2006.

### Chronology

7/2007 – Present: URS Corporation, Senior Archaeologist, Oakland, CA

9/2000 – 6/2007: Environmental Science Associates, Associate Archaeologist, Los Angeles, Sacramento, and Oakland, CA.

### Contact Information

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**Appendix C**  
**Department of Parks and Recreation Forms**

State of California – The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**PRIMARY RECORD**

Primary # \_\_\_\_\_  
HRI # \_\_\_\_\_  
Trinomial \_\_\_\_\_  
NRHP Status Code 6Z

Other Listings \_\_\_\_\_  
Review Code \_\_\_\_\_ Reviewer \_\_\_\_\_ Date \_\_\_\_\_

Page 1 of 10

\*Resource Name or # (Assigned by recorder) Map Reference 1

**P1. Other Identifier:** 43405 West Panoche Road

\*P2. Location:  Not for Publication  Unrestricted

\*a. County Fresno

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

\*b. USGS 7.5' Quad Chaney Ranch Date 1971 T 15S; R 13E; \_\_\_ ¼ of Sec 5; M.D.B.M.

c. Address 43405 W. Panoche Road City Firebaugh Zip 43622

d. UTM: (give more than one for large and/or linear resources) Zone \_\_\_\_\_; \_\_\_\_\_mE/ \_\_\_\_\_mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) APN: 027-060-53S

\*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The property at 43405 West Panoche Road (**Map Reference 1**) in Fresno County is an agricultural complex owned by Vaquero Farms, Inc. of Stockton, California. The complex is comprised of a residence, a large storage building, two smaller prefabricated raised ridge metal storage sheds of varying sizes, and several storage tanks. Only the residence, the large storage building, and the ancillary building are more than 50 years old and receive evaluation on this form. (See Continuation Sheet)

\*P3b. Resource Attributes: (List attributes and codes) (HP2) Single Family Dwelling, (HP4) Ancillary Building

\*P4. Resources Present:  Building  Structure  Object  Site  District  Element of District  Other (Isolates, etc.)



P5b. Description of Photo: (View, date, accession #) Photograph 1. View of farm complex, camera facing east. 6/5/2006

\*P6. Date Constructed/Age and Sources:

Historic  Prehistoric  Both

residence, ancillary bldg., ca. 1937, county records, aerial photographs; large storage building: ca. 1957, aerial photographs

\*P7. Owner and Address:

Vaquero Farms Inc.  
2800 W. March Lane Suite 330  
Stockton, CA 95219

\*P8. Recorded by: (Name, affiliation, address)

N. Hallam / S. Melvin  
JRP Historical Consulting,  
1490 Drew Ave, Suite 110,  
Davis, CA 95616

\*P9. Date Recorded: June 5, 2006

\*P10. Survey Type: (Describe)

Intensive

\*P11. Report Citation: JRP Historical Consulting, Historic Resources Inventory and Evaluation Report for the Panoche Energy Center, Fresno County, California, June 2006.

\*Attachments:  None  Location Map  Sketch Map  Continuation Sheet  Building, Structure, and Object Record  Archaeological Record  
 District Record  Linear Feature Record  Milling Station Record  Rock Art Record  Artifact Record  Photograph Record  
 Other (list) \_\_\_\_\_

DPR 523A (1/95)

\*Required Information

**BUILDING, STRUCTURE, AND OBJECT RECORD**

B1. Historic Name: Chaney Ranch

B2. Common Name: Vaquero Farms

B3. Original Use: Farm/Ranch B4. Present Use: Farm/Ranch

\*B5. Architectural Style: Minimal Traditional; utilitarian

\*B6. Construction History: (Construction date, alteration, and date of alterations) Residence and ancillary building: ca. 1937; large storage building: ca. 1957, alterations at an unknown date.

\*B7. Moved?  No  Yes  Unknown Date: \_\_\_\_\_ Original Location: \_\_\_\_\_

\*B8. Related Features: \_\_\_\_\_

B9. Architect: unknown b. Builder: unknown

\*B10. Significance: Theme n/a Area n/a

Period of Significance n/a Property Type n/a Applicable Criteria n/a

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The agricultural complex at 43405 West Panoche Road has been evaluated in accordance with Section 106 of the National Historic Preservation Act (NHPA), and Section 15064.5(a)(2)-(3) of the CEQA Guidelines outlined in Section 5024.1 of the California Public Resources Code, and does not appear to meet the significance criteria as outlined in these guidelines. The buildings on this parcel do not appear to meet the criteria for listing in the NRHP under Criteria A, B, C or D, nor for listing in the CRHR under Criteria 1, 2, 3 or 4. Neither the residence nor the large storage building possess significant associations with important historic events or persons, nor do they possess significance for their architectural merit, and finally, even if they had been significant, they do not possess sufficient historic integrity to warrant their inclusion in the National Register. Therefore, neither building appears to be significant historic properties under Section 106, nor do they appear to be historical resources for the purposes of CEQA. (See Continuation Sheet.)

B11. Additional Resource Attributes: (List attributes and codes)

\*B12. References:

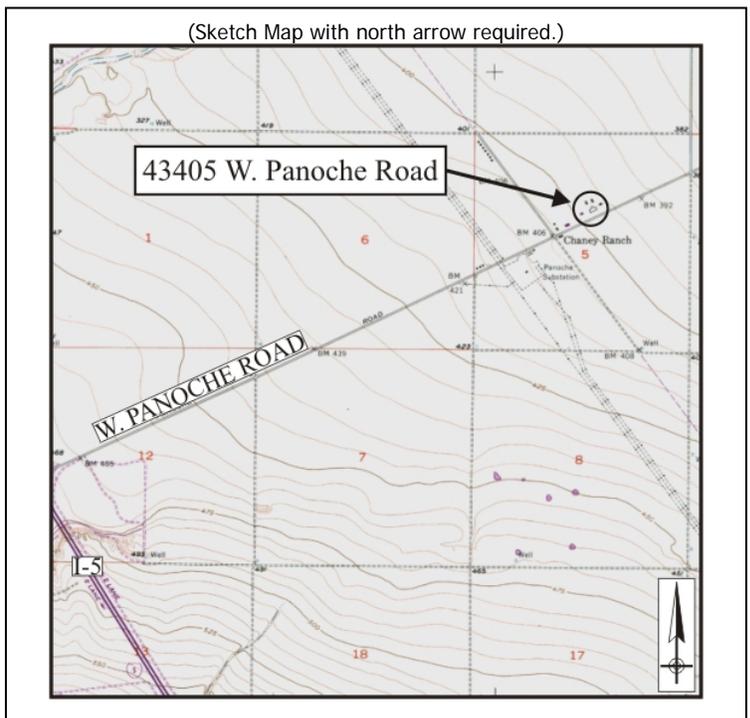
Aerial photographs 1937, 1950, 1957, 1961; George H. Goddard, *Map of Fresno County, California* (1874); E. A. Harley, *Official Map of the County of Fresno* (1892); E. A. Hoxie, *Official Map of the County of Fresno* (1898); Charles W. Clough and William B. Secrest, Jr., *Fresno County, the Pioneer Years from the Beginnings to 1900* (Sacramento: Panorama West Books, 1984); *Official Map of Fresno County* (San Francisco: Thomas Yost and Son, 1892); Ed Simmons, *Westlands Water District: The First 25 Years, 1952-1977* (Fresno: Westlands Water District, 1983). See Footnotes.

B13. Remarks:

\*B14. Evaluator: Rand Herbert, Nathan Hallam, Steven Melvin

\*Date of Evaluation: June 2006

(This space reserved for official comments.)



### **P3a. Description (continued):**

#### Large Storage Building

The large storage building at 43405 West Panoche Road is a clear span, metal frame building with a rectangular plan aligned parallel to West Panoche Road (**Photograph 2**). It is approximately 240 feet long and 75 feet wide and has a concrete foundation. The walls are formed by buttressed board-form concrete, and are approximately eight feet tall. Above this is a steeply pitched, modern gambrel-like roof made of corrugated metal with turbine vents along the ridge. At the gable ends the rooflines slope and taper, ending at a corrugated metal wall that joins with board form concrete wall. The roof gives the building a distinctive, streamlined appearance (**Photograph 3**). On the west end of the building is a large utility doorway; on the east end a similar doorway has been covered with corrugated metal.

#### Residence

Complete views of the residence at 43405 West Panoche Road were not possible because of fencing, vegetation, and its location behind the large storage building described above (**Photograph 4**). The house has a rectangular plan of 1,500 square feet and faces southeast. Its wood framing rests on a concrete foundation and supports a medium slope, front gable roof. The walls are clad in lapped wood siding and composition shingles cover the roof. On the front façade is a shed roof porch with square wood posts. Some of the windows are modern aluminum sliding sets.

#### Ancillary Building

This building is a small square structure approximately six feet by six feet (**Photograph 5**). It is of wood frame construction with a gently sloping shed roof with exposed rafters. Lapped wood siding covers the walls. Fenestration consists of unglazed, rectangular, horizontally placed windows.

### **B10. Significance (continued):**

#### Nineteenth Century History of Northwestern Fresno County

During the nineteenth century, the majority of northwestern Fresno County remained largely unsettled. The Spanish and Mexican colonists who settled along the California coast during the late eighteenth and early nineteenth centuries dismissed the San Joaquin Valley as *tierra incógnita*, the “unknown land.” In 1849, the California Gold Rush attracted the first wave of American settlement to what is now Fresno County, but settlers flocked exclusively to the Upper Kings River, far to the southeast of the property. During the 1860s and 70s, cattlemen such as Henry Miller and Charles Lux amassed extensive acreage in western Fresno County, but devoted the landscape to grazing and grain cultivation, and concentrated their holdings and operations along riparian lands watered by natural streams. The Southern Pacific Railroad Company also obtained extensive western Fresno County landholdings, but favored the more bustling and profitable settlements to the east. Thus, during the nineteenth century, much of northwestern Fresno County remained unsettled, unimproved, and lacked nearby railroad connections.<sup>1</sup> This period predates the buildings and structures evaluated in this form.

<sup>1</sup> Virginia E. Thickens, “Pioneer Agricultural Colonies of Fresno County,” *California Historical Society Quarterly* 25 (March 1946) 18; Warren A. Beck and Ynez D. Haase, *Historical Atlas of California* (Norman, Oklahoma: University of Oklahoma Press, 1974), 33; Mary Catherine Miller, “Law and Entrepreneurship in California: Miller and Lux and California Water Law, 1879-1928” (Ph.D. diss., University of California, San Diego, 1982), 8.

Twentieth Century Agricultural Development in Northwestern Fresno County

During the early twentieth century, the character of northwestern Fresno County remained desolate, unsettled, and forbidding. Sagebrush was still prevalent, and cattle and sheep occupied much of the landscape. Changes, however, were taking place, and this era marks the period when northwestern Fresno County began to develop its agricultural potential. Around the turn of the century, land speculators initiated a series of promotional campaigns aimed at enticing settlement. In 1910, the largest of these speculators, the Bellmore Land and Water Company, began selling land in section and quarter section tracts for \$30.00 to \$50.00 an acre in an area west of Mendota known as the Mendota Plains. By 1911, the company owned the section where the property is located. The company's advertisements promoted the region's abundant groundwater and emphasized future irrigation projects. Around 1915, agriculturalists near Mendota began irrigating fields with groundwater tapped from shallow wells. Their first crops failed because of a high concentration of boron in the water, yet the farmers persisted and searched for crops better suited to the local conditions.<sup>2</sup>

Agriculture in northwestern Fresno County more fully prospered during the 1920s, 1930s, and 1940s. Cotton emerged as the region's most valuable crop. Unlike sensitive perishable fruits, cotton withstood the region's boron-laced groundwater. With the establishment of the Firebaugh Canal Company in the late 1920s, area growers also began producing harvests of barley and wheat. During the 1930s and 1940s, the region's agricultural production grew to new heights, aided by the development of the deep well turbine pump and stimulated by rising demands for farm products caused by World War II. With agricultural resources stretched thin, the wartime economy placed a premium on cotton and other local products. After the war, cotton and barley remained the area's largest crops, yet farmers – aided by federal agricultural subsidies – began also producing more vegetables, melons, flax, and alfalfa. By 1952, western Fresno County accounted for 39% of the county's total agricultural wealth.<sup>3</sup>

Although the area's agricultural industry expanded during World War II and remained prosperous during the postwar period, the industry's expansion would not have extended late into the twentieth century without construction of a sophisticated water conveyance project, a massive undertaking that required public participation at the local, state, and federal levels. By the 1940s, groundwater pumping had seriously depleted the region's underground water table, and in 1942 a committee of western Fresno County landowners founded the Westlands Landowners Association (WLA) to explore the feasibility of a water conveyance system to service to west side of the San Joaquin Valley. Ten years later, the WLA reorganized as the Westlands Water District, and in 1953 the district's leaders entered into a 40 year water delivery contract with the federal government in anticipation of completion of the San Luis Canal, a modern aqueduct to be constructed along the west side of the San Joaquin Valley. The federal Bureau of Reclamation envisioned the canal as a component of the Central Valley Project (CVP), the federal reclamation project that aimed to redistribute Sacramento Valley water to arid regions of the San Joaquin Valley. Congress, however, considered the canal a nonessential component of the CVP. Finally, in the early 1960s, state and federal officials revived the canal project as a joint federal/state undertaking. By then, the State of California had embraced the San Luis Canal as a central component of its State Water Project (SWP), an massive water conveyance system that, like the CVP, diverted water from the Sacramento River to arid regions of the San Joaquin Valley and Southern California. In 1968, SWP water began arriving in northwestern Fresno County via the canal, which passed through the region approximately three miles east of the property. The Westlands Water District, meanwhile, controlled the local distribution of the water, which partially alleviated the region's reliance on pumped groundwater.<sup>4</sup>

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<sup>4</sup> JRP Historical Consulting Services and California Department of Transportation, *Water Conveyance Systems in California: Historic Context Development and Evaluation Procedures* (December 2000), 82; Hundley, *The Great Thirst*, 287; Cooper, *Aqueduct Empire*, 146; U.S. Bureau of Reclamation, "CVP, West San Joaquin Division, San Luis Unit," found online at the USBR website: <<http://www.usbr.gov/dataweb/html/casanluis.html>>, accessed June 12, 2006.

History of the Land Located Within the Study Area

This property falls within Section 5 of Township 15 South, Range 13 East, Mt. Diablo Meridian, which surveyor crews first delineated in 1855. Surveyors described the land as “sandy prairie 3<sup>rd</sup> rate,” presenting “no inducement to cultivation or settlement,” with no “timber, water, or good grazing.”<sup>5</sup> Given these conditions, the section did not attract homesteaders for decades. The earliest development in Section 5 was a trail leading west from White’s Bridge at King’s Slough (the forerunner of today’s West Panoche Road), which bisected the section in a northeast-southwest direction. The federal government issued the section’s first land patents in 1890 and 1893. Unlike much of the land in western Fresno County, neither the Southern Pacific Railroad nor Miller & Lux ever maintained ownership of the section.

William Harvey’s *Atlas of Fresno County* indicates that by 1907, the Silver Creek and Panoche Land Company (SCPLC) controlled all 640 acres of Section 5. The firm incorporated on Christmas Eve in 1891 as a partnership of five San Benito County investors, including Andrew J. Chaney of Hollister. The SCPLC aimed to convey water from Panoche and Silver Creeks to townships 14 and 15 south, ranges 12, 13, and 14 in northwestern Fresno County. The company envisioned a network of “dams, ditches and water ways, flumes, and aqueducts” to divert water for irrigation, municipal consumption, and “any other useful purpose ... for the purchase and sale of any and all of said lands.”<sup>6</sup> The scheme recalled patterns of land development previously initiated in eastern Fresno County.

It is unclear to what extent the SCPLC’s plan came to fruition, but it appears one of the firm’s partners, Andrew J. Chaney, did establish a ranch in Section 5 around the turn of the century. Chaney was born in Indiana in 1848. He and his wife Mary arrived in California in 1872 and settled on a farm in southern Santa Cruz County, where they raised four children. By 1900, the Chaney family lived in Hollister, where the SCPLC maintained their offices. Mapping indicates that between 1909 and 1911, SCPLC transferred ownership of Section 5 to the Belmore Land and Water Company. The earliest reference to “Chaney Ranch” appears on a 1911 topographic map, suggesting Andrew J. Chaney either established the ranch along Panoche Road while the SCPLC owned the section, or that he purchased the section outright sometime between 1909 and 1911. By 1920, the Chaney family had left the area for Yolo County, but the name “Chaney Ranch” endured and became a landmark in the area.<sup>7</sup>

Agricultural output within Section 5 increased during the 1920s and 30s, aided by development of the turbine groundwater pump. According to the *Progressive Atlas of Fresno County*, by 1920 C. D. Hillman owned all of Section 5 and irrigated the land with groundwater. By 1935, the section’s ownership had transferred to the California Trust and Savings Bank, and an aerial photograph taken in 1937 depicts the extent of the section’s development up to that time (see **Photograph 6**). The agricultural properties established at what is now 43405 West Panoche Road consisted of at least one house and several outbuildings, with row crops growing in the surrounding fields.<sup>8</sup>

Agricultural production in Section 5 increased again during the 1940s and 1950s. By 1944, Section 5 growers were cultivating hundreds of acres of cotton. Aerial photographs taken in 1950 show a number of postwar agricultural building developments in the section’s northern half, including a sophisticated farming complex at 43405 West Panoche Road, which included a very large storage building. A new electrical substation along the southern shoulder of West Panoche Road also appeared intact. (see **Photographs 7 and 8**) By 1957, the row of labor houses appeared completed. Workers had also

<sup>5</sup> General Land Office, Surveyor’s Field Notes, Township 15 South, Range 13 East, 1854.

<sup>6</sup> William Harvey, *Atlas of Fresno County, California*. Fresno: William Harvey, 1907; “New Corporations,” *Fresno Bee*, December 25, 1891.

<sup>7</sup> U.S. Census Population Schedule, 1880, 1900, and 1920; USGS, *Chaney Ranch Quadrangle*, 1922; W. C. Guard, *Atlas of Fresno County*. Fresno: W. C. Guard, 1909; W. C. Guard, *Atlas of Fresno County*. Fresno: W. C. Guard, 1911; *Progressive Atlas of Fresno County*. Fresno: Progressive Map Service, 1920; USGS, *Panoche Quadrangle*, 1911.

<sup>8</sup> *Progressive Atlas of Fresno County*, 1920; Simmons, *Westlands Water District 116*; *Progressive Atlas of Fresno County*. Fresno: Progressive Map Service, 1935; Aerial Photograph, 1937, 1950, 1957, 1961, Viewed at Madden Library, California State University, Fresno; Simmons, *Westlands Water District*, 120.

\*Recorded by N. Hallam / S. Melvin \*Date 6/5/2006  Continuation  Update

completed three new houses in the southwest corner of the parcel at what is now 43946 West Panoche Road. At 43405 West Panoche Road, workers had expanded the existing agricultural complex by constructing new buildings and planting a row of trees to form a windbreak (see **Photograph 9**). By the end of the 1950s, the primary elements of the properties evaluated in this report appeared intact.<sup>9</sup>

### Evaluation

The residence, large storage building, and ancillary building at 43405 West Panoche Road do not appear to be significant under Criterion A or 1 for associations with significant aspects of the development of local agriculture. Agriculture was important to the development of western Fresno County, but such complexes are relatively common, and these three buildings do not distinguish themselves as important within this context. Therefore, they do not appear to have sufficient significance to warrant their listing in the National Register or California Register under Criterion A and 1.

Under Criterion B and 2, the residence, large storage building, and ancillary building do not appear to be associated with the lives of significant persons important to our past. Research did not reveal any important persons associated with this property. Therefore, the properties do not appear to have sufficient significance to warrant their listing in the National Register or California Register under Criterion B and 2.

Under Criterion C and 3, the residence, large storage building, and ancillary buildings do not embody distinctive architectural characteristics of a type, period, or method of construction, nor are they the work of an important architect or a master craftsman. The residence is not a distinguished example of the Minimal Traditional style, nor does it appear to be the work of a master.

The large storage building is a corrugated metal and board form concrete building. Criterion C states that properties must, “embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values.” This type of metal building with low concrete walls is a common type, and this large storage building does not embody the distinctive characteristics of this type. The tapered roof ends make this building unique and visually interesting; however, this characteristic alone is not sufficient to make it eligible for the National Register. Furthermore, the tapered roof ends do not represent a significant engineering achievement. Therefore, the properties do not warrant listing in the National Register or California Register under Criterion C and 3.

In rare cases, historic properties may qualify under Criterion D and 4 as potential sources of information important to history. These properties, however, are of a common type otherwise well documented, and therefore do not warrant listing in the National Register or California Register under Criterion D and 4.

### Integrity

In addition to meeting the four criterion, properties must also retain sufficient integrity to convey its significance. The seven aspects of integrity are location, setting, design, material, workmanship, feeling, and association. To retain historic integrity, a property must possess several, if not most, of these aspects. The three buildings at 43405 West Panoche Road are located in the same place as their original construction and therefore retain their integrity of location. The setting has changed somewhat with the elimination of several nearby buildings and trees. The residence appears to retain its integrity of design, workmanship, feeling, and association. The replacement windows diminish its integrity of materials. The ancillary building is in a deteriorated condition compromising its integrity of materials, workmanship, feeling, and association. The large storage building retains its integrity of workmanship, materials, feeling and association, but some integrity of design is lost. When constructed, the building had a tower-like element on the center of its north side. This is no longer present. Original construction also had the utility doorway on the east side of the building. Today, corrugated metal covers this entrance, and

<sup>9</sup> Aerial Photograph, 1937, 1950, 1957.  
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a new doorway exists on the west side. In addition, close visual inspection indicates that the metal on this element of the building is more weathered and/or of slightly different material. This suggests that the ends were a later alteration or replacement of the corrugated metal part of this element has occurred. It also appears that corrugated metal now covers up windows on the south side.

Because the residence, large storage building, and ancillary building at 43405 West Panoche Road do not meet the criterion for listing in the NRHP and have diminished integrity, they do not appear eligible for listing in the NRHP.

**Photographs (cont):**



**Photograph 2.** View of large storage facility, camera facing northeast. 6/5/2006.



**Photograph 3.** The large storage building's east end, camera facing west. 6/5/2006.

**Photographs (cont):**



**Photograph 4.** View of residence, camera facing northwest. 6/5/2006.



**Photograph 5.** View of ancillary building, camera facing northwest. 6/5/2006.



**Photograph 6.** 1937 aerial photograph showing the parcel at 43405 West Panoche Road.



**Photographs 7 and 8.** 1950 aerial photographs showing the parcel at 43405 West Panoche Road. At left is a detailed view of the farming complex, north of Panoche Road. At right is an overview of the northwest part of Section 5 including the electrical substation south of Panoche Road.



**Photograph 9.** 1957 aerial photograph showing parcel at 43405 West Panoche Road.

State of California – The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**PRIMARY RECORD**

Primary # \_\_\_\_\_  
HRI # \_\_\_\_\_  
Trinomial \_\_\_\_\_  
NRHP Status Code 6Z

Other Listings \_\_\_\_\_  
Review Code \_\_\_\_\_ Reviewer \_\_\_\_\_ Date \_\_\_\_\_

Page 1 of 11

\*Resource Name or # (Assigned by recorder) Map Reference 2

**P1. Other Identifier:** 43946 West Panoche Road, Firebaugh Ranch

\*P2. Location:  Not for Publication  Unrestricted \*a. County Fresno

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

\*b. USGS 7.5' Quad Chaney Ranch Date 1971 T 15S; R 13E; \_\_\_ ¼ of Sec 5 ; M.D.B.M.

c. Address 43946 W. Panoche Road City Firebaugh Zip 43622

d. UTM: (give more than one for large and/or linear resources) Zone \_\_\_\_\_; \_\_\_\_\_ mE/ \_\_\_\_\_ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

APN 027-060-56S

\*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This parcel (**Map Reference 2**) contains two groups of residences; all are Minimal Traditional in architectural style. Some are occupied and in good condition, while others are unoccupied and severely deteriorated. The first group is on the south part of the parcel and consists of three houses along the north side of West Panoche Road. The second group is roughly one-half mile north of the first group on the north end of the parcel. They are along a single-lane, dirt surfaced farm road and surrounded by fields. (See Continuation Sheet)

\*P3b. Resource Attributes: (List attributes and codes) (HP2) Single Family Property

\*P4. Resources Present:  Building  Structure  Object  Site  District  Element of District  Other (Isolates, etc.)



P5b. Description of Photo: (View, date, accession #) Photograph 1. View of west house on southern part of parcel, camera facing northwest. 2/5/2006.

\*P6. Date Constructed/Age and Sources:  
 Historic  Prehistoric  Both  
1950, aerial photographs, USGS topographic maps

\*P7. Owner and Address:  
Farmers International Inc.  
1260 Muir Ave  
Chico, CA 95973

\*P8. Recorded by: (Name, affiliation, address)  
N. Hallam / S. Melvin  
JRP Historical Consulting,  
1490 Drew Ave, Suite 110,  
Davis, CA 95616

\*P9. Date Recorded: 6/5/2006

\*P10. Survey Type: (Describe)

Intensive

\*P11. Report Citation: Historic Resources Inventory and Evaluation Report for the Panoche Energy Center

\*Attachments:  None  Location Map  Sketch Map  Continuation Sheet  Building, Structure, and Object Record  Archaeological Record  
 District Record  Linear Feature Record  Milling Station Record  Rock Art Record  Artifact Record  Photograph Record

Other (list) \_\_\_\_\_

DPR 523A (1/95)

\*Required Information

**BUILDING, STRUCTURE, AND OBJECT RECORD**

B1. Historic Name: Chaney Ranch

B2. Common Name: Firebaugh Ranch

B3. Original Use: Farm/Ranch B4. Present Use: Farm/Ranch

\*B5. Architectural Style: Minimal Traditional

\*B6. Construction History: (Construction date, alteration, and date of alterations) Original Construction, 1950

\*B7. Moved?  No  Yes  Unknown Date: \_\_\_\_\_ Original Location: \_\_\_\_\_

\*B8. Related Features:

B9. Architect: unknown b. Builder: unknown

\*B10. Significance: Theme n/a Area n/a

Period of Significance n/a Property Type n/a Applicable Criteria n/a

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The agricultural complex at 43946 West Panoche Road has been evaluated in accordance with Section 106 of the National Historic Preservation Act (NHPA), and Section 15064.5(a)(2)-(3) of the CEQA Guidelines outlined in Section 5024.1 of the California Public Resources Code, and does not appear to meet the significance criteria as outlined in these guidelines. The buildings on this parcel do not appear to meet the criteria for listing in the NRHP under Criteria A, B, C or D, nor for listing in the CRHR under Criteria 1, 2, 3 or 4. As a group, the residences do not possess significant associations with important historic events or persons, nor do they possess significance for their architectural merit, and finally, even if they had been significant, they do not possess sufficient historic integrity to warrant their inclusion in the National Register. Individually, none of the buildings reaches a threshold for a finding of significance under the same standards. Therefore, none of these buildings appears to be significant historic properties under Section 106, nor do they appear to be historical resources for the purposes of CEQA. (See Continuation Sheet.)

B11. Additional Resource Attributes: (List attributes and codes) \_\_\_\_\_

\*B12. References:

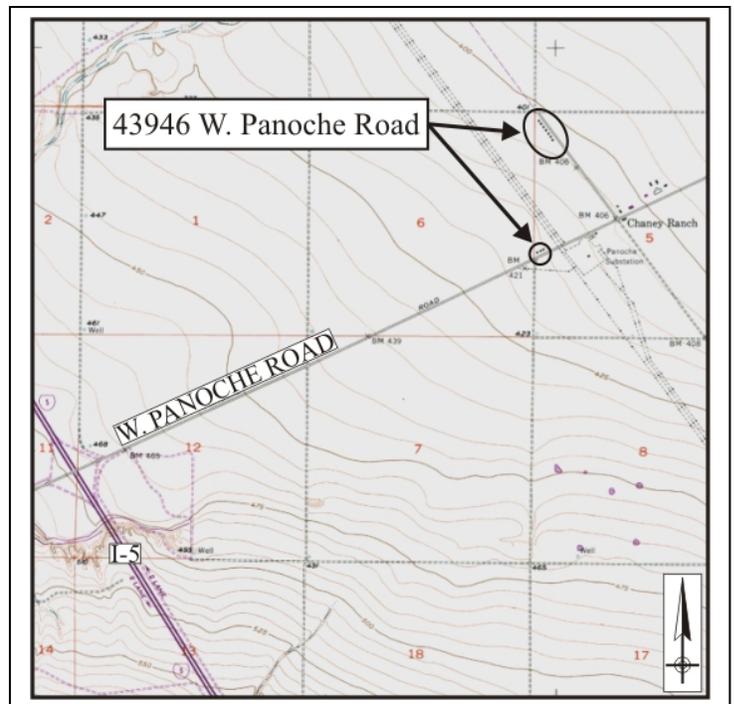
Aerial photographs 1937, 1950, 1957, 1961; George H. Goddard, *Map of Fresno County, California* (1874); E. A. Harley, *Official Map of the County of Fresno* (1892); E. A. Hoxie, *Official Map of the County of Fresno* (1898); Charles W. Clough and William B. Secrest, Jr., *Fresno County, the Pioneer Years from the Beginnings to 1900* (Sacramento: Panorama West Books, 1984); *Official Map of Fresno County* (San Francisco: Thomas Yost and Son, 1892); Ed Simmons, *Westlands Water District: The First 25 Years, 1952-1977* (Fresno: Westlands Water District, 1983). See Footnotes.

B13. Remarks:

\*B14. Evaluator: Rand Herbert

\*Date of Evaluation: June 2006

(This space reserved for official comments.)



### **P3a. Description (continued):**

#### Residences on south part of parcel

These three residences are all modest, single story, Minimal Tradition style houses of approximately 900 square feet with a roughly rectangular plan. They all face the southeast and are in a line along the north side of West Panoche Road. The three have concrete foundations and wood frames covered in lapped wood siding. Some variation does exist among them, however. The house on the west end of the line has a medium pitch, side-gable roof clad in composition shingles with exposed rafter ends (**Photograph 1**). A shed roof supported by plain square posts extends over the front door and creates a covered entryway. Fenestration consists of aluminum sliding and 1/1 double hung windows.

The residence in the center has similar attributes to the above house (**Photograph 2**). The primary difference is a hipped roof, also covered in composition shingles. It does not have a covered entryway and does not appear to have any aluminum sliding windows. A more detailed description is not possible due to obscured visibility and the presence of dogs on the property.

The house on the east end of the line is unoccupied with boarded up windows. It differs from the other two in that it has a front gable roof clad in wood shingles (**Photograph 3**). In addition, the front entrance is off-center and protected by a gable roof shelter supported by elbow brackets. The front door is wood with a boarded up window opening on the top half. Fenestration consists of 1/1 double hung and aluminum sliding windows.

#### Residences on the north part of parcel

These five residences are aligned along a northwest / southeast running, single lane, dirt surfaced farm road (**Photographs 4, 5, 6, 7**). They have been unoccupied for some time and are in a severely deteriorated condition. Like the other houses on the parcel, they are single-story, Minimal Traditional style of approximately 900 square feet with a roughly square plan. They have a concrete foundation, wood frame, and lapped wood siding. Four of the five have medium pitch, side-gable roofs, and one has a medium pitch hipped roof; all have exposed rafter ends and wood shingles. The hipped roof residence also has a shed roof addition on the back of the house forming an enclosed entryway for the back door. Originally, all had shed roof shelters over the centrally placed front door, creating a covered entryway. These have since collapsed. Fenestration on the buildings consists of 1/1 double-hung, although no glass remains; to one side of the front door is a large fixed pane window, also without glass. The front doors are made of wood with a large window on the top half that is without glass; a second doorway is in the rear of the houses.

### **B10. Significance (continued):**

#### Nineteenth Century History of Northwestern Fresno County

During the nineteenth century, the majority of northwestern Fresno County remained void of settlement. The Spanish and Mexican colonists who settled along the California coast during the late eighteenth and early nineteenth centuries dismissed the San Joaquin Valley as *tierra incógnita*, the “unknown land.” In 1849, the California Gold Rush attracted the first wave of American settlement to what is now Fresno County, but settlers flocked exclusively to the Upper Kings River, far to the southeast of the property. During the 1860s and 70s, cattlemen such as Henry Miller and Charles Lux amassed extensive acreage in western Fresno County, but devoted the landscape to grazing and grain cultivation, and concentrated their operations along riparian lands watered by natural streams. The Southern Pacific Railroad Company also attained extensive western Fresno county landholdings, but neglected the region in favor of the more bustling and profitable settlements to the

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east. Thus, during the nineteenth century, much of northwestern Fresno County remained unsettled, unimproved, and lacked nearby railroad connections.<sup>1</sup> This period predated the architectural structures evaluated in this form.

### Twentieth Century Agricultural Development in Northwestern Fresno County

During the early twentieth century, the character of northwestern Fresno County remained desolate, unsettled, and forbidding. Sagebrush was still prevalent, and cattle and sheep occupied much of the landscape. Changes, however, were taking place, and this era marks the period when northwestern Fresno County began realizing its agricultural potential. Around the turn of the century, land speculators initiated a series of promotional campaigns aimed at enticing settlement. In 1910, the largest of these speculators, the Bellmore Land and Water Company, began selling land in section and quarter section tracts for \$30.00 to \$50.00 an acre in an area west of Mendota known as the Mendota Plains. By 1911, the company owned the section where the property. The company's advertisements promoted the region's abundant groundwater and emphasized future irrigation projects. Around 1915, agriculturalists near Mendota began irrigating fields with groundwater tapped from shallow wells. Their first crops failed because of a high concentration of boron in the water, yet the farmers persisted and searched for crops better suited to the local conditions.<sup>2</sup>

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It is unclear to what extent the SCPLC's plan came to fruition, but it appears one of the firm's partners, Andrew J. Chaney, did establish a ranch in Section 5 around the turn of the century. Chaney was born in Indiana in 1848. He and his wife Mary arrived in California in 1872 and settled on a farm in southern Santa Cruz County, where they raised four children. By 1900, the Chaney family lived in Hollister, where the SCPLC maintained their offices. Mapping indicates that between 1909 and 1911, SCPLC transferred ownership of Section 5 to the Belmore Land and Water Company. The earliest reference to “Chaney Ranch” appears on a 1911 topographic map, suggesting Andrew J. Chaney either established the ranch along Panoche Road while the SCPLC owned the section, or that he purchased the section outright sometime between 1909 and 1911. By 1920, the Chaney family had left the area for Yolo County, but the name “Chaney Ranch” endured and became a landmark in the area.<sup>7</sup>

Agricultural output within Section 5 increased during the 1920s and 30s, aided by development of the turbine groundwater pump. According to the *Progressive Atlas of Fresno County*, by 1920 C. D. Hillman owned all of Section 5 and irrigated the land with groundwater. By 1935, the section's ownership had transferred to the California Trust and Savings Bank, and an aerial photograph taken in 1937 depicts the extent of the section's development up to that time (see **Photograph 2**). The agricultural properties established at what is now 43405 West Panoche Road consisted of at least one house and several outbuildings, with row crops growing in the surrounding fields.<sup>8</sup>

<sup>4</sup> JRP Historical Consulting Services and California Department of Transportation, *Water Conveyance Systems in California: Historic Context Development and Evaluation Procedures* (December 2000), 82; Hundley, *The Great Thirst*, 287; Cooper, *Aqueduct Empire*, 146; U.S. Bureau of Reclamation, “CVP, West San Joaquin Division, San Luis Unit,” found online at the USBR website: <<http://www.usbr.gov/dataweb/html/casanluis.html>>, accessed June 12, 2006.

<sup>5</sup> General Land Office, Surveyor's Field Notes, Township 15 South, Range 13 East, 1854.

<sup>6</sup> William Harvey, *Atlas of Fresno County, California*. Fresno: William Harvey, 1907; “New Corporations,” *Fresno Bee*, December 25, 1891.

<sup>7</sup> U.S. Census Population Schedule, 1880, 1900, and 1920; USGS, *Chaney Ranch Quadrangle*, 1922; W. C. Guard, *Atlas of Fresno County*. Fresno: W. C. Guard, 1909; W. C. Guard, *Atlas of Fresno County*. Fresno: W. C. Guard, 1911; *Progressive Atlas of Fresno County*. Fresno: Progressive Map Service, 1920; USGS, *Panoche Quadrangle*, 1911.

<sup>8</sup> *Progressive Atlas of Fresno County*, 1920; Simmons, *Westlands Water District 116*; *Progressive Atlas of Fresno County*. Fresno: Progressive Map Service, 1935; Aerial Photograph, 1937, 1950, 1957, 1961, Viewed at Madden Library, California State University, Fresno; Simmons, *Westlands Water District*, 120.

Agricultural production in Section 5 increased again during the 1940s and 1950s. By 1944, Section 5 growers were cultivating hundreds of acres of cotton. Aerial photographs taken in 1950 reveal a number of postwar agricultural building developments in the section's northern half. In the section's extreme northwest corner at what is now 43946 West Panoche Road, workers had commenced construction a row of agricultural labor houses. A new electrical substation along the southern shoulder of West Panoche Road also appeared intact. (see **Photographs 8**) By 1957, the row of labor houses in the northwest corner appear completed. Workers had also constructed three new houses in the southwest corner of the parcel at what is now 43946 West Panoche Road (see **Photograph 9**).<sup>9</sup>

### Evaluation

The residences at 43946 West Panoche Road do not appear to be significant under Criterion A or 1 for associations with significant aspects of the development of local agriculture. It is likely that farm laborers working on the Chaney Ranch originally occupied the houses on this parcel. One map labeled the houses on the north part of the parcel as the "Chaney Apartments." During the 1950s, numerous farm labor camps dotted the landscape in this part of the western San Joaquin Valley. These camps were important to agriculture in the region providing labor to these remote areas that were far from any town or city. These residences, however, do not distinguish themselves as important within the context of agricultural farm worker housing or the development of agriculture and therefore do not appear to have sufficient significance to warrant their listing in the National Register or California Register under Criterion A and 1.

Under Criterion B and 2, the buildings do not appear to be associated with the lives of significant persons important to our past. Research did not reveal any important persons associated with this property. The name "Chaney Ranch," which still is applied to this area, came from A. J. Chaney who, with four others, started the Silver Creek and Panoche Land and Water Company in 1891. The group owned this land for several years. Neither Chaney nor any of his associates were historically significant figures. Furthermore, at the time of construction of these buildings, neither Chaney nor the Silver Creek and Panoche Land and Water Company owned the land and have no association with them. In subsequent years, no historically important person came to be associated with the property and therefore the properties do not appear to have sufficient significance to warrant their listing in the National Register or California Register under Criterion B and 2.

Under Criterion C and 3, the buildings do not embody distinctive architectural characteristics of a type, period, or method of construction, nor are they the work of an important architect or a master craftsman. The buildings are modest examples of the Minimal Traditional style, but they are not distinguished examples, and do not appear to be the work of a master. They therefore do not warrant listing in the National Register or California Register under Criterion C and 3.

In rare cases, historic properties meet Criterion D and 4, as having the potential to reveal information important to history. These properties are a common type and are otherwise well documented, therefore do not warrant listing in the National Register or California Register under Criterion D and 4.

### Integrity

In addition to meeting the four criterion, properties must also retain sufficient integrity. The seven aspects of integrity are location, setting, design, material, workmanship, feeling, and association. To retain historic integrity a property will always possess several, and usually most, of the aspects. The buildings are in the same place as their original construction and, therefore, retain their integrity of location. Concerning the other six aspects, the buildings lack integrity to some degree. The building are relatively unaltered, although some of the houses on the north part of the parcel have partially collapsed, thus affecting their integrity of design. The setting has changed somewhat with the construction of additional buildings, changes in surrounding vegetation, and orchards replacing row crops. Many of the buildings on the south part of the parcel

<sup>9</sup> Aerial Photograph, 1937, 1950, 1957.  
DPR 523L (1/95)

\*Recorded by N. Hallam / S. Melvin \*Date 6/5/2006  Continuation  Update

have replacement windows and doors and, therefore, lack integrity of materials. Other buildings are missing windows sashes, windowpanes, or doors. The severely deteriorated condition of many of the buildings diminishes their integrity of workmanship. In many cases the techniques of the workers that built these houses is not apparent because so much has been lost. The condition of the buildings also limits their ability to express their particular period of significance and, therefore, diminishes the integrity of feeling and association.

**Photographs (cont):**



**Photograph 2.** View of center residence, camera facing northwest. 6/5/2006.



**Photograph 3.** View of east residence, camera facing northwest. 6/5/2006.

**Photographs (cont):**



**Photograph 4.** Row of houses on north end of parcel, camera facing northwest. 6/5/2006.



**Photograph 5.** Residence on north part of parcel, camera facing west. 6/6/2006.

**Photographs (cont):**



**Photograph 6.** Houses at north end of parcel, camera facing northwest. 6/5/2006.



**Photograph 7.** Rear of house on north part of parcel, camera facing northeast. 6/5/2006.



**Photographs 8.** 1950 aerial photograph depicts agricultural development in Section 5. At top of photograph is the agricultural worker housing complex under construction at 43946 West Panoche Road.



**Photograph 9.** 1957 aerial photographs showing development at 43946 West Panoche Road. At left are the three houses along West Panoche Road in the southwest corner of the parcel. At right is the agricultural worker housing complex on the north end of the parcel.

State of California – The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**PRIMARY RECORD**

Primary # \_\_\_\_\_  
HRI # \_\_\_\_\_  
Trinomial \_\_\_\_\_  
NRHP Status Code 6  
Other Listings \_\_\_\_\_  
Review Code \_\_\_\_\_ Reviewer \_\_\_\_\_ Date \_\_\_\_\_

**P1. Other Identifier:** Panoche Road

\*P2. Location:  Not for Publication  Unrestricted  
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

\*a. County Fresno

\*b. USGS 7.5' Quad Chaney Ranch Date 1971 T 15S; R 13E; \_\_\_ ¼ of Sec 5 ; M.D.B.M.

c. Address \_\_\_\_\_ City \_\_\_\_\_ Zip 43622

d. UTM: (give more than one for large and/or linear resources) Zone \_\_\_\_\_; \_\_\_\_\_ mE/ \_\_\_\_\_ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

Take I-5 south from Sacramento approximately 140 miles to the Panoche Road Exit

\*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Panoche Road is a county road in western Fresno County beginning approximately 12 miles southwest of Mendota, California near the intersection of Annedale Avenue and South Newcombe Avenue. The road runs southwest along a straight line from this point to the Big Panoche Valley where it begins its winding ascension into the Coast Range, ultimately terminating in those mountains at Paicines along county road 25 in San Benito County. Panoche Road has been recently improved and has a smooth, two lane, modern asphalt roadbed with lanes approximately 15 feet wide. Along the roadway is an approximately three foot wide asphalt skirt and a gravel shoulders approximately 10 feet wide. In places the end of the shoulder and the beginning of an agricultural complex or farmland is not discernable.

\*P3b. Resource Attributes: (List attributes and codes) Road (HP37)

\*P4. Resources Present:  Building  Structure  Object  Site  District  Element of District  Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) Photograph 1. View of Panoche Road in foreground, camera facing south. 6/6/06.



\*P6. Date Constructed/Age and Sources:  
 Historic  Prehistoric  Both  
original construction ca. 1874, improved in subsequent years; county maps

\*P7. Owner and Address:  
Fresno County

\*P8. Recorded by: (Name, affiliation, address)  
N. Hallam / S. Melvin  
JRP Historical Consulting,  
1490 Drew Ave, Suite 110,  
Davis, CA 95616

\*P9. Date Recorded: June 6, 2006

\*P10. Survey Type: (Describe)  
Intensive

\*P11. Report Citation: Historic Resources Inventory and Evaluation Report for the Panoche Energy Center

\*Attachments:  None  Location Map  Sketch Map  Continuation Sheet  Building, Structure, and Object Record  Archaeological Record  
 District Record  Linear Feature Record  Milling Station Record  Rock Art Record  Artifact Record  Photograph Record  
 Other (list) \_\_\_\_\_

Page 2 of 4

\*Resource Name or # (Assigned by recorder) Map Reference 3

\*Recorded by N. Hallam/ S. Melvin \*Date 6/6/06  Continuation  Update

L1. Historic and/or Common Name: Panoche Road, West Panoche Road

L2a. Portion Described:  Entire Resource Segment  Point Observation Designation: 43946 West Panoche Road

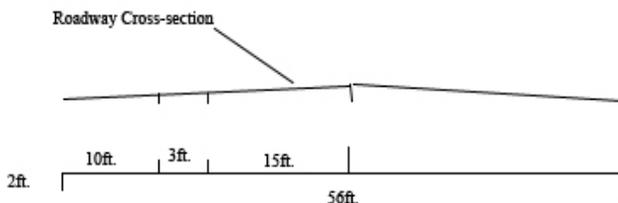
\*b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map.)

Location is approximately at 43946 West Panoche Road in Fresno County, T15S/R13E, Section 5, MDBM.

L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.)

The road has two approximately 15 foot wide lanes paved with asphalt and a three foot wide asphalt skirt. On each side is a 10 foot wide gravel shoulder.

L4e. Sketch of Cross-Section (include scale) Facing: northeast



L4. Dimensions: (in feet for historic features and meters for prehistoric features)

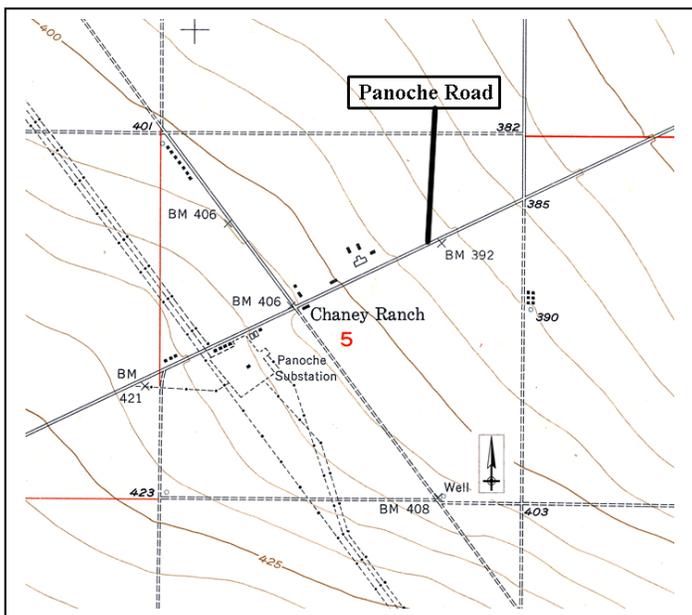
- a. Top Width approx. 56 feet
- b. Bottom Width \_\_\_\_\_
- c. Height or Depth approx. 2 feet
- d. Length of Segment \_\_\_\_\_

L5. Associated Resources:

L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate.)

Panoche Road runs through an agricultural landscape of orchards and row crops that is virtually flat. Along its route Panoche Road crosses the San Luis Canal of the California Aqueduct and intersects with Interstate 5. The area is sparsely settled and Panoche Road.

L7. Integrity Considerations: The road no longer has integrity to convey its significance. The road first appears on maps in 1874 connecting Fresno with Big Panoche Creek Valley and points in the Coast Range. Since that time, the roadway has been widened to accommodate modern motor vehicle traffic and shoulders have been added. It has also been repaved many times; the current pavement appears to date to within the last 20 years. No trace of a nineteenth century or early twentieth century roadway remains. Given its alterations, the roadway lacks integrity of design, materials, workmanship, feeling, and association.



L8b. Description of Photo, Map, or Drawing:

1955 USGS 7.5' Topographic map showing Panoche Road running northeast/southwest

L9. Remarks:

L10. Form prepared by: (Name, affiliation,  
Steven Melvin  
JRP Historical Consulting Services,  
1490 Drew Ave, Suite 110,  
Davis, CA 95616

L11.Date: 6/19/06

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\*Resource Name or # (Assigned by recorder) Map Reference 3

\*Recorded by N. Hallam/ S. Melvin \*Date 6/6/06  Continuation  Update

## B10. Significance

Panoche Road has been evaluated in accordance with Section 106 of the National Historic Preservation Act (NHPA), and Section 15064.5(a)(2)-(3) of the CEQA Guidelines outlined in Section 5024.1 of the California Public Resources Code, and does not appear to meet the significance criteria as outlined in these guidelines. This section of road near the project area does not appear to meet the criteria for listing in the NRHP under Criteria A, B, C or D, nor for listing in the CRHR under Criteria 1, 2, 3 or 4. Therefore, Panoche Road does not appear to be a significant historic property under Section 106, nor does it appear to be historical resources for the purposes of CEQA.

Panoche Road does not appear to meet the criteria for listing in the NRHP under Criteria A, B, C or D, nor for listing in the CRHR under Criteria 1, 2, 3 or 4. Panoche Road does not appear to meet Criterion A or 1 for associations with local development and transportation. The road was one of the earliest in western Fresno County dating to at least 1874, possibly earlier. It was one of the few roads in the area at the time and provided a route between the city of Fresno and the Big Panoche Creek Valley, New Idria Mine, Coast Range, Hollister, and points beyond. This road was an important thoroughfare for western Fresno County and might be eligible under Criterion A or 1 if it had integrity. The section of Panoche Road in the vicinity of the project are, however, lacks integrity to convey its importance and therefore does not appear to have sufficient significance to warrant its listing in the National Register or California Register under Criterion A and 1.

Under Criterion B and 2, Panoche Road does not appear to be associated with the lives of significant persons important to our past. Research did not reveal any important persons associated with this road. The property, therefore, does not appear to have sufficient significance to warrant its listing in the National Register or California Register under Criterion B and 2.

Under Criterion C and 3, Panoche Road does not embody distinctive characteristics of design, engineering, or method of construction. The road is of a common type among county roads and, therefore, does not warrant listing in the National Register or California Register under Criterion C and 3.

In rare cases, historic properties meet Criterion D and 4, as having the potential to reveal information important to history. This road represents typical construction methods that are otherwise well documented, therefore, it does not warrant listing in the National Register or California Register under Criterion D and 4.

### Integrity

The section of Panoche Road near the project area has undergone significant alterations since the time it was an important route in Fresno County. Its integrity is greatly diminished and it no longer conveys its period of significance. The road has

Page 4 of 4

\*Resource Name or # (Assigned by recorder) Map Reference 3

\*Recorded by N. Hallam/ S. Melvin \*Date 6/6/06  Continuation  Update

undergone widening, resurfacing, and grading to accommodate modern motor vehicle traffic. No trace of a nineteenth century or early twentieth century roadway remains. Such improvements have diminished its integrity of design, materials, workmanship, feeling, and association.

**P1. Other Identifier:** Panoche Substation

\*P2. Location:  Not for Publication  Unrestricted  
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

\*a. County Fresno

\*b. USGS 7.5' Quad Chaney Ranch Date 1971 T 15S; R 13E; \_\_\_\_\_ ¼ of Sec 5; MD B.M.

c. Address Panoche Road. City Firebaugh Zip 43622

d. UTM: (give more than one for large and/or linear resources) Zone \_\_\_\_\_; \_\_\_\_\_ mE/ \_\_\_\_\_ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

\*P3a. **Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Panoche Substation is at the intersection of two long distance transmission lines, one runs northwest - southeast and the other runs east-west to the substation. The eastern portion of the substation serves local lines and the western portion has two metal structures running north to south supporting wires. This is connected to a wide metal structure which lowers the elevation of the wires. Near the center of the substation are three rectangular transformers which are connected to the western portion of the substation. A fourth transformer is on site but not connected. On the east side are another set of metal support structures carrying the local lines. The local lines enter the substation through four metal towers arranged along the east edge. The wires are then brought down to a lower elevation on wide metal structures west of the towers. Six cylindrical transformers are just west of those structures. All of the equipment and structures are on concrete footings in the gravel-covered yard. (See Continuation Sheet.)

\*P3b. **Resource Attributes:** (List attributes and codes) HP9 Public utility

\*P4. **Resources Present:**  Building  Structure  Object  Site  District  Element of District  Other (Isolates, etc.)

P5a. Photo of Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date,

accession #) Photograph 1. Substation, camera facing east, January 22, 2007.

\*P6. **Date Constructed/Age and Sources:**

Historic  Prehistoric  Both

ca. 1950, with continuous additions:  
Aerial photography.

\*P7. **Owner and Address:**

Pacific Gas and Electric

\*P8. **Recorded by:** (Name, affiliation, address)

Steven Melvin/ Cheryl Brookshear  
JRP Historical Consulting, LLC  
1490 Drew Ave, Suite 110,  
Davis, CA 95618

\*P9. **Date Recorded:** January 22, 2007

\*P10. **Survey Type:** (Describe)

Intensive

\*P11. **Report Citation:** (Cite survey report and other sources, or enter "none.") JRP Historical Consulting LLC, HRIER for the Panoche Energy Center, Fresno County, California, June 2006.

\*Attachments:  None  Location Map  Sketch Map  Continuation Sheet  Building, Structure, and Object Record  Archaeological Record  
 District Record  Linear Feature Record  Milling Station Record  Rock Art Record  Artifact Record  Photograph Record

Other (list) \_\_\_\_\_

B1. Historic Name: Panoche Substation

B2. Common Name: Panoche Substation

B3. Original Use: Substation B4. Present Use: Substation

\*B5. Architectural Style: Industrial/ Utilitarian

\*B6. Construction History: (Construction date, alteration, and date of alterations) 1<sup>st</sup> stage built after 1937 complete by 1950, expansion between 1950 and 1957, equipment yard date unknown, and southeast equipment added post 1998.

\*B7. Moved?  No  Yes  Unknown Date: \_\_\_\_\_ Original Location: \_\_\_\_\_

\*B8. Related Features: \_\_\_\_\_

B9. Architect: unknown b. Builder: unknown

\*B10. Significance: Theme n/a Area n/a

Period of Significance n/a Property Type n/a Applicable Criteria n/a

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The Panoche Substation does not appear to be a historical resource for the purposes of CEQA. The substation was built between 1937 and 1950, probably during the late 1940s. It has been expanded regularly is not associated with events that have made a significant contribution to the history of the local area, region or state (Criterion A and 1). The property does not appear to have been associated with a person who made significant contributions to local, state or national history (Criterion B and 2). The structure does not embody characteristics of a type, period, region or method of construction and it is not the work of a master and does not have high engineering value (Criterion C and 3). Rarely, structures can provide information about historical methods of construction (Criterion D and 4) however, information on this structure is recorded elsewhere and it does not appear to be a primary source in this regard. This property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and it does appear to be a historical resource for the purposes of CEQA. (See Continuation Sheet)

B11. Additional Resource Attributes: (List attributes and codes)

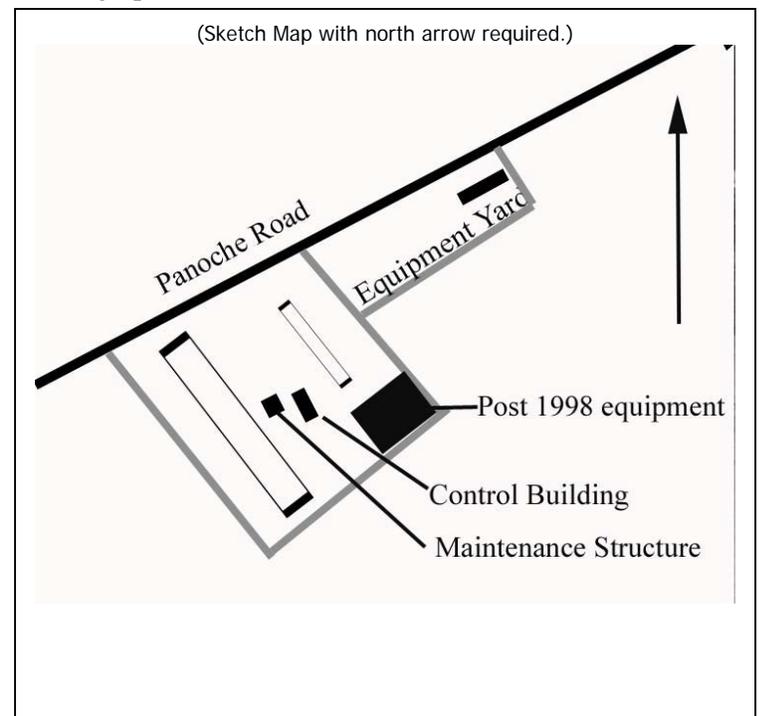
\*B12. References: USGS, *Chaney Ranch Quad*, 1955; Aerial Photographs 1937, 1950, 1957; CEC, *CEC California Power Plants Database 2005*; CEC, *CEC California Substation Database 2005*; Charles M. Coleman, *PG&E of California: The Centennial Story of Pacific Gas and Electric Company 1852-1952* (New York: McGraw Hill) 1952; James C. Williams, *Energy and the Making of Modern California* (Akron, OH: University of Akron Press) 1997.

B13. Remarks:

\*B14. Evaluator: Steven Melvin/ Cheryl Brookshear

\*Date of Evaluation: January 2007

(This space reserved for official comments.)



**Pa3. Description (continued):**

In the center of the compound are two buildings. Just west of the large rectangular transformers is a two story tall rectangular maintenance building of slab concrete with a flat roof. The building has a large metal overhead door on the east side. Outside of the building is a large rectangular frame with a crane in the center. It is the appropriate size to lift the rectangular transformers. (Photograph 2)



**Photograph 2** Maintenance Structure with crane on left, camera facing south.



**Photograph 3.** Control Building, camera facing southwest.

At the south end of the central drive is a poured board formed concrete building one story tall with a flat roof. The building has double metal doors on the north and five, three by six windows on the east. (Photograph 3) In the southeast corner of the substation is a complex of tanks and cooling equipment. (Photograph 4) East of the substation is an equipment yard with upright and horizontal mounted tanks and a one story, side gabled maintenance building covered in stucco.



**Photograph 4.** Equipment in southeast corner, camera facing south.

## **B10. Significance (continued):**

### General History of Electrical Transmission in California

California's rugged terrain and often scattered settlement made the transmission of power an important factor in development. Mining settlements and cities quickly used up all easily accessible combustibles for steam power, and bringing in more from other sources was expensive and difficult. Mining communities discovered that nearby water sources could produce electricity that was easily transmitted to rugged isolated sites.<sup>1</sup> The problem was that the first electrical systems popularized by Edison were direct current (DC) and had a limited transmission distance. Most mining communities could find a hydroelectric site within transmission distance, but cities and agricultural settlements often could not.

The nature of this problem and its solution led to the great electrical battle between Westinghouse, building systems around high voltage alternating current (AC), and Edison, building systems around DC electricity. Westinghouse acquired patents for transformers from other inventors and a very important patent for poly-phase alternating current generators and motors from Nicola Tesla. The system his engineers devised used transformers to increase or "step up" the voltage, and at this higher voltage electricity could be transmitted longer distances with less loss. At the receiving end, another transformer would decrease or "step down" the voltage to a level suitable for use. Edison countered that the high voltages were unsafe and took the battle to the public with demonstrations of electrocutions. The two firms battled it out in public and the academic press and contract bids for the Columbia Exposition in Chicago and engineering and equipment bids for the proposed plant at Niagara Falls. While the battle raged over safety in the east, in the west there was no question of suitability.

California was introduced to AC by former Brush Electric Company engineer Almerian Decker. Decker came to California in 1891 for his health and became involved in a southern California electrical project. Decker and his partners, Cyrus G. Baldwin and Henry Harbison Sinclair, opened the San Antonio Light and Power Company in 1892 using Westinghouse technology to transmit power over 14 miles to Pamona. Decker then went on to design Mill Creek, the first commercial American three phase power plant.<sup>2</sup> In 1895 the Folsom power plant, designed by James Lighthipe of General Electric, supplied power to Sacramento 22 miles away. These projects were all completed before the eastern states recognized the value of long distance transmission demonstrated by the Niagara project.<sup>3</sup>

California electrical companies, especially Eugene J. de Sabla and John Martin's companies, continued to increase transmission voltages and distances. Bay Counties Power Company, owned by de Sabla and Martin, broke records in 1901 when they transmitted power generated in the Sierra-Nevada to San Francisco. Throughout the early 20<sup>th</sup> century California companies developed the hydropower resources of the mountains and transmitted the power across the state.

The shortage of oil and increasing demands for electricity during World War I challenged electrical companies to make more energy available without building more plants. The California State Railroad Commission and the Committee on Petroleum of the State Council on Defense suggested in 1917 that the companies integrate their transmission lines. These integrated lines would allow unused power from one source to be used elsewhere where generating capacity was not as large. This idea of interconnected generating pools was adapted both in the northeast and in neighboring western states following the California model.<sup>4</sup>

<sup>1</sup> James C. Williams, *Energy and the Making of Modern California* (Akron, Ohio: University of Akron Press, 1997) p.173.

<sup>2</sup> James C. Williams, *Energy and the Making of Modern California*, 175.

<sup>3</sup> James C. Williams, *Energy and the Making of Modern California*, 176-7.

<sup>4</sup> James C. Williams, *Energy and the Making of Modern California*, 245.

The post-World War II era was a time of rapid growth in California. Housing and populations swelled along with the business and industrial concerns. Fueled by wartime defense industries, California grew rapidly. Northern California utility Pacific Gas & Electric (PG&E) began a program of generation growth that included both hydroelectric and steam power. Steam turbine power plants were cheaper and quicker to build than hydroelectric plants and utilities companies moved away from hydroelectricity, establishing steam turbine power as the generator of choice. Such plants conserved water and kept costs down for the business and the consumer.<sup>5</sup> The design criteria were the same in all cases: build the facility close to load centers to reduce transmission costs; locate near fuel supplies; locate near a water supply; and select a site where land was cheap and could support a good foundation. Even with these advance in technology and despite being closer to population centers, steam plants still needed transmission facilities and substations were constructed throughout the service area to connect the new power plants.<sup>6</sup>

#### Development of the San Joaquin Light and Power Company/ PG&E

The San Joaquin Power Company was formed from the failed San Joaquin Electric Company in 1902.<sup>7</sup> The promoters of this young company negotiated a division of territory with the larger California Gas and Electric Corporation to avoid destructive competition. The San Joaquin Power Company would be undisturbed in the territory south of Stanislaus County. The company brought San Joaquin Powerhouse No. 1, built by the failed San Joaquin Electric Company, into profitability and expanded it. Power from the hydroelectric plant was transmitted to Fresno and the surrounding area. Albert G. Wishon, one of the founders, encouraged the use of electricity to pump water for irrigation and because of this vision the company served rural areas as well as towns. But in order to expand into new territory and aid the farmers of the San Joaquin Valley the company needed capital. The company was reorganized at the San Joaquin Light and Power Company in 1905 with increased capital. The company began acquiring small local companies and connecting them to the larger hydroelectric system. The San Joaquin Light and Power Company became a corporation and extended its service as far as Bakersfield in 1910. Operations in Bakersfield supported oil pumping and were also the first intercompany transmission connections in 1913. San Joaquin Light and Power Corporation later connected with PG&E to the north to create an integrated system from southern California to southern Oregon.<sup>8</sup> In 1912 the company expanded to the coast with the purchase of gas and electric works serving Paso Robles, Pismo and other small towns. Increasing needs led to the construction of more hydroelectric facilities and a steam plant at Midway near Buttonwillow, west of Bakersfield, in 1921.<sup>9</sup>

Despite being a growing and profitable company, San Joaquin Light and Power was not large enough to avoid purchase. In 1924 Great Western Corporation purchased the corporation. Great Western Corporation operated a system in northern California and connected to its newly acquired system via a transmission line constructed from Brighton substation near Sacramento, to the Wilson substation outside of Merced. Both companies became a part of the North American Company that had holdings that extended across the nation. In a later stock deal the North American Company turned control of the San Joaquin Light and Power and Great Western to PG&E and in return, North American received stock in PG&E. As a result, PG&E controlled electric companies throughout most of northern California.<sup>10</sup>

While San Joaquin Light and Power had been deeply involved in irrigation in the valley, PG&E had a different view. PG&E was strongly opposed to governmental run utilities and the new Central Valley Project (CVP) would bring the government into the arena as a producer of electricity. Beginning in 1923, and not settled fully until 1951, PG&E and the government

<sup>5</sup> Myers, *Iron Men and Copper Wires*, 200; James C. Williams, *Energy and the Making of Modern California*, 277-78, 282-83.

<sup>6</sup> James C. Williams, *Energy and the Making of Modern California*, 284, 374.

<sup>7</sup> Charles M. Coleman, *PG & E of California: The Centennial Story of Pacific Gas and Electric Company* (New York: McGraw-Hill Book Co., 1952) 189.

<sup>8</sup> Charles M. Coleman, *PG & E of California: The Centennial Story of Pacific Gas and Electric Company*, 265.

<sup>9</sup> Charles M. Coleman, *PG & E of California: The Centennial Story of Pacific Gas and Electric Company*, 193-196, 265.

<sup>10</sup> Charles M. Coleman, *PG & E of California: The Centennial Story of Pacific Gas and Electric Company*, 293, 296.

entered into a period of animosity. After years of conflict and lawsuits, agreements were reached to establish that the government would sell the generated power to PG&E, who would transmit it to customers. “Backbone” transmission lines from Shasta Dam to Tracy were built to distribute the power.<sup>11</sup>

The decades of Depression and World War II saw limited growth of new generation facilities. Following World War II, PG&E began a program of expanded generation to serve the growing post-war population. One billion dollars was spent on new plants among them were Donbass (1946), Kern (1948), Electra (1948), West Point (1948) Moss Landing (1950), and Contra Costa (1951). PG&E was also able to develop new hydroelectric sites that were not available to southern California companies and World War II had also encouraged greater interconnectivity and transmission lines now connected companies from British Columbia to Mexico.<sup>12</sup>

### Panoche Substation

As mentioned above, PG&E built numerous new power stations and ancillary structures like transmission lines and substations following World War II. Panoche Substation was among them. It was constructed at the junction of two transmission lines, one traveling east from Moss Landing and the other north from Bakersfield up to Tracy. Moss Landing began operations in 1950 producing 340,000kw. It was expanded in 1952 and 1953. The substation does not appear in a 1937 aerial of the area, but is shown in a 1950 aerial. The most likely construction date for the substation, therefore is ca. 1948-1950. The San Joaquin Light and Power Corporation had built a transmission line along the east side of the valley to connect Bakersfield to its hydroelectric plants after 1910. The Bakersfield area was rich in oil and the San Joaquin Light and Power Corporation developed a steam plant there in the early 1900s. The current line is not the same as this early transmission line. The Kern Power Plant near Bakersfield was completed in 1946 to supply increased power to irrigation projects in the lower San Joaquin Valley.<sup>13</sup> Linking generation systems into a stable network had begun in during World War I as a conservation measure and was again encouraged during World War II. PG&E retained the practice, and the Panoche substation was a link that helped create stability between the coast, southern San Joaquin Valley, and Delta power stations.

By 1950 the substation had two sets of transformers, one on the east and another on the west side of the station, a tall maintenance building and a smaller control building were also on the site. Along the road were four residences.<sup>14</sup> Between 1950 and 1957 the substation’s east and west support structures were doubled in size and the control building also doubled. Between 1957 and 1971 the houses along Panoche road in front of the substation were removed and the office in the equipment yard re-built. In 2001 a peaker facility was added on the southeast corner of the substation and a new office was built for the equipment yard.<sup>15</sup>

### Evaluation

The Panoche Substation does not appear to be a historical resource for the purposes of CEQA. The substation was built between 1937 and 1950, most likely 1948-1950 and continuously expanded. It does not appear to be significant within the context of the history of San Joaquin Light and Power Company or PG&E, the history of electric transmission, or the history of post World War II electrical transmission (Criterion A and 1). Panoche is located at the junction of two lines, and does not appear to have been par of the original construction of the older north-south line. As a part of the post-war electrical transmission system the two lines intersecting at Panoche are lines serving the local community and connecting to the larger electrical grid. Panoche does not appear to be historically significant within the context of this larger system. Panoche

<sup>11</sup> Charles M. Coleman, *PG & E of California: The Centennial Story of Pacific Gas and Electric Company*, 329.

<sup>12</sup> Charles M. Coleman, *PG & E of California: The Centennial Story of Pacific Gas and Electric Company*, 265.

<sup>13</sup> Charles M. Coleman, *PG & E of California: The Centennial Story of Pacific Gas and Electric Company*, 334-335, 196, 332.

<sup>14</sup> Aerial Photograph, Madden Library, University of California, Fresno, 1950.

<sup>15</sup> USGS, *Chaney Ranch*, 1955 photorevised 1971.

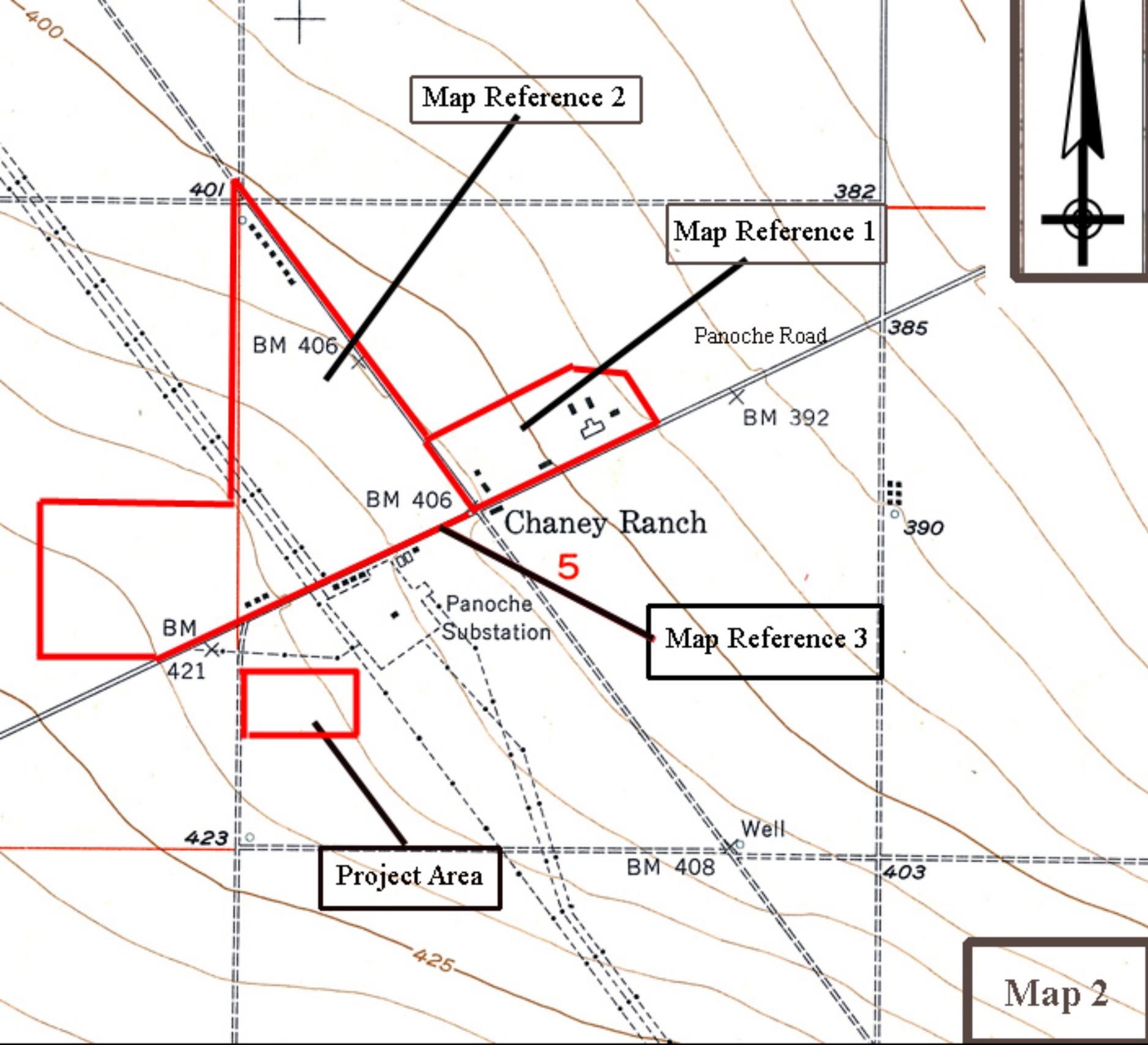
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\*Resource Name or # (Assigned by recorder) Panoche Substation

\*Recorded by Steven Melvin/ Cheryl Brookshear \*Date January 23, 2007  Continuation  Update

Substation does not appear to be associated with the life of a historically significant person (Criterion B and 2). Panoche Substation does not embody characteristics of a type or period of construction (Criteria C and 3). It consists of standard substation components arranged in a typical fashion. In addition, continuing alterations to the station have affected the integrity of the substation. The station's setting, materials, workmanship and feeling have been altered over time. Nor is it significant under Criterion D and 4, as a potential source of data on human history. This property is well documented through company records and construction documents and does not appear to be a principal source of important information.

The proposed Panoche Energy Center will expand the current structure on the west side of the substation by 150 feet. This will not adversely affect the substation as it does not appear to be a historical resource for the purposes of CEQA and similar additions have been made in the past.



**APPENDIX D**  
**PHASE I**

A vertical orange bar is located on the left side of the page, positioned between the URS logo and the project details.

**PHASE I ENVIRONMENTAL SITE ASSESSMENT  
PROPOSED PG&E PANOCHÉ SUBSTATION EXPANSION  
W. PANOCHÉ ROAD  
FIREBAUGH, CALIFORNIA 93622**

**PREPARED FOR:  
APEX POWER GROUP, LLC  
P. O. BOX 95592  
SOUTH JORDON, UTAH 84095**

**URS PROJECT NO. 29874229**

**July 29, 2008**



**30 River Park Place West  
Suite 180  
Fresno, California 93720  
(559) 256-1444**



July 29, 2008

APEX Power Group, LLC  
P. O. Box 95592  
South Jordan, Utah 84095

Attention: Mr. Gary Chandler

Re: Phase I Environmental Site Assessment  
Proposed PG&E Panoche Substation Expansion  
W. Panoche Road  
Firebaugh, California 93622  
URS Project No. 29874229

Dear Mr. Chandler:

Transmitted with this letter is the report for the Phase I Environmental Site Assessment (ESA) conducted at the above-referenced site. Thank you for the opportunity to be of assistance on this project.

We trust this report provides you with the information you require at this time. Should you have any questions regarding the information presented in this update report, or need further assistance, please contact us at 714-648-2759.

Sincerely,

URS CORPORATION AMERICAS

Frank L. Gegunde, PG, REA  
Senior Geologist

Margaret M. Fitzgerald  
Program Manager

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**EXECUTIVE SUMMARY**

URS Corporation (URS) conducted a Phase I Environmental Site Assessment (Phase I ESA) of the proposed PG&E Panoche Substation Expansion property consisting of approximately 9 acres of agricultural land located on West Panoche Road near the city of Firebaugh, Fresno County, California (subject property or site)(Figure 1). Originally, a 2.5-acre substation expansion was approved by the California Energy Commission (CEC) in the December 2007 Final Commission Decision regarding the Panoche Energy Center (PEC) Application for Certification. A petition to amend (PTA) the substation expansion to include an additional 6.5 acres is currently being prepared. The subject property expansion is located on the south side of the existing Panoche Substation. There are no known addresses associated with the subject property. This Phase I ESA was accomplished by, and limited to, a reconnaissance of the site, a drive-by survey of the site vicinity, and review of agency databases and other records regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the site.

Concurrently with this Phase I ESA, URS performed an investigation of surface soil within the 9-acre subject property area proposed for the expansion. The results of that soil investigation will be presented under separate cover.

The Scope of Services performed is in accordance with the contract between PG&E Panoche Substation Expansion and URS, dated June 10, 2008. The format and content of the Phase I ESA Report for the subject property are in general accordance with the ASTM Standard Practice for Environmental Site Assessments: Phase I Site Assessment Process E- 1527-05.

Historical documents reviewed, dating back to 1913, indicate that the subject property was originally developed for agricultural use sometime after 1913 and prior to 1957. The subject property has remained agricultural land since that time. It was cultivated with pomegranate orchards at the time of URS site reconnaissance on July 17, 2008.

Common agricultural practices can result in residual concentrations of fertilizers, pesticides or herbicides in near-surface soil, though not generally at concentrations that pose a significant health risk under an industrial land use application. Based on the proposed redevelopment as a power plant facility, it is URS' opinion that no further investigation is warranted to address residual pesticides.

The subject property was not identified in the databases searched by Environmental Data Resources, Inc. (EDR). A number of sites in the vicinity of the subject property are included in



**PHASE I ENVIRONMENTAL SITE ASSESSMENT  
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agency environmental database lists. Based on a review of EDR agency lists, it is unlikely that these sites have adversely impacted the subject property due to the (1) cross-gradient location relative to the subject property; (2) distance from the subject property; and/or (3) nature of the EDR listing (i.e. closed case status of investigations, no violations or releases).

No hazardous materials were observed onsite and no environmental concerns were identified during the site visit. Based on the scope of services performed for this Phase I ESA, no recognized environmental conditions due to current or historic onsite operations were identified at the subject property. During this assessment, URS identified no significant data gaps in reasonably ascertainable information that would be expected to impact our conclusions.

## 1.0 INTRODUCTION

URS Corporation (URS) conducted a Phase I Environmental Site Assessment (Phase I ESA) of the proposed PG&E Panoche Substation Expansion consisting of approximately 9 acres of agricultural land located on West Panoche Road near the city of Firebaugh, Fresno County, California (subject property or site). Originally, a 2.5-acre substation expansion was approved by the California Energy Commission (CEC) in the December 2007 Final Commission Decision regarding the Panoche Energy Center (PEC) Application for Certification. A petition to amend (PTA) the substation expansion to include an additional 6.5 acres is currently being prepared. The subject property expansion is located on the south side of the existing Panoche Substation. There are no known addresses associated with the subject property. This Phase I ESA was accomplished by, and limited to, a reconnaissance of the site, a drive-by survey of the site vicinity, and review of agency databases and other records regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the site.

Concurrently with this Phase I ESA, URS performed an investigation of surface soil within the 9-acre subject property area proposed for the expansion. The results of that soil investigation will be presented under separate cover.

### 1.1 ASTM STANDARD AND ALL APPROPRIATE INQUIRY

The format and content of this Phase I ESA Report of the subject property are in general accordance with the ASTM Standard Practice for Environmental Site Assessments: Phase I Site Assessment Process E 1527-05 and the United States Environmental Protection Agency's Standards and Practices for All Appropriate Inquiries: 40 CFR Part 312 (AAI).

#### 1.1.1 All Appropriate Inquiry Standards

The USEPA Rule on All Appropriate Inquiry (AAI) was developed to establish landowner liability protections to property owners under CERCLA as innocent landowners, bona fide prospective purchasers, and/or contiguous property owners. The Rule expands the records review requirements by increasing the search distances beyond the recently superseded ASTM Standard E 1527-00, incorporating mandatory searches for engineering and institutional controls, and mandatory review of local government and tribal records. The records review also requires a search of reasonably ascertainable land title and lien records to identify environmental liens or activity and use limitations, if any, that are recorded against the property. The historical sources review requires that a search of the property go as far back in history as it can be shown that the

property contained structures or was first used for residential, agricultural, commercial, industrial, or governmental purposes. Data gaps identified for the property will be identified and their significance reported. The AAI Rule also requires taking into account commonly known or reasonably ascertainable information within a local community. AAI requires that inquiries be conducted by an environmental professional, which is specifically defined within the Rule.

### **1.1.2 ASTM Standard**

The ASTM International Standard Practice for Environmental Site Assessments (Standard E 1527-05) was approved November 18, 2005. ASTM Standard E 1527-05 was established and updated to reflect industry requirements brought about by AAI.

The goal of the ASTM Standard is to identify Recognized Environmental Conditions (RECs). By definition under ASTM designation E 1527-05, the term “recognized environmental condition” is defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not recognized environmental conditions.

## **1.2 PURPOSE**

The purpose of the Phase I Environmental Site Assessment is to gather information about the subject site and surrounding areas identify conditions indicative of releases or threatened releases of hazardous substances, pollutants and contaminants, petroleum or petroleum products, and controlled substances.

## **1.3 SCOPE OF SERVICES**

The Scope of Services performed is in accordance with the Agreement for Professional Services between APEX Power Group, LLC (Client) and URS dated June 10, 2008. The format and content of this Phase I ESA Report are in general accordance with the USEPA’s standards for All Appropriate inquiries (AAI) and ASTM Standard Practice for Environmental Site Assessments: Phase I Site Assessment Process.

This Phase I ESA was accomplished by, and limited to, a reconnaissance of the site and review of pertinent documentation available through URS' standard resources regarding past and current land use for indications of the manufacture, generation, use, storage, and/or disposal of hazardous substances at the site. The site reconnaissance included a walking tour of areas at the subject property that were accessible by foot and a drive-by survey of surrounding and adjacent properties. To meet the objective of this Phase I ESA, URS completed the following tasks:

- Performed a reconnaissance survey of the subject property to make visual observations of existing site conditions and activities, and a drive-by survey of the area within 1/2-mile of the site to observe types of general land use. URS staff did not observe the interiors of any privately-owned structures to assess the potential for recognized environmental conditions except where noted. Photographs of the site are provided as Appendix A.
- Reviewed the federal, state, and local database list search provided by Environmental Data Resources, Inc. (EDR) of Milford, Connecticut, of known or potential hazardous waste sites or landfills, and sites currently under investigation for environmental violations. The agency lists and area search results (EDR Report) are provided in Appendix B.
- Conducted inquiries in person, by telephone, or in writing to appropriate regulatory agencies for information regarding environmental permits, violations or incidents, and/or the status of enforcement actions at the subject property and adjacent properties.
- Conducted interviews, where appropriate, and discussed specialized knowledge of site conditions with site contacts and Client representatives. A copy of the User Questionnaire completed by the site contact and URS staff performing the site reconnaissance is included as Appendix C.
- Reviewed pertinent, available documents and maps regarding local physiographic and hydrogeologic conditions in the site vicinity including the potential presence of wetlands, floodplains, coastal zones, aquifer recharge areas, and nearby environmentally sensitive sites.
- Reviewed and interpreted available historical aerial photographs of the site and vicinity for evidence of previous site activities and development that would suggest the potential presence of hazardous substances at the site. A copy of the EDR Aerial Photo Decade Package is included in Appendix B.
- Reviewed and interpreted archival U.S. Geological Survey (USGS) topographic maps of the site and the area within 1/2-mile of the subject property for information regarding

historical land use potentially involving the manufacture, generation, use, storage and/or disposal of hazardous substances. A copy of the EDR Historical Topographic Maps is included in Appendix B.

- Reviewed available environmental lien information for the subject property. A copy of the EDR Environmental Lien Search is included in Appendix B.
- Reviewed previous environmental reports that were prepared for the subject property, if available.
- Prepared this report describing the research performed and presenting URS' findings and professional opinions regarding the potential for adverse environmental impacts to the subject property.

#### **1.4 USER RELIANCE**

This report has been prepared for use by APEX Power Group, LLC, and shall not be relied upon by or transferred to any other party, or used for any other purpose, without the express written authorization of URS.

#### **1.5 LIMITATIONS AND EXCEPTIONS**

This report and the associated work have been provided in accordance with the principles and practices generally employed by the local environmental consulting profession. This is in lieu of all warranties, expressed or implied. At the request of the Client, landowners were not contacted or interviewed during this ESA investigation. URS staff did not observe the interiors of any privately-owned structures to assess the potential for recognized environmental conditions except where noted.

Discussions of ASTM E1527-05 or AAI data gaps, if any, including sources reviewed, the significance of each data gap, and an opinion if the data gap inhibits the environmental professional's ability to reach an opinion about contamination at the property, are incorporated into the appropriate sections of the report.

It should be recognized that this study was not intended to be a definitive investigation of potential contamination at the subject property, and the recommendations provided are not necessarily inclusive of all the possible conditions. This ESA is not a regulatory compliance audit or an evaluation of the efficiency of the use of any hazardous materials at the subject property. Soil and/or groundwater sampling were not undertaken during this investigation. Sampling for asbestos, radon, lead-based paint, and lead in drinking water were also not



**PHASE I ENVIRONMENTAL SITE ASSESSMENT  
PROPOSED PG&E PANOCHE SUBSTATION EXPANSION, FIREBAUGH, CA**

performed as part of this Phase I ESA. Given the limited Scope of Services for this investigation it is possible that unrecognized contamination may exist at the site.

The conclusions presented in this report are professional opinions based solely upon the data described in this report, visual observations of the site and vicinity, and our interpretation of the available historical information and documents reviewed, as described in this report. Unless URS has actual knowledge to the contrary, information obtained from interviews or provided to URS by the client has been assumed to be correct and complete. URS does not assume any liability for information that has been misrepresented to us by others, or for items not visible, accessible, or present at the subject property during the time of the site reconnaissance. The conclusions are intended exclusively for the purpose outlined herein and the site location and project indicated. The Scope of Services performed in execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or reuse of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user.

Opinions and recommendations presented herein apply to the site conditions existing at the time of our assessment and cannot necessarily apply to site changes of which URS is not aware and has not had the opportunity to evaluate. Changes in the conditions of this property may occur with time due to natural processes or the works of man on the subject site or adjacent properties. Changes in applicable standards may also occur as a result of legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond our control. Opinions and judgments expressed herein are based on URS' understanding and interpretation of current regulatory standards, and should not be construed as legal opinions.

## **2.0 SITE DESCRIPTION**

### **2.1 LOCATION**

The site is located on West Panoche Road, adjacent to the south of an existing PG&E substation, near the city of Firebaugh, Fresno County, California. The site is situated at approximately 36.65° North latitude and -120.58 West longitude in Section 5, Township 15 S., Range 13 E. The Assessor's Parcel Number (APN) is 027-060-78S. The subject property expansion is located on the south side of the existing Panoche Substation. There are no known addresses associated with the subject property. A site vicinity map and a site plan are included as Figures 1 and 2, respectively.

### **2.2 INTERVIEWS AND SPECIALIZED USER KNOWLEDGE**

URS submitted a User Questionnaire per AAI standards to Mr. Don Burkard a representative of Client and the site representative, regarding specialized user knowledge of the subject property. Mr. Burkard stated that, to his knowledge, there are no known environmental concerns associated with the subject property. A copy of the User Questionnaire completed by the site contact and URS staff performing the site reconnaissance is included as Appendix C.

The following deviation from the scope of services occurred: the interview process is incomplete (no previous owner/user interviewed). Based on the historical use of the site, it is URS' opinion that this data gap is not significant enough to warrant further investigation.

### **2.3 SITE RECONNAISSANCE**

On July 17, 2008, URS staff Mr. Frank Gegunde, PG, REA, conducted a reconnaissance of the subject property. The reconnaissance consisted of the observation and documentation of existing site conditions accessible by foot and the nature of property development within 1/2-mile of the site. Photographs taken during the site reconnaissance are provided in Appendix A.

At the time of the site visit the subject property was developed with a pomegranate orchard. The existing Panoche Substation is north of the subject property. There is a high voltage power line that trends northwest to southeast across the subject property, and a steel tower is located near the northwest corner of the site. CalPeak Power - Panoche Facility is located approximately 180 feet northeast of the subject property. The Wellhead Power Panoche, LLC power plant is located approximately 700 feet northeast of the subject property. The approximately 20 acres west of the subject property is being developed by PEC with a natural gas-fired power plant. The area east and south of the subject property is cultivated in pomegranates.

**2.3.1 Hazardous Substances**

No hazardous materials were observed at the subject property during URS' site visit.

**2.3.2 Storage Tanks**

No evidence of current or former underground storage tanks (USTs) was observed on the subject property during the site reconnaissance.

URS staff observed no ASTs on the subject property during the site reconnaissance.

**2.3.3 Polychlorinated Biphenyls (PCBs) and Mercury**

No electrical transformers, hydraulic equipment, capacitors, and similar equipment that may contain polychlorinated biphenyls (PCBs) in hydraulic or dielectric insulating fluids within the units were observed on the subject property during URS' site reconnaissance.

**2.3.4 Waste Disposal**

URS staff did not observe any hazardous or non-hazardous waste disposal on the subject property during the site reconnaissance.

**2.3.5 Wetlands, Floodplain, Coastal Zone**

According to the EDR report, the north to northwest portions of the subject property appears to be located within or near a 100-year floodplain. Wetlands are not located on-site or in surrounding areas. The subject property is not located within a coastal zone.

**2.3.6 Drums/Other Chemical Containers**

No drums or chemical containers were observed at the time of the site visit.

**2.3.7 Dumping**

Evidence of unauthorized dumping of chemicals or substances was not observed during the site reconnaissance.

**2.3.8 Pits, Ponds, Lagoons, Septic Systems, Cisterns, Sumps, Drains, and Clarifiers**

No evidence of pits, lagoons, septic systems, cisterns, sumps, and clarifiers was observed at the subject property.

### **2.3.9 Pesticide Use**

The use of pesticides was not observed during the site reconnaissance. URS reviewed the California Department of Pesticide Regulation (DPR) Licensing and Certification Program index of licensees. The DPR issues licenses and/or certificates to:

- Persons and businesses that apply or sell pesticides.
- Pest control dealers and brokers.
- Persons who advise on agricultural pesticide applications.

DPR also certifies pesticide applicators who use or supervise the use of restricted pesticides. The subject property owner is not listed in the DPR database.

Common agricultural practices can result in residual concentrations of fertilizers, pesticides or herbicides in near-surface soil, though not generally at concentrations that pose a significant health risk under an industrial land use application. Based on the proposed redevelopment as a power plant facility, it is URS' opinion that no further investigation is warranted to address residual pesticides

### **2.3.10 Staining and Discolored Soils**

No staining or discolored soil was observed onsite during the site reconnaissance.

### **2.3.11 Stressed Vegetation**

Stressed vegetation as a result of potential chemical contamination was not observed onsite during URS' site reconnaissance.

### **2.3.12 Unusual Odors**

No unusual odors were noted during the site reconnaissance.

### **2.3.13 Onsite Wells**

Monitoring, water supply, oil and gas production wells were not observed on-site during the site reconnaissance.

### **2.3.14 High Tension Wires**

The PG&E Panoche Substation is located adjacent north of the subject property (Figure 1). The Substation is a gathering point for several regional high voltage power lines. There is a high

voltage power line that trends northwest to southeast across the subject property, and there is a steel tower near the northwest corner of the site (Figure 2).

### **2.3.15 Indoor Air Quality**

No assessment of indoor air quality issues was conducted during this ESA investigation. There are no buildings on the subject property.

### **2.3.16 Nearby Environmentally Sensitive Sites**

No environmentally sensitive sites were observed during the reconnaissance.

### **2.3.17 Asbestos**

An asbestos survey was not conducted as part of this Phase I ESA. There are no buildings located onsite.

### **2.3.18 Lead-Based Paint**

A lead-based paint survey was not conducted as part of this Phase I ESA. There are no buildings located onsite.

### **2.3.19 Radon**

URS reviewed the United States Environmental Protection Agency (USEPA) Map of Radon Zones in California for information regarding radon concentrations in the subject property area. The map was produced in conjunction with the United States Geological Survey (USGS). The USEPA survey of indoor radon concentrations listed the radon zone level for Fresno County, California, as Zone 2. Zone 2 areas are predicted to have an average indoor radon screening potential greater than 2.0 picoCuries per liter of air (pCi/l) and less than 4.0 pCi/L for the general area of the subject property. The USEPA action level for radon is 4.0 pCi/l. Therefore, further assessment for radon appears unwarranted at the subject property.

### **2.3.20 Other Concerns**

No other environmental concerns were noted at the time of the site visit.

## **2.4 ADJACENT PROPERTIES**

The site is located within an area that primarily consists of agricultural properties near the city of Firebaugh, Fresno County, California (Figure 1). Prominent adjoining land uses are as follows:

North: PG&E Panoche Substation followed by West Panoche Road, rural residences and additional agricultural land within Farmers International Firebaugh Ranch. CalPeak Power - Panoche Facility is located approximately 180 feet northeast of the subject property. The Wellhead Power Panoche, LLC power plant is located approximately 700 feet northeast of the subject property.

South: Agricultural land - pomegranates.

East: Agricultural land – pomegranates, vineyard.

West: The approximately 20 acres west of the subject property is being developed by PEC with a natural gas-fired power plant (under construction), followed by agricultural land - pomegranates.

## **2.5 HISTORICAL USE**

URS reviewed readily available historical data pertaining to the subject property. These references were reviewed for evidence of activities that would suggest the potential presence of hazardous substances at the subject property and to evaluate the potential for the subject property to be impacted by offsite sources of contamination. The following subsections are a summary of the review.

### **2.5.1 Historic Sanborn Fire Insurance Maps and City Directories**

URS requested Sanborn Fire Insurance maps from Environmental Data Resources, Inc. (EDR) of Milford, Connecticut for the subject property and surrounding area. EDR reported no coverage in the area of the subject property. EDR also provided a City Directory Abstract for known addresses in the vicinity of the subject property. The subject property was not listed in the City Directory Abstract. The EDR Sanborn Fire Insurance Map report and City Directory Abstract are included in Appendix B

### **2.5.2 Historic USGS Topographic Maps**

URS reviewed historic USGS topographic quadrangle maps of “Chaney Ranch, California” dated 1913, 1955, and 1971. No other historic topographic maps were readily available for the area of the subject property. The EDR Historical Topographic Maps are included in Appendix B.

In all of the historical topographic maps, the subject property and surrounding vicinity is depicted as vacant land. The PG&E Panoche Substation is shown adjacent to the north of the subject property on the 1955 and 1971 topographic maps.

### 2.5.3 Historic Aerial Photographs

The general type of activity and land use can often be discerned from the type and layout of structures visible in an aerial photograph; however, specific elements of a site operation cannot normally be determined from the photographs. With this in mind URS reviewed historical aerial photographs dated 1957, 1965, 1970, 1981, 1987, 1998, and 2005 that were provided by EDR. In all of the aerial photographs, the subject property appears to be agricultural land and the PG&E substation is located adjacent to the north of the subject property. In the 2005 aerial photograph the CalPeak Power - Panoche Facility and the Wellhead Power Panoche, LLC power plants are located northeast of the subject property. A copy of the EDR Aerial Photo Decade Package is included in Appendix B.

### 2.5.4 Oil and Gas Well Search

URS reviewed the Munger Map Book of Oil and Gas Fields (Munger, 1994) and submitted an inquiry to the California Division of Oil, Gas, and Geothermal Resources (DOGGR) database of oil and gas maps to review oil and gas exploration in the vicinity of the subject property ([http://www.consrv.ca.gov/DOG/maps/index\\_map.htm](http://www.consrv.ca.gov/DOG/maps/index_map.htm)). These two searches indicated there are no gas or oil wells located within one mile of the subject property.

### 2.5.5 Environmental Liens or Activity and Use Limitations

Site representative Mr. Don Burkard indicated that, to the best of his knowledge, there are no environmental liens or activity and use limitations associated with the subject property. URS requested EDR to perform an Environmental Lien Search for the parcel that included the subject property. Results of the EDR Lien Search indicate that there are no environmental liens associated with the parcel APN 027-060-78S. A copy of the EDR Environmental Lien Report is included in Appendix B.

### 2.5.6 Valuation Reduction for Environmental Issues

Available information does not indicate that the subject property value has decreased due to environmental issues.

### 2.5.8 Summary of Historical Data

Historical documents reviewed dated back to 1913 indicate that the subject property was originally developed for agricultural use sometime after 1913 and prior to 1957. The subject property has remained agricultural land since that time. During this assessment, URS identified no significant data gaps in reasonably ascertainable historical information that would be expected to impact our conclusions.

### 3.0 PHYSICAL SETTING

URS reviewed pertinent maps and readily available literature for information on the physiography and hydrogeology of the site. A summary of this information is presented in the following subsections.

#### 3.1 TOPOGRAPHY

The site is located in Township 15 South, Range 13 East, Section 5, near the city of Firebaugh, Fresno County, California. Topographic coverage of the site vicinity is provided by the U.S. Geologic Survey (USGS), 7.5-Minute Series "Chaney Ranch, California" Quadrangle map (1971). According to the topographic map, the elevation of the site is approximately 405 feet above mean sea level. Regional topography is generally flat, with a slight topographic gradient toward the northeast. URS observed no surface water bodies on the subject property at the time of the site visit. The closest surface water bodies are Panoche Creek located greater than one mile to the west and the concrete-lined California Aqueduct located greater than one mile to the east of the subject property. According to the EDR Report (Appendix B), a limited portion of the northern tip of the subject property appears to be located within a 100-year flood zone.

#### 3.2 AREA GEOLOGY AND HYDROGEOLOGY

The site is located within the Great Valley, an asymmetrical synclinal trough. The area contains alluvial, flood, and delta plan deposits from the Sacramento and San Joaquin Rivers. The Sierra Nevada foothills are located to the east and the flat San Joaquin Valley floor is located to the west. In general, site soil stratigraphy consists primarily of reddish-brown, hard, neutral, loam or clay loam.

EDR searched the United States Department of Agriculture, Soil Conservation Service soil maps for the area of the subject property. According to the EDR report, soils beneath the site consist of the Ciervo clay. These soils are over 60 inches deep, are moderately well drained, and have slow infiltration rates and low hydraulic conductivity. They consist primarily of silts and clays.

The San Joaquin Valley is divided into several hydrologic sub-basins. The subject property is located within the San Joaquin sub-basin known as the Delta-Mendota sub-basin. According to the EDR report Geoscheck, the depth to groundwater in the subject property vicinity is greater than 200 feet below ground surface. Based on topography, groundwater in the site vicinity is inferred to flow in a north-northeasterly direction.

## 4.0 AGENCY RECORDS REVIEW

URS reviewed readily available records regarding past and current site use, contacted applicable agencies regarding potential environmental concerns at the site, and reviewed the agency database list search for potential environmental concerns at surrounding properties. The information obtained during the records review is provided in the following subsections.

### 4.1 DATABASE LIST SEARCH

URS contracted an environmental database firm, EDR of Milford, Connecticut, to conduct a search for facilities listed by regulatory agencies as potentially having environmental concerns. The survey distances are listed in the Table presented in Section 4.1.2 and were limited to a one-mile radius (i.e., ASTM standards) of the subject property to assess whether activities on or near the subject property have the potential to create recognized environmental conditions (RECs) at the subject property. The complete list of databases reviewed is provided in the EDR Database Report, included as Appendix B and is summarized in the Table presented in Section 4.1.2. It should be noted that this information is reported as URS received it from EDR, which in turn reports information as it is provided in various government databases. It is not possible for either URS or EDR to verify the accuracy or completeness of information contained in these databases. However, the use of and reliance on this information is a generally accepted practice in the conduct of environmental due diligence. The databases searched and the information obtained is summarized in Sections 4.1.1 and 4.1.2.

#### 4.1.1 Site

The subject property was not identified in any of the databases searched by EDR.

#### 4.1.2 Offsite

The following table summarizes the number of facilities in the site vicinity that were identified in the indicated agency databases within the indicated survey distances.

AGENCY DATABASE	SURVEY DISTANCE	NUMBER OF SITES IDENTIFIED
United States Environmental Protection Agency (EPA) National Priority List (NPL) for Superfund Sites	1.0 mile	0
U.S. Proposed NPL List	1.0 mile	0
U.S. National Priority List Deletions (Delisted NPL) List	1.0 mile	0
U.S. Superfund Liens (NPL Liens) List	Property	0
U.S. EPA Comprehensive Environmental Response, Compensation and Liability Index System (CERCLIS) List	0.5 mile	0
U.S. EPA CERCLIS – No Further Remedial Action Planned (CERCLIS-NFRAP)	0.5 mile	0
U.S. EPA Resource Conservation and Recovery Act (RCRA)	1.0 mile	0
U.S. EPA RCRA Permitted Treatment, Storage, and Disposal (TSD)	0.5 mile	0
U.S. EPA RCRA Registered Large Generators of Hazardous Waste (RCRIS LQG)	0.25 mile	0
U.S. EPA RCRA Registered Small Generators of Hazardous Waste (RCRIS SQG)	0.25 mile	1
U.S. EPA Emergency Response Notification System (ERNS) List	Property	0
U.S. Hazardous Materials Incident Reporting System (HMIRS)	Property	0
U.S. Engineering Controls Sites (ENG Controls) List	0.5 mile	0
U.S. Sites with Institutional Controls (INST Controls) List	0.5 mile	0
U.S. Department of Defense (DOD) Sites	1.0 mile	0
U.S. Formerly Used Defense (FUD) Sites	1.0 mile	0
U.S. Brownfields Sites	0.5 mile	0
U.S. Superfund CERCLA Consent Decrees (Consent)	1.0 mile	0
U.S. Records of Decision (ROD) List	1.0 mile	0
U.S. Uranium Mill Tailings (UMTRA) Sites	0.5 mile	0
U.S. Open Dump Inventory Sites	0.5 mile	0
U.S. Toxic Release Inventory System (TRIS)	Property	0
U.S. Toxic Substances Control Act (TSCA) List	Property	0
U.S. FIFRA/TSCA Tracking System (FTTS) List	Property	0
U.S. Section 7 Tracking Systems (SSTS) List	Property	0
U.S. PCB Activity Database System (PADS)	Property	0
U.S. Material Licensing Tracking System (MLTS)	Property	0
U.S. Mines Master Index File (MINES)	0.25 mile	0
U.S. Facility Index System/Facility Registry System (FINDS)	Property	0
U.S. RCRA Administrative Action Tracking System (RAATS)	Property	0
State Annual Workplan Sites (AWP)	1.0 mile	0
State Hazardous Waste Sites (Cal-Sites)	1.0 mile	0
State Toxic Pits Cleanup Act Sites (Toxic Pits)	1.0 mile	0



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AGENCY DATABASE	SURVEY DISTANCE	NUMBER OF SITES IDENTIFIED
State Bond Expenditure Plan (CA Bond Exp. Plan)	1.0 mile	0
State No Further Action Determination (NFA) Sites	0.25 mile	0
State Properties Needing Further Evaluation (NFE) List	0.25 mile	0
State Referral Sites Not Requiring DTSC Action (REF)	0.25 mile	0
School Property Evaluation Program (SCH) List	0.25 mile	0
State Permitted Solid Waste Landfill, Incinerators or Transfer Stations (SWF/LF) List	0.5 mile	0
State Waste Discharge System (WDS) List	Property	0
State Waste Management Unit Database System (WMDUS/SWAT)	0.5 mile	0
State Hazardous Waste and Substances Sites (Cortese)	0.5 mile	0
State Leaking Underground Storage Tank (LUST) List	0.5 mile	0
State Spills, Leaks, Investigations, and Cleanups (SLIC) List	0.5 mile	0
State Underground Storage Tanks (UST) List	0.25 mile	0
State Facility Inventory Database of historic active and inactive UST locations (CA FID UST)	0.25 mile	0
State Hazardous Substance Storage Container Database of historic UST sites (HIST UST)	0.25 mile	0
State Recycler Database (SWRCY)	0.5 mile	0
State Aboveground Storage Tank List (AST)	0.25 mile	0
State SWEEPS UST	0.25 mile	0
State Hazardous Material Incidents, Including Accidental Releases and Spills (CHMIRS)	Property	0
State Proposition 65 Database (Notify 65)	1.0 mile	0
Orange County Industrial Site	Property	0
State Deed Restriction (DEED) List	0.5 mile	0
State Voluntary Cleanup Program (VCP)	0.5 mile	0
State Cleaner Facilities (CLEANERS)	0.25 mile	0
State Well Investigation Program (WIP) Case List	0.25 mile	0
Fresno County CUPA	0.25 mile	1
State Hazardous Waste Manifest Database (HAZNET)	Property	0
State Emission Inventory Data (EMI) List	Property	0
State Indian Reservations (RESERV)	1.0 mile	0
State Leaking Underground Storage Tanks on Indian Land (Indian LUST)	0.5 mile	0
State Underground Storage Tanks on Indian Land (Indian UST)	0.25 mile	0

The regional groundwater is expected to flow to the north-northeast, based on the area topography. Therefore sites located south-southwest of the subject property are considered to be upgradient with respect to groundwater flow direction.

EDR-listed facilities located adjacent to or hydrologically upgradient from the site with respect to the inferred groundwater flow direction are discussed below. EDR-listed properties interpreted as hydrologically downgradient or cross-gradient from the subject property relative to groundwater flow direction are in our opinion unlikely to impact the subject property with hazardous materials and are therefore not discussed below. The location of these sites is shown on the radius maps accompanying the EDR Report (Appendix B).

- **PG&E Panoche Substation** is located north of the subject property. This facility is identified in the RCRA-SQG, FINDS, and HAZNET databases. No violations are reported. Based on the lack of violations and listings in additional databases indicating a release, this facility is not expected to have created an environmental concern for the subject property.
- **CalPeak Power (1)** is located northeast of the subject property. This facility is identified in the Fresno County CUPA database, and is registered with the local regulatory agency as a hazardous materials handler or generator. No violations are reported. Based on the lack of violations and listings in additional databases indicating a release, this facility is not expected to have created an environmental concern for the subject property.

No other facilities were identified in the EDR Report within one mile of the subject property. Additionally, “orphan sites” are facilities listed in the EDR Report that have not been geocoded based on lack of sufficient data regarding their exact location within the general area. None of the sites listed in the EDR Report Orphan Summary and have been determined by URS to lay within the ASTM search radius and therefore none of the facilities identified as orphan sites appear to have the potential to impact the subject property with hazardous materials. A full summary of agency databases can be found in the EDR Database Report provided as Appendix B.

## 4.2 AGENCY CONTACTS

During the performance of an environmental assessment, state and local regulatory agencies having jurisdiction over the subject property are contacted to assess the following information: the status of relevant environmental permits; whether there has been any violations, or other similar correspondence from such agencies; whether any corrective action or remediation is planned, currently taking place, or has been completed at the subject property; whether there have been any reported violations or complaints that the subject property is not in compliance

with environmental laws, regulations, or standards, and whether the subject property is under investigation for such non-compliance; whether the subject property is listed on any of the regulatory databases; and whether there is any other pertinent documentation on file with such regulatory agencies regarding the subject property or surrounding sites of concern. The following responses were received from the regulatory agencies. These responses are discussed further in the appropriate sections of this ESA report.

- The United States Environmental Protection Agency (USEPA) – The USEPA Region 9 has not responded to URS’ request for information under the Freedom of Information Act (FIOA). If the USEPA provides information that would alter the conclusions or recommendations of this ESA, URS will notify Client immediately.
- The California Department of Toxic Substances Control (DTSC) provided written responses to URS’ inquiry indicating that there were no records on file for addresses associated with the subject property. The response letter from the DTSC is included in Appendix D. Note DTSC indicated in the response letter that the address range searched was 4300 to 4400 W. Panoche Road. URS confirmed that the actual DTSC search range was 43000 to 44000 W. Panoche Road. As a follow-up to the DTSC written request, URS also submitted an inquiry to the DTSC EnviroStor web page (<http://www.envirostor.dtsc.ca.gov/public>) for additional information. No cases were cited in the EnviroStor database at or adjacent to the subject property.
- URS contacted the California Regional Water Quality Control Board (RWQCB) regional office in Fresno, California regarding records on file for the subject property or adjacent properties. Mr. John D. Whiting, RWQCB Engineering Geologist, responded by telephone and stated that the RWQCB does not have any open cases in the vicinity of the subject property. As a follow-up to the RWQCB phone conversation, URS also submitted an inquiry to the RWQCB GeoTracker web page (<http://www.geotracker.waterboards.ca.gov/>) for additional information. No cases were cited in the GeoTracker database at or near the subject property.
- URS submitted an inquiry to the California Department of Pesticide Regulation database of the registered and certified users program (<http://www.cdpr.ca.gov/index.htm>). Results of this database search are included in Section 2.3.9 above.
- URS submitted an inquiry to the California Division of Oil, Gas, and Geothermal Resources (DOGGR) database of oil and gas maps to review oil and gas exploration and production that have occurred on, or in the vicinity of, the subject property

([http://www.consrv.ca.gov/DOG/maps/index\\_map.htm](http://www.consrv.ca.gov/DOG/maps/index_map.htm)). Results of this database search are included in Section 2.5.4 above.

- San Joaquin Valley Air Pollution Control District (SJVAPCD) - The SJVAPCD has not responded to URS' request for information. If the SJVAPCD provides information that would alter the conclusions or recommendations of this ESA, URS will notify Client immediately.
- Fresno County Certified Unified Protection Agency (CUPA) – The Fresno County CUPA reported that a street address is required for a file search. There are no known street addresses associated with the subject property. The street address associated with PEC 43883 W. Panoche Road, Firebaugh, CA, did not appear in the CUPA database. The CUPA list, however, did include the following sites listed north and northeast of the subject property:
  - **PG&E Panoche Substation** is located north of the subject property. This facility is identified in the Fresno County CUPA database. No violations are reported. Based on the lack of violations and listings in additional databases indicating a release, this facility is not expected to have created an environmental concern for the subject property.
  - **Wellhead Power Panoche, LLC** - is located northeast of the subject property. This facility is identified in the Fresno County CUPA database, and is registered with the local regulatory agency as a hazardous materials handler. No violations are reported. Based on the lack of violations and listings in additional databases indicating a release, this facility is not expected to have created an environmental concern for the subject property.
  - **CalPeak Power-Panoche, LLC** - is located northeast of the subject property. This facility is identified in the Fresno County CUPA database, and is registered with the local regulatory agency as a hazardous materials handler or generator. No violations are reported. Based on the lack of violations and listings in additional databases indicating a release, this facility is not expected to have created an environmental concern for the subject property.

## 5.0 PREVIOUS REPORTS

URS reviewed the following reports during the completion of this ESA investigation. Observations made in these reports may be cited in appropriate sections of this ESA:

- Limited Soil Investigation, Planned Panoche Energy Center, Fresno County California. URS Corporation. January 2, 2007.

Forty discrete soil samples were collected in the approximate footprint of the proposed PEC construction area. The samples were collected from the depth interval of approximately 0 to 3 inches below ground surface (bgs) at 40 locations spaced regularly across the site and the adjacent planned laydown area.

URS compared the detected concentrations to the California Human Health Screening Levels (CHHSLs or “Chisels”). CHHSLs are concentrations of 54 hazardous chemicals in soil or soil gas that the Cal/EPA considers to be below thresholds of concern for risks to human health. The CHHSLs were developed by the Office of Environmental Health Hazard Assessment (OEHHA) on behalf of Cal/EPA, and are contained in their report entitled “Human-Exposure-Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soil”. The thresholds of concern used to develop the CHHSLs are an excess lifetime cancer risk of one-in-a-million ( $10^{-6}$ ) and a hazard quotient of 1.0 for noncancer health effects. The CHHSLs were developed using standard exposure assumptions and chemical toxicity values published by the U.S. Environmental Protection Agency (USEPA) and Cal/EPA (CalEPA, 2005).

In summary, the only chemical that was detected at a concentration greater than its CHHSL for commercial/industrial land use was arsenic. However, it appears likely that the arsenic concentrations detected at the site are naturally occurring and are not due to applications of pesticides.

- Proponent’s Environmental Assessment, Panoche Substation Expansion Project. Transcon Environmental, Inc. December 2007.

This Proponent’s Environmental Assessment (PEA) was prepared in support of an application for a Permit to Construct (PTC) the Panoche 230kV Substation Expansion. The PEA examines impacts that could result from the project to the human environment. The analysis of impacts within the PEA shows that the project would not result in any significant impacts. The main issues discussed in this PEA are in regards to biological resources, land use (agriculture), and geology and soils (paleontology).

- Phase I Environmental Site Assessment and Soil Sampling and Analysis Report, Pacific Gas & Electric Company, Study Area A, Panoche Substation, West Panoche Road, 2 Miles east of Highway 5, Mendota, California. Jonas & Associates, Inc. October 30, 2001.

Jonas & Associates performed a Phase I ESA and Phase II soil sampling and analysis investigation of Study Area A. Study Area A as identified by PG&E is approximately 200-feet by 275-feet, and is the approximate location of the present day CalPeak Power Facility located approximately 180 feet northeast of the subject property. Study Area A was vacant at the time of the assessment. Jonas & Associates concluded that Study Area A had been impacted by relatively low concentrations of diesel, and relatively low concentrations of pesticides, above regulatory EPA Region 9 Preliminary Remediation Goals (PRGs).

Six samples were collected at 0.5-foot bgs (shallow) and six samples were collected from 4-foot bgs (deep). Of the total of twelve samples collected, total extractable petroleum hydrocarbons as diesel (TEPH-d) was detected in four of the shallow samples at concentrations ranging from 1.3 milligrams per kilogram (mg/kg) to 13 mg/kg. TEPH-d was detected in two of the deep samples at concentrations ranging from 1.0 mg/kg to 2.3 mg/kg. Dieldrin (20 mg/kg), Endrin (11mg/kg), 4,4'-DDT (concentration range from 12 mg/kg to 32 mg/kg, detected in three samples), 4,4'-DDE (concentration range from 19 mg/kg to 46 mg/kg, detected in three samples), and alpha-chlordane (11 mg/kg) were detected only in the shallow soil samples.

The detected concentrations for Dieldrin (PRG of 0.03 mg/kg), 4,4'-DDT (PRG of 1.7 mg/kg), 4,4'-DDE (PRG of 1.7 mg/kg) exceeded the PRG levels. The detected concentration of Endrin did not exceed the PRG level of 18 mg/kg. No PRG is available for alpha-chlodane.

URS compared the detected pesticide concentrations to the CHHSLs. The detected concentrations of pesticides Dieldrin; 4,4'-DDT; 4,4'-DDE; and alpha-chlordane in Study Area A are above the CHHSLs for commercial/industrial land use.

- Phase I Environmental Site Assessment, Proposed Panoche Energy Center, Panoche Road, Mendota, California. URS Corporation. May 9, 2006.

Based on the scope of services performed for the Phase I ESA, no recognized environmental conditions were identified at the subject property.



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- Phase I Environmental Site Assessment Update, Proposed Panoche Energy Center, Panoche Road, Firebaugh, California. URS Corporation. December 19, 2007.

Based on the scope of services performed for the Phase I ESA, no recognized environmental conditions were identified at the subject property.

- Phase I Environmental Site Assessment, Proposed West Valley Energy Center, LLC, W. Panoche Road, Firebaugh, California. URS Corporation. July 11, 2008.

Based on the scope of services performed for the Phase I ESA, no recognized environmental conditions were identified at the subject property.

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

URS Corporation (URS) conducted a Phase I Environmental Site Assessment (Phase I ESA) of the proposed PG&E Panoche Substation Expansion property consisting of 9 acres of agricultural land on West Panoche Road near the city of Firebaugh, Fresno County, California. Originally, a 2.5-acre substation expansion was approved by the CEC in the December 2007 Final Commission Decision regarding the PEC Application for Certification. A petition to amend (PTA) the substation expansion to include an additional 6.5 acres is currently being prepared. This Phase I ESA was accomplished by, and limited to, a reconnaissance of the site, a drive-by survey of the site vicinity, and review of agency databases and other records regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the site.

Concurrently with this Phase I ESA, URS performed an investigation of surface soil within the 9-acre subject property area proposed for the expansion. The results of that soil investigation will be presented under separate cover.

The Scope of Services performed is in accordance with the contract between PG&E Panoche Substation Expansion, and URS June 10, 2008. The format and content of the Phase I ESA Report for the subject property are in general accordance with the ASTM Standard Practice for Environmental Site Assessments: Phase I Site Assessment Process E- 1527-05.

Based on the scope of services performed for this Phase I ESA, no recognized environmental conditions were identified at the subject property due to current or historic onsite operations. During this assessment, URS identified no significant data gaps in reasonably ascertainable information that would be expected to impact our conclusions.

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**7.0 PREPARER SIGNATURES AND QUALIFICATIONS**

This section includes qualification statements of the environmental professionals responsible for conducting the ESA and preparing this report.

The site reconnaissance was conducted by Mr. Frank Gegunde, PG, REA, of the URS office in Fresno, California. Mr. Gegunde has over seven years of experience in environmental site investigations, characterizations, and assessments. Mr. Gegunde also conducted the file reviews and report writing.

The work conducted and the report written by Mr. Gegunde was reviewed by Margaret Fitzgerald, with over 20 years experience in the environmental field and Phase I Environmental Site Assessments.

Mr. Gegunde declares that, to the best of his professional knowledge and belief, he meets the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

Mr. Gegunde has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. With the assistance of Ms. Fitzgerald, he has developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Frank L. Gegunde, PG, REA  
Senior Geologist



Margaret M. Fitzgerald  
Program Manager



## 8.0 REFERENCES

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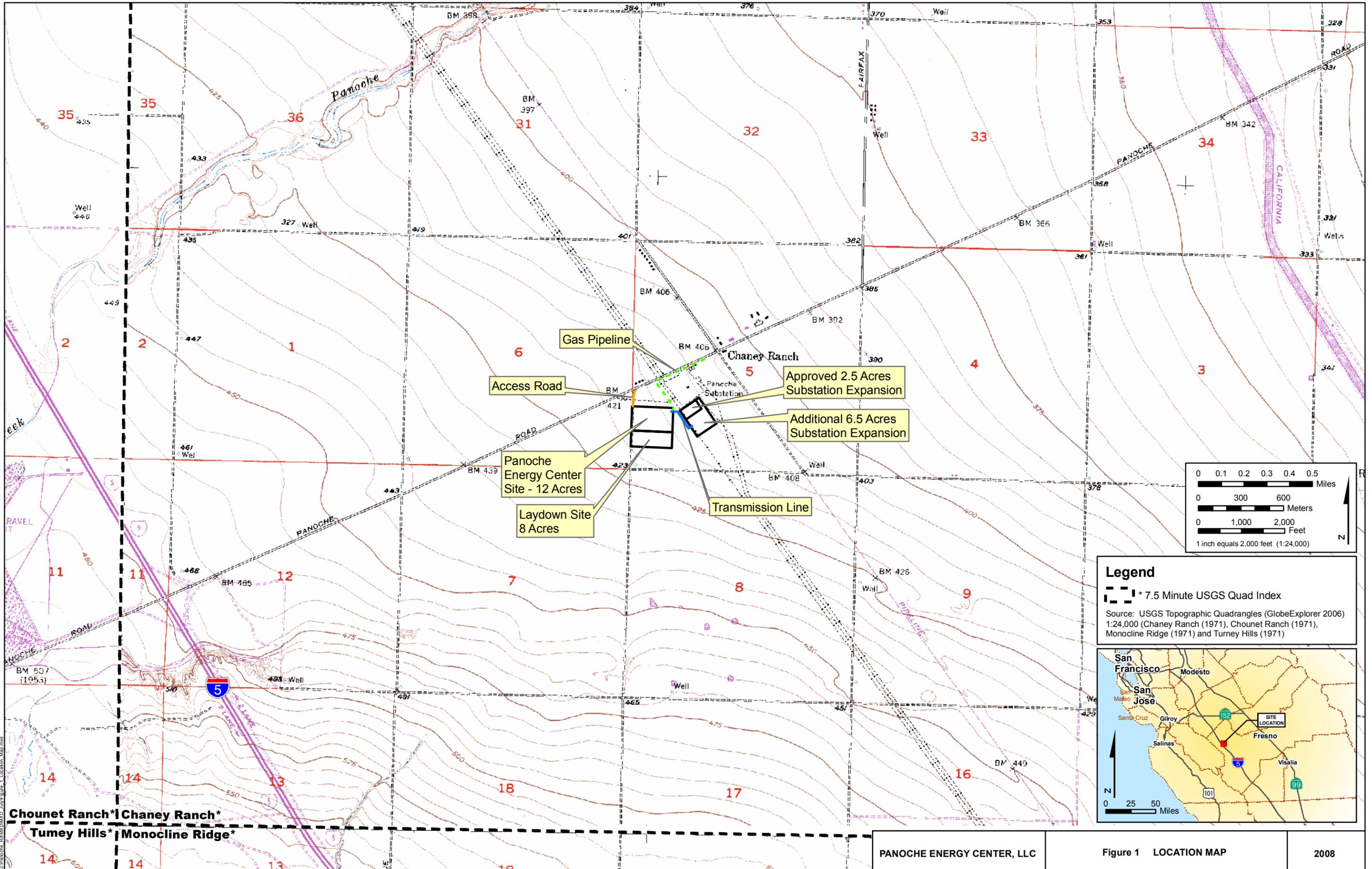
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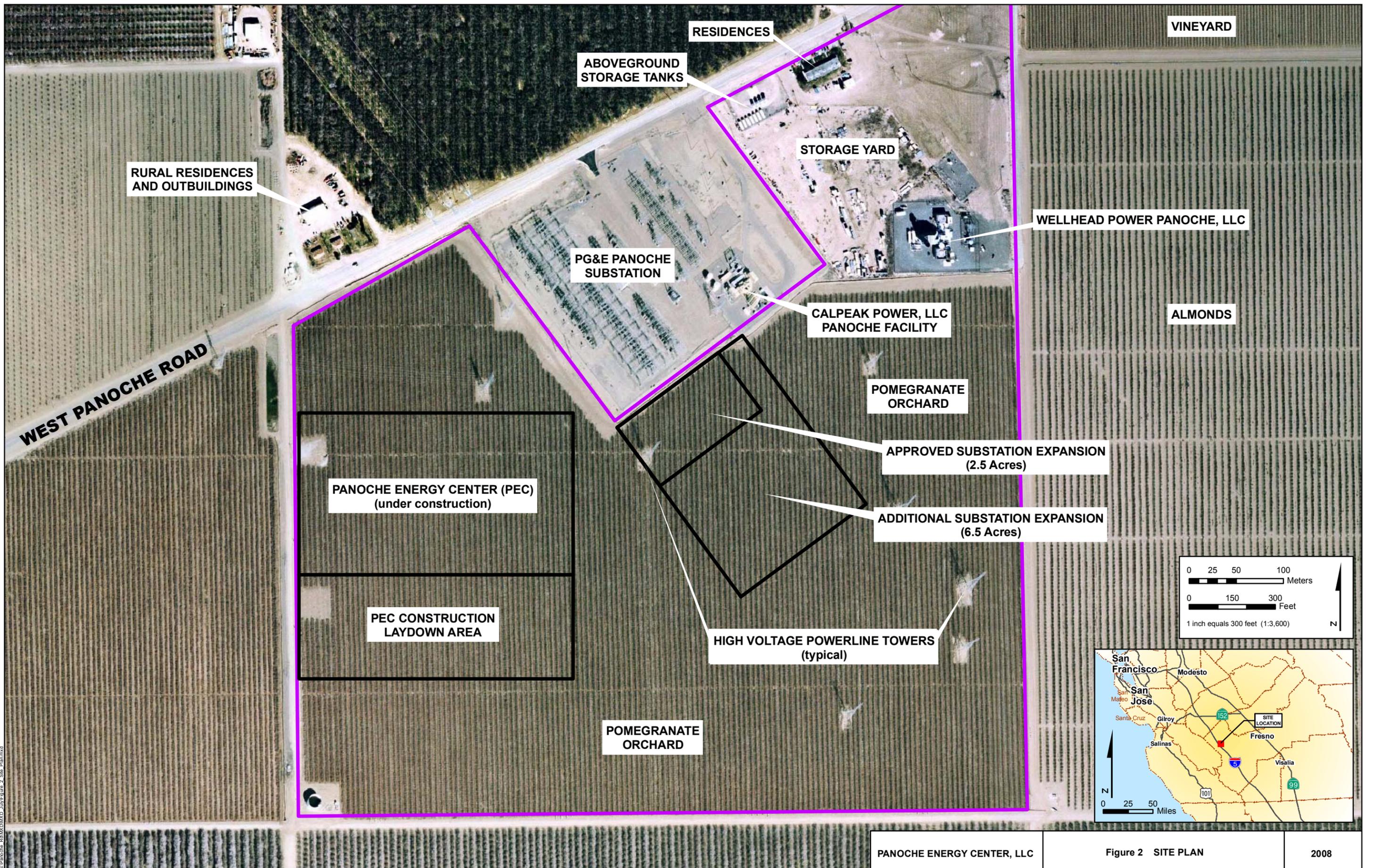
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URS Corporation (URS). 2008. Phase I Environmental Site Assessment, Proposed West Valley Energy Center, LLC, W. Panoche Road, Firebaugh, California. July 11.

## **FIGURES**



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**APPENDIX A**  
**SITE PHOTOGRAPHS**



# PHOTOGRAPHIC LOG

Proposed PG&E  
Panoche Substation  
Expansion

**Phase I - Proposed PG&E Panoche Substation Expansion**  
W. Panoche Road  
Firebaugh, Fresno County, CA 93622

**URS Project No.**  
**29874229.01000**  
**Date:** 7/17/08

**Photo No.**  
**1**

**Direction Photo Taken:**

Looking southeast.

**Description:**

View of the northwest corner of the subject property. The existing PG&E Panoche Substation, north of the subject property, is in the left of the frame.



**Photo No.**  
**2**

**Direction Photo Taken:**

Looking east from the northwest corner of the subject property.

**Description:**

The subject property in the right of the frame is currently cultivated with pomegranates. The existing substation is in the left of the frame. Note the CalPeak Power - Panoche Facility in the distance.





# PHOTOGRAPHIC LOG

Proposed PG&E  
Panoche Substation  
Expansion

Phase I - Proposed PG&E Panoche Substation Expansion  
W. Panoche Road  
Firebaugh, Fresno County, CA 93622

URS Project No.  
29874229.01000  
Date: 7/17/08

Photo No.  
**3**

**Direction Photo Taken:**

Looking south from the northeast corner of the subject property.

**Description:**

The approximate east boundary of the subject property cultivated with pomegranates.



Photo No.  
**4**

**Direction Photo Taken:**

Looking west from the northeast corner of the subject property.

**Description:**

Note the subject property in the left of the frame, the existing substation in the right of the frame, and the Panoche Energy Center (PEC) is under construction in the distance. PEC is located approximately 200 feet west of the subject property.





# PHOTOGRAPHIC LOG

Proposed PG&E  
Panoche Substation  
Expansion

**Phase I - Proposed PG&E Panoche Substation Expansion**  
W. Panoche Road  
Firebaugh, Fresno County, CA 93622

**URS Project No.**  
**29874229.01000**  
**Date:** 7/17/08

**Photo No.**  
**5**

**Direction Photo Taken:**

Looking east.

**Description:**

Another view of the CalPeak Power - Panoche Facility, which is located approximately 180 feet northeast of the subject property.



**Photo No.**  
**6**

**Direction Photo Taken:**

Looking northeast.

**Description:**

The Wellhead Power Panoche, LLC power plant is located approximately 700 feet northeast of the subject property.





# PHOTOGRAPHIC LOG

Proposed PG&E  
Panoche Substation  
Expansion

**Phase I - Proposed PG&E Panoche Substation Expansion**  
W. Panoche Road  
Firebaugh, Fresno County, CA 93622

**URS Project No.**  
**29874229.01000**  
**Date:** 7/17/08

**Photo No.**  
**7**

**Direction Photo Taken:**

Looking north.

**Description:**

This high voltage power line tower is on the approximate west boundary of the subject property. The power line trends southwest to southeast across the subject property. Note the existing Panoche Substation in the distance.



**Photo No.**  
**8**

**Direction Photo Taken:**

Looking north.

**Description:**

Subterranean drip irrigation is used to water the pomegranate orchard.



**APPENDIX B**

**EDR REPORTS**

**Sanborn Map Report; City Directory Abstract; Environmental Lien Search;  
Aerial Photographs; Historical Topographic Maps; Radius Map Report**



**PG&E Panoche Substation Expansion**

W. Panoche Road

Firebaugh, CA 93622

Inquiry Number: 2264881.3

July 09, 2008



**Certified Sanborn® Map Report**

# Certified Sanborn® Map Report

7/09/08

**Site Name:**

PG&E Panoche Substation  
W. Panoche Road  
Firebaugh, CA 93622

**Client Name:**

URS Corporation  
30 River Park Place West,  
Fresno, CA 93720

EDR Inquiry # 2264881.3

Contact: Frank Gegunde



The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by URS Corporation were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting [www.edrnet.com/sanborn](http://www.edrnet.com/sanborn) and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

## Certified Sanborn Results:

**Site Name:** PG&E Panoche Substation Expansion  
**Address:** W. Panoche Road  
**City, State, Zip:** Firebaugh, CA 93622  
**Cross Street:**  
**P.O. #** 29874215.01000  
**Project:** PG&E Panoche Su  
**Certification #** 06C3-41F5-8FD9



Sanborn® Library search results  
Certification # 06C3-41F5-8FD9

## UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Total Maps: 0

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- Library of Congress
- University Publications of America
- EDR Private Collection

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**PG&E Panoche Substation Expansion**

43649 W. Panoche Road  
Firebaugh, CA 93622

Inquiry Number: 2264881.6  
July 11, 2008

# The EDR-City Directory Abstract

# EDR City Directory Abstract

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening report designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

***Thank you for your business.***

Please contact EDR at 1-800-352-0050  
with any questions or comments.

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## **SUMMARY**

- ***City Directories:***

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1972 through 2007. (These years are not necessarily inclusive.) A summary of the information obtained is provided in the text of this report.

**Date EDR Searched Historical Sources:** July 11, 2008

**Target Property:**

43649 W. Panoche Road  
Firebaugh, CA 93622

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1972	Address Not Listed in Research Source	Haines Criss-Cross Directory
1976	Address Not Listed in Research Source	Haines Criss-Cross Directory
1980	Residence	Haines Criss-Cross Directory
1985	Address Not Listed in Research Source	Haines Criss-Cross Directory
1991	Address Not Listed in Research Source	Haines Criss-Cross Directory
1995	Address Not Listed in Research Source	Haines Criss-Cross Directory
2007	Address Not Listed in Research Source	Haines Criss-Cross Directory

**Adjoining Properties**

**SURROUNDING**

Multiple Addresses  
Firebaugh, CA 93622

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1972	*W Panoche Rd*	Haines Criss-Cross Directory
	Address not listed in research source (43504)	Haines Criss-Cross Directory
	Address not listed in research source (43506)	Haines Criss-Cross Directory
	Address not listed in research source (43540)	Haines Criss-Cross Directory
	Address not listed in research source (43550)	Haines Criss-Cross Directory
	Address not listed in research source (43560)	Haines Criss-Cross Directory
	Residence (43586)	Haines Criss-Cross Directory
	Address not listed in research source (43587)	Haines Criss-Cross Directory
	Address not listed in research source (43653)	Haines Criss-Cross Directory
	No other addresses in range 43500 - 43799 W Panoche Rd	Haines Criss-Cross Directory
	Address not listed in research source (43883)	Haines Criss-Cross Directory

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1976	*W Panoche Rd*	Haines Criss-Cross Directory
	Address not listed in research source (43504)	Haines Criss-Cross Directory
	Bowles Farming (43506)	Haines Criss-Cross Directory
	Residence (43540)	Haines Criss-Cross Directory
	Address not listed in research source (43550)	Haines Criss-Cross Directory
	Address not listed in research source (43560)	Haines Criss-Cross Directory
	No Return (43586)	Haines Criss-Cross Directory
	Residence (43587)	Haines Criss-Cross Directory
	Address not listed in research source (43653)	Haines Criss-Cross Directory
	No other addresses in range 43500 - 43799 W Panoche Rd	Haines Criss-Cross Directory
	Address not listed in research source (43883)	Haines Criss-Cross Directory
1980	*W Panoche Rd*	Haines Criss-Cross Directory
	Address not listed in research source (43504)	Haines Criss-Cross Directory
	B&F Chemical Co (43506)	Haines Criss-Cross Directory
	Bowles Farming (43506)	Haines Criss-Cross Directory
	No Return (43540)	Haines Criss-Cross Directory
	Residence (43550)	Haines Criss-Cross Directory
	Residence (43560)	Haines Criss-Cross Directory
	No Return (43586)	Haines Criss-Cross Directory
	No Return (43587)	Haines Criss-Cross Directory
	Residence (43653)	Haines Criss-Cross Directory
	No other addresses in range 43500 - 43799 W Panoche Rd	Haines Criss-Cross Directory
	Address not listed in research source (43883)	Haines Criss-Cross Directory
1985	*W Panoche Rd*	Haines Criss-Cross Directory

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1985	Address not listed in research source (43504)	Haines Criss-Cross Directory
	Address not listed in research source (43506)	Haines Criss-Cross Directory
	Address not listed in research source (43653)	Haines Criss-Cross Directory
	No other addresses in range 43500 - 43799 W Panoche Rd	Haines Criss-Cross Directory
	Address not listed in research source (43883)	Haines Criss-Cross Directory
1991	*W Panoche Rd*	Haines Criss-Cross Directory
	No Return (43504)	Haines Criss-Cross Directory
	No Return (43506)	Haines Criss-Cross Directory
	Apartments (43653)	Haines Criss-Cross Directory
	No other addresses in range 43500 - 43799 W Panoche Rd	Haines Criss-Cross Directory
	Address not listed in research source (43883)	Haines Criss-Cross Directory
1995	*W Panoche Rd*	Haines Criss-Cross Directory
	No Return (43504)	Haines Criss-Cross Directory
	No Return (43506)	Haines Criss-Cross Directory
	Apartments (43653)	Haines Criss-Cross Directory
	No other addresses in range 43500 - 43799 W Panoche Rd	Haines Criss-Cross Directory
	Address not listed in research source (43883)	Haines Criss-Cross Directory
2007	*W Panoche Rd*	Haines Criss-Cross Directory
	Apartments (43653)	Haines Criss-Cross Directory
	No other addresses in range 43500 - 43799 W Panoche Rd	Haines Criss-Cross Directory
	Address not listed in research source (43883)	Haines Criss-Cross Directory

**PG&E Panoche Substation Expansion**

W. Panoche Road  
Firebaugh, CA 93622

Inquiry Number: 2264881.7  
July 10, 2008

# The EDR Environmental LienSearch™ Report

## The EDR Environmental LienSearch™ Report

The EDR Environmental LienSearch Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

***Thank you for your business.***

Please contact EDR at 1-800-352-0050  
with any questions or comments.

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# The EDR Environmental LienSearch™ Report

## TARGET PROPERTY INFORMATION

### ADDRESS

W. Panoche Road  
PG&E Panoche Substation Expansion  
Firebaugh, CA 93622

### RESEARCH SOURCE

#### **Source 1:**

Fresno county recorder  
Fresno, CA

### PROPERTY INFORMATION

#### **Deed 1:**

Type of Deed: Deed  
Title is vested in: Poa Investments  
Title received from: Shacca M. Baker Trust  
Deed Dated: 3/24/2006  
Deed Recorded: 3/24/2006  
Book: NA  
Page: na  
Volume: na  
Instrument: na  
Docket: NA  
Land Record Comments: See Exhibit  
Miscellaneous Comments: na

**Legal Description:** See Exhibit

**Legal Current Owner:** Pao Investments

**Property Identifiers:** 027-060-078s

**Comments:** See Exhibit

## ENVIRONMENTAL LIEN

Environmental Lien: Found  Not Found

If found:

1st Party:

2nd Party:

Dated:

Recorded:

Book:

Page:

Docket:

## The EDR Environmental LienSearch™ Report

Volume:

Instrument:

Comments:

Miscellaneous Comments:

### **OTHER ACTIVITY AND USE LIMITATIONS (AULs)**

AULs: Found  Not Found

If found:

1st Party:

2nd Party:

Dated:

Recorded:

Book:

Page:

Docket:

Volume:

Instrument:

Comments:

Miscellaneous Comments:

## **Deed Exhibit 1**

**RECORDING REQUESTED BY AND WHEN RECORDED RETURN TO:**

Marcus D. Magness, Esq.  
Gilmore, Wood, Vinnard & Magness  
P.O. Box 28907  
Fresno, California 93729-8907



FRESNO County Recorder  
Robert C. Werner  
**DOC- 2006-0061258**

Check Number 22743  
Friday, MAR 24, 2006 13:39:56  
Ttl Pd \$587.40 Nbr-0002133324  
JZG/R3/1-6

**MAIL TAX STATEMENTS TO:**

PAO Investments, LLC  
45499 W. Panoche Rd.  
Firebaugh, CA 93622

SPACE ABOVE THE LINE FOR RECORDER'S USE ONLY

The undersigned declares that the documentary transfer tax is <sup>545.40</sup>~~566.00~~ and  
 Is computed on the full value of the interest or property conveyed, or is  
 Is computed on the full value less the value of liens or encumbrances remaining thereon at the time of sale.  
 that this conveyance is exempt from the California documentary transfer tax pursuant to Revenue and Taxation Code

The land, tenement, or realty is located in the City of \_\_\_\_\_, or in the  unincorporated area of the County of Fresno, State of California.

**GRANT DEED  
AND  
CERTIFICATION OF TRUST**

BARRY BAKER and BYRON BAKER, as Co-trustees of the SHARLA M. BAKER TRUST utd June 13, 1978, hereby GRANT to PAO INVESTMENTS, LLC, a California limited liability company, the real property situated in the County of Fresno, State of California, described as follows:

All that portion of the Northwest Quarter and the Southwest Quarter of Section 5, Township 15 South, Range 13 East, Mount Diablo Base and Meridian, according to the official plat thereof, lying Southerly of Panoche Road, as said Panoche Road existed on October 30, 1972.

EXCEPTING THEREFROM that portion of the Southwest Quarter of Section 5, bounded by a line which begins at a point in the Southwest Quarter of said Section 5 (marked by a 5/8<sup>ths</sup> inch iron bolt with X scribed on head) from which the Southwest corner (marked by a 2 inch iron monument) of said Section 5 bears South 38°57½' West 1,748.2 feet distant and runs thence North 36°31' West 883.0 feet to a 5/8<sup>ths</sup> inch iron bolt with X scribed on head in the center line of the county road traversing the Southwest Quarter of said Section 5; thence North 64°26' East, along the centerline of said county road, 1,013.5 feet to a 5/8<sup>ths</sup> inch iron bolt with X scribed on head; thence South 36°31' East 690.6 feet to a 5/8<sup>ths</sup> inch iron

bolt with X scribed on head; thence continuing South 36°31' East 67.0 feet; thence South 53°29' West 995.0 feet; thence North 36°31' West 67 feet, more or less, to the point of beginning.

ALSO EXCEPTING THEREFROM the following described property: Beginning at a 2 inch by 2 inch hub in the Southwest Quarter of said Section 5, from which the most Easterly corner of that certain 19.50 acre parcel of land as described in the Deed from B.E. Montgomery and wife to Pacific Gas and Electric Company, dated November 17, 1948, and recorded in Book 2689, Page 410 of Official Records, bears South 55°55½' West 530.5 feet distant and running thence North 53°34' East 30.0 feet to a 2 inch by 2 inch hub; thence South 36°26' East 125.0 feet to a 2 inch by 2 inch hub; thence South 53°34' West 30.0 feet to a 2 inch by 2 inch hub; thence North 36°26' West 125.0 feet to the point of beginning.

ALSO EXCEPTING THEREFROM a parcel of land in the Southwest Quarter of said Section 5 described as follows: Beginning at the Southwest corner of said Section 5; thence (1) along the West boundary of the Southwest Quarter of said Section 5, North 0°0' East 173.0 feet; thence (2) along the North line of the South 173 feet of said Southwest quarter, South 89°51'20" East 80.0 feet; thence (3) South 44°51'29" East 174.0 feet; thence (4) along the East line of the West 202.7 feet, South 0°0' West 50.0 feet to a point in the South line of said Southwest Quarter; thence along last said South line (5) North 89°51'20" West 202.7 feet to the point of beginning; BUT EXCEPTING FROM SAID EXCEPTION, the West 40 feet and the South 40 feet thereof.

ALSO EXCEPTING THEREFROM the following described property: Beginning at a point of intersection of the center line of said Panoche Road with the West boundary of said Section 5, said point bears North 01°34'10" East, 1,804.77 feet from the Southwest corner of said Section 5; thence (1) North 65°59'05" East along the center line of said Panoche Road, 305.31 feet; thence (2) North 65°27'57" East along said center line, 2,180.9 feet; thence (3) North 65°41'08" East along said center line, 3,374.21 feet to a point

on the East boundary of said Section 5, said point bears North  $01^{\circ}35'26''$  East, 1,747.19 feet from the East Quarter corner of said Section 5; thence (4) South  $01^{\circ}35'26''$  West along said East boundary, 44.47 feet to a point which is 40 feet Southeast of said center line of Panoche Road (measured at right angles); thence (5) South  $65^{\circ}41'08''$  West, parallel with said center line, 3,354.70 feet; thence (6) South  $65^{\circ}27'57''$  West, parallel with said center line, 1,925.89 feet; thence (7) Southwesterly along the arc of a curve concave to the Northwest having a 56,340 foot radius, a radius point which bears North  $24^{\circ}32'03''$  West and a central angle of  $00^{\circ}31'08''$  a distance of 510.23 feet; thence (8) South  $65^{\circ}59'05''$  West, parallel with said center line 69.52 feet to the West boundary of said Section 5; thence (9) North  $01^{\circ}34'10''$  East along said West boundary, 44.35 feet to the point of beginning.

ALSO EXCEPTING THEREFROM that portion of the Southwest Quarter of said Section 5 described as follows: Commencing at the Southwest corner of said Section 5; thence North  $39^{\circ}59'27''$  East (North  $38^{\circ}57'30''$  East) 1,748.2 feet; thence North  $35^{\circ}29'03''$  West (North  $36^{\circ}31'$  West), 883 feet to a point on the center line of Panoche Road, said point being the true point of beginning; thence (1) North  $65^{\circ}27'57''$  East (North  $64^{\circ}26'$  East) along the center line of said Panoche Road, 1,013.5 feet; thence (2) South  $35^{\circ}29'03''$  East (South  $36^{\circ}31'$  East), 40.74 feet to a point which is 40 feet Southeast of the center line of said Panoche Road (measured at right angles); thence (3) South  $65^{\circ}27'57''$  West (South  $64^{\circ}26''$  West), parallel with said center line, 1,013.5 feet; thence (4) North  $35^{\circ}29'03''$  West (North  $36^{\circ}31'$  West), 40.74 feet to the true point of beginning.

ALSO EXCEPTING FROM THE SOUTHWEST QUARTER, 54% interest in and to all oil, gas and minerals, as heretofore reserved of record.

ALSO EXCEPTING FROM THE SOUTH HALF OF THE NORTHWEST QUARTER, an undivided 56% interest in and to all oil, gas and minerals, as heretofore reserved of record.

ALSO EXCEPTING THEREFROM an undivided one-half of Grantor's right, title and interest in and to all oil, gas and minerals, as reserved in the following Deeds: (1) Deed from

Giffen, Inc., dated October 31, 1974, recorded November 20, 1974, in Book 6370, Page 143 of Official Records, Instrument No. 87110; (2) Deed from James W. Telles and Diane Telles, husband and wife, as to an undivided 5.25% interest, recorded December 3, 1975, in Book 6531, Page 705 of Official Records, Instrument No. 100668, and re-recorded January 21, 1976, in Book 6540, Page 44 of Official Records, Instrument No. 5342; (3) Deed from John Telles, a single person, as to an undivided 1.25% interest, recorded December 3, 1975, in Book 6531, Page 712 of Official Records, Instrument No. 100669, and re-recorded January 21, 1976, in Book 6540, Page 52 of Official Records, Instrument No. 5343; (4) Deed from Jesse P. Telles, III, and Patty Rae Telles, husband and wife, as to an undivided 5.25% interest, recorded December 3, 1975, in Book 6531, Page 719 of Official Records, Instrument No. 100670, and re-recorded January 21, 1976, in Book 6540, Page 36 of Official Records, Instrument No. 5341; (5) Deed from Jolene Vajretti, a single person, as to an undivided 4% interest, recorded January 15, 1976, in Book 6537, Page 516 of Official Records, Instrument No. 3604; (6) Deed from Joseph Vajretti and Marie Vajretti, husband and wife, as to an undivided 8% interest, recorded January 15, 1976, in Book 6537, Page 523 of Official Records, Instrument No. 3605; (7) Deed from Helen B. Telles, dealing with her separate property, as to an undivided 4% interest, recorded January 15, 1976, in Book 6537, Page 530 of Official Records, Instrument No. 3606; and (8) Deed from Manuel A. Souza, Jr. and Cecelia Ann Souza, as to an undivided 4% interest, recorded January 15, 1976, in Book 6537, Page 537 of Official Records, Instrument No. 3607.

APN: 027-060-78S

In order to ensure that no cloud exists on title to the above-described real property, BARRY BAKER and BYRON BAKER, declare as follows:

1. They are the duly nominated, qualified and serving Co-Trustees of the SHARLA M. BAKER TRUST, created by that certain Trust Agreement dated June 13, 1978 (the "Trust Agreement").
2. The Settlers of the SHARLA M. BAKER TRUST were MARSHALL B. BAKER and JUDITH BAKER.

3. The initial Trustee of the SHARLA M. BAKER TRUST was WM. C. CROSSLAND. He resigned on June 15, 1982 and ROBERT HANSEN was appointed as successor Trustee.

4. ROBERT HANSEN resigned as successor Trustee of the SHARLA M. BAKER TRUST on August 1, 1992 and BARRY BAKER and BYRON BAKER were appointed as successor Co-Trustees.

5. The SHARLA M. BAKER TRUST is a valid trust and the Trust Agreement has not been revoked, modified, or amended in any manner which would cause the representations contained in the certification of trust to be incorrect.

6. This declaration is being signed by the currently acting Co-Trustees of the SHARLA M. BAKER TRUST.

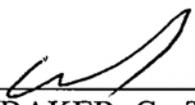
7. The undersigned have personal knowledge of all facts stated herein and can testify as to those facts if called upon to do so.

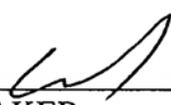
The undersigned declare under penalty of perjury under the laws of the State of California and under the laws of the United States that the foregoing is true and correct. Executed this 24<sup>th</sup> day of March, 2006 at Fresno, California.

SHARLA M. BAKER TRUST utd June 13,  
1978

By:   
BARRY BAKER, Co-Trustee

  
BARRY BAKER

By:   
BYRON BAKER, Co-Trustee

  
BYRON BAKER

STATE OF CALIFORNIA )  
 ) ss.  
COUNTY OF FRESNO )

On March 24, 2006, before me, LISA MARIE RENWICK, Notary Public, personally appeared BARRY BAKER, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

Witness my hand and official seal.

  
Notary Public



STATE OF CALIFORNIA )  
 ) ss.  
COUNTY OF FRESNO )

On March 24, 2006, before me, LISA MARIE RENWICK, Notary Public, personally appeared BYRON BAKER, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

Witness my hand and official seal.

  
Notary Public





**PG&E Panoche Substation Expansion**

W. Panoche Road

Firebaugh, CA 93622

Inquiry Number: 2264881.5

July 09, 2008

## The EDR Aerial Photo Decade Package



440 Wheelers Farms Road  
Milford, CT 06461  
800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

# EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDRs professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

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***Thank you for your business.***  
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**Date EDR Searched Historical Sources:**

Aerial Photography July 09, 2008

**Target Property:**

W. Panoche Road

Firebaugh, CA 93622

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
1957	Aerial Photograph. Scale: 1"=555'	Flight Year: 1957	Cartwright
1965	Aerial Photograph. Scale: 1"=555'	Flight Year: 1965	Cartwright
1970	Aerial Photograph. Scale: 1"=555'	Flight Year: 1970	Cartwright
1981	Aerial Photograph. Scale: 1"=690'	Flight Year: 1981	WSA
1987	Aerial Photograph. Scale: 1"=666'	Flight Year: 1987	USGS
1998	Aerial Photograph. Scale: 1"=666'	Flight Year: 1998	USGS
2005	Aerial Photograph. Scale: 1"=484'	Flight Year: 2005	EDR



**INQUIRY #:** 2264881.5

**YEAR:** 1957

| = 555'





**INQUIRY #:** 2264881.5

**YEAR:** 1965

| = 555'





**INQUIRY #:** 2264881.5

**YEAR:** 1970

| = 555'



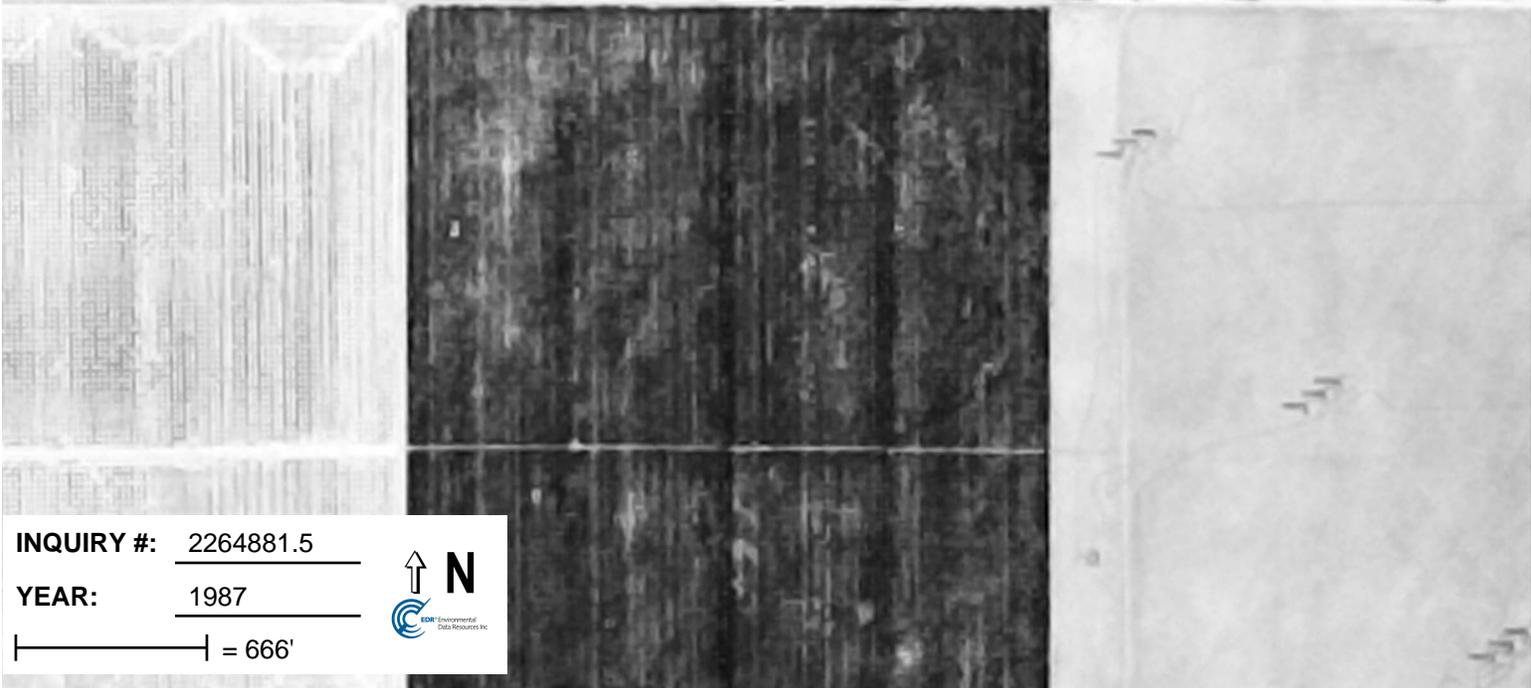
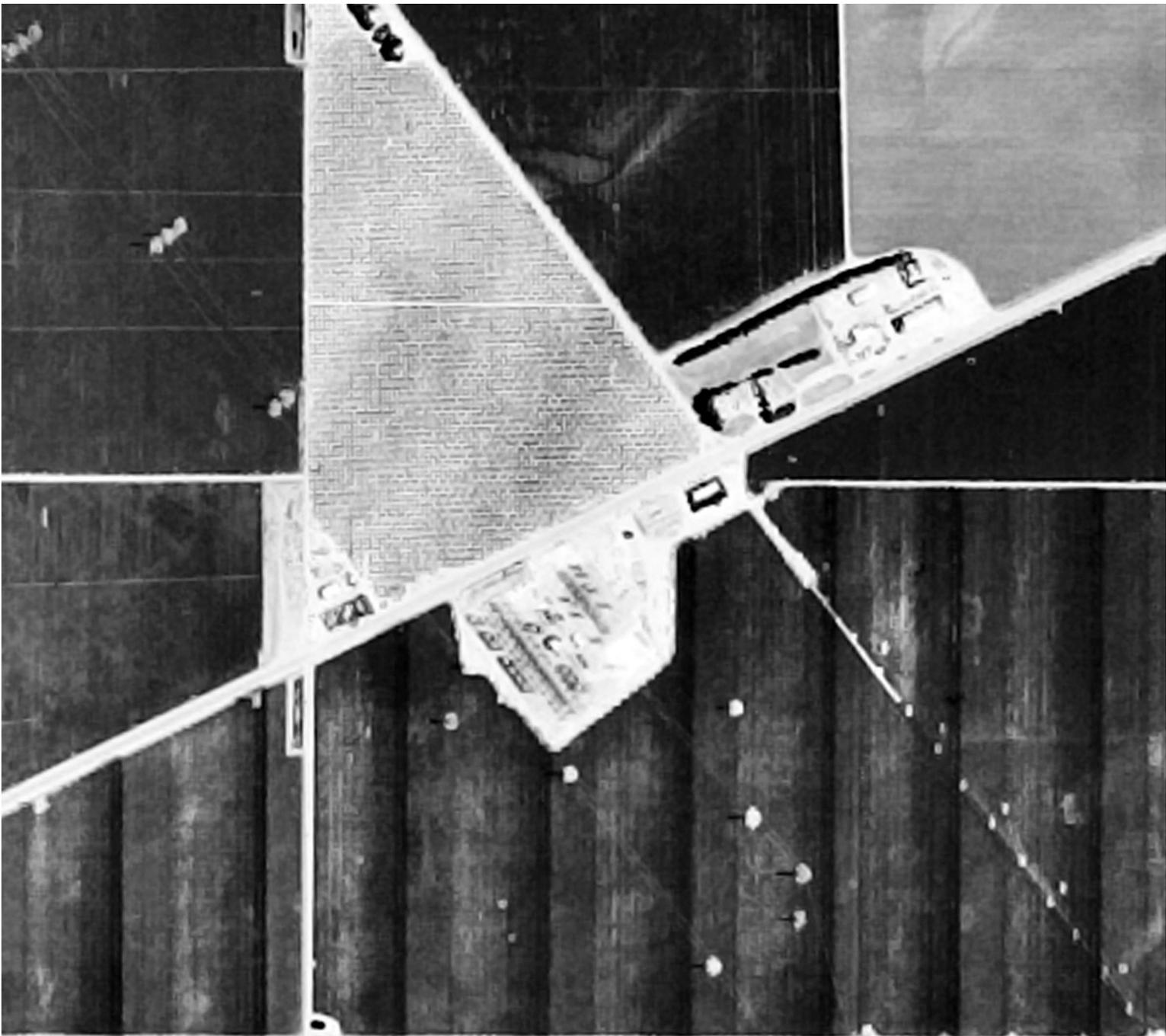


**INQUIRY #:** 2264881.5

**YEAR:** 1981

| = 690'





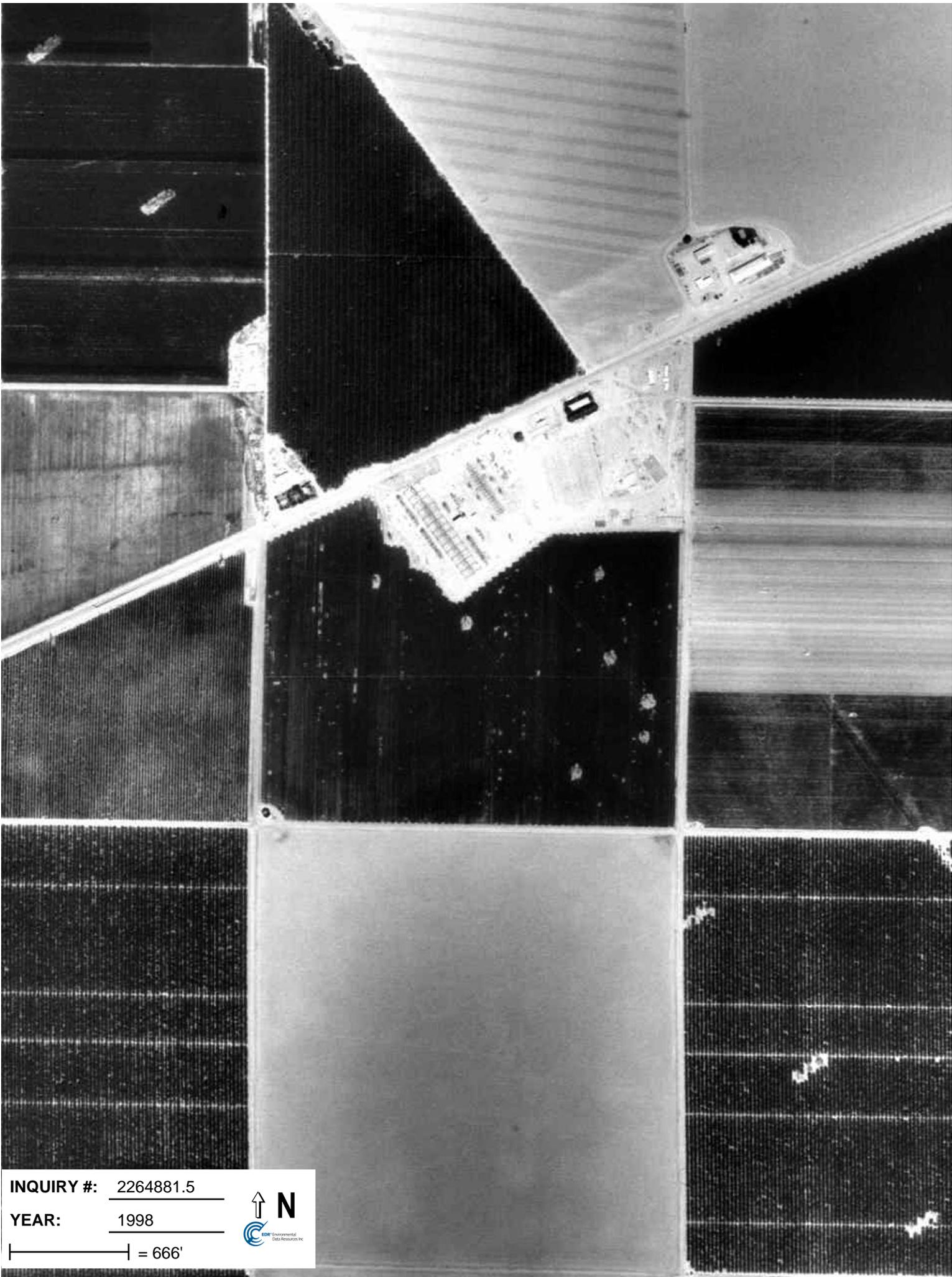
**INQUIRY #:** 2264881.5

**YEAR:** 1987

| = 666'



EDR Environmental Data Resources Inc.



**INQUIRY #:** 2264881.5

**YEAR:** 1998

| = 666'





**INQUIRY #:** 2264881.5

**YEAR:** 2005

 = 484'





**PG&E Panoche Substation Expansion**

W. Panoche Road

Firebaugh, CA 93622

Inquiry Number: 2264881.4

July 09, 2008

# The EDR Historical Topographic Map Report

# EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

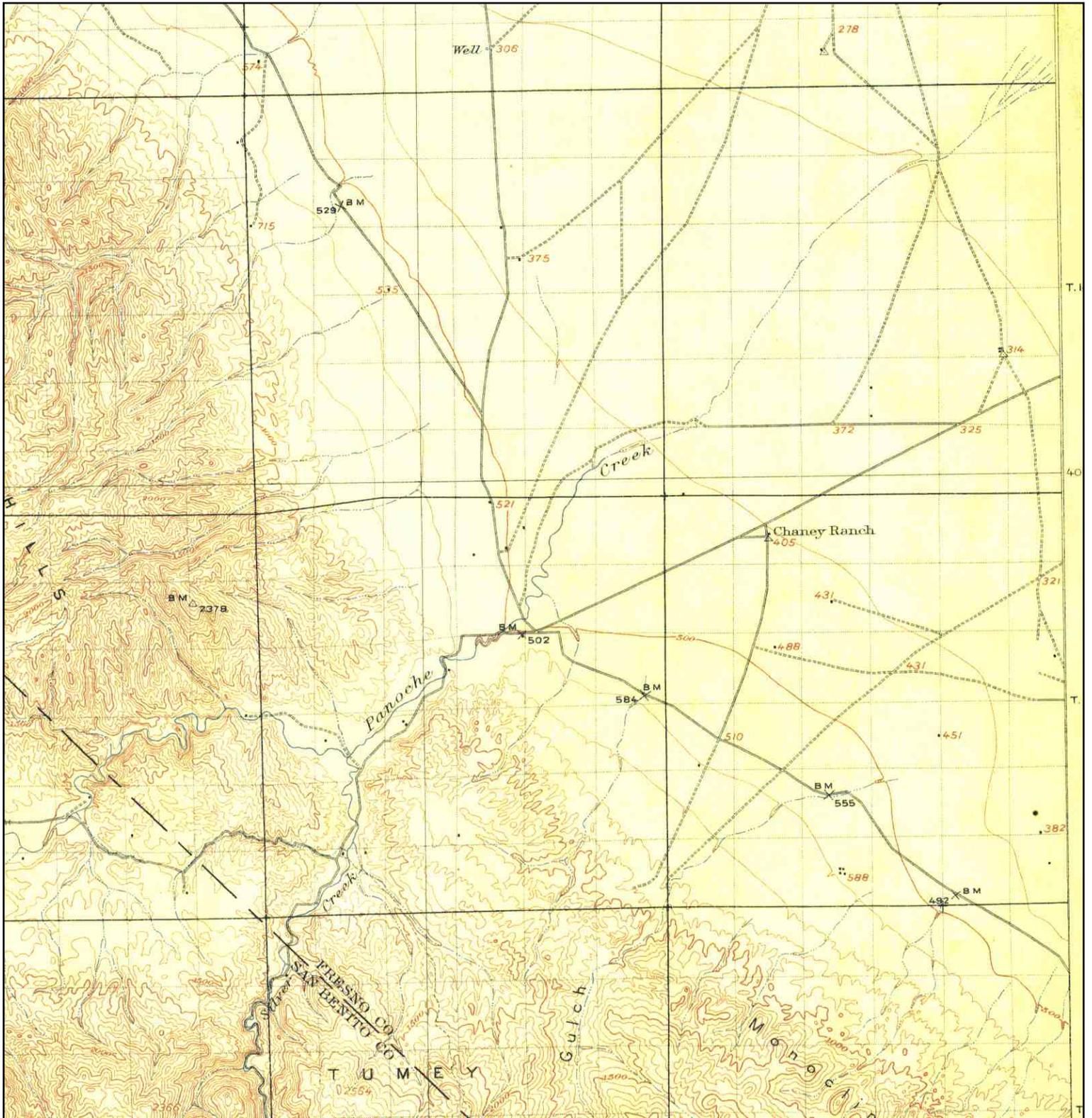
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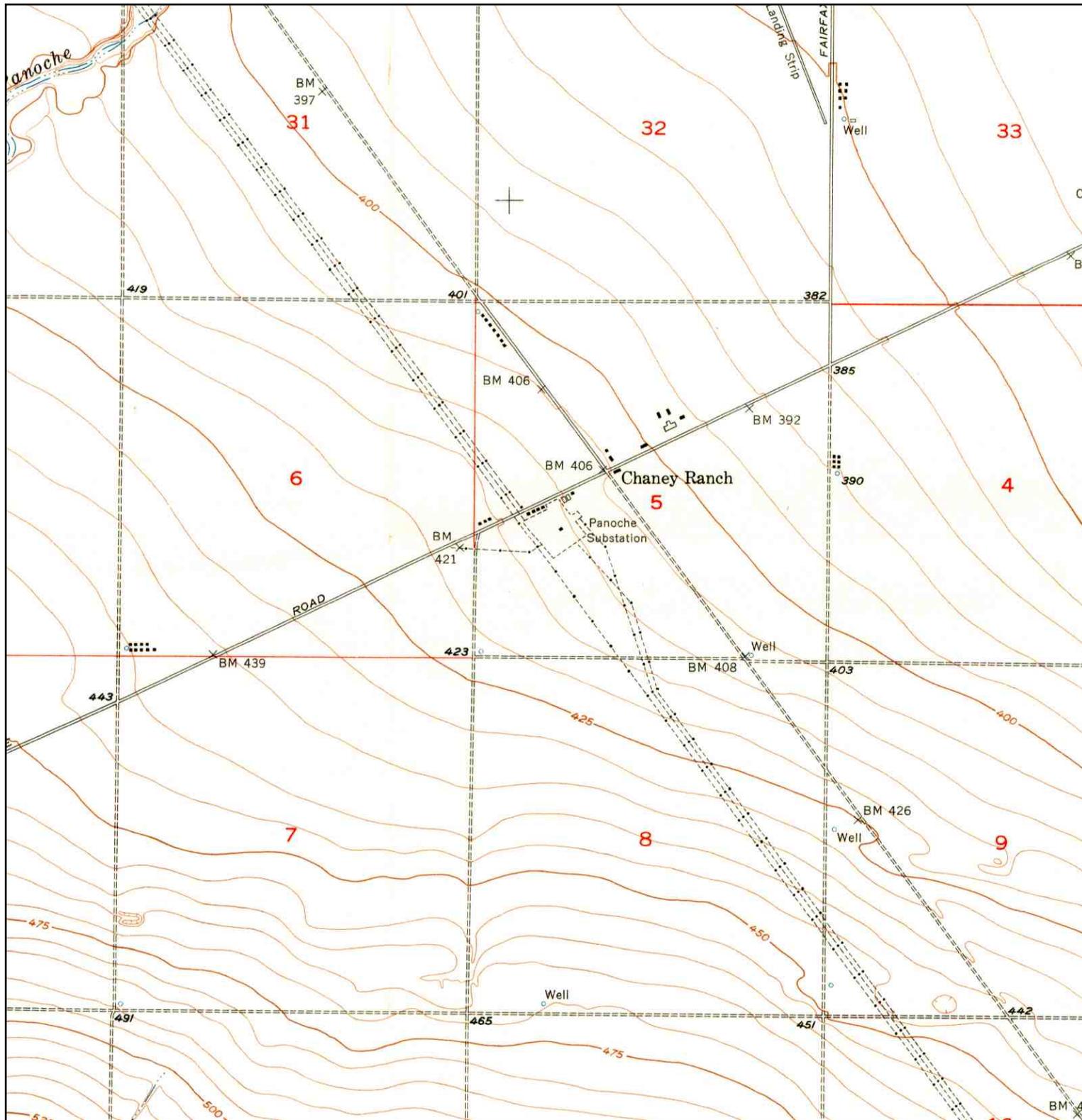
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# Historical Topographic Map



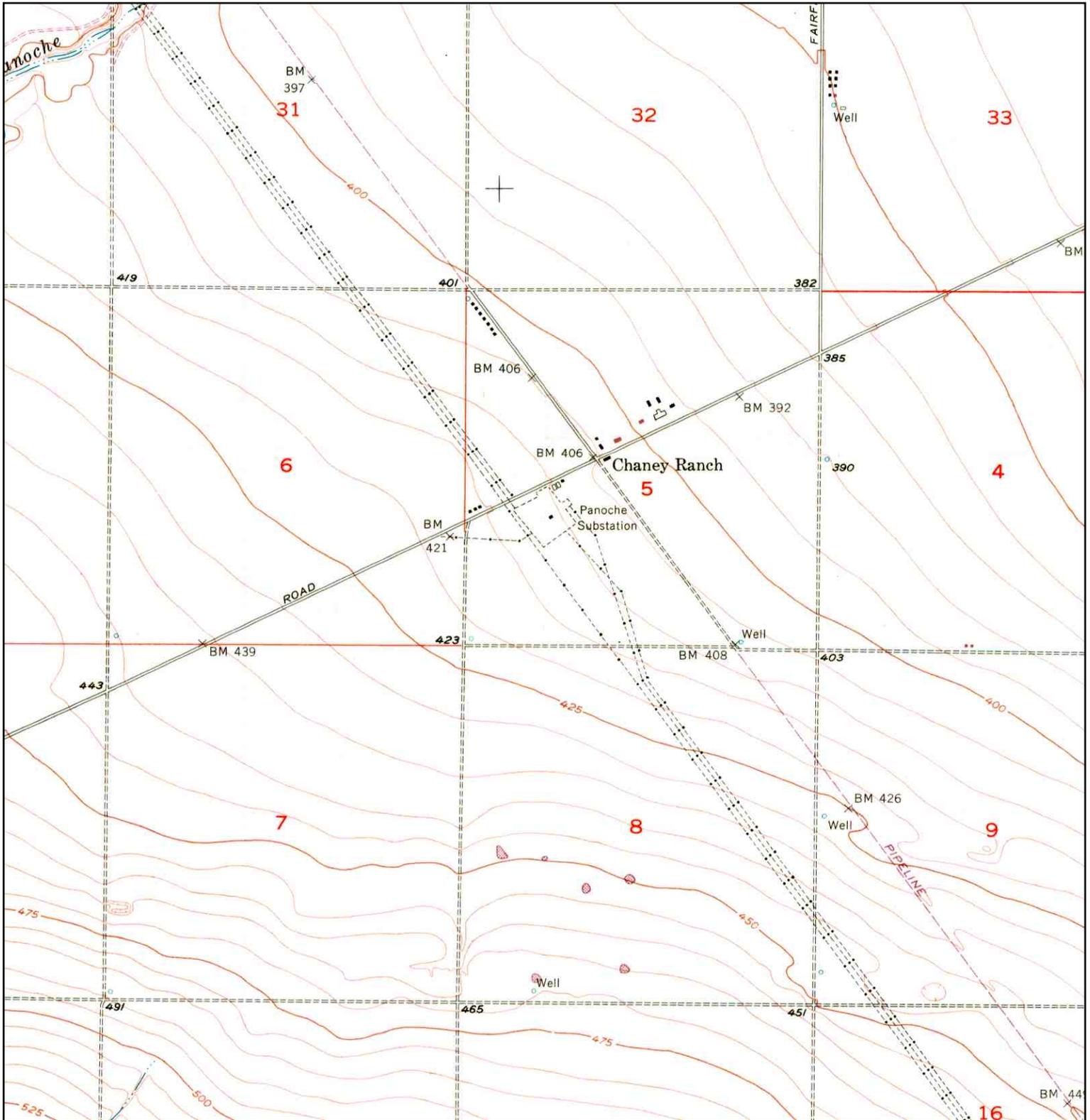
	TARGET QUAD	SITE NAME:	PG&E Panoche Substation Expansion	CLIENT:	URS Corporation
	NAME: PANOCH	ADDRESS:	W. Panoche Road Firebaugh, CA 93622	CONTACT:	Frank Gegunde
	MAP YEAR: 1913	LAT/LONG:	36.652 / 120.581	INQUIRY#:	2264881.4
	SERIES: 30			RESEARCH DATE:	07/09/2008
	SCALE: 1:125000				

# Historical Topographic Map



	<b>TARGET QUAD</b> NAME: CHANEY RANCH MAP YEAR: 1955	<b>SITE NAME:</b> PG&E Panoche Substation Expansion <b>ADDRESS:</b> W. Panoche Road Firebaugh, CA 93622 <b>LAT/LONG:</b> 36.652 / 120.581	<b>CLIENT:</b> URS Corporation <b>CONTACT:</b> Frank Gegunde <b>INQUIRY#:</b> 2264881.4 <b>RESEARCH DATE:</b> 07/09/2008
	SERIES: 7.5 SCALE: 1:24000		

# Historical Topographic Map



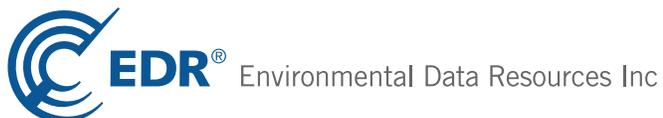
	TARGET QUAD	SITE NAME:	PG&E Panoche Substation Expansion	CLIENT:	URS Corporation
	NAME: CHANEY RANCH	ADDRESS:	W. Panoche Road	CONTACT:	Frank Gegunde
	MAP YEAR: 1971	LAT/LONG:	Firebaugh, CA 93622	INQUIRY#:	2264881.4
	PHOTOREVISED FROM: 1955			RESEARCH DATE:	07/09/2008
	SERIES: 7.5				
	SCALE: 1:24000				

**PG&E Panoche Substation Expansion**

W. Panoche Road  
Firebaugh, CA 93622

Inquiry Number: 2264881.2s  
July 09, 2008

**The EDR Radius Map™ Report with GeoCheck®**



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## EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

### TARGET PROPERTY INFORMATION

#### ADDRESS

W. PANOCHE ROAD  
FIREBAUGH, CA 93622

#### COORDINATES

Latitude (North): 36.652000 - 36° 39' 7.2"  
Longitude (West): 120.581000 - 120° 34' 51.6"  
Universal Transverse Mercator: Zone 10  
UTM X (Meters): 716233.9  
UTM Y (Meters): 4058792.2  
Elevation: 414 ft. above sea level

### USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 36120-F5 CHANEY RANCH, CA  
Most Recent Revision: 1971

### TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

### DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

#### FEDERAL RECORDS

**NPL**..... National Priority List  
**Proposed NPL**..... Proposed National Priority List Sites  
**Delisted NPL**..... National Priority List Deletions  
**NPL LIENS**..... Federal Superfund Liens  
**CERCLIS**..... Comprehensive Environmental Response, Compensation, and Liability Information System  
**CERC-NFRAP**..... CERCLIS No Further Remedial Action Planned  
**LIENS 2**..... CERCLA Lien Information  
**CORRACTS**..... Corrective Action Report  
**RCRA-TSDF**..... RCRA - Transporters, Storage and Disposal  
**RCRA-LQG**..... RCRA - Large Quantity Generators

## EXECUTIVE SUMMARY

<b>RCRA-CESQG</b> .....	RCRA - Conditionally Exempt Small Quantity Generator
<b>RCRA-NonGen</b> .....	RCRA - Non Generators
<b>US ENG CONTROLS</b> .....	Engineering Controls Sites List
<b>US INST CONTROL</b> .....	Sites with Institutional Controls
<b>ERNS</b> .....	Emergency Response Notification System
<b>HMIRS</b> .....	Hazardous Materials Information Reporting System
<b>DOT OPS</b> .....	Incident and Accident Data
<b>US CDL</b> .....	Clandestine Drug Labs
<b>US BROWNFIELDS</b> .....	A Listing of Brownfields Sites
<b>DOD</b> .....	Department of Defense Sites
<b>FUDS</b> .....	Formerly Used Defense Sites
<b>LUCIS</b> .....	Land Use Control Information System
<b>CONSENT</b> .....	Superfund (CERCLA) Consent Decrees
<b>ROD</b> .....	Records Of Decision
<b>UMTRA</b> .....	Uranium Mill Tailings Sites
<b>ODI</b> .....	Open Dump Inventory
<b>DEBRIS REGION 9</b> .....	Torres Martinez Reservation Illegal Dump Site Locations
<b>MINES</b> .....	Mines Master Index File
<b>TRIS</b> .....	Toxic Chemical Release Inventory System
<b>TSCA</b> .....	Toxic Substances Control Act
<b>FTTS</b> .....	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
<b>HIST FTTS</b> .....	FIFRA/TSCA Tracking System Administrative Case Listing
<b>SSTS</b> .....	Section 7 Tracking Systems
<b>ICIS</b> .....	Integrated Compliance Information System
<b>PADS</b> .....	PCB Activity Database System
<b>MLTS</b> .....	Material Licensing Tracking System
<b>RADINFO</b> .....	Radiation Information Database
<b>FINDS</b> .....	Facility Index System/Facility Registry System
<b>RAATS</b> .....	RCRA Administrative Action Tracking System

### STATE AND LOCAL RECORDS

<b>HIST Cal-Sites</b> .....	Historical Calsites Database
<b>CA BOND EXP. PLAN</b> .....	Bond Expenditure Plan
<b>SCH</b> .....	School Property Evaluation Program
<b>Toxic Pits</b> .....	Toxic Pits Cleanup Act Sites
<b>SWF/LF</b> .....	Solid Waste Information System
<b>CA WDS</b> .....	Waste Discharge System
<b>WMUDS/SWAT</b> .....	Waste Management Unit Database
<b>Cortese</b> .....	"Cortese" Hazardous Waste & Substances Sites List
<b>SWRCY</b> .....	Recycler Database
<b>LUST</b> .....	Geotracker's Leaking Underground Fuel Tank Report
<b>CA FID UST</b> .....	Facility Inventory Database
<b>SLIC</b> .....	Statewide SLIC Cases
<b>UST</b> .....	Active UST Facilities
<b>HIST UST</b> .....	Hazardous Substance Storage Container Database
<b>AST</b> .....	Aboveground Petroleum Storage Tank Facilities
<b>LIENS</b> .....	Environmental Liens Listing
<b>SWEEPS UST</b> .....	SWEEPS UST Listing
<b>CHMIRS</b> .....	California Hazardous Material Incident Report System
<b>Notify 65</b> .....	Proposition 65 Records
<b>DEED</b> .....	Deed Restriction Listing
<b>VCP</b> .....	Voluntary Cleanup Program Properties
<b>DRYCLEANERS</b> .....	Cleaner Facilities

## EXECUTIVE SUMMARY

<b>WIP</b> .....	Well Investigation Program Case List
<b>CDL</b> .....	Clandestine Drug Labs
<b>RESPONSE</b> .....	State Response Sites
<b>HAZNET</b> .....	Facility and Manifest Data
<b>EMI</b> .....	Emissions Inventory Data
<b>HAULERS</b> .....	Registered Waste Tire Haulers Listing
<b>ENVIROSTOR</b> .....	EnviroStor Database

### TRIBAL RECORDS

<b>INDIAN RESERV</b> .....	Indian Reservations
<b>INDIAN ODI</b> .....	Report on the Status of Open Dumps on Indian Lands
<b>INDIAN LUST</b> .....	Leaking Underground Storage Tanks on Indian Land
<b>INDIAN UST</b> .....	Underground Storage Tanks on Indian Land
<b>INDIAN VCP</b> .....	Voluntary Cleanup Priority Listing

### EDR PROPRIETARY RECORDS

<b>Manufactured Gas Plants</b> ...	EDR Proprietary Manufactured Gas Plants
<b>EDR Historical Auto Stations</b>	EDR Proprietary Historic Gas Stations
<b>EDR Historical Cleaners</b> .....	EDR Proprietary Historic Dry Cleaners

### SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

### FEDERAL RECORDS

**RCRA-SQG:** RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 03/06/2008 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
<b><i>PG AND E PANOCHE SUBSTATION</i></b>	<b><i>43711 W PANOCHE RD</i></b>	<b><i>1/8 - 1/4N</i></b>	<b><i>2</i></b>	<b><i>6</i></b>

## EXECUTIVE SUMMARY

### STATE AND LOCAL RECORDS

**Fresno Co. CUPA:** Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

A review of the Fresno Co. CUPA list, as provided by EDR, and dated 03/31/2008 has revealed that there is 1 Fresno Co. CUPA site within approximately 0.25 miles of the target property.

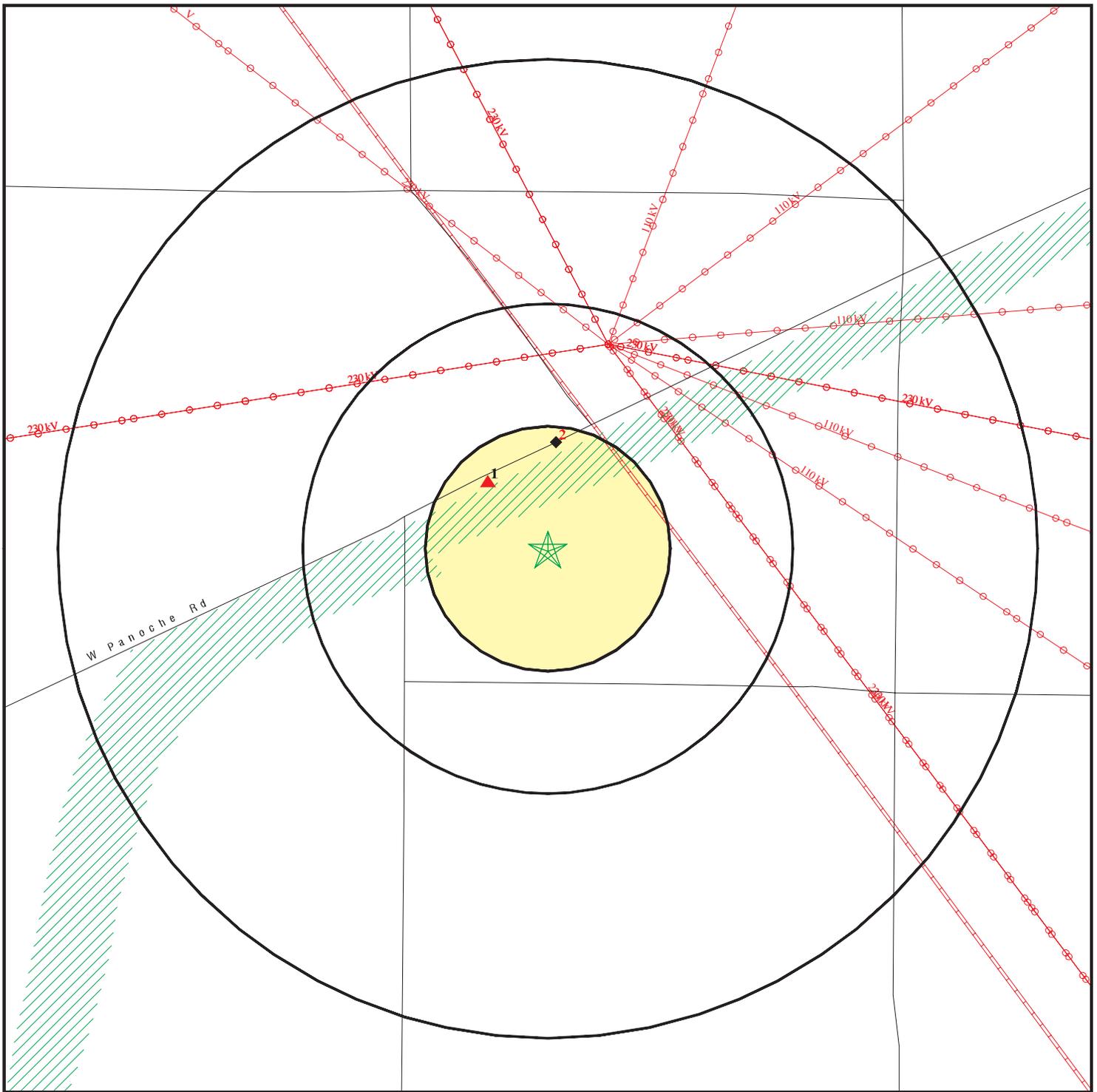
<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
CALPEAK POWER - PANOCHÉ LLC	43699 W PANOCHÉ	1/8 - 1/4NW	1	6

## EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

<u>Site Name</u>	<u>Database(s)</u>
S.P. OPERATOR	SWEEPS UST
CLIFF'S EXXON	SWEEPS UST
PANOCHÉ TRAVELPORT	SWEEPS UST
CHEVRON #92316	HAZNET, SWEEPS UST
ABANDONED READY MIX PLANT	SWEEPS UST
CALTRANS MAINTENANCE FACILITY	SWEEPS UST
BEACON STATION # 363	SWEEPS UST
PG&E	Fresno Co. CUPA
FIREBAUGH CANAL WATER DISTRICT	Fresno Co. CUPA
A E ALLEN RANCH	Fresno Co. CUPA
PANOCHÉ MOBIL*	Fresno Co. CUPA
WESTSIDE 76*	Fresno Co. CUPA
PG&E FIREBAUGH SUBSTATION	Fresno Co. CUPA
PG&E SAN LUIS #5 SUBSTATION	Fresno Co. CUPA
WESTERN AREA POWER ADMIN	CHMIRS, Fresno Co. CUPA
READY MIX PLANT (ABANDONED)	Fresno Co. CUPA
CALTRANS	Fresno Co. CUPA
PG&E CHENEY SUBSTATION	Fresno Co. CUPA
PG&E PANOCHÉ SUBSTATION	Fresno Co. CUPA
AMERICAN TOWER CORPORATION #89352	Fresno Co. CUPA
SUMNER PECK RANCH	Toxic Pits
MENDOTA SITE	CERC-NFRAP
FIREBAUGH DISPOSAL SERVICES	SWF/LF
CHEVRON #92316	UST
WESTSIDE 76*	UST
PG & E	HAZNET
CHEVRON STATION 92316	RCRA-SQG, FINDS, HAZNET
PANOCHÉ TRAVELPORT	HAZNET
PG&E/ORO LOMA SUBSTATION	HAZNET
P G & E	HAZNET
PANOCHÉ PILOT SCALE BIOTREATMENT PLANT	RCRA-LQG
46378 WEST PANOCHÉ ROAD	ERNS
PANOCHÉ PILOT SCALE BIOTREATMENT PLANT	FINDS
ARTHUR E MILLS INTERMEDIATE SCHOOL	FINDS
SILAXO STATION (AKA: TEXACO/GETTY OIL)	SLIC
CHOPERENA TIRE DISPOSAL SITE (PANOCHÉ BURN SITE)	SLIC
PANOCHÉ MOBIL	EMI
MENDOTA SITE	ENVIROSTOR

# OVERVIEW MAP - 2264881.2s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- Areas of Concern

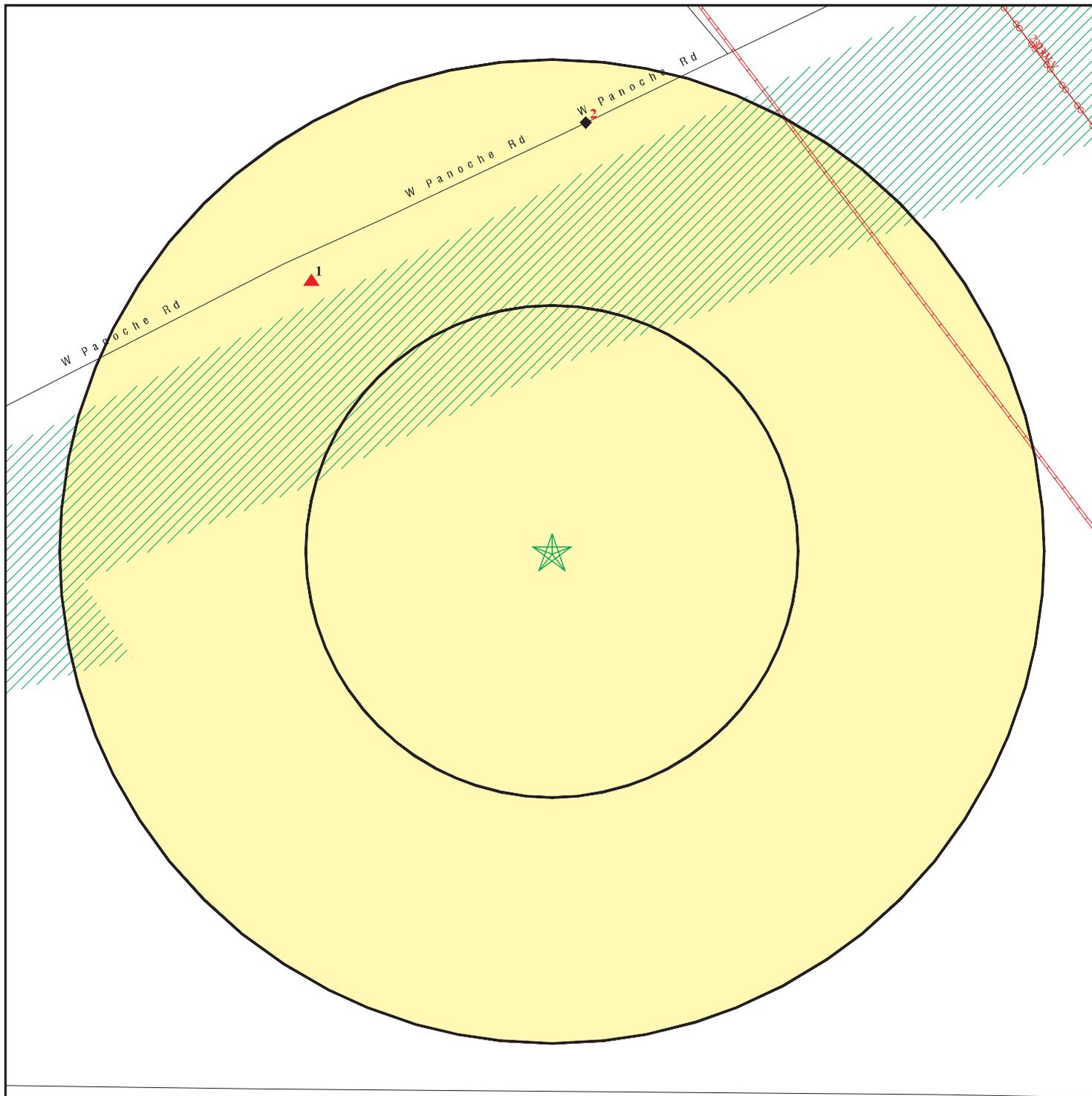


This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

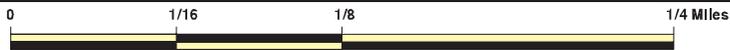
SITE NAME: PG&E Panoche Substation Expansion  
 ADDRESS: W. Panoche Road  
 Firebaugh CA 93622  
 LAT/LONG: 36.6520 / 120.5810

CLIENT: URS Corporation  
 CONTACT: Frank Gegunde  
 INQUIRY #: 2264881.2s  
 DATE: July 09, 2008 1:02 pm

# DETAIL MAP - 2264881.2s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites



- Indian Reservations BIA
- ▲ Power transmission lines
- ▲ Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Areas of Concern



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: PG&E Panoche Substation Expansion  
 ADDRESS: W. Panoche Road  
 Firebaugh CA 93622  
 LAT/LONG: 36.6520 / 120.5810

CLIENT: URS Corporation  
 CONTACT: Frank Gegunde  
 INQUIRY #: 2264881.2s  
 DATE: July 09, 2008 1:03 pm

## MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<b><u>FEDERAL RECORDS</u></b>								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.500	0	0	0	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRA-TSDF		0.500	0	0	0	NR	NR	0
RCRA-LQG		0.250	0	0	NR	NR	NR	0
RCRA-SQG		0.250	0	1	NR	NR	NR	1
RCRA-CESQG		0.250	0	0	NR	NR	NR	0
RCRA-NonGen		0.250	0	0	NR	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
ERNS	TP		NR	NR	NR	NR	NR	0
HMIRS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
LUCIS		0.500	0	0	0	NR	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
DEBRIS REGION 9		0.500	0	0	0	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
<b><u>STATE AND LOCAL RECORDS</u></b>								
HIST Cal-Sites		1.000	0	0	0	0	NR	0
CA BOND EXP. PLAN		1.000	0	0	0	0	NR	0
SCH		0.250	0	0	NR	NR	NR	0
Toxic Pits		1.000	0	0	0	0	NR	0
SWF/LF		0.500	0	0	0	NR	NR	0

## MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CA WDS		TP	NR	NR	NR	NR	NR	0
WMUDS/SWAT		0.500	0	0	0	NR	NR	0
Cortese		0.500	0	0	0	NR	NR	0
SWRCY		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
CA FID UST		0.250	0	0	NR	NR	NR	0
SLIC		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
HIST UST		0.250	0	0	NR	NR	NR	0
AST		0.250	0	0	NR	NR	NR	0
LIENS		TP	NR	NR	NR	NR	NR	0
Fresno Co. CUPA		0.250	0	1	NR	NR	NR	1
SWEEPS UST		0.250	0	0	NR	NR	NR	0
CHMIRS		TP	NR	NR	NR	NR	NR	0
Notify 65		1.000	0	0	0	0	NR	0
DEED		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
WIP		0.250	0	0	NR	NR	NR	0
CDL		TP	NR	NR	NR	NR	NR	0
RESPONSE		1.000	0	0	0	0	NR	0
HAZNET		TP	NR	NR	NR	NR	NR	0
EMI		TP	NR	NR	NR	NR	NR	0
HAULERS		TP	NR	NR	NR	NR	NR	0
ENVIROSTOR		1.000	0	0	0	0	NR	0
<b><u>TRIBAL RECORDS</u></b>								
INDIAN RESERV		1.000	0	0	0	0	NR	0
INDIAN ODI		0.500	0	0	0	NR	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
INDIAN VCP		0.500	0	0	0	NR	NR	0
<b><u>EDR PROPRIETARY RECORDS</u></b>								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0
EDR Historical Auto Stations		0.250	0	0	NR	NR	NR	0
EDR Historical Cleaners		0.250	0	0	NR	NR	NR	0

**NOTES:**

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID			EDR ID Number
Direction			EPA ID Number
Distance			
Elevation	Site	Database(s)	

<b>1</b> <b>NW</b> <b>1/8-1/4</b> <b>0.184 mi.</b> <b>972 ft.</b>	<b>CALPEAK POWER - PANOCHÉ LLC</b> <b>43699 W PANOCHÉ</b> <b>FIREBAUGH, CA 93622</b>	<b>Fresno Co. CUPA</b>	<b>S105418747</b> <b>N/A</b>
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<b>Relative:</b> <b>Higher</b>	Fresno Co. CUPA: Region: CUPA Facility ID: FA0275162 APM Number: 270-060-61SU Owner Name: CALPEAK ENERGY LP Program Element: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR
<b>Actual:</b> <b>415 ft.</b>	Region: CUPA Facility ID: FA0275162 APM Number: 270-060-61SU Owner Name: CALPEAK ENERGY LP Program Element: EXTREMELY HAZARDOUS SUBSTANCE HANDLER (EPCRA)
	Region: CUPA Facility ID: FA0275162 APM Number: 270-060-61SU Owner Name: CALPEAK ENERGY LP Program Element: CALARP RMP FACILITY
	Region: CUPA Facility ID: FA0275162 APM Number: 270-060-61SU Owner Name: CALPEAK ENERGY LP Program Element: LARGE HAZARDOUS MATERIALS HANDLER

<b>2</b> <b>North</b> <b>1/8-1/4</b> <b>0.219 mi.</b> <b>1154 ft.</b>	<b>PG AND E PANOCHÉ SUBSTATION</b> <b>43711 W PANOCHÉ RD</b> <b>FIREBAUGH, CA 93622</b>	<b>RCRA-SQG</b> <b>FINDS</b> <b>HAZNET</b>	<b>1000597649</b> <b>CAD983616681</b>
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<b>Relative:</b> <b>Lower</b>	RCRA-SQG: Date form received by agency: 01/27/1992 Facility name: PG AND E PANOCHÉ SUBSTATION Facility address: 43711 W PANOCHÉ RD FIREBAUGH, CA 93622 EPA ID: CAD983616681 Mailing address: O ST FRESNO, CA 937600001 Contact: WILLIAM FRAZIER Contact address: 650 O ST FRESNO, CA 937600001 Contact country: US Contact telephone: (209) 263-5210 Contact email: Not reported EPA Region: 09 Classification: Small Small Quantity Generator Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time
<b>Actual:</b> <b>410 ft.</b>	

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**PG AND E PANOCHE SUBSTATION (Continued)**

**1000597649**

Owner/Operator Summary:

Owner/operator name: PG AND E CO  
Owner/operator address: 77 BEALE ST  
SAN FRANCISCO, CA 94106  
Owner/operator country: Not reported  
Owner/operator telephone: (415) 972-7746  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: Unknown  
Mixed waste (haz. and radioactive): Unknown  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: Unknown  
Furnace exemption: Unknown  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No  
Off-site waste receiver: Commercial status unknown

Violation Status: No violations found

FINDS:

Other Pertinent Environmental Activity Identified at Site

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZNET:

Gepaid: CAD983616681  
Contact: PG AND E CO  
Telephone: 4159727746  
Facility Addr2: Not reported  
Mailing Name: Not reported  
Mailing Address: 650 O ST  
Mailing City,St,Zip: FRESNO, CA 937600000  
Gen County: Fresno  
TSD EPA ID: CAD009466392  
TSD County: 7  
Waste Category: Other empty containers 30 gallons or more  
Disposal Method: Recycler  
Tons: 18.0000

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**PG AND E PANOCHE SUBSTATION (Continued)**

**1000597649**

Facility County: Fresno  
  
Gepaid: CAD983616681  
Contact: PG AND E CO  
Telephone: 4159727746  
Facility Addr2: Not reported  
Mailing Name: Not reported  
Mailing Address: 650 O ST  
Mailing City,St,Zip: FRESNO, CA 937600000  
Gen County: Fresno  
TSD EPA ID: CAT000646117  
TSD County: Kings  
Waste Category: Polychlorinated biphenyls and material containing PCB's  
Disposal Method: Disposal, Land Fill  
Tons: 1.9670  
Facility County: Fresno

Gepaid: CAD983616681  
Contact: PG AND E CO  
Telephone: 4159727746  
Facility Addr2: Not reported  
Mailing Name: Not reported  
Mailing Address: 650 O ST  
Mailing City,St,Zip: FRESNO, CA 937600000  
Gen County: Fresno  
TSD EPA ID: NVT330010000  
TSD County: 99  
Waste Category: Liquids with polychlorinated biphenyls > 50 mg/l  
Disposal Method: Not reported  
Tons: .2204  
Facility County: Fresno

Gepaid: CAD983616681  
Contact: PG AND E CO  
Telephone: 4159727746  
Facility Addr2: Not reported  
Mailing Name: Not reported  
Mailing Address: 650 O ST  
Mailing City,St,Zip: FRESNO, CA 937600000  
Gen County: Fresno  
TSD EPA ID: CAE009466392  
TSD County: 0  
Waste Category: Other empty containers 30 gallons or more  
Disposal Method: Not reported  
Tons: 9.0000  
Facility County: Fresno

Gepaid: CAD983616681  
Contact: PG AND E CO  
Telephone: 4159727746  
Facility Addr2: Not reported  
Mailing Name: Not reported  
Mailing Address: 650 O ST  
Mailing City,St,Zip: FRESNO, CA 937600000  
Gen County: Fresno  
TSD EPA ID: CAD980887418  
TSD County: 1

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**PG AND E PANOCHE SUBSTATION (Continued)**

**1000597649**

Waste Category: Waste oil and mixed oil  
Disposal Method: Recycler  
Tons: 1.6054  
Facility County: Fresno

[Click this hyperlink](#) while viewing on your computer to access  
7 additional CA\_HAZNET: record(s) in the EDR Site Report.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
11 MI W OF FIREBAUGH	1010313760	PANOCHÉ PILOT SCALE BIOTREATMENT PLANT	RUSSELL AVE AND NEES AVE	93622	RCRA-LQG
FIREBAUGH	S106931707	S.P. OPERATOR	I-5 / PANOCHÉ RD	93622	SWEEPS UST
FIREBAUGH	S106486131	SILAXO STATION (AKA: TEXACO/GETTY OIL)	HWY 33; SECT 11, T12S/R13E	93622	SLIC
FIREBAUGH	S106487459	PG&E	AVENUE 12 / HIGHWAY 33	93622	Fresno Co. CUPA
FIREBAUGH	S104868432	FIREBAUGH CANAL WATER DISTRICT	2412 DOS PALOS RD (HIGHWAY 33)	93622	Fresno Co. CUPA
FIREBAUGH	S108407535	FIREBAUGH DISPOSAL SERVICES	9740 NORTH DOS PLAOS ROAD	93622	SWF/LF
FIREBAUGH	S106924720	CLIFF'S EXXON	1307 N HIGHWAY 33	93622	SWEEPS UST
FIREBAUGH	S106089500	PG & E	INTERSECT OF SAN DIEGO / SHAW AVE	93622	HAZNET
FIREBAUGH	S107619632	A E ALLEN RANCH	3350 N JERROLD	93622	Fresno Co. CUPA
FIREBAUGH	S106486009	CHOPERENA TIRE DISPOSAL SITE (PANOCHÉ BURN SITE)	LITTLE PANOCHÉ RD-S 21,T13S/R11E - MDB / M	93622	SLIC
FIREBAUGH	2000551497	46378 WEST PANOCHÉ ROAD	46378 WEST PANOCHÉ ROAD		ERNS
FIREBAUGH	S107621703	PANOCHÉ MOBIL	46365 PANOCHÉ	93622	EMI
FIREBAUGH	S106930476	PANOCHÉ TRAVELPORT	46331 W PANOCHÉ BLVD	93622	SWEEPS UST
FIREBAUGH	S106112694	PANOCHÉ MOBIL*	46365 PANOCHÉ	93622	Fresno Co. CUPA
FIREBAUGH	1005441296	CHEVRON STATION 92316	46330 W PANOCHÉ RD NO I 5	93622	RCRA-SQG, FINDS, HAZNET
FIREBAUGH	S103660909	CHEVRON #92316	46330 PANOCHÉ RD	93622	HAZNET, SWEEPS UST
FIREBAUGH	S106112696	WESTSIDE 76*	46370 W PANOCHÉ	93622	Fresno Co. CUPA
FIREBAUGH	U003938774	CHEVRON #92316	46330 PANOCHÉ	93622	UST
FIREBAUGH	U003942999	WESTSIDE 76*	46370 PANOCHÉ	93622	UST
FIREBAUGH	S106091019	PANOCHÉ TRAVELPORT	6331 W PANOCHI RD	93622	HAZNET
FIREBAUGH	S103679497	PG&E/ORO LOMA SUBSTATION	ON RUSSELL AVE, 1/4 MI SOUTH	93622	HAZNET
FIREBAUGH	1010427956	PANOCHÉ PILOT SCALE BIOTREATMENT PLANT	RUSSELL AVE AND NEES AVE	93622	FINDS
FIREBAUGH	S107139805	P G & E	2 MI SOUTH INERSECTION OF AVE 7 1/2	93622	HAZNET
FIREBAUGH	1009683690	ARTHUR E MILLS INTERMEDIATE SCHOOL	1191 P ST.	93622	FINDS
FIREBAUGH	S105614809	PG&E FIREBAUGH SUBSTATION	TWELFTH / CANAL	93622	Fresno Co. CUPA
FIREBAUGH	S105614746	PG&E SAN LUIS #5 SUBSTATION	I-5 WEST	93622	Fresno Co. CUPA
FRESNO COUNTY	S104867814	WESTERN AREA POWER ADMIN	CALIFORNIA AQUEDUCT		CHMIRS, Fresno Co. CUPA
MENDOTA	S104869327	READY MIX PLANT (ABANDONED)	HIGHWAY 180 @ BELMONT	93640	Fresno Co. CUPA
MENDOTA	S106174863	CALTRANS	HIGHWAY 180 AT BELMONT	93640	Fresno Co. CUPA
MENDOTA	S106922365	ABANDONED READY MIX PLANT	HWY 180	93640	SWEEPS UST
MENDOTA	S106923915	CALTRANS MAINTENANCE FACILITY	HWY 180 / BELMONT	93640	SWEEPS UST
MENDOTA	S105614744	PG&E CHENEY SUBSTATION	HIGHWAY 5	93640	Fresno Co. CUPA
MENDOTA	S106923162	BEACON STATION # 363	BELMONT / HWY 180	93640	SWEEPS UST
MENDOTA	S100925074	SUMNER PECK RANCH	P.O. BOX 507	93640	Toxic Pits
MENDOTA	1000191757	MENDOTA SITE	1 MI NE OF HWY 33	93640	ENVIROSTOR
MENDOTA	1003877975	MENDOTA SITE	1 MI NE HWY 33	93640	CERC-NFRAP
MENDOTA	S104870609	PG&E PANOCHÉ SUBSTATION	PANOCHÉ	93640	Fresno Co. CUPA
MENDOTA	S107869549	AMERICAN TOWER CORPORATION #89352	PANOCHÉ MOUNTAIN	93640	Fresno Co. CUPA

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

**Number of Days to Update:** Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

## **FEDERAL RECORDS**

### **NPL: National Priority List**

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/30/2008	Source: EPA
Date Data Arrived at EDR: 05/06/2008	Telephone: N/A
Date Made Active in Reports: 06/09/2008	Last EDR Contact: 04/28/2008
Number of Days to Update: 34	Next Scheduled EDR Contact: 07/28/2008
	Data Release Frequency: Quarterly

### **NPL Site Boundaries**

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)  
Telephone: 202-564-7333

EPA Region 1  
Telephone 617-918-1143

EPA Region 6  
Telephone: 214-655-6659

EPA Region 3  
Telephone 215-814-5418

EPA Region 7  
Telephone: 913-551-7247

EPA Region 4  
Telephone 404-562-8033

EPA Region 8  
Telephone: 303-312-6774

EPA Region 5  
Telephone 312-886-6686

EPA Region 9  
Telephone: 415-947-4246

EPA Region 10  
Telephone 206-553-8665

### **Proposed NPL: Proposed National Priority List Sites**

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/30/2008	Source: EPA
Date Data Arrived at EDR: 05/06/2008	Telephone: N/A
Date Made Active in Reports: 06/09/2008	Last EDR Contact: 04/28/2008
Number of Days to Update: 34	Next Scheduled EDR Contact: 07/28/2008
	Data Release Frequency: Quarterly

### **DELISTED NPL: National Priority List Deletions**

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/30/2008	Source: EPA
Date Data Arrived at EDR: 05/06/2008	Telephone: N/A
Date Made Active in Reports: 06/09/2008	Last EDR Contact: 04/28/2008
Number of Days to Update: 34	Next Scheduled EDR Contact: 07/28/2008
	Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## **NPL LIENS:** Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 05/19/2008
Number of Days to Update: 56	Next Scheduled EDR Contact: 08/18/2008
	Data Release Frequency: No Update Planned

## **CERCLIS:** Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/08/2008	Source: EPA
Date Data Arrived at EDR: 04/25/2008	Telephone: 703-412-9810
Date Made Active in Reports: 05/21/2008	Last EDR Contact: 06/17/2008
Number of Days to Update: 26	Next Scheduled EDR Contact: 09/15/2008
	Data Release Frequency: Quarterly

## **CERCLIS-NFRAP:** CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/03/2007	Source: EPA
Date Data Arrived at EDR: 12/06/2007	Telephone: 703-412-9810
Date Made Active in Reports: 02/20/2008	Last EDR Contact: 06/17/2008
Number of Days to Update: 76	Next Scheduled EDR Contact: 09/15/2008
	Data Release Frequency: Quarterly

## **LIENS 2:** CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/08/2008	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/07/2008	Telephone: 202-564-6023
Date Made Active in Reports: 03/20/2008	Last EDR Contact: 05/19/2008
Number of Days to Update: 13	Next Scheduled EDR Contact: 08/18/2008
	Data Release Frequency: Varies

## **CORRACTS:** Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/26/2008	Source: EPA
Date Data Arrived at EDR: 04/02/2008	Telephone: 800-424-9346
Date Made Active in Reports: 05/06/2008	Last EDR Contact: 06/02/2008
Number of Days to Update: 34	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: Quarterly

## **RCRA-TSDF:** RCRA - Transporters, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/06/2008  
Date Data Arrived at EDR: 03/06/2008  
Date Made Active in Reports: 04/18/2008  
Number of Days to Update: 43

Source: Environmental Protection Agency  
Telephone: (415) 495-8895  
Last EDR Contact: 05/21/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Quarterly

## **RCRA-LQG:** RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/06/2008  
Date Data Arrived at EDR: 03/06/2008  
Date Made Active in Reports: 04/18/2008  
Number of Days to Update: 43

Source: Environmental Protection Agency  
Telephone: (415) 495-8895  
Last EDR Contact: 05/21/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Quarterly

## **RCRA-SQG:** RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/06/2008  
Date Data Arrived at EDR: 03/06/2008  
Date Made Active in Reports: 04/18/2008  
Number of Days to Update: 43

Source: Environmental Protection Agency  
Telephone: (415) 495-8895  
Last EDR Contact: 05/21/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Quarterly

## **RCRA-CESQG:** RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/06/2008  
Date Data Arrived at EDR: 03/06/2008  
Date Made Active in Reports: 04/18/2008  
Number of Days to Update: 43

Source: Environmental Protection Agency  
Telephone: (415) 495-8895  
Last EDR Contact: 05/21/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Varies

## **RCRA-NonGen:** RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/06/2008  
Date Data Arrived at EDR: 03/06/2008  
Date Made Active in Reports: 04/18/2008  
Number of Days to Update: 43

Source: Environmental Protection Agency  
Telephone: (415) 495-8895  
Last EDR Contact: 05/21/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## **US ENG CONTROLS:** Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 04/04/2008	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/17/2008	Telephone: 703-603-0695
Date Made Active in Reports: 05/15/2008	Last EDR Contact: 06/30/2008
Number of Days to Update: 28	Next Scheduled EDR Contact: 09/29/2008
	Data Release Frequency: Varies

## **US INST CONTROL:** Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 04/04/2008	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/17/2008	Telephone: 703-603-0695
Date Made Active in Reports: 05/15/2008	Last EDR Contact: 06/30/2008
Number of Days to Update: 28	Next Scheduled EDR Contact: 09/29/2008
	Data Release Frequency: Varies

## **ERNS:** Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2007	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 01/23/2008	Telephone: 202-267-2180
Date Made Active in Reports: 03/17/2008	Last EDR Contact: 04/22/2008
Number of Days to Update: 54	Next Scheduled EDR Contact: 07/21/2008
	Data Release Frequency: Annually

## **HMIRS:** Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2007	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 04/16/2008	Telephone: 202-366-4555
Date Made Active in Reports: 05/15/2008	Last EDR Contact: 04/16/2008
Number of Days to Update: 29	Next Scheduled EDR Contact: 07/14/2008
	Data Release Frequency: Annually

## **DOT OPS:** Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 02/14/2008	Source: Department of Transportation, Office of Pipeline Safety
Date Data Arrived at EDR: 02/27/2008	Telephone: 202-366-4595
Date Made Active in Reports: 03/20/2008	Last EDR Contact: 05/28/2008
Number of Days to Update: 22	Next Scheduled EDR Contact: 08/25/2008
	Data Release Frequency: Varies

## **CDL:** Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/01/2007  
Date Data Arrived at EDR: 12/03/2007  
Date Made Active in Reports: 12/28/2007  
Number of Days to Update: 25

Source: Drug Enforcement Administration  
Telephone: 202-307-1000  
Last EDR Contact: 06/27/2008  
Next Scheduled EDR Contact: 09/22/2008  
Data Release Frequency: Quarterly

## **US BROWNFIELDS:** A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 04/01/2008  
Date Data Arrived at EDR: 04/30/2008  
Date Made Active in Reports: 05/30/2008  
Number of Days to Update: 30

Source: Environmental Protection Agency  
Telephone: 202-566-2777  
Last EDR Contact: 04/30/2008  
Next Scheduled EDR Contact: 07/14/2008  
Data Release Frequency: Semi-Annually

## **DOD:** Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005  
Date Data Arrived at EDR: 11/10/2006  
Date Made Active in Reports: 01/11/2007  
Number of Days to Update: 62

Source: USGS  
Telephone: 703-692-8801  
Last EDR Contact: 05/09/2008  
Next Scheduled EDR Contact: 08/04/2008  
Data Release Frequency: Semi-Annually

## **FUDS:** Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2006  
Date Data Arrived at EDR: 08/31/2007  
Date Made Active in Reports: 10/11/2007  
Number of Days to Update: 41

Source: U.S. Army Corps of Engineers  
Telephone: 202-528-4285  
Last EDR Contact: 06/30/2008  
Next Scheduled EDR Contact: 09/29/2008  
Data Release Frequency: Varies

## **LUCIS:** Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005  
Date Data Arrived at EDR: 12/11/2006  
Date Made Active in Reports: 01/11/2007  
Number of Days to Update: 31

Source: Department of the Navy  
Telephone: 843-820-7326  
Last EDR Contact: 06/09/2008  
Next Scheduled EDR Contact: 09/08/2008  
Data Release Frequency: Varies

## **CONSENT:** Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 02/08/2008  
Date Data Arrived at EDR: 04/25/2008  
Date Made Active in Reports: 05/30/2008  
Number of Days to Update: 35

Source: Department of Justice, Consent Decree Library  
Telephone: Varies  
Last EDR Contact: 04/22/2008  
Next Scheduled EDR Contact: 07/21/2008  
Data Release Frequency: Varies

## **ROD:** Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/14/2008  
Date Data Arrived at EDR: 01/22/2008  
Date Made Active in Reports: 01/30/2008  
Number of Days to Update: 8

Source: EPA  
Telephone: 703-416-0223  
Last EDR Contact: 06/30/2008  
Next Scheduled EDR Contact: 09/29/2008  
Data Release Frequency: Annually

## **UMTRA:** Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 07/13/2007  
Date Data Arrived at EDR: 12/03/2007  
Date Made Active in Reports: 01/24/2008  
Number of Days to Update: 52

Source: Department of Energy  
Telephone: 505-845-0011  
Last EDR Contact: 06/16/2008  
Next Scheduled EDR Contact: 09/15/2008  
Data Release Frequency: Varies

## **ODI:** Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985  
Date Data Arrived at EDR: 08/09/2004  
Date Made Active in Reports: 09/17/2004  
Number of Days to Update: 39

Source: Environmental Protection Agency  
Telephone: 800-424-9346  
Last EDR Contact: 06/09/2004  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## **DEBRIS REGION 9:** Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 03/25/2008  
Date Data Arrived at EDR: 04/17/2008  
Date Made Active in Reports: 05/15/2008  
Number of Days to Update: 28

Source: EPA, Region 9  
Telephone: 415-972-3336  
Last EDR Contact: 06/23/2008  
Next Scheduled EDR Contact: 09/22/2008  
Data Release Frequency: Varies

## **MINES:** Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/07/2008  
Date Data Arrived at EDR: 03/26/2008  
Date Made Active in Reports: 04/18/2008  
Number of Days to Update: 23

Source: Department of Labor, Mine Safety and Health Administration  
Telephone: 303-231-5959  
Last EDR Contact: 06/25/2008  
Next Scheduled EDR Contact: 09/22/2008  
Data Release Frequency: Semi-Annually

## **TRIS:** Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2006  
Date Data Arrived at EDR: 02/29/2008  
Date Made Active in Reports: 04/18/2008  
Number of Days to Update: 49

Source: EPA  
Telephone: 202-566-0250  
Last EDR Contact: 06/16/2008  
Next Scheduled EDR Contact: 09/15/2008  
Data Release Frequency: Annually

## **TSCA: Toxic Substances Control Act**

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002  
Date Data Arrived at EDR: 04/14/2006  
Date Made Active in Reports: 05/30/2006  
Number of Days to Update: 46

Source: EPA  
Telephone: 202-260-5521  
Last EDR Contact: 04/28/2008  
Next Scheduled EDR Contact: 07/14/2008  
Data Release Frequency: Every 4 Years

**FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)**  
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/11/2008  
Date Data Arrived at EDR: 04/24/2008  
Date Made Active in Reports: 05/21/2008  
Number of Days to Update: 27

Source: EPA/Office of Prevention, Pesticides and Toxic Substances  
Telephone: 202-566-1667  
Last EDR Contact: 06/16/2008  
Next Scheduled EDR Contact: 09/15/2008  
Data Release Frequency: Quarterly

**FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)**  
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/11/2008  
Date Data Arrived at EDR: 04/24/2008  
Date Made Active in Reports: 05/21/2008  
Number of Days to Update: 27

Source: EPA  
Telephone: 202-566-1667  
Last EDR Contact: 06/16/2008  
Next Scheduled EDR Contact: 09/15/2008  
Data Release Frequency: Quarterly

## **HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing**

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006  
Date Data Arrived at EDR: 03/01/2007  
Date Made Active in Reports: 04/10/2007  
Number of Days to Update: 40

Source: Environmental Protection Agency  
Telephone: 202-564-2501  
Last EDR Contact: 12/17/2007  
Next Scheduled EDR Contact: 03/17/2008  
Data Release Frequency: No Update Planned

## **HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing**

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006  
Date Data Arrived at EDR: 03/01/2007  
Date Made Active in Reports: 04/10/2007  
Number of Days to Update: 40

Source: Environmental Protection Agency  
Telephone: 202-564-2501  
Last EDR Contact: 12/17/2008  
Next Scheduled EDR Contact: 03/17/2008  
Data Release Frequency: No Update Planned

## **SSTS:** Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2006  
Date Data Arrived at EDR: 03/14/2008  
Date Made Active in Reports: 04/18/2008  
Number of Days to Update: 35

Source: EPA  
Telephone: 202-564-4203  
Last EDR Contact: 04/14/2008  
Next Scheduled EDR Contact: 07/14/2008  
Data Release Frequency: Annually

## **ICIS:** Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 02/28/2008  
Date Data Arrived at EDR: 03/18/2008  
Date Made Active in Reports: 05/06/2008  
Number of Days to Update: 49

Source: Environmental Protection Agency  
Telephone: 202-564-5088  
Last EDR Contact: 04/14/2008  
Next Scheduled EDR Contact: 07/14/2008  
Data Release Frequency: Quarterly

## **PADS:** PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 12/04/2007  
Date Data Arrived at EDR: 02/07/2008  
Date Made Active in Reports: 03/17/2008  
Number of Days to Update: 39

Source: EPA  
Telephone: 202-566-0500  
Last EDR Contact: 06/20/2008  
Next Scheduled EDR Contact: 08/04/2008  
Data Release Frequency: Annually

## **MLTS:** Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/22/2008  
Date Data Arrived at EDR: 05/06/2008  
Date Made Active in Reports: 06/09/2008  
Number of Days to Update: 34

Source: Nuclear Regulatory Commission  
Telephone: 301-415-7169  
Last EDR Contact: 06/30/2008  
Next Scheduled EDR Contact: 09/29/2008  
Data Release Frequency: Quarterly

## **RADINFO:** Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/29/2008  
Date Data Arrived at EDR: 05/01/2008  
Date Made Active in Reports: 05/21/2008  
Number of Days to Update: 20

Source: Environmental Protection Agency  
Telephone: 202-343-9775  
Last EDR Contact: 05/01/2008  
Next Scheduled EDR Contact: 07/28/2008  
Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## **FINDS:** Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/03/2008	Source: EPA
Date Data Arrived at EDR: 04/08/2008	Telephone: (415) 947-8000
Date Made Active in Reports: 05/06/2008	Last EDR Contact: 06/30/2008
Number of Days to Update: 28	Next Scheduled EDR Contact: 09/29/2008
	Data Release Frequency: Quarterly

## **RAATS:** RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

## **BRS:** Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2005	Source: EPA/NTIS
Date Data Arrived at EDR: 03/06/2007	Telephone: 800-424-9346
Date Made Active in Reports: 04/13/2007	Last EDR Contact: 06/11/2008
Number of Days to Update: 38	Next Scheduled EDR Contact: 09/08/2008
	Data Release Frequency: Biennially

## **STATE AND LOCAL RECORDS**

### **HIST CAL-SITES:** Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005	Source: Department of Toxic Substance Control
Date Data Arrived at EDR: 08/03/2006	Telephone: 916-323-3400
Date Made Active in Reports: 08/24/2006	Last EDR Contact: 05/27/2008
Number of Days to Update: 21	Next Scheduled EDR Contact: 08/25/2008
	Data Release Frequency: No Update Planned

### **CA BOND EXP. PLAN:** Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989	Source: Department of Health Services
Date Data Arrived at EDR: 07/27/1994	Telephone: 916-255-2118
Date Made Active in Reports: 08/02/1994	Last EDR Contact: 05/31/1994
Number of Days to Update: 6	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## **SCH:** School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 05/27/2008	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 05/28/2008	Telephone: 916-323-3400
Date Made Active in Reports: 06/20/2008	Last EDR Contact: 05/28/2008
Number of Days to Update: 23	Next Scheduled EDR Contact: 08/25/2008
	Data Release Frequency: Quarterly

## **TOXIC PITS:** Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995	Source: State Water Resources Control Board
Date Data Arrived at EDR: 08/30/1995	Telephone: 916-227-4364
Date Made Active in Reports: 09/26/1995	Last EDR Contact: 04/28/2008
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/28/2008
	Data Release Frequency: No Update Planned

## **SWF/LF (SWIS):** Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 06/09/2008	Source: Integrated Waste Management Board
Date Data Arrived at EDR: 06/11/2008	Telephone: 916-341-6320
Date Made Active in Reports: 06/20/2008	Last EDR Contact: 06/11/2008
Number of Days to Update: 9	Next Scheduled EDR Contact: 09/08/2008
	Data Release Frequency: Quarterly

## **WMUDS/SWAT:** Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000	Source: State Water Resources Control Board
Date Data Arrived at EDR: 04/10/2000	Telephone: 916-227-4448
Date Made Active in Reports: 05/10/2000	Last EDR Contact: 06/02/2008
Number of Days to Update: 30	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: Quarterly

## **CA WDS:** Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007	Source: State Water Resources Control Board
Date Data Arrived at EDR: 06/20/2007	Telephone: 916-341-5227
Date Made Active in Reports: 06/29/2007	Last EDR Contact: 06/16/2008
Number of Days to Update: 9	Next Scheduled EDR Contact: 09/15/2008
	Data Release Frequency: Quarterly

## **CORTESE:** "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/01/2001  
Date Data Arrived at EDR: 05/29/2001  
Date Made Active in Reports: 07/26/2001  
Number of Days to Update: 58

Source: CAL EPA/Office of Emergency Information  
Telephone: 916-323-3400  
Last EDR Contact: 04/21/2008  
Next Scheduled EDR Contact: 07/21/2008  
Data Release Frequency: No Update Planned

## **SWRCY:** Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 04/07/2008  
Date Data Arrived at EDR: 04/09/2008  
Date Made Active in Reports: 05/06/2008  
Number of Days to Update: 27

Source: Department of Conservation  
Telephone: 916-323-3836  
Last EDR Contact: 04/09/2008  
Next Scheduled EDR Contact: 07/07/2008  
Data Release Frequency: Quarterly

## **LUST REG 9:** Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001  
Date Data Arrived at EDR: 04/23/2001  
Date Made Active in Reports: 05/21/2001  
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)  
Telephone: 858-637-5595  
Last EDR Contact: 04/14/2008  
Next Scheduled EDR Contact: 07/14/2008  
Data Release Frequency: No Update Planned

## **LUST REG 8:** Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005  
Date Data Arrived at EDR: 02/15/2005  
Date Made Active in Reports: 03/28/2005  
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)  
Telephone: 909-782-4496  
Last EDR Contact: 05/05/2008  
Next Scheduled EDR Contact: 08/04/2008  
Data Release Frequency: Varies

## **LUST REG 6V:** Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005  
Date Data Arrived at EDR: 06/07/2005  
Date Made Active in Reports: 06/29/2005  
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)  
Telephone: 760-241-7365  
Last EDR Contact: 06/30/2008  
Next Scheduled EDR Contact: 09/29/2008  
Data Release Frequency: No Update Planned

## **LUST REG 6L:** Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003  
Date Data Arrived at EDR: 09/10/2003  
Date Made Active in Reports: 10/07/2003  
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)  
Telephone: 530-542-5572  
Last EDR Contact: 06/02/2008  
Next Scheduled EDR Contact: 09/01/2008  
Data Release Frequency: No Update Planned

## **LUST REG 5:** Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 04/01/2008  
Date Data Arrived at EDR: 04/23/2008  
Date Made Active in Reports: 05/06/2008  
Number of Days to Update: 13

Source: California Regional Water Quality Control Board Central Valley Region (5)  
Telephone: 916-464-4834  
Last EDR Contact: 07/03/2008  
Next Scheduled EDR Contact: 09/29/2008  
Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## **LUST REG 4:** Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004  
Date Data Arrived at EDR: 09/07/2004  
Date Made Active in Reports: 10/12/2004  
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)  
Telephone: 213-576-6710  
Last EDR Contact: 06/23/2008  
Next Scheduled EDR Contact: 09/22/2008  
Data Release Frequency: No Update Planned

## **LUST REG 3:** Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003  
Date Data Arrived at EDR: 05/19/2003  
Date Made Active in Reports: 06/02/2003  
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)  
Telephone: 805-542-4786  
Last EDR Contact: 05/12/2008  
Next Scheduled EDR Contact: 08/11/2008  
Data Release Frequency: No Update Planned

## **LUST REG 2:** Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004  
Date Data Arrived at EDR: 10/20/2004  
Date Made Active in Reports: 11/19/2004  
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)  
Telephone: 510-622-2433  
Last EDR Contact: 07/09/2008  
Next Scheduled EDR Contact: 10/06/2008  
Data Release Frequency: Quarterly

## **LUST REG 1:** Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001  
Date Data Arrived at EDR: 02/28/2001  
Date Made Active in Reports: 03/29/2001  
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)  
Telephone: 707-570-3769  
Last EDR Contact: 05/19/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: No Update Planned

## **LUST:** Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 04/08/2008  
Date Data Arrived at EDR: 04/09/2008  
Date Made Active in Reports: 05/06/2008  
Number of Days to Update: 27

Source: State Water Resources Control Board  
Telephone: see region list  
Last EDR Contact: 04/09/2008  
Next Scheduled EDR Contact: 07/07/2008  
Data Release Frequency: Quarterly

## **LUST REG 7:** Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004  
Date Data Arrived at EDR: 02/26/2004  
Date Made Active in Reports: 03/24/2004  
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)  
Telephone: 760-776-8943  
Last EDR Contact: 05/19/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 09/05/1995	Telephone: 916-341-5851
Date Made Active in Reports: 09/29/1995	Last EDR Contact: 12/28/1998
Number of Days to Update: 24	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

## SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/08/2008	Source: State Water Resources Control Board
Date Data Arrived at EDR: 04/09/2008	Telephone: 866-480-1028
Date Made Active in Reports: 05/06/2008	Last EDR Contact: 01/09/2008
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/07/2008
	Data Release Frequency: Varies

## SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003	Source: California Regional Water Quality Control Board, North Coast Region (1)
Date Data Arrived at EDR: 04/07/2003	Telephone: 707-576-2220
Date Made Active in Reports: 04/25/2003	Last EDR Contact: 05/19/2008
Number of Days to Update: 18	Next Scheduled EDR Contact: 08/18/2008
	Data Release Frequency: No Update Planned

## SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004	Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Date Data Arrived at EDR: 10/20/2004	Telephone: 510-286-0457
Date Made Active in Reports: 11/19/2004	Last EDR Contact: 07/09/2008
Number of Days to Update: 30	Next Scheduled EDR Contact: 10/06/2008
	Data Release Frequency: Quarterly

## SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006	Source: California Regional Water Quality Control Board Central Coast Region (3)
Date Data Arrived at EDR: 05/18/2006	Telephone: 805-549-3147
Date Made Active in Reports: 06/15/2006	Last EDR Contact: 05/12/2008
Number of Days to Update: 28	Next Scheduled EDR Contact: 08/11/2008
	Data Release Frequency: Semi-Annually

## SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004	Source: Region Water Quality Control Board Los Angeles Region (4)
Date Data Arrived at EDR: 11/18/2004	Telephone: 213-576-6600
Date Made Active in Reports: 01/04/2005	Last EDR Contact: 04/21/2008
Number of Days to Update: 47	Next Scheduled EDR Contact: 07/21/2008
	Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### **SLIC REG 5:** Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005  
Date Data Arrived at EDR: 04/05/2005  
Date Made Active in Reports: 04/21/2005  
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)  
Telephone: 916-464-3291  
Last EDR Contact: 06/30/2008  
Next Scheduled EDR Contact: 09/29/2008  
Data Release Frequency: Semi-Annually

### **SLIC REG 6V:** Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005  
Date Data Arrived at EDR: 05/25/2005  
Date Made Active in Reports: 06/16/2005  
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch  
Telephone: 619-241-6583  
Last EDR Contact: 06/30/2008  
Next Scheduled EDR Contact: 09/29/2008  
Data Release Frequency: Semi-Annually

### **SLIC REG 6L:** SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004  
Date Data Arrived at EDR: 09/07/2004  
Date Made Active in Reports: 10/12/2004  
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region  
Telephone: 530-542-5574  
Last EDR Contact: 06/02/2008  
Next Scheduled EDR Contact: 09/01/2008  
Data Release Frequency: No Update Planned

### **SLIC REG 7:** SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004  
Date Data Arrived at EDR: 11/29/2004  
Date Made Active in Reports: 01/04/2005  
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region  
Telephone: 760-346-7491  
Last EDR Contact: 05/19/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: No Update Planned

### **SLIC REG 8:** Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008  
Date Data Arrived at EDR: 04/03/2008  
Date Made Active in Reports: 04/14/2008  
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)  
Telephone: 951-782-3298  
Last EDR Contact: 06/30/2008  
Next Scheduled EDR Contact: 09/29/2008  
Data Release Frequency: Semi-Annually

### **SLIC REG 9:** Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007  
Date Data Arrived at EDR: 09/11/2007  
Date Made Active in Reports: 09/28/2007  
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)  
Telephone: 858-467-2980  
Last EDR Contact: 05/27/2008  
Next Scheduled EDR Contact: 08/25/2008  
Data Release Frequency: Annually

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## **UST:** Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 04/08/2008	Source: SWRCB
Date Data Arrived at EDR: 04/09/2008	Telephone: 916-480-1028
Date Made Active in Reports: 05/01/2008	Last EDR Contact: 04/09/2008
Number of Days to Update: 22	Next Scheduled EDR Contact: 07/07/2008
	Data Release Frequency: Semi-Annually

## **UST MENDOCINO:** Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 06/23/2008	Source: Department of Public Health
Date Data Arrived at EDR: 06/23/2008	Telephone: 707-463-4466
Date Made Active in Reports: 07/02/2008	Last EDR Contact: 06/23/2008
Number of Days to Update: 9	Next Scheduled EDR Contact: 09/22/2008
	Data Release Frequency: Varies

## **HIST UST:** Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990	Source: State Water Resources Control Board
Date Data Arrived at EDR: 01/25/1991	Telephone: 916-341-5851
Date Made Active in Reports: 02/12/1991	Last EDR Contact: 07/26/2001
Number of Days to Update: 18	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

## **AST:** Aboveground Petroleum Storage Tank Facilities

Registered Aboveground Storage Tanks.

Date of Government Version: 11/01/2007	Source: State Water Resources Control Board
Date Data Arrived at EDR: 11/27/2007	Telephone: 916-341-5712
Date Made Active in Reports: 02/14/2008	Last EDR Contact: 04/28/2008
Number of Days to Update: 79	Next Scheduled EDR Contact: 07/28/2008
	Data Release Frequency: Quarterly

## **LIENS:** Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 05/05/2008	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 05/06/2008	Telephone: 916-323-3400
Date Made Active in Reports: 06/20/2008	Last EDR Contact: 05/05/2008
Number of Days to Update: 45	Next Scheduled EDR Contact: 08/04/2008
	Data Release Frequency: Varies

## **SWEEPS UST:** SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994	Source: State Water Resources Control Board
Date Data Arrived at EDR: 07/07/2005	Telephone: N/A
Date Made Active in Reports: 08/11/2005	Last EDR Contact: 06/03/2005
Number of Days to Update: 35	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

## **CHMIRS:** California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2007  
Date Data Arrived at EDR: 05/09/2008  
Date Made Active in Reports: 06/20/2008  
Number of Days to Update: 42

Source: Office of Emergency Services  
Telephone: 916-845-8400  
Last EDR Contact: 05/02/2008  
Next Scheduled EDR Contact: 05/19/2008  
Data Release Frequency: Varies

### **NOTIFY 65:** Proposition 65 Records

Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.

Date of Government Version: 10/21/1993  
Date Data Arrived at EDR: 11/01/1993  
Date Made Active in Reports: 11/19/1993  
Number of Days to Update: 18

Source: State Water Resources Control Board  
Telephone: 916-445-3846  
Last EDR Contact: 04/14/2008  
Next Scheduled EDR Contact: 07/14/2008  
Data Release Frequency: No Update Planned

### **DEED:** Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 04/01/2008  
Date Data Arrived at EDR: 04/02/2008  
Date Made Active in Reports: 04/14/2008  
Number of Days to Update: 12

Source: Department of Toxic Substances Control  
Telephone: 916-323-3400  
Last EDR Contact: 06/30/2008  
Next Scheduled EDR Contact: 09/29/2008  
Data Release Frequency: Semi-Annually

### **VCP:** Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 05/27/2008  
Date Data Arrived at EDR: 05/28/2008  
Date Made Active in Reports: 06/20/2008  
Number of Days to Update: 23

Source: Department of Toxic Substances Control  
Telephone: 916-323-3400  
Last EDR Contact: 05/28/2008  
Next Scheduled EDR Contact: 08/25/2008  
Data Release Frequency: Quarterly

### **DRYCLEANERS:** Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 07/31/2007  
Date Data Arrived at EDR: 07/31/2007  
Date Made Active in Reports: 08/09/2007  
Number of Days to Update: 9

Source: Department of Toxic Substance Control  
Telephone: 916-327-4498  
Last EDR Contact: 07/03/2008  
Next Scheduled EDR Contact: 08/11/2008  
Data Release Frequency: Annually

### **WIP:** Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 02/26/2008  
Date Data Arrived at EDR: 04/23/2008  
Date Made Active in Reports: 05/06/2008  
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board  
Telephone: 213-576-6726  
Last EDR Contact: 04/23/2008  
Next Scheduled EDR Contact: 07/21/2008  
Data Release Frequency: Varies

## **CDL:** Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2007  
Date Data Arrived at EDR: 04/22/2008  
Date Made Active in Reports: 05/06/2008  
Number of Days to Update: 14

Source: Department of Toxic Substances Control  
Telephone: 916-255-6504  
Last EDR Contact: 04/21/2008  
Next Scheduled EDR Contact: 07/21/2008  
Data Release Frequency: Varies

## **RESPONSE:** State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 05/27/2008  
Date Data Arrived at EDR: 05/28/2008  
Date Made Active in Reports: 06/20/2008  
Number of Days to Update: 23

Source: Department of Toxic Substances Control  
Telephone: 916-323-3400  
Last EDR Contact: 05/28/2008  
Next Scheduled EDR Contact: 08/25/2008  
Data Release Frequency: Quarterly

## **HAZNET:** Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2006  
Date Data Arrived at EDR: 10/04/2007  
Date Made Active in Reports: 11/07/2007  
Number of Days to Update: 34

Source: California Environmental Protection Agency  
Telephone: 916-255-1136  
Last EDR Contact: 05/09/2008  
Next Scheduled EDR Contact: 08/04/2008  
Data Release Frequency: Annually

## **EMI:** Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2005  
Date Data Arrived at EDR: 04/17/2007  
Date Made Active in Reports: 05/10/2007  
Number of Days to Update: 23

Source: California Air Resources Board  
Telephone: 916-322-2990  
Last EDR Contact: 04/18/2008  
Next Scheduled EDR Contact: 07/14/2008  
Data Release Frequency: Varies

## **HAULERS:** Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 04/28/2008  
Date Data Arrived at EDR: 04/29/2008  
Date Made Active in Reports: 05/06/2008  
Number of Days to Update: 7

Source: Integrated Waste Management Board  
Telephone: 916-341-6422  
Last EDR Contact: 06/30/2008  
Next Scheduled EDR Contact: 09/08/2008  
Data Release Frequency: Varies

## **ENVIROSTOR:** EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/27/2008  
Date Data Arrived at EDR: 05/28/2008  
Date Made Active in Reports: 06/20/2008  
Number of Days to Update: 23

Source: Department of Toxic Substances Control  
Telephone: 916-323-3400  
Last EDR Contact: 05/28/2008  
Next Scheduled EDR Contact: 08/25/2008  
Data Release Frequency: Quarterly

## TRIBAL RECORDS

### **INDIAN RESERV:** Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005  
Date Data Arrived at EDR: 12/08/2006  
Date Made Active in Reports: 01/11/2007  
Number of Days to Update: 34

Source: USGS  
Telephone: 202-208-3710  
Last EDR Contact: 05/09/2008  
Next Scheduled EDR Contact: 08/04/2008  
Data Release Frequency: Semi-Annually

### **INDIAN ODI:** Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998  
Date Data Arrived at EDR: 12/03/2007  
Date Made Active in Reports: 01/24/2008  
Number of Days to Update: 52

Source: Environmental Protection Agency  
Telephone: 703-308-8245  
Last EDR Contact: 05/27/2008  
Next Scheduled EDR Contact: 08/25/2008  
Data Release Frequency: Varies

### **INDIAN LUST R10:** Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/21/2008  
Date Data Arrived at EDR: 02/26/2008  
Date Made Active in Reports: 03/20/2008  
Number of Days to Update: 23

Source: EPA Region 10  
Telephone: 206-553-2857  
Last EDR Contact: 05/19/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Quarterly

### **INDIAN LUST R6:** Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 02/28/2008  
Date Data Arrived at EDR: 02/29/2008  
Date Made Active in Reports: 03/17/2008  
Number of Days to Update: 17

Source: EPA Region 6  
Telephone: 214-665-6597  
Last EDR Contact: 05/19/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Varies

### **INDIAN LUST R9:** Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 02/25/2008  
Date Data Arrived at EDR: 02/26/2008  
Date Made Active in Reports: 03/17/2008  
Number of Days to Update: 20

Source: Environmental Protection Agency  
Telephone: 415-972-3372  
Last EDR Contact: 05/19/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Quarterly

### **INDIAN LUST R8:** Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 02/20/2008  
Date Data Arrived at EDR: 03/04/2008  
Date Made Active in Reports: 03/17/2008  
Number of Days to Update: 13

Source: EPA Region 8  
Telephone: 303-312-6271  
Last EDR Contact: 05/19/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

**INDIAN LUST R7:** Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/17/2008	Source: EPA Region 7
Date Data Arrived at EDR: 03/27/2008	Telephone: 913-551-7003
Date Made Active in Reports: 05/06/2008	Last EDR Contact: 05/19/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 08/18/2008
	Data Release Frequency: Varies

**INDIAN LUST R4:** Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 03/17/2008	Source: EPA Region 4
Date Data Arrived at EDR: 03/27/2008	Telephone: 404-562-8677
Date Made Active in Reports: 05/06/2008	Last EDR Contact: 05/19/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 08/18/2008
	Data Release Frequency: Semi-Annually

**INDIAN LUST R1:** Leaking Underground Storage Tanks on Indian Land  
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 03/12/2008	Source: EPA Region 1
Date Data Arrived at EDR: 03/14/2008	Telephone: 617-918-1313
Date Made Active in Reports: 03/20/2008	Last EDR Contact: 05/19/2008
Number of Days to Update: 6	Next Scheduled EDR Contact: 08/18/2008
	Data Release Frequency: Varies

**INDIAN UST R1:** Underground Storage Tanks on Indian Land  
A listing of underground storage tank locations on Indian Land.

Date of Government Version: 03/12/2008	Source: EPA, Region 1
Date Data Arrived at EDR: 03/14/2008	Telephone: 617-918-1313
Date Made Active in Reports: 03/20/2008	Last EDR Contact: 05/19/2008
Number of Days to Update: 6	Next Scheduled EDR Contact: 08/18/2008
	Data Release Frequency: Varies

**INDIAN UST R4:** Underground Storage Tanks on Indian Land  
No description is available for this data

Date of Government Version: 03/17/2008	Source: EPA Region 4
Date Data Arrived at EDR: 03/27/2008	Telephone: 404-562-9424
Date Made Active in Reports: 05/06/2008	Last EDR Contact: 05/19/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 08/18/2008
	Data Release Frequency: Semi-Annually

**INDIAN UST R10:** Underground Storage Tanks on Indian Land  
No description is available for this data

Date of Government Version: 02/21/2008	Source: EPA Region 10
Date Data Arrived at EDR: 02/26/2008	Telephone: 206-553-2857
Date Made Active in Reports: 03/20/2008	Last EDR Contact: 05/19/2008
Number of Days to Update: 23	Next Scheduled EDR Contact: 08/18/2008
	Data Release Frequency: Quarterly

**INDIAN UST R8:** Underground Storage Tanks on Indian Land  
No description is available for this data

Date of Government Version: 02/20/2008	Source: EPA Region 8
Date Data Arrived at EDR: 03/04/2008	Telephone: 303-312-6137
Date Made Active in Reports: 03/17/2008	Last EDR Contact: 05/19/2008
Number of Days to Update: 13	Next Scheduled EDR Contact: 08/18/2008
	Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## **INDIAN UST R6:** Underground Storage Tanks on Indian Land

No description is available for this data

Date of Government Version: 02/28/2008  
Date Data Arrived at EDR: 02/29/2008  
Date Made Active in Reports: 03/17/2008  
Number of Days to Update: 17

Source: EPA Region 6  
Telephone: 214-665-7591  
Last EDR Contact: 05/19/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Semi-Annually

## **INDIAN UST R5:** Underground Storage Tanks on Indian Land

No description is available for this data

Date of Government Version: 12/21/2007  
Date Data Arrived at EDR: 12/21/2007  
Date Made Active in Reports: 01/24/2008  
Number of Days to Update: 34

Source: EPA Region 5  
Telephone: 312-886-6136  
Last EDR Contact: 05/19/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Varies

## **INDIAN UST R9:** Underground Storage Tanks on Indian Land

No description is available for this data

Date of Government Version: 02/25/2008  
Date Data Arrived at EDR: 02/26/2008  
Date Made Active in Reports: 03/20/2008  
Number of Days to Update: 23

Source: EPA Region 9  
Telephone: 415-972-3368  
Last EDR Contact: 05/19/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Quarterly

## **INDIAN UST R7:** Underground Storage Tanks on Indian Land

No description is available for this data

Date of Government Version: 06/01/2007  
Date Data Arrived at EDR: 06/14/2007  
Date Made Active in Reports: 07/05/2007  
Number of Days to Update: 21

Source: EPA Region 7  
Telephone: 913-551-7003  
Last EDR Contact: 05/19/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Varies

## **INDIAN VCP R1:** Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008  
Date Data Arrived at EDR: 04/22/2008  
Date Made Active in Reports: 05/19/2008  
Number of Days to Update: 27

Source: EPA, Region 1  
Telephone: 617-918-1102  
Last EDR Contact: 03/07/2008  
Next Scheduled EDR Contact: 07/21/2008  
Data Release Frequency: Varies

## **INDIAN VCP R7:** Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008  
Date Data Arrived at EDR: 04/22/2008  
Date Made Active in Reports: 05/19/2008  
Number of Days to Update: 27

Source: EPA, Region 7  
Telephone: 913-551-7365  
Last EDR Contact: 03/07/2008  
Next Scheduled EDR Contact: 07/21/2008  
Data Release Frequency: Varies

## **EDR PROPRIETARY RECORDS**

### **Manufactured Gas Plants:** EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## **EDR Historical Auto Stations:** EDR Proprietary Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

## **EDR Historical Cleaners:** EDR Proprietary Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

## **COUNTY RECORDS**

### **ALAMEDA COUNTY:**

#### **Contaminated Sites**

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/28/2008  
Date Data Arrived at EDR: 01/29/2008  
Date Made Active in Reports: 02/14/2008  
Number of Days to Update: 16

Source: Alameda County Environmental Health Services  
Telephone: 510-567-6700  
Last EDR Contact: 05/05/2008  
Next Scheduled EDR Contact: 07/21/2008  
Data Release Frequency: Semi-Annually

#### **Underground Tanks**

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/28/2008  
Date Data Arrived at EDR: 01/29/2008  
Date Made Active in Reports: 02/08/2008  
Number of Days to Update: 10

Source: Alameda County Environmental Health Services  
Telephone: 510-567-6700  
Last EDR Contact: 05/05/2008  
Next Scheduled EDR Contact: 07/21/2008  
Data Release Frequency: Semi-Annually

### **CONTRA COSTA COUNTY:**

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 06/03/2008	Source: Contra Costa Health Services Department
Date Data Arrived at EDR: 06/05/2008	Telephone: 925-646-2286
Date Made Active in Reports: 06/20/2008	Last EDR Contact: 05/27/2008
Number of Days to Update: 15	Next Scheduled EDR Contact: 08/25/2008
	Data Release Frequency: Semi-Annually

## FRESNO COUNTY:

### CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 03/31/2008	Source: Dept. of Community Health
Date Data Arrived at EDR: 04/18/2008	Telephone: 559-445-3271
Date Made Active in Reports: 05/06/2008	Last EDR Contact: 04/18/2008
Number of Days to Update: 18	Next Scheduled EDR Contact: 07/14/2008
	Data Release Frequency: Semi-Annually

## KERN COUNTY:

### Underground Storage Tank Sites & Tank Listing

Kern County Sites and Tanks Listing.

Date of Government Version: 06/02/2008	Source: Kern County Environment Health Services Department
Date Data Arrived at EDR: 06/03/2008	Telephone: 661-862-8700
Date Made Active in Reports: 07/02/2008	Last EDR Contact: 06/02/2008
Number of Days to Update: 29	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: Quarterly

## LOS ANGELES COUNTY:

### San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 12/31/1998	Source: EPA Region 9
Date Data Arrived at EDR: 07/07/1999	Telephone: 415-972-3178
Date Made Active in Reports: N/A	Last EDR Contact: 04/14/2008
Number of Days to Update: 0	Next Scheduled EDR Contact: 07/14/2008
	Data Release Frequency: No Update Planned

### HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 02/28/2008	Source: Department of Public Works
Date Data Arrived at EDR: 04/16/2008	Telephone: 626-458-3517
Date Made Active in Reports: 05/06/2008	Last EDR Contact: 05/12/2008
Number of Days to Update: 20	Next Scheduled EDR Contact: 08/11/2008
	Data Release Frequency: Semi-Annually

### List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/12/2008  
Date Data Arrived at EDR: 05/27/2008  
Date Made Active in Reports: 06/20/2008  
Number of Days to Update: 24

Source: La County Department of Public Works  
Telephone: 818-458-5185  
Last EDR Contact: 05/14/2008  
Next Scheduled EDR Contact: 08/11/2008  
Data Release Frequency: Varies

## City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/01/2008  
Date Data Arrived at EDR: 03/20/2008  
Date Made Active in Reports: 04/14/2008  
Number of Days to Update: 25

Source: Engineering & Construction Division  
Telephone: 213-473-7869  
Last EDR Contact: 06/09/2008  
Next Scheduled EDR Contact: 09/08/2008  
Data Release Frequency: Varies

## Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 02/14/2008  
Date Data Arrived at EDR: 04/10/2008  
Date Made Active in Reports: 05/06/2008  
Number of Days to Update: 26

Source: Community Health Services  
Telephone: 323-890-7806  
Last EDR Contact: 05/12/2008  
Next Scheduled EDR Contact: 08/11/2008  
Data Release Frequency: Annually

## City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 05/27/2008  
Date Data Arrived at EDR: 06/10/2008  
Date Made Active in Reports: 07/02/2008  
Number of Days to Update: 22

Source: City of El Segundo Fire Department  
Telephone: 310-524-2236  
Last EDR Contact: 05/27/2008  
Next Scheduled EDR Contact: 08/11/2008  
Data Release Frequency: Semi-Annually

## City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003  
Date Data Arrived at EDR: 10/23/2003  
Date Made Active in Reports: 11/26/2003  
Number of Days to Update: 34

Source: City of Long Beach Fire Department  
Telephone: 562-570-2563  
Last EDR Contact: 05/21/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Annually

## City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 02/26/2008  
Date Data Arrived at EDR: 02/27/2008  
Date Made Active in Reports: 03/14/2008  
Number of Days to Update: 16

Source: City of Torrance Fire Department  
Telephone: 310-618-2973  
Last EDR Contact: 05/27/2008  
Next Scheduled EDR Contact: 08/11/2008  
Data Release Frequency: Semi-Annually

## MARIN COUNTY:

### Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 05/07/2008  
Date Data Arrived at EDR: 05/27/2008  
Date Made Active in Reports: 07/02/2008  
Number of Days to Update: 36

Source: Public Works Department Waste Management  
Telephone: 415-499-6647  
Last EDR Contact: 04/28/2008  
Next Scheduled EDR Contact: 07/28/2008  
Data Release Frequency: Semi-Annually

## NAPA COUNTY:

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 04/24/2008	Source: Napa County Department of Environmental Management
Date Data Arrived at EDR: 04/25/2008	Telephone: 707-253-4269
Date Made Active in Reports: 05/06/2008	Last EDR Contact: 07/09/2008
Number of Days to Update: 11	Next Scheduled EDR Contact: 09/22/2008
	Data Release Frequency: Semi-Annually

## Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008	Source: Napa County Department of Environmental Management
Date Data Arrived at EDR: 01/16/2008	Telephone: 707-253-4269
Date Made Active in Reports: 02/08/2008	Last EDR Contact: 07/09/2008
Number of Days to Update: 23	Next Scheduled EDR Contact: 09/22/2008
	Data Release Frequency: Annually

## ORANGE COUNTY:

### List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 06/02/2008	Source: Health Care Agency
Date Data Arrived at EDR: 06/13/2008	Telephone: 714-834-3446
Date Made Active in Reports: 06/20/2008	Last EDR Contact: 06/04/2008
Number of Days to Update: 7	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: Annually

### List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 06/02/2008	Source: Health Care Agency
Date Data Arrived at EDR: 06/16/2008	Telephone: 714-834-3446
Date Made Active in Reports: 06/20/2008	Last EDR Contact: 06/04/2008
Number of Days to Update: 4	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: Quarterly

### List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 03/03/2008	Source: Health Care Agency
Date Data Arrived at EDR: 03/18/2008	Telephone: 714-834-3446
Date Made Active in Reports: 04/09/2008	Last EDR Contact: 06/04/2008
Number of Days to Update: 22	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: Quarterly

## PLACER COUNTY:

### Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 07/23/2007	Source: Placer County Health and Human Services
Date Data Arrived at EDR: 07/23/2007	Telephone: 530-889-7312
Date Made Active in Reports: 08/09/2007	Last EDR Contact: 06/16/2008
Number of Days to Update: 17	Next Scheduled EDR Contact: 09/15/2008
	Data Release Frequency: Semi-Annually

## RIVERSIDE COUNTY:

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 08/06/2007	Source: Department of Public Health
Date Data Arrived at EDR: 08/07/2007	Telephone: 951-358-5055
Date Made Active in Reports: 09/26/2007	Last EDR Contact: 04/14/2008
Number of Days to Update: 50	Next Scheduled EDR Contact: 07/14/2008
	Data Release Frequency: Quarterly

## Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 05/13/2008	Source: Health Services Agency
Date Data Arrived at EDR: 05/15/2008	Telephone: 951-358-5055
Date Made Active in Reports: 07/02/2008	Last EDR Contact: 04/14/2008
Number of Days to Update: 48	Next Scheduled EDR Contact: 07/14/2008
	Data Release Frequency: Quarterly

## SACRAMENTO COUNTY:

### Contaminated Sites

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 05/06/2008	Source: Sacramento County Environmental Management
Date Data Arrived at EDR: 05/08/2008	Telephone: 916-875-8406
Date Made Active in Reports: 06/20/2008	Last EDR Contact: 05/02/2008
Number of Days to Update: 43	Next Scheduled EDR Contact: 07/28/2008
	Data Release Frequency: Quarterly

### ML - Regulatory Compliance Master List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/06/2008	Source: Sacramento County Environmental Management
Date Data Arrived at EDR: 05/08/2008	Telephone: 916-875-8406
Date Made Active in Reports: 06/20/2008	Last EDR Contact: 05/02/2008
Number of Days to Update: 43	Next Scheduled EDR Contact: 07/28/2008
	Data Release Frequency: Quarterly

## SAN BERNARDINO COUNTY:

### Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 03/18/2008	Source: San Bernardino County Fire Department Hazardous Materials Division
Date Data Arrived at EDR: 03/19/2008	Telephone: 909-387-3041
Date Made Active in Reports: 04/14/2008	Last EDR Contact: 06/02/2008
Number of Days to Update: 26	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: Quarterly

## SAN DIEGO COUNTY:

### Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/16/2005  
Date Data Arrived at EDR: 05/18/2005  
Date Made Active in Reports: 06/16/2005  
Number of Days to Update: 29

Source: Hazardous Materials Management Division  
Telephone: 619-338-2268  
Last EDR Contact: 07/03/2008  
Next Scheduled EDR Contact: 09/29/2008  
Data Release Frequency: Quarterly

## Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 08/01/2007  
Date Data Arrived at EDR: 02/05/2008  
Date Made Active in Reports: 02/14/2008  
Number of Days to Update: 9

Source: Department of Health Services  
Telephone: 619-338-2209  
Last EDR Contact: 05/19/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Varies

## Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 01/08/2008  
Date Data Arrived at EDR: 05/06/2008  
Date Made Active in Reports: 06/20/2008  
Number of Days to Update: 45

Source: San Diego County Department of Environmental Health  
Telephone: 619-338-2371  
Last EDR Contact: 07/03/2008  
Next Scheduled EDR Contact: 09/29/2008  
Data Release Frequency: Varies

## SAN FRANCISCO COUNTY:

### Local Oversight Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 06/02/2008  
Date Data Arrived at EDR: 06/03/2008  
Date Made Active in Reports: 06/20/2008  
Number of Days to Update: 17

Source: Department Of Public Health San Francisco County  
Telephone: 415-252-3920  
Last EDR Contact: 06/02/2008  
Next Scheduled EDR Contact: 09/01/2008  
Data Release Frequency: Quarterly

### Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 03/03/2008  
Date Data Arrived at EDR: 03/04/2008  
Date Made Active in Reports: 03/14/2008  
Number of Days to Update: 10

Source: Department of Public Health  
Telephone: 415-252-3920  
Last EDR Contact: 06/02/2008  
Next Scheduled EDR Contact: 09/01/2008  
Data Release Frequency: Quarterly

## SAN JOAQUIN COUNTY:

### San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/12/2008  
Date Data Arrived at EDR: 06/13/2008  
Date Made Active in Reports: 07/02/2008  
Number of Days to Update: 19

Source: Environmental Health Department  
Telephone: N/A  
Last EDR Contact: 04/14/2008  
Next Scheduled EDR Contact: 07/14/2008  
Data Release Frequency: Semi-Annually

## SAN MATEO COUNTY:

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 06/18/2008  
Date Data Arrived at EDR: 06/18/2008  
Date Made Active in Reports: 06/20/2008  
Number of Days to Update: 2

Source: San Mateo County Environmental Health Services Division  
Telephone: 650-363-1921  
Last EDR Contact: 07/09/2008  
Next Scheduled EDR Contact: 10/06/2008  
Data Release Frequency: Annually

## Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 04/10/2008  
Date Data Arrived at EDR: 04/11/2008  
Date Made Active in Reports: 05/06/2008  
Number of Days to Update: 25

Source: San Mateo County Environmental Health Services Division  
Telephone: 650-363-1921  
Last EDR Contact: 07/09/2008  
Next Scheduled EDR Contact: 10/06/2008  
Data Release Frequency: Semi-Annually

## SANTA CLARA COUNTY:

### HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005  
Date Data Arrived at EDR: 03/30/2005  
Date Made Active in Reports: 04/21/2005  
Number of Days to Update: 22

Source: Santa Clara Valley Water District  
Telephone: 408-265-2600  
Last EDR Contact: 06/23/2008  
Next Scheduled EDR Contact: 09/22/2008  
Data Release Frequency: No Update Planned

## LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 04/28/2008  
Date Data Arrived at EDR: 04/29/2008  
Date Made Active in Reports: 05/06/2008  
Number of Days to Update: 7

Source: Department of Environmental Health  
Telephone: 408-918-3417  
Last EDR Contact: 07/09/2008  
Next Scheduled EDR Contact: 09/22/2008  
Data Release Frequency: Varies

## Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 06/06/2008  
Date Data Arrived at EDR: 06/10/2008  
Date Made Active in Reports: 06/20/2008  
Number of Days to Update: 10

Source: City of San Jose Fire Department  
Telephone: 408-277-4659  
Last EDR Contact: 06/02/2008  
Next Scheduled EDR Contact: 09/01/2008  
Data Release Frequency: Annually

## SOLANO COUNTY:

### Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 04/04/2008  
Date Data Arrived at EDR: 04/22/2008  
Date Made Active in Reports: 05/06/2008  
Number of Days to Update: 14

Source: Solano County Department of Environmental Management  
Telephone: 707-784-6770  
Last EDR Contact: 07/09/2008  
Next Scheduled EDR Contact: 09/22/2008  
Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 04/04/2008  
Date Data Arrived at EDR: 04/22/2008  
Date Made Active in Reports: 05/01/2008  
Number of Days to Update: 9

Source: Solano County Department of Environmental Management  
Telephone: 707-784-6770  
Last EDR Contact: 06/23/2008  
Next Scheduled EDR Contact: 09/22/2008  
Data Release Frequency: Quarterly

## SONOMA COUNTY:

### Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/30/2008  
Date Data Arrived at EDR: 05/02/2008  
Date Made Active in Reports: 06/20/2008  
Number of Days to Update: 49

Source: Department of Health Services  
Telephone: 707-565-6565  
Last EDR Contact: 04/21/2008  
Next Scheduled EDR Contact: 07/21/2008  
Data Release Frequency: Quarterly

## SUTTER COUNTY:

### Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 05/04/2007  
Date Data Arrived at EDR: 05/04/2007  
Date Made Active in Reports: 05/24/2007  
Number of Days to Update: 20

Source: Sutter County Department of Agriculture  
Telephone: 530-822-7500  
Last EDR Contact: 06/30/2008  
Next Scheduled EDR Contact: 09/29/2008  
Data Release Frequency: Semi-Annually

## VENTURA COUNTY:

### Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 02/27/2008  
Date Data Arrived at EDR: 03/25/2008  
Date Made Active in Reports: 04/14/2008  
Number of Days to Update: 20

Source: Ventura County Environmental Health Division  
Telephone: 805-654-2813  
Last EDR Contact: 06/11/2008  
Next Scheduled EDR Contact: 09/08/2008  
Data Release Frequency: Quarterly

### Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 08/01/2007  
Date Data Arrived at EDR: 08/29/2007  
Date Made Active in Reports: 09/26/2007  
Number of Days to Update: 28

Source: Environmental Health Division  
Telephone: 805-654-2813  
Last EDR Contact: 05/19/2008  
Next Scheduled EDR Contact: 08/18/2008  
Data Release Frequency: Annually

### Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 02/27/2008  
Date Data Arrived at EDR: 03/25/2008  
Date Made Active in Reports: 04/14/2008  
Number of Days to Update: 20

Source: Environmental Health Division  
Telephone: 805-654-2813  
Last EDR Contact: 06/11/2008  
Next Scheduled EDR Contact: 09/08/2008  
Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 03/26/2008	Source: Environmental Health Division
Date Data Arrived at EDR: 04/09/2008	Telephone: 805-654-2813
Date Made Active in Reports: 05/01/2008	Last EDR Contact: 04/09/2008
Number of Days to Update: 22	Next Scheduled EDR Contact: 07/07/2008
	Data Release Frequency: Quarterly

## YOLO COUNTY:

### Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 05/13/2008	Source: Yolo County Department of Health
Date Data Arrived at EDR: 05/30/2008	Telephone: 530-666-8646
Date Made Active in Reports: 07/02/2008	Last EDR Contact: 05/12/2008
Number of Days to Update: 33	Next Scheduled EDR Contact: 07/14/2008
	Data Release Frequency: Annually

## OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

### CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2005	Source: Department of Environmental Protection
Date Data Arrived at EDR: 06/15/2007	Telephone: 860-424-3375
Date Made Active in Reports: 08/20/2007	Last EDR Contact: 06/13/2008
Number of Days to Update: 66	Next Scheduled EDR Contact: 09/08/2008
	Data Release Frequency: Annually

### NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 09/30/2007	Source: Department of Environmental Protection
Date Data Arrived at EDR: 12/04/2007	Telephone: N/A
Date Made Active in Reports: 12/31/2007	Last EDR Contact: 04/03/2008
Number of Days to Update: 27	Next Scheduled EDR Contact: 06/30/2008
	Data Release Frequency: Annually

### NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 02/15/2008	Source: Department of Environmental Conservation
Date Data Arrived at EDR: 02/28/2008	Telephone: 518-402-8651
Date Made Active in Reports: 04/09/2008	Last EDR Contact: 05/29/2008
Number of Days to Update: 41	Next Scheduled EDR Contact: 08/25/2008
	Data Release Frequency: Annually

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## **PA MANIFEST:** Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2006  
Date Data Arrived at EDR: 12/21/2007  
Date Made Active in Reports: 01/10/2008  
Number of Days to Update: 20

Source: Department of Environmental Protection  
Telephone: N/A  
Last EDR Contact: 06/09/2008  
Next Scheduled EDR Contact: 09/08/2008  
Data Release Frequency: Annually

## **RI MANIFEST:** Manifest information

Hazardous waste manifest information

Date of Government Version: 10/01/2007  
Date Data Arrived at EDR: 11/09/2007  
Date Made Active in Reports: 01/15/2008  
Number of Days to Update: 67

Source: Department of Environmental Management  
Telephone: 401-222-2797  
Last EDR Contact: 06/16/2008  
Next Scheduled EDR Contact: 09/15/2008  
Data Release Frequency: Annually

## **WI MANIFEST:** Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2006  
Date Data Arrived at EDR: 04/27/2007  
Date Made Active in Reports: 06/08/2007  
Number of Days to Update: 42

Source: Department of Natural Resources  
Telephone: N/A  
Last EDR Contact: 04/07/2008  
Next Scheduled EDR Contact: 07/07/2008  
Data Release Frequency: Annually

**Oil/Gas Pipelines:** This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

## **Electric Power Transmission Line Data**

Source: PennWell Corporation  
Telephone: (800) 823-6277

This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

**Sensitive Receptors:** There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

## **AHA Hospitals:**

Source: American Hospital Association, Inc.  
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

## **Medical Centers: Provider of Services Listing**

Source: Centers for Medicare & Medicaid Services  
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

## **Nursing Homes**

Source: National Institutes of Health  
Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

## **Public Schools**

Source: National Center for Education Statistics  
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## **Private Schools**

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

## **Daycare Centers: Licensed Facilities**

Source: Department of Social Services

Telephone: 916-657-4041

**Flood Zone Data:** This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

## **Scanned Digital USGS 7.5' Topographic Map (DRG)**

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

## **STREET AND ADDRESS INFORMATION**

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## **GEOCHECK<sup>®</sup> - PHYSICAL SETTING SOURCE ADDENDUM**

### **TARGET PROPERTY ADDRESS**

PG&E PANOCHE SUBSTATION EXPANSION  
W. PANOCHE ROAD  
FIREBAUGH, CA 93622

### **TARGET PROPERTY COORDINATES**

Latitude (North):	36.65200 - 36° 39' 7.2"
Longitude (West):	120.581 - 120° 34' 51.6"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	716233.9
UTM Y (Meters):	4058792.2
Elevation:	414 ft. above sea level

### **USGS TOPOGRAPHIC MAP**

Target Property Map:	36120-F5 CHANEY RANCH, CA
Most Recent Revision:	1971

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

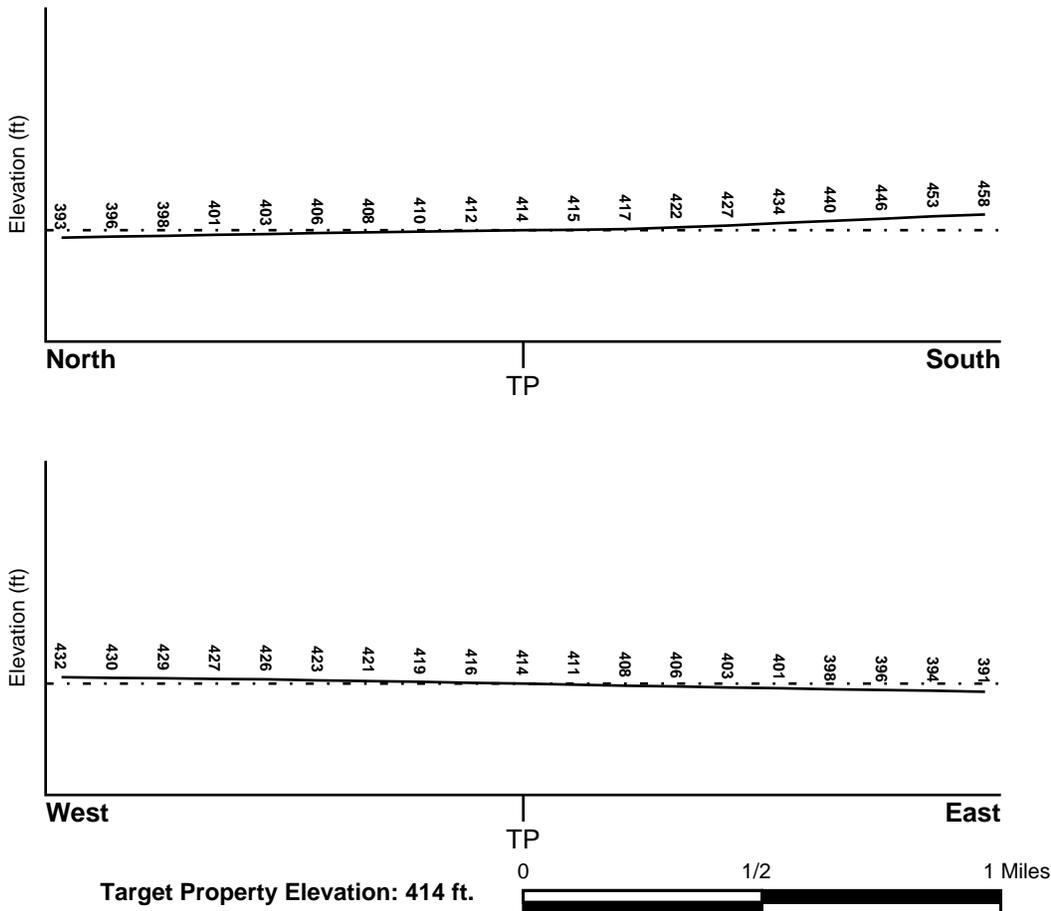
## TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

## TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NE

## SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

## FEMA FLOOD ZONE

<u>Target Property County</u> FRESNO, CA	<u>FEMA Flood Electronic Data</u> YES - refer to the Overview Map and Detail Map
Flood Plain Panel at Target Property:	0650291100B
Additional Panels in search area:	0650291085B

## NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u> CHANEY RANCH	<u>NWI Electronic Data Coverage</u> YES - refer to the Overview Map and Detail Map
--	---

## HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

### *Site-Specific Hydrogeological Data\*:*

Search Radius:	1.25 miles
Status:	Not found

## AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

### GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

### GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

#### **ROCK STRATIGRAPHIC UNIT**

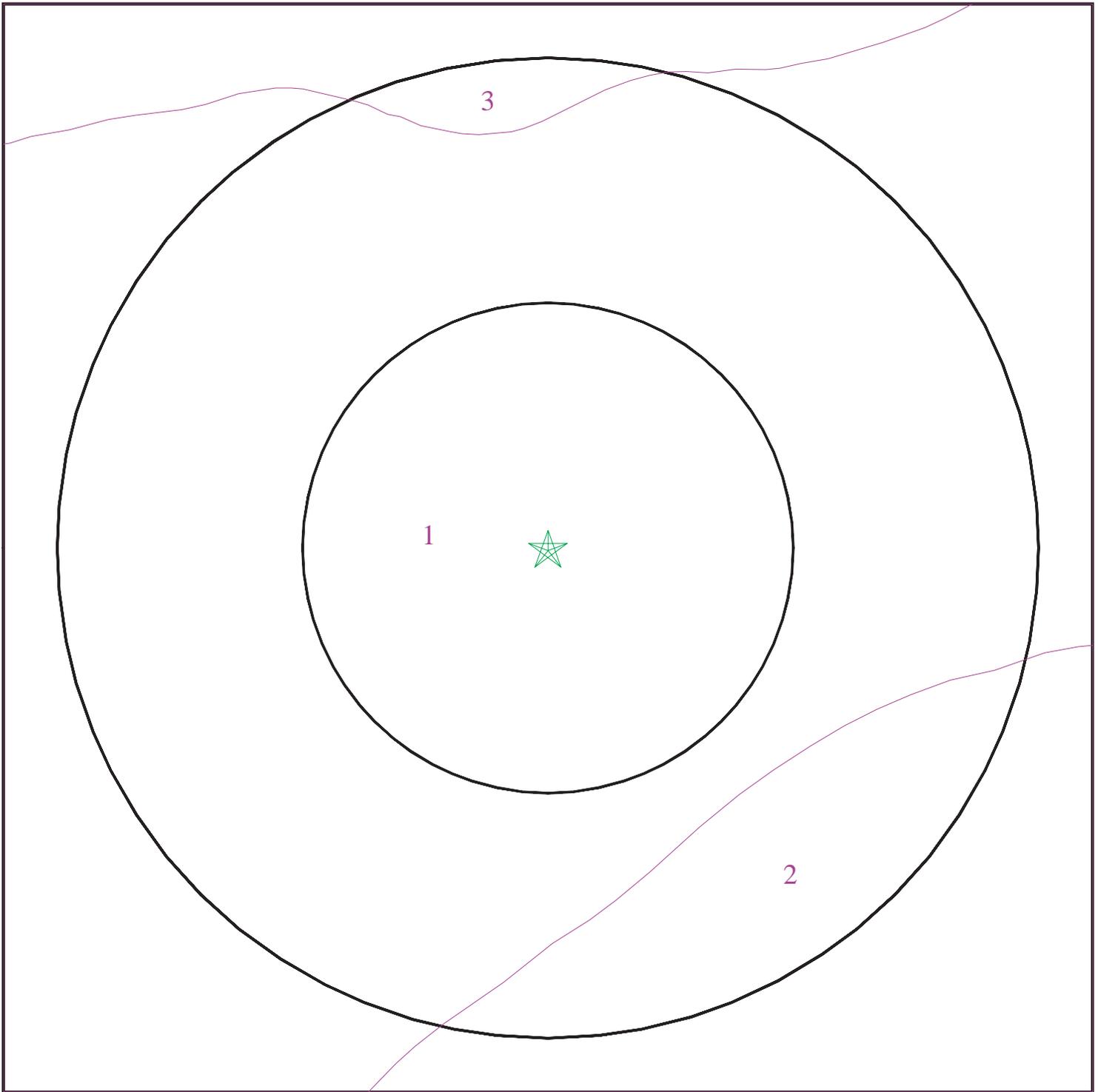
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q ( <i>decoded above as Era, System &amp; Series</i> )

#### **GEOLOGIC AGE IDENTIFICATION**

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

# SSURGO SOIL MAP - 2264881.2s



- ★ Target Property
- ~ SSURGO Soil
- ~ Water



SITE NAME: PG&E Panoche Substation Expansion  
ADDRESS: W. Panoche Road  
Firebaugh CA 93622  
LAT/LONG: 36.6520 / 120.5810

CLIENT: URS Corporation  
CONTACT: Frank Gegunde  
INQUIRY #: 2264881.2s  
DATE: July 09, 2008 1:03 pm

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

### Soil Map ID: 1

Soil Component Name: PANOCHE

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.4
2	7 inches	16 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.4
3	16 inches	27 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.4

## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
4	27 inches	42 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.4
5	42 inches	57 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.4
6	57 inches	72 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.4

**Soil Map ID: 2**

Soil Component Name: CERINI

Soil Surface Texture: clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.4
2	5 inches	25 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.4
3	25 inches	35 inches	stratified sandy loam to clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.4
4	35 inches	61 inches	stratified sandy loam to clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.4

### Soil Map ID: 3

Soil Component Name: CERINI

Soil Surface Texture: clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.4
2	5 inches	25 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.4
3	25 inches	35 inches	stratified sandy loam to clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.4
4	35 inches	61 inches	stratified sandy loam to clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.4

### LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

### WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

### FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS3203077	0 - 1/8 Mile NNW
A2	USGS3203075	1/4 - 1/2 Mile WNW
A4	USGS3203073	1/4 - 1/2 Mile WNW
B5	USGS3203099	1/4 - 1/2 Mile NNE
C6	USGS3203131	1/4 - 1/2 Mile SW
B8	USGS3203098	1/4 - 1/2 Mile NNE
B9	USGS3203102	1/4 - 1/2 Mile NNE
B10	USGS3203103	1/4 - 1/2 Mile NNE
B11	USGS3203104	1/4 - 1/2 Mile NNE
D14	USGS3203316	1/2 - 1 Mile ESE
E17	USGS3202970	1/2 - 1 Mile NNW
F19	USGS3203403	1/2 - 1 Mile SSW
H23	USGS3203109	1/2 - 1 Mile ENE
H24	USGS3203110	1/2 - 1 Mile ENE
I26	USGS3203232	1/2 - 1 Mile SE

## FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

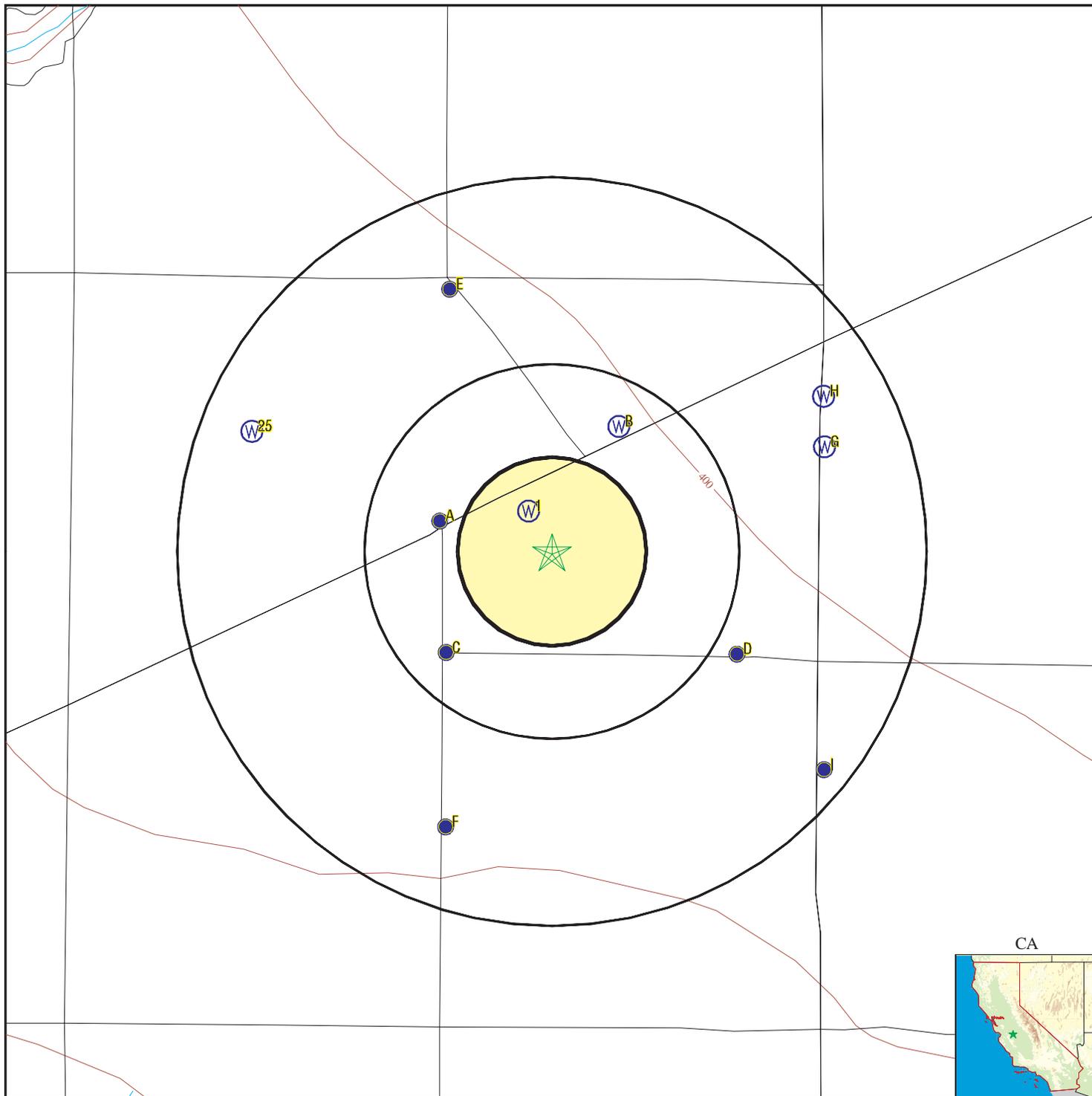
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

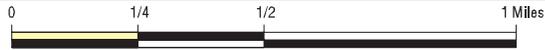
## STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A3	CADW20000031731	1/4 - 1/2 Mile WNW
C7	CADW20000031707	1/4 - 1/2 Mile SW
C12	CADW20000031697	1/4 - 1/2 Mile SW
D13	CADW20000031702	1/2 - 1 Mile ESE
E15	CADW20000031806	1/2 - 1 Mile NNW
E16	CADW20000031807	1/2 - 1 Mile NNW
F18	CADW20000031631	1/2 - 1 Mile SSW
G20	CADW20000031747	1/2 - 1 Mile ENE
G21	CADW20000031750	1/2 - 1 Mile ENE
F22	CADW20000031621	1/2 - 1 Mile SSW
25	CADW20000031751	1/2 - 1 Mile WNW
I27	CADW20000031639	1/2 - 1 Mile SE

# PHYSICAL SETTING SOURCE MAP - 2264881.2s



-  County Boundary
-  Major Roads
-  Contour Lines
-  Earthquake Fault Lines
-  Earthquake epicenter, Richter 5 or greater
-  Water Wells
-  Public Water Supply Wells
-  Cluster of Multiple Icons



-  Groundwater Flow Direction
-  Indeterminate Groundwater Flow at Location
-  Groundwater Flow Varies at Location
-  Closest Hydrogeological Data
-  Oil, gas or related wells



SITE NAME: PG&E Panoche Substation Expansion  
 ADDRESS: W. Panoche Road  
 Firebaugh CA 93622  
 LAT/LONG: 36.6520 / 120.5810

CLIENT: URS Corporation  
 CONTACT: Frank Gegunde  
 INQUIRY #: 2264881.2s  
 DATE: July 09, 2008 1:03 pm

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Database      EDR ID Number

**1**  
**NNW**  
**0 - 1/8 Mile**  
**Higher**

**FED USGS      USGS3203077**

Agency cd:	USGS	Site no:	363913120345201
Site name:	015S013E05M002M		
Latitude:	363913		
Longitude:	1203452	Dec lat:	36.65356224
Dec lon:	-120.58211663	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	019
Country:	US	Land net:	Not Reported
Location map:	CHANEY RANCH	Map scale:	24000
Altitude:	412.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	2.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	TulareBuena Vista Lakes. California. Area = 8510 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19701008
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	250	Hole depth:	250
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	Not Reported		
Daily flow data end date:	Not Reported	Daily flow data begin date:	Not Reported
Peak flow data begin date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data count:	Not Reported	Peak flow data end date:	Not Reported
Water quality data end date:	Not Reported	Water quality data begin date:	Not Reported
Ground water data begin date:	Not Reported	Water quality data count:	Not Reported
Ground water data count:	Not Reported	Ground water data end date:	Not Reported

Ground-water levels, Number of Measurements: 0

**A2**  
**WNW**  
**1/4 - 1/2 Mile**  
**Higher**

**FED USGS      USGS3203075**

Agency cd:	USGS	Site no:	363912120350601
Site name:	015S013E05M001M		
Latitude:	363912		
Longitude:	1203506	Dec lat:	36.65328448
Dec lon:	-120.58600567	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	019
Country:	US	Land net:	NWNWSWS05 T15S R13E M
Location map:	CHANEY RANCH	Map scale:	24000

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Altitude:	417.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5.		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Middle San Joaquin Lower Chowchilla. California. Area = 2640 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19440905
Date inventoried:	19500822	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM ABOVE AND BELOW E-CLAY (MIOCENE-PLEISTOCENE)		
Well depth:	1520	Hole depth:	Not Reported
Source of depth data:	other reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1951-08-15
Water quality data end date:	1951-08-15	Water quality data count:	1
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

**A3  
WNW  
1/4 - 1/2 Mile  
Higher**

**CA WELLS      CADW20000031731**

Longitude:	120.5853
Latitude:	36.6533
Stwellno:	15S13E06J001M
Districtco:	8
Welluseco:	Z
Countycode:	10
Gwcode:	502209
Site id:	CADW20000031731

**A4  
WNW  
1/4 - 1/2 Mile  
Higher**

**FED USGS      USGS3203073**

Agency cd:	USGS	Site no:	363911120350901
Site name:	015S013E06J001M		
Latitude:	363911		
Longitude:	1203509	Dec lat:	36.65300671
Dec lon:	-120.58683903	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	019
Country:	US	Land net:	SENESES06 T15S R13E M
Location map:	CHANEY RANCH	Map scale:	24000

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Altitude:	418.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	2.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Middle San Joaquin Lower Chowchilla. California. Area = 2640 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19610701
Date inventoried:	19620517	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM BELOW E-CLAY (MIOCENE-PLEISTOCENE)		
Well depth:	1399	Hole depth:	Not Reported
Source of depth data:	other reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1968-07-16
Water quality data end date:	1968-07-16	Water quality data count:	1
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

**B5**  
**NNE**  
**1/4 - 1/2 Mile**  
**Lower**

**FED USGS      USGS3203099**

Agency cd:	USGS	Site no:	363924120343901
Site name:	015S013E05F001M		
Latitude:	363924		
Longitude:	1203439	Dec lat:	36.65661775
Dec lon:	-120.57850546	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	019
Country:	US	Land net:	SESENWS05 T15S R13E M
Location map:	CHANEY RANCH	Map scale:	24000
Altitude:	403.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5.		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Tulare Buena Vista Lakes. California. Area = 8510 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	19510314	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	1000	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	Not Reported		
Daily flow data end date:	Not Reported		
Peak flow data begin date:	Not Reported		
		Daily flow data begin date:	Not Reported
		Daily flow data count:	Not Reported
		Peak flow data end date:	Not Reported

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Peak flow data count: Not Reported  
 Water quality data end date: Not Reported  
 Ground water data begin date: Not Reported  
 Ground water data count: Not Reported

Water quality data begin date: Not Reported  
 Water quality data count: Not Reported  
 Ground water data end date: Not Reported

Ground-water levels, Number of Measurements: 0

**C6  
 SW  
 1/4 - 1/2 Mile  
 Higher**

**FED USGS      USGS3203131**

Agency cd:	USGS	Site no:	363854120350501
Site name:	015S013E05N001M		
Latitude:	363854		
Longitude:	1203505	Dec lat:	36.64828451
Dec lon:	-120.58572773	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	019
Country:	US	Land net:	SWSWSWS05 T15S R13E M
Location map:	CHANEY RANCH	Map scale:	24000
Altitude:	423.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5.		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	TulareBuena Vista Lakes. California. Area = 8510 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19440101
Date inventoried:	19500822	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM ABOVE AND BELOW E-CLAY (MIOCENE-PLEISTOCENE)		
Well depth:	1544	Hole depth:	Not Reported
Source of depth data:	other reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin date:	0000-00-00
Daily flow data count:	0		
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0		
Water quality data begin date:	1951-08-15	Water quality data begin date:	1951-08-15
Water quality data end date:	1951-08-15	Water quality data count:	1
Ground water data begin date:	1954-05-01	Ground water data end date:	1954-05-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

	Feet below	Feet to
Date	Surface	Sealevel
-----		
1954-05-01	511.00	

**C7  
 SW  
 1/4 - 1/2 Mile  
 Higher**

**CA WELLS      CADW20000031707**

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Longitude: 120.5847  
 Latitude: 36.6483  
 Stwellno: 15S13E05N001M  
 Districtco: 8  
 Welluseco: Z  
 Countycode: 10  
 Gwcode: 502209  
 Site id: CADW20000031707

**B8**  
**NNE**  
**1/4 - 1/2 Mile**  
**Lower**

**FED USGS USGS3203098**

Agency cd:	USGS	Site no:	363924120343501
Site name:	015S013E05F003M		
Latitude:	363924		
Longitude:	1203435	Dec lat:	36.65661775
Dec lon:	-120.57739431	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	019
Country:	US	Land net:	Not Reported
Location map:	CHANEY RANCH	Map scale:	24000
Altitude:	400		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	2.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Middle San Joaquin Lower Chowchilla. California. Area = 2640 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19880206
Date inventoried:	19880206	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	638	Hole depth:	645
Source of depth data:	owner		
Project number:	470645679		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin date:	0000-00-00
Daily flow data count:	0		
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0		
Water quality data end date:	1989-06-07	Water quality data begin date:	1989-05-11
Water quality data count:	2		
Ground water data begin date:	1988-03-00	Ground water data end date:	1992-05-07
Ground water data count:	20		

Ground-water levels, Number of Measurements: 20

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1992-05-07	323.07		1991-07-23	306.95	
1991-02-08	297.08		1990-09-14	288.5	
1990-04-19	260.0		1990-02-27	281.12	
1989-09-28	284.2		1989-07-26	285.1	
1989-06-29	285.1		1989-05-24	283.7	
1989-04-27	281.4		1989-03-22	283.3	
1989-02-23	276.6		1988-11-22	285.36	

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1988-10-25	285.98		1988-07	287.09	
1988-06	287.61		1988-05-02	288.78	
1988-04-04	289.47		1988-03	290.29	

**B9**  
**NNE**  
**1/4 - 1/2 Mile**  
**Lower**

**FED USGS      USGS3203102**

Agency cd:	USGS	Site no:	363925120343601
Site name:	015S013E05F005M		
Latitude:	363925		
Longitude:	1203436	Dec lat:	36.65689553
Dec lon:	-120.57767211	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	019
Country:	US	Land net:	Not Reported
Location map:	CHANEY RANCH	Map scale:	24000
Altitude:	400		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	2.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Middle San Joaquin Lower Chowchilla. California. Area = 2640 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19870617
Date inventoried:	19870617	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	300.0	Hole depth:	302.5
Source of depth data:	owner		
Project number:	470645679		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin date:	0000-00-00
Peak flow data begin date:	0000-00-00	Daily flow data count:	0
Peak flow data count:	0	Peak flow data end date:	0000-00-00
Water quality data end date:	1987-07-27	Water quality data begin date:	1987-07-27
Ground water data begin date:	1987-08-00	Water quality data count:	1
Ground water data count:	26	Ground water data end date:	1992-05-07

Ground-water levels, Number of Measurements: 26

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1992-05-07	190.70		1991-07-23	191.04	
1991-02-08	188.48		1990-09-14	186.7	
1990-04-19	172.8		1990-02-27	186.69	
1989-09-28	187.80		1989-07-26	188.44	
1989-06-29	188.93		1989-05-24	189.43	
1989-04-27	189.65		1989-03-22	189.90	
1989-03-07	190.5		1988-11-22	196.39	
1988-10-25	196.20		1988-07	193.29	
1988-06	193.30		1988-05-02	194.29	

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1988-04-04	194.39		1988-03	194.94	
1988-02	195.42		1988-01	195.82	
1987-12	196.19		1987-11	196.44	
1987-10-05	196.88		1987-08	195.22	

**B10  
NNE  
1/4 - 1/2 Mile  
Lower**

**FED USGS USGS3203103**

Agency cd:	USGS	Site no:	363925120343604
Site name:	015S013E05F004M		
Latitude:	363925		
Longitude:	1203436	Dec lat:	36.65689553
Dec lon:	-120.57767211	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	019
Country:	US	Land net:	Not Reported
Location map:	CHANEY RANCH	Map scale:	24000
Altitude:	400		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	2.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Middle San Joaquin Lower Chowchilla. California. Area = 2640 sq.mi.		
Topographic:	Alluvial fan		
Site type:	Ground-water other than Spring	Date construction:	19881013
Date inventoried:	19881013	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	215	Hole depth:	219
Source of depth data:	driller		
Project number:	470642800		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1989-03-07
Water quality data end date:	1989-03-07	Water quality data count:	1
Ground water data begin date:	1988-10-25	Ground water data end date:	1992-05-07
Ground water data count:	15		

Ground-water levels, Number of Measurements: 15

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1992-05-07	193.60		1991-07-23	191.82	
1991-02-08	188.45		1990-09-14	187.2	
1990-04-19	172.8		1990-02-27	186.64	
1989-09-28	187.78		1989-07-26	189.38	
1989-06-29	189.89		1989-05-24	190.40	
1989-04-27	190.64		1989-03-22	190.82	
1989-02-23	191.5		1988-11-22	192.18	
1988-10-25	192.46				

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
 Direction  
 Distance  
 Elevation

Database      EDR ID Number

**B11**  
**NNE**  
 1/4 - 1/2 Mile  
 Lower

**FED USGS      USGS3203104**

Agency cd:	USGS	Site no:	363926120343601
Site name:	015S013E05F002M		
Latitude:	363926		
Longitude:	1203436	Dec lat:	36.6571733
Dec lon:	-120.57767211	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	019
Country:	US	Land net:	Not Reported
Location map:	CHANEY RANCH	Map scale:	24000
Altitude:	400		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	2.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Middle San Joaquin Lower Chowchilla. California. Area = 2640 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19870716
Date inventoried:	19870716	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	635	Hole depth:	666
Source of depth data:	owner		
Project number:	470645679		
Real time data flag:	Not Reported		
Daily flow data end date:	Not Reported		
Peak flow data begin date:	Not Reported		
Peak flow data count:	Not Reported		
Water quality data end date:	Not Reported		
Ground water data begin date:	Not Reported		
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

**C12**  
**SW**  
 1/4 - 1/2 Mile  
 Higher

**CA WELLS      CADW20000031697**

Longitude:	120.5858
Latitude:	36.6478
Stwellno:	15S13E07A001M
Districtco:	8
Welluseco:	Z
Countycode:	10
Gwcode:	502209
Site id:	CADW20000031697

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Database      EDR ID Number

**D13**  
**ESE**  
**1/2 - 1 Mile**  
**Lower**

**CA WELLS      CADW20000031702**

Longitude:            120.5711  
Latitude:              36.6481  
Stwellno:             15S13E05R001M  
Districtco:            8  
Welluseco:            Z  
Countycode:          10  
Gwcode:               502209  
Site id:                CADW20000031702

**D14**  
**ESE**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS3203316**

Agency cd:	USGS	Site no:	363853120341601
Site name:	015S013E05R001M		
Latitude:	363853		
Longitude:	1203416	Dec lat:	36.64800664
Dec lon:	-120.57211606	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	019
Country:	US	Land net:	SWSESES05 T15S R13E M
Location map:	CHANEY RANCH	Map scale:	24000
Altitude:	408.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5.		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	TulareBuena Vista Lakes. California. Area = 8510 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19450101
Date inventoried:	19500818	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM ABOVE AND BELOW E-CLAY (MIOCENE-PLEISTOCENE)		
Well depth:	1528	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1951-08-15
Water quality data end date:	1951-08-15	Water quality data count:	1
Ground water data begin date:	1951-05-01	Ground water data end date:	1951-05-01
Ground water data count:	1		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1951-05-01	528.00	

**E15  
NNW  
1/2 - 1 Mile  
Lower**

**CA WELLS      CADW20000031806**

Longitude: 120.5847  
 Latitude: 36.6622  
 Stwellno: 15S13E05D001M  
 Districtco: 8  
 Welluseco: Z  
 Countycode: 10  
 Gwcode: 502209  
 Site id: CADW20000031806

**E16  
NNW  
1/2 - 1 Mile  
Lower**

**CA WELLS      CADW20000031807**

Longitude: 120.585  
 Latitude: 36.6622  
 Stwellno: 15S13E05D002M  
 Districtco: 8  
 Welluseco: Z  
 Countycode: 10  
 Gwcode: 502209  
 Site id: CADW20000031807

**E17  
NNW  
1/2 - 1 Mile  
Lower**

**FED USGS      USGS3202970**

Agency cd:	USGS	Site no:	363944120350601
Site name:	015S013E05D001M		
Latitude:	363944		
Longitude:	1203506	Dec lat:	36.66217333
Dec lon:	-120.58600593	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	019
Country:	US	Land net:	NWNWNWS05 T15S R13E M
Location map:	CHANEY RANCH	Map scale:	24000
Altitude:	402.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5.		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Middle San Joaquin Lower Chowchilla. California. Area = 2640 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19450101
Date inventoried:	19500822	Mean greenwich time offset:	PST

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	1450	Hole depth:	Not Reported
Source of depth data:	other reported		
Project number:	Not Reported		
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

**F18  
SSW  
1/2 - 1 Mile  
Higher**

**CA WELLS      CADW20000031631**

Longitude:	120.585
Latitude:	36.6417
Stwellno:	15S13E08E001M
Districtco:	8
Welluseco:	Z
Countycode:	10
Gwcode:	502209
Site id:	CADW20000031631

**F19  
SSW  
1/2 - 1 Mile  
Higher**

**FED USGS      USGS3203403**

Agency cd:	USGS	Site no:	363830120350601
Site name:	015S013E08E001M		
Latitude:	363830	Dec lat:	36.64161788
Longitude:	1203506	Coor meth:	M
Dec lon:	-120.58600533	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	019
State:	06	Land net:	SWSWNWS08 T15S R12E M
Country:	US	Map scale:	24000
Location map:	CHANEY RANCH		
Altitude:	438.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5.		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	TulareBuena Vista Lakes. California. Area = 8510 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19610101
Date inventoried:	19620517	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM BELOW E-CLAY (MIOCENE-PLEISTOCENE)		
Well depth:	1400	Hole depth:	Not Reported
Source of depth data:	other reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data begin date:	0000-00-00	Daily flow data count:	0
Daily flow data end date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data begin date:	0000-00-00		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Peak flow data count: 0  
 Water quality data end date: 1968-07-16  
 Ground water data begin date: 1962-12-01  
 Ground water data count: 1

Water quality data begin date: 1968-07-16  
 Water quality data count: 1  
 Ground water data end date: 1962-12-01

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
----- 1962-12-01	678.00	

**G20**  
**ENE**  
**1/2 - 1 Mile**  
**Lower**

**CA WELLS      CADW20000031747**

Longitude: 120.5669  
 Latitude: 36.6558  
 Stwellno: 15S13E04E001M  
 Districtco: 8  
 Welluseco: Z  
 Countycode: 10  
 Gwcode: 502209  
 Site id: CADW20000031747

**G21**  
**ENE**  
**1/2 - 1 Mile**  
**Lower**

**CA WELLS      CADW20000031750**

Longitude: 120.5669  
 Latitude: 36.6564  
 Stwellno: 15S13E04E002M  
 Districtco: 8  
 Welluseco: Z  
 Countycode: 10  
 Gwcode: 502209  
 Site id: CADW20000031750

**F22**  
**SSW**  
**1/2 - 1 Mile**  
**Higher**

**CA WELLS      CADW20000031621**

Longitude: 120.5853  
 Latitude: 36.6408  
 Stwellno: 15S13E08M001M  
 Districtco: 8  
 Welluseco: Z  
 Countycode: 10  
 Gwcode: 502209  
 Site id: CADW20000031621

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Database      EDR ID Number

**H23**  
**ENE**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS3203109**

Agency cd:	USGS	Site no:	363929120340101
Site name:	015S013E04E001M		
Latitude:	363929		
Longitude:	1203401	Dec lat:	36.65800657
Dec lon:	-120.56794952	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	019
Country:	US	Land net:	NWSWNWS04 T15S R13E M
Location map:	CHANEY RANCH	Map scale:	24000
Altitude:	387.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5.		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	TulareBuena Vista Lakes. California. Area = 8510 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19480101
Date inventoried:	19560724	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM ABOVE AND BELOW E-CLAY (MIOCENE-PLEISTOCENE)		
Well depth:	1805	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1951-08-15
Water quality data end date:	1951-08-15	Water quality data count:	1
Ground water data begin date:	1960-05-01	Ground water data end date:	1960-05-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

	Feet below	Feet to
Date	Surface	Sealevel
-----		
1960-05-01	548.00	

**H24**  
**ENE**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS3203110**

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	363929120340102
Site name:	015S013E04E002M		
Latitude:	363929		
Longitude:	1203401	Dec lat:	36.65800657
Dec lon:	-120.56794952	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	019
Country:	US	Land net:	SWSWNWS04 T15S R13E M
Location map:	CHANEY RANCH	Map scale:	24000
Altitude:	386.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5.		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	TulareBuena Vista Lakes. California. Area = 8510 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19610101
Date inventoried:	19620517	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	1404	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin date:	0000-00-00
Daily flow data count:	0		
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0		
Water quality data begin date:	0000-00-00		
Water quality data end date:	0000-00-00		
Water quality data count:	0		
Ground water data begin date:	1962-12-01		
Ground water data end date:	1962-12-01		
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
-----		
1962-12-01	630.00	

**25  
WNW  
1/2 - 1 Mile  
Higher**

**CA WELLS      CADW20000031751**

Longitude:	120.5944
Latitude:	36.6567
Stwellno:	15S13E06F001M
Districtco:	8
Welluseco:	Z
Countycode:	10
Gwcode:	502209
Site id:	CADW20000031751

**I26  
SE  
1/2 - 1 Mile  
Higher**

**FED USGS      USGS3203232**

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	363837120340101
Site name:	015S013E09E002M		
Latitude:	363837		
Longitude:	1203401	Dec lat:	36.64356218
Dec lon:	-120.5679491	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	019
Country:	US	Land net:	SWSWNWS09 T15S R13E M
Location map:	CHANEY RANCH	Map scale:	24000
Altitude:	418.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	2.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	TulareBuena Vista Lakes. California. Area = 8510 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19610101
Date inventoried:	19610505	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	1426	Hole depth:	Not Reported
Source of depth data:	other reported		
Project number:	Not Reported		
Real time data flag:	Not Reported		
Daily flow data end date:	Not Reported	Daily flow data begin date:	Not Reported
Peak flow data begin date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data count:	Not Reported	Peak flow data end date:	Not Reported
Water quality data begin date:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

**I27  
SE  
1/2 - 1 Mile  
Higher**

**CA WELLS      CADW20000031639**

Longitude:	120.5669
Latitude:	36.6436
Stwellno:	15S13E09E002M
Districtco:	8
Welluseco:	Z
Countycode:	10
Gwcode:	502209
Site id:	CADW20000031639

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

## AREA RADON INFORMATION

State Database: CA Radon

### Radon Test Results

Zip	Total Sites	> 4 Pci/L	Pct. > 4 Pci/L
93622	2	0	0.00

Federal EPA Radon Zone for FRESNO County: 2

- Note: Zone 1 indoor average level > 4 pCi/L.
- : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
- : Zone 3 indoor average level < 2 pCi/L.

---

### Federal Area Radon Information for FRESNO COUNTY, CA

Number of sites tested: 100

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.251 pCi/L	98%	2%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	1.433 pCi/L	100%	0%	0%

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## TOPOGRAPHIC INFORMATION

### **USGS 7.5' Digital Elevation Model (DEM)**

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

### **Scanned Digital USGS 7.5' Topographic Map (DRG)**

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

## HYDROLOGIC INFORMATION

**Flood Zone Data:** This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

## HYDROGEOLOGIC INFORMATION

### **AQUIFLOW<sup>R</sup> Information System**

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

## GEOLOGIC INFORMATION

### **Geologic Age and Rock Stratigraphic Unit**

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

### **STATSGO: State Soil Geographic Database**

Source: Department of Agriculture, Natural Resources Conservation Services

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

### **SSURGO: Soil Survey Geographic Database**

Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## LOCAL / REGIONAL WATER AGENCY RECORDS

### FEDERAL WATER WELLS

#### **PWS:** Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

#### **PWS ENF:** Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

#### **USGS Water Wells:** USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

### STATE RECORDS

#### **Water Well Database**

Source: Department of Water Resources

Telephone: 916-651-9648

#### **California Drinking Water Quality Database**

Source: Department of Health Services

Telephone: 916-324-2319

The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

## OTHER STATE DATABASE INFORMATION

#### **California Oil and Gas Well Locations**

Source: Department of Conservation

Telephone: 916-323-1779

### RADON

#### **State Database: CA Radon**

Source: Department of Health Services

Telephone: 916-324-2208

Radon Database for California

#### **Area Radon Information**

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

#### **EPA Radon Zones**

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## OTHER

**Airport Landing Facilities:** Private and public use landing facilities  
Source: Federal Aviation Administration, 800-457-6656

**Epicenters:** World earthquake epicenters, Richter 5 or greater  
Source: Department of Commerce, National Oceanic and Atmospheric Administration

**California Earthquake Fault Lines:** The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

## STREET AND ADDRESS INFORMATION

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**APPENDIX C**  
**USER QUESTIONNAIRE**

**PHASE I ENVIRONMENTAL SITE ASSESSMENT  
ALL APPROPRIATE INQUIRIES (AAI) QUESTIONNAIRE**

The following questions should be sent to the current Owner of the Property, the Major Occupant(s) of the Property and/or the individuals identified by the Client to be an appropriate site representative.

Property Name: PG&E Panoche Substation Expansion

Property Site Address:

W. Panoche Road

Firebaugh, CA, 93622

(9 acres adjacent south to the existing substation; south side of W. Panoche Road, west of Fairfax Ave., east of Brannan Ave.)

**INTERVIEWEE INFORMATION**

Owner Name: Unavailable

Phone Number: \_\_\_\_\_

Property/Occupant/Tenant Contact: Pacific Gas & Electric Company (Andy Smith)

Phone Number: 559-246-4517

Property/Occupant/Tenant Contact: Panoche Energy Center, LLC (Don Burkard)

Phone Number: 925-759-0457

Site Visit Personnel Name: Frank Gegunde

Date of Site Visit: 7/17/08

Firm: URS Corporation

Phone Number: 559-256-1468 (O); 559-230-9876 (C)

Fax Number to return completed questionnaire to: 559-256-1478

\* This questionnaire has been prepared using the ASTM Standard Practice for Environmental Site Assessments: Transaction Screen Process E1527 – 00 dated 2000 as a reference document.

**THIS QUESTIONNAIRE WAS COMPLETED BY**

NAME Frank Gegunde

TITLE Senior Geologist

FIRM URS Corporation

ADDRESS 30 River Park Place West, Suite #180

Fresno, CA 93720

PHONE NUMBER 559-256-1468 DATE July 25, 2008

Question	Owner			Property Contact/ Occupants (if applicable)			Observed During Site Visit			Remarks
	Yes	No	Unk <sup>1</sup>	Yes	No	Unk	Yes	No	Unk	
1. Is the Property or any Adjoining Property used for an industrial use?				<input checked="" type="radio"/>	<input type="radio"/>		<input checked="" type="radio"/>	<input type="radio"/>		PANOUCHE ENERGY CENTER WEST OF SITE
2. Did you observe evidence or do you have any prior knowledge that the Property or any Adjoining Property has been used for an industrial use in the past?				<input type="radio"/>	<input checked="" type="radio"/>		<input type="radio"/>	<input checked="" type="radio"/>		
3. Is the Property or any Adjoining Property used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing or recycling facility?				<input type="radio"/>	<input checked="" type="radio"/>		<input type="radio"/>	<input checked="" type="radio"/>		
4. Did you observe evidence or do you have any prior knowledge that the Property or any Adjoining Property has been used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing or recycling facility?				<input type="radio"/>	<input checked="" type="radio"/>		<input type="radio"/>	<input checked="" type="radio"/>		
5. Are there currently, or to the best of your knowledge have there been previously, any damaged or discarded automotive or industrial batteries, pesticides, paints, or other chemicals in individual containers of greater than five gallons in volume or fifty gallons in the aggregate, stored on or used at the Property or at the facility?				<input type="radio"/>	<input checked="" type="radio"/>		<input type="radio"/>	<input checked="" type="radio"/>		
6. Are there currently, or to the best of your knowledge have there been previously, any industrial drums (typically 55 gallon) or sacks of chemicals located on the Property or at the facility?				<input type="radio"/>	<input checked="" type="radio"/>		<input type="radio"/>	<input checked="" type="radio"/>		
7. Did you observe evidence or do you have any prior knowledge that fill dirt has been brought onto the Property that originated from a contaminated site or that is of an unknown origin?				<input type="radio"/>	<input checked="" type="radio"/>		<input type="radio"/>	<input checked="" type="radio"/>		

<sup>1</sup>Unk = Unknown or No Response

Question	Owner			Property Contact/ Occupants (if applicable)			Observed During Site Visit			Remarks
	Yes	No	Unk	Yes	No	Unk	Yes	No	Unk	
8. Are there currently, or to the best of your knowledge have there been previously, any pits, ponds, or lagoons located on the Property in connection with waste treatment or waste disposal?					<input checked="" type="radio"/>			<input checked="" type="radio"/>		
9. Is there currently, or to the best of your knowledge has there been previously, any stained soil on the Property?					<input checked="" type="radio"/>			<input checked="" type="radio"/>		
10. Are there currently, or to the best of your knowledge have there been previously, any registered or unregistered storage tanks (above or underground) located on the Property?					<input checked="" type="radio"/>			<input checked="" type="radio"/>		
11. Are there currently, or to the best of your knowledge have there been previously, any vent pipes, fill pipes, or access ways indicating a fill pipe protruding from the ground on the Property or adjacent to any structure located on the Property?					<input checked="" type="radio"/>			<input checked="" type="radio"/>		
12. Are there currently, or to the best of your knowledge have there been previously, any evidence of leaks, spills, or staining by substances other than water, or foul odors, associated with any flooring, drains, walls, ceilings, or exposed grounds on the Property?					<input checked="" type="radio"/>			<input checked="" type="radio"/>		
13. If the Property is served by a private well or non-public water system, have contaminants been identified in the well or system that exceed guidelines applicable to the water system or has the well been designated as contaminated by any government environmental/health agency?					<input checked="" type="radio"/>			<input checked="" type="radio"/>		
14. Does the Owner or Occupant of the Property have any knowledge of Environmental Liens or governmental notification relating to past or recurrent violations of environmental laws with respect to the Property or any facility located on the Property?					<input checked="" type="radio"/>			<input checked="" type="radio"/>		
15. Has the owner or Occupant of the Property been informed of the past or current existence of Hazardous Substances or Petroleum Products or environmental violations with respect to the property or any facility located on the Property?					<input checked="" type="radio"/>			<input checked="" type="radio"/>		

Question	Owner			Property Contact/ Occupants (if applicable)			Observed During Site Visit			Remarks
	Yes	No	Unk	Yes	No	Unk	Yes	No	Unk	
16. Does the Owner or Occupant of the Property have any knowledge of any Environmental Site Assessment of the Property or facility that indicated the presence of Hazardous Substances or Petroleum Products on, or contamination of, the Property or recommended further assessment of the Property?					<input checked="" type="radio"/>			<input checked="" type="radio"/>		
17. Does the Owner or Occupant of the Property know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release or threatened release of any Hazardous Substance or Petroleum Products involving the Property by any Owner or Occupant of the Property?					<input checked="" type="radio"/>			<input checked="" type="radio"/>		
18. Does the Property discharge waste water (not including sanitary waste or storm water) onto or adjacent to the Property and/or into a storm water system?					<input checked="" type="radio"/>			<input checked="" type="radio"/>		
19. To the best of your knowledge, have any Hazardous Substances or Petroleum Products, unidentified waste materials, tires, automotive or industrial batteries, or any other waste materials been dumped above grade, buried, and/or buried on the Property?					<input checked="" type="radio"/>			<input checked="" type="radio"/>		
20. Is there a transformer, capacitor, or any hydraulic equipment for which there are any records indicating the presence of PCBs?					<input checked="" type="radio"/>			<input checked="" type="radio"/>		

**APPENDIX D**

**INQUIRY RESPONSES FROM REGULATORY AGENCIES**



## Department of Toxic Substances Control



Linda S. Adams  
Secretary for  
Environmental Protection

Maureen F. Gorsen, Director  
1515 Tollhouse Road  
Clovis, California 93619

Arnold Schwarzenegger  
Governor

July 10, 2008

RECEIVED

JUL 11 2008

URS-FRESNO

Mr. Frank Gegunde  
URS  
30 River park Place West, Suite 180  
Fresno, California 93720

PR# 10709803

Dear Mr. Gegunde:

We have received your Public Records Act Request for records from the Department of Toxic Substances Control.

After a thorough review of our files we have found that no such records exist at this office pertaining to the sites/facilities in referenced below.

- **4300 - 4400 W. Panoche Road, Firebaugh, California 93622, W. Panoche Road, West of Fairfax, East of Brannan Ave**

We would like to inform you about Envirostor, a database that provides information and documents on over 5,000 DTSC cleanup sites. EnviroStor can be accessed at: <http://www.envirostor.dtsc.ca.gov/public>. Also, a computer is available in the Central Files of each DTSC Regional Office for use by community members to view EnviroStor.

If you have any questions, would like further information regarding your request or would like an appointment to visit Clovis's Central Files, please contact me at (559) 297-3901.

Sincerely,

Sarah A. Toles  
Regional Records Coordinator

**APPENDIX E**  
**PHASE II**



July 29, 2008

Mr. Gary Chandler  
APEX Power Group, LLC  
P.O. Box 95592  
South Jordan, Utah 84095

**Re: Report of Soil Investigation  
Proposed Panoche Electrical Substation Expansion  
West Panoche Road  
Near Firebaugh, Fresno County, California  
URS Job No. 29874229**

Dear Mr. Chandler:

URS Corporation (URS) prepared this letter report on behalf of APEX Power Group, LLC (Client). This report describes an investigation of surface soil within a 9-acre area proposed for the expansion of the electrical substation on West Panoche Road in Fresno, California. The 9-acre area is southeast of the existing substation and is currently part of a pomegranate orchard. The investigation assessed whether surface soil contains residual agricultural chemical concentrations that could pose a potential health risk or hazard to workers. The investigation was conducted in accordance with the April 30, 2008 California Department of Toxic Substances Control (DTSC) document titled "Interim Guidance for Sampling Agricultural Properties (Third Revision)". Concurrent with this investigation, URS conducted a Phase I Environmental Site Assessment of the 9-acre area, as documented in a separate report dated July 29, 2008.

## **SAMPLING AND ANALYSIS**

On July 18, 2008, a URS geologist collected discrete surface soil samples at 24 locations spaced regularly across the 9-acre area. The sample locations are shown on the attached figure. The samples were collected from the depth interval of approximately 0 to 6 inches below ground surface (bgs). In accordance with the DTSC guidance document, 6 of the sample locations were approximately under a tree "drip-line" at the outer edge of the branches, 6 of the sample locations were under tree canopies, 6 of the sample locations were between tree rows, and 6 of the sample locations were between the trees in a row.

The soil samples were collected directly into glass jars provided by the analytical laboratory. Immediately after sampling, the jars were capped, labeled, and placed into an ice-cooled, insulated container. An equipment rinsate blank sample was not collected

URS Corporation  
30 River Park Place West, Suite 180  
Fresno, CA 93720  
Tel: 559.256.1444  
Fax: 559.256.1478

because no reusable sampling equipment that required cleaning between sample locations was used. The samples were shipped under chain-of-custody protocol via overnight courier to Alpha Scientific Corporation (ASC) of Cerritos, California, an analytical laboratory accredited for the requested analyses under the Environmental Laboratory Accreditation Program (ELAP) of the California Department of Health Services.

In accordance with the DTSC guidance document, the laboratory prepared 7 composite soil samples (6 primary composite samples and one duplicate composite sample) from the 24 discrete samples. Each composite sample consisted of four discrete surface samples from adjacent sampling locations. Each composite sample included one discrete sample from under a tree drip-line, one discrete sample from under a tree canopy, one discrete sample from between two rows of trees, and one discrete sample from between two trees in a row. The laboratory analyzed the composite samples for organochlorine pesticides (OCPs) using method 8081A of the U.S. Environmental Protection Agency (USEPA). Seven discrete soil samples (one discrete sample from each of the 6 primary composite samples and a duplicate discrete sample) were analyzed for arsenic using USEPA method 6010B.

## **DATA QUALITY ASSESSMENT**

Analytical results are provided in the attached laboratory report. The analytical reporting limits were less than the respective California Human Health Screening Levels (CHHSLs) for commercial/industrial land use as established by the California Environmental Protection Agency (Cal/EPA)<sup>1</sup>. For each analyte with no CHHSL established, the reporting limit was less than the Screening Level (SL) for industrial soil established by USEPA<sup>2</sup>. Analytes were not detected in any of the laboratory method blank samples. Percent recoveries for laboratory control spike/laboratory control spike duplicate (LCS/LCSD) and matrix spike/matrix spike duplicate (MS/MSD) samples were within the laboratory's acceptance limits. The relative percent differences (RPDs) for analytes in LCS/LCSD or MS/MSD pairs were within the laboratory's acceptance limits. Analytical results for the duplicate samples were relatively similar to the corresponding primary samples.

Overall, the data are considered useable for the intended purpose.

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<sup>1</sup> Cal/EPA, 2005. "Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties," January.

<sup>2</sup> USEPA, 2008. Internet website <http://epa-prgs.ornl.gov/chemicals/index.shtml>.

## RESULTS AND DISCUSSION

The table below lists the maximum detected concentrations of the four OCPs that were detected in the composite soil samples, along with the commercial/industrial CHHSLs in units of micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ):

Analyte	Maximum Detected Concentration ( $\mu\text{g}/\text{kg}$ )	Commercial/Industrial CHHSL ( $\mu\text{g}/\text{kg}$ )
4,4'-DDD	3.4	9,000
4,4'-DDE	15.4	6,300
4,4'-DDT	25.0	6,300
Toxaphene	211	1,800

The table below lists the maximum detected arsenic concentration in the discrete soil samples, along with the commercial/industrial CHHSL in units of milligrams per kilogram ( $\text{mg}/\text{kg}$ ):

Analyte	Maximum Detected Concentration ( $\text{mg}/\text{kg}$ )	Commercial/Industrial CHHSL ( $\text{mg}/\text{kg}$ )
Arsenic	11.4	0.24

With the exception of arsenic, all of the detected chemical concentrations were substantially less than their respective CHHSLs. In the case of arsenic, the maximum concentration of 11.4  $\text{mg}/\text{kg}$  was greater than the CHHSL of 0.24  $\text{mg}/\text{kg}$ . However, the arsenic concentrations detected in the samples are similar to background soil concentrations reported for the area. In the 1980s, 721 soil samples were collected by the U.S. Geological Survey (USGS) from the Panoche Fan study area, which comprised approximately 750 square miles including the area of this investigation<sup>3</sup>. The samples were collected from a depth interval of approximately 5.5- to 6-feet bgs. Arsenic concentrations in the 721 samples ranged from 3.4 to 21  $\text{mg}/\text{kg}$ . Thirty-seven of the USGS samples had arsenic concentrations of 12  $\text{mg}/\text{kg}$  or greater. The five USGS samples nearest to the electrical substation contained arsenic concentrations ranging from 6.5 to 8.5  $\text{mg}/\text{kg}$ . Arsenic concentrations in the soil samples collected and analyzed by URS ranged from 10.0 to 11.4  $\text{mg}/\text{kg}$ . These arsenic concentrations are within the range

<sup>3</sup> USGS, 1989. "Analysis of 721 Soil Samples from the Panoche Fan Area of the San Joaquin Valley, California," Open-File Report 89-298.

Mr. Gary Chandler  
APEX Power Group, LLC

July 29, 2008  
Page 4

of background arsenic concentrations for the area as reported in the USGS report. In addition, the maximum arsenic concentration of 11.4 mg/kg in the URS soil samples is less than the 12 mg/kg threshold of concern for arsenic set forth in the DTSC guidance document.

It should be noted that the analytical results for the URS soil samples are reported on a wet-weight basis, while the CHHSLs are on a dry-weight basis. But even if the analytical results were 50-percent greater, which is at the very highest end of the possible correction to a dry-weight basis, all of the detected OCP concentrations would still be substantially less than their respective CHHSLs.

In summary, all of the detected OCP concentrations in surface soil samples were less than the commercial/industrial CHHSLs. The detected arsenic concentrations were greater than the commercial/industrial CHHSL, but were within the range of background arsenic concentrations for the area as reported in the USGS report. In addition, the detected arsenic concentrations were less than the 12 mg/kg threshold of concern set forth in the DTSC guidance document. Therefore, based on the testing of surface soil samples, it does not appear that expansion of the electrical substation would cause an unacceptable health risk or hazard to workers due to soil exposure, based on Cal/EPA guidance criteria for chemical exposure.

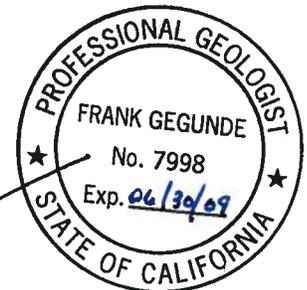
Please do not hesitate to contact us if you have any questions. We appreciate the opportunity to work with you on this important project.

Sincerely,  
**URS Corporation**

  
Stuart B. St. Clair, PE  
Project Civil Engineer



  
Frank L. Gegunde, PG  
Senior Geologist



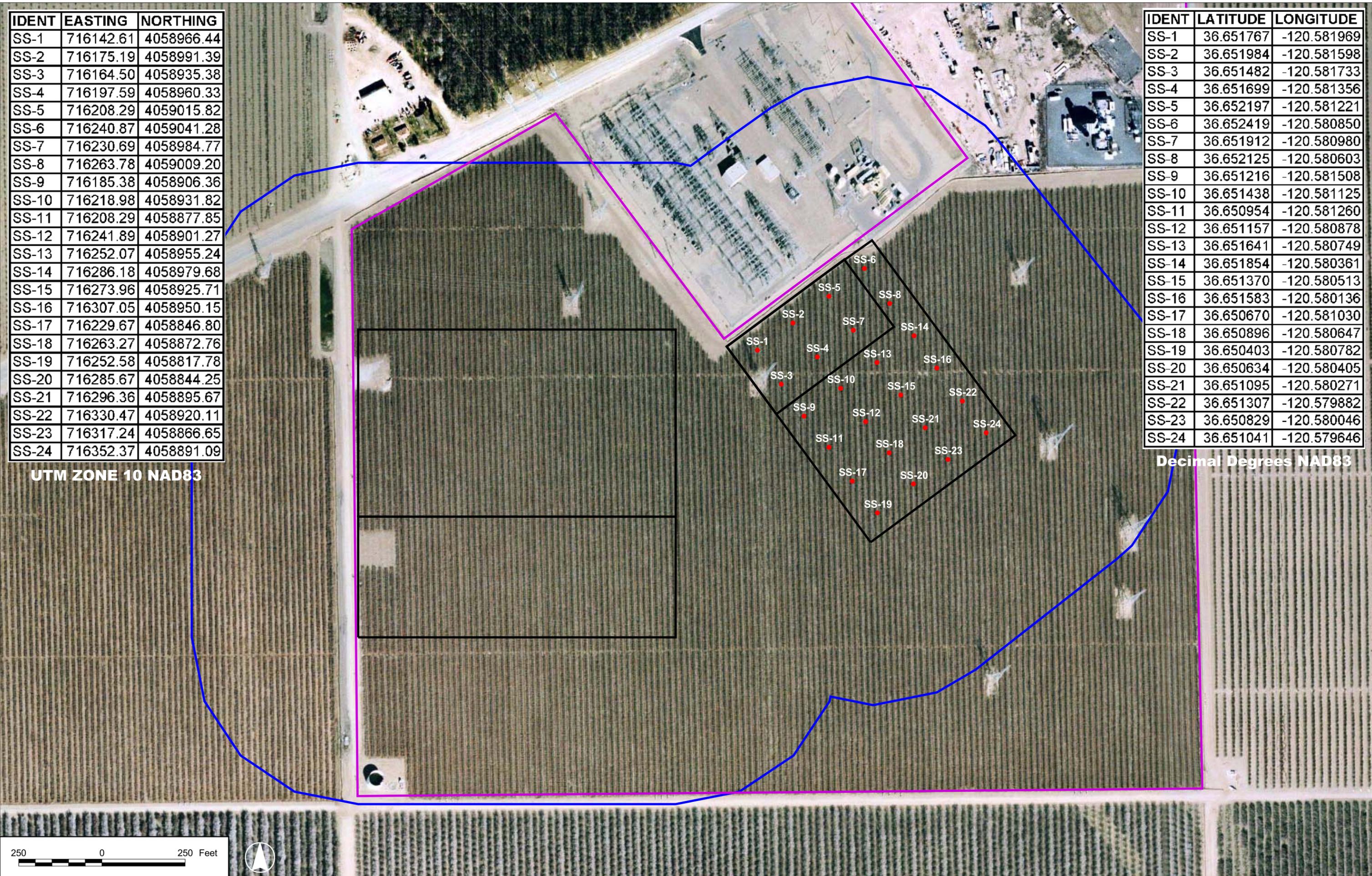
Attachments:  
Figure  
Laboratory Report

IDENT	EASTING	NORTHING
SS-1	716142.61	4058966.44
SS-2	716175.19	4058991.39
SS-3	716164.50	4058935.38
SS-4	716197.59	4058960.33
SS-5	716208.29	4059015.82
SS-6	716240.87	4059041.28
SS-7	716230.69	4058984.77
SS-8	716263.78	4059009.20
SS-9	716185.38	4058906.36
SS-10	716218.98	4058931.82
SS-11	716208.29	4058877.85
SS-12	716241.89	4058901.27
SS-13	716252.07	4058955.24
SS-14	716286.18	4058979.68
SS-15	716273.96	4058925.71
SS-16	716307.05	4058950.15
SS-17	716229.67	4058846.80
SS-18	716263.27	4058872.76
SS-19	716252.58	4058817.78
SS-20	716285.67	4058844.25
SS-21	716296.36	4058895.67
SS-22	716330.47	4058920.11
SS-23	716317.24	4058866.65
SS-24	716352.37	4058891.09

UTM ZONE 10 NAD83

IDENT	LATITUDE	LONGITUDE
SS-1	36.651767	-120.581969
SS-2	36.651984	-120.581598
SS-3	36.651482	-120.581733
SS-4	36.651699	-120.581356
SS-5	36.652197	-120.581221
SS-6	36.652419	-120.580850
SS-7	36.651912	-120.580980
SS-8	36.652125	-120.580603
SS-9	36.651216	-120.581508
SS-10	36.651438	-120.581125
SS-11	36.650954	-120.581260
SS-12	36.651157	-120.580878
SS-13	36.651641	-120.580749
SS-14	36.651854	-120.580361
SS-15	36.651370	-120.580513
SS-16	36.651583	-120.580136
SS-17	36.650670	-120.581030
SS-18	36.650896	-120.580647
SS-19	36.650403	-120.580782
SS-20	36.650634	-120.580405
SS-21	36.651095	-120.580271
SS-22	36.651307	-120.579882
SS-23	36.650829	-120.580046
SS-24	36.651041	-120.579646

Decimal Degrees NAD83





**Alpha Scientific Corporation**  
Environmental Laboratories

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07-28-2008

Mr. Stuart St. Clair  
URS Corporation  
30 River Park Place West, Suite 180  
Fresno, CA 93720

Project: 29874214.01000  
Project Site: Panoche Substation Expansion  
Sample Date: 07-18-2008  
Lab Job No.: UR807097

Dear Mr. St. Clair:

Enclosed please find the analytical report for the sample(s) received by Alpha Scientific Corporation on 07-22-2008 and analyzed for the following analytes:

EPA 8081A (Organochlorine Pesticides)  
EPA 6010B (Arsenic)

Alpha Scientific Corporation is a CA DHS certified laboratory (Certificate Number 2633). Thank you for giving us the opportunity to serve you. Please feel free to call me at (562) 809-8880 if our laboratory can be of further service to you.

Sincerely,

Roger Wang, Ph. D.  
Laboratory Director

Enclosures

This cover letter is an integral part of this analytical report.



# Alpha Scientific Corporation

## Environmental Laboratories

Client: URS Corporation  
 Project: 29874214.01000  
 Project Site: Panoche Substation Expansion  
 Matrix: Soil  
 Extraction Method: EPA 3550B  
 Batch No.: 0722-PS1

Lab Job No.: UR807097  
 Date Sampled: 07-18-2008  
 Date Received: 07-22-2008  
 Date Extracted: 07-22-2008  
 Date Analyzed: 07-23-2008  
 Date Reported: 07-28-2008

**EPA 8081A (Organochlorine Pesticides)**  
**Reporting Unit: µg/kg (ppb)**

LAB SAMPLE I.D.			MB	UR807097- 1 +2 +3 + 4	UR807097- 1 +2 +3 + 4 DUP	UR807097- 5 +6 +7 + 8	UR807097- 9 +10 +11 + 12
CLIENT SAMPLE I.D.				CS-1	CS-1 Dup	CS-2	CS-3
DILUTION FACTOR				1	1	1	1
COMPOUND	MDL	PQL					
Alpha-BHC	3	5	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	3	5	ND	ND	ND	ND	ND
Heptachlor	3	5	ND	ND	ND	ND	ND
Aldrin	3	5	ND	ND	ND	ND	ND
Beta-BHC	3	5	ND	ND	ND	ND	ND
Delta-BHC	3	5	ND	ND	ND	ND	ND
Heptachlor Epoxide	3	5	ND	ND	ND	ND	ND
Endosulfan I	3	5	ND	ND	ND	ND	ND
4,4'-DDE	3	5	ND	14.6	13.8	15.4	13.6
Dieldrin	3	5	ND	ND	ND	ND	ND
Endrin	3	5	ND	ND	ND	ND	ND
4,4'-DDD	3	5	ND	3.4j	3.2j	3.4j	3.3j
Endosulfan II	3	5	ND	ND	ND	ND	ND
4,4'-DDT	3	5	ND	20.3	19.9	21.5	25.0
Endrin Aldehyde	3	5	ND	ND	ND	ND	ND
Endosulfan Sulfate	3	5	ND	ND	ND	ND	ND
Methoxychlor	3	5	ND	ND	ND	ND	ND
Total Chlordane	15	25	ND	ND	ND	ND	ND
Toxaphene	60	100	ND	192	195	200	211
Endrin Ketone	30	50	ND	ND	ND	ND	ND
Hexachlorobenzene(HCB)	200	300	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	300	500	ND	ND	ND	ND	ND
SURROGATE	Accept Limit%	%RC	%RC	%RC	%RC	%RC	%RC
Surrogate Standard	60-140	102	109	113	120	101	

MDL=Method Detection Limit; PQL=Practical Quantitation Limit; MB=Method Blank;  
 ND=Not Detected (below DF × MDL); %RC=Percent Recovery.  
 \* : Obtained from a higher dilution analysis.  
 J : Trace value. Result is lower than PQL but higher than MDL.



# Alpha Scientific Corporation

## Environmental Laboratories

Client: URS Corporation  
 Project: 29874214.01000  
 Project Site: Panoche Substation Expansion  
 Matrix: Soil  
 Extraction Method: EPA 3550B  
 Batch No.: 0722-PS1

Lab Job No.: UR807097  
 Date Sampled: 07-18-2008  
 Date Received: 07-22-2008  
 Date Extracted: 07-22-2008  
 Date Analyzed: 07-23-2008  
 Date Reported: 07-28-2008

### EPA 8081A (Organochlorine Pesticides)

Reporting Unit: µg/kg (ppb)

LAB SAMPLE I.D.			MB	UR807097- 13 + 14 + 15 + 16	UR807097- 17 + 18 + 19 + 20	UR807097- 21 + 22 + 23 + 24	
CLIENT SAMPLE I.D.				CS-4	CS-5	CS-6	
DILUTION FACTOR				1	1	1	
COMPOUND	MDL	PQL					
Alpha-BHC	3	5	ND	ND	ND	ND	
Gamma-BHC (Lindane)	3	5	ND	ND	ND	ND	
Heptachlor	3	5	ND	ND	ND	ND	
Aldrin	3	5	ND	ND	ND	ND	
Beta-BHC	3	5	ND	ND	ND	ND	
Delta-BHC	3	5	ND	ND	ND	ND	
Heptachlor Epoxide	3	5	ND	ND	ND	ND	
Endosulfan I	3	5	ND	ND	ND	ND	
4,4'-DDE	3	5	ND	12.2	11.7	12.9	
Dieldrin	3	5	ND	ND	ND	ND	
Endrin	3	5	ND	ND	ND	ND	
4,4'-DDD	3	5	ND	ND	ND	ND	
Endosulfan II	3	5	ND	ND	ND	ND	
4,4'-DDT	3	5	ND	18.2	18.5	19.2	
Endrin Aldehyde	3	5	ND	ND	ND	ND	
Endosulfan Sulfate	3	5	ND	ND	ND	ND	
Methoxychlor	3	5	ND	ND	ND	ND	
Total Chlordane	15	25	ND	ND	ND	ND	
Toxaphene	60	100	ND	194	168	155	
Endrin Ketone	30	50	ND	ND	ND	ND	
Hexachlorobenzene(HCB)	200	300	ND	ND	ND	ND	
Hexachlorocyclopentadiene	300	500	ND	ND	ND	ND	
SURROGATE	Accept Limit%	%RC	%RC	%RC	%RC	%RC	%RC
Surrogate Standard	60-140	102	98	96	96	88	

MDL=Method Detection Limit; PQL=Practical Quantitation Limit; MB=Method Blank;  
 ND=Not Detected (below DF × MDL); %RC=Percent Recovery.

\* : Obtained from a higher dilution analysis.

J : Trace value. Result is lower than PQL but higher than MDL.



# Alpha Scientific Corporation

## Environmental Laboratories

Client: URS Corporation  
Project: 29874214.01000  
Project Site: Panoche Substation Expansion  
Matrix: Soil  
Extraction Method: EPA 3050B  
Batch No.: 0722-MS1

Lab Job No.: UR807097  
Date Sampled: 07-18-2008  
Date Received: 07-22-2008  
Date Extracted: 07-22-2008  
Date Analyzed: 07-23-2008  
Date Reported: 07-28-2008

**EPA 6010B (As, TTLC)**  
**Reporting Unit: mg/kg (ppm)**

Sample ID	Lab ID	Arsenic (As)	Reporting Limit
MB		ND	0.5
SS-1 @ 0-6"	UR807097-1	11.4	0.5
SS-1 @ 0-6"	UR807097-1 DUP	10.7	0.5
SS-5 @ 0-6"	UR807097-5	10.8	0.5
SS-9 @ 0-6"	UR807097-9	10.4	0.5
SS-13 @ 0-6"	UR807097-13	10.0	0.5
SS-17 @ 0-6"	UR807097-17	10.3	0.5
SS-21 @ 0-6"	UR807097-21	10.3	0.5

ND: Not Detected (at the specified limit).



07-28-2008

**EPA 8081A (Pesticides)  
Batch QA/QC Report**

Client: URS Corporation  
Project: 29874214.01000  
Matrix: Soil  
Batch No.: 0722-PS1

Lab Job No.: UR807097  
Lab Sample I.D.: UR807097-1 to 4  
Date Analyzed: 07-23-2008

**I. MS/MSD Report**  
Unit: ppb

Analyte	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
Gamma-BHC	ND	20	23.1	21.6	115.5	108.0	6.7	30	46-127
Heptachlor	ND	20	21.3	19.9	106.5	99.5	6.8	30	31-134
Aldrin	ND	20	19.4	19.9	97.0	99.5	2.5	30	36-132
Dieldrin	ND	20	19.3	18.2	96.5	91.0	5.9	30	21-134
Endrin	ND	20	16.6	15.7	83.0	78.5	5.6	30	42-139
4,4'-DDT	20.3	20	34.1	31.2	84.6	77.4	8.9	30	21-134

**II. LCS Result**  
Unit: ppb

Analyte	LCS Report Value	True Value	Rec.%	Accept. Limit
Gamma-BHC	21.7	20	108.5	80-120
Heptachlor	20.7	20	103.5	80-120
Aldrin	18.6	20	93.0	80-120
Dieldrin	18.4	20	92.0	80-120
Endrin	20.5	20	102.5	80-120
4,4'-DDT	22.8	20	114.0	80-120

ND: Not Detected.



# Alpha Scientific Corporation

Environmental Laboratories

07-28-2008

## EPA 6010B(Arsenic) Batch QA/QC Report

Client: URS Corporation  
Project: 29874214.01000  
Matrix: Soil  
Batch No.: 0722-MS1

Lab Job No.: UR807097  
Lab Sample I.D.: LCS  
Date Analyzed: 07-23-2008

### LCS/LCSD Report Unit: ppm

Analyte	MB Conc.	LCS %Rec.	LCSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
Arsenic (As)	ND	107.0	98.0	8.8	30	70-130

ND: Not Detected



# Alpha Scientific Corporation

## Environmental Laboratories

### MultiLevel Quality Control Sign Off (Soil Sample)

Sample Preparation		Extraction/Digestion/Preparation according to SOP# ASC3550-1/ ASC3050B-1		
HT met: HT Date(s): <u>08-01-08</u> Ext. Date: <u>07-22-2008</u>	Yes: <b>T</b>	No:	NA:	
Sample container Labels checked at all stages	Yes: <b>T</b>	No:	NA:	
Sample preservation checked	Yes:	No:	NA: <b>T</b>	
Sample preservation acceptable:	Yes:	No:	NA: <b>T</b>	
Sufficient sample provided for method QC:	Yes: <b>T</b>	No:	NA:	
Proper number of QC samples performed per method:	Yes: <b>T</b>	No:	NA:	
Specific QC requirements of client performed:	Yes: <b>T</b>	No:	NA:	
Were soil samples corrected for % moisture:	Yes	No: <b>T</b>	NA:	
Proper number of blanks performed:	Yes: <b>T</b>	No:	NA:	
Brought to final volume and labeled properly:	Yes: <b>T</b>	No:	NA:	
Entered information into proper lab notebooks:	Yes: <b>T</b>	No:	NA:	
Deviations to any of the above items:	Yes:	No: <b>T</b>	NA:	
Reasons/explanation for deviation & supervisors initial:				
Name of technician(s) or chemist/Date <u>GG/07-22-2008</u>				
Name of reviewer/Date <u>Li/07-22-2008</u>				
Comments:				
Instrumentation Analyses		Samples analyzed according to SOP# ASC8081-1/ASC6010B-1		
Holding time met for all analyses:	Yes: <b>T</b>	No:	NA:	
Calibrations include all pertinent analytes:	Yes: <b>T</b>	No:	NA:	
Initial calibration in control:	Yes: <b>T</b>	No:	NA:	
Second source calibrations in control:	Yes: <b>T</b>	No:	NA:	
LCS/(LCSD) passes:	Yes: <b>T</b>	No:	NA:	
Method blank/calibration blank passes:	Yes: <b>T</b>	No:	NA:	
Matrix Duplicate and MS/MSD passes:	Yes: <b>T</b>	No:	NA:	
Surrogate passes:	Yes: <b>T</b>	No:	NA:	
Results transcribed correctly from raw data:	Yes: <b>T</b>	No:	NA:	
Do the dilutions agree?	Yes: <b>T</b>	No:	NA:	
Were soil samples corrected for % moisture:	Yes:	No: <b>T</b>	NA:	
Manual integration 2nd level review:	Yes: <b>T</b>	No:	NA:	
Deviations to any of the above items:	Yes:	No: <b>T</b>	NA:	
Reasons/explanation for deviation & supervisors initial:				
Name of analyst(s)/Date: <u>Li /07-23-2008</u>				
Name of Data entry/Date: <u>Li / 07-23/24-2008</u>				
Name of reviewer/Date: <u>Sue / 07-25-2008</u>				
Comments:				



