VOLUME 2



DRAFT ENVIRONMENTAL IMPACT REPORT

CRYSTAL GEYSER ROXANE CABIN BAR RANCH WATER BOTTLING FACILITY PROJECT

CITY OF INYO, CALIFORNIA

SCH No. 2011091055

GENERAL PLAN AMENDMENT NO. 2010-01

ZONE RECLASSIFICATION NO. 2010-02

CONDITIONAL USE PERMIT NO. 2010-03

TECHNICAL APPENDICES

AUGUST 2012

VOLUME 2

DRAFT
ENVIRONMENTAL
IMPACT REPORT

CRYSTAL GEYSER ROXANE CABIN BAR RANCH WATER BOTTLING FACILITY PROJECT

CITY OF INYO, CALIFORNIA

SCH NO. 2011091055

GENERAL PLAN AMENDMENT NO. 2010-01

ZONE RECLASSIFICATION NO. 2010-02

CONDITIONAL USE PERMIT NO. 2010-03

TECHNICAL APPENDICES

Prepared For:
INYO COUNTY PLANNING DEPARTMENT
168 North Edwards Street
Independence, California 93526

Prepared By:
PCR SERVICES CORPORATION
80 South Lake Avenue, Suite 570
Pasadena, California 91101

AUGUST 2012

Appendix A: Initial Study, Notice of Preparation (NOP), Scoping Meeting Presentation, Scoping Meeting Oral Comments, and NOP Comment Letters

Planning Department
168 North Edwards Street
Post Office Drawer L
Independence, California 93526

Phone: (760) 878-0263
FAX: (760) 878-0382
E-Mail: inyoplanning@inyocounty.us

NOTICE OF PREPARATION

TO: Agencies, Organizations, and Interested Parties.

SUBJECT: Notice of Preparation (NOP) of an Environmental Impact Report (EIR) (California Code of Regulations, Title 14, Chapter 3, Section 15082). The Inyo County Planning Department is the Lead Agency under the California Environmental Quality Act (CEQA) for the Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project (proposed project) identified below. The Inyo County Planning Department is preparing an EIR for the proposed project.

AGENCIES: The Inyo County Planning Department requests your agency's views on the scope and content of environmental information, if any, relating to the proposed project that may be relevant to your agency's statutory responsibilities. The Inyo County Planning Department makes this request in accordance with California Code of Regulations Title 14, Sections 15082(a), 15103, and 15375. Your agency will need to use the EIR when considering any permit or other approval that your agency must issue for the proposed project.

ORGANIZATIONS AND INTERESTED PARTIES: The Inyo County Planning Department requests your comments regarding the proposed project.

PROJECT TITLE: Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project (proposed project).

PROJECT LOCATION: The project site consists of a 43.24-acre portion of the 420-acre Cabin Bar Ranch, which is located adjacent to and east of US 395, just south of the unincorporated Town of Cartago in southwestern Inyo County. The project site is located in Section 1, Township 19 South, Range 36 East; and Sections 5 and 6, Township 19 South, Range 37 East, Mount Diablo Baseline and Meridian. The project's location is depicted in the attached **Figure 1**, *Regional Location and Project Vicinity Map*.

PROJECT DESCRIPTION: The project applicant, Crystal Geyser Roxane (CGR), is proposing the construction of a spring water bottling facility and ancillary uses to be built in three phases over an approximate 10 to 15 year time period. Phase I and Phase II of the project would include the construction of an approximately 198,500-square-foot bottling facility that would house four water bottling lines and eight truck loading docks. Phase I would also include the construction of a 24-foot-wide access road that would extend from the proposed bottling facility to an access point along US 395, as well as a leach mound system and stormwater retention basin that would be located east of the proposed bottling facility. Phase II or Phase III of the proposed project would include the development of an 8.3-acre solar array to reduce the project's use of non-renewable resources and to achieve a Leadership in Energy and Environmental Design (LEED) Green or Certified level. The proposed solar array would be located on a southeast portion of Cabin Bar Ranch. Phase III would include an approximately 40,250-square-foot storage warehouse south of the bottling facility. If it is determined following Phase I that the demand for additional warehouse space is greater than the need for additional bottling capacity, the warehouse proposed in Phase III may be constructed prior to the planned Phase II development. The bottling facility would use spring water from three existing production wells located in the central portion of Cabin Bar Ranch. The proposed project would also use a fourth existing well to provide domestic potable water to the water bottling facility. To accommodate the proposed project, 23.46 acres of the Cabin Bar Ranch property would be rezoned to the M-2 (Light Industrial) zoning designation. In association with this zone change, a General Plan amendment would also be implemented to apply the Light Industrial General Plan land use designation to this 23.46-acre portion of Cabin Bar Ranch. The M-2 zone allows a bottling plant as a conditional use. As such, a Conditional Use Permit (CUP) is being requested as part of the proposed project. For the construction of Phase I, site preparation, demolition, earthwork, grading and installation of utilities is anticipated to begin in March 2012.

PROBABLE ENVIRONMENTAL EFFECTS: The Inyo County Planning Department has prepared an Initial Study that describes the potential environmental effects of the proposed project. The Initial Study found that the proposed project may have a potentially significant impact on the environment and an EIR will be prepared to evaluate potential impacts and analyze project alternatives. The EIR will evaluate in detail the following environmental factors that could be potentially affected by this proposed project: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Greenhouse Gas Emissions, Hydrology/Water Quality, Land Use/Planning, Noise, and Transportation/Traffic.

NOTICE OF PREPARATION - Page 2

RESPONSES AND COMMENTS: The Inyo County Planning Department will accept responses to this Notice of Preparation for thirty days, from the date of this notice through and including October 20, 2011. Please indicate a contact person for your agency or organization and send your responses to:

Ms. Tanda Gretz, Senior Planner
Inyo County Planning Department
P.O. Drawer L
168 N. Edwards Street
Independence, CA 93526

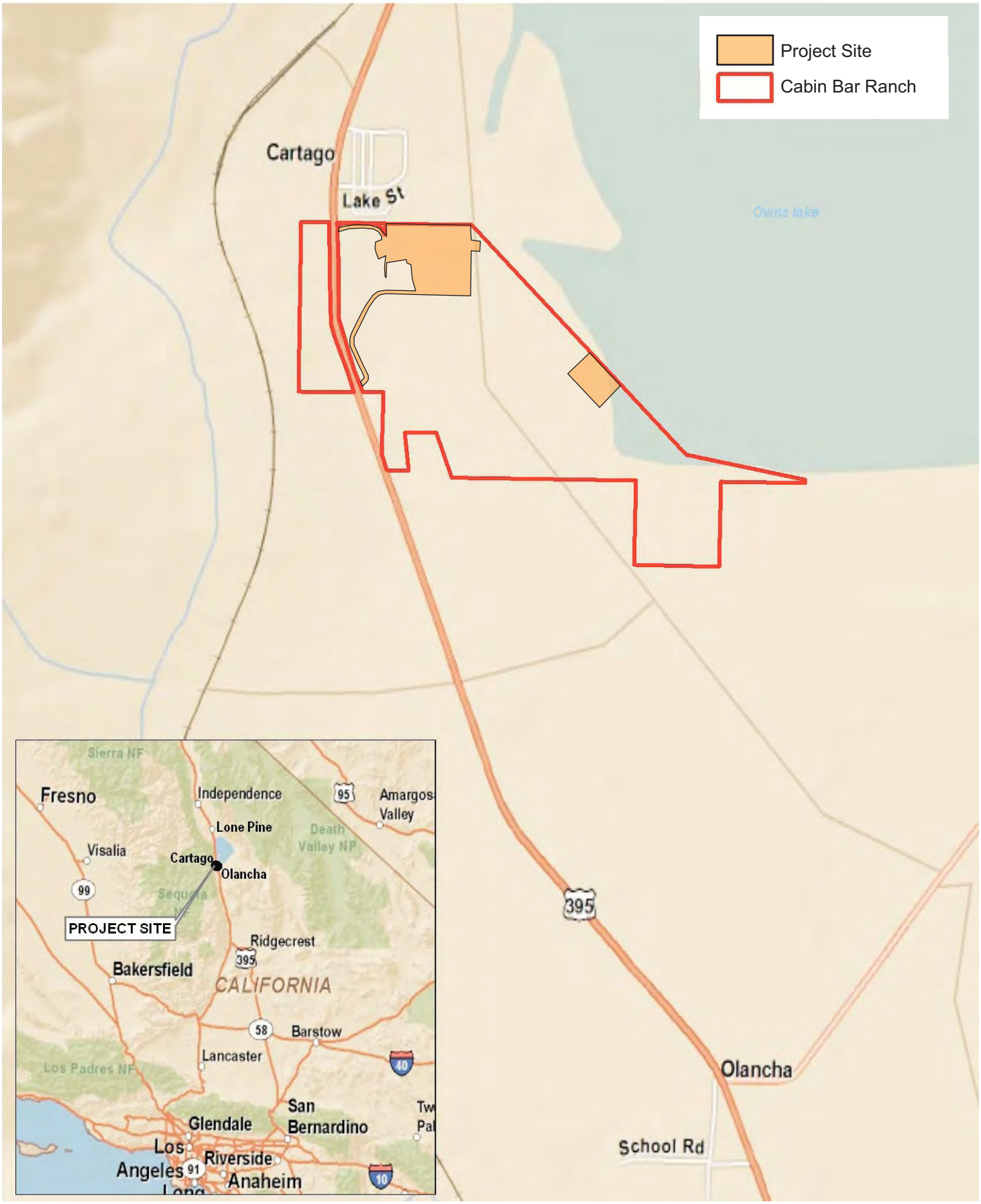
Comments may also be sent by FAX to (760) 878-0263 or by email to tgretz@inyocounty.us

SCOPING MEETING: A scoping meeting will be held on September 29, 2011, at 6:30 P.M. at the Olancha School Multi-Purpose Room, 123 School Road, Olancha, CA 93549. All parties are welcome to attend and to present their views regarding what environmental information should be addressed in the EIR.

DOCUMENT AVAILABILITY: The Initial Study is available for review on the Inyo County Planning Department website (www.inyoplanning.org) and at the following locations:

- Bishop Public Library, 210 Academy Avenue, Bishop, CA 93514
- Big Pine Public Library, 500 South Main Street, Big Pine, CA 93513
- Independence Public Library, 168 North Edwards Street, Independence, CA 93526
- Lone Pine Public Library, South Washington Street, Lone Pine, CA 93545
- Tecopa Public Library, 408 Tecopa Hot Springs Road, Tecopa, CA 92389
- Furnace Creek Public Library, Cow Creek Road, Death Valley, CA 92328

If you require additional information, please contact Tanda Gretz, Senior Planner at (760) 878-0265.



PCR

N

0 2000 Feet

Regional Location and Project Vicinity Map

Project Name

Source: PCR Services Corporation, 2007.

FIGURE

1

Planning Department
168 North Edwards Street
Post Office Drawer L
Independence, California 93526

Phone: (760) 878-0263
FAX: (760) 878-0382
E-Mail: inyoplanning@inyocounty.us

INITIAL STUDY

Project Title: Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project.

Project Location: A 43.24-acre portion of Cabin Bar Ranch between US 395 and the shoreline of the Owens Dry Lake just south of the Town of Cartago. Section 1, Township 19 South, Range 36 East; and Sections 5 and 6, Township 19 South, Range 37 East, Mount Diablo Baseline and Meridian.

Project Description: The project would construct a water bottling facility and associated warehouse, access roadway and parking areas, 8.3-acre solar array, stormwater retention basin, and ancillary uses on a portion of the Cabin Bar Ranch property. These proposed uses would require a General Plan Amendment, Zone Reclassification for a Zone Change, and Conditional Use Permit. See Attachment A: Project Description for a detailed description.

FINDINGS:
An Initial Study and Evaluation of Potential Impacts has been prepared by the Planning Department (attached). Staff finds that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in this Initial Study pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

The ENVIRONMENTAL IMPACT REPORT for the proposed project would evaluate in detail only the below environmental factors that would be potentially affected by this proposed project:

- Aesthetics Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Greenhouse Gas Emissions
- Hydrology/Water Quality
- Land Use/Planning
- Noise
- Transportation/Traffic

Additional information is available from the Inyo County Planning Department. Please contact Project Planner Tanda Gretz at tgretz@inyocounty.us if you have any questions regarding this project.

_____ _____

Josh Hart, AICP Date
Director, Inyo County Planning Department

Attachments:

- Attachment A: Project Description
- CEQA Appendix G: Initial Study & Environmental Checklist Form

ATTACHMENT A - PROJECT DESCRIPTION

A. INTRODUCTION

The project applicant, Crystal Geyser Roxane (CGR), is proposing the Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project ("proposed project" or "CGR Project"). The proposed project would involve the construction of a spring water bottling facility on the Cabin Bar Ranch property currently owned by CGR. The Cabin Bar Ranch is made up of 20 contiguous parcels and one non-contiguous parcel totaling approximately 420 acres, of which approximately 43.24 acres constitutes the proposed project site. Of the 43.24-acre project site, approximately 24.30 acres would be subject to ground disturbance and improvements associated with development of the proposed project. The remainder of the project site (18.94 acres) would not be developed, but is proposed to be rezoned to affect a parcel boundary adjustment.

Cabin Bar Ranch was formerly an operating cattle ranch, but it is now largely undeveloped open space. A portion of Cabin Bar Ranch (13 acres) was previously subdivided (into sixteen lots) and zoned Rural Residential (RR) for the planned construction of single-family residential homes; however, only one of the lots was developed. Cabin Bar Ranch includes one non-contiguous, undeveloped parcel immediately west across US 395 from the remainder of Cabin Bar Ranch. No project development would occur on this non-contiguous parcel.

A proposed water bottling facility, warehouse, and parking lots would be constructed within the northeastern portion of Cabin Bar Ranch on the 13-acre subdivided area of the property. The remainder of the project's proposed development (i.e., a 8.3-acre solar array, new access road, stormwater retention basin, and leach mound system) would occur in proximity to but outside of the 13-acre subdivided portion of Cabin Bar Ranch.

As further described below, the water bottling facility would include an approximately 198,500-square-foot bottling plant, and a 40,000-square-foot storage warehouse. Other components of the proposed project include an 8.3-acre solar array, a proposed stormwater retention basin, a leach mound, an evaporation pond, an endangered fish rearing pond, and a parking and truck staging area. A new access road from US 395 would be constructed approximately 1,000 feet south of the existing Cabin Bar Ranch Road. Subsequent to the construction of the new road, the road's access point along US 395 may need to be modified in the future to reflect the final alignment of the Caltrans US 395 Realignment Project, which is anticipated to begin construction in 2016. Anticipated development of the site could occur over an approximate 10 to 15 year period.

B. PROJECT LOCATION AND SURROUNDING USES

As mentioned above, the proposed 43.24-acre project site is located on the approximately 420-acre Cabin Bar Ranch, which is located south of the unincorporated town of Cartago, Inyo County, California. In local context, Cabin Bar Ranch lies in Section 1, Township 19 South, Range 36 East; and Sections 5 and 6, Township 19 South, Range 37 East, Mount Diablo Baseline and Meridian. Cabin Bar Ranch is predominantly open space and rural in nature, as are its surrounding uses, except for CGR's existing bottling plant operation located to the south of the property. Cabin Bar Ranch is bordered on the north by the unincorporated town

of Cartago. The unincorporated town has a population of approximately 92 persons and contains a mix of rural single-family residential homes and mobile homes, and the remnants of a soda ash processing plant that ceased operations in the 1930s.[1,2] Cartago is approximately 1.5 square miles in size and sits at an elevation of approximately 3,600 feet above mean sea level (msl). Cabin Bar Ranch is bordered on the east by the shoreline of the Owens Dry Lake. Located to the west, across US 395, is the undeveloped, non-contiguous portion of Cabin Bar Ranch, a Southern Pacific Railroad easement, the Los Angeles Aqueduct, and the eastern escarpment of the Sierra Nevada Mountain Range, the base of which is approximately one mile west of Cabin Bar Ranch. Directly south of the project site is undeveloped land, followed by land occupied by CGR's existing Crystal Geyser spring water bottling plant. These lands are largely privately owned by the Elton family, a portion of which is leased to CGR with accompanying water rights for its bottling operations. The Elton Lease parcel immediately south of Cabin Bar Ranch includes four CGR wells (CGR-2, CGR-5, CGR-6, and CGR-7) and associated piping to support CGR's existing water bottling operation in the town of Olancha. All other structures were removed from the Elton Lease properties as part of the conditions of the lease to avoid any potential risk associated with groundwater contamination. CGR's existing spring water bottling plant is approximately 0.75 mile south of the Cabin Bar Ranch, in the unincorporated town of Olancha.

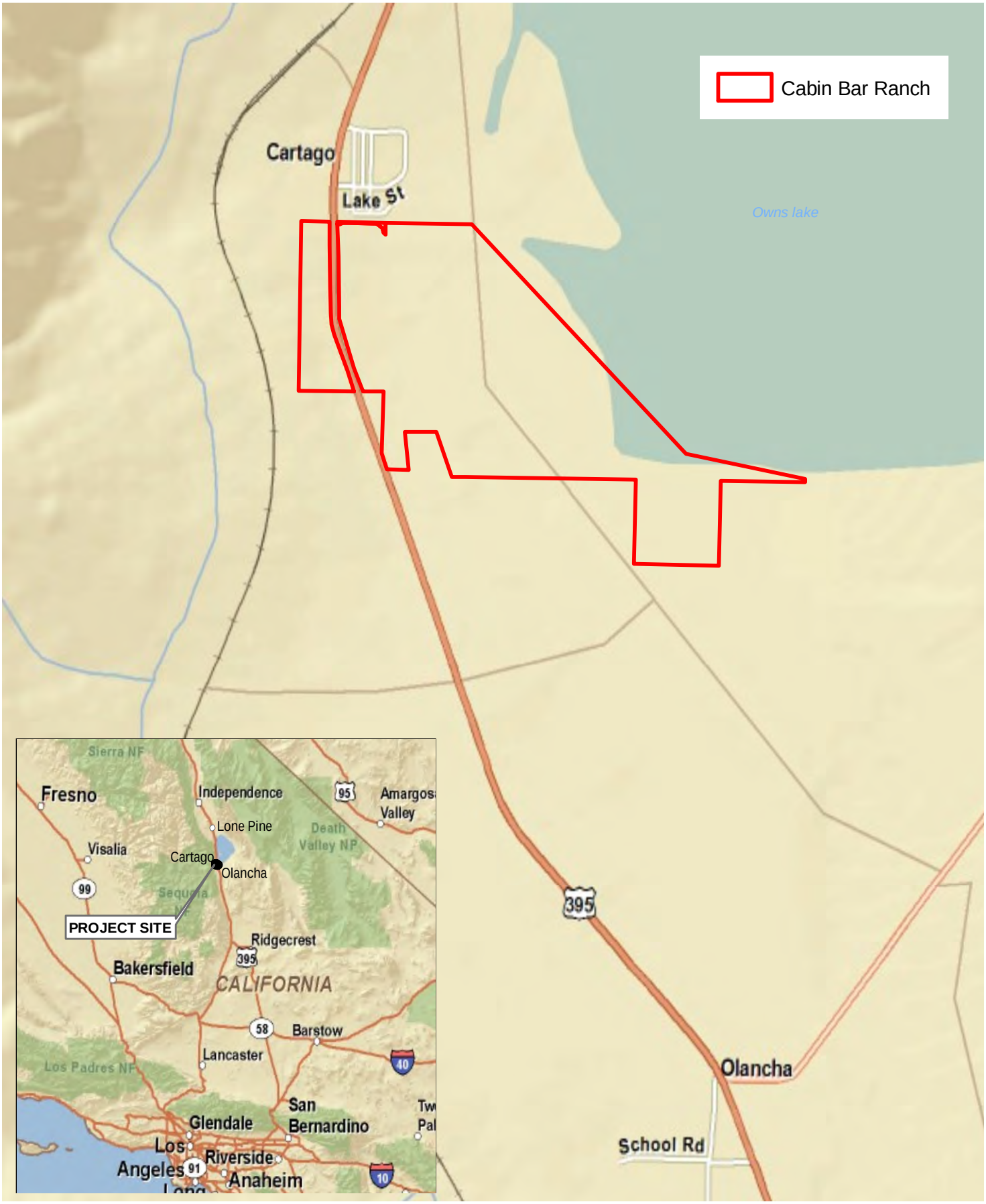
Cabin Bar Ranch is located 14 miles southwest of Keeler and 20 miles south of Lone Pine, as shown in **Figure** A-1, *Regional and Local Vicinity Map*. Cartago, Olancha and Lone Pine straddle US 395, and Keeler sits on the northeastern edge of the Owens Dry Lake along State Route 136.

The southwestern shore of the Owens Dry Lake, which includes the California Department of Fish and Game (CDFG) Cartago Wildlife Area, is located to the northeast of the project site.[3] The Cartago Wildlife Area is immediately east of the soda ash processing plant remnants in the town of Cartago, where old dikes extended into the Owens Dry Lake, encircling ponds which were once used as soda evaporators. The Cartago Wildlife Area contains 218 acres of fresh water, in the form of wetlands and springs, providing habitat for water fowl, wading birds and shorebirds, including Western Snowy plovers, White-faced ibis and rails. Snowy plovers nest in the former soda evaporators. As such, the area provides opportunities for bird watching, photography, and the hunting of water fowl, dove, quail, and rabbits. In addition to the Cartago Wildlife Area, the Owens Dry Lake has been designated a Nationally Significant Important Bird Area by the National Audubon Society and America Bird Conservancy.

[1] *US Census Bureau, Census 2010 Demographic Profile, Cartago CDP, California, Factsheet, American Factfinder 2, http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml, accessed July 2011.*

[2] *A Brief History of Owens Lake Mineral Production, by Walt Margeram. http://www.carsoncolorado.com/pages/mining.html, accessed April 2011.*

[3] *California Department of Fish and Game, Cartago Wildlife Area, Inyo County. http://www.dfg.ca.gov/lands/wa/region6/cartago.html, accessed March 2011.*



PCR

N

0 1,000 2,000 Feet

Regional Location and Project Vicinity Map

Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project

Source: ESRI Street Map, 2009; PCR Services Corporation, 2011.

FIGURE

1

This page is intentionally blank.

Cabin Bar Ranch is located adjacent to the west side of the Owens Dry Lake, which has largely dried up as a result of water conveyance from the Owens River through the Los Angeles Aqueduct. As such, a dry lakebed remains in much of the area previously occupied by the lake. During windy days, the now dry lakebed is a prominent source of airborne dust, contributing to the area's federal and state non-attainment status for criteria air pollutants. The dry lakebed also reduces the quantity and quality of wildlife habitat in the region. To help mitigate the effects of the dry lakebed, the Los Angeles Department of Water and Power (LADWP) is currently in the early process of developing a "Master Plan" for the Owens Lakebed, which would identify broadly supported goals and objectives to enhance the Owens Lakebed with respect to dust mitigation, habitat and wildlife, water efficiency methods, and potential renewable energy development.

As shown in **Figure A-2**, *Aerial Photograph*, the project site is located in a relatively flat and rural area, predominated by open space and vegetated areas, US 395, and the Owens Dry Lake. **Figure A-3**, *Project Site Boundary*, illustrates the project site boundary, including the portion of Cabin Bar Ranch to be rezoned under the proposed project. **Figure A-4**, *Existing Site Conditions*, illustrates the surrounding uses of the project site.

C. EXISTING CONDITIONS

The majority of Cabin Bar Ranch is currently undeveloped, largely consisting of sage brush and trees. Existing development on Cabin Bar Ranch includes Cabin Bar Ranch Road, a caretakers residence, a barn, other accessory buildings, and a man-made irrigation pond. The barn, accessory buildings, and the irrigation pond, all located in the central portion of the property, were used to support former cattle ranch operations. Cartago Creek, an intermittent creek fed by winter snowmelt and summer storm events, flows west to east across the property, approximately 1,000 feet south of the northern property line. Additionally, nine springs are located on Cabin Bar Ranch, running along a former irrigation ditch that runs parallel to US 395 south of Cartago Creek, approximately 550 feet east of the roadway.

Access to the project site is currently available from Cabin Bar Ranch Road, a paved road extending from US 395 to a cul-de-sac in the center area of the subdivided area formerly proposed for single-family residential development. Several unimproved dirt roads, previously used to support cattle ranching operations, traverse Cabin Bar Ranch. Cabin Bar Ranch is fenced with barbed wire fence along its perimeter. Topographically, Cabin Bar Ranch sits at an elevation of approximately 3,600 feet above msl. The interior of the site is generally flat with a slope of three to four percent in the western portion of the property, flattening out to one to two percent in the eastern portion of the property, adjacent to the Owens Dry Lake.

The majority of Cabin Bar Ranch east of US 395 was previously irrigated to support grasses for cattle grazing, using a surface sprinkler irrigation system fed by a pump located in the small, man-made irrigation pond on the property. The one exception to this is the portion of the property near the shoreline of the Owens Dry Lake, where the property was flood irrigated by water from the above-described nine on-site springs. As described in detail below, as part of the proposed project, the CDFG would be allowed the use of the existing on-site, man-made irrigation pond.

As mentioned above, in 1982, the northeast portion of Cabin Bar Ranch was subdivided into 16 residential lots, which remain undeveloped with the exception of one home (the existing on-site caretakers residence) located on Lot 12 of the subdivision. Cabin Bar Ranch Road exists as a paved roadway, located along the northern property line, extending from US 395, east, up to a cul-de-sac in the center of the old subdivision. Sewer and water lines currently exist beneath Cabin Bar Ranch Road, as well as electrical, telephone, and

cable lines. The water, electrical, telephone, and cable lines are connected to the existing caretaker's residence. The sewer line was designed to flow east under the force of gravity to a pump station south of the cul-de-sac, which would have then pumped to a leach field located south of the subdivision. However, this sewer line was never connected and wastewater from the caretaker's residence is treated by an individual septic system located on the same parcel as the residence. Cottonwood trees border the north and south edges of Cabin Bar Ranch Road leading into the subdivision area, which is covered by grassland, with the exception of the caretakers residence and two parcels covered by alkaline soils from Owens Dry Lake that support little to no vegetation. The lots that make up this subdivided portion of Cabin Bar Ranch would be merged or extinguished as part of the proposed project – likely through a Reversion to Acreage Process.

D. LAND USE AND ZONING DESIGNATIONS

Cabin Bar Ranch is designated by the Inyo County General Plan Land Use Element for Rural Protection (RP) and Rural Residential High Density (RRH) land uses.

With respect to Cabin Bar Ranch's zoning under the Inyo County Code, the majority of the Cabin Bar Ranch, approximately 407 acres, is zoned OS-40 (Open Space, 40-acre minimum). The principal permitted uses in the OS-40 zone are a single-family dwelling, farms and ranches for orchards, livestock ranches for raising and grazing animals, animal hospitals and kennels, wildlife refuges and hunting or fishing preserves, and wilderness areas.[4]

The 13-acre subdivided area in the north-central portion of Cabin Bar Ranch is zoned RR-1.0 (Rural Residential, one-acre minimum). The principal permitted uses in a Rural Residential zone are single-family dwelling units, including single-family mobile homes, and orchards, vegetable crops, nurseries and gardens.[5] As mentioned above, this portion of Cabin Bar Ranch was previously subdivided and zoned RR to permit the development of single-family homes.

Bottling facilities are not a permitted use in either of these zones; therefore, the proposed project would rezone a 12.29-acre portion of Cabin Bar Ranch currently zoned OS-40 and a 11.17-acre portion of Cabin Bar Ranch currently zoned RR-1.0 to M-2 (Light Industrial), for a total of 23.46 acres that would be rezoned to M-2. The M-2 zone allows a bottling plant as a conditional use.[6] As such, a Conditional Use Permit (CUP) is being requested by the project applicant as part of the proposed project. Figure A-3, *Project Site Boundary*, depicts the portion of the project site to be rezoned to the M-2 land use designation. As mentioned above, 18.94 acres of the project site to be rezoned would not be subject to ground disturbance or project development.

E. PROJECT OBJECTIVES

Section 15124(b) of the State of California Environmental Quality Act (CEQA) Guidelines states that the Project Description shall contain "a statement of the objectives sought by the proposed project." Section 15124(b) of the CEQA Guidelines further states that "the statement of objectives should include the

[4] *Inyo County Code, Title 18, Chapter 18.12*

[5] *Inyo County Code, Title 18, Chapter 18.21.020.*

[6] *Ibid, at Chapter 18.56.040.*



PCR

N

0 1,000 2,000 Feet

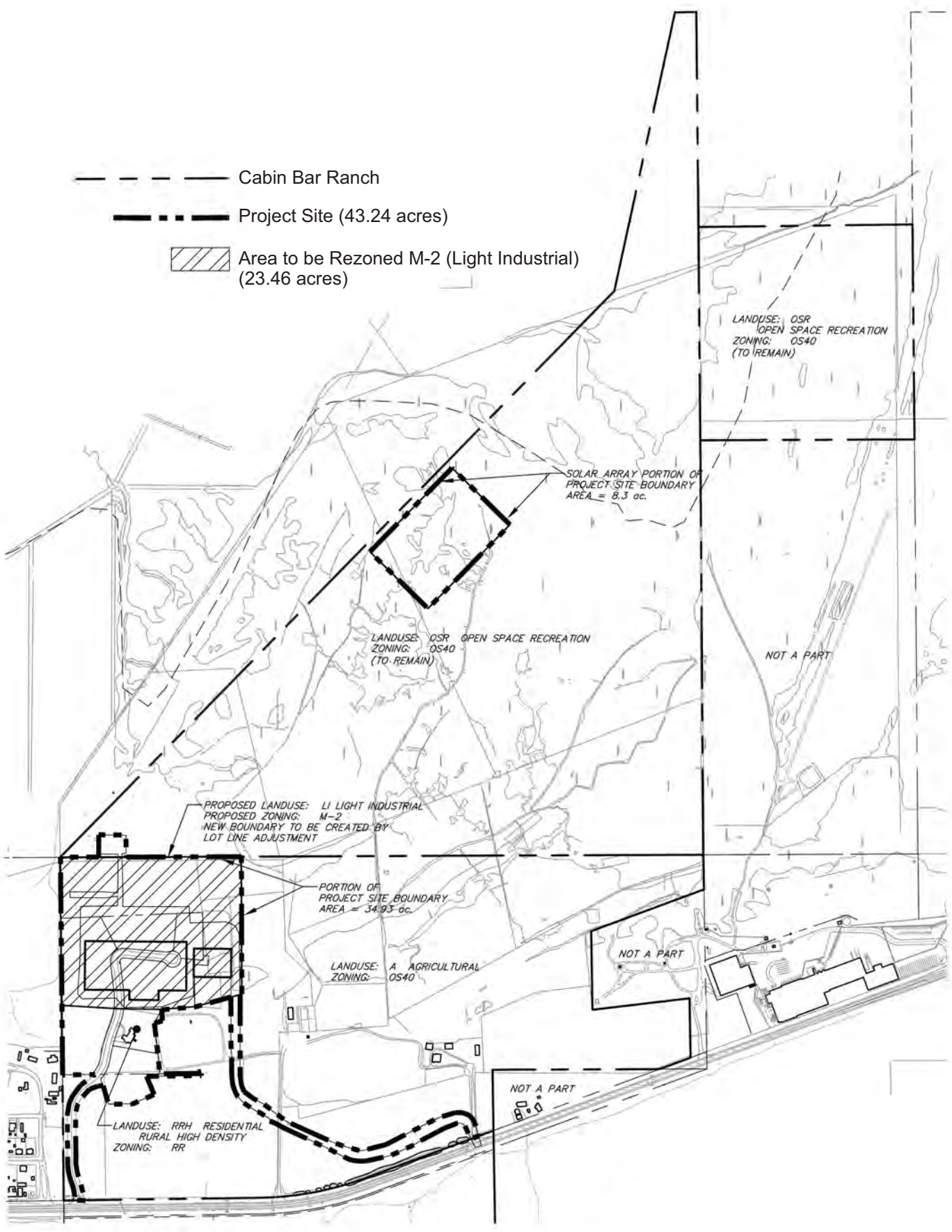
Aerial Photograph

Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project

Source: ESRI, 2011; PCR Services Corporation, 2011.

FIGURE

2



PCR

N

0 240 Feet

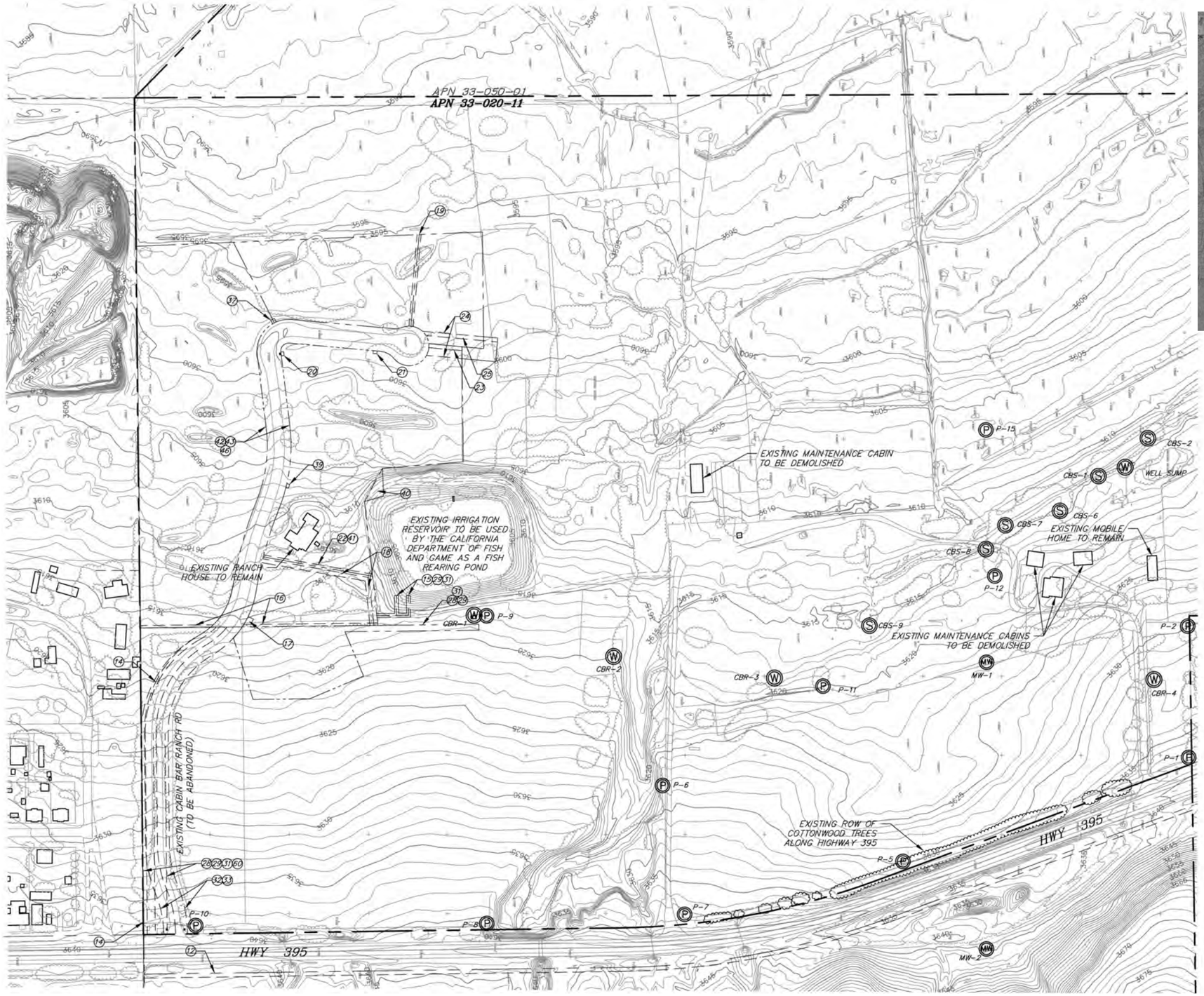
Project Site Boundary

Crystal Geyser Roxane Cabin Bar Ranch Water bottling Facility Project

Source: Triad/Holmes Associates, 2011.

FIGURE

3





LEGEND

- PROPERTY LINE
- 3630 — EXISTING GROUND CONTOUR & ELEV.
- (W) EXISTING DOMESTIC WATER PRODUCTION WELL
- (P) EXISTING PIEZOMETER
- (MW) EXISTING MONITORING WELL
- (S) EXISTING SPRING

NOTE: NO OTHER STRUCTURES EXIST ON REMAINING PROPERTY NOT SHOWN

EASEMENTS

REF PRELIM TITLE REPORT #52065 3/25/10

EXCEPTION #	PURPOSE	RECORD/INFO
(7)	HWY 395	50/94 O.R.
(12)	UG TELE LINES	231/485 O.R.
(14)	UG TELE LINES	82/1327 O.R.
(15)	WATERLINE/PUMP	MB 4/5
(16)	PUBLIC UTIL	MB 4/5
(17)	SEWER ESMT	MB 4/5
(18)	WATER/FIRE LINE	MB 4/5
(19)	DRAINAGE	MB 4/5
(20)	DWP	MB 4/5
(21)	DWP-PUBLIC UTIL	MB 4/5
(22)	WATER LINE	MB 4/5
(23)	SEWER LINE	MB 4/5
(24)	FUTURE STREET	MB 4/5
(25)	P.U.E.	MB 4/5
(27)	WATER FACILITIES	82/1422 O.R.
(28)	WATER FACILITIES	82/1458 O.R.
(29)	WATER/SEWER SYSTEMS	82/4261 O.R.
(31)	WATER FACILITIES	82/4262 O.R.
(32)	INGRESS/EGRESS	82/5147 O.R.
(33)	INGRESS/EGRESS	82/5149 O.R.
(37)	SEWER PUMP STATION	82/5291 O.R.
(39)	PUBLIC UTIL	MB 4/5
(40)	WATER RESERVOIR	82/3800 O.R.
(41)	WATER LINE	MB 4/5
(42)	TELE/COMMUNICATION	82/5146 O.R.
(43)	POLES/CONDUITS	82/5129 O.R.
(46)	CABIN BAR RANCH RD	MB 4/5
(60)	STREET	82/1324 O.R.

PCR

N

0 250 Feet

Existing Site Conditions

Crystal Geyser Roxane Cabin Bar Ranch Water bottling Facility Project

Source: Triad/Holmes Associates, 2011.

FIGURE 4

This page is intentionally blank.

underlying purpose of the project." Consistent with the Guidelines, this section of the Initial Study (IS) states the applicant's objectives for the project, which are as follows:

- To provide a new spring water bottling facility on a 24.30-acre portion of the 43.24-acre project site (both the 24.30-acre portion to be developed and the 43.24-acre project site are part of the larger 420-acre Cabin Bar Ranch property currently owned by CGR).
- To construct the new water bottling facility in a manner which incorporates sustainable building and design practices, recycling efforts and other conservation methods, in order to reduce greenhouse gas emissions.
- To change the General Plan land use designations and zoning to Light Industrial on 23.46 acres of the Cabin Bar Ranch property (of the 23.46 acres to be rezoned, 18.96 acres would remain undeveloped), and to secure a CUP within the M-2 zoning for a "bottling plant".
- To use 8.3 acres of CGR land for the development of a solar photovoltaic array, in order to further reduce electricity consumption by the water bottling facility.
- To assist in the enhancement of native fish populations in the Owens Valley, by allowing a former irrigation pond to be used by CDFG for the rearing of endangered fish, such as the Federal and California listed endangered Owens tui chub.
- To create a new employment opportunities for the local community.

F. DESCRIPTION OF THE PROPOSED PROJECT

1. Water Bottling Facility and Storage Warehouse

The proposed CGR water bottling facility would be built in three phases over an approximate 10 to 15 year time period. Phases I and II would construct four bottling lines and associated buildings on the project site, while Phase III would provide additional on-site warehouse storage space. More specifically, Phase I would involve construction of an approximately 106,500-square-foot building, which would house two of the four total bottling lines, as well as four truck loading docks. Phase II would involve construction of a 92,000-square-foot addition to the Phase I building that would house the remaining two bottling lines, and four additional truck loading docks. The total size of the building following the Phase II addition would be 198,500 square feet, as shown in **Figure A-5**, *Site Plan*. Phase III of the proposed project consists of an approximately 40,250-square-foot storage warehouse. The proposed buildings would reach a maximum height of approximately 39 feet above grade. If it is determined following Phase I that the demand for additional warehouse space is greater than the need for additional bottling capacity, Phase III may be constructed prior to Phase II.

The bottling facility would use spring water from three existing production wells located in the central portion of Cabin Bar Ranch. These three wells were drilled and tested in 2010 to determine if the underlying groundwater aquifer could support the bottling plant as proposed.[7] As shown in Figure A-4, the production wells are designated as CBR-8, CBR-9 and CBR-10. The proposed project would also use a fourth existing well, designated as CBR-1, to provide domestic potable water to the water bottling facility, as well as to the caretaker's residence located west of the proposed bottling facility. Well CBR-1 is located just west of the man-made irrigation pond. It is not anticipated that any additional wells would need to be drilled to support the water production needs of the project.

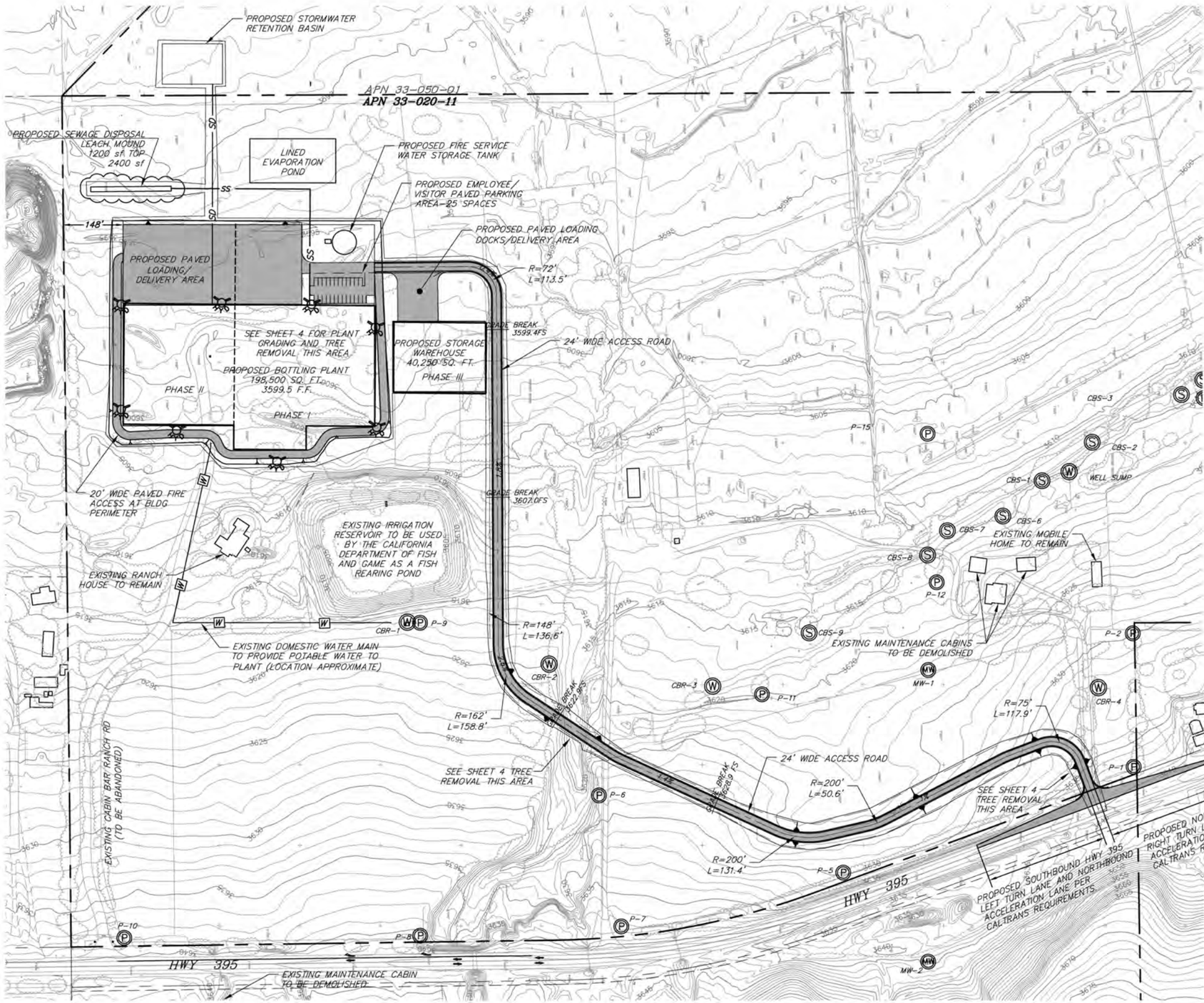
A total of four bottling lines are proposed for the project and would be built and housed in the buildings constructed under Phase I and Phase II as described above. The four bottling lines would be constructed as needed in response to market demands. Initially, only one bottling line would be built in the Phase I building. When market demand increases to a level that warrants additional bottling lines, the second bottling line, as well as the third and fourth bottling lines would be added. The second bottling line would also be located in the Phase I building, while the third and fourth bottling lines would be located in the building constructed under Phase II. During the majority of the year, bottling would be rotated through the four bottling lines, such that all four bottling lines would not be operating simultaneously. However, there would be times during peak water demand (e.g., spring and summer) when all four bottling lines would be operating at once. When all four bottling lines are operating at once, the proposed project would be anticipated to have a peak water demand of approximately 500 gallons per minute (gpm) from the on-site production wells. At project buildout, the annual water demand is estimated to be approximately 360 acre feet per year (afy).

The design of the buildings would be similar to the nearby CGR bottling facility in Olancha, approximately 0.75 mile south of the project site and adjacent to the east side of US 395. The buildings would be metal frame with an exterior metal siding painted in a complimentary color. In addition to the above-described buildings, the project proposes a separate fire suppression building, approximately 300 square feet in size, that would house a separate water storage tank and propane-fueled water pump for fire suppression. This separate building would be located east across the parking lot from the Phase I building. A fire sprinkler system would be installed in the Phase I and Phase II buildings and would be connected to the water storage tank and pump system in the separate fire building. Fire hydrants are planned to encircle the perimeter of the bottling facility as required by Cal-Fire, along with the planned access path for fire services.

The project also proposes the construction of a proposed stormwater retention basin east of the proposed paved loading and delivery area. The stormwater retention basin would be designed to capture stormwater from the project site, as well as excess water from plant cleaning operations. Approximately once every two to three months, the bottling plant's ceramic filtration system would be cleaned with non-toxic cleaning agents. The wastewater from this cleaning operation would be transferred to a holding tank where the pH would be balanced, and then ultimately discharged into the proposed stormwater retention basin. The operation of the proposed stormwater retention basin is permitted by the Lahontan Regional Water Quality Control Board (RWQCB), with its construction permitted through Inyo County.

At full build-out, the CGR water bottling facility is expected to employ up to 50 people. The proposed hours of operation would depend upon the time of year and seasonal production demand. At first, plant operation would require only 35 employees in two shifts, typically from 7:00 am to 11:00 pm. This employment scenario would also be the case during the fall and winter months at project build-out. Conversely, in the summer and spring after project build-out, the facility would require all 50 employees to operate the plant. These employees would be spread out between three shifts, 24-hours per day, so that there would typically be only 17 employees on-site at any one time. The employment figures presented above do not include truck drivers and delivery vehicle drivers (e.g., FedEx, UPS) who would temporarily be at the site to haul water and deliver supplies. The bottling plant would not operate on weekends.

[7] *Test Well Installation and Hydrology: Cabin Bar Ranch, U.S. Highway 395, Olancha, California. Prepared by Geosyntec Consultants, February*



N

0 250 Feet

PCR

Project Site Plan

Crystal Geyser Roxane Cabin Bar Ranch Water bottling Facility Project

Source: Triad/Holmes Associates, 2011.

FIGURE 5

This page is intentionally blank.

As mentioned above, domestic potable water for bottling employees (e.g., restrooms, break rooms) would be provided by a fourth on-site domestic groundwater well (CBR-1). There is currently no existing public water system available for the site; however, the existing groundwater well CBR-1 is connected to the existing water lines that serve the caretakers residence. Groundwater well CBR-1 and the existing water distribution system were previously permitted by the Inyo County Environmental Health Services Department. Under the proposed project, the existing water lines under Cabin Bar Ranch Road would continue to serve the caretaker's residence and would be connected to the proposed bottling plant for domestic potable water purposes if it is found that the existing water lines are adequate to serve the bottling plant. If the existing water lines are found to be in a degraded condition, or otherwise found to be deficient, they would be replaced from the location of the caretaker's residence to the proposed bottling plant. As the proposed on-site domestic potable water system would serve more than 25 employees, it is considered a public water system by the Inyo County Environmental Health Services Department. Thus, the domestic potable water system would be designed to meet County water quality standards for a public water system.

2. Endangered Fish Rearing Pond

As part of the proposed project, CGR would allow CDFG to access, use, and maintain the existing on-site, man-made irrigation pond for use in an ongoing environmental restoration effort that may help to restore local endangered fish species. As discussed above, this existing irrigation pond was previously used to irrigate the project site for previous cattle ranching operations. Owens Valley contains habitat for the Owens tui chub (*Gila bicolor snyderi*), a fish species listed as an endangered species at both the federal and state levels.[8,9] CDFG is currently installing fish rearing ponds in several locations in the Owens Valley to revitalize endangered fish populations, such as the Owens tui chub, and reintroduce them into local waters. As part of the proposed project, CGR would allow the CDFG use of the existing on-site pond for these purposes. CDFG plans on using the pond to rear Owens tui chub for eventual reintroduction into local waters. CGR's decision to allow CDFG use of the existing irrigation pond would be expressly contingent upon CDFG's commitment to safeguard the fish population and to prevent any conflicts with the proposed project, other uses of Cabin Bar Ranch, or on neighboring lands. Accordingly, design, management and operation of the pond would be coordinated with CDFG to avoid conflicts with the operations proposed for CGR.

3. Project Sustainability/Solar Array

As early as Phase II of project development, CGR would seek Leadership in Energy and Environmental Design (LEED) certification at the Green or Certified level. The primary on-site feature contributing to this LEED certification would be a proposed 8.3-acre solar photovoltaic array on a portion of Cabin Bar Ranch to the southeast of the water bottling facility, adjacent to the shoreline of the Owens Dry Lake. This solar array would be built in either Phase II or Phase III of the project, providing supplemental power to the water bottling facility in order to reduce the project's net increase in the use of commercially available non-renewable resources for its electricity consumption. The solar array would consist of photovoltaic cells and would be designed to provide, at a minimum, 7.5 percent of the total anticipated electricity demand of the proposed bottling facility in accordance with LEED requirements on renewable energy. Access to the

[8] *Threatened and Endangered Fish, Nongame Wildlife Program, California Department of Fish and Game, http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fish.html, accessed May 2011.*

[9] *Species Explorer Details for Owens Tui Chub, California Department of Fish and Game, http://nrm.dfg.ca.gov/taxaquery/SpeciesDetail.aspx?taxonid=1520&STitle=Gila+bicolor+snyderi&PTitle=Owens+tui+chub, accessed May 2011.*

proposed solar array would be via existing unimproved roads traversing the Cabin Bar Ranch property. No water consumption would be required for operation of the proposed solar array.

The project would also incorporate other sustainable features to contribute to the project's LEED certification. Some of the sustainability features being proposed include:

- Providing an employee shuttle as a form of alternative transportation.
- Providing preferential parking for low-emissions and fuel-efficient vehicles.
- Reducing the "heat island effect" with the use of concrete in the parking areas and high SRI roofing (light-colored roof).
- Implementation of an enhanced recycling program.
- Site lighting designed to meet LEED requirements for the Light Pollution Reduction credit for industrial projects.

CGR would continue to employ recycling and conservation programs similar to those that occur at the nearby CGR Crystal Geyser spring water bottling plant as a part of its regular operations, including programs for cardboard, wood pallets, PET preforms (which are plastic forms that are blown into bottles), and other plastics.

4. Vehicle Access and Parking

Development of the proposed bottling facility would require a new 24-foot-wide access road leading into the site from US 395. Caltrans, in coordination with the Inyo County Transportation Commission, is proposing to widen approximately 12.7 miles of US 395 within the vicinity of Olancha and Cartago. On June 29, 2011, Caltrans announced a preferred alignment for this widening project. The preferred alignment would result in a four-lane, controlled-access, divided expressway that would begin south of Olancha and pass west of the existing US 395 alignment, Olancha, and the Los Angeles Aqueduct. Once the alignment crosses Olancha Creek, the preferred alternative would then cross the Los Angeles Aqueduct and continue north through Cartago along the existing US 395 alignment to meet up with the previously constructed Ash Creek Four Lane Project. The existing US 395 alignment adjacent to Cabin Bar Ranch would become a frontage road to the new US 395 alignment. Construction of the Caltrans project is anticipated to begin in 2016.

As the proposed new access road would be constructed approximately four years prior to the planned improvements to US 395, the project would construct improvements along US 395 per California Department of Transportation (Caltrans) standards based on the current US 395 configuration. Improvements to US 395 would include the appropriate acceleration and deceleration lanes, as well as turning lanes, on both the northbound and southbound side of US 395. The internal access road would be approximately 3,100 feet in length and would cross the site in a northeastern alignment from US 395 towards the proposed bottling facility. At the point in time that the Caltrans project is completed, the proposed access road's tie in with US 395/US 395 Frontage Road would be modified accordingly, although these modifications are not considered a part of this proposed project.

The existing Cabin Bar Ranch Road would be abandoned and demolished in Phase I of the proposed project. The asphalt from the road would be pulverized and recycled for use in the base of the proposed new access roadway. The electricity and telephone lines currently in place beneath Cabin Bar Ranch Road would be

utilized by the proposed project. The existing sewer lines, pump, and associated septic field would be abandoned and removed as part of the removal of the existing driveway and grading activities that would occur under the proposed project. As discussed above, the existing water lines connected to well CBR-1 and serving the existing caretaker's residence could be retained to serve the domestic potable water supply for the bottling plant. However, if the existing water lines are found to be in a degraded condition, or are otherwise found to be insufficient to serve the bottling plant, then the water lines would be replaced as needed. Access to the site would be controlled by a gate that would be locked when the bottling plant is not in operation.

Twenty-five on-site parking spaces are proposed for employees and visitors, and would be located adjacent to the east side of the Phase I building. This area would also include four paved loading and delivery docks for trucks. As Phase II is built, four additional loading docks would be constructed adjacent to the east side of the Phase II building, thus expanding the paved truck loading and delivery area to the rear of that facility, eventually creating one large area for trucks immediately adjacent to the east side of the proposed buildings. As the Phase III storage warehouse is built south of the proposed bottling facility, there would also be another paved loading and delivery area for trucks, immediately adjacent to the east side of that facility.

In addition to the proposed access road, the project proposes a 20-foot-wide paved fire access road around the perimeter of the proposed bottling facility, with eight fire hydrants along its alignment.

5. Tree Removal

Cabin Bar Ranch has hundreds of mature trees on the property, as well as brush, bushes and grasses. As an integral part of siting the development, the project proposes to remove from the project site approximately 281 trees that are over 12 inches in diameter. The types of trees proposed to be removed are predominantly willow trees. The trees proposed to be removed are located on the planned access road and at the locations where the project's proposed buildings would be located. Although trees would be removed to accommodate the proposed structures, the number of trees to be removed constitutes a relatively small amount of the total number of trees on Cabin Bar Ranch. Additionally, if it is determined during the environmental analysis process that tree removal would result in undesirable impacts, measures would be developed to reduce the net number of trees removed, such as relocation or replanting. Landscaping proposed under the proposed project would be limited to re-vegetation of disturbed areas not occupied with project improvements with a native seed mix. There are numerous cottonwood, elm, and willow trees west of the proposed plant location on Cabin Bar Ranch, which would be retained to visually screen the proposed buildings from US 395. No additional landscaping of the entry from US 395 is planned.

6. Lighting, Signage and Security

The project site would be surrounded by chain link fencing with a gated entrance, with allowable access granted to authorized personnel only. The remainder of Cabin Bar Ranch would continue to be fenced with a barbed wire fence. Aside from employees, only pre-designated vendors and governmental personnel would be permitted on-site during specific hours of operations. The fencing would be designed so that CGR could restrict access to the site at its discretion. Exterior lighting would be provided in the loading dock area and at all building entrances. Security lighting would also be provided at the outside mechanical equipment pads. All exterior lighting would be designed to be fully shielded, limited to illuminating building entries and the loading dock area. Fully shielded lighting would also be used in the parking lot. The site lighting plan

would be designed to meet LEED requirements for the Light Pollution Reduction credit for industrial projects and in a manner to avoid impact to drivers on US 395.

As mentioned above, a fire suppression water storage tank would be constructed as a part of the proposed project, and will be housed in its own building, along with a propane-fueled fire suppression water pump. The bottling plant's fire suppression sprinkler system would be connected to the on-site water tank system. There would be a 20-foot-wide paved fire access road around the perimeter of the Phase I and Phase II bottling facility, with eight fire hydrants along its path.

7. Leach Mound System

The proposed project is not connected to a public sewer system as there is no central utility for sewer discharge servicing the project site or the neighboring community of Cartago. Sewer lines were previously installed under Cabin Bar Ranch Road as part of the previously proposed on-site subdivision; however, these lines would not be used for the proposed project and would be removed during project construction. As such, any sanitary waste generated on the project site would need to be disposed of on-site. Accordingly, a septic tank is proposed for the primary treatment of effluent and a leach mound system is proposed for secondary treatment. The leach mound is an accepted method to provide secondary treatment of wastewater prior to contact with groundwater. The leach mound system would be located in the northeastern portion of Cabin Bar Ranch, to the east of the planned Phase II building development, and would be strictly designed to avoid contamination of groundwater resources.

A leach mound system is similar to a sand filter; however, it is in a mound formation. The purpose of the mound would be to provide a minimum of five feet of soil or sand between the bottom of the leach rock and the highest groundwater levels. Pressurized leach lines would be located at the top of the mound in a bed of gravel. The lines would be supplied from a pump located in the septic tank. Below the gravel layer would be a minimum of two feet of sand (plaster sand with little or no fines), which would provide a media for aerobic bacteria to grow and treat the effluent as it passes through the sand, in addition to serving as a filter to remove suspended solids. The system would be sized based on a one-gallon-per-square-foot-per-day application rate of wastewater to the sand. The base area of the mound would be sized by the allowable application rate of effluent into the existing surficial soils, as determined by percolation testing. The leach mound system design for the proposed project would be reviewed and permitted by Inyo County Environmental Health Department prior to installation.

G. CONSTRUCTION SCHEDULE

The proposed project would be constructed in three phases, dependent upon market demand. A conservative project construction phasing is as follows:

Phase I

- 106,500-square foot building.
- Two bottling lines.
- Four loading docks.
- New permanent access road
- Construction anticipated in 2012.

- Phase I is anticipated to be in operation for five to nine years prior to construction of the Phase II addition.

Phase II

- 92,000-square foot building addition.
- Two additional bottling lines.
- Four additional loading docks.
- Solar Array (potential to occur in Phase III)
- Construction anticipated in 2019 to 2021.
- Construction of fourth and final bottling line anticipated in 2024 to 2025.

Phase III

- 40,000-square foot storage warehouse.
- Solar Array (potential to occur in Phase II)
- Construction anticipated in 2025 to 2027.
- The storage warehouse could be constructed prior to the Phase II building addition, if warehouse space is needed before an increase in bottling production is required.

For the construction of Phase I, site preparation, demolition, earthwork, grading and installation of utilities is anticipated to begin in March 2012. Phase I building construction will begin in May 2012, with site concrete and paving taking place in August 2012. Interior office improvements and installation of the first bottling line will begin in September 2012.

During construction, an estimated 12,600 cubic yards of grading would occur. The proposed project has been designed to balance all on-site cut and fill, and no material would be exported from the site during construction. Construction staging and stockpiling would all occur on-site. The staging area for Phase I and II of project construction would be the proposed loading dock area east of and adjacent to the proposed Phase III warehouse. Construction staging for Phase III would be located in the same area during the construction of the proposed warehouse.

H. NECESSARY APPROVALS

Approvals required for the development of the project include, but are not limited to, the following:

Inyo County

- Certification of Final Environmental Impact Report
- General Plan Amendment for Land Use Designation Changes
- Zone Reclassification for Zone Changes
- Conditional Use Permit for a proposed water bottling facility
- Parcel merger for all residential parcels except one lot with existing caretaker's house
- Certificate of Compliance and Lot Line Adjustment
- Grading and building permits

- Environmental Health Services Department approval of leach mound system
- Environmental Health Services Department approval of a public water system
- Other permits and approvals by Inyo County as deemed necessary

State of California Agencies

- California Department of Transportation, District 9 (Encroachment Permit)
- California Department of Public Health, Food and Drug Branch (Water Bottling Plant License)
- Great Basin Unified Air Pollution Control District
- Regional Water Quality Control Board, Lahontan Region (NPDES requirements, SWPPP)
- State Historic Preservation Office
- California Department of Fish and Game approval of proposed rearing pond
- Other permits and approvals by other agencies as deemed necessary

INYO COUNTY PLANNING DEPARTMENT

CEQA APPENDIX G: INITIAL STUDY & ENVIRONMENTAL CHECKLIST FORM

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

a) Earlier Analysis Used. Identify and state where they are available for review.

b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

a) the significance criteria or threshold, if any, used to evaluate each question; and

b) the mitigation measure identified, if any, to reduce the impact to less than significance issues.

Planning Department
168 North Edwards Street
Post Office Drawer L
Independence, California 93526

Phone: (760) 878-0263
FAX: (760) 878-0382
E-Mail: inyoplanning@ Inyocounty.us

INYO COUNTY PLANNING DEPARTMENT

APPENDIX G:CEQA INITIAL STUDY & ENVIRONMENTAL CHECKLIST FORM

1. Project title: Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project

2. Lead agency name and address: Inyo County Planning Department.
P.O. Drawer L, 168 N. Edwards Street,
Independence, CA 93526

3. Contact person and phone number: Tanda Gretz, Senior Planner,
Inyo County Planning Department
(760) 878-0265

4. Project location: A 43.24-acre portion of the Cabin Bar Ranch property between US 395 and the shoreline of the Owens Dry Lake just south of the Town of Cartago in southwestern Inyo County. Section 1, Township 19 South, Range 36 East; and Sections 5 and 6, Township 19 South, Range 37 East, Mount Diablo Baseline and Meridian.

5. Project sponsor's name and address: Crystal Geyser Roxane Water Company
1630 Kellog Drive
Weed, CA 96094

6. General Plan designation: Rural Protection (RP) and Rural Residential High Density (RRH – 1 du/acre)

7. Zoning: Open Space – 40-acre minimum (OS-40) and Rural Residential – 1-acre minimum (RR-1.0)

8. Description of project: The project would construct a water bottling facility and associated warehouse, access roadway and parking areas, 8.3-acre solar array, stormwater retention basin, and ancillary uses on a portion of the Cabin Bar Ranch property. These proposed uses would require a General Plan Amendment, Zone Reclassification for a Zone Change, and Conditional Use Permit. The area of Cabin Bar Ranch to be rezoned and developed by the proposed project totals 43.24 acres (the "project site"). Of the 43.24-acre project site, approximately 24.30 acres would be subject to ground disturbance and improvements associated with

development of the proposed project. The remainder of the project site (18.94 acres) would not be developed, but is proposed to be rezoned to affect a parcel boundary adjustment. See Attachment A: Project Description for a detailed description.

9. <u>Surrounding land uses and setting</u>: The proposed project is located on a 43.24-acre portion of Cabin Bar Ranch, which is located adjacent to the east side of US 395, immediately south of the unincorporated town of Cartago, Inyo County, California. Cabin Bar Ranch is predominantly open space and rural in nature, as are surrounding uses, except for CGR's existing bottling plant operations south of Cabin Bar Ranch. Immediately to the north of Cabin Bar Ranch is the unincorporated town of Cartago, which has a population of approximately 92 persons and contains a mix of rural single family residences and mobile homes, and the ruins of a soda ash processing plant. With the exception of several parcels adjacent to US 395, which are zoned C-2 (Highway Services and Tourist Commercial), the majority of the town of Cartago is zoned RMH (single residence and mobile home combined district), which is intended to protect established neighborhoods of one-family dwellings (including mobile homes), and to provide space in suitable locations for additional development of this kind, with appropriate community facilities. Directly south of the project site is undeveloped land, followed by CGR's existing Crystal Geyser spring water bottling plant. These lands are largely privately owned by the Elton family, although a portion of the land is leased to CGR with accompanying water rights for its bottling operations. The portion of the Elton Lease property located immediately south of Cabin Bar Ranch contains four CGR production wells and associated piping in support of its existing operations in the town of Olancha; all other structures have been removed from that portion of the Elton Lease. CGR's existing spring water bottling plant is situated approximately 0.75 mile south of the Cabin Bar Ranch south of the unincorporated town of Olancha. To the west, across US 395 is an undeveloped, non-contiguous portion of Cabin Bar Ranch, a southern Pacific Railroad easement, the Los Angeles Aqueduct, and the eastern escarpment of the Sierra Nevada Mountain Range, the base of which is approximately one mile west of Cabin Bar Ranch. East of the site is the Owens Dry Lake and its historic shoreline. As mentioned above, the 43.24-acre portion of the Cabin Bar Ranch property to be rezoned and developed under the proposed project is considered the project site for the purposes of this Initial Study.

10. <u>Other public agencies whose approval is required</u>:

State of California Agencies
Great Basin Unified Air Pollution Control District
Lahontan Regional Water Quality Control Board
California Department of Transportation, District 9 (Bishop)
State Historic Preservation Office
California Department of Health and Services
California Department of Fish and Game

Inyo County Agencies
Inyo County Planning Department
Inyo County Public Works Department, Building and Safety Division
Inyo County Water Department
Inyo County Environmental Health Services Department

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒ Aesthetics Resources	☐ Agriculture & Forestry	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Geology /Soils
☐ Hazards & Hazardous Materials	☒ Hydrology / Water Quality	☒ Land Use / Planning
☐ Mineral Resources	☒ Noise	☐ Population / Housing
☐ Public Services	☐ Recreation	☒ Transportation/Traffic
☒ Greenhouse Gas Emissions	☐ Utilities/Service Systems	☒ Mandatory Findings of Significance

DETERMINATION

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☒ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in this Initial Study pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____

Tanda Gretz Date
Senior Planner
Inyo County Planning Department

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☒	☐	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☒	☐	☐	☐

DISCUSSION:

a) **Potentially Significant Impact.** The project site is located in an area that provides scenic views (from, and across, the project site) of nearby mountains, vistas, and of the floor of the Owens Valley. These views feature the eastern escarpment of the Sierra Nevada Mountains, including Olancha Peak, and of the Owens Dry Lake. The proposed project would remove vegetation and introduce a 198,500-square-foot bottling facility and 40,250-square-foot warehouse, as well as an ancillary building, an 8.3-acre solar array, a paved access roadway, and a stormwater retention basin on a 24.30-acre portion of the Cabin Bar Ranch property proposed for the project. The proposed buildings would be approximately 39 feet above grade. As a result, the proposed project may alter views of scenic vistas across the project site, particularly from the adjacent US 395, which carries a high volume of tourist traffic. Therefore, further evaluation of this topic in an environmental impact report (EIR) is recommended.

b) **No Impact.** The project site is located adjacent to the east side of US 395, which within the project vicinity is designated as an "Eligible State Scenic Highway – Not Officially Designated" by the California Department of Transportation (Caltrans).[1] As mentioned above, views from US 395 are of the eastern escarpment of the Sierra Nevada Mountains, the Inyo Mountains, and the Owens Dry Lake, as well as of views up and down the Owens Valley. As Cabin Bar Ranch is not located adjacent to a designated scenic highway, no impact would result. Further analysis of the issue is not necessary, and no mitigation measures are required. Nonetheless, it is important to note that views of scenic resources, including those visible from the highway, would be addressed as part of the overall aesthetics discussion in the EIR.

c) **Potentially Significant Impact.** Cabin Bar Ranch is currently a flat relatively undeveloped open space and is generally rural in nature, as is the surrounding area. Existing improvements on Cabin Bar Ranch include Cabin Bar Ranch Road, a caretaker's residence, a barn, and other accessory buildings, of which the road and caretaker's residence are located on the 24.30-acre portion of the project site that would be developed by the proposed project. Vegetation on this 24.30-acre portion of the project site currently

[1] *California Department of Transportation, California Scenic Highway Mapping System, Inyo County. http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm, accessed July 2011. A 20-mile segment of US 395 north of the project site is designated as a State Scenic Highway.*

consists of mature trees, grass and other vegetation. Cottonwood trees border the north and south edges of Cabin Bar Ranch Road leading into the 13-acre subdivided area, which is covered by grassland, with the exception of the caretakers residence and two parcels covered by alkaline soils from Owens Dry Lake that support little to no vegetation. As indicated above, the proposed project would alter the visual quality of the site and its surroundings by constructing a proposed water bottling facility and associated uses. Therefore, further evaluation is recommended in an EIR to assess the potential for the proposed project to impact the visual character or quality of the project site and surrounding vicinity.

d) **Potentially Significant Impact.** The project site is located in a relatively undeveloped portion of Inyo County with low levels of nighttime ambient artificial light. The proposed project would construct a new water bottling facility, warehouse and truck operations area, internal roadway, and solar array on the relatively undeveloped project site with few existing sources of artificial light. The proposed project would include security lighting, architectural lighting, and building signage, which may increase ambient lighting in the area. Further, vehicle headlights resulting from the proposed uses, as well as the project's proposed solar array, have the potential to increase glare that could affect motorists along US 395. Therefore, further analysis of light and glare in an EIR is recommended.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

DISCUSSION:

a) **No Impact.** Although the project site was previously utilized for cattle grazing, the proposed project site is not listed as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), and there is no "Farmland" in Inyo County, according to the definition of that term and the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Division of Land Resource Protection.[2] Therefore, the proposed project would not convert areas designated as Farmland to a non-agricultural use, and there would be no impact. Further analysis of the issue is not necessary, and no mitigation measures are required.

b) **Less than Significant Impact.** Under existing conditions, the majority (407 acres) of the overall Cabin Bar Ranch is zoned Open Space – 40-acre minimum (OS-40) in the Inyo County Code. The remainder of the site (13 acres), where the 16 subdivided parcels are located, is zoned Rural Residential – 1-acre minimum (RR-1.0) in the Inyo County Code.

Both the OS-40 and RR-1.0 zones permit agricultural uses of varying kinds; however, agricultural is not the only principle permitted use for these zones. As discussed in Attachment A, *Project Description*, the project would rezone an approximate 23.46-acre portion of Cabin Bar Ranch to the M-2 (Light Industrial) zoning designation. Similar to the OS-40 and RR-1.0 designations, the M-2 zone allows agricultural uses as a principle permitted use, although agricultural is also not the primary intended use for the M-2 zone. Therefore, the project's proposed zone change itself would not limit the ability of either the project site or the overall Cabin Bar Ranch to be used for agricultural uses. However, areas occupied by the project's proposed features would no longer be available for agricultural use. Nonetheless, since the project site is not currently used for agricultural uses, the proposed project would not result in a loss of agricultural uses and a less than significant impact would result.

[2] *http://redirect.conservation.ca.gov/DLRP/fmmp/product_page.asp, accessed April 2011.*

The proposed project is not in an existing Williamson Act contract area, as Inyo County does not participate in Williamson Act programs.[3] Therefore, the proposed project would not result in an impact on lands under Williamson Act contract. Further analysis of this issue is not necessary, and no mitigation measures are required.

c) **No Impact.** The proposed project is not located within an area zoned as forest land, timberland, or timberland zoned Timberland Production. Additionally, the project site is currently zoned for open space and residential uses and is not used for forest services. Therefore, the proposed project would not conflict with existing zoning, or cause the rezoning of forest land, timberland, or timberland production land. Further analysis of this issue is not necessary, and no mitigation measures are required.

d) **No Impact.** As mentioned above, the project site is zoned for open space and residential uses and does not include any forest or timberland. Therefore, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, the proposed project would have no impact resulting in the loss of forest land or conversion of forest land to non-forest use. Further analysis of this is issue is not necessary, and no mitigation measures are required.

e) **Less than Significant Impact.** The proposed project is not located on designated Farmland, nor is it located on forest land. The existing environment and surrounding setting is rural and natural; however, it does not possess the required designations or characteristics to be considered Farmland or forest land. Additionally, no forestland or timber operations are currently located on the project site. Therefore, the proposed project would have a less than significant impact on the conversion of the land from these designated uses. Further analysis of this issue is not necessary, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐

[3] *The California Land Conservation (Williamson) Act, 2010 Status Report, California Department of Conservation, at page 2. http://www.consrv.ca.gov/dlrp/lca/stats_reports/Documents/2010%20Williamson%20Act%20Status%20Report.pdf, accessed May 2011.*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☒	☐	☐	☐

DISCUSSION:

a) **Potentially Significant Impact.** The project site and the surrounding area are located in the 13,975-square-mile Great Basin Valleys Air Basin (the "Basin"). The project site is located in a portion of the Basin known as the Owens Valley Planning Area (OVPA). Particulate matter, primarily in the form of wind-blown dust, is a large source of air pollution in the OVPA. Strong winds over the lakebed of the Owens Dry Lake blow high levels of dust into the air containing a variety of particulates. The Great Basin Unified Air Pollution Control District (GBUAPCD) is required, pursuant to the federal Clean Air Act, to reduce emissions of criteria pollutants for which the OVPA is in non-attainment (i.e., particulate matter less than 10 microns [PM_{10}]).[4] In response to this mandate, the GBUAPCD adopted the 2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan (SIP) to reduce levels of PM_{10} in the OVPA. The Owens Dry Lake, adjacent to the overall Cabin Bar Ranch, is the predominant source of PM_{10} in the OVPA.

Project development would involve the removal of the existing Cabin Bar Ranch Road; the removal of existing on-site vegetation; excavation and grading; and the construction of a water bottling facility, a 8.3-acre solar array, a stormwater retention basin, and ancillary structures. Thus, the proposed project could result in a short- and long-term increase in stationary and mobile source air emissions, including PM_{10}, associated with construction and operation of the project. Therefore, further analysis of the potential for the project to have an adverse effect on the SIP in an EIR is recommended.

b) **Potentially Significant Impact.** As mentioned above, the project site is located within the OVPA, which is in non-attainment for PM_{10}. Project development would involve the removal of the existing Cabin Bar Ranch Road; the removal of existing on-site vegetation; excavation and grading; and the construction of a water bottling facility, a 8.3-acre solar array, a stormwater retention basin, and ancillary structures. Air emissions would occur during all phases of project construction (e.g., demolition and removal of the existing Cabin Bar Ranch roadway and on-site vegetation, excavation and grading, site preparation, establishing building foundations, installation of utility lines and services, and the construction of the water bottling facility and ancillary uses). As a result, the project has the potential to exceed GBUAPCD-prescribed emission thresholds during its construction. Additionally, project operations would result in increases in stationary and mobile air emissions through the consumption of electricity and/or propane for space and water heating, the

[4] *Great Basin Unified Air Pollution Control District. http://www.gbuapcd.org, accessed April 2011.*

operation of landscape maintenance equipment, and vehicle/truck travel. Therefore, further analysis the project's potential to contribute to the current non-attainment status or conflict with the standards established in the 2008 SIP in an EIR is recommended.

c) **Potentially Significant Impact.** The proposed project, as described above, could result in increases in air emissions from activities associated with construction and operational activities occurring in the OVPA, which is currently in non-attainment of federal and state air quality standards for PM_{10}. Construction activities that would result in an increase of on-site emissions include, but are not limited to, the demolition and removal of the existing Cabin Bar Ranch roadway and on-site vegetation, excavation and grading, site preparation, establishing building foundations, installation of utility lines and services, and the construction of the water bottling facility and ancillary uses. Project operations that would result in increases in stationary and mobile air emissions include, but are not limited to, the consumption of electricity and/or propane for space and water heating, the operation of landscape maintenance equipment, and vehicle/truck travel. Therefore, implementation of the proposed project could potentially contribute to air quality impacts, which combined with other existing and future emissions sources in the area, could cause a cumulative impact. Therefore, further analysis of this topic in an EIR is recommended.

d) **Potentially Significant Impact.** Project construction activities and operations, as described above, would increase air emissions above current levels. Sensitive receptors in the project vicinity include residences of Cartago adjacent to the north side of the project site. Thus, it is recommended that the potential for the propose project to expose these sensitive receptors to substantial pollutant concentrations be addressed in an EIR.

e) **Potentially Significant Impact.** Sensitive receptors in the vicinity are limited to the residents of Cartago, the closest of which is approximately 300 feet north of the site. Temporary odors resulting from project construction would include gas and diesel fumes associated with motor vehicles and heavy equipment engines. Regarding project operations, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project would not include any of these uses; the proposed project would construct a water bottling facility, a 8.3-acre solar array, and ancillary uses. All water bottling operations would take place within the enclosed building proposed under the project. In general, water bottling operations are not known to generate objectionable odors. Additionally, no complaints have been received from operations at the nearby spring water bottling plant in Olancha. Any odors generated by the bottling process would be limited to the smell of lubricants and cleaners used in the bottling process. These odors would be minute in quantity, and as mentioned previously, would be contained in the facility. Project operations may also generate gas and diesel fumes associated with motor vehicles and diesel trucks. However, trucks would not be permitted to idle for extended periods of time on-site and these odors would be minute and would dissipate before reaching nearby sensitive receptors.The project site is not connected to a public sewer system, as there is no central utility for sewer discharge servicing the project site or the neighboring community of Cartago. A private septic system was designed and installed for the subdivided portion of Cabin Bar Ranch. This system includes a sewer line that was designed to flow east under the force of gravity to a pump station south of the cul-de-sac, which would've then pumped to a leach field located in "Lot A". However, this sewer system was never connected and wastewater from the existing caretaker's residence is treated by an individual septic system located on the same parcel as the caretaker's residence. The existing sewer lines, pump, and associated septic field would be abandoned and removed as

part of the removal of the existing driveway and grading activities that would occur under the proposed project. As such, all sewer discharge must be disposed of on-site through the use of a septic tank and accompanying leach mound system. The septic tank would provide for the primary treatment of effluent and the leach mound system would provide for the secondary treatment of effluent. The leach mound is an accepted method to provide secondary treatment of wastewater prior to contact with groundwater while minimizing odors. The leach mound system would be located in the northeastern portion of the property, behind the proposed bottling facility, several hundreds of feet from the nearest resident in Cartago. The leach mound system design for the proposed project would be reviewed by the Inyo County Environmental Health Department prior to the issuance of permits to verify that the proposed wastewater treatment facilities (including the leach mound system) shall be designed to control and mitigate odors so that off-site detection does not occur. With permitting and proper design and operation, the septic system and leach mound system would not be anticipated to emit odors into the surrounding environment.

Nonetheless, as the proposed project involves construction activities, would generate gas and diesel fumes associated with motor vehicles and diesel trucks, and would include installation of a leach mound system within proximity to sensitive receptors, there is the potential for the project to create objectionable odors affecting a substantial number of people. Therefore, further analysis of this topic in an EIR is recommended.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☒	☐	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native nursery sites?	☒	☐	☐	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☒	☐	☐	☐

DISCUSSION:

a) **Potentially Significant Impact.** The project site is generally undeveloped and was used for cattle grazing in the past. The project site has not been used for cattle grazing or other activities for years and now contains numerous mature trees, brush, and both native and non-native grasses. Northeast of the project site, immediately east of the soda ash processing plant remnants is the California Department of Fish and Game (CDFG) Cartago Wildlife Area. The Cartago Wildlife Area contains 218 acres of fresh water, in the form of wetlands and springs, providing habitat for water fowl, wading birds and shorebirds, including Western Snowy plovers, White-faced ibis and rails. Additionally, immediately adjacent to the east side of the overall Cabin Bar Ranch is the Owens Dry Lake, a major stop-over on the Pacific Flyway and resting/roosting location for migratory birds, some of which may be special-status species. In addition, the Owens Valley contains habitat for a fish species listed as an endangered species at both the federal and state levels, the Owens tui chub (Gila bicolor snyderi). CDFG is currently installing fish rearing ponds in several locations in the Owens Valley to revitalize endangered fish populations, such as the Owens tui chub, and reintroduce them into local waters.[5,6] A project feature involves allowing CDFG the use of a former irrigation pond on the project sitefor the rearing of the Owens tui chub.

An 8.3-acre solar photovoltaic array is planned for future phases of the project, and it would border the historic shoreline of the Owens Dry Lake. Furthermore, the leach mound system, a secondary sewage treatment and filtration area, would be located at the northeastern area of the property on open space. Since these three features would require ground-disturbing activities and the removal of vegetation in relatively undisturbed areas, they have the potential to impact on-site habitat.

As a result of the project site's relatively natural state, the proposed removal of mature vegetation, the project's disturbance of relatively undisturbed areas, and the site's location in close proximity to the CDFG designated Cartago Wildlife Area and the Owens Dry Lake, the proposed project has the potential, either directly or through habitat modifications, to have an impact on candidate, sensitive or special status species as identified by the CDFG or the US Wildlife Service (USFWS). Thus, it is recommended that the potential for the project to have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, be further analyzed in an EIR.

[5] *Threatened and Endangered Fish*, *Nongame Wildlife Program*, *California Department of Fish and Game*, *http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fish.html*, *accessed May 2011*.

[6] *Species Explorer Details for Owens Tui Chub*, *California Department of Fish and Game*, *http://nrm.dfg.ca.gov/taxaquery/SpeciesDetail.aspx?taxonid=1520&STitle=Gila+bicolor+snyderi&PTitle=Owens+tui+chub*, *accessed May 2011*.

b) **Potentially Significant Impact.** As discussed above in IV(a), the Cartago Wildlife Area and Owens Dry Lake are located northeast and east of the project site, respectively. Additionally, Cartago Creek crosses the overall Cabin Bar Ranch and a portion of the project site where the access roadway would be constructed, in a west to east direction, and may support riparian habitat or sensitive natural communities. Thus, it is recommended that the potential for the project to have an adverse affect on any riparian habitat or other sensitive natural community be further analyzed in an EIR.

c) **Potentially Significant Impact.** As mentioned above, Cartago Creek, a seasonal creek, runs through the overall Cabin Bar Ranch and a portion of the project site where the access roadway would be constructed, from west to east towards the Owens Valley Lake. Depending on flow volumes, frequency of flow events, and ultimate destination of the waterway, Cartago Creek could be considered "waters of the US" ("jurisdictional waters") by the US Army Corps of Engineers. In addition, a man-made irrigation pond is located on the center portion of Cabin Bar Ranch. This pond is designated as a Freshwater Pond in the USFWS National Wetlands Inventory. The National Wetlands Inventory also designates the eastern portion of the site where truck deliveries would occur (adjacent to dry Owens Valley Lake) as Freshwater Emergent Wetlands. As the project has the potential to result in indirect impacts on the Cartago Wildlife Area, and in direct impacts to USFWS identified wetlands, further discussion of this topic in an EIR is recommended.

d) **Potentially Significant Impact.** The project site sits just west of the historic shoreline of the Owens Dry Lake, which is along the course of the Pacific Flyway, a major migratory wildlife corridor. The project site has been left to return to an open and natural state for years, and therefore, the project site now contains numerous mature trees, brush, and both native and non-native grasses. The current presence of any resident species is unknown; however, due to the relatively undeveloped nature of the site, close in proximity to the Pacific Flyway, and on-site mature trees where nesting could occur, there is the potential for migratory species, including bird species protected under the federal Migratory Bird Treaty Act (MTBA) to be present on the project site. Therefore, the proposed project, which would remove mature trees from the project site and construct a water bottling facility and ancillary uses, may interfere with the movement of a native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. Thus, it is recommended that the potential for the proposed project to impact native residents and migratory species be further evaluated in an EIR.

e) **Less than Significant Impact.** The project site contains hundreds of mature trees, as well as brush, bushes and grasses, and is part of the larger overall undeveloped Cabin Bar Ranch property. The proposed project would include the development of a water bottling facility and associated uses, which would necessitate the removal of mature and/or protected trees, and thus, could result in the potential loss of habitat. The trees to be removed are located along the alignment of the planned internal access road and where the project's proposed building facilities are slated for construction. Landscaping proposed under the proposed project would be limited to re-vegetation with a native seed mix of disturbed areas that would not be occupied with project improvements. There are numerous cottonwood, elm, and willow trees west of the proposed plant location, which would be retained to screen the proposed buildings from US 395. No additional landscaping is planned along the site's proposed entry along US 395. Nonetheless, as the project would remove mature and/or protected trees and potentially result in the loss of habitat, further evaluation of this topic in an EIR is recommended.

f) **Potentially Significant Impact.** Several planning efforts are currently underway to protect biological resources and natural habitat in the project area. For instance, the Los Angeles Department of Water and Power (LADWP) is currently in the early process of developing a "Master Plan" for the Owens Lakebed, which would identify broadly supported goals and objectives to enhance the Owens Lakebed with respect to dust mitigation, habitat and wildlife, water efficiency methods, and potential renewable energy development. As a result, the proposed project may potentially conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan. Therefore, further evaluation of this topic in an EIR is recommended.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☒	☐	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

DISCUSSION:

a) **Potentially Significant Impact.** Due to the age of operations at the overall Cabin Bar Ranch, the project site may contain potentially eligible historic resources (e.g., resources that are greater than 50 years in age). Although the project would largely develop an area that was previously subdivided in the mid-1980s, there is the possibility that existing ancillary structures (e.g., maintenance structures) outside of the subdivided area could be either directly impacted (e.g., by unplanned removal) or indirectly impacted (e.g., by altering the historic context in which these structures were built) by project construction. As a result, if these structures are determined to be historic resources, the proposed project may cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5. Therefore, it is recommended that further evaluation in an EIR be conducted to assess whether resources on the site are historic and whether their significance would be altered by the proposed project.

b) **Potentially Significant Impact.** A preliminary Draft Archaeological Report covering the area of a former grazing field, located immediately adjacent to the east side of US 395 in the northern portion of the overall Cabin Bar Ranch, was completed in May 2010.[7] The results of this report found one potential archaeological site, numerous isolated Native American artifacts, and a historical association with Native American presence on the surveyed portions of Cabin Bar Ranch. Some portions of the project site, such as the previously subdivided area and location of the existing Cabin Bar Ranch Road, have been disturbed by previous grading

[7] *Lynn Johnson. Draft Report: An Archaeological Survey of Two Proposed Bottling Plant Construction Sites, Cabin Bar Ranch, Inyo County, California. May 2010.*

activities. In addition, portions of the project site have been disturbed by rodent burrowing activity, livestock grazing, farm equipment, and water erosion. These disturbances may have displaced artifacts from their original point of deposition. The remainder of the project site is undisturbed by recent human activity. As the proposed project would involve excavation and other ground-disturbing activities in the vicinity of previously identified archeological resources, the proposed project has the potential to either result in impacts to these previously identified resources or to unearth previously undisturbed archaeological resources. In addition, the presence of one potential archaeological site and numerous Native American artifacts indicates that Cabin Bar Ranch was likely previously inhabited by Native American tribes, as represented today by Lone Pine Paiute-Shoshone Tribe. As a result, the proposed project may cause a substantial adverse change in the significance of an archaeological resource, pursuant to §15064.5 and further evaluation of this topic in an EIR is recommended.

c) **Potentially Significant Impact.** The project site contains relatively undisturbed land, which could contain paleontological resources. Project construction would involve excavation that has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Therefore, it is recommended that the project's potential to directly or indirectly impact paleontological or unique geological features be further evaluated in an EIR.

d) **Potentially Significant Impact.** No formal cemeteries or human remains are known to have been found on the site. However, previously discovered Native American archaeological artifacts indicate that the project site has a historical association with Native American presence on-site. Therefore, construction and excavation may disturb previously undiscovered human remains, including those interred outside of formal cemeteries. Therefore, further evaluation of this topic in an EIR is recommended. During preparation of previous on-site archaeological investigations, requests were received from the Lone Pine Paiute-Shoshone Tribe that the one identified potential archeological site and any previously undiscovered archaeological sites in the area be protected due to their sensitive natures and the high potential for looting. The comments and concerns of the Tribe will be considered as part of the EIR evaluation.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐

DISCUSSION:

a.i) **Less than Significant Impact.** Fault rupture occurs when movement on a fault deep within the earth breaks through to the surface. Based on criteria established by the California Geological Survey (CGS), faults can be classified as active, potentially active, or inactive. Active faults are those historically having produced earthquakes or shown evidence of movement within the past 11,000 years (during the Holocene Epoch).

An Alquist-Priolo Earthquake Fault Zone is a regulatory zone established around an identified active earthquake fault to reduce the potential for structural damage to occur resulting from surface expressions of the earthquake fault. The Alquist-Priolo Earthquake Fault Zones vary in width depending on the potential for surface rupture (i.e., when movement on a fault breaks through to the earth's surface), but are generally about one-quarter mile in width.[8]

A Geotechnical Report, entitled *Geotechnical Investigation and Results of Percolation Testing: CG Roxanne Water Bottling Plant, Cartago, California* was previously prepared by Sierra Geotechnical Services, Inc., in January 2010 for the proposed project. The Geotechnical Report found that the eastern portion of an Alquist-Priolo Earthquake Fault Zone, positioned around the active Owens Valley Fault, crosses onto the western portion of the overall Cabin Bar Ranch. The eastern boundary of this Alquist-Priolo Earthquake Fault Zone is located approximately 0.27 mile west and southwest of the project site.[9] The Owens Valley Fault, the subject fault that is located in the center of the above-described Alquist-Priolo Earthquake Fault Zone, is located approximately 0.32 mile southwest of the project site on the non-contiguous portion of the overall Cabin Bar Ranch west across US 395. While located on a portion of the Cabin Bar Ranch property, the Owens Valley Fault does not cross the project site and no known surface expressions of the fault are known to be located on the project site. As such, the Geotechnical Report indicates that impacts related to surface rupture

[8] *California Geologic Survey – Alquist-Priolo Earthquake Fault*

[9] *Sierra Geotechnical Services, Inc., Geotechnical Investigation and Results of Percolation Testing, for CG Roxane Water Bottling Plant, Cartago, California, prepared by Mr. Joseph Adler and Mr. Thomas Platz, January 12, 2010, at page 5.*

of a known earthquake fault are not anticipated, and this impact is considered less than significant. Further analysis of this issue is not necessary, and no mitigation measures are required.

a.ii) **Less than Significant Impact.** As mentioned above, the project site is located approximately 0.32 mile northeast of the active Owens Valley Fault, which extends from the vicinity of Bartlett to about 0.5 mile south of Tinemaha Dam, for a total distance of approximately 69 miles. Like all sites in the vicinity of the Owens Valley Fault, the project site is located in a seismically active region, and development of the proposed project could expose occupants of the site to moderate to strong seismic ground shaking. This seismic ground shaking could damage proposed buildings, parking areas, and utility infrastructure. Several estimates have been made of recurrence intervals for earthquakes along this fault and it has been found that the fault has the potential to create an estimated Richter-Magnitude 6.5 to 8.2 earthquake every 2,000 to 3,000 years.[10] As mentioned above, no structures would be constructed within the portion of the Alquist-Priolo Earthquake Fault Zone that traverses the overall Cabin Bar Ranch, as described in Item V(a)(i) above.

According to the California Building Code (CBC), soil conditions at the project site are classified as a Site Class D, which corresponds to a "Stiff Soil" profile, as shown in **Table 1**, *California Building Code (CBC) Seismic Design Parameters for the Project*. While it is possible that future earthquakes produced in southern California, including those along the Owens Valley Fault, could shake the project site, modern, well-constructed buildings are designed to resist ground shaking through the use of shear panels and other forms of building reinforcement. As with any new development in the State of California, all structures built as part of the proposed project, would be constructed in conformance with CBC standards, as they pertain to earthquake hazards, and the Inyo County General Plan goals and policies for seismic hazards.[11] The 2010 CBC incorporates the latest seismic design standards for structural loads and materials to provide for the latest in earthquake safety. Additionally, construction of the proposed project would be required to adhere to applicable recommendations provided in the site-specific Geotechnical Report, entitled *Geotechnical Investigation and Results of Percolation Testing: CG Roxanne Water Bottling Plant, Cartago, California*, prepared by Sierra Geotechnical Services, Inc., in January 2010, for the proposed project.[12] The Geotechnical Report implements recommendations, standards, and specifications to reduce impacts related to seismic-related hazards. Overall, given compliance with regulatory requirements and site-specific recommendations in the geotechnical report, impacts associated with seismic ground shaking would be less than significant. Further analysis of this issue is not necessary, and no mitigation measures are required.

a.iii) **Less than Significant Impact.** Seismic-related ground failure, including liquefaction, occurs when a saturated, granular deposit of low relative density is subject to extreme shaking and loses strength or stiffness due to increased pore water pressure. Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Research and historical data indicate that loss of granular soils below a near-surface groundwater table are most susceptible to liquefaction. Liquefaction is characterized by a loss of shear strength in the affected soil layers, thereby causing the soil to behave as a viscous liquid. This effect

[10] *Southern California Earthquake Data Center, Owens valley Fault Zone, http://www.data.scec.org/fault_index/owensval.html, accessed May 2011.*

[11] *Inyo County General Plan, Public Safety Element, Geologic and Seismic Hazards.*

[12] *Sierra Geotechnical Services, Inc., Geotechnical Investigation and Results of Percolation Testing, for CG Roxane Water Bottling Plant, Cartago, California, prepared by Mr. Joseph Adler and Mr. Thomas Platz, January 12, 2010, at page 9*

Table 1

California Building Code (CBC) Seismic Design Parameters for the Project

Parameter	Value
Site Class	D
Site Coefficient (Fa)	1.0
Site Coefficient (Fv)	1.0
Mapped Spectral Acceleration at Short Periods (S)	1.294g
Mapped Spectral Acceleration of a One-Second Period (S_1)	0.448g
Spectral Acceleration Adjusted For Site	1.294 (0.2 sec)
Spectral Acceleration Adjusted For Site	0.696 (1.0 sec)
Design Spectral Acceleration (SDs)	0.862 (0.2 sec)
Design Spectral Acceleration (SD1)	0.464 (1.0 sec)
Occupancy Category	II
Seismic Design Category (SDC)	D

Source: Sierra Geotechnical Services Inc., January 2010

may be manifested at the ground surface by settlement and even sand boils, where insufficient confining overburden is present over layers.

In order for the potential effects of liquefaction to be manifested at the ground surface, the soils generally have to be granular, loose to medium-dense and saturated relatively near the ground surface, and must be subjected to ground shaking of a sufficient magnitude and duration. The potential for liquefaction to occur in the area is high (approximately 60 percent probability), based upon the density of site soils relative to the depth of groundwater. In addition, the potential for ground failures associated with liquefaction (i.e., post liquefaction), reconsolidation and sand boils are also considered high.[13]

As mentioned above, the proposed project would be designed and constructed in accordance with the 2010 CBC, as implemented by the Inyo County Code, which incorporates the latest seismic design standards for structural loads and materials to provide for the latest in earthquake safety, including the potential for liquefaction. In addition, to further ensure that the project is designed for the specific liquefaction conditions of the site, as mentioned above, a site-specific Geotechnical Report has been prepared for the proposed project. The Geotechnical Report implements recommendations, standards, and specifications to reduce impacts related to site-specific seismic-related ground failure, including liquefaction. These recommendations include those for proper foundation preparation and design, and dynamic settlement mitigation measures. Adherence to the design specification of the 2010 CBC, as implemented by the Inyo County code, as well as the incorporation of the site-specific design recommendations set forth in the Geotechnical Report, would ensure that impacts with respect to seismic-related ground failure, including

[13] *Sierra Geotechnical Services, Inc., Geotechnical Investigation and Results of Percolation Testing, for CG Roxane Water Bottling Plant, Cartago, California, prepared by Mr. Joseph Adler and Mr. Thomas Platz, January 12, 2010, at pages 8 and 9.*

liquefaction, are less than significant. Further analysis of this issue is not necessary, and no mitigation measures are required.

a.iv) **Less than Significant Impact.** Seismically-induced landslides are slope failures that occur where the horizontal seismic forces act to induce soil and/or bedrock failures. The most common effect is reactivation or movement on a pre-existing landslide. Existing landslides that are stable under static conditions (i.e., factor-of-safety above one) become unstable and move during strong ground shaking. Evidence of past landslides was not observed either during aerial photographic review or during site visits in the field. Due to the relatively flat topography of the site (i.e., three to four percent slopes in the western portion of the property, flattening out to one to two percent in the eastern portion of the property, adjacent to the Owens Dry Lake), the potential for seismically-induced bedrock landslides is non-existent.[14] As such, the impact with regards to landslides is less than significant. Further analysis of this issue is not necessary, and no mitigation measures are required.

b) **Less than Significant Impact.** During construction, approximately 24.30 acres of the overall Cabin Bar Ranch (i.e., the project site) would be subject to ground-disturbing activities (e.g., removal of the existing structures and vegetation, excavation, foundation preparation, construction, the installation of utilities). These activities would expose soils for a limited time, allowing for possible erosion. Although project development has the potential to result in the erosion of soils, this potential would be reduced by implementation of standard erosion controls imposed during site preparation and grading activities. For instance, the project would be constructed in accordance with a National Pollutant Discharge Elimination System (NPDES) General Construction Stormwater Permit. Since the area subject to ground-disturbing activities is greater than one acre, the NPDES Permit would include a site-specific Storm Water Pollution Prevention Program (SWPPP) that would be reviewed and approved by the Lahontan Regional Water Quality Control Board (LRWQCB) and implemented by the contractor during construction. The SWPPP would incorporate best-management practices (BMPs) in accordance with applicable regulations to control erosion and to protect the quality of surface water runoff during the project's construction period. These BMPs could include, but are not limited to, temporary usage of erosion-control fencing during construction, settling basins to remove sediment and contaminants, straw bale check dams and dikes, rock rip-rap and other similar measures. Following construction, the SWPPP would require permanent erosion control and pollution prevention BMP's which may include sedimentation basins with controlled discharge structures, channel lining, and a permanent means of keeping sediment and pollutants from entering stormwater flows. Further, the project would secure a Section 401 Clean Water Certification from the LRWQCB. The NPDES General Construction Permit, Section 401 Clean Water Certification, and SWPPP would all be reviewed and approved by the LRWQCB prior to the start of construction. In addition, the proposed project would present evidence of approval of a NPDES General Construction Permit to the Inyo County Public Works (Building and Safety) Department prior to issuance of a grading permit. The Inyo County Public Works (Building and Safety) Department and the LRWQCB would inspect and monitor facilities during construction and following major storm events.

Regarding soil erosion during project operations, the potential is relatively low due to the fact that portions of the project site not left in their current state would be paved over with impervious surfaces and/or landscaped with a native seed mix. An important component of the project's design is a proposed stormwater

[14] *Ibid.*

retention basin. All stormwater generated on the project site following project completion would be treated by this retention basin to ensure that no net increase in stormwater flow results from the project site following completion of the project, and that stormwater quality meets the requirements of the LRWQCB (refer to Checklist Question IX(a) below for a more detailed discussion). Further, the proposed project would incorporate BMPs as part of the SWPPP to control flows of water and sediment, as approved by the LRWQCB. With adherence to these regulations, including construction and operational BMPs as part of the project's post-construction SWPPP, and site design which controls runoff, impacts with respect to erosion or the loss of topsoil would be considered less than significant. Further analysis of this issue is not necessary, and no mitigation measures are required. For a more detailed discussion of the stormwater management plans applicable to the proposed project, please refer to Checklist Question IX(a) of this document below.

c) **Less than Significant Impact.** As discussed in Item V(a)(iv) above, the proposed project would have a less-than significant impact with regards to landslides, on- or off-site. As also discussed in Item V(a)(iii) above, the proposed project would have a less than significant impact with regards to liquefaction.

Lateral spreading is the result of liquefaction or plastic deformation occurring on gently sloping ground during an earthquake. Typically, the event requires an unsupported, steep cut or scarp at the toe of the failure area that allows the initial lateral displacement. Due to site topography, the site is not expected to be susceptible to significant spreading associated with a seismic event.[15] Dynamic settlement is a process whereby a loose soil deposit densifies from earthquake vibrations or other ground shaking. Soils subject to dynamic settlement typically consist of cohesionless sands and silts that do not need to be saturated. To settle, the soils must be subjected to ground shaking of sufficient magnitude and duration. Based upon Standard Penetration Tests performed during the geotechnical investigation, the anticipated dynamic settlements which may occur across the project site following development are estimated to range from three to 14 inches, with a dynamic differential settlement across the site estimated at one to three inches.[16]

With respect to lateral spreading, dynamic settlement, subsidence, or collapse, all project construction would comply with the 2010 CBC, as implemented by the Inyo County Code, which is designed to assure safe construction and includes building foundation requirements appropriate to the conditions present at the project site. In addition, a site-specific Geotechnical Report has been prepared for the proposed project. The Geotechnical Report sets forth recommendations, standards, and specifications to reduce impacts related to site-specific seismic-related lateral spreading, liquefaction, subsidence, dynamic settlement, and collapse. The Geotechnical Report includes recommendations for proper foundation preparation and design, and dynamic settlement. These recommendations, standards, and specifications for site development would be incorporated into the proposed project design and construction. With compliance with standard building requirements and the implementation of site-specific recommendations in the project's Geotechnical Report, potential on- or off-site impacts with regards to landslide, lateral spreading, dynamic settlement, subsidence, liquefaction or collapse would be less than significant. Further analysis of this issue is not necessary, and no mitigation measures are required.

d) **Less than Significant Impact.** Expansive soils are typically associated with fine-grained clayey soils that have the potential to swell and shrink with repeated cycles of wetting and drying. Shrink/swell potential is

[15] *Sierra Geotechnical Services, Inc., Geotechnical Investigation and Results of Percolation Testing, for CG Roxane Water Bottling Plant, Cartago, California, prepared by Mr. Joseph Adler and Mr. Thomas Platz, January 12, 2010, at page 9*

[16] *Ibid, at page 8.*

the relative change in volume to be expected with changes in moisture content, which is the extent to which the soil shrinks as it dries or swells when it gets wet. The extent of shrinking and swelling is influenced by the amount and type of clay in the soil. Shrinking and swelling of soils causes damage to building foundations, roads and other structures. Soils in the immediate vicinity of the project site generally consist of silty sands to approximately ten feet of silty, fine to coarse sands overlying clayey fine sand. Based upon these findings, there is a very low shrink/swell potential for the soils located on Cabin Bar Ranch.[17] As such, this impact is considered less than significant. Further analysis of this issue is not necessary, and no mitigation measures are required.

e) **Less than Significant Impact.** The project site is not supported by a municipal sewer system, and wastewater would be treated and disposed of on-site, both in a septic tank and by secondary treatment in a leach mound system. See Attachment A, *Project Description*, for a detailed discussion of the leach mound system. The leach mound system design for the proposed project would be reviewed by the Inyo County Environmental Health Department prior to the issuance of permits to verify that the proposed wastewater treatment facilities (including the leach mound system) would be adequate to accommodate wastewater flows from the project site. To determine if on-site soils would be adequate to support the proposed leach mound system, which would be designed to treat 750 gallons per day, four soil profile holes and two percolation tests were conducted as part of a Test Well and Hydrology Report in the location of the proposed septic and leach mound system. The terminal percolation rate was measured at less than one minute per inch, and is thus, acceptable for the proposed septic and leach mound system. As such, the proposed project would have a less than significant impact with regards to having soils capable of adequately supporting the use of septic tanks or alternative waste water disposal systems. Further analysis of this issue is not necessary, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS -- Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

DISCUSSION:

a) **Potentially Significant Impact.** Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and storms. Global warming, which is a part of climate change, is the observed increase in average temperature of the Earth's surface and atmosphere. One identified cause of global warming is an increase of greenhouse gases (GHGs) in the atmosphere. GHGs are those compounds in the Earth's atmosphere that play a critical role in determining

[17] *Ibid*, *at page 9*.

the Earth's surface temperature. Specifically, GHGs allow the sun's rays to enter the Earth's atmosphere, but trap the energy which is radiated back from the Earth to space, resulting in a warming of the atmosphere. The earthward movement of this radiation is known as the "greenhouse effect."

The State of California is undertaking initiatives designed to address the effects of GHG emissions, and to establish targets and emission reduction strategies for greenhouse gas emissions in California. These efforts include California Global Warming Solutions Act of 2006, also known as Assembly Bill (AB) 32. AB 32 commits the State to achieving 2000 GHG emission levels by 2010 (which represents an approximately 11 percent reduction from "business as usual") and 1990 levels by 2020 (approximately 28.4 percent below "business as usual"). The California Air Resources Board (CARB) recently approved a Climate Change Scoping Plan as set forth by AB 32. The Climate Change Scoping Plan proposes a "comprehensive set of actions designed to reduce overall carbon GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health." Lastly, Section 15064.4 of the CEQA Guidelines was adopted to assist lead agencies in determining the significance of the impacts of GHGs.

Construction and operation of the proposed project would generate GHG emissions, either directly or indirectly. Thus, it is recommended that evaluation of these emissions and associated emission reduction strategies be undertaken in the EIR.

b) **Potentially Significant Impact.** As discussed above, plans and policies to reduce greenhouse gas emissions applicable to the proposed project include, but are not limited to, AB 32, CARB's Climate Change Scoping Plan, and Section 15064.4 of the CEQA Guidelines. As also discussed above, the proposed project would include construction and operational activities that have the potential to result in greenhouse gas emissions. As such, further analysis of the Project's consistency with relevant existing plans, polices and regulations related to greenhouse gasses in an EIR is recommended.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

DISCUSSION:

a) **Less than Significant Impact.** The project proposes a water bottling facility, and large quantities of hazardous materials are not normally used in the regular course of water bottling operations. Bottled water would be the dominant item transported from the site, and non-hazardous supplies supporting operation of the water bottling facility would be transported to the site. As a result, the proposed project would not expose motorists or residents along US 395 to an increased risk of hazardous materials. Hazardous materials involved in the operation of the proposed project would be limited to janitorial, maintenance and repair activities, including commercial cleansers, lubricants, and paints. These types of materials are not considered acutely hazardous and would be used in limited quantities. All hazardous materials would be stored indoors on-site, and would not be exposed to the elements. They would be stored, handled and disposed of in accordance with manufacturers' recommendations, and County and State laws that protect public health and safety. As a result, operation of the proposed project would have a less than significant impact with regards to creating a hazard to the public or environment through the routine transport, use, or disposal of hazardous materials.

Construction activities would be short-term and one-time in nature, and would involve the limited transport, storage, use, or disposal of hazardous materials. Some examples of hazardous materials handling include fueling and servicing construction equipment on site, and the transport of fuels, lubricating fluids, and solvents. These types of materials, however, are not acutely hazardous, and all storage, handling, and disposal of these materials are regulated by the Department of Toxic Substances Control, the U.S. EPA, the Occupational Safety & Health Administration, and the volunteer Olancha Community Services District. The

adherence of the construction contractor to the regulations set forth by these organizations would ensure the potential for hazardous materials impacts are less than significant. Further analysis of this issue is not necessary, and no mitigation measures are required.

b) **Less than Significant Impact.** Construction activities would be short-term and one-time in nature, and would involve the limited transport, storage, use, or disposal of hazardous materials. Some examples of hazardous materials handling include fueling and servicing construction equipment on site, and the transport of fuels, lubricating fluids, and solvents. These types of materials, however, are not acutely hazardous, and all storage, handling, and disposal of these materials are regulated by the Department of Toxic Substances Control, the U.S. EPA, the Occupational Safety & Health Administration, and the volunteer Olancha Community Services District. The adherence of the construction contractor to the regulations set forth by these organizations would reduce the potential for hazardous materials impacts to a less-than-significant level. Further analysis of this issue is not necessary, and no mitigation measures are required.

The proposed project is a water bottling facility, and large quantities of hazardous materials are not used in the regular course of their business. Hazardous materials involved in the operation of the proposed project would be limited to janitorial, maintenance and repair activities, including commercial cleansers, lubricants, and paints. These types of materials are not considered acutely hazardous and would be used in limited quantities. All hazardous materials would be stored indoors on-site, and would not be exposed to the elements. They would be stored, handled and disposed of in accordance with manufacturers' recommendations, and County and State laws that protect public health and safety. In addition, the California Unified Program consolidates six state environmental programs into one program under the authority of a Certified Unified Program Agency (CUPA). These can be a county, city or JPA (Joint Powers Authority). The County Environmental Health Services Department is designated as a CUPA for all businesses and agencies using or storing hazardous materials and wastes. The CUPA regulates the hazardous materials used by a facility and ensures safe handling of all materials, including developing a response plan in the event of an emergency release of hazardous materials. Moreover, Material Safety Data Sheets (MSDS) are required to be kept on site at each facility for safety purposes for employees. Copies of the MSDSs are also included in the Business Plans filed with the CUPA. The proposed project would also include a propane tank to fuel the on-site fire suppression system. This tank would be installed and maintained in accordance with all applicable regulations, including those of Inyo County and Cal-Fire. Approximately once every two to three months, a non-toxic cleaning agent would be applied to the bottling equipment as part of the regular cleaning activities. This cleaning agent would be non-toxic and would be limited to a quantity that would not create a significant hazard to the public if spilled or otherwise released into the environment in an unintended manner. Further, the cleanser would be treated and pH balanced prior to its discharge into the proposed stormwater retention basin located east of the project site. As a result, project operations would not create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

c) **No Impact.** There are no existing or proposed schools in the community of Cartago. The nearest operating school is Lone Pine High School, which is located approximately 20 miles to the northwest of the project site. The proposed project would not emit hazardous emissions or handle acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. As such, no impact would result. Further analysis of this issue is not necessary, and no mitigation measures are required.

d) **No Impact.** Government Code Section 65962.5, amended in 1992, requires the California Environmental Protection Agency (CalEPA) to develop and update annually the Cortese List, which is a list of hazardous waste sites and other contaminated sites. While Government Code Section 65962.5 makes reference to the preparation of a list, many changes have occurred related to web-based information access since 1992 and information regarding the Cortese List is now compiled on the websites of the Department of Toxic Substances Control (DTSC), the State Water Board, and CalEPA. The DTSC maintains the EnviroStor database, which includes sites on the Cortese List and also identifies potentially hazardous sites where cleanup actions (such as a removal action) or extensive investigations are planned or have occurred. The database provides a listing of Federal Superfund sites [National Priorities List (NPL)]; State Response sites; Voluntary Cleanup sites; and School Cleanup sites. Based on a review of the EnviroStor database, neither the project site nor the overall Cabin Bar Ranch are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment.[18] As such, no impact would result. Further analysis of this issue is not necessary, and no mitigation measures are required.

e) **No Impact.** The proposed project is not located within an airport use plan or within two miles of a public or public use airport, and it would not result in a safety hazard for people residing or working in the project area. The nearest airport to the project site is the publicly owned, but privately operated, Lone Pine Airport, which is over 19 miles away. As such, no impact would result. Further analysis of this issue is not necessary, and no mitigation measures are required.

f) **No Impact.** The proposed project is not located within the vicinity of a private airstrip, and it would not result in a safety hazard for people residing or working in the project area. The nearest airport is Lone Pine Airport, which is over 19 miles away. As such, no impact would result. Further analysis of this issue is not necessary, and no mitigation measures are required.

g) **Less than Significant Impact.** The proposed project entails the construction of a water bottling facility and does not include any uses or design features that would impair implementation of, or interfere with, an adopted emergency response plan or evacuation plan. In addition, the new bottling facility would include an emergency access road surrounding the perimeter of the facility and would comply with adopted emergency response and evacuation plans.

Although not officially designated as an emergency evacuation route, US 395 is the major transportation corridor in and through Inyo County, and connects the Eastern Sierra Region and Western Central Nevada to the southern California region. All construction and staging would take place within the project site itself and access to the project site and adjacent properties would be maintained at all times during construction. No lane closures would be required during project construction. In addition, the project would construct acceleration and deceleration lanes, as well as turn lanes, along both directions of the current alignment of US 395 at the proposed access point to the project site in accordance with Caltrans standards. At the point in time that the Caltrans US 395 widening project is completed, the proposed access road's tie in with US 395/US 395 Frontage Road would be modified accordingly.

[18] *California Department of Toxic Substances Control, "EnviroStor" Hazardous Waste and Substances Site List, http://www.envirostor.dtsc.ca.gov/public/, accessed May 2011.*

As a result, the proposed project would not be expected to adversely impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant. Further analysis of this issue is not necessary, and no mitigation measures are required.

h) **Less than Significant Impact.** The proposed project is located in a rural area with large amounts of open space that includes trees, grasses and other vegetation. The project site is located in a High Fire Hazard Severity Zone, as designated by Cal-Fire[19] and the proposed project would be designed with fire safety in mind. In accordance with Section 19.24.020 of the Inyo County Code, the project would be designed with a defensible fire zone in accordance with Cal-Fire standards for project site located in a State Responsibility Area (SRA). Cal-Fire requires project development within a SRA to conform to Chapter 7 (Fire and Smoke Protection Features) and Chapter 7A (Materials and Construction Methods for Exterior Wildfire Exposure) of the 2010 CBC, as well as with the Cal-Fire General Guidelines for Creating a Defensible Space. These guidelines would require that a defensible fire zone be created around the proposed buildings and that buildings be constructed of ignition-resistant materials. In response to these requirements, the project would include a 20-foot-wide access road encircling the northern, western, and southern perimeters of the bottling facility. This access road, combined with the parking lot adjacent to the eastern side of the proposed buildings, would create a defensible fire zone around the buildings in the event of a wildfire. Additionally, as part of routine maintenance, dead or dying woody materials would be cleared from the perimeter of the building. Similar to the nearby CGR spring water bottling plant in Olancha, the buildings would be constructed with metal sidings and roofing that would resist fire. The proposed project would also be constructed with a comprehensive fire suppression system, including a separate building for a designated fire water storage tank with its own propane-fueled fire suppression water pump. The bottling plant's fire sprinkler system would be connected to the water storage tank system. Fire hydrants are planned to encircle the perimeter of the bottling facility. The Director of Inyo County Public Works is the acting Inyo County Fire Marshall. All plans would be submitted to Inyo County for review and approval, in accordance with the goals and policies as stated in the Inyo County General Plan Safety Element.[20] The proposed project would implement all recommendations for fire prevention and protection made by Inyo County and the volunteer Olancha Community Services District, including but not limited to, safe circulation, ingress and egress sprinkler requirements, and water pressure requirements. With adherence to applicable state, county, and local regulations, impacts with regards to wildland fires would be considered less than significant. Further analysis of this issue is not necessary, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☒	☐	☐	☐
b) Substantially deplete groundwater supplies or	☒	☐	☐	☐

[19] *Cal-Fire. Fire Hazard Severity Zones in the State Responsibility Area. Adopted November 7, 2007.*

[20] *Inyo County General Plan, Public Safety Element, Wildfire Hazard (Section 9.5) at pages 9-21 to 9-24.*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☒	☐	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alternation of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☒	☐	☐	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☒	☐	☐	☐
f) Otherwise substantially degrade water quality?	☒	☐	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

DISCUSSION:

a) **Potentially Significant Impact.** The proposed project would be constructed in an open and rural area, and currently, surface water flows naturally across the relatively undeveloped site. Specifically, stormwater runoff from the project site currently flows naturally southeast across the site into Cartago Creek and ultimately into the Owens Dry Lake bed. As discussed above in Checklist Question VI(b), development of the proposed project involves the construction and disturbance of more than one acre of land and as such, would implement construction and operational BMPs as part of the project's SWPPP to ensure water quality is maintained during project construction and operation. These BMPs could include, but are not limited to temporary usage of erosion-control fencing during construction, settling basins to remove sediment and contaminants, straw bale check dams and dikes, rock rip-rap, covering excavated and stockpiled soils with

secured tarps or plastic sheeting, installing swales around storm drains during construction, properly maintaining construction equipment and other similar measures. The SWPPP would be reviewed and approved by the LRWQCB to ensure that stormwater quality meets applicable standards.

The proposed project is not connected to a public sewer, as there is no central utility for sewer discharge servicing the project site or the neighboring community of Cartago. A private septic system was designed and installed for the subdivided portion of Cabin Bar Ranch. However, this sewer system was never connected and wastewater from the existing caretaker's residence is treated by an individual septic system located on the same parcel as the caretaker's residence. The existing sewer lines, pump, and associated septic field would be abandoned and removed as part of the removal of the existing roadway and grading activities that would occur under the proposed project. All sewer discharge would be disposed of on-site through the use of a septic tank and accompanying leach mound system. The septic tank would provide for the primary treatment of effluent and the leach mound system would provide for the secondary treatment of effluent. As such, while the project does not propose any point-source discharge, it must dispose of its sanitary waste on-site. Most of the water produced from wells on the project site would be bottled and shipped off-site for retail sale. Approximately two percent of the water produced from the on-site production wells would not be bottled and would be used as process water. This process water, as well as domestic water supplies used for employee use (e.g., kitchens, sinks, restrooms), would be disposed of in an on-site wastewater disposal system that would incorporate a septic tank for the primary treatment of effluent and a leach mound for secondary treatment. The leach mound system would be designed to treat 750 gallons of wastewater per day and is an accepted method to provide secondary treatment of wastewater prior to contact with groundwater. The leach mound would be located in the northeastern portion of the overall Cabin Bar Ranch, east of the planned Phase II building development. The leach mound system design for the proposed project would be reviewed and permitted by the Inyo County Environmental Health Department, which would ensure impacts from the leach mound system would result in a less than significant impact with respect to water quality. It is important to note that all wastewater from the leach mound system would enter the groundwater and would not be discharged in stormwater or wastewater flows.

In addition to the septic system and leach mound system, the project proposes a stormwater retention basin east of the water bottling facility to capture stormwater from the developed portion of the project site, as well as excess water from plant cleaning operations. In accordance with applicable LRWQCB standards, the retention basin would be designed so that no net increase in stormwater flow results from the project site following completion of the project. Approximately once every two to three months, the bottling plant's ceramic filtration system would be cleaned with non-toxic cleaning agents. The wastewater from this cleaning operation would be transferred to a holding tank where the pH would be balanced, and then ultimately discharged into the proposed stormwater retention basin. The operation of the proposed stormwater retention basin would require a permit from the LRWQCB. The stormwater basin would also comply with Inyo County standards, and must be approved by the Inyo County Public Works (Building and Safety) Department.

Nonetheless, because the project would: a) result in greater than one acre of ground disturbance; b) develop a relatively undeveloped site with impervious surfaces; c) propose the development of a LRWQCB-permitted stormwater retention basin to process stormwater flows and excess water from plant cleaning operations in proximity to Owens Lake; and d) propose a leach mound septic system, it may have significant impacts with respect to water quality standards or waste discharge requirements and further evaluation of this topic in an EIR is recommended.

b) **Potentially Significant Impact.** The proposed project is a water bottling facility, which would pump groundwater from beneath CGR-owned land. Upon project completion, the proposed project would be anticipated to have a peak water demand of approximately 500 gpm from the on-site production wells during peak times (i.e., spring and summer) when all four bottling lines are operating simultaneously. During the non-peak times of the year (i.e., fall and winter), bottling would be rotated through the four bottling lines, so that not all four bottling lines would be operating simultaneously. When these two scenarios are averaged, at project buildout, the annual water demand is estimated to be 360 acre feet per year (afy) from the underlying Owens Valley Groundwater Basin.. As a result, the proposed project may have a potentially significant impact with regards to depleting groundwater supplies or interfering substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table. Therefore, further studies are needed regarding groundwater geology, groundwater levels, drawdown calculations, impacts to on-site springs and off-site wells within the groundwater basin, and the potential for the project to significantly affect groundwater or lower the water table, and an EIR is recommended.

c) **Potentially Significant Impact.** The proposed project would be constructed on relatively undeveloped, rural land. Cartago Creek runs west to east through the overall Cabin Bar Ranch and a portion of the project site where the access roadway would be constructed. The proposed project would introduce impervious surfaces and drainage control structures to the project site, and therefore, the project may have a potentially significant impact with regards to altering the existing drainage pattern of the site or area. Therefore, further study in an EIR is recommended regarding surface hydrology and the potential for the proposed project to significantly alter existing site drainage.

d) **Potentially Significant Impact.** The proposed project would be constructed on relatively undeveloped, rural land. Cartago Creek runs west to east through the overall Cabin Bar Ranch and a portion of the project site where the access roadway would be constructed. New impervious surfaces would be constructed where none existed before. Therefore, the proposed project may have a potentially significant impact with regards to altering the existing drainage pattern of the site or area, or increase the amount of surface runoff in a manner which would result in flooding on- or off-site. Therefore, further studies regarding surface hydrology of the proposed project and further evaluation of the potential for the proposed project to significantly alter the existing site drainage in an EIR are recommended.

e) **Potentially Significant Impact.** There are currently no existing or planned stormwater drainage systems in Cartago, which is located to the north of the project site. Runoff from the project site currently flows naturally southeast across the site into Cartago Creek and ultimately into the Owens Dry Lake bed. The proposed project would introduce impervious surfaces and stormwater drainage structures to the project site. Stormwater and runoff would be drained to an on-site stormwater retention basin. As a result, the proposed project has the potential to create or contribute runoff which would exceed the capacity of existing or planned stormwater drainage systems and further evaluation of this topic in an EIR is recommended.

f) **Potentially Significant Impact.** The water bottling facility would pump groundwater and change the hydrologic characteristics of the area. In addition, the project would introduce impervious surfaces and stormwater drainage infrastructure to the project site. Moreover, the project would introduce potential sources of pollutants (e.g., vehicle oil, grease) to the project site that have the potential to degrade water quality. As such, further site-specific hydrology studies are necessary, and further analysis of this topic in an EIR is recommended.

g) **No Impact.** The proposed project is not located within a 100-year flood hazard area as mapped on a Federal Emergency Management Agency (FEMA) Flood Hazard Boundary of Flood Insurance Rate Map or other flood hazard delineation map. No housing is being considered as part of the proposed project. The proposed project area is designated as Zone C, which means that it is an area of minimal flood hazard and outside the 100- and 500-year flood level.[21] As such, there is no impact with regards to placing housing in a flood hazard area. Further analysis of this issue is not necessary, and no mitigation measures are required.

h) **No Impact.** The proposed project would not place structures which would impede or redirect flows within a 100-year flood hazard area. As described above in Item IX(g), the proposed project is not located within a 100-year flood hazard area, as mapped on a FEMA Flood Hazard Boundary of Flood Insurance Rate Map or other flood hazard delineation map, and no housing is being considered as part of the proposed project. The proposed project area is designated as Zone C, which means that it is an area of minimal flood hazard and outside the 100- and 500-year flood level.[22] As such, there is no impact with regards to placing housing in a flood hazard area. Further analysis of this issue is not necessary, and no mitigation measures are required.

i) **Less than Significant Impact.** The site's topography precludes it from significant flooding risk. The nearest dam is North Haiwee Reservoir, which is a Los Angeles Aqueduct reservoir, between the Owens Valley and Rose Valley. This reservoir sits at a lower elevation than the proposed project and is located approximately seven miles to the south. In addition, dams are continuously monitored by federal and state agencies (such as the State of California Division of Safety of Dams and the U.S. Army Corps of Engineers) to guard them against dam failure. The likelihood of the proposed project site being impacted by dam failure is minimal due to the continual monitoring of the dams and the elevation and distance of the dams from the proposed project site. Therefore, the proposed project would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. As such, there would be a less-than-significant impact with regards to flooding, including from the failure of a levee or dam. Further analysis of this issue is not necessary, and no mitigation measures are required.

j) **Less than Significant Impact.** The proposed project would not be impacted by seiche, tsunami or mudflow. There are no large bodies of water sitting at a higher elevation which could cause seiche conditions from seismic activity. The nearest body of water is Owens Dry Lake, which is mostly dry and only partially covered by shallow amounts of water supplied by LADWP for dust suppression purposes. It also sits at a lower elevation than the proposed project site and is, therefore, topographically incapable of creating a seiche which could impact the site. As discussed in Item IX(i), the nearest reservoir is North Haiwee Reservoir, located seven miles downstream from the proposed project site. This distance precludes it from creating seiche which could impact the site. The project site lies over 150 miles away from the Pacific Ocean, at its closest point, with the Sierra Nevada Mountains intervening. As such, the possibility of a tsunami does not exist. Finally, the project site is not subject to mudflows, as the site is surrounded by relatively flat land. The nearest source of a mudflow would be the eastern escarpment of the Sierra Nevada mountain range, the base of which lies approximately one mile west. The distance to the mountains and the terrain suggest low potential for a significant mudflow hazard in the area. Severe summer mountain thunderstorm events, and the existing Cartago Creek, could provide the opportunity for rare debris or mud flowage events. Nonetheless, the majority of debris would be constrained the culvert passing under US 395 and only a small

[21] *Federal Emergency Management Agency*, *Map Service Center*, *FIRM Flood Insurance Rate Map*, *Inyo County California*, *Panel 1475 or 2700*, *Community Panel Number 060073 1475 C*.

[22] *Ibid*.

portion of the project's proposed access roadway would span Cartago Creek. In addition, adherence to the policies as set forth by the Inyo County General Plan, regarding flood hazards and mudflow constraints would further reduce any potential impacts to a less-than-significant level.[23] Further analysis of this issue is not necessary, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☒	☐
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☒	☐	☐	☐

DISCUSSION:

a) **Less Than Significant Impact.** With the exception of a caretaker's residence and the existing Cabin Bar Ranch Road, there is no development on the project site, and the nearest community is Cartago, which lies directly to the north of the project site. Cartago contains a mix of rural single-family residence homes and mobile homes and the remnants of a soda ash processing plant whose operation ended in the 1930's, all served by a small network of paved and unimproved streets.[24] The majority of the development associated with the proposed project would occur within the boundaries of the 43.24-acre project site, and the project would require only limited alteration to US 395 to connect the new access road to US 395.

Caltrans, in coordination with the Inyo County Transportation Commission, is proposing to widen approximately 12.7 miles of US 395 within the vicinity of Olancha and Cartago. On June 29, 2011, Caltrans announced a preferred alignment for this widening project. The preferred alignment would result in a four-lane, controlled-access, divided expressway that would begin south of Olancha and pass west of the existing US 395 alignment, Olancha, and the Los Angeles Aqueduct. Once the alignment crosses Olancha Creek, the preferred alternative would then cross the Los Angeles Aqueduct and continue north through Cartago along the existing US 395 alignment to meet up with the previously constructed Ash Creek Four Lane Project. The existing US 395 alignment adjacent to Cabin Bar Ranch would become a frontage road to the new US 395 alignment. Construction of the project is anticipated to begin in 2016. The project proposes a new access point along US 395 that would be constructed prior to the start of the US 395 widening project. As the project's proposed access road would be constructed prior to the Caltrans widening project, all improvements would be designed and constructed per California Department of Transportation (Caltrans) standards for the current US 395 alignment. Design features include acceleration and deceleration lanes, as

[23] *Inyo County General Plan, Public Safety Element, Flood Hazards (Section 9.3), at pages 9-9 to 9-13.*

[24] *A Brief History of Owens Lake Mineral Production, by Walt Margeram. http://www.carsoncolorado.com/pages/mining.html, accessed April 2011.*

well as turning lanes, on both northbound and southbound US 395. The access point would be designed to accommodate trucks as well as employee vehicles.

The new access point would not sever, disrupt or alter the existing route of US 395, the only major roadway connecting communities north and south of the project site, and the only main transportation corridor through Owens Valley. Additionally, the proposed acceleration and deceleration lanes, as well as the turning lanes, are intended to ensure the proposed project does not significantly disrupt or slow traffic flow along US 395, ensuring the project traffic does not reduce traffic speeds to the point where they hinder traffic. The proposed project is not in a location or of a scale and density that would physically divide the community of Cartago. As such, the proposed project would not physically divide an established community and there would be no impact. Further analysis of this issue is not necessary, and no mitigation measures are required.

b) **Potentially Significant Impact.** Under existing conditions, the Inyo County General Plan Land Use and Conservation/Open Space Element designates the majority (407 acres) of the overall Cabin Bar Ranch for Rural Protection (RP) land uses. Correspondingly, this portion of the Cabin Bar Ranch is zoned Open Space – 40-acre minimum (OS-40) in the Inyo County Code. The remainder of the Cabin Bar Ranch (13 acres), where the 16 subdivided parcels are located, is designated Rural Residential High Density (RRH) in the General Plan, with a corresponding zoning of Rural Residential – 1-acre minimum (RR-1.0) in the Inyo County Code.

Bottling facilities are not a permitted use in either of these zones; therefore, the proposed project would rezone 23.46 acres of Cabin Bar Ranch to M-2 (Light Industrial), which allows a bottling plant as a conditional use.[25] As such, a Conditional Use Permit (CUP) would be requested by the project applicant through the County of Inyo as part of the proposed project. All other portions of the project site would retain their current zoning and land use designations.

Therefore, the proposed project would require a General Plan Amendment for Land Use Designation Changes, Zone Reclassification for Zone Changes, and a CUP for a water bottling facility, subject to the approval of Inyo County. In order to assess the environmental implications of these proposed land use changes and consistency with applicable land use plans and policies, further analysis of this topic in an EIR is recommended.

c) **Potentially Significant Impact.** Several planning efforts are currently underway to protect biological resources and natural habitat in the project area. For instance, the LADWP is currently in the early process of developing a "Master Plan" for the Owens Lakebed, which would identify broadly supported goals and objectives to enhance the Owens Lakebed with respect to dust mitigation, habitat and wildlife, water efficiency methods, and potential renewable energy development. Therefore, further evaluation of the potential for the proposed project to conflict with the provisions of applicable plans in an EIR is recommended.

[25] *Ibid, at Chapter 18.56.040.*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

DISCUSSION:

a-b) **No Impact.** With regards to Items XI.a and XI.b, the project site is not classified by the State of California as an area containing significant mineral deposits, nor is the site classified as an existing mineral resource extraction area by the State of California. [26] Historically, soda ash and bicarbonate processing began at the receding shoreline of Owens Dry Lake, in 1917, and large settling ponds for these lake minerals were very productive. However, over the years, Owens Dry Lake continued to dry and alkalinity rose too high for production to continue. In 1932, Inyo Chemical Company's soda ash and bicarbonate processing operations were permanently shut down. The remains of these operations are still clearly visible in the form of large, white spoils piles, at the northeastern border of Cabin Bar Ranch, immediately at the eastern edge of Cartago.[27] Today the only operator on the lake is the U.S. Borax plant located north of Cartago. Therefore, the chances of uncovering mineral resources during construction and grading would be minimal. Project implementation would not result in the loss of availability of a known mineral resource of value to the region and residents of the State, nor of a locally important mineral resource recovery site. No impacts to mineral resources would occur. Further analysis of Mineral Resources is not necessary, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:				
a) Exposure of persons to or generation of noise level in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐

[26] *California Department of Conservation, Division of Mines and Geology/U.S. Geologic Survey, Minerals Yearbook: The Mineral Industry of California, 2001*

[27] *A Brief History of Owens Lake Mineral Production, by Walt Margeram. http://www.carsoncolorado.com/pages/mining.html, accessed April 2011.*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

DISCUSSION:

a) **Potentially Significant Impact.** The predominant source of noise in the area is from traffic on US 395. As the site is currently relatively undeveloped rural land, the existing baseline level of noise generated at the site is low. The proposed project, which would construct a water bottling facility on a largely undeveloped site, may increase noise levels within the project vicinity during construction and operation. These noise sources would likely be related to construction equipment, vehicle and truck noise, building equipment (i.e., HVAC equipment), and the operation of bottling machinery. The nearest sensitive receptors, residents living in Cartago, are located approximately 300 feet north of the project site. Given that noise levels could increase at these sensitive receptors, construction and operation of the proposed project may expose persons to noise levels in excess of standards established in Chapter 9.7 (Noise) of the Inyo County General Plan Public Safety Element. Therefore, further evaluation of potential noise impacts from construction and operation of the proposed project in an EIR is recommended.

b) **Less Than Significant Impact.** The project vicinity is rural and the predominant source of noise and vibration in the area is from traffic on US 395. Construction of the proposed project would require the use of construction equipment during grading, excavation, hauling, establishing building foundations, installation of utility lines and services, and other construction activities. The use of this equipment could potentially cause groundborne vibration and noise. According to the Federal Transit Administration (FTA), ground vibrations from construction activities very rarely reach the level capable of damaging structures.[28] Heavy construction equipment (e.g., loader and excavator) would generate a limited amount of ground-borne vibration during construction activities. However, groundborne vibration from construction activities typically diminishes quickly with distance to imperceptible levels (e.g., usually within 100 feet), and would not likely be felt at the single-family residential development approximately 300 feet north of the project site portion of Cabin Bar Ranch. In addition, post-construction on-site activities would be limited to a spring water bottling plant and truck operations that would not generate excessive groundborne noise or vibration. As such, groundborne vibration levels associated with the proposed project would be less than significant. Further analysis of groundborne vibration is not necessary, and no mitigation measures are required.

[28] *U.S. Department of Transportation, Federal Transit Administration, Transit Noise and Vibration Impact Assessment, 1995.*

c) **Potentially Significant Impact.** As concluded in Checklist Question XII(a) above, the proposed project may result in an increase in ambient noise levels in the project vicinity. The predominant ambient noise source in the area is from traffic on US 395. Therefore, further site-specific research to determine what potential noise impacts would result from the construction and operation of the proposed project in an EIR is recommended.

d) **Potentially Significant Impact.** As discussed above in Checklist Questions XII(a) and XII(b), construction activity attributable to the proposed project has the potential to temporarily or periodically increase ambient noise levels above existing levels. In addition, the increase in on-site uses may also result in periodic increases in noise levels. Therefore, further site-specific research to determine what potential noise impacts would result from the construction and operation of the proposed project in an EIR is recommended.

e) **No Impact.** The nearest airport to the project site is the publicly owned, but privately operated, Lone Pine Airport, which is over 19 miles away. Therefore, the proposed project is not located within an airport use plan or within two miles of a public or public use airport, and it would not expose people residing or working in the project area to excessive noise. As such, no impact would result. Further analysis of this issue is not necessary, and no mitigation measures are required.

f) **No Impact.** The nearest airport is Lone Pine Airport, which is over 19 miles away. Therefore, the proposed project is not located within the vicinity of a private airstrip, and it would not expose people residing or working in the project area to excessive noise levels. As such, no impact would result. Further analysis of this issue is not necessary, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

DISCUSSION:

a) **Less than Significant Impact.** Although the project proposes a new private internal access road, the proposed project would not require the addition, or the extension of public roads or other infrastructure. Although the project would remove the existing Cabin Bar Ranch Road, the proposed project would utilize existing electricity and telephone infrastructure under the roadway to deliver electricity and telephone

service to the site. The existing sewer system would be abandoned and removed as part of the removal of the existing driveway and grading activities that would occur under the proposed project. Under the proposed project, the existing water pipes under the existing Cabin Bar Branch Road would continue to serve the caretaker's residence and would be connected to the proposed bottling plant if it is found that the existing water pipes are adequate to serve the bottling plant. If the existing water lines are found to be in a degraded condition, or otherwise found to be deficient, they would be replaced as needed. All improvements would be designed to serve only the project site, and would only have enough capacity to serve the proposed project. Therefore, these improvements would not indirectly induce residential growth. Further, the proposed project does not propose the development of residential housing units.

Construction of the proposed project would create temporary construction-related jobs. However, the work requirements of most construction projects are highly specialized so that construction workers remain at a job site only for the time in which their specific skills are needed to complete a particular phase of the construction process. Thus, project-related construction workers would not be anticipated to relocate their household's place of residence as a consequence of working on the proposed project and, therefore, no new permanent residents would be generated during construction of the proposed project.

The proposed project would generate 50 jobs at the water bottling facility at full build-out. It is likely that some of the employees of the new facility would be residents already residing in local communities in Inyo County. However, even in the conservative event that all employees were to move to Inyo County to fill jobs for the proposed project, the addition of 50 new employees to the County would not constitute a substantial increase in the demand for housing in the small number of communities within a reasonable commute distance from the site. Furthermore, this growth would not be substantial in the context of the growth forecasted for Inyo County. Therefore, the proposed project would not induce substantial population growth in the area, either directly or indirectly, and impacts would be less than significant. Further analysis of this issue is not necessary, and no mitigation measures are required.

b) **No Impact.** With the exception of one caretaker house, the project site does not contain any housing. The caretaker's house would not be demolished as a part of the project. As such, the proposed project would not displace substantial numbers of existing housing and no impact would result. Further analysis of this issue is not necessary, and no mitigation measures are required.

c) **No Impact.** The proposed project would not displace any people, so the construction of replacement housing elsewhere would not be necessary. The caretaker's house currently located on the project site would remain under the proposed project. As such, no impact would result. Further analysis of this issue is not necessary, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or				

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
physically altered governmental facilities, the need for new or physically altered governmental facilities, construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

DISCUSSION:

a.i) Fire

Less than Significant Impact. Structural fire protection is provided by the volunteer Olancha Community Services District, with their fire station located at 689 Shop Street, in Olancha. This station is located approximately four miles south of the proposed project site. Other fire stations in surrounding communities include the Lone Pine, Independence and Big Pine Fire Protection Districts, which supply mutual aid in times of need. For purposes of wildland fire prevention and suppression, the California Department of Forestry and Fire Protection and the US Bureau of Land Management (BLM) are the responsible agencies. The California Department of Forestry and Fire Protection's closest station is located at 103 South Clay Street, in Independence, approximately 36 miles north. The station is staffed during the declared fire season, which varies each year depending on the weather and wildland fuel conditions. The BLM's closest station is the Olancha Fire Station. The Olancha Fire Station is part of the California Desert District, Ridgecrest Field Office, and is located approximately three miles southeast of Cabin Bar Ranch on the west side of US 395. In addition, the Owens Valley Conservation Camp, which is run by the California Department of Corrections and Rehabilitation, has ten full-time staff on-site, and a crew of 128 inmates who assist with fire fighting, abatement and control year-round, but which is located north of Bishop, over 80 miles away.[29]

As discussed above, the project site is located in a High Fire Hazard Severity Zone, as designated by Cal-Fire.[30] Nonetheless, the proposed project would be designed with fire safety in mind. In accordance with Section 19.24.020 of the Inyo County Code, the project would be designed with a defensible fire zone in accordance with Cal-Fire standards for project sites located within a State Responsibility Area (SRA). Cal-Fire requires any project development located within a SRA to conform to Chapter 7 (Fire and Smoke Protection Features) and Chapter 7A (Materials and Construction Methods for Exterior Wildfire Exposure) of the 2010 CBC, as well as with the Cal-Fire General Guidelines for Creating a Defensible Space. These guidelines require that a defensible fire zone be created around the proposed buildings and that buildings be constructed of

[29] *California Department of Protection and Rehabilitation, Owens Valley Conservation Camp, http://www.cdcr.ca.gov/Conservation_Camps/Camps/Owens_Valley/index.html, accessed May 2011.*

[30] *Cal-Fire. Fire Hazard Severity Zones in the State Responsibility Area. Adopted November 7, 2007.*

ignition-resistant materials. In response to these requirements, the project would include a 20-foot-wide access road encircling the northern, western, and southern perimeters of the bottling facility. This access road, combined with the parking lot adjacent to the eastern side of the proposed buildings, would create a defensible fire zone around the buildings in the event of a wildfire. Additionally, as part of routine maintenance, dead or dying woody materials would be cleared from the perimeter of the building. Similar to the nearby Crystal Geyser plant in Olancha, the buildings would be constructed with metal sidings and roofing that would resist fire.

The proposed project would also be constructed with a designated comprehensive fire suppression system, with its own water tank and propane-fueled pump. These features would be placed in a separate building, approximately 300 square feet in size, that would be located east across the parking lot from the proposed Phase I buildings. The proposed bottling plant's sprinkler system would be attached to this water tank and propane-fueled pump. All fire suppression plans would be subject to County approval, and would be prepared in conformance with Inyo County guidelines and all other State regulations as required. The proposed project would implement all recommendations for fire prevention and protection made by Inyo County and the Olancha Community Services District, including but not limited to, safe circulation, ingress and egress, and sprinkler requirements, and water pressure requirements. With adherence to such planning requirements, together with the number of fire fighting organizations in the local region, the proposed project would not be expected to result in substantial adverse physical impacts to the environment associated with the provision of other new or physically altered fire protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection, and a less than significant impact would result. Further analysis of this issue is not necessary, and no mitigation measures are required.

a.ii) Police Protection

Less than Significant Impact. The proposed project would be served by the Inyo County Sheriff's Department, which provides law enforcement services to all unincorporated areas of Inyo County, including Cartago. The nearest Inyo County Sheriff Department substation is located in Olancha, near Shop Road, approximately four miles south of the proposed project site. The nearest active Patrol Operations Headquarters is located in 726 North Main Street, in Lone Pine, approximately 20 miles north. Additional Patrol Operations Headquarters are located in Bishop, with the Administrative Headquarters located at the County Seat, in Independence.[31] Response times in the area fluctuate based on the location of the officers when a call for service is received. Traffic enforcement along US 395 is also provided by the California Highway Patrol (CHP). The portion of US 395 adjacent to Cabin Bar Ranch is within the jurisdictional boundaries of CHP's Inland/San Bernardino Division; more specifically, this portion of US 395 is located within the Division's Bishop District. The CHP Bishop office is located at 469 South Main Street in Bishop, approximately 75 miles northeast of Cabin Bar Ranch.

The proposed project would consist of light manufacturing uses, and no new residential or commercial uses are being proposed. The proposed facility would employ security measures to reduce the potential for the proposed project to result in an increase in crime. For instance, the site would be surrounded by chain link fencing with a gated entrance. Additionally, exterior lighting would be provided in the loading dock area and

[31] *Inyo County Sheriff's Department, http://www.inyocounty.us/Sheriff/Home.asp, accessed May 2011.*

at all building entrances. Security lighting would also be provided at the outside mechanical equipment pads. As such, the proposed project would not be expected to result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives for police protection, and a less than significant impact with respect to police services would result. Further analysis of this issue is not necessary, and no mitigation measures are required.

a.iii) Schools

Less than Significant Impact. Education for kindergarten through grade 12 is provided by Lone Pine Unified School District. The proposed project would employ up to 50 people at project buildout, and there is no expectation that additional schools would need to be built in the community to house the children of the employees of the plan. To the extent that these future employees might already be located within Inyo County communities, their children would already be attending these schools and would not create any additional impacts. To the extant that future employees relocate to Inyo County to work at the bottling pant, the number of school students from the project's 50 employees would not be substantial enough to require the construction of a new school, or the alteration of an existing facility, in order to accommodate these students. In addition, to the extent that the proposed bottling plant indirectly increases demand at schools serving the project vicinity, State law, including Government Code Section 65995 and Education Code Section 17620, requires payment of fees at a specified rate for the funding of improvements and expansion to school facilities. Such fees are paid at the issuance of building permits. In accordance with Senate Bill 50 (SB 50), enacted in 1998, the payment of this fee is deemed to provide full and complete mitigation for impacts to school facilities. As a result, the proposed project would not be expected to result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities in order to maintain performance objectives and impacts with regard to schools would be less than significant. Further analysis of this issue is not necessary, and no mitigation measures are required.

a.iv) Parks

Less than Significant Impact The natural environment within Inyo County is its greatest attraction to tourists and residents alike. The diverse range of parks and recreational sites provide ample recreational opportunities. Most of the recreational opportunities, such as campgrounds, recreation areas, wilderness areas, parks, natural open spaces, and Death Valley National Park, have been developed and managed by public agencies, which make up the majority of land ownership within the Inyo County.[32] Inyo County itself maintains a system of 11 campgrounds and seven parks, mainly located near US 395 in the Owens Valley.[33] They are strategically located to provide access to many of Inyo County's most important recreational features, such as campgrounds and trailheads that provide access into the Sierra Nevada Mountains. The

[32] *Inyo County general Plan, Conservation and Land Use Element (Section 8.9), at pages 8.49 to 8-53.*

[33] *Inyo County Parks and Recreation, Parks in Inyo County, http://www.inyocountycamping.com/inyo_county_parks.html, accessed May 2011.*

nearest Inyo County facility to the project site is Diaz Lake, located approximately three miles south of Lone Pine.[34] Residents and tourists are the primary users of parks and recreation facilities within Inyo County.

The proposed project is a light manufacturing facility that would operate as a business in the community, employing up to 50 people at project buildout. It is anticipated that a majority of the employees of the facility would already be residing in the communities surrounding the project site, and would already be using these same parks and recreational facilities. To the extent that new employees would move to the project vicinity, their numbers would not be great enough to require the construction of new parks and recreation facilities, or require the expansion of existing facilities. Additionally, the proposed bottling facility would not increase tourism to Inyo County. As such, the proposed project would not be expected to result in substantial adverse physical impacts to the environment associated with the provision of new or physically altered existing parks and there is no significant impact anticipated to these existing recreational facilities, as a result of the proposed project. Further analysis of this issue is not necessary, and no mitigation measures are required.

a.v) Other public facilities

Less than Significant Impact. Public services, such as transit services and libraries are currently in use by the same population base that would likely be employed at the water bottling facility. As the proposed project is not expected to result in a significant increase in residents, the project would not significantly increase the demand for public services. The additional truck and vehicle trips to the project site would increase the traffic volume on US 395 in the vicinity of the project site, which may, in turn, reduce velocities along US 395 as vehicles and trucks decelerate to enter the project site and accelerate upon leaving the site.

As discussed above, Caltrans, in coordination with the Inyo County Transportation Commission, is proposing to widen approximately 12.7 miles of US 395 within the vicinity of Olancha and Cartago. On June 29, 2011, Caltrans announced a preferred alignment for this widening project. The preferred alignment would result in a four-lane, controlled-access, divided expressway that would begin south of Olancha and pass west of the existing US 395 alignment, Olancha, and the Los Angeles Aqueduct. Once the alignment crosses Olancha Creek, the preferred alternative would then cross the Los Angeles Aqueduct and continue north through Cartago along the existing US 395 alignment to meet up with the previously constructed Ash Creek Four Lane Project. The existing US 395 alignment adjacent to Cabin Bar Ranch would become a frontage road to the new US 395 alignment. Construction of the project is anticipated to begin in 2016.

As mentioned throughout this Initial Study, the project proposes a new access road that would connect to US 395. As the proposed project would occur prior to the start of the US 395 widening project, the proposed access road would be designed in accordance with Caltrans standards for the current US 395 configuration. To ensure that additional traffic and turning movements of the proposed project do not reduce the level of service along US 395 in the vicinity of the project site, the proposed project would construct acceleration and deceleration lanes, and necessary turning lanes, at the proposed access point to the project site in accordance with Caltrans standards. These additional features along US 395 would ensure that the increased volume and number of turning movements would result in a less than significant impact on US 395. At a point in time that the Caltrans US 395 widening project is completed, the proposed access road's tie in with US 395/US

[34] *Inyo County Parks and Recreation*, *Diaz Lake Campground*, *http://www.inyocountycamping.com/diaz_lake_campground.html*, *accessed May 2011*.

395 Frontage Road would be modified accordingly. As such, the proposed project would not be expected to result in substantial adverse physical impacts to the environment associated with the provision of other new or physically altered public facilities. Further analysis of this issue is not necessary, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XV. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

DISCUSSION:

a) **Less than Significant Impact.** As discussed above, Inyo County maintains a system of 11 campgrounds and seven parks, mainly located near US 395 in the Owens Valley.[35] They are strategically located to provide access to many of Inyo County's most important recreational features, such as the trailheads providing access into the Sierra. The nearest Inyo County recreation facility to the project site is located approximately 20 miles north at Diaz Lake, which is approximately three miles south of Lone Pine.[36] Residents and tourists are the primary users of parks and recreation facilities within Inyo County. The proposed project is a light manufacturing facility that would operate as a business in the community, employing up to 50 people at full buildout. As mentioned above, it is anticipated that a majority of the future employees of the proposed bottling facility would already be residing in the communities surrounding the project site, and would already be using these same parks and facilities. To the extent that new employees would move to the project vicinity, their numbers would not be great enough to cause the substantial deterioration of recreational facilities. Additionally, the proposed bottling facility would not increase tourism to Inyo County. As such, implementation of the proposed project is not anticipated to cause an increase in the use of existing neighborhood and regional parks and other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated, and thus a less than significant impact to parks and recreational facilities would result from the proposed project. Further analysis of this issue is not necessary, and no mitigation measures are required.

[35] *Inyo County Parks and Recreation, Parks in Inyo County, http://www.inyocountycamping.com/inyo_county_parks.html, accessed May 2011.*

[36] *Inyo County Parks and Recreation, Diaz Lake Campground, http://www.inyocountycamping.com/diaz_lake_campground.html, accessed May 2011.*

b) **No Impact.** The proposed project would not include a recreational facility or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. No recreational facilities are planned as a part of the proposed project, and, as such, there would be no impact. Further analysis of this issue is not necessary, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☒	☐	☐	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐
e) Result in inadequate emergency access?	☒	☐	☐	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities	☐	☐	☒	☐

DISCUSSION:

a) **Potentially Significant Impact.** The proposed project includes the construction of a new 24-foot wide access road to the site. There would be up to 50 employees at the project site, as well as up to 80 truck trips per day along US 395, at full build-out. Currently, there are very few, if any, cars or trucks coming to the relatively undeveloped Cabin Bar Ranch site. As discussed above, Caltrans, in coordination with the Inyo County Transportation Commission, is proposing to widen approximately 12.7 miles of US 395 (which is adjacent to the project site) within the vicinity of Olancha and Cartago. On June 29, 2011, Caltrans announced a preferred alignment for this widening project. The preferred alignment would result in a four-lane, controlled-access, divided expressway that would begin south of Olancha and pass west of the

existing US 395 alignment, Olancha, and the Los Angeles Aqueduct. Once the alignment crosses Olancha Creek, the preferred alternative would then cross the Los Angeles Aqueduct and continue north through Cartago along the existing US 395 alignment to meet up with the previously constructed Ash Creek Four Lane Project. The existing US 395 alignment adjacent to Cabin Bar Ranch would become a frontage road to the new US 395 alignment. Construction of the project is anticipated to begin in 2016.

As the project's new access point along US 395 would be constructed prior to the start of the Caltrans US 395 widening project, the access point would be designed in accordance with Caltrans design standards for the existing alignment and configuration of US 395. Modifications to this access point may be required following completion of the US 395 widening project.

The project's employees and trucks would generate additional vehicle and truck trips throughout the day that have the potential to conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. As a result, further analysis of this topic in an EIR is recommended. The EIR discussion would be based on a Traffic Study that analyzes the project's site-specific impacts with respect to levels of service along US 395 in accordance with the Highway Capacity Manual, Chapter 7 (Circulation Element) of the Inyo County General Plan, and all applicable Inyo County regulations.

b) **No Impact.** Currently, there are very few, if any, cars or truck trips to the project site. Upon project buildout, there would be up to 50 employees coming to the site, as well as up to 80 new truck trips per day, as well as various delivery vehicles generated by the proposed project. Nonetheless, Inyo County does not maintain a Congestion Management Plan. As a result, no impact would occur, and no further analysis of this topic in an EIR is required. As mentioned above, the project's potential traffic impacts would be analyzed in a Traffic Study. The Traffic Study would evaluate the project's trips against the standards set forth in the Highway Capacity Manual and Chapter 7 (Circulation Element) of the Inyo County General Plan.

c) **No Impact.** The proposed project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. The proposed project would not impact any of the regional airports, and the height of the building would be approximately 39 feet above grade. As such, the proposed project would not substantially exceed the height of surrounding development and there is no potential for any air traffic patterns or levels to change as a result of the implementation of the proposed project. Further analysis of this issue is not necessary, and no mitigation measures are required.

d) **Potentially Significant Impact.** US 395, which is adjacent to the site, is currently planned for widening by Caltrans, with a preferred alternative being selected on June 29, 2011. While this preferred alternative would ultimately realign US 395 to a location west of its current alignment, construction is not anticipated to begin until 2016. As mentioned above, the project proposes a new access point along US 395, that would include acceleration and deceleration lanes, as well as turning lanes, on both northbound and southbound US 395. The access point would be designed to accommodate trucks as well as employee vehicles. All improvements would be designed and constructed per Caltrans standards for the current US 395 alignment. Modifications to this access point may be required following completion of the US 395 widening project. Nonetheless, as the project proposes a new access point along a designated highway, further evaluation of

the project's potential to increase hazards on US 395 due to a design feature is recommended in an EIR. The EIR analysis would include a review of the proposed site access and roadway design.

e) **Potentially Significant Impact.** The proposed project would construct a new 24-foot wide permanent site access road off of US 395 connecting to an internal parking lot and a truck loading area east of the bottling facility. The roadway would also connect with a 20-foot wide emergency access road encircling the northern, western, and southern perimeters of the bottling facility. The internal parking lot and truck loading area would provide fire access to the east side of the bottling facility. Although the project would include design features to provide adequate emergency access, since the project would introduce new uses to a relatively undeveloped site, further review of the site access and emergency access in an EIR is recommended.

f) **Less Than Significant Impact.** Public transportation to the project vicinity is provided through regular bus service offered by the Eastern Sierra Transit Authority (ESTA). In its nearby Olancha Bottling Plant, CGR encourages its employees to utilize public transportation and to carpool. The same programs and policies would be put into place for the proposed project. As a part of its commitment to encourage these policies, CGR would provide an employee shuttle as an alternative form of transportation. The Inyo County General Plan Circulation elements includes the goal to provide effective, economically feasible, and efficient public transportation in Inyo County that is safe, convenient, efficient, reduces the dependence on privately owned vehicles, and meets the identified transportation needs of the County, with emphasis on service to the transportation disadvantaged.[37] The proposed project would support this goal by locating an employment center along a route served by nearby public transportation and by continuing programs to encourage employees to utilize alternative modes of transportation. Further, the proposed project would implement an employee shuttle program currently in place at the spring water bottling plant in Olancha. This shuttle would travel to and from the project site to the south, approximately three times per day, primarily around shift changes. As such, the proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities and impacts would be less than significant. Further analysis of this issue is not necessary, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐

[37] *Inyo County General Plan, Circulation Element Element (Section 8.9), at page 7-16. December 2001.*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐
h) Other Utilities and Service Systems	☐	☐	☒	☐

DISCUSSION:

a) **Less Than Significant Impact.** As discussed above, domestic wastewater (e.g., kitchens, sinks, restrooms), would be disposed of in an on-site wastewater disposal system that would incorporate a septic tank for the primary treatment of effluent and a leach mound for secondary treatment. Ultimate discharge from the leach mound system would be into the groundwater. The leach mound system design would be reviewed and permitted by Inyo County Environmental Health Department and LRWQCB, which would ensure that impacts from the leach mound system would result in a less than significant impact with respect to water quality. It is important to note that all wastewater from the leach mound system would enter the groundwater and would not be discharged from the project site in stormwater or wastewater flows. As the leach mound system would be designed and operated in accordance with the Inyo County Environmental Health Department and LRWQCB, a less than significant impact would result.

b) **Less than Significant Impact.** The proposed project is not connected to a public sewer system as there is no central utility for sewer discharge servicing the project site or the neighboring community of Cartago. As such, any sanitary waste generated on the project site would need to be disposed of on-site. Therefore, the proposed project would not require the expansion of existing wastewater facilities, the construction of which could cause significant environmental effects.

To accommodate on-site domestic wastewater flows, a septic tank is proposed for the primary treatment of effluent and a leach mound system is proposed for secondary treatment. The leach mound is an accepted method to provide secondary treatment of wastewater prior to contact with groundwater. The leach mound

system would be located in the northeastern portion of the property, behind the planned Phase II building development.

A leach mound system is similar to a sand filter; however, it is in a mound formation. The purpose of the mound would be to provide a minimum of five feet of soil or sand between the bottom of the leach rock and the highest groundwater levels. Pressurized leach lines would be located at the top of the mound in a bed of gravel. The lines would be supplied from a pump located in the septic tank. Below the gravel layer would be a minimum of two feet of sand (plaster sand with little or no fines), which would provide a media for aerobic bacteria to grow and a means to treat the effluent as it passes through the sand, in addition to serving as a filter to remove suspended solids. The system would be designed to accommodate 750 gpd and sized based on a one-gallon-per-square-foot-per-day application rate of wastewater to the sand. The base area of the mound would be sized by the allowable application rate of effluent into the existing surficial soils, as determined by percolation testing.

As discussed throughout this Initial Study, the leach mound system design for the proposed project would be designed, reviewed, permitted, and operated in accordance with the standards of the Inyo County Environmental Health Department and LRWQCB prior to installation and during operation. With proper permitting and operation, the proposed on-site domestic wastewater system would result in less than significant impacts with respect to surface or groundwater quality.

c) **Less Than Significant Impact.** The proposed project would develop a water bottling facility on a largely undeveloped site, thus altering stormwater conditions on the project site. To manage any change in stormwater, the project proposes the construction of a stormwater retention basin to manage all stormwater flows on the project site, as well as the occasional management of treated rinsewater from cleaning operations at the project site. As discussed above, the hydrology and groundwater impacts of the proposed stormwater retention system would be further analyzed in an EIR.

d) **Less Than Significant Impact.** By its very nature, the proposed bottling facility would increase the withdrawal rate of groundwater within the immediate vicinity of the three production and one domestic well serving the proposed project. Upon project completion, the proposed project would be anticipated to have a peak water demand of approximately 500 gpm from the on-site production wells during peak times (i.e., spring and summer) when all four bottling lines are operating simultaneously. During the non-peak times of the year (i.e., fall and winter), bottling would be rotated through the four bottling lines, so that not all four bottling lines would be operating simultaneously. When these two scenarios are averaged, at project buildout, the annual water demand is estimated to be 360 acre feet per year (afy) from the underlying Owens Valley Groundwater Basin.

Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221), Sections 10910-10915 of the State Water Code, requires the preparation of a water supply assessment (WSA) demonstrating sufficient water supplies for any subdivision that involves the construction of more than 500 dwelling units, or the equivalent thereof. In Inyo County, a 500-unit residential project uses 560 acre feet of water per year.[38] Based on operating

[38] *Written correspondence from the Inyo County Planning Department, May 11, 2011. This quantity is based on the average per capita use of 470 gallons per day (gpd) and 2.2 people per residence, equating to approximately 1000 gpd or 1.12 acre feet per year.*

schedule (which would not operate all bottling lines continuously), this proposed project would result in a water demand of 360 acre feet per year - far less that the 560 calculated for a 500-lot residential project. As a result, a WSA under the State Water Code would not be required and a less than significant impact would result.

Although the proposed project would be less than significant with respect to the preparation of a WSA, as discussed in Checklist Question IX(b) above, the potential for the proposed project to impact groundwater levels, drawdown calculations, off-site wells within the groundwater basin, and the potential for the project to significantly affect groundwater or lower the water table would be addressed in an EIR. This analysis would evaluate the project's potential to lower groundwater tables to the extent that it would significantly impact water supplies reliant on the Owens Valley Groundwater Basin.

e) **No Impact.** The proposed project is not connected to a municipal wastewater treatment provider. Rather than rely on a municipal wastewater treatment, the proposed project would install an onsite domestic wastewater treatment system that would include a septic treatment system and leach mound system. The leach mound system would be designed to treat 750 gallons of wastewater per day and is an accepted method to provide secondary treatment of wastewater prior to contact with groundwater. The leach mound system design for the proposed project would be reviewed by the Inyo County Environmental Health Department prior to the issuance of permits in order to verify that the proposed wastewater treatment facilities (including the leach mound system) would be adequate to accommodate wastewater flows from the project site. As discussed above in Checklist Question IX(b), four soil profile holes and two percolation tests were conducted in the location of the proposed septic and leach mound system. The terminal percolation rate was measured at less than one minute per inch, and is thus, acceptable for the proposed septic and leach mound system. As a result, the proposed project provides a domestic wastewater system that has adequate capacity to serve the needs of the proposed project and a less than significant impact would result.

f) **Less than Significant Impact.** The Lone Pine Landfill is available to provide solid waste disposal service to development in and around the community of Cartago. The Lone Pine Landfill is a Class III (non-hazardous) municipal solid waste disposal facility and is permitted to accept general residential, commercial, and industrial refuse, as well as construction and demolition debris, for disposal. The landfill is located approximately 20 miles north of the project site. The Lone Pine Landfill has a permitted daily intake of 22 tons per day (tpd) with an estimated remaining capacity of 1,006,586 cubic yards and an estimated closure date of December 31, 2065.[39]

Project construction would generate solid waste that would need to be landfilled. Specifically, construction of the proposed bottling facility would generate an estimated total of 518 tons of debris, or approximately three tpd.[40] As discussed in Attachment A of this Initial Study, *Project Description*, during construction, an

[39] *CalRecycle. Active Landfill Profile for Lone Pine Landfill (14-AA-0003). Available at: http://www.calrecycle.ca.gov/profiles/Facility/Landfill/LFProfile1.asp?COID=14&FACID=14-AA-0003. Accessed August 8, 2011.*

[40] *Environmental Protection Agency, Estimating 2003 Building-Related Construction and Demolition Materials Amounts, March 2009. Non-residential development has an average solid waste generation rate of 4.34 pounds per square foot of floor area. Since the project proposes 238,750 square feet of floor area, this equates to a total solid waste generation of 1,036,175 pounds (238,750 square feet x 4.34 pounds per square foot = 1,036,175 pounds), or approximately 518 tons, of solid waste over the construction period. Total construction duration for all three phases is estimated to be 8 months, or approximately 173 working days assuming*

estimated 12,600 cubic yards of grading would occur. The proposed project has been designed to balance all on-site cut and fill, and no fill material would be exported from the site during construction. The estimated three tpd generated during construction would constitute only a small percentage (13.6 percent) of the daily permitted intake of 22 tpd at the Lone Pine Landfill. As a result, project construction would be served by a landfill with sufficient capacity to accommodate the disposal needs and a less than significant impact would result. It is important to note that the estimate of construction and demolition debris is conservative in that it doesn't take into account recycling efforts that would occur in accordance with AB 939 and Chapter 7.11 of the Inyo County Code (Monitoring and Diversion of Construction and Demolition Debris). When including these diversion efforts, the amount of construction debris anticipated to be landfilled would be further reduced.

With respect to project operations, similar to the operations at the nearby Olancha Plant, the proposed project would implement a comprehensive recycling program to reduce the amount of solid waste from the project site that would be landfilled. The recycling program would include the sale of recyclable plastics and cardboard materials to private recycling companies. In 2010, the nearby Olancha bottling plant recycled approximately 150 tons of recyclable plastics and 145 tons of recyclable cardboard material. As a result of these efforts, the solid waste generated by the proposed project during plant operations would largely be composed of regular employee waste (e.g., restroom trashcans, employee break room waste). During plant operations, the proposed project would be anticipated to generate an estimated one tpd of solid waste that would need to be landfilled.[41] As mentioned above, the Lone Pine Landfill has a permitted daily intake of 22 tpd, and therefore, the proposed project would constitute only 4.5 percent of the daily permitted intake at the Lone Pine Landfill. As with project construction, this estimate is conservative in that it does not take into account conservation efforts in accordance with AB 939. As mentioned above, CGR would implement a comprehensive solid waste recycling program that would recycle far greater than 50 percent of the solid waste generated as part of plant operations. In addition, in accordance with AB 939 requirements, the proposed project would also introduce methods of recycling common employee waste, such as separate recycling waste bins. These efforts would further reduce the quantity of solid waste that would be disposed of at the Lone Pine Landfill. This analysis is also conservative in that it assumes that the Lone Pine Landfill is the only option to accept solid waste from the proposed project. While this would be the likely disposal facility to accept operational waste from the proposed project due to its close proximity and large remaining capacity, there are three other landfills in Inyo County that could accept solid waste if the Lone Pine Landfill were to reach its daily permitted intake. As a result, the proposed project would be served by a landfill with adequate capacity to serve the operations of the proposed project and a less than significant impact would result.

g) **Less Than Significant Impact.** Solid waste generated on-site by the proposed project would be disposed of in accordance with all applicable federal, State, and County regulations related to solid waste, such as AB 939, the Inyo County General Plan Land Use Element, and Chapters 7.08, 7.10, and 7.11 of the Inyo County

a 5 day work week. Daily solid waste generation would thus be approximately 5,989 pounds per day (1,036,175 pounds ÷ 173 days = 5,989.45 pounds per day) or 3 tons (2.99) per day.

[41] *CalRecycle. Estimated Solid Waste Generation Rates for Industrial Establishments, Light Manufacturing Category. Available at: http://www.calrecycle.ca.gov/wastechar/WasteGenRates/Industrial.htm. Accessed August 8, 2011. Light industrial land uses have an average solid waste generation rate of 41.64 pounds per employee per day. Since the project would have 50 employees, this equates to a total solid waste generation of 2,082 pounds per day (50 employees x 1.64 pounds per employee = 2,082 pounds), or approximately one ton of solid waste per day during plant operation.*

Code. Therefore, since the proposed project would comply with federal, State, and County regulations a less than significant impact with respect to these regulations would occur. No mitigation measures are required and no further analysis of this issue in an EIR is necessary.

h) **Less Than Significant Impact.** Electrical transmission to the project site is provided and maintained by LADWP. The proposed project would consume approximately 24.176 megawatt hour (MWh) of electricity annually. Upon completion, the proposed on-site solar array would be anticipated to generate an estimated 1.813 MWh of electricity annually, or 7.5 percent of the project's total projected electricity needs. As a result, the proposed project would require 22.363 MWh of electricity annually from LADWP. In 2010, LADWP customers consumed an estimated 25,326,000 MWh of electricity.[42] Although current projections do not extend to extend to 2025, the year of project buildout, by 2020, the electricity consumption for LADWP customers is projected to increase to approximately 27,943,000 MWh. Thus, the projected 2010–2020 increase in the electrical consumption by LADWP customers would total approximately 2,617,000 MWh. Accordingly, the project-related net increase in electricity demand would represent less than 0.01 percent of LADWP's forecasted growth in electricity consumption. As a result, the project is within the anticipated electrical service capabilities of LADWP and a less than significant impact would result.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

[42] *California Energy Commission, California Energy Demand 2010 - 2020 Commission-Adopted Forecast, December 2009. Available at: http://www.energy.ca.gov/2009publications/CEC-200-2009-012/index.html. Accessed March 22, 2010.*

DISCUSSION:

a) **Potentially Significant Impact.** As discussed above in Section IV, Biology, of this Initial Study, the proposed project would develop a water bottling facility, 8.3-acre solar array, and ancillary uses on a relatively undeveloped site that is near an identified wildlife area, adjacent to the Owens Dry Lake (a major stop-over on the Pacific Flyway), and within an area known to contain habitat for a fish species listed as an endangered species at both the federal and state levels, the Owens tui chub. In addition, project development would include the removal of on-site trees, which could provide habitat for migratory birds and/or other species. Although trees would be removed to accommodate the proposed structures, the number of trees to be removed constitutes a relatively small amount of the total number of trees on Cabin Bar Ranch. Nonetheless, further analysis of the project's potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history is recommended.

b) **Potentially Significant Impact.** CEQA requires that the analysis of potential project impacts include cumulative impacts. CEQA defines cumulative impacts as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts."[43] This analysis of cumulative impacts need not be as in-depth as what is performed relative to the project, but instead is to "be guided by the standards of practicality and reasonableness."[44]

As indicated above, the proposed project has the potential to cause significant impacts on the environment with respect to aesthetics, air quality, biology, cultural resources, greenhouse gas emissions, hydrology and water quality, land use and planning, noise, and transportation/traffic. As such, potential cumulative impacts of these environmental topic areas would be analyzed in an EIR. Regarding the project's potential to result in significant cumulative impacts with respect to the remaining environmental topic areas, the below discussion concludes that the proposed project would not have a cumulatively considerable contribution to cumulatively significant impacts.

Agricultural Resources

Less Than Significant Impact. As mentioned above, Inyo County does not contain any lands listed as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), and Inyo County does not participate in Williamson Act programs. Therefore, neither the project nor the related projects would result in a conversion of "Farmland" or Williamson Act contract lands to non-agricultural uses. Further, the project site is not located in within an area zoned as forest land, timberland, or timberland zoned Timberland Production. As a result, the proposed project would result in no impact with respect to forest land, timberland, or timberland production land. Therefore, no cumulative impacts related to agricultural resources would occur. No mitigation measures would be required and no further analysis of this topic in an EIR is recommended.

[43] *State CEQA Guidelines, 14 California Code of Regulations, § 15355, et seq.*

[44] *Ibid, § 15355.*

Geology and Soils

Less Than Significant Impact. Geology impacts are site specific and are assessed on a project-by-project basis. As no related projects are located immediately adjacent to Cabin Bar Ranch, cumulative geologic impacts resulting from the project and other related projects would not occur. All projects in Inyo County would be subject to Federal, State, and County regulations and standards for seismic safety, including the 2010 CBC (as implemented by the Inyo County Code). Thus, cumulative impacts related to geology and soils would be less than significant. No additional mitigation measures would be required and no further analysis of this topic in an EIR is recommended.

Hazards/Hazardous Materials

Less Than Significant Impact. The proposed project is a water bottling facility, and large quantities of hazardous materials are not used in the regular course of their business. As a result, the project would not generate, use, or emit any hazardous materials that would result in adverse environmental conditions. Similar to the project, all related development within Inyo County would be subject to Federal, State, and County regulations, as well as with manufacturers' recommendations, pertaining to hazards and hazardous materials. In addition, all related projects handing hazardous materials of specified quantities would be subject to the California Unified Program, which consolidates six state environmental programs into one program under the authority of a Certified Unified Program Agency (CUPA). These can be a county, city or JPA (Joint Powers Authority). The County Environmental Health Services Department is designated as a CUPA for all businesses and agencies using or storing hazardous materials and wastes within Inyo County. The CUPA regulates the hazardous materials used by a facility and ensures safe handling of all materials, including developing a response plan in the event of an emergency release of hazardous materials. Moreover, Material Safety Data Sheets (MSDS) are required to be kept on site at each facility for safety purposes for employees. Copies of the MSDSs are also included in the Business Plans filed with the CUPA. With adherence to such regulations, the concurrent development of the project and related projects would not result in cumulatively significant impacts with regard to hazards and hazardous materials. No mitigation measures would be required and no further analysis of this topic in an environmental impact report is recommended.

Mineral Resources

Less Than Significant Impact. As Cabin Bar Ranch is not classified by the State of California as an area containing significant mineral deposits, nor is the site classified as an existing mineral resource extraction area by the State of California, the project would not result in the loss of a locally-important mineral resource recovery site. Further, no mineral extraction activities currently occur on Cabin Bar Ranch The Inyo County General Plan Conservation/Open Space Element recognizes that mineral resources play a significant, although decreasing, role in the County. Within the vicinity of the project site, the General Plan recognizes that borates and soda ash (from Owens Lake) also play an important role in the mining industry. The development of individual related projects would be subject to the underlying zoning of each of the respective site's and would be subject to the goals and policies of the Inyo County General Plan to preserve mineral resources. With adherence to underlying zoning and applicable plans and policies, the development of related projects would occur in a manner that would not preclude future extraction of mineral resources. No mitigation measures would be required and no further analysis of this topic in an EIR is recommended.

Population/Housing

Less Than Significant Impact. The proposed project does not include the development of residential housing units. As discussed above, even in the conservative event that all employees were to move to Inyo County to fill jobs for the proposed project, the addition of 50 new employees to the County would not constitute a substantial increase in the demand for housing in the small number of communities within a reasonable commute distance from the site. Furthermore, this growth would not be substantial in the context of the growth forecasted for Inyo County. Thus, cumulative impacts associated with population and housing would be less than significant. No further evaluation of this topic in an EIR or mitigation measures are required.

Public Services

Less Than Significant Impact. The development of the proposed project, in combination with related projects, may place new demands on public services such as fire protection, police protection, schools and parks. Regarding fire protection, all related projects would be required to comply with applicable State and County fire safety regulations and standard conditions, as well as would be required to secure County approval prior to project implementation. Compliance with applicable requirements and building code requirements would ensure that cumulative impacts to fire protection would be below a level of significance. In addition, with the project's proposed comprehensive fire suppression system, defensible fire zone, and safe circulation, the project would constitute a negligible increase in the demand for fire services and cumulative impacts would be less than significant. No mitigation measures or further evaluation of this topic in an EIR is required.

Regarding police protection services, development of the proposed project, in conjunction with related projects would cumulatively increase the demand for Inyo County Sheriff Department services. However, it is anticipated that related projects would be reviewed by Inyo County to ensure that sufficient security measures would be implemented to reduce potential impacts to police protection services. Notwithstanding, the proposed project would not increase the residential population, and in combination with the project's proposed security design features, the proposed project's contribution to cumulative impacts to police protection would be less than significant. No mitigation measures or further evaluation of this topic in an EIR is required.

To the extent that related projects increase demand for schools services, cumulative development would, as is the case with the project, also be required to pay school impact fees. Pursuant to the provisions of SB 50, all school impacts are considered reduced to less than significant levels through the payment of mandatory school impact fees. Therefore, cumulative impacts with respect to schools would be less than significant. No mitigation measures or further analysis of this topic in an environmental impact report are required.

Regarding parks services, the proposed project does not include residential development, which typically creates demand on park services. Further, the proposed project is not anticipated to increase tourism to Inyo County. Related projects would be subject to discretionary review by Inyo County and would be required to implement mitigation measures to ensure that no significant impacts to park and recreational services would occur, and would be required to comply with the parks and recreation requirements of the Quimby Act.

Therefore, cumulative impacts with respect to parks would be less than significant. No mitigation measures or further analysis of this topic in an environmental impact report are required.

Utilities

Less Than Significant Impact. Because the project would include self-contained, site-specific water, wastewater, and stormwater systems, there is no potential for the project to result in a cumulative impact with respect to water, wastewater, or stormwater infrastructure. As a result, no mitigation measures would be required and no further evaluation of these topics in an EIR is required.

The project in conjunction with related projects would increase the need for solid waste disposal during their respective construction periods. However, since unclassified landfills in the County do not generally have capacity concerns, inert landfills serving the related projects would have sufficient capacity to accommodate construction waste disposal needs. With regard to operational waste disposal needs, the project and related projects would generate an increased amount of solid waste in Inyo County. However, this increase would represent a negligible fraction of the total waste generated Countywide. As mentioned above, the proposed project itself would contribute only a small percentage of the remaining available capacity at the Lone Pine Landfill. With the implementation of solid waste policies and objectives intended to help achieve the requirements of AB 939, it is expected that the project and related projects would not substantially reduce the projected timeline for landfills within the region to reach capacity. Therefore, cumulative impacts on solid waste would be less than significant. No mitigation measures would be required and no further analysis of this topic in an environmental impact report is recommended.

c) **Potentially Significant Impact.** The proposed project could result in potentially significant impacts with regard to aesthetics, air quality, biology, cultural resources, greenhouse gas emissions, hydrology and water quality, land use and planning, noise, and transportation/traffic. As these impacts could have potential adverse effects on human beings directly and indirectly, it is recommended that these topics be analyzed in an EIR.

Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project

PUBLIC SCOPING MEETING

County of Inyo

September 29, 2011

Scoping Meeting Objectives

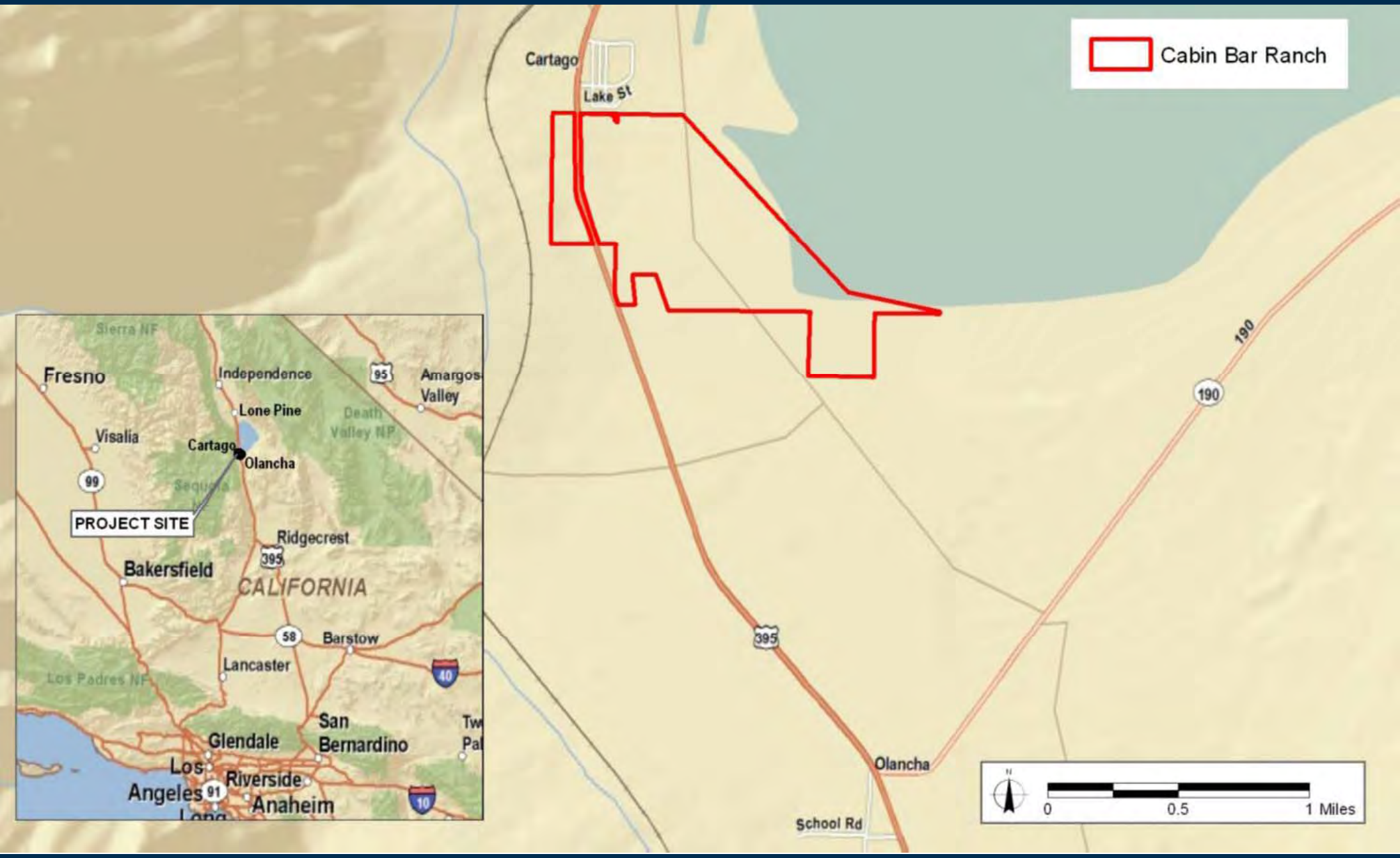
County of Inyo

- Provide information about the Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project
- Provide an overview of the Environmental Process
- Summarize the findings of the Initial Study
- Accept community input on issues to be analyzed in the Environmental Impact Report (EIR)

Cabin Bar Ranch Water Bottling Facility Project

Project Location

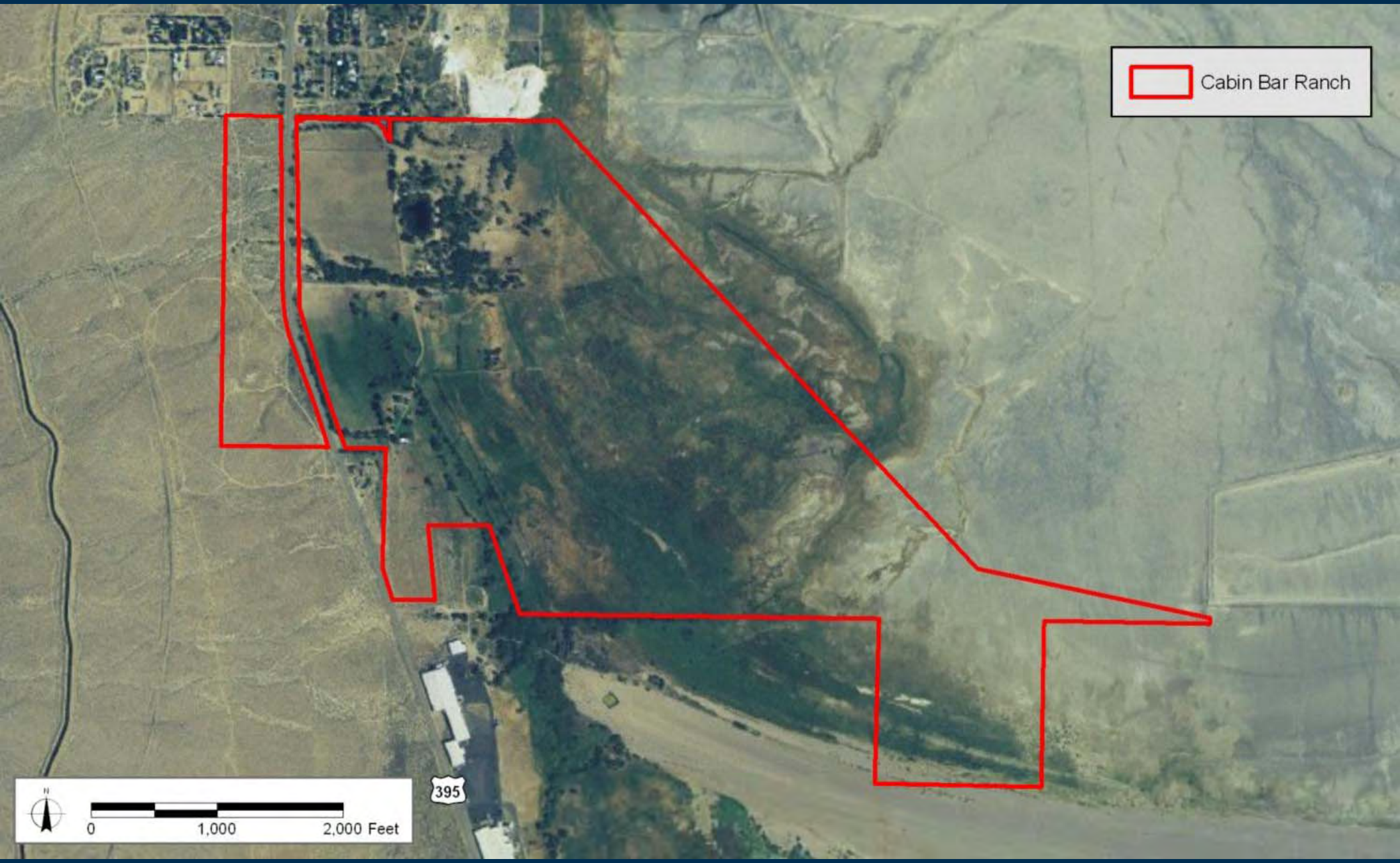
County of Inyo



Cabin Bar Ranch Water Bottling Facility Project

Project Location

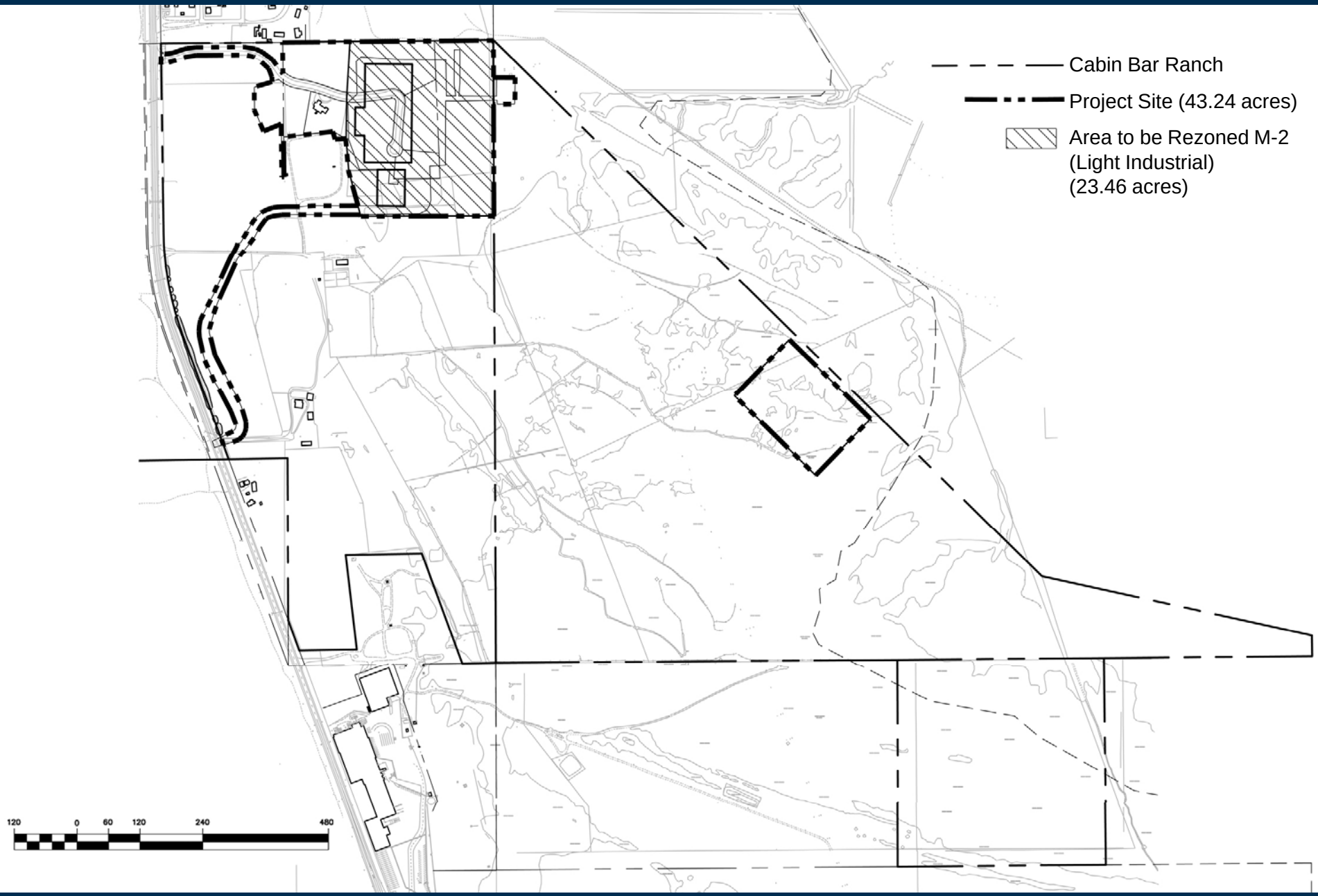
County of Inyo



Cabin Bar Ranch Water Bottling Facility Project

Project Site Map

County of Inyo



Cabin Bar Ranch Water Bottling Facility Project
Meeting Information

County of Inyo

- Purpose/Introductions/Agenda for Meeting
  - Purpose: To provide a forum for interested parties to comment on the proposed "scope" of the project's Environmental Impact Report (EIR) – issues the EIR should address/analyze
  - Introductions

Josh Hart	Director of Inyo Planning
Tanda Gretz	Planner w/Inyo County
Anne Doehne	Principal Planner w/PCR
Shawn Gaver	Senior Planner w/PCR
Rick Moore	Applicant/Crystal Geyser Roxane (CGR) Representative

Cabin Bar Ranch Water Bottling Facility Project
Meeting Information

County of Inyo

- Agenda for Meeting
  - Presentation: Project overview (County)
  - Presentation: Summary California Environmental Quality Act (CEQA) procedures and EIR process (PCR)
  - Take comments on the EIR scope and contents from audience
- Important Meeting Information/"Rules"
  - Meeting provides "public" format for comment – but is just ONE of a number of possible ways to comment (i.e., email, FAX, U.S. Mail, etc.)
  - Comment Forms – Available tonight for your use
  - Project Mailing List – If you've received a Notice of Preparation (NOP) in the mail, you're on it. If not, add your U.S. mail address to the list.
  - Scoping Meeting is for comments only – a one-way meeting to hear input and questions. No findings will be presented and no action taken.

Cabin Bar Ranch Water Bottling Facility Project
Project Description

County of Inyo

- Project Description
  - CGR History: Crystal Geyser has an existing water bottling plant in Olancha – first approved in 1987, with subsequent expansions
  - Project Site: ~1 mile north of existing plant on Cabin Bar Ranch, east side of Hwy 395
    - Ranch is about 420 acres
    - Proposed “project site” is ~47 acres within 420-acre Ranch
    - “Ground disturbance” portion is ~24 acres of the 47-acre project site
    - Remaining ~23 acres is the portion proposed for rezoning
    - Project site is south of Cartago, adjacent to Owens Dry Lake
    - Cartago Creek traverses Ranch, south of proposed plant site
    - General Plan/Zoning Designations: primarily Rural Protection (RP) & Open Space (OS-40). Small portion is zoned Residential as the result of an old, undeveloped subdivision project.

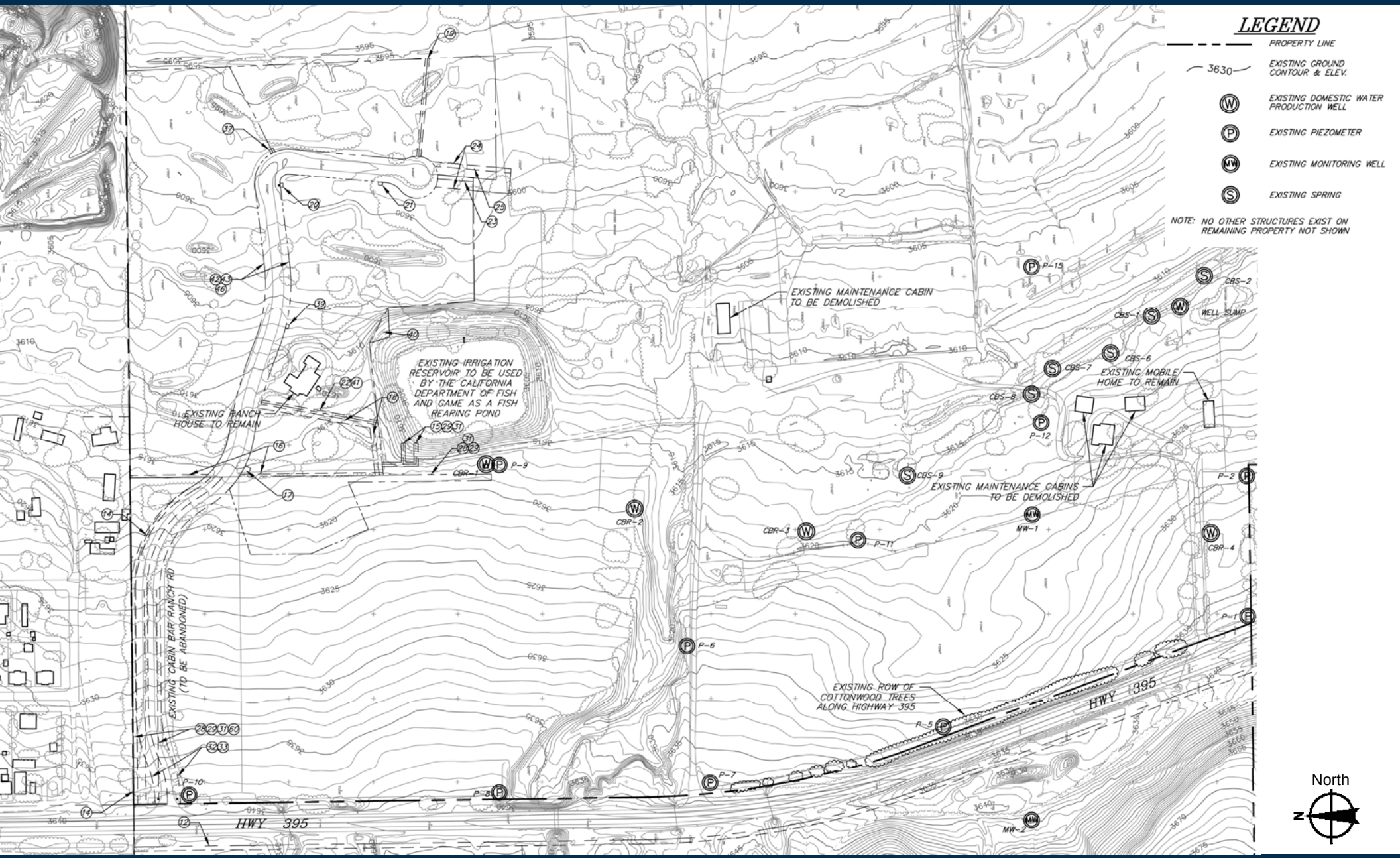
Project Description

- Cabin Bar Ranch History/Context
  - 1950s+: Operational cattle ranch
  - Early 1980s: 13 acres previously subdivided into lots, but never developed, although an access road and “caretaker” home were constructed. Project site will largely occupy the old subdivision site, in northeast corner of the Ranch property.
  - Anheuser-Busch: Purchased Ranch to access water for its L.A. brewery when L.A. “drought” conditions required supplemental water supplies. EIR drafted, but project never constructed.
  - Crystal Geyser Roxane: Purchased property in 2010.

Cabin Bar Ranch Water Bottling Facility Project

Existing Site Conditions

County of Inyo



Cabin Bar Ranch Water Bottling Facility Project
Project Description

County of Inyo

- Proposed New Bottling Plant Project
  - Spring Water-Focused: Will draw water from 3 existing production wells
  - Phased Development: 3 phases built over 10-15 year period
  - Four Bottling Lines: Each line will consume approximately 125 gallons per minute (gpm), for a total of 500 gpm when all four lines are in operation (average water consumption of 360 acre-feet per year)
    - Initially, just one bottling line constructed
    - Physical Plans: Lines 1 and 2 in Phase I Building (106,500 sq.ft.; 2012 start); Lines 3 and 4 in Phase II Building (92,000 sq.ft. addition to plant; approximate 2020 start).
    - Warehouse (40,250 sq. ft.) planned for Phase III
  - Employees/Hours: Will vary seasonally. Max 17 people/shift running 3 shifts over 24 hours; minimum of 2 shifts (7:00 a.m. – 11:00 p.m.)

Cabin Bar Ranch Water Bottling Facility Project
Project Description

County of Inyo

- Trucks: 80 trucks per day, almost all from/to the south. Traffic Study will be prepared for EIR. Caltrans will review and comment.
- Appearance/Design of Plant Building: Similar to existing plant , but farther from Hwy 395, with more landscape screening (although trees will be removed to accommodate new plant)
- Access Roadway Configuration: Will phase/change over time during Caltrans Hwy 395 widening project
  - New 24-foot access road to plant will be constructed; old/existing road to be demolished
  - New Hwy 395 acceleration/deceleration lanes constructed for site access
  - “Old” Hwy 395 will eventually become “frontage road” for site, post-Hwy 395 widening project

Cabin Bar Ranch Water Bottling Facility Project
Project Description

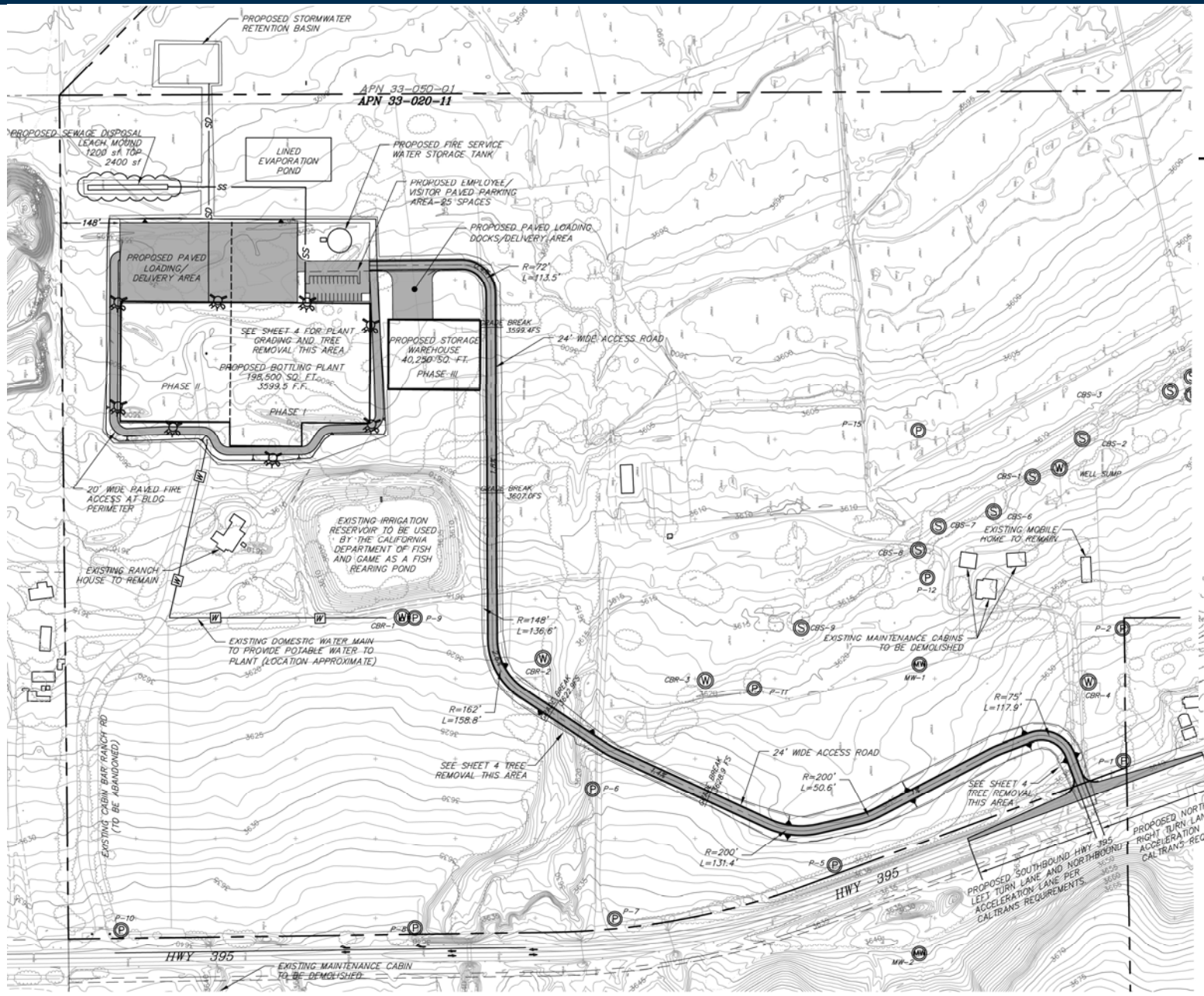
County of Inyo

- Other Project Components
  - Fire Suppression System: Includes sprinklers; developed in full consultation with Olancha Community Service District (CSD), similar to other CGR project
  - Lighting: “Dark sky”/LEED design & features
  - Stormwater Retention Basin & Leach Mound System: To support bottling plant functions
  - Solar Array: Photovoltaic panels covering approximately 8 acres and providing 7% of project electricity needs – located to southeast of plant building
  - Fish-Rearing Ponds: “Restoration project” in conjunction with California Department of Fish & Game, who will use existing ranch irrigation pond to restore threatened species (i.e., tui chub, etc.)

Cabin Bar Ranch Water Bottling Facility Project

Project Site Plan

County of Inyo



LEGEND

- PROPERTY LINE
- 3630 EXISTING GROUND CONTOUR & ELEV.
- 3630 PROPOSED FINISHED GROUND CONTOUR & ELEV.
- SD PROPOSED STORMDRAIN LINE
- SS PROPOSED SANITARY SEWER LINE
- W EXISTING/PROPOSED WATER MAIN
- PROPOSED 2:1 FILL SLOPE
- PROPOSED 2:1 CUT SLOPE
- PROPOSED A.C. PAVEMENT
- PROPOSED FIRE HYDRANT
- EXISTING DOMESTIC WATER PRODUCTION WELL
- EXISTING PIEZOMETER
- MW EXISTING MONITORING WELL
- S EXISTING SPRING

SITE COVERAGE

SITE AREA: 420.02 ac.	
BUILDING FOOTPRINT(I & III)	238,750 sq.ft.
FIRE STORAGE TANK & BLDG	2,980 sq.ft.
AC PAVEMENT:	
PARKING/BLDG FIRE RD	149,115 sq.ft.
FUTURE ROAD	77,270 sq.ft.
TEMPORARY ROAD	29,302 sq.ft.
TOTAL SITE COVERAGE:	497,417 sq.ft. (2.7%)
EXISTING IMPERVIOUS AREA:	13,280 sq.ft. (bldgs)
	56,211 sq.ft. (cabin bar rd.)

North

Cabin Bar Ranch Water Bottling Facility Project
Project Description

County of Inyo

- Project Approvals/Permitting/Reviews
  - Through County:
    - Planning Department
      - General Plan Amendment: RP & RRH to LI (Light Industrial) (23.46 acres)
      - Zoning: OS-40 & RR to M-2 (Light Industrial) (23.46 acres)
      - Conditional Use Permit: a “bottling plant” allowed as Conditional Use in M-2 (Light Industrial) zone
    - Department of Public Works - Building & Safety
    - Department of Environmental Health Services
  - Others (i.e., permitting &/or review)
    - Caltrans
    - California Department of Health Services
    - Lahontan Regional Water Quality Control Board
    - Great Basin Unified Air Pollution Control District
    - State Historic Preservation Office
    - California Department of Fish & Game

California Environmental Quality Act (CEQA)

County of Inyo

Objectives of Environmental Review

- Encourage informed decisions by agency decision-makers
- Increase public understanding of, participation in environmental review process
- Promote coordination between government agencies
- Disclose potential impacts on the environment
- Identify ways to avoid or reduce potential impacts, through mitigation measures or alternatives

Overview of CEQA Process

County of Inyo

- Notice of Preparation/Initial Study
  - 30-day public comment period (9/20/11 **through 10/20/11**)
  - Scoping Meeting (accept public input)
- Prepare & Publish Draft EIR
  - 45-day public review & comment (Winter 2012)
  - Public Meeting to present Draft EIR findings, accept public comment
- Prepare & Publish Final EIR
  - Response to Comments on Draft EIR
  - Corrections or Additions to Draft EIR
- County Considers Final EIR/Project
  - Inyo County Water Commission
  - Inyo County Planning Commission
  - Inyo County Board of Supervisors

Initial Study - Types of Impacts

County of Inyo

- No Impact
  - No impact found; no further study in EIR required.
- Less Than Significant Impact
  - Impact does not exceed threshold(s) of significance; no further study in EIR required.
- Less Than Significant Impact with Mitigation Incorporated
  - Mitigation measures will be incorporated into a Mitigation Monitoring and Reporting Program (MMRP) to ensure implementation; no further study in EIR.
- Potentially Significant Impact
  - Impact may exceed threshold(s) of significance; further study required in EIR.

Issues with No Impacts

County of Inyo

- Mineral Resources

Issues with Less than Significant Impacts

County of Inyo

- Agriculture and Forest Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems

Potentially Significant Impacts for EIR Analysis

County of Inyo

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Greenhouse Gas Emissions
- Hydrology & Water Quality
- Land Use & Planning
- Noise
- Transportation/Traffic

Initial Study Availability

County of Inyo

- The Initial Study is available for review at the following locations:
  - Inyo County Planning Department Website (www.inyoplanning.org)
  - Bishop Public Library
  - Big Pine Public Library
  - Independence Public Library
  - Lone Pine Public Library
  - Tecopa Public Library
  - Furnace Creek Public Library

Public Comments

County of Inyo

- Public Comments
  - Oral comments tonight
  - Leave written comment form in box tonight
  - Mail or fax comment form or your preferred format
  - Email comments
- Comments accepted through October 20, 2011

Contact Information

County of Inyo

Inyo County Planning Department
P.O. Drawer L
168 North Edwards Street
Independence, CA 93526
Telephone: (760) 878-0265
Fax: (760) 878-0382
E-mail: tgretz@inyocounty.us
Contact: Tanda Gretz, Senior Planner

Please write **"Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project"** in the subject line

Public Comments

County of Inyo

PUBLIC COMMENTS

- EFFECTS ON ADJACENT WELLS - to N
  - DRAWDOWN
- NO PUBLIC SEWER SYSTEM
  - CGR EFFLUENT EFFECTS ON ADJACENT WELLS
- CARTAGO CREEK - DOWNSTREAM EFFECTS DUE TO WITHDRAWAL FROM WELLS W OF HWY 395
  - EXISTING WELLS WOULD BE AFFECTED BY PROJECT
- PUMPING FOR EXIST. PLANT INTERCEPTS WATER UPSTREAM OF TREES ON HWY 395 - SIMILAR EFFECT FOR PROJECT?
- CONSTRUCTION NOISE

- HUGH MURPHY: - OPEN-PIT CESSPOOL ON PROPERTY FILLED W/ WATER & THEN WAS LOWERED IN RESPONSE TO DWP PUMPING
  - SINKHOLE/SOIL CONCERNS - CUMULATIVE IMPACT DWP I SIDE - CGR ON OTHER

-TEST PUMPING - & WILL THIS INCLUDE MONITORING
OF OFFSITE WELLS
- ACCESS ROAD INTERFACE W/ EXISTING HWY 395 VS 2016
- TRUCK CONFLICTS W/ RESIDENTIAL USE OF EXIST HWY 395 ALIGNMENT IN FUTURE
- DARK SKY COMPLIANT FIXTURES REQUIRED

- LAND USE - INDUSTRIALIZING A CURRENTLY RURAL AREA
  - WATER PLANTS, PARKING LOTS, LANDSCAPE CHANGES in CARTAGO & SURROUND. AREA

- EMPLOYEE HOUSING - SHORTAGE IN PROJECT AREA
  - HIRING FROM OUT OF COUNTY - HOW REVENUE ACCOUNTED/MONITORED
  - 2 HOUSES FOR RENT CURRENTLY - OLANCHA & CARTAGO

- CARTAGO COMMUNITY WELL DRAWDOWN
  - CONCERN FOR HEALTH OF TREES - ADJACENT PROPERTY
- WATER SUPPLY FOR FIRE DEPT - NOT JUST RESIDENTIAL USE
- SO. OF WILLOW DIP - HWY 395 - DWP DRAWDOWN EFFECTS (CUMULATIVE IMPACTS)

OF OTHERS MEMS

-TEST BANKING - & MIT THIS INCLUDE MONITORING

-SEARLES VALLEY - VARGAS - SUBSIDENCE & EFFECTS ON FOUNDATIONS
DUE to DRAWDOWN
-HOW IS SOIL CONTRIBUTING TO THIS - COULD SAME HAPPEN
AT OWENS LAKE DUE to PROJECT

-----Original Message-----
From: Gayle Rosander [mailto:gayle_rosander@dot.ca.gov]
Sent: Tuesday, October 18, 2011 9:36 AM
To: Tanda Gretz
Cc: Tom Platz
Subject: Cabin Bar Ranch Water - CT Letter

Hi Tanda -

Here is our letter:

(See attached file: CBRWater.pdf)
A hard copy is being mailed.

See you here tomorrow at 10am.

Regards,
Gayle

DEPARTMENT OF TRANSPORTATION
DISTRICT 9
500 SOUTH MAIN STREET
BISHOP, CA 93514
PHONE (760) 872-0785
FAX (760) 872-0754
TTY 711 (760) 872-0785
www.dot.ca.gov

Flex your power!
Be energy efficient!

October 17, 2011

Ms. Tanda Gretz
Inyo County Planning Department
P.O. Drawer L
Independence, California 93526

File: Iny-395-37.2
IS/NOP DEIR
SCH #: 2011091055

Dear Ms. Gretz:

Crystal Geyser Cabin Bar Ranch Water Bottling - Initial Study (IS) Notice of Preparation of a Draft Environmental Impact Report (NOP DEIR)

The California Department of Transportation (Caltrans) appreciates the opportunity to comment during the NOP phase for the Cabin Bar Ranch Water Bottling facility (CBR) east of US 395 in the community of Cartago. Previous interaction with you and a project representative (Tom Platz of Triad/Holmes Assoc.) has been beneficial regarding highway access and the proposed Caltrans US 395 Olancha-Cartago Four-lane project (4-lane project). We have the following comments:

- The proposed CBR driveway is consistent with the layout Mr. Platz previously shared with us. Since CBR is scheduled prior to the 4-lane job, it would construct a new driveway at US 395 to Caltrans standards under the encroachment permit process. The driveway will accommodate trucks and employee vehicles. Improvements will include northbound and southbound US 395 acceleration and deceleration lanes to better provide for turn movements.

- Caltrans is currently evaluating the preferred alternative for the 4-lane project. We are considering two options in the Cartago area - one would convert existing US 395 to a frontage road and the other would use the existing US 395 lanes as the northbound lanes. We have not yet determined which option will be used, but in either case, adjustments to the proposed CBR driveway are not anticipated. For 4-lane project status, please contact the Project Manager, Cedrik Zemitis, at (760) 872-5250 or cedrik.zemitis@dot.ca.gov . See also:

  http://www.dot.ca.gov/dist9/projects/olancha

- CBR proposes to remove the existing northern driveway, but the adjacent electrical and phone lines would remain. Provision for utility companies to access their facilities for maintenance should be considered since this area could possibly be in an expressway (access prohibited) section of the four-lane job.

- Although CBR proposes a stormwater basin such that no increase in stormwater flow results from the project site, the IS does state that drainage will be studied in the DEIR since CBR may alter existing on-site drainage patterns. Since the 4-lane project plans to use historical drainage, please collaborate with Caltrans regarding any potential drainage alterations.

- Our Encroachment Permit Engineer, Mark Reistetter may be contacted at (760) 872-0674 or mark.reistetter@dot.ca.gov. See also:

  Intersections At Grade:
  http://www.dot.ca.gov/hq/oppd/hdm/pdf/english/chp0400.pdf

  Encroachment Permit Application:
  http://www.dot.ca.gov/hq/traffops/developserv/permits/pdf/forms/Std._E.P._Application_(TR-0100).pdf

  Encroachment Permit Instructions:
  http://www.dot.ca.gov/hq/traffops/developserv/permits/pdf/forms/encrchpermt_instruc.pdf

We value our ongoing cooperative relationship with Inyo County regarding State highway issues. Feel free to contact me at (760) 872-0785, with any questions.

Sincerely,

Gayle J. Rosander

GAYLE J. ROSANDER
IGR/CEQA Coordinator

c: State Clearinghouse
Steve Wisniewski, Cedrik Zemitis; Caltrans

-----Original Message-----
From: Brad Henderson [mailto:BHenderson@dfg.ca.gov]
Sent: Wednesday, October 19, 2011 5:09 PM
To: Tanda Gretz
Cc: Tammy Branston
Subject: Cabin Bar NOP Letter

Hi Tanda,

Our comment letter is attached.

Thank you,
Brad

Brad Henderson
Senior Environmental Scientist
Habitat Conservation and Fisheries
Inyo/Mono Counties
California Department of Fish and Game
Inland Deserts Region
407 West Line Street
Bishop, CA 93514
(760) 873-4412 (Office)
(760) 872-1284 (Fax)
bhenderson@dfg.ca.gov

--Conserving California's Wildlife--

State of California -The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
Inland Deserts Region (IDR)
407 West Line Street
Bishop, CA 93514
(760) 872-1171
(760) 872-1284 FAX

EDMUND G. BROWN JR, Governor
CHARLTON H. BONHAM, Director

October 18, 2011

Tanda Gretz
Senior Planner
Inyo County Planning Department
PO Drawer L
Independence, CA 93526

Notice of Preparation for the Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project
(State Clearinghouse Number: 2011091055)

Dear Ms. Gretz:

The Department of Fish and Game, hereinafter referred to as Department has reviewed the Notice of Preparation (NOP) of the Draft Environmental Impact Report (DEIR) for Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project (State Clearinghouse Number: 2011091055), hereinafter referred to as the "Project". The Department appreciates this opportunity to comment on the above-referenced project, relative to impacts to biological resources.

The Department is a Trustee Agency pursuant to the California Environmental Quality Act (CEQA). A Trustee Agency has jurisdiction over certain resources held in trust for the people of California. Trustee agencies are generally required to be notified of CEQA documents relevant to their jurisdiction, whether or not these agencies have actual permitting authority or approval power over aspects of the underlying project (CEQA Guidelines, Section 15386). As the trustee agency for fish and wildlife resources, the Department provides requisite biological expertise to review and comment upon CEQA documents, and makes recommendations regarding those resources held in trust for the people of California.

The Department may also assume the role of Responsible Agency. A Responsible Agency is an agency other than the lead agency that has a legal responsibility for carrying out or approving a project. A Responsible Agency actively participates in the Lead Agency's CEQA process, reviews the Lead Agency's CEQA document and uses that document when making a decision on the project. The Responsible Agency must rely on the Lead Agency's environmental document to prepare and issue its own findings regarding the project (CEQA Guidelines, Sections 15096 and 15381). The Department most often becomes a responsible agency when a 1600 Streambed Alteration Agreement or a 2081(b) California Endangered Species Act Incidental Take Permit is needed for a project. The Department relies on the environmental document prepared by the Lead Agency to make a finding and decide

whether or not to issue the permit or agreement. It is important that the Lead Agency's EIR considers the Department's responsible agency requirements. For example, CEQA requires the Department to include additional feasible alternatives or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment (CEQA Guidelines, section 15096 (g) (2). In rare cases, the Department as Responsible Agency may be required to assume the role of the Lead Agency under certain conditions (CEQA Guidelines, section 15052).

Pursuant to California Fish and Game Code section 711.4, the Department collects a filing fee for all projects subject to CEQA. These filing fees are collected to defray the costs of managing and protecting fish and wildlife resources including, but not limited to, consulting with public agencies, reviewing environmental documents, recommending mitigation measures, and developing monitoring programs. Project applicants need not pay a filing fee in cases where a project will have no effect on fish and wildlife, as determined by the Department, or where their project is statutorily or categorically exempt from CEQA.

The proposed project is to construct a spring water bottling facility with ancillary uses in three phases over an approximate 10 to 15 year time period. Phases 1 and 2 of the project would include the construction of an approximately 198,500 square foot bottling facility that would house four water bottling lines and eight truck loading docks, as well as the construction of a 24-foot wide access road, a leach mound system and storm water retention basin. Phase 3 of the project would include the development of an 8.3-acre solar array along with an approximately 40,250 square foot storage warehouse south of the bottling facility. The bottling facility would use spring water from three existing production wells located in the central portion of Cabin Bar Ranch, while a fourth existing well would provide domestic potable water to the water bottling facility.

To enable Department staff to adequately review and comment on the proposed project, we recommend the following information be included in the DEIR, as applicable:

1. A complete assessment of the flora and fauna within and adjacent to the project area should be conducted, with particular emphasis upon identifying special status species including rare, threatened, and endangered species. This assessment should also address locally unique species, rare natural communities, and wetlands. The assessment area should be large enough to encompass areas potentially subject to both direct and indirect project affects.

    a. The DEIR should include survey methods, dates, and results; and should list all plant and animal species detected within the project study area. Special emphasis should be directed toward describing the status of rare, threatened, and endangered species in all areas potentially affected by the project. All necessary biological surveys should be conducted in advance of DEIR circulation, and should not be deferred until after project approval.

b. Rare, threatened, and endangered species to be addressed should include all those which meet the CEQA definition (see CEQA Guidelines, § 15380).

c. Species of Special Concern (SSC) status applies to animals generally not listed under the federal Endangered Species Act or the California Endangered Species Act, but which nonetheless are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. SSC's should be considered during the environmental review process.

d. A thorough assessment of rare plants and rare natural communities, following the Department's November 2009 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (Attachment 1).

e. A detailed vegetation map should be prepared, preferably overlaid on an aerial photograph. The map should be of sufficient resolution to depict the locations of the project site's major vegetation communities, and view project impacts relative to each community type. The vegetation classification system used to name the polygons should be described.

f. A complete assessment of rare, threatened, and endangered invertebrate, fish, wildlife, reptile, and amphibian species should be presented in the DEIR. Seasonal variations in use of the project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and the U.S. Fish and Wildlife Service.

g. The Department's California Natural Diversity Data Base (CNDDB) should be searched to obtain current information on previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code. In order to provide an adequate assessment of special-status species potentially occurring within the project vicinity, the search area for CNDDB occurrences should include all U.S.G.S 7.5-minute topographic quadrangles with project activities, and all adjoining 7.5-minute topographic quadrangles. The EIR should discuss how and when the CNDDB search was conducted, including the names of each quadrangle queried.

2. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, should be included.

   a. The EIR should present clear thresholds of significance to be used by the Lead Agency in its determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect.

   b. CEQA Guidelines, § 15125(a), direct that knowledge of the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region.

   c. Impacts associated with initial project implementation as well as long-term operation and maintenance of a project should be addressed in the EIR.

   d. In evaluating the significance of the environmental effect of a project, the Lead Agency should consider direct physical changes in the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the environment which may be caused by the project. Expected impacts should be quantified (e.g., acres, linear feet, number of individuals taken, volume or rate of water extracted, etc. to the extent feasible).

   e. Project impacts should be analyzed relative to their effects on off-site habitats. Specifically, this may include public lands, open space, downstream aquatic habitats, areas of groundwater depletion, or any other natural habitat that could be affected by the project.

   f. Impacts to and maintenance of wildlife movement and other key seasonal use areas should be fully evaluated and provided. The DEIR should address the potential for the project to present barriers to wildlife movement. Project components with the highest potential to impede wildlife movement should be identified. This analysis should encompass all life stages of all animal species potentially entering the area. Impact analysis should consider the proximity of project elements to all habitat types found at in the area (e.g., seeps and springs, open playa, shallow flood, etc.).

   g. A discussion of impacts associated with increased lighting, noise, human activity, changes in drainage patterns, changes in water

volume, velocity, and quality; soil erosion, and/or sedimentation in streams and water courses on or near the project site, with mitigation measures proposed to alleviate such impacts should be included. Special considerations applicable to linear project components include ground disturbance that may facilitate infestations by exotic and invasive species over a great distance.

h. A cumulative effects analysis should be developed as described under CEQA Guidelines, § 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts to similar plant communities and wildlife habitats.

3. A range of project alternatives should be analyzed to ensure that the full spectrum of alternatives to the proposed project are fully considered and evaluated. Alternatives which avoid or otherwise minimize impacts to sensitive biological resources should be identified.

   a. If the project will result in any impacts described under the Mandatory Findings of Significance (CEQA Guidelines, § 15065) the impacts must be analyzed in depth in the EIR, and the Lead Agency is required to make detailed findings on the feasibility of alternatives or mitigation measures to substantially lessen or avoid the significant effects on the environment. When mitigation measures or project changes are found to be feasible, the project should be changed to substantially lessen or avoid the significant effects.

4. Mitigation measures for adverse project-related impacts to sensitive plants, animals, and habitats should be thoroughly discussed. Mitigation measures should first emphasize avoidance and reduction of project impacts. For unavoidable impacts, the feasibility of on-site habitat restoration or enhancement should be discussed. If on-site mitigation is not feasible, off-site mitigation through habitat creation, enhancement, acquisition and preservation in perpetuity should be addressed.

   a. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Studies have shown that these efforts are experimental in nature and largely unsuccessful.

   b. Areas reserved as mitigation for project impacts should be legally protected from future direct and indirect impacts. Potential issues to be considered include limitation of access, conservation easements, monitoring and management programs, water pollution, and fire.

c. Plans for restoration and revegetation should be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Each plan should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and/or seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for long-term conservation of the mitigation site.

5. Take of species of plants or animals listed as endangered or threatened under the California Endangered Species Act (CESA) is unlawful unless authorized by the Department. However, a CESA 2081(b) Incidental Take Permit may authorize incidental take during project construction or over the life of the project. The DEIR must state whether the project would result in any amount of incidental take[1] of any CESA-listed species. CESA Permits are issued to conserve, protect, enhance, and restore State-listed threatened or endangered species and their habitats. Early consultation is encouraged, as significant modification to a project and mitigation measures may be required in order to obtain a CESA Permit.

The Department's issuance of a CESA Permit for a project that is subject to CEQA will require CEQA compliance actions by the Department as a Responsible Agency. The Department as a responsible agency under CEQA will consider the Lead Agency's Negative Declaration or Environmental Impact Report for the project. The Department may require additional mitigation measures for the issuance of a CESA Permit unless the project CEQA document addresses all project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA Permit.

To expedite the CESA permitting process, the Department recommends that the DEIR addresses the following CESA Permit requirements:

a. The impacts of the authorized take are minimized and fully mitigated;
b. The measures required to minimize and fully mitigate the impacts of the authorized take and: (1) are roughly proportional in extent to the impact of the taking on the species; (2) maintain the applicant's objectives to the greatest extent possible, and (3) are capable of successful implementation;

[1] Even a single individual.

c. Adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with and the effectiveness of the measures; and

d. Issuance of the permit will not jeopardize the continued existence of a State-listed species.

6. The Department has responsibility for wetland and riparian habitats. It is the policy of the Department to strongly discourage development in wetlands or conversion of wetlands to uplands. We oppose any development or conversion which would result in a reduction of wetland acreage or wetland habitat values, unless, at a minimum, project mitigation assures there will be "no net loss" of either wetland habitat values or acreage. The EIR should demonstrate that the project will not result in a net loss of wetland habitat values or acreage.

   a. If the project site has the potential to support aquatic, riparian, or wetland habitat, a delineation of lakes, streams, and associated riparian habitats potentially affected by the project should be provided for agency and public review. This report should include identification of wetlands pursuant to the U. S. Fish and Wildlife Service wetland definition[2] as adopted by the Department[3]. Please note that some wetland and riparian habitats subject to the Department's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers. The jurisdictional delineation should also include mapping of ephemeral, intermittent, and perennial stream courses potentially impacted by the project. In addition to federally protected wetlands, the Department considers impacts to wetlands (as defined by the Department) potentially significant.

   b. The project may require a Lake or Streambed Alteration Agreement, pursuant to Section 1600 et seq. of the Fish and Game Code, with the applicant prior to the applicant's commencement of any activity that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank (which may include associated riparian resources) of a river, stream or lake, or use material from a streambed. The Department's issuance of a Lake or Streambed Alteration Agreement for a project that is subject to CEQA will require CEQA compliance actions by the Department as a Responsible Agency. The Department as a Responsible Agency under CEQA may consider the

[2] Cowardin, Lewis M., et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.

[3] California Fish and Game Commission Policies: Wetlands Resources Policy; Wetland Definition, Mitigation Strategies, and Habitat Value Assessment Strategy; Amended 1994

local jurisdiction's (lead agency) Negative Declaration or Environmental Impact Report for the project. To minimize additional requirements by the Department pursuant to Section 1600 et seq. and/or under CEQA, the DEIR should fully identify the potential impacts to the lake, stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the agreement.

The Department has identified the following site-specific environmental issues that should be addressed in the draft EIR:

The proposed project is within the range of the Owens Valley checkerbloom *(Sidalcea covillei)*, and the species has previously been identified between Highway 395 and Owens Lakebed, "one mile north of Cartago". Based on known occurrence in the area there is a strong possibility for occurrence within the Project Site. Focused surveys should therefore be conducted prior to release of the DEIR. This species is included in the CNPS Inventory of Rare and Endangered Plants on list 1B.1 (*rare, threatened, or endangered in CA and elsewhere*) and is listed by the State of California as Endangered. The DEIR must evaluate whether the project would result in incidental take of Owens Valley checkerbloom, as a result of any direct or indirect impact, which could include lowered depth to groundwater. An Incidental Take Permit would lawfully authorize take of Owens Valley checkerbloom.

The DEIR should also conduct a complete impact analysis to evaluate whether groundwater withdrawal could potentially cause drying or reduction of surface flows in the springs to be used by the project and other springs in the Owens Lake vicinity. Springs, including those adjacent to Cabin Bar Ranch, have supported sensitive invertebrates such as Wong's springsnails and wetland dependent special status plants such as Parish's popcorn flower.

The proposed project is also within the range of the state Threatened Mohave ground squirrel (*Xerospermophilus mohavensis* – "MGS"). A complete analysis of potential direct and indirect impacts to this species should be conducted. The Department recommends MGS trapping surveys to be conducted in coordination with the Department per the attached 2003 Mohave ground squirrel survey guidelines (Attachment 2) and provide both survey results as well as a discussion of vegetation associations in the DEIR. If additional information indicates that incidental take of MGS will or is likely to occur with implementation of the project, then an Incidental Take Permit would authorize the project proponent to lawfully carry out the project.

There are several known Species of Special concern occurring near the project area, including but not limited to, western snowy plover (*Charadrius alexandrinus nivosus),* Owens Valley vole (*Microtus californicus vallicola*), and spotted bat (*Euderma maculatum).* All wildlife and plant surveys should be conducted during the appropriate seasons at the appropriate time of day to inventory the species present and analyze impacts of the proposed project on these species. A discussion should be included in

the DEIR with the development of mitigation measures to offset potential impacts to these species.

The value of Owens Lake to wildlife is of national importance and is the subject of a broad master planning effort to provide for dust control, water conservation, and sustained habitat values. The DEIR should analyze all impacts - direct, indirect, and cumulative - to all potentially affected biological resources associated with Owens Lake and offer mitigation to reduce any potential impacts. The DEIR should also evaluate and fully discuss the proposed project and its demand on local groundwater supplies.

Thank you for this opportunity to comment. Questions regarding this letter and further coordination on these issues should be directed to Ms. Tammy Branston, Environmental Scientist, at (760) 872-0751 or by electronic mail at tbranston@dfg.ca.gov.

Sincerely,

Brad Henderson
Habitat Conservation Supervisor

Attachments

cc: Department of Fish and Game
CHRON
Bishop

Colin Connor, CSLC

State Clearinghouse
Sacramento

Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities

State of California
CALIFORNIA NATURAL RESOURCES AGENCY
Department of Fish and Game
November 24, 2009[1]

INTRODUCTION AND PURPOSE

The conservation of special status native plants and their habitats, as well as natural communities, is integral to maintaining biological diversity. The purpose of these protocols is to facilitate a consistent and systematic approach to the survey and assessment of special status native plants and natural communities so that reliable information is produced and the potential of locating a special status plant species or natural community is maximized. They may also help those who prepare and review environmental documents determine when a botanical survey is needed, how field surveys may be conducted, what information to include in a survey report, and what qualifications to consider for surveyors. The protocols may help avoid delays caused when inadequate biological information is provided during the environmental review process; assist lead, trustee and responsible reviewing agencies to make an informed decision regarding the direct, indirect, and cumulative effects of a proposed development, activity, or action on special status native plants and natural communities; meet California Environmental Quality Act (CEQA)[2] requirements for adequate disclosure of potential impacts; and conserve public trust resources.

DEPARTMENT OF FISH AND GAME TRUSTEE AND RESPONSIBLE AGENCY MISSION

The mission of the Department of Fish and Game (DFG) is to manage California's diverse wildlife and native plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. DFG has jurisdiction over the conservation, protection, and management of wildlife, native plants, and habitat necessary to maintain biologically sustainable populations (Fish and Game Code §1802). DFG, as trustee agency under CEQA §15386, provides expertise in reviewing and commenting on environmental documents and makes protocols regarding potential negative impacts to those resources held in trust for the people of California.

Certain species are in danger of extinction because their habitats have been severely reduced in acreage, are threatened with destruction or adverse modification, or because of a combination of these and other factors. The California Endangered Species Act (CESA) provides additional protections for such species, including take prohibitions (Fish and Game Code §2050 *et seq.*). As a responsible agency, DFG has the authority to issue permits for the take of species listed under CESA if the take is incidental to an otherwise lawful activity; DFG has determined that the impacts of the take have been minimized and fully mitigated; and, the take would not jeopardize the continued existence of the species (Fish and Game Code §2081). Surveys are one of the preliminary steps to detect a listed or special status plant species or natural community that may be impacted significantly by a project.

DEFINITIONS

Botanical surveys provide information used to determine the potential environmental effects of proposed projects on all special status plants and natural communities as required by law (i.e., CEQA, CESA, and Federal Endangered Species Act (ESA)). Some key terms in this document appear in **bold font** for assistance in use of the document.

For the purposes of this document, **special status plants** include all plant species that meet one or more of the following criteria[3]:

---

1 This document replaces the DFG document entitled "Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened and Endangered Plants and Natural Communities."

2 http://ceres.ca.gov/ceqa/

3 Adapted from the East Alameda County Conservation Strategy available at http://www.fws.gov/sacramento/EACCS/Documents/080228_Species_Evaluation_EACCS.pdf

- Listed or proposed for listing as threatened or endangered under ESA or candidates for possible future listing as threatened or endangered under the ESA (50 CFR §17.12).

- Listed[4] or candidates for listing by the State of California as threatened or endangered under CESA (Fish and Game Code §2050 *et seq.*). A species, subspecies, or variety of plant is **endangered** when the prospects of its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors (Fish and Game Code §2062). A plant is **threatened** when it is likely to become endangered in the foreseeable future in the absence of special protection and management measures (Fish and Game Code §2067).

- Listed as rare under the California Native Plant Protection Act (Fish and Game Code §1900 *et seq.*). A plant is **rare** when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish and Game Code §1901).

- Meet the definition of rare or endangered under CEQA §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:

  - Species considered by the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (Lists 1A, 1B and 2);

  - Species that may warrant consideration on the basis of local significance or recent biological information[5];

  - Some species included on the California Natural Diversity Database's (CNDDB) *Special Plants, Bryophytes, and Lichens List* (California Department of Fish and Game 2008)[6].

- Considered a **locally significant species,** that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Special status natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status species or their habitat. The most current version of the Department's *List of California Terrestrial Natural Communities*[7] indicates which natural communities are of special status given the current state of the California classification.

Most types of wetlands and riparian communities are considered special status natural communities due to their limited distribution in California. These natural communities often contain special status plants such as those described above. These protocols may be used in conjunction with protocols formulated by other agencies, for example, those developed by the U.S. Army Corps of Engineers to delineate jurisdictional wetlands[8] or by the U.S. Fish and Wildlife Service to survey for the presence of special status plants[9].

---

4 Refer to current online published lists available at: http://www.dfg.ca.gov/biogeodata.

5 In general, CNPS List 3 plants (plants about which more information is needed) and List 4 plants (plants of limited distribution) may not warrant consideration under CEQA §15380. These plants may be included on special status plant lists such as those developed by counties where they would be addressed under CEQA §15380. List 3 plants may be analyzed under CEQA §15380 if sufficient information is available to assess potential impacts to such plants. Factors such as regional rarity vs. statewide rarity should be considered in determining whether cumulative impacts to a List 4 plant are significant even if individual project impacts are not. List 3 and 4 plants are also included in the California Natural Diversity Database's (CNDDB) *Special Plants, Bryophytes, and Lichens List.* [Refer to the current online published list available at: http://www.dfg.ca.gov/biogeodata.] Data on Lists 3 and 4 plants should be submitted to CNDDB. Such data aids in determining or revising priority ranking.

6 Refer to current online published lists available at: http://www.dfg.ca.gov/biogeodata.

7 http://www.dfg.ca.gov/biogeodata/vegcamp/pdfs/natcomlist.pdf. The rare natural communities are asterisked on this list.

8 http://www.wetlands.com/regs/tlpge02e.htm

9 U.S. Fish and Wildlife Service Survey Guidelines available at http://www.fws.gov/sacramento/es/protocol.htm

BOTANICAL SURVEYS

Conduct botanical surveys prior to the commencement of any activities that may modify vegetation, such as clearing, mowing, or ground-breaking activities. It is appropriate to conduct a botanical field survey when:

- Natural (or naturalized) vegetation occurs on the site, and it is unknown if special status plant species or natural communities occur on the site, and the project has the potential for direct or indirect effects on vegetation; or
- Special status plants or natural communities have historically been identified on the project site; or
- Special status plants or natural communities occur on sites with similar physical and biological properties as the project site.

SURVEY OBJECTIVES

Conduct field surveys in a manner which maximizes the likelihood of locating special status plant species or special status natural communities that may be present. Surveys should be **floristic in nature**, meaning that every plant taxon that occurs on site is identified to the taxonomic level necessary to determine rarity and listing status. "Focused surveys" that are limited to habitats known to support special status species or are restricted to lists of likely potential species are not considered floristic in nature and are not adequate to identify all plant taxa on site to the level necessary to determine rarity and listing status. Include a list of plants and natural communities detected on the site for each botanical survey conducted. More than one field visit may be necessary to adequately capture the floristic diversity of a site. An indication of the prevalence (estimated total numbers, percent cover, density, etc.) of the species and communities on the site is also useful to assess the significance of a particular population.

SURVEY PREPARATION

Before field surveys are conducted, compile relevant botanical information in the general project area to provide a regional context for the investigators. Consult the CNDDB[10] and BIOS[11] for known occurrences of special status plants and natural communities in the project area prior to field surveys. Generally, identify vegetation and habitat types potentially occurring in the project area based on biological and physical properties of the site and surrounding ecoregion[12], unless a larger assessment area is appropriate. Then, develop a list of special status plants with the potential to occur within these vegetation types. This list can serve as a tool for the investigators and facilitate the use of reference sites; however, special status plants on site might not be limited to those on the list. Field surveys and subsequent reporting should be comprehensive and floristic in nature and not restricted to or focused only on this list. Include in the survey report the list of potential special status species and natural communities, and the list of references used to compile the background botanical information for the site.

SURVEY EXTENT

Surveys should be comprehensive over the entire site, including areas that will be directly or indirectly impacted by the project. Adjoining properties should also be surveyed where direct or indirect project effects, such as those from fuel modification or herbicide application, could potentially extend offsite. Pre-project surveys restricted to known CNDDB rare plant locations may not identify all special status plants and communities present and do not provide a sufficient level of information to determine potential impacts.

FIELD SURVEY METHOD

Conduct surveys using **systematic field techniques** in all habitats of the site to ensure thorough coverage of potential impact areas. The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity, which determines the distance at which plants can be identified. Conduct surveys by walking over the entire site to ensure thorough coverage, noting all plant taxa

---

10 Available at http://www.dfg.ca.gov/biogeodata/cnddb

11 http://www.bios.dfg.ca.gov/

12 Ecological Subregions of California, available at http://www.fs.fed.us/r5/projects/ecoregions/toc.htm

observed. The level of effort should be sufficient to provide comprehensive reporting. For example, one person-hour per eight acres per survey date is needed for a comprehensive field survey in grassland with medium diversity and moderate terrain[13], with additional time allocated for species identification.

TIMING AND NUMBER OF VISITS

Conduct surveys in the field at the time of year when species are both evident and identifiable. Usually this is during flowering or fruiting. Space visits throughout the growing season to accurately determine what plants exist on site. Many times this may involve multiple visits to the same site (e.g. in early, mid, and late-season for flowering plants) to capture the floristic diversity at a level necessary to determine if special status plants are present[14]. The timing and number of visits are determined by geographic location, the natural communities present, and the weather patterns of the year(s) in which the surveys are conducted.

REFERENCE SITES

When special status plants are known to occur in the type(s) of habitat present in the project area, observe reference sites (nearby accessible occurrences of the plants) to determine whether those species are identifiable at the time of the survey and to obtain a visual image of the target species, associated habitat, and associated natural community.

USE OF EXISTING SURVEYS

For some sites, floristic inventories or special status plant surveys may already exist. Additional surveys may be necessary for the following reasons:

- Surveys are not current[15]; or
- Surveys were conducted in natural systems that commonly experience year to year fluctuations such as periods of drought or flooding (e.g. vernal pool habitats or riverine systems); or
- Surveys are not comprehensive in nature; or fire history, land use, physical conditions of the site, or climatic conditions have changed since the last survey was conducted[16]; or
- Surveys were conducted in natural systems where special status plants may not be observed if an annual above ground phase is not visible (e.g. flowers from a bulb); or
- Changes in vegetation or species distribution may have occurred since the last survey was conducted, due to habitat alteration, fluctuations in species abundance and/or seed bank dynamics.

NEGATIVE SURVEYS

Adverse conditions may prevent investigators from determining the presence of, or accurately identifying, some species in potential habitat of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any given year. Discuss such conditions in the report.

The failure to locate a known special status plant occurrence during one field season does not constitute evidence that this plant occurrence no longer exists at this location, particularly if adverse conditions are present. For example, surveys over a number of years may be necessary if the species is an annual plant having a persistent, long-lived seed bank and is known not to germinate every year. Visits to the site in more

---

13 Adapted from U.S. Fish and Wildlife Service kit fox survey guidelines available at www.fws.gov/sacramento/es/documents/kitfox_no_protocol.pdf

14 U.S. Fish and Wildlife Service Survey Guidelines available at http://www.fws.gov/sacramento/es/protocol.htm

15 Habitats, such as grasslands or desert plant communities that have annual and short-lived perennial plants as major floristic components may require yearly surveys to accurately document baseline conditions for purposes of impact assessment. In forested areas, however, surveys at intervals of five years may adequately represent current conditions. For forested areas, refer to "Guidelines for Conservation of Sensitive Plant Resources Within the Timber Harvest Review Process and During Timber Harvesting Operations", available at https://r1.dfg.ca.gov/portal/Portals/12/THPBotanicalGuidelinesJuly2005.pdf

16 U.S. Fish and Wildlife Service Survey Guidelines available at http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/botanicalinventories.pdf

than one year increase the likelihood of detection of a special status plant especially if conditions change. To further substantiate negative findings for a known occurrence, a visit to a nearby reference site may ensure that the timing of the survey was appropriate.

REPORTING AND DATA COLLECTION

Adequate information about special status plants and natural communities present in a project area will enable reviewing agencies and the public to effectively assess potential impacts to special status plants or natural communities[17] and will guide the development of minimization and mitigation measures. The next section describes necessary information to assess impacts. For comprehensive, systematic surveys where no special status species or natural communities were found, reporting and data collection responsibilities for investigators remain as described below, excluding specific occurrence information.

SPECIAL STATUS PLANT OR NATURAL COMMUNITY OBSERVATIONS

Record the following information for locations of each special status plant or natural community detected during a field survey of a project site.

- A detailed map (1:24,000 or larger) showing locations and boundaries of each special status species occurrence or natural community found as related to the proposed project. Mark occurrences and boundaries as accurately as possible. Locations documented by use of global positioning system (GPS) coordinates must include the datum[18] in which they were collected;
- The site-specific characteristics of occurrences, such as associated species, habitat and microhabitat, structure of vegetation, topographic features, soil type, texture, and soil parent material. If the species is associated with a wetland, provide a description of the direction of flow and integrity of surface or subsurface hydrology and adjacent off-site hydrological influences as appropriate;
- The number of individuals in each special status plant population as counted (if population is small) or estimated (if population is large);
- If applicable, information about the percentage of individuals in each life stage such as seedlings vs. reproductive individuals;
- The number of individuals of the species per unit area, identifying areas of relatively high, medium and low density of the species over the project site; and
- Digital images of the target species and representative habitats to support information and descriptions.

FIELD SURVEY FORMS

When a special status plant or natural community is located, complete and submit to the CNDDB a California Native Species (or Community) Field Survey Form[19] or equivalent written report, accompanied by a copy of the relevant portion of a 7.5 minute topographic map with the occurrence mapped. Present locations documented by use of GPS coordinates in map and digital form. Data submitted in digital form must include the datum[20] in which it was collected. If a potentially undescribed special status natural community is found on the site, document it with a Rapid Assessment or Relevé form[21] and submit it with the CNDDB form.

VOUCHER COLLECTION

Voucher specimens provide verifiable documentation of species presence and identification as well as a public record of conditions. This information is vital to all conservation efforts. Collection of voucher specimens should

---

17 Refer to current online published lists available at: http://www.dfg.ca.gov/biogeodata. For Timber Harvest Plans (THPs) please refer to the "Guidelines for Conservation of Sensitive Plant Resources Within the Timber Harvest Review Process and During Timber Harvesting Operations", available at https://r1.dfg.ca.gov/portal/Portals/12/THPBotanicalGuidelinesJuly2005.pdf

18 NAD83, NAD27 or WGS84

19 http://www.dfg.ca.gov/biogeodata

20 NAD83, NAD27 or WGS84

21 http://www.dfg.ca.gov/biogeodata/vegcamp/veg_publications_protocols.asp

be conducted in a manner that is consistent with conservation ethics, and is in accordance with applicable state and federal permit requirements (e.g. incidental take permit, scientific collection permit). Voucher collections of special status species (or suspected special status species) should be made only when such actions would not jeopardize the continued existence of the population or species.

Deposit voucher specimens with an indexed regional herbarium[22] no later than 60 days after the collections have been made. Digital imagery can be used to supplement plant identification and document habitat. Record all relevant permittee names and permit numbers on specimen labels. A collecting permit is required prior to the collection of State-listed plant species[23].

BOTANICAL SURVEY REPORTS

Include reports of botanical field surveys containing the following information with project environmental documents:

- **Project and site description**
  - A description of the proposed project;
  - A detailed map of the project location and study area that identifies topographic and landscape features and includes a north arrow and bar scale; and,
  - A written description of the biological setting, including vegetation[24] and structure of the vegetation; geological and hydrological characteristics; and land use or management history.
- **Detailed description of survey methodology and results**
  - Dates of field surveys (indicating which areas were surveyed on which dates), name of field investigator(s), and total person-hours spent on field surveys;
  - A discussion of how the timing of the surveys affects the comprehensiveness of the survey;
  - A list of potential special status species or natural communities;
  - A description of the area surveyed relative to the project area;
  - References cited, persons contacted, and herbaria visited;
  - Description of reference site(s), if visited, and phenological development of special status plant(s);
  - A list of all taxa occurring on the project site. Identify plants to the taxonomic level necessary to determine whether or not they are a special status species;
  - Any use of existing surveys and a discussion of applicability to this project;
  - A discussion of the potential for a false negative survey;
  - Provide detailed data and maps for all special plants detected. Information specified above under the headings "Special Status Plant or Natural Community Observations," and "Field Survey Forms," should be provided for locations of each special status plant detected;
  - Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms should be sent to the CNDDB and included in the environmental document as an Appendix. It is not necessary to submit entire environmental documents to the CNDDB; and,
  - The location of voucher specimens, if collected.

---

22 For a complete list of indexed herbaria, see: Holmgren, P., N. Holmgren and L. Barnett. 1990. Index Herbariorum, Part 1: Herbaria of the World. New York Botanic Garden, Bronx, New York. 693 pp. Or: http://www.nybg.org/bsci/ih/ih.html

23 Refer to current online published lists available at: http://www.dfg.ca.gov/biogeodata.

24 A vegetation map that uses the National Vegetation Classification System (http://biology.usgs.gov/npsveg/nvcs.html), for example *A Manual of California Vegetation*, and highlights any special status natural communities. If another vegetation classification system is used, the report should reference the system, provide the reason for its use, and provide a crosswalk to the National Vegetation Classification System.

- **Assessment of potential impacts**
  - A discussion of the significance of special status plant populations in the project area considering nearby populations and total species distribution;
  - A discussion of the significance of special status natural communities in the project area considering nearby occurrences and natural community distribution;
  - A discussion of direct, indirect, and cumulative impacts to the plants and natural communities;
  - A discussion of threats, including those from invasive species, to the plants and natural communities;
  - A discussion of the degree of impact, if any, of the proposed project on unoccupied, potential habitat of the species;
  - A discussion of the immediacy of potential impacts; and,
  - Recommended measures to avoid, minimize, or mitigate impacts.

QUALIFICATIONS

Botanical consultants should possess the following qualifications:

- Knowledge of plant taxonomy and natural community ecology;
- Familiarity with the plants of the area, including special status species;
- Familiarity with natural communities of the area, including special status natural communities;
- Experience conducting floristic field surveys or experience with floristic surveys conducted under the direction of an experienced surveyor;
- Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
- Experience with analyzing impacts of development on native plant species and natural communities.

SUGGESTED REFERENCES

Barbour, M., T. Keeler-Wolf, and A. A. Schoenherr (eds.). 2007. Terrestrial vegetation of California (3rd Edition). University of California Press.

Bonham, C.D. 1988. Measurements for terrestrial vegetation. John Wiley and Sons, Inc., New York, NY.

California Native Plant Society. Most recent version. Inventory of rare and endangered plants (online edition). California Native Plant Society, Sacramento, CA. Online URL http://www.cnps.org/inventory.

California Natural Diversity Database. Most recent version. Special vascular plants, bryophytes and lichens list. Updated quarterly. Available at www.dfg.ca.gov.

Elzinga, C.L., D.W. Salzer, and J. Willoughby. 1998. Measuring and monitoring plant populations. BLM Technical Reference 1730-1. U.S. Dept. of the Interior, Bureau of Land Management, Denver, Colorado.

Leppig, G. and J.W. White. 2006. Conservation of peripheral plant populations in California. Madroño 53:264-274.

Mueller-Dombois, D. and H. Ellenberg. 1974. Aims and methods of vegetation ecology. John Wiley and Sons, Inc., New York, NY.

U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed plants on the Santa Rosa Plain. Sacramento, CA.

U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed, proposed and candidate plants. Sacramento, CA.

Van der Maarel, E. 2005. Vegetation Ecology. Blackwell Science Ltd., Malden, MA.

CALIFORNIA DEPARTMENT OF FISH AND GAME

MOHAVE GROUND SQUIRREL SURVEY GUIDELINES
(January 2003)

Unless a certain circumstance[1] applies, the Department of Fish and Game (Department) requires a survey to be undertaken for the Mohave ground squirrel (*Spermophilus mohavensis*) on a project site, if the proposed site has potential habitat of this species and the presence of the species on the project site is unknown. Potential habitat is land supporting desert shrub vegetation[2] within or adjacent to the geographic range[3] of the species. A project is an action that results in temporary or permanent removal or degradation of potential habitat. The Department considers a project site to be an area of land controlled by the project proponent, including but not limited to the portion proposed for removal or degradation of potential habitat. The Department considers a project site to be occupied by the Mohave ground squirrel, if an individual of this species is observed, or is captured on any sampling grid, on the project site.

The Department intends for these survey guidelines to apply to projects that would negatively affect $\leq$180 acres or to linear projects $\leq$ 5 miles in length. For projects of larger scale, the Department requires special survey protocol(s) to be developed through its consultation with either the project proponent or the local lead agency (if appropriate) or both entities.

For projects of the appropriate scale, each survey shall adhere to the following conditions:

1. Studies that include trapping for the Mohave ground squirrel shall be authorized by a Memorandum of Understanding (MOU) with the Habitat Conservation Planning Branch of the Department, or by other permit as determined by the Department, and shall be undertaken only by a qualified biologist. A qualified biologist is a biologist who has demonstrated pertinent field experience in capturing and handling ground squirrels or other small mammals in desert/arid communities and who has been permitted by the Department to work without supervision. Each biologist setting traps, opening traps containing captured animals, or handling captured animals must be named in the MOU as an authorized person, whether qualified or not to work without supervision. (For information on the procedure to obtain an MOU, see page 3.)

2. Visual surveys to determine Mohave ground squirrel activity and habitat quality shall be undertaken the period of 15 March through 15 April. All potential habitat on a project site shall be visually surveyed during daylight hours by a biologist who can readily

---

(1) A survey is not necessary in the circumstance that the project proponent prefers to assume that the Mohave ground squirrel is present on the project site and applies for a California Endangered Species Act incidental-take permit (Fish and Game Code Section 2081b) requiring mitigation and compensation.

(2) Examples of desert shrub vegetation that is known to provide habitat for the Mohave ground squirrel include (but are not limited to) Mojave Creosote Bush Scrub, Mojave Mixed Woody Scrub, and Desert Saltbush Scrub as described in Holland 1986.

(3) Since the limits of the geographic range are not known precisely, surveys may be required in areas up to five miles from currently-documented boundaries.

identify the Mohave ground squirrel and the white-tailed antelope squirrel (*Ammospermophilus leucurus*).

3. If visual surveys do not reveal presence of the Mohave ground squirrel on the project site, standard small-mammal trapping grids shall be established in potential Mohave ground squirrel habitat. The number of grids will depend on the amount of potential habitat on the project site, as determined by the guidelines presented in paragraphs 4 and 5 of these guidelines.

4. For linear projects (for example, highways, pipelines, or electric transmission lines), each sampling grid shall consist of 100 Sherman live-traps (or equivalent; the minimum length of any trap is 12 inches) arranged in a rectangular pattern, 4 traps wide by 25 traps long, with traps spaced 35 meters apart along each of the four trap lines. At a minimum, one sampling grid of this type shall be established in each linear mile, or fraction thereof, of potential Mohave ground squirrel habitat along the project corridor.

5. For all other types of projects, one sampling grid consisting of 100 Sherman live-traps (or equivalent; the minimum length of any trap is 12 inches) shall be established for each 80 acres, or fraction thereof, of potential Mohave ground squirrel habitat on the project site. The traps shall be arranged in a 10 x 10 grid, with 35-meter spacing between traps.

6. Each sampling grid shall be trapped for a minimum five consecutive days, unless a Mohave ground squirrel is captured before the end of the five-day term on the grid or on another grid on the project site. If no Mohave ground squirrel is captured on a sampling grid on the project site in the first five-consecutive-day term, each sampling grid shall be sampled for a SECOND five-consecutive-day term. Trapping may be stopped before the end of the second term if a Mohave ground squirrel is captured on any sampling grid on the project site. If no Mohave ground squirrel is captured during the second five-consecutive-day term, each sampling grid shall be sampled for a THIRD five-consecutive -day term. The FIRST trapping term shall begin and be completed in the period of 15 March through 30 April. If a SECOND term is required, it shall begin at least two weeks after the end of the first term, but shall begin no earlier than 01 May, and shall be completed by 31 May. If a THIRD term is required, it shall begin at least two weeks after the end of the second term, but shall begin no earlier than 15 June, and shall be completed by 15 July. All trapping shall be conducted during appropriate weather conditions, avoiding periods of high wind, precipitation, and low temperatures (<50°F or 10°C).

7. For projects requiring two or more sampling grids, capture of a Mohave ground squirrel on any grid will establish presence of the species on the project site. Trapping may be

stopped on all grids on the project site at that time. For linear projects, very large project sites, project sites characterized by fragmented or highly-heterogeneous habitats, or in other special circumstances, continued trapping may be necessary.

8. A maximum 100 traps shall be operated by each qualified biologist. Each trap shall be covered with a cardboard A-frame or equivalent non-metal shelter to provide shade. Trap and shelter orientation shall be on a north-south axis. All traps shall be opened within one hour of sunrise and may be closed beginning one hour before sunset. Traps shall be checked at least once every four hours to minimize heat stress to captured animals. When traps are open, temperature shall be measured at a location within the sampling grid, in the shade, and one foot (approx. 0.3 meters) above the ground at least once every hour. Traps shall be closed when the ambient air temperature at one foot above the ground in the shade exceeds 90°F (32°C). Trapping shall resume on the same day after the ambient temperature at one foot (approx. 0.3 meters) above the ground in the shade falls to 90°F (32°C) and shall continue until one hour before sunset. Suggested baits are mixed grains, rolled oats, or bird seed, with a small amount of peanut butter.

9. A qualified biologist shall complete the Survey and Trapping Form, which is found on page 5 of these guidelines. This biologist, or the lead agency for the project, shall submit the completed form to the appropriate Department office (see page 4) with the biological report on the project site.

10. The Department may allow variation on these guidelines, with the advance written approval of the appropriate regional habitat conservation planning office (see page 4). Such variations could include biologically-appropriate modification of the trapping dates or changes in grid configuration that would enhance the probability of detecting Mohave ground squirrels. Any variation which concerns trapping or marking methods must be incorporated into the MOU or permit that authorizes the work.

11. If a survey conducted according to these guidelines results in no capture or observation of the Mohave ground squirrel on a project site, this is not necessarily evidence that the Mohave ground squirrel does not exist on the site or that the site is not actual or potential habitat of the species. However, in the circumstance of such a negative result, the Department will stipulate that the project site harbors no Mohave ground squirrels. This stipulation will expire one year from the ending date of the last trapping on the project site conducted according to these guidelines.

literature cited in footnote [1]

Holland, R. F. 1986. Preliminary descriptions of the terrestrial natural communities of California. Dep of Fish and Game (Sacramento), Nongame Heritage Program report, 156 pages.

CONTACTS

A. For information on obtaining an MOU or on the type of experience that a qualified biologist must have, contact the following:

John Gustafson
Habitat Conservation Planning Branch
Department of Fish and Game
1416 Ninth Street, Suite 1260
Sacramento, California 95814

tele: (916) 654-4260
fax: (916) 653-2588
e-mail: JGustafs@dfg.ca.gov

B. For information on project review and conservation planning by the Department, as these activities regard the Mohave ground squirrel, contact the following:

(for Kern County)
Habitat Conservation Planning
San Joaquin Valley and Southern Sierra Region
Department of Fish and Game
1234 E. Shaw Avenue
Fresno, California 93710
tele: (559) 243-4014

(for Los Angeles County)
Habitat Conservation Planning
South Coast Region
Department of Fish and Game
4949 View Ridge Avenue
San Diego, California 92123
tele: (805) 491-3571

(for Inyo and San Bernardino counties)
Habitat Conservation Planning
Eastern Sierra and Inland Deserts Region
Department of Fish and Game
407 West Line Street
Bishop, California 93514
tele: (760) 872-1171

Mohave Ground Squirrel (MGS) Survey and Trapping Form (photocopy as needed)

PART I - PROJECT INFORMATION (use a separate form for each sampling grid)

Project name: _____ Property owner: _____

Location: Township _____; Range _____; Section _____ ; ¼ Section _____

Quad map/series: _____ UTM coordinates: _____
GPS coordinates of trapping-grid corners

Acreage of Project Site: _____ Acreage of potential MGS habitat on site: _____

Total acreage visually surveyed on project site: _____ Date(s): _____
visual surveys

Visual surveys conducted by: _____
names of all persons by date (use back of form, if needed)

Total acres trapped: _____ Number of sampling grids: _____

Trapping conducted by: _____
names of all persons by sampling term and sampling grid (use back of form, if needed)

Dates of sampling term(s): FIRST _____ SECOND _____ THIRD _____
if required if required

PART II - GENERAL HABITAT DESCRIPTION (use back of form, if needed)

Vegetation: dominant perennials: _____
other perennials: _____
dominant annuals: _____
_____
other annuals: _____
_____

Land forms (mesa, bajada, wash): _____

Soils description: _____

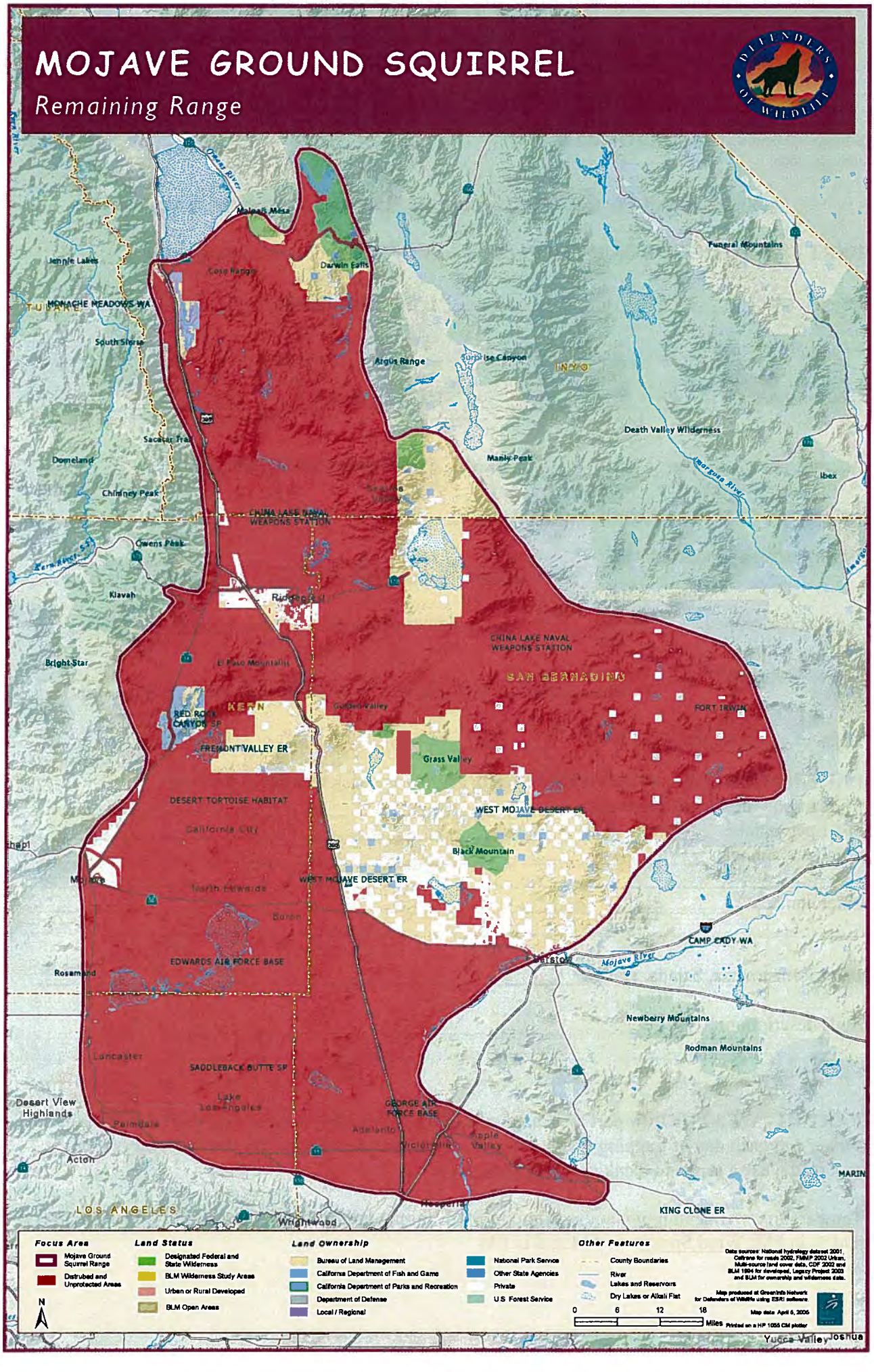
Elevation: _____ Slope: _____

PART III - WEATHER (report measurements in the following categories for each day of visual survey and each day of trapping; using 24-hour clock, indicate time of day that each measurement was made; use a separate blank sheet for each day)

Temperature: AIR minimum and maximum; SOIL minimum and maximum; Cloud Cover: % in AM and % in PM; Wind Speed: in AM and in PM

MOJAVE GROUND SQUIRREL

Remaining Range



From: Brianna Bergen [mailto:BBergen@waterboards.ca.gov]
Sent: Monday, October 24, 2011 10:48 AM
To: Tanda Gretz
Subject: Comments on the NOP for Crystal Geyser

Please see attached.

If you have any questions, please let me know.

Thank you,
Brianna

Brianna Bergen, P.G.
Engineering Geologist

California Water Quality Control Board
Lahontan - Region 6
14440 Civic Drive, Suite 200
Victorville, CA 92392
60.241.7305 - office
760.241.7308 - fax
bbergen@waterboards.ca.gov

California Regional Water Quality Control Board
Lahontan Region

Victorville Office
14440 Civic Drive, Suite 200, Victorville, California 92392
(760) 241-6583 • FAX (760) 241-7308
http://www.waterboards.ca.gov/lahontan

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

October 17, 2011

File: Environmental Doc Review
Inyo County

Tanda Gretz
Inyo County Planning Department
P.O. Drawer L
Independence, CA 93526
FAX: (760) 878-0382

COMMENTS ON NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE CRYSTAL GEYSER ROXANE CABIN BAR RANCH WATER BOTTLING FACILITY PROJECT, INYO COUNTY, STATE CLEARINGHOUSE NO. 2011091055

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the above-referenced project (Project) on September 21, 2011. The proposed Project is a spring water bottling facility and ancillary uses to be built in three phases over an approximate 10 – 15 year period. The Project also includes a leach mound system, a stormwater retention basin, and the development of an 8.3-acre solar array. Our comments on the NOP and proposed development are outlined below.

Pursuant to CEQA guidelines, California Code of Regulations (CCR), title 14, section 15096, responsible agencies must specify the scope and content of the environmental information germane to their statutory responsibilities. Water Board staff, acting as a responsible agency, is providing these comments to help guide in the development of Project alternatives in an effort to maintain water quality and hydrologic function, and ultimately, for the protection of the beneficial use of waters of the State. We expect the County will value our position with respect to protecting and maintaining water quality within the Lahontan region, and request that the following comments be incorporated in the environmental review process.

Authority

The State Water Resources Control Board (SWRCB) and the Water Boards regulate discharges of waste in order to protect water quality and, ultimately, the beneficial uses of waters of the State. State law assigns responsibility for protection of water quality in the Lahontan Region (Region) to the Lahontan Water Board (Water Board).

Basin Plan

The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) contains policies that the Water Board uses with other laws and regulations to protect water quality within the Region. The Basin Plan provides guidance regarding water quality and how the Water Board may regulate activities that have the potential to affect water quality within the Region. All surface waters and groundwaters are considered waters of the State, which include, but are not limited to, aquifers, drainages, streams, washes, ponds, pools, or wetlands. Surface water bodies may be permanent or intermittent. All waters of the State are protected under California law. Additional protection is provided for waters of the United States (U.S.) under the Federal Clean Water Act (CWA). The Basin Plan sets forth water quality standards for the surface and groundwaters of the Region, which include both designated beneficial uses of water and the narrative and numerical water quality objectives which must be maintained or attained to protect those uses. The Basin Plan includes prohibitions and policies for implementation of standards. The Basin Plan identifies general types of water quality problems which can threaten beneficial uses in the Region and identifies required or recommended control measures for these problems. In some cases, it prohibits certain types of discharges in particular areas. The Basin Plan includes a program of implementation to protect beneficial uses and to achieve water quality objectives.

The current Basin Plan was adopted by the Water Board in 1995 and has since been amended several times; the last amendment was adopted in May 2008. The Basin Plan can be accessed via the Water Board's web site (http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml). Water Board staff request that the final environmental document reference the Basin Plan, and that the Project complies with all applicable water quality standards, prohibitions, and provisions of this Basin Plan.

ENVIRONMENTAL ANALYSES

The environmental analysis must evaluate the Project's potential impact to environmental resources, including water quality and hydrology, and should include the following.

Project Alternatives

The role of a DEIR is to evaluate a number of project alternatives and their potential impacts on environment resources, including hydrology and water quality, and to list specific mitigation measures that, when implemented, reduces those impacts to a less than significant level. At minimum, the alternatives evaluated in the DEIR must include a conceptual design for the leach mound system, the stormwater retention basin, the solar array, the warehouse and bottling facilities, and ancillary facility locations. Alternative conceptual designs are critical to support mitigation measures proposed in the DEIR or to support the lead agency's determination with respect to level of significance, particularly for hydrology and water quality impacts. The Project alternative that is least environmentally damaging is often the preferred alternative

(other than the no-build alternative). Should the Project proponent determine that the preferred alternative is one other than the least environmentally damaging alternative, the rationale and justification for the additional environmental impacts must be included in the discussion sections of the DEIR.

Beneficial Uses

Proposed Project components have the potential to involve alteration, dredging, filling, and/or excavating activities in waters of the State. The surface waters located within the vicinity of the Project site include Owens Lake and the Lower Owens Hydrologic Area, including minor surface waters and wetlands. Beneficial uses, either past, present, or future, associated with these waterbodies include municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND), groundwater recharge (GWR), freshwater replenishment (FRSH), water contact recreation (REC-1), non-contact water recreation (REC-2), commercial and sport fishing (COMM), warm freshwater habitat (WARM), cold freshwater habitat (COLD), Inland Saline Water Habitat (SAL), wildlife habitat (WILD), Preservation of Biological Habitats of Special Significance (BIOL), Rare, Threatened, or Endangered Species (RARE), Spawning, Reproduction, and Development (SPWN), water quality enhancement (WQE), and flood peak attenuation/flood water storage (FLD). Realignment, channelization, lining, and/or infilling of surface waters may adversely affect these beneficial uses.

The DEIR must include a regional-scale map identifying all surface water resources, both onsite and offsite (upstream and downstream), potentially affected by the Project. These water resources should be tabulated and organized by waterbody type and described in detail in the appropriate sections of the DEIR. We request that the DEIR identify and list the beneficial uses of the identified surface water resources, as outlined in the Basin Plan, and evaluate the Project's potential impacts to water quality with respect to those beneficial uses. The environmental document must include alternatives to avoid those impacts or list specific mitigation measures that, when implemented, minimize unavoidable impacts to a less than significant level.

Avoidance and Minimization

There are many ways a proposed Project can degrade water quality. Fortunately, avoiding or minimizing any step in a pollution pathway will eliminate or reduce subsequent effects and will simplify the associated needed analyses. Usually, a small number of key variables control most of the pathways causing water quality degradation. We strongly encourage avoidance as the primary strategy to address water quality concerns. The analyses should discuss any remaining impacts that cannot be avoided or further minimized and propose mitigations to reduce those impacts to a less than significant level.

Characterization of Impacts

Avoidance is the best strategy for managing potential water quality impacts. For unavoidable impacts, understanding how pollution pathways will operate is essential to managing them. Please consider the following:

- Specify the causes, natures, and magnitudes of all proposed impacts. Provide a level of analysis commensurate with the size and complexity of the Project and its potential water quality impacts;
- Quantify impacts as definitively as feasible, using appropriate modeling and adequate data. Modeling approaches should be documented, and data deficiencies or other factors affecting the reliability of the results should be identified and characterized; and
- Identify whether impacts will be temporary or permanent.

Hydrology

Because increased runoff from developed areas is a key variable driving a number of other adverse effects, attention to maintaining the pre-development hydrograph will prevent or minimize many problems and will limit the need for other analyses and mitigation. We request that the following be considered in the hydrological analysis for the Project.

- Evaluate alternatives and include mitigation measures to maintain the pre-project hydrograph;
- Evaluate the Project's potential hydromodification impacts on upstream and downstream reaches; and
- Provide a meaningful analysis of potential cumulative impacts to watershed hydrology from existing and other planned development in the watershed or planning area.

Habitat Connectivity

Riparian corridors and other waters within the regulatory purview of the Water Board play an important role in maintaining habitat connectivity. Both aquatic and terrestrial habitat may be fragmented by impacts to streams, riparian areas, or other waters. For projects that have the potential to impact surface waters, we request that the following be included in the environmental document.

- Analyze the regional importance of movement corridors in and along waterbodies, the potential effect of disrupting such corridors, and the potential for enhancing such corridors through mitigation measures;
- Include information regarding any sensitive plant and animal species that likely utilize the corridors; and

- Identify any impacts to riparian or other waters that could compromise future remediation of existing connectivity barriers.

PERMITTING REQUIREMENTS

A number of activities associated with the proposed development may require permits issued by either the State Water Board or Lahontan Water Board because they appear to have the potential to impact waters of the State. The required permits may include:

- Land disturbance of more than 1 acre may require a CWA, section 402(p) stormwater permits, including a National Pollutant Discharge Elimination System (NPDES) General Construction Stormwater Permit, obtained from the State Water Board, or individual stormwater permit obtained from the Lahontan Water Board;

- Industrial activities may require an NPDES General Industrial Stormwater Permit, obtained from the State Water Board, or individual stormwater permit obtained from the Lahontan Water Board; and

- Streambed alteration and/or discharge of fill material to a surface water may require a CWA, section 401 water quality certification (WQC) for impacts to federal waters (waters of the U.S.), or dredge and fill waste discharge requirements (WDRs) for impacts to non-federal waters, both issued by the Lahontan Water Board.

Some waters of the State are "isolated" from waters of the U.S. Determinations of the jurisdictional extent of the waters of the U.S. are made by the United States Army Corps of Engineers (USACE). Projects that have the potential to impact surface waters will require the appropriate jurisdictional determinations. These determinations are necessary to discern if the proposed surface water impacts will be regulated under section 401 of the CWA or through dredge and fill WDRs issued by the Water Board.

We request that the Project proponent consult with the USACE and perform the necessary jurisdictional determinations for surface waters within the Project area. In areas where USACE does not take jurisdiction, the Water Board generally delineates waters of the State based on distinct geomorphic flow indicators with or without clearly definable bed and bank features.

In addition, we request that the environmental document list the permits that may be required, as outlined above, and identify the specific activities that may trigger these permitting actions in the appropriate sections of the environmental document. Information regarding these permits, including application forms, can be downloaded from our web site at http://www.waterboards.ca.gov/lahontan/.

STORMWATER MANAGEMENT

Post-construction stormwater management must be considered a significant component in the environmental review process. Of particular concern is the collection and concentration of stormwater runoff into channels and lakebeds and the discharge of that stormwater to natural drainage systems. Without adequate design, the consequences of combining these flows can lead to the degradation of the existing natural drainage channel both upstream and downstream from the confluence. The environmental document must evaluate all potential stormwater impacts, particularly potential post-construction hydrologic impacts, and describe specific best management practices that, when implemented, will reduce those potential impacts to a less than significant level. Where feasible, we request that design alternatives be considered that direct captured runoff away from surface waters to areas where it will dissipate by percolation into the landscape. For example, a spreader system constructed at the downstream end of a engineered channel would act to return concentrated flows to sheetflow conditions.

CUMULATIVE IMPACTS TO WATERS OF THE STATE

Watersheds are complex natural systems in which physical, chemical, and biological components can interact to create a source of high quality water on which our economy and well-being depend. Poorly planned development can upset these natural interactions and degrade water quality through a web of interrelated effects. The primary impacts of poorly planned development projects on water quality can include:

- Direct, indirect, and cumulative impacts – plans must include a comprehensive analysis of the direct, indirect, and cumulative physical impacts of filling and excavation of wetlands, riparian areas, and other waters of the State, performed from the site to the watershed level;
- Pollutants – the generation of pollutants during and after construction;
- Hydrologic modification – the alteration of flow regimes and groundwater; and
- Watershed-level effects – the disruption of watershed-level aquatic function, including pollutant removal, floodwater retention, and habitat connectivity.

These impacts have the potential to degrade water quality and impair a number of beneficial uses by reducing the available riparian habitat and eliminating the natural buffer system to filter runoff and enhance water quality. These impacts typically result in hydrologic changes by decreasing water storage capacity and increasing water flow velocity, which in turn leads to increases in the severity of peak discharges. These hydrologic changes can exacerbate flooding, erosion, scouring, sedimentation, and may ultimately lead to near-total loss of natural functions and values, resulting in the increased need for engineered solutions to re-establish the disrupted flow patterns.

Many examples of such degradation exist in California and elsewhere. The Water Boards are mandated to prevent such degradation.

The Project area may include marked (blue line) and unmarked surface waters that are either waters of the U.S. or waters of the State. Surface waters include, but are not limited to, drainages, streams, washes, ponds, pools, or wetlands, and may be permanent or intermittent. Waters of the State may include waters determined to be isolated or otherwise non-jurisdictional by the U.S. Army Corps of Engineers (USACE).

BMPs are used to reduce pollutants in runoff to waters of the State. The environmental document must specifically describe BMPs and their role in mitigation of Project impacts. Please include both on-site and off-site stormwater management strategies and BMPs as part of the planning process. Keep in mind that mitigation must protect functions and values and that measures to eliminate or reduce potential impacts must be identified and discussed in the environmental document. For more information regarding mitigation, see the Basin Plan, which can be accessed via the Water Board's web site (http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml).

CLOSING

Please note that obtaining a permit and conducting monitoring does not constitute adequate mitigation. Development and implementation of acceptable mitigation is required. The environmental document must specifically describe the BMPs and other mitigation measures used to mitigate Project impacts.

Thank you for the opportunity to comment on your Project. We look forwarding to reviewing the Draft Environmental Impact Report when it becomes available for review. If you have any questions regarding this letter, please contact me at (760) 241-7305 (bbergen@waterboards.ca.gov) or Patrice Copeland, Senior Engineering Geologist, at (760) 241-7404 (pcopeland@waterboards.ca.gov).

Sincerely,

Brianna Bergen
Engineering Geologist

cc: State Clearinghouse (SCH No. 2011091055)

U:\vr\PATRICE UNIT\Brianna\drafts\CEQA\CrystalGeyserNOP.docx

From: Lee, Chang (CDPH-FDRS) [mailto:Chang.Lee@cdph.ca.gov]
Sent: Thursday, October 20, 2011 11:24 AM
To: Tanda Gretz
Subject: Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project (Proposed)

Dear Ms. Gretz,

The California Dep't of Public Health's Food and Drug Branch has no comments on the CGR proposed project.

Thanks.

Chang R. Lee, Ph.D., Research Scientist IV
California Dept of Public Health, Food and Drug Branch
Science & Education Section
1500 Capitol Ave.
P.O. Box 997435, MS 7602
Sacramento, CA 95899-7435
(Phone) 916-650-6601, (e-FAX) 916-440-5369, (E-mail) chang.lee@cdph.ca.gov

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

September 21, 2011

Ms. Tanda Gretz, Planner
Inyo County Planning Department
P.O. Drawer L
Independence, CA 93526

Re: SCH#2011091055; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the **"Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project;"** located in the Cartago Community; Inyo County, California.

Dear Ms. Gretz:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3rd 604). The NAHC wishes to comment on the proposed project.

This letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. The NAHC Sacred Lands File (SLF) search resulted as follows: **Native American cultural resources were not identified** within one-half mile of the 'area of potential effect (APE) based on the USGS coordinates provided. Note: the absence of recorded Native American cultural resources does not preclude their existence. The area is known to the NAHC to be culturally sensitive.

The NAHC "Sacred Sites,' as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r).

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway.

Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and Section 2183.2 that requires documentation, data recovery of cultural resources.

Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254(r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Cc: State Clearinghouse

Attachment: Native American Contact List

Native American Contacts
Inyo County
September 21, 2011

Big Pine Band of Owens Valley
Virgil Moose, Chairperson
P. O. Box 700 — Owens Valley Paiute
Big Pine , CA 93513
bigpinetribaladmin@earthlink
760- 938-2003
(760) 938-2942-FAX

Timbisha Shoshone Tribe
Joe Kennedy, Chairperson
~~785 North Main Street, Suite~~ — Western Shoshone
Bishop , CA 93514
~~(760) 873-9003~~ → phone = 872-3614
~~(760) 873-9004 FAX~~ → FAX = 690-4486

1349 Rocking W Drive
Suite!

Bishop Paiute Tribe
William Vega, Chairperson
50 Tu Su Lane — Paiute - Shoshone
Bishop , CA 93514
william.vega@bishoppaiute.
(760) 873-3584
(760) 873-4143

Lone Pine Paiute-Shoshone Reservation
Kathy Bancroft, Cultural Representative
P.O. Box 747 — Paiute
Lone Pine , CA 93545 — Shoshone
kathybancroft@yahoo.com
(406) 570-5289
(760) 876-8302 fax

Fort Independence Community of Paiute
Chairperson
P.O. Box 67 — Paiute
Independence CA 93526
stephanie@fortindependenc
(760) 878-2126
(760) 878-2311- Fax

Timbisha Shoshone Tribe THPO
Barbara Durham, Tribal Historic Preservation
P.O. Box 206 — Western Shoshone
Death Valley , CA 92328
dvdurbarbara@netscape.
(760) 786-2374
(760) 786-2376 FAX

Lone Pine Paiute-Shoshone Reservation
Melvin R. Joseph, Chairperson
P.O. Box 747 — Paiute
Lone Pine , CA 93545 — Shoshone
admin@lppsr.org
(760) 876-1034
(760) 876-8302 Fax

Big Pine Band of Owens Valley THPO
Bill Helmer, Tribal Historic Preservation Officer
P.O. Box 700 — Paiute
Big Pine , CA 93513
amargosa@aol.com
(760) 938-2003
(760) 937-3331 - cell
(760) 938-2942 fax

This list is current only as of the date of this document.
Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2011091055; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project; located in southern Inyo County, California.

Native American Contacts
Inyo County
September 21, 2011

Kern Valley Indian Council
Robert Robinson, Co-Chairperson
P.O. Box 401
Weldon , CA 93283
brobinson@iwvisp.com
(760) 378-4575 (Home)
(760) 549-2131 (Work)

Tubatulabal
Kawaiisu
Koso
Yokuts

Bishop Paiute Tribe THPO
Matthew J. Nelson
50 Tu Su Lane
Bishop , CA 93514
(520) 404-7992 - cell
Matthew.
Nelson@bishoppaiute.org
(760) 873-4143 - FAX

Paiute - Shoshone

This list is current only as of the date of this document.
Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2011091055; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project; located in southern Inyo County, California.

From: Jesse Archer [mailto:J.Archer@BigPinePaiute.org]
Sent: Thursday, September 22, 2011 11:14 AM
To: Tanda Gretz
Subject: crystal geyser…

Tanda,

My name is Jesse Archer and I work for the Big Pine Paiute Tribe. I had a few questions concerning the proposed Crystal Geyser water mining project.

- Will there be any conditions required of Crystal Geyser to address their public water quality violations before construction would begin?
- What kind of tax revenue do they provide for Inyo county? I am unclear as to how they compensate the county for the water that is mined, and then exported.
- How much water are they planning/capable of taking out of Inyo county, and how will this effect the water table?

I am sure I will think of more questions as I read more on the subject. I know that I asked a very broad range of questions, so if you cannot answer these directly, please point me in the direction of someone who can. Thank you for your time,

Jesse

Jesse Archer, Environmental Tech
Big Pine Paiute Tribe
P.O Box 700
825 S. Main St.
Big Pine, CA 93513
work: 760.938.2003
mobile: 509.200.0646
j.archer@BigPinePaiute.org

From: sean elton [mailto:seanelton@gmail.com]
Sent: Thursday, September 29, 2011 3:57 PM
To: Tanda Gretz
Cc: Mom; Smilja Blackmon
Subject: Cabin Bar Ranch EIR Scoping Meeting

Dear Ms. Gretz,
On behalf of the Trustee's of the Elton Family Trust, please see the attached regarding this evenings meeting regarding the Cabin Bar Ranch EIR and request for items to be included in the scope of the EIR.

Regards,
Sean Elton

Inyo County Planning Dept
Atth: Tanda Gretz, Senior Planner
P.O. Drawer L
168 N. Edwards Street
Independence, CA 93526

September 29, 2011
Reference: CGR NOP of EIR at Cabin Bar Ranch

Dear Ms. Gretz,

Thank you in advance for the notification of pending development plans of the Cabin Bar Ranch property.. As the adjacent property owners at the southern boundary of the Cabin Bar Ranch, as well at the lessors of a small portion of our property for Crystal Geyser's current bottling facility and owners of the water rights for the same property, we respectfully request to be included on any information in regards to this process.

After receiving the NOP and reviewing the Initial Study we would like to request additional clarifications on the depth of the examination of the EIR.

Section IX. Hydrology and Water Quality, Subsection b) of the Initial Study Environmental Checklist form suggests a Potentially Significant Impact which could "Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre- existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?"

What agency(ies) in particular will be conducting testing or reviewing results of third party prepared tests to conclude whether a significant impact occurs.

Page 11 of the Initial Study depicts Spring locations along a linear path. Where is the ultimate source or head waters for the proposed improvement located. What tests will be performed to verify the ultimate origin.

What specific tests will be performed to determine effect on adjacent and/or upstream property owners with historical riparian rights and uses.

What steps will be taken to mitigate and protect historic uses.

Will a baseline hydrology of adjacent sources, water tables, and aquifer capabilities including water quality tests be performed prior to water withdrawals to determine impacts on either quantity or quality of adjacent sources.

Thank you again for your consideration as you examine the potential impacts and I look forward to understanding how these questions might be included in the EIR process.

Regards,

Patricia Elton, Trustee Elton Family Trust Smilma Blackmon, Trustee Elton Family Trust

To Tanda Gretz, Project Planner, Inyo County Planning Department 10/07/2011

RE: Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project.

My name is Aarne Coats. I reside in Cartago and am currently serving as president of the board for Cartago Mutual Water Company. Our residents rely on our local aquifer to meet our needs. We have never to my knowledge had a negative water quality test, and water quantity and water table depth have never been a concern.

I request that safeguards must be in place before C.G.Roxane is allowed to continue with this project. Safeguards that will ensure and protect our local residents so that they may continue to enjoy the same water quality in the future as we do today.

I request that monitor wells be strategically placed to keep track of water depth, as well as quality. Monitoring should be performed by a third party such as Inyo County Department of Public Health. Costs associated with safeguards need to be inclusive to C. G. Roxane and no burden placed on Cartago Mutual Water Company.

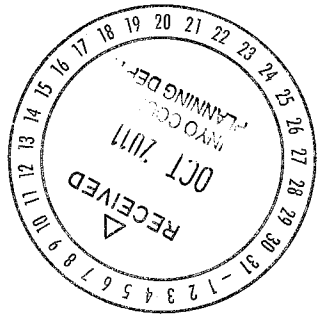
Upon reading pages 48 and 49 of the Initial Study Report put out by the Planning Department, I am alarmed. It states that this project falls short of the requirements of a Water Supply Assessment [WSA]. No mention was made concerning the accumulative effects of pumping operations when combined with C.G. Roxane's present operations. This has the potential for SIGNIFICANT IMPACT. I strongly disagree with your Less Than Significant designation; Paragraph D page 48 Sufficient Water Supplies Available.

Cartago Mutual Water Company is the primary water source for the Olancha Cartago Fire Department. With our current output of about 350-400 GPM it would be nice if C.G. Roxane would offer to help our local Fire Department in water availability in the future.

Thank You, Aarne Coats

PO Box 203

Olancha, Ca. 93549



From: Marian Elton [mailto:eltondesignsart@yahoo.com]
Sent: Wednesday, October 19, 2011 8:48 PM
To: Tanda Gretz
Subject: Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility

Dear Ms. Gretz,

Please see my letter for consideration in the EIR.

Thank you,
Marian Seiter

Marian Seiter

P.O. Box 615, Lone Pine, CA 93545

October 19, 2011

RE: Crystal Geyser Roxane Cabin Bar Ranch Bottling Plant EIR

Dear Ms. Gretz,

I was present during the public comment meeting in Olancha. I was surprised to see so many CGR employees in attendance. I have a few concerns and questions to be submitted for the record.

Hydrology and Water Quality

1. Will the new bottling facility be extracting additional acre feet of water in addition to their present operations? Is there a plan to close the current plant to accommodate future water extractions from the Cabin Bar? To mitigate taking over their estimated acreage feet of water, will monetary penalties be assessed to insure compliance?

2. Currently, one spring immediately south of the Cabin Bar on the adjacent property is dry. The way that CGR conducts water extractions with no concern for natural spring water flows are a concern because of past business practices. What mitigation will be put in place to monitor all springs and wells within and outside of the boundaries of the Cabin Bar? How will this be monitored and measured?

Land Use Planning

The Cabin Bar Ranch has a significant history and is rich in artifacts. To change the zoning to light industrial is to erase a part of history for the Owens Valley.

1. How will rezoning effect property tax values for surrounding area property owners in Olancha and Cartago?

Transportation Traffic

1. Will CGR be transporting trucks and employees to and from their current bottling plant to the proposed bottling plant? Will that add congestion of slow moving vehicles to the highway?

On Page 11 in the project description it states, "To create a new employment opportunities for the local community." Crystal Geyser Roxane administration's best practice of hiring locals is not founded. A majority of their current employees live in

Kern County and were shuttled in for the public comment meeting. CGR administration must have a different understanding of what a local community is. To us here in the Owens Valley, local means Inyo County residents in Bishop, Lone Pine, Olancha and Cartago. We have many Owens Valley families out of work and in need of jobs. If local residents are hired, why do they propose a shuttle service for employees? Will the proposed plan provide a shuttle from Lone Pine and Olancha? What measures or guarantees would be put in place to hire a majority of local families?

Thank you for this opportunity to submit my questions and concerns. I hope they will be considered as you examine the potential impacts. Please notify me for any future meetings during this process.

Sincerely,

Marian Seiter

760-920-3806

From: Efren luna [mailto:lunefrn@gmail.com]
Sent: Wednesday, October 19, 2011 10:27 AM
To: Tanda Gretz
Subject: crystal geyser roxane cabin bar ranch water bottling facility project

To whom it may concern:

My name is Efren Luna Romero I am a propery owner in Cartego District right next to where the project is to take place I just want to express my aproveval on this project I think it will be beneficial for all the community and the whole county I don't see a big impact on the Environment or that it would couse the water table to drop like a gentolman was complaininig on the meeting that was held in the olancha school since the water gets replaced by the snow that falls up in the mountains every winter. with the unemploy
ment hitting almost 10% we need to worry more on creating jobs than any other issues

Inyo County Planning Department

Scoping Meeting for the Draft Environmental Impact Report (EIR)
Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project
September 29, 2011

Written Comment Form

The purpose of this public scoping meeting is to obtain input from the public regarding the scope and the alternatives that will be analyzed in the Draft EIR for the Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project (the "proposed project").The proposed project would include the construction of a spring water bottling facility and ancillary uses to be built in three phases over an approximate 10 to 15 year time period. Phase I and Phase II of the project would include the construction of an approximately 198,500-square-foot bottling facility that would house four water bottling lines and eight truck loading docks. Phase I would also include the construction of an internal access road connecting to US 395, as well as a leach mound system and stormwater retention basin. Phase II or Phase III of the proposed project would include the development of an 8.3-acre solar array to reduce the project's use of non-renewable resources and to achieve a Leadership in Energy and Environmental Design (LEED) certification. Phase III would include an approximately 40,250-square-foot storage warehouse south of the bottling facility. If demand warrants, the warehouse proposed in Phase III may be constructed prior to the planned Phase II development. The proposed bottling facility would use spring water from three existing production wells located on the property. Annual water demand from the three existing production wells is anticipated to be 360 acre-feet per year (afy).The proposed project would also use a fourth existing well to provide domestic potable water (e.g., kitchen, restrooms) to the water bottling facility. To accommodate the proposed project, 23.46 acres of the property would be rezoned to the M-2 (Light Industrial) zoning designation. In association with this zone change, a General Plan amendment would also be implemented to apply the Light Industrial General Plan land use designation to this 23.46-acre portion of the property. The M-2 zone allows a bottling plant as a conditional use. As such, a Conditional Use Permit (CUP) is being requested as part of the proposed project. For the construction of Phase I, site preparation, demolition, earthwork, grading and installation of utilities is anticipated to begin in spring 2012.

In the space below (and on additional pages, if necessary), please provide any written comments you may have concerning the scope of the Draft EIR for the proposed project. Your comments will then be considered during preparation of the Draft EIR. The deadline for submitting written comments to the Inyo County Planning Department is October 20, 2011.

Name: Thomas Dack

Address: Box 82
Olancha CA
93549

1. My main concern is to do with the effect this project with the water level of Cartago, Most wells water wells in use since 1919 and incorporated in 1943.

2. About the septic systems in Cartago, will or might effect there water. Since it is south or down hill.

3. About using the area they are going too use for co. generating power is in an area that was declared as a swamp area with standing water, or wet lands by the federal government

4. About the effect the lighting will have, drawing more mesquitoes into town.

5 About building this plant on a earth quake fault.

*Please leave this form in the box provided or deliver or mail it to Ms. Tanda Gretz, Senior Planner, Inyo County Planning Department, P.O. Drawer L, 168 N. Edwards Street, Independence, California 93526. Comments can also be sent by e-mail to tgretz@inyocounty.us. Please write "**Crystal Geyser Roxane Cabin Bar Ranch Bottling Project**" in the subject line.*

6. About the noise this plant will have on the Town of Cattago, Trucks, back up alarms and from building the plant, also the dust.

7. Also about the environmental impact this will have on the surrounding vegetation, with the amount of water the plant will draw, and the wells drop have just east of Cattago. Or is this going too develop into a nother area that is in Big Pine.

8. About the amount of trash that will blow of the plant, just like there existing plant.

9.

-----Original Message-----
From: Sally Manning [mailto:smanning@telis.org]
Sent: Monday, October 10, 2011 11:40 PM
To: Tanda Gretz
Cc: s.manning@bigpinepaiute.org
Subject: Comment: Crystal Geyser Cabin Bar Ranch Initial Study

October 10, 2011
Tanda,

It seems like the Inyo County Groundwater Ordinance (#1004) should apply to this proposed project, but I can't see it is even mentioned in the documents available on line.

Sally Manning
401 E. Yaney St.
Bishop, CA 93514
(760) 873-3790

From: Ernesto [mailto:luna7@ymail.com]
Sent: Friday, September 30, 2011 6:56 PM
To: Tanda Gretz
Subject: "Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project"

Dear Tanda,

I totally support the construction of this new Plant. it will create more jobs specially now when unemployment is at an all time high, is good for the county too. more much needed tax revenue, and I think the environmental impacts will be minimal since it will be electricity operated. I went to the scoping meeting and I heard some complains from couple Senior Citizens, their comments are baseless. There is plenty of water out there and the water table replenishes itself with the snow pack we get each winter. I hope and pray you approve this project for the good of our children and future generations.

sincerely: Nestor Luna-Romero

Inyo County Planning Department

Scoping Meeting for the Draft Environmental Impact Report (EIR)
Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project
September 29, 2011

Written Comment Form

The purpose of this public scoping meeting is to obtain input from the public regarding the scope and the alternatives that will be analyzed in the Draft EIR for the Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project (the "proposed project").The proposed project would include the construction of a spring water bottling facility and ancillary uses to be built in three phases over an approximate 10 to 15 year time period. Phase I and Phase II of the project would include the construction of an approximately 198,500-square-foot bottling facility that would house four water bottling lines and eight truck loading docks. Phase I would also include the construction of an internal access road connecting to US 395, as well as a leach mound system and stormwater retention basin. Phase II or Phase III of the proposed project would include the development of an 8.3-acre solar array to reduce the project's use of non-renewable resources and to achieve a Leadership in Energy and Environmental Design (LEED) certification. Phase III would include an approximately 40,250-square-foot storage warehouse south of the bottling facility. If demand warrants, the warehouse proposed in Phase III may be constructed prior to the planned Phase II development. The proposed bottling facility would use spring water from three existing production wells located on the property. Annual water demand from the three existing production wells is anticipated to be 360 acre-feet per year (afy).The proposed project would also use a fourth existing well to provide domestic potable water (e.g., kitchen, restrooms) to the water bottling facility. To accommodate the proposed project, 23.46 acres of the property would be rezoned to the M-2 (Light Industrial) zoning designation. In association with this zone change, a General Plan amendment would also be implemented to apply the Light Industrial General Plan land use designation to this 23.46-acre portion of the property. The M-2 zone allows a bottling plant as a conditional use. As such, a Conditional Use Permit (CUP) is being requested as part of the proposed project. For the construction of Phase I, site preparation, demolition, earthwork, grading and installation of utilities is anticipated to begin in spring 2012.

In the space below (and on additional pages, if necessary), please provide any written comments you may have concerning the scope of the Draft EIR for the proposed project. Your comments will then be considered during preparation of the Draft EIR. The deadline for submitting written comments to the Inyo County Planning Department is October 20, 2011.

Name: Charles Abbott
Address: 124 S. Sierra St, Carson
PO Box 207 Olancha 93549

How this effects property value

*Please leave this form in the box provided or deliver or mail it to Ms. Tanda Gretz, Senior Planner, Inyo County Planning Department, P.O. Drawer L, 168 N. Edwards Street, Independence, California 93526. Comments can also be sent by e-mail to tgretz@inyocounty.us. Please write "**Crystal Geyser Roxane Cabin Bar Ranch Bottling Project**" in the subject line.*

Appendix B: Air Quality Technical Data

CRYSTAL GEYSER ROXANE CABIN BAR RANCH WATER BOTTLING FACILITY PROJECT

Draft EIR
Appendix B

Air Quality Assessment Files

Provided by PCR Services Corporation

April 2012

B-1 Project Operation Emissions

Appendix B-1
Project Operation Emissions

- URBEMIS2007 Output Files
  - Employees
  - Trucks

Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project
Summer Operational Emissions - Employees

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: V:\ACTIVE PROJECTS\Inyo- Crystal Geyser Bottling Plant\Operations\Operations - Employees.urb924

Project Name: Crystal Geyser - Employees Only

Project Location: Kings County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.34	0.83	2.23	0.00	0.01	0.01	969.25

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.60	1.01	7.05	0.02	1.21	0.27	1,600.94

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	2.94	1.84	9.28	0.02	1.22	0.28	2,570.19

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.06	0.81	0.68	0.00	0.00	0.00	966.44
Hearth							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81

Consumer Products	0.00						
Architectural Coatings	1.16						
TOTALS (lbs/day, unmitigated)	1.34	0.83	2.23	0.00	0.01	0.01	969.25

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
General light industry	1.60	1.01	7.05	0.02	1.21	0.27	1,600.94
TOTALS (lbs/day, unmitigated)	1.60	1.01	7.05	0.02	1.21	0.27	1,600.94

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2025 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
General light industry		0.48	1000 sq ft	198.50	95.28	1,400.62
					95.28	1,400.62

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	41.6	0.0	100.0	0.0
Light Truck < 3750 lbs	13.0	0.0	98.5	1.5

Light Truck 3751-5750 lbs	20.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	11.1	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	5.1	0.0	2.0	98.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	4.1	36.6	63.4	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
General light industry				100.0	0.0	0.0

Crystal Geyser Roxane Cabin Ranch Water Bottling Facility Project
Winter Operational Emissions - Employees

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: V:\ACTIVE PROJECTS\Inyo- Crystal Geyser Bottling Plant\Operations\Operations - Employees.urb924

Project Name: Crystal Geyser - Employees Only

Project Location: Kings County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.22	0.81	0.68	0.00	0.00	0.00	966.44

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.66	1.40	7.02	0.01	1.21	0.27	1,418.42

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.88	2.21	7.70	0.01	1.21	0.27	2,384.86

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.06	0.81	0.68	0.00	0.00	0.00	966.44
Hearth							

Crystal Geyser Roxane Cabin Ranch Water Bottling Facility Project
Winter Operational Emissions - Employees

Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	1.16						
TOTALS (lbs/day, unmitigated)	1.22	0.81	0.68	0.00	0.00	0.00	966.44

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
General light industry	0.66	1.40	7.02	0.01	1.21	0.27	1,418.42
TOTALS (lbs/day, unmitigated)	0.66	1.40	7.02	0.01	1.21	0.27	1,418.42

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2025 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
General light industry		0.48	1000 sq ft	198.50	95.28	1,400.62
					95.28	1,400.62

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	41.6	0.0	100.0	0.0

Light Truck < 3750 lbs	13.0	0.0	98.5	1.5
Light Truck 3751-5750 lbs	20.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	11.1	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	5.1	0.0	2.0	98.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	4.1	36.6	63.4	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
General light industry				100.0	0.0	0.0

Crystal Geyser Roxane Cabin Ranch Water Bottling Facility Project
Summer Operational Emissions - Trucks

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: V:\ACTIVE PROJECTS\Inyo- Crystal Geyser Bottling Plant\Operations\Operations - Trucks.urb924

Project Name: Crystal Geyser - Truck Trips Only

Project Location: Kings County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.41	0.83	2.23	0.00	0.01	0.01	969.25

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.67	6.32	2.87	0.04	1.18	0.39	4,251.47

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.08	7.15	5.10	0.04	1.19	0.40	5,220.72

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.06	0.81	0.68	0.00	0.00	0.00	966.44
Hearth							

Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	0.00						
Architectural Coatings	0.23						
TOTALS (lbs/day, unmitigated)	0.41	0.83	2.23	0.00	0.01	0.01	969.25

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Warehouse	0.67	6.32	2.87	0.04	1.18	0.39	4,251.47
TOTALS (lbs/day, unmitigated)	0.67	6.32	2.87	0.04	1.18	0.39	4,251.47

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2025 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		4.00	1000 sq ft	40.00	160.00	1,056.00
					160.00	1,056.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	0.0	0.0	100.0	0.0

Light Truck < 3750 lbs	0.0	0.0	98.5	1.5
Light Truck 3751-5750 lbs	0.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	0.0	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.0	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.0	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	0.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	100.0	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	100.0
Motorcycle	0.0	36.6	63.4	0.0
School Bus	0.0	0.0	0.0	100.0
Motor Home	0.0	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				0.0	0.0	100.0

Crystal Geyser Roxane Cabin Ranch Water Bottling Facility Project
Winter Operational Emissions - Trucks

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: V:\ACTIVE PROJECTS\Inyo- Crystal Geyser Bottling Plant\Operations\Operations - Trucks.urb924

Project Name: Crystal Geyser - Truck Trips Only

Project Location: Kings County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.29	0.81	0.68	0.00	0.00	0.00	966.44

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.67	7.60	2.87	0.04	1.18	0.39	4,251.47

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.96	8.41	3.55	0.04	1.18	0.39	5,217.91

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.06	0.81	0.68	0.00	0.00	0.00	966.44
Hearth							

Crystal Geyser Roxane Cabin Ranch Water Bottling Facility Project
Winter Operational Emissions - Trucks

Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.23						
TOTALS (lbs/day, unmitigated)	0.29	0.81	0.68	0.00	0.00	0.00	966.44

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Warehouse	0.67	7.60	2.87	0.04	1.18	0.39	4,251.47
TOTALS (lbs/day, unmitigated)	0.67	7.60	2.87	0.04	1.18	0.39	4,251.47

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2025 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		4.00	1000 sq ft	40.00	160.00	1,056.00
					160.00	1,056.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	0.0	0.0	100.0	0.0

Light Truck < 3750 lbs	0.0	0.0	98.5	1.5
Light Truck 3751-5750 lbs	0.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	0.0	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.0	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.0	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	0.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	100.0	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	100.0
Motorcycle	0.0	36.6	63.4	0.0
School Bus	0.0	0.0	0.0	100.0
Motor Home	0.0	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				0.0	0.0	100.0

Appendix C: Biological Resources

Appendix A: Floral and Faunal Compendium

GYMNOSPERMS

SCIENTIFIC NAME	COMMON NAME
Cupressaceae	**Cypress Family**
Cupressus sp.	cypress
Juniperus californica	California juniper

ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
Amaranthaceae	**Amaranth Family**
Nitrophila occidentalis	alkali pink
Asclepiadaceae	**Milkweed Family**
Asclepias fascicularis	narrow-leaf milkweed
Asteraceae	**Sunflower Family**
Ambrosia acanthicarpa	annual bur-sage
Ambrosia dumosa	burro weed
Artemisia tridentata	basin sagebrush
Encelia farinosa	brittlebush
Ericameria nauseosa	rubber rabbitbrush
Helianthus annuus	common sunflower
Xanthium strumarium	cocklebur
Brassicaceae	**Mustard Family**
Descurainia pinnata	western tansy-mustard
Lepidium fremontii	desert alyssum
Chenopodiaceae	**Goosefoot Family**
Atriplex canescens	four-wing saltbush
Atriplex polycarpa	allscale
* *Bassia hyssopifolia*	five-hooked bassia
* *Salsola tragus*	Russian thistle
Geraniaceae	**Geranium Family**
* *Erodium cicutarium*	red-stemmed filaree
Oleaceae	**Olive Family**
Fraxinus velutina	velvet ash
Orobanchaceae	**Broom-rape Family**
Chloropyron maritimum ssp. *canescens*	salty bird's beak
Polygonaceae	**Buckwheat Family**
Eriogonum mohavensis	Mojave buckwheat
* *Rumex* sp.	dock

** = Non-Native Species*

ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
Rosaceae	**Rose Family**
Rosa woodsii var. *ultramontana*	wild rose
Salicaceae	**Willow Family**
Populus fremontii ssp. *fremontii*	Fremont's cottonwood
* *Populus nigra*	black polar
Salix exigua	sandbar willow
Salix laevigata	red willow
Saururaceae	**Lizard's-Tail Family**
Anemopsis californica	yerba mansa

ANGIOSPERMS (MONOCOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
Cyperaceae	**Sedge Family**
Scirpus microcarpus	small-fruited bulrush
Juncaceae	**Rush Family**
Juncus mexicanus	Mexican rush
Poaceae	**Grass Family**
* *Bromus madritensis* ssp. *rubens*	foxtail chess
Distichlis spicata	saltgrass
Elymus elymoides var. *californicus*	squirreltail
Elymus glaucus	blue wildrye
* *Polypogon monspeliensis*	annual beard grass

** = Non-Native Species*

BIRDS

SCIENTIFIC NAME	COMMON NAME
Anatidae	**Waterfowl**
Anas platyrhynchos	mallard
Falconidae	**Falcons**
Falco sparverius	American kestrel
Strigidae	**True Owls**
Bubo virginianus	great horned owl
Corvus corax	common raven
Turdidae	**Thrushes**
Sialia currucoides	mountain bluebird
Emberizidae	**Emberizids**
Zonotrichia leucophrys	white-crowned sparrow
Zonotrichia querula	Harris' sparrow
Icteridae	**Blackbirds**
Agelaius phoeniceus	red-winged blackbird

MAMMALS

SCIENTIFIC NAME	COMMON NAME
Geomyidae	**Pocket Gophers**
Thomomys bottae	Botta's pocket gopher

** = Non-Native Species*

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Cabin Bar Ranch City/County: Cartago / Inyo Sampling Date: 2/8/12

Applicant/Owner: Crystal Geyser Roxane Waters Company State: CA Sampling Point: SP1

Investigator(s): Amy Morales, Zeke Cooley Section, Township, Range: Unincorporated Inyo County

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: 36.317516 Long: -118.019979 Datum: WGS 84

Soil Map Unit Name: 332 Typic Psammaquents, 0-2 percent slopes NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 20')			
1. Distichlis spicata	70	Y	FACW
2. Juncus mexicanus	15		FACW
3. Scirpus microcarpus	23		OBL
4. Polypogon monspeliensis	18		FACW
5.			
6.			
7.			
8.			
	126 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	5YR 3/2	80					Sandy Loam	Mineral Decomposition, No Muck
3-7	5YR 3/2	90	2.5YR 3/6	10	C	PL	Sandy Clay Loam	Conc. Abundant, Fine, Distinct
7-22	10YR 4/3	100					Loamy Sand	Soft Masses 1", Looks like Clay, Some Organic

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Sandy Clay Loam

Depth (inches): 3-7

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Cabin Bar Ranch City/County: Cartago / Inyo Sampling Date: 2/8/12
Applicant/Owner: Crystal Geyser Roxane Water Company State: CA Sampling Point: SP2
Investigator(s): Amir Morales, Zeke Cooley Section, Township, Range: Unincorporated Inyo County
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):
Subregion (LRR): Lat: 36.317872 Long: -118.020449 Datum: WGS 84
Soil Map Unit Name: 332 Typic Psammaquents, 0-2 percent slopes NWI classification: PEMA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No
Wetland Hydrology Present? Yes No
Is the Sampled Area within a Wetland? Yes No

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 20')			
1. Ericameria nauseosa	10	Y	UPL
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 20')			
1. Scirpus microcarpus	10		OBL
2. Juncus mexicanus	80	Y	FACW
3. Polygonum monspeliensis	48	Y	FACW
4. Plantago sp.	2		FACW
5.			
6.			
7.			
8.			
	140 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	5YR 3/2	80					Sandy Loam	
3-5	10YR 4/2	85	2.5YR 3/6	15	C	PL	Sandy Clay Loam	Mottles Abundant, Fine, Distinct
5-10	10YR 3/2	70	Gley1 4/10Y	15	D	M	Clay Loam	Mottling, Manganese Reductions
10-15	10YR 3/2	80	2.5YR 3/6	10			Sandy Loam	Abundant Reduction

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Cabin Bar Ranch City/County: Cartago / Inyo Sampling Date: 2/8/12

Applicant/Owner: Crystal Geyser Roxane Water Company State: CA Sampling Point: SP3

Investigator(s): Amir Morales, Zeke Cooley Section, Township, Range: Unincorporated Inyo County

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: 36.317821 Long: -118.020595 Datum: WGS 84

Soil Map Unit Name: 332 Typic Psammaquents, 0-2 percent slopes NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No

Hydric Soil Present? Yes No

Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No X

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Ericameria nauseosa	2	Y	UPL
2.			
3.			
4.			
5.			
	2 = Total Cover		
Herb Stratum (Plot size:)			
1. Juncus Mexicanus	90	Y	FACW
2. Distichlis spicata	50	Y	FACW
3. Bassia hyssopifolia	30		FAC
4. Polypogon Monspeliensis	2		FACW
5.			
6.			
7.			
8.			
	172 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Area appears to be near margin of wetland based on transition to adjacent Upland habitats.

SOIL

Sampling Point: SP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	5YR 4/3	90					Sandy loam	
6-10	5YR 4/4	100					Loamy Sand	Sandy/Gravel, no mottles
10-16	5YR 3/3	60					Sandy loam	
	5YR 3/4	40						
16-20	10YR 4/3	100					Loamy Sand	Gravelly, no mottles, Some Stopping

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Cabin Bar Ranch City/County: Cartago / Inyo Sampling Date: 2/8/12

Applicant/Owner: Crystal Geyser Roxane Water Company State: CA Sampling Point: SP4

Investigator(s): Amir Morales, Zeke Cooley Section, Township, Range: Unincorporated Inyo County

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: 36.315668 Long: -118.02059 Datum: WGS 84

Soil Map Unit Name: 332 Typic Psammaquents, 0-2 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No _____	**Is the Sampled Area within a Wetland?** Yes _____ **No** _____
Hydric Soil Present?	Yes _____ No _____	
Wetland Hydrology Present?	Yes _____ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Juncus mexicanus	50	Y	FACW
2. Distichlis spicata	40	Y	FACW
3. Scirpus microcarpus	10		OBL
4. Xanthium strumarium	10		FAC
5.			
6.			
7.			
8.			
	110 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species _____	x 4 =	_____
UPL species _____	x 5 =	_____
Column Totals: _____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: SP4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	5YR 3/2	100					Sandy Loam	
3-6	5YR 3/2	80	2.5YR 3/6	10	C	PL	Sandy Clay	
6-20	10YR 4/3	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Cabin Bar Ranch City/County: Cartago / Inyo Sampling Date: 2/8/12

Applicant/Owner: Crystal Geyser Roxane Water Company State: CA Sampling Point: SP5

Investigator(s): Amy Morales, Zeke Cooley Section, Township, Range: Unincorporated Inyo County

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: 36.315176 Long: -118.025207 Datum: WGS84

Soil Map Unit Name: 145 Cajon loamy sand, stratified substratum 0-5% slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix laevigata	40	Y	FACW
2. Fraxinus velutina	15	Y	FACW
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Salix exigua	10	Y	FACW
2. Salix laevigata	5	Y	FACW
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Ambrosia dumosa	8	Y	FACU
2. Salsola tragus	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	13 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 668 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species _____	x 4 =	_____
UPL species _____	x 5 =	_____
Column Totals: _____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: SP5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-0.5"	Debris	not Soil						
0.5-1	7.5 YR 3/3	100						
1-3	5YR 4/4	100					Loamy Sand	Some Layering
3-6	2.5Y 2.5/1	100					Loamy Sand	Poor Structure
6-18	10YR 5/2	100						Debris Layer, little Decompos
								Organic Layer

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- X Water Marks (B1) (Riverine)
- X Sediment Deposits (B2) (Riverine)
- X Drift Deposits (B3) (Riverine)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix D: Archaeological and Paleontological Resources Assessment

PHASE I AND II ARCHAEOLOGICAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT OF THE PROPOSED CRYSTAL GEYSER ROXANE CABIN BAR RANCH WATER BOTTLING FACILITY, INYO COUNTY, CALIFORNIA

Prepared on Behalf of:

CRYSTAL GEYSER ROXANE WATER COMPANY
Rick Moore, Chief Operations Manager
1630 Kellog Drive
Weed, CA 96094
Phone: (530) 938-1831

Prepared For:

COUNTY OF INYO PLANNING DEPARTMENT
Tanda Gretz, Senior Planner
P.O. Drawer
186 N. Edwards St.
Independence, CA 93526
Phone: (760) 878-0265

Report Prepared By:

PCR SERVICES CORPORATION
1 Venture, Suite 150
Irvine, California 92618
Phone: (949) 753-7001

Author:
Kyle Garcia, *Senior Archaeologist I*

Olancha, CA 1994 USGS 7.5' Quadrangle
Section 1 of Township 19 South, Range 36 East and Section 5 of Township 19 South, Range 37 East

Study Area Acreage: 27.31 Acres
Surveyed Acreage: 27.31 Acres

Phase I Survey Conducted: October 20, 2011
Phase II Archaeological Testing and Evaluation Conducted: February 27-29, 2012

Report Completed: April 2012

Resources Identified: *Sites* – CBR-S-1/H, CBR-S-2, and P-14-005197 (update)
Isolates – CBR-I-1, -2, and -3

Table of Contents

Page

EXECUTIVE SUMMARY ES-1
Archaeological Resources ES-1
Paleontological Resources ES-1

1.0 INTRODUCTION 1
1.1 Proposed Project and Location 1
1.2 Project Description 1
1.3 Scope of Study and Personnel 1

2.0 REGULATORY SETTING 9
2.1 Federal Level 9
2.1.1 Section 106 of the National Historic Preservation Act of 1966 (Section 106) 9
2.2 State Level 11
2.2.1 California Register of Historical Resources 11
2.2.2 California Environmental Quality Act 12
2.3 Local Level 13
2.3.1 County of Inyo General Plan 13

3.0 ENVIRONMENTAL SETTING 15
3.1 Historic and Current Land Uses 15
3.2 Landform, Geology, and Soils 15
3.3 Vegetation and wildlife 16
3.4 Hydrology 16

4.0 CULTURAL SETTING 17
4.1 Prehistoric Background 17
4.1.1 Paleo-Indian Period (ca. 12,000-10,000 YBP) 17
4.1.2 Lake Mohave Period (ca. 10,000-7,000 YBP) 18
4.1.3 Pinto Period (ca. 7,000-4,000 YBP) 18
4.1.4 Elko Period (4,000-1,500 YBP) 18
4.1.5 Rose Spring Period (1,500 -800 YBP) 18
4.1.6 Late Prehistoric Period (800 YBP to Contact) 19
4.1.7 Ethnographic Context 19
4.2 Historic Background 19

5.0 PHASE I ASSESSMENT 21
5.1 Methods 21
5.1.1 Cultural Resources Records Search 21
5.1.2 Sacred Lands File Search and Native American Consultation 21
5.1.3 Paleontological Resources Records Search 21
5.1.4 Pedestrian Survey 22
5.2 Results 22
5.2.1 Cultural Resources Records Search 22
5.2.2 Sacred Lands File Search and Native American Consultation 26
5.2.3 Paleontological Resources Records Search 27

Table of Contents (Continued)

Page

5.2.4 Pedestrian Survey 27

6.0 PHASE II ASSESSMENT 33
6.1 Methods 33
6.1.1 Test Excavations 33
6.1.2 Mapping and Surface Collection 33
6.1.3 Artifact Processing 33
6.1.4 Analytical Studies 34
6.2 Results 34
6.2.1 CBR-S-2 34

7.0 DISCUSSION AND INTERPRETATION 37
7.1 CBR-S-2 37
7.2 Other Isolate Resources 37

8.0 ELIGIBILITY EVALUATION 39
8.1 CBR-S-2 39
8.2 Other Isolate Resources 39

9.0 IMPACTS ANALYSIS 41
9.1 CEQA Significance Thresholds 41
9.2 Potential Impacts 42
9.2.1 Archaeological Resources 42
9.2.2 Paleontological Resources 42
9.2.3 Human Remains 42

10.0 SUMMARY OF RESULTS AND RECOMMENDED MITIGATION 45
10.1 Archaeological Resources 45
10.2 Paleontological Resources 46
10.3 Humans Remains 47

11.0 REFERENCES CITED 49

APPENDICES

APPENDIX A – PERSONNEL QUALIFICATIONS

APPENDIX B – NAHC SLF SEARCH RESULTS, NATIVE AMERICAN CONTACT LIST, AND EXAMPLE NATIVE AMERICAN NOTIFICATION LETTER

APPENDIX C – PALEONTOLOGICAL RESOURCES RECORDS SEARCH RESULTS

APPENDIX D – CONFIDENTIAL APPENDIX: DPR SITE FORMS, ARCHAEOLOGICAL RESOURCE LOCATION MAPS, AND ARTIFACT CATALOG (NOT FOR PUBLIC DISSEMINATION)

List of Figures

Page

Figure 1 Regional Map 3
Figure 2 Vicinity Map 5
Figure 3 Aerial Photograph 7
Figure 4 Study Area Photographs 29
Figure 5 Study Area Photographs 31

List of Tables

Page

Table 1 CBR-S-2 Excavation Summary 35

EXECUTIVE SUMMARY

Crystal Geyser Roxane (the Applicant) is proposing the Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project (the proposed project) on 27.31 acres (Study Area) in the unincorporated community of Cartago, in Inyo County (County), California. The proposed project necessitates grading and excavation throughout the Study Area.

PCR Services Corporation (PCR) conducted phase I and II archaeological and paleontological resources assessments of the project site between September 2011 and March 2012 to determine the potential impacts to archaeological and paleontological resources associated with the proposed project for the purpose of complying with the California Environmental Quality Act (CEQA) and the County's General Plan.

ARCHAEOLOGICAL RESOURCES

PCR identified one prehistoric archaeological site (CBR-S-2) and three prehistoric isolated artifacts (CBR-I-1, -2, -3) within or in the immediate vicinity of the Study Area. A subsequent phase II testing and evaluation program was undertaken on CBR-S-2 because of its high potential to contain a subsurface prehistoric deposit that may produce information important to the study of history or prehistory. Results of the phase II testing and evaluation at CBR-S-2 has shown that it is not eligible for listing in the California Register of Historical Resources or National Register of Historic Places, nor does it qualify as a "unique archaeological resource" pursuant to CEQA. This was determined by PCR based on the lack of a buried stratified archaeological deposit at the CBR-S-2 site, which reduces the potential for accurate interpretations of the resource and its potential to contribute information important to the study of history or prehistory. In addition, PCR conducted a thorough testing program and formal recordation of the resource that likely recovered the majority of the data potential from the resource. Moreover, PCR has collected all the artifacts from the resources which will limit many of the impacts to the resource from the proposed project. As a result of these findings, any project-related impacts to the resource are not considered a significant impact on the environment and no further work is recommended at the resource. However, PCR recommends that an archaeologist and Native American representative be present to monitor all project-related grading and excavation activities due to the high potential to encounter additional unknown archaeological resources at depth across the Study Area. PCR has provided detailed mitigation measures in Chapter 10 of this report regarding the archaeological and Native American monitoring effort.

PALEONTOLOGICAL RESOURCES

Several fossil localities have been identified in the region at unknown depths below the ground surface in deposits that currently exist at depth within the Study Area. No paleontological resources were identified by PCR during the pedestrian survey but this may be a direct result of the poor surface visibility within the majority of the Study Area that could have obstructed the identification of resources on the surface. According to the NHMLAC, deep excavations associated with the proposed project will likely encounter paleontological resources (vertebrate fossils). As a result, mitigation measures are provided in Chapter 10 to reduce potentially significant impacts to previously unknown paleontological resources that are unexpectedly discovered during project implementation to a less than significant level.

1.0 INTRODUCTION

1.1 PROPOSED PROJECT AND LOCATION

Crystal Geyser Roxane (the Applicant) is proposing the Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project (the proposed project). The proposed project would involve the construction of a spring water bottling facility and ancillary uses on the Cabin Bar Ranch. Cabin Bar Ranch is made up of 20 contiguous parcels and one non-contiguous parcel totaling approximately 420 acres, of which approximately 27.31 acres constitutes the proposed Study Area that is the focus of this analysis.

The proposed 27.31-acre Study Area is located south of the unincorporated town of Cartago in western Inyo County, California (**Figure 1**, *Regional Map*). It is depicted on the United States Geological Survey (USGS) 1994 7.5' Olancha, CA topographic quadrangle map in Section 1 of Township 19 South, Range 36 East; and Section 5 of Township 19 South, Range 37 East (**Figure 2**, *Vicinity Map*). The Study Area is located in a relatively flat and rural area dominated by open space and vegetated areas, and is bounded to the north by the rural town of Cartago, U.S. Route 395 to the west, Owens Lake to the east, and open space to the south (**Figure** 3, *Aerial Photograph*). Previous uses on Cabin Bar Ranch include former cattle ranching operations and an undeveloped 13-acre subdivision.

1.2 PROJECT DESCRIPTION

The project proposes a spring water bottling facility and ancillary uses. The water bottling facility would include an approximately 198,500-square-foot bottling plant and an approximately 40,000-square-foot storage warehouse. Ancillary uses to the bottling facility would include a fire suppression building, a leach mound, a fire access road, and a parking and truck staging area. To provide adequate access from U.S. Route 395 to the bottling facility, the project would remove the site's existing access road (i.e., Cabin Bar Ranch Road) and construct a new permanent access road approximately 2,500 feet to the south. The project would also donate an on-site former irrigation pond to the California Department of Fish and Game (CDFG) for the rearing of endangered fish populations.

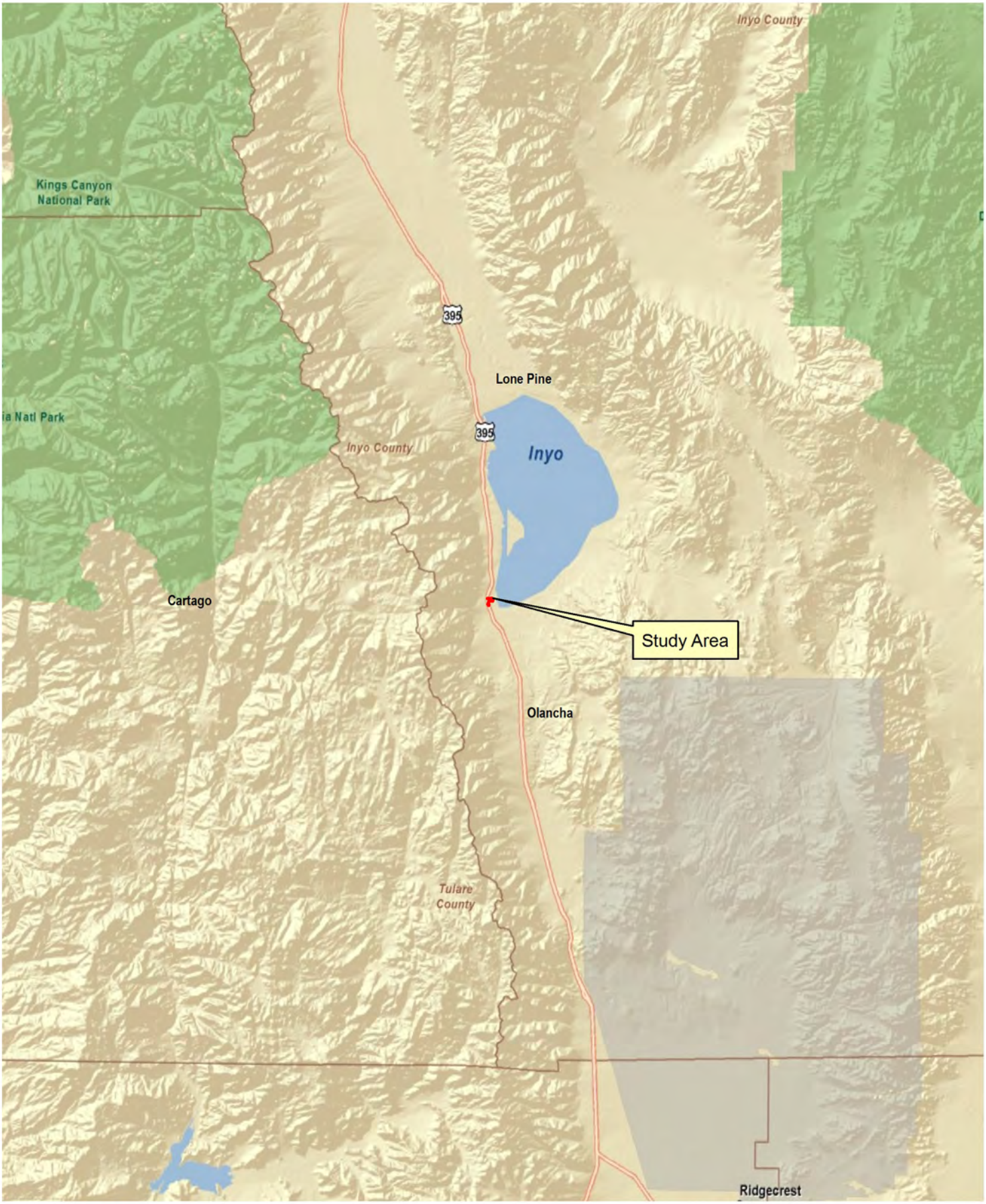
The majority of proposed development (i.e., proposed water bottling facility, warehouse, parking and truck staging area, and fire suppression building) would be constructed within the 13-acre previously subdivided area of Cabin Bar Ranch. The remainder of the project's proposed development would occur in proximity to but outside of the 13-acre subdivided portion of Cabin Bar Ranch.

1.3 SCOPE OF STUDY AND PERSONNEL

PCR conducted phase I and II cultural resource assessments of the project site between September 2011 and March 2012 to determine the potential impacts to archaeological and paleontological resources for the purpose of complying with CEQA and the County's General Plan. The scope of work for the phase I assessment included a cultural resources records search through the California Historical Resources System-Eastern Information Center (CHRIS-EIC), a Sacred Lands File (SLF) search through the California Native American Heritage Commission (NAHC) and follow-up Native American consultation, a paleontological resources records search through the Natural History Museum of Los Angeles County (NHMLAC), and a

pedestrian survey of the Study Area. The scope of work for the phase II assessment included additional background research, a subsurface testing program, artifact processing, an evaluation of known resources regarding their eligibility for listing in the the California Register of Historical Resources and whether they qualify as "unique archaeological resources," impact evaluations, and the recommendation of mitigation measures to reduce potentially significant impacts to resources to a less than significant level.

This report presents the findings of both assessments (Phases I and II) and is intended to satisfy the cultural resource requirements of CEQA. Personnel involved in this assessment included PCR archaeologists, Mr. Kyle Garcia, Mr. Matthew Gonzalez, and Mr. Eduardo Iglesias. Mr. Gonzalez conducted the record searches and Mr. Iglesias assisted Mr. Garcia with the phase II subsurface testing effort. Mr. Garcia conducted the pedestrian survey and the subsurface testing effort. He also prepared this report and provided project management services. Personnel qualifications of key personnel are provided in Appendix A of this report.



PCR

N

0 10 Miles 0 20 Kilometers

Regional Map

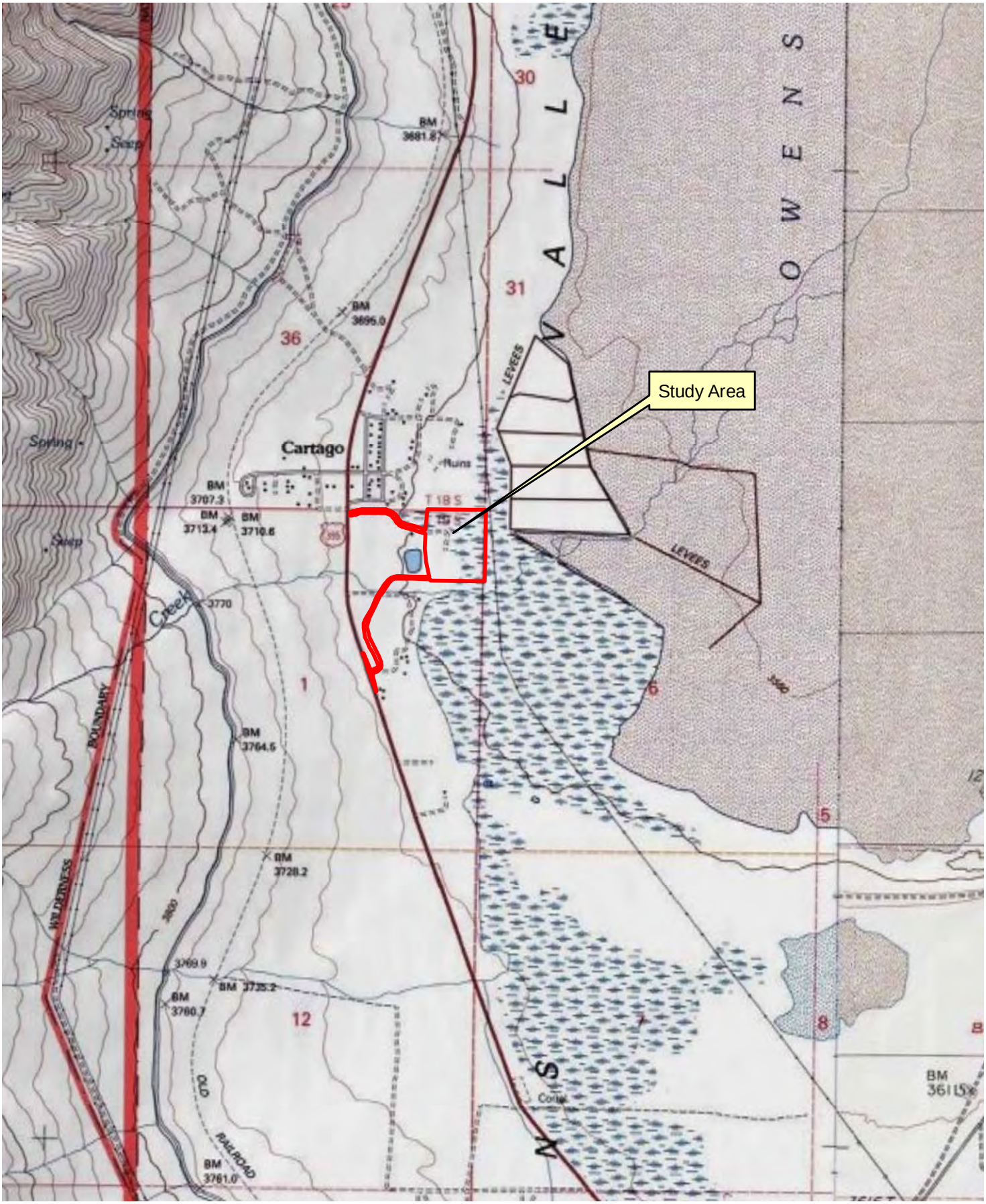
Cabin Bar Ranch Water Bottling Facility Project

Source: ESRI Street Map, 2009; PCR Services Corporation, 2012.

FIGURE

1

This page intentionally blank.



PCR

N

0 2,000 Feet 0 600 Meters

Vicinity Map

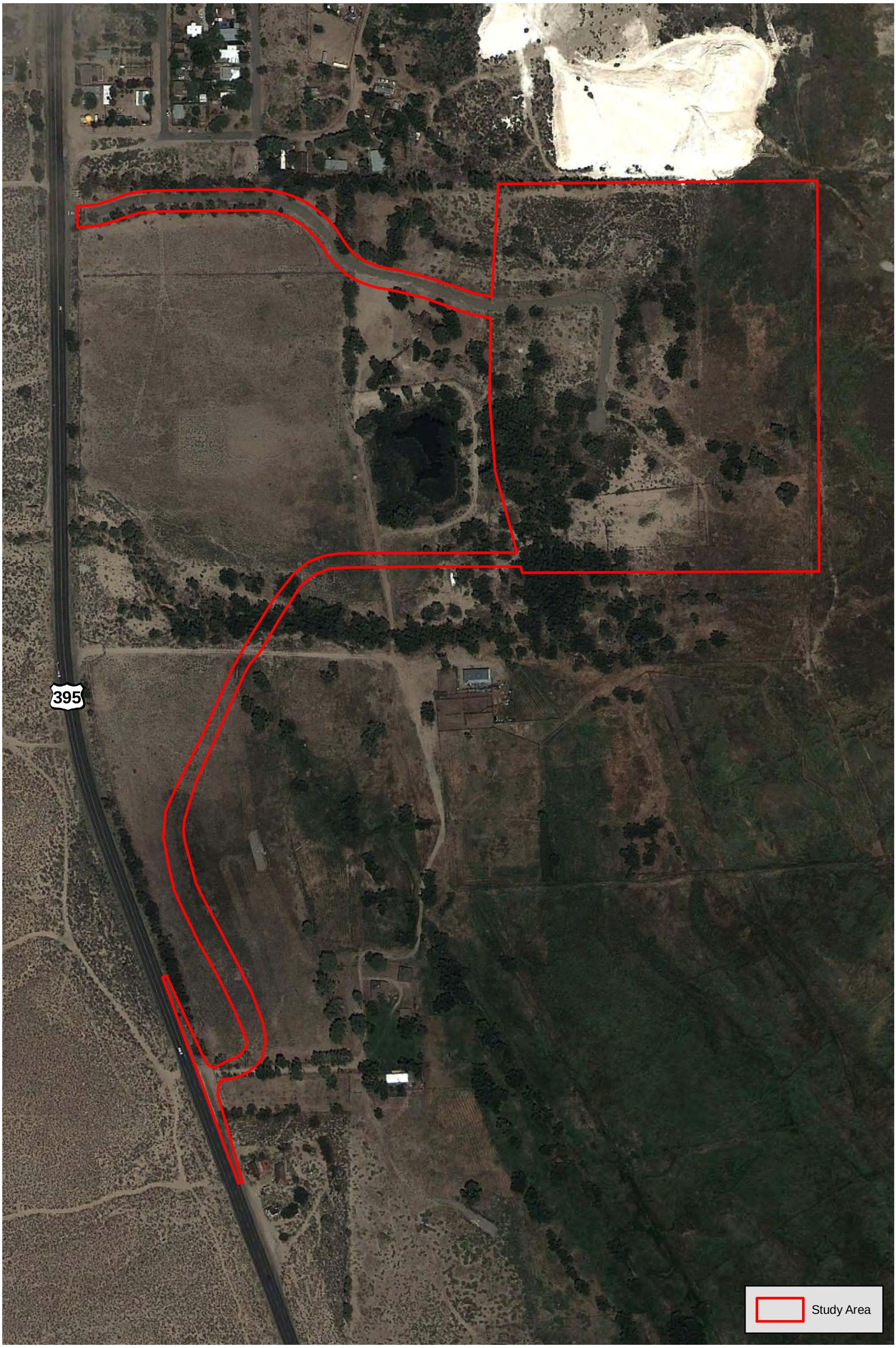
Cabin Bar Ranch Water Bottling Facility Project

Source: USGS Topographic Series (Olancha, Vermillion Canyon, CA); PCR Services Corporation, 2012.

FIGURE

2

This page intentionally blank.



PCR

N

0 250 Feet 0 70 Meters

Aerial Photograph

Cabin Bar Ranch Water Bottling Facility Project
Source: Google Earth, 2011; PCR Services Corporation, 2012.

FIGURE
3

This page intentionally blank.

2.0 REGULATORY SETTING

Numerous laws and regulations require federal, state, and local agencies to consider the effects of a proposed project on cultural resources. These laws and regulations establish a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies (e.g., State Historic Preservation Office and the Advisory Council on Historic Preservation). The National Historic Preservation Act (NHPA) of 1966, as amended; CEQA; the California Register of Historical Resources (California Register); and California Public Resources Code (PRC) 5024, are the primary federal and state laws governing and affecting preservation of historic resources of national, state, regional, and local significance. Other relevant regulations at the local level include the County's General Plan. A description of the applicable laws and regulations is provided in the following paragraphs.

2.1 FEDERAL LEVEL

2.1.1 Section 106 of the National Historic Preservation Act of 1966 (Section 106)

The regulations implementing Section 106 of the National Historic Preservation Act of 1966 (Section 106), as amended, requires that the lead federal agency with jurisdiction over a federal undertaking must consider adverse effects to historic properties before that undertaking occurs. Compliance with Section 106 requires a sequence of steps, often referred to as the "Section 106 process." The steps include (1) identification of the area that will be affected by the proposed undertaking ("area of potential effect" [APE]); (2) identification of historic or archaeological resources; (3) evaluation of the eligibility of the resources for listing on the National Register of Historic Places; (4) determination of the level of effect of the undertaking on eligible properties; and (5) consultation with concerned parties and agreement in the form of a Memoranda of Agreement (MOA) on avoidance, minimization, or mitigation of adverse effects on eligible properties. These steps are described in more detail below.

As defined in the NHPA (36 CFR 800.16(d)), an APE "is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The area of potential effect is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking." Federal agencies define the cultural resources APE in consultation with the State SHPO. The APE may or may not match the footprint of the Study Area.

Identification of historic or archaeological properties is done by means of pedestrian survey and research in appropriate historical and archaeological archives. The Secretary of the Interior has set forth guidelines for qualifications for archaeologists and historians responsible for identifying, evaluating, recording, and providing treatment for historical and archaeological resources (36 CFR 61). These guidelines are updated and published by the National Park Service (NPS 1983).

Evaluation of archaeological and historical property significance follows the significance criteria of the National Register of Historic Places (National Register). The National Register was established by the NHPA in 1966 to serve as "an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment." (36 CFR § 60.2). The National Register

recognizes properties that are significant at the national, state, and local levels. Guidelines for nomination require that significant resources exhibit aspects of important themes in American history, architecture, archaeology, engineering, and culture and possess integrity of location, design, setting, materials, workmanship, feeling, and association and that:

a. Are associated with events that have made a significant contribution to the broad patterns of our history; or

b. Are associated with the lives of persons significant in our past; or

c. Embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction; or

d. Have yielded, or may be likely to yield, information important to history or prehistory.

If compliance with Section 106 is triggered, the criteria for eligibility to the National Register provide the basis for evaluation and subsequent management of cultural resources in the Study Area.

In addition to meeting the Criteria for Evaluation, a property must have integrity. "Integrity is the ability of a property to convey its significance."[1] According to *National Register Bulletin 15 (NRB)*, the National Register recognizes seven aspects or qualities that, in various combinations, define integrity: location, design, setting, materials, workmanship, feeling, and association. In assessing a property's integrity, the National Register criteria recognize that properties change over time, therefore, it is not necessary for a property to retain all its historic physical features or characteristics. The property must retain, however, the essential physical features that enable it to convey its historic identity.[2]

For properties that are considered significant under National Register Criteria A and B, the *National Register Bulletin, How to Apply the National Register Criteria for Evaluation* states that a property that is significant for its historic association is eligible if it retains the essential physical features that made up its character or appearance during the period of its association with the important event, historical pattern, or person(s).[3]

In assessing the integrity of properties that are considered significant under National Register Criterion C, the *National Register Bulletin, How to Apply the National Register Criteria for Evaluation* provides that a property important for illustrating a particular architectural style or construction technique must retain most of the physical features that constitute that style or technique.[4]

---

1 *National Register Bulletin 15, p. 44.*

2 *"A property retains association if it is the place where the event or activity occurred and is sufficiently intact to convey that relationship to an observer. Like feeling, association requires the presence of physical features that convey a property's historic character. Because feeling and association depend on individual perceptions, their retention alone is never sufficient to support eligibility of a property for the National Register." Ibid, 15, p. 46.*

3 *Ibid.*

4 *"A property that has lost some historic materials or details can be eligible if it retains the majority of the features that illustrate its style in terms of the massing, spatial relationships, proportion, pattern of windows and doors, texture of materials, and*

(Footnote continued on next page)

Archaeological resources, in contrast to historical resources, are most often eligible under Criterion D for their "information potential." For properties eligible under Criterion D, less attention is given to their overall condition, than if they were being considered under Criteria A, B, or C. Archeological sites, in particular, do not exist today exactly as they were formed as there are always cultural and natural processes that alter the deposited materials and their spatial relationships. For properties eligible under Criterion D, integrity is based upon the property's potential to yield specific data that addresses important research questions.[5]

Effects of the proposed undertaking on eligible properties are determined by analysis and agreement between federal agencies, the State Historic Preservation Office (SHPO), and other concerned parties. The California SHPO, the Office of Historic Preservation (OHP), established by the NHPA to implement historic preservation management at the state level, is mandated to review National Register nominations, maintain data on historic properties that have been identified but not yet nominated, and consult with federal agencies during Section 106 review. Concurrence of the OHP on site evaluations and recommendations with respect to National Register eligibility and project effects will be required.

MOAs on avoidance, minimization, or mitigation of adverse effects on eligible properties are developed through the course of the project by federal agencies, SHPO, and other parties concerned with the preservation and disposition of cultural resources, including Native American groups with affiliation to the Study Area.

2.2 STATE LEVEL

2.2.1 California Register of Historical Resources

The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State's jurisdictions.

Created by Assembly Bill 2881, which was signed into law on September 27, 1992, the California Register is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change."[6] The criteria for eligibility for the California Register are based upon National Register criteria.[7] Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register of Historic Places.[8]

ornamentation. The property is not eligible, however, if it retains some basic features conveying massing but has lost the majority of the features that once characterized its style." Ibid.

5 *National Register Bulletin 15, p. 46.*

6 *California Public Resources Code § 5024.1(a).*

7 *California Public Resources Code § 5024.1(b).*

8 *California Public Resources Code § 5024.1(d).*

To be eligible for the California Register, a prehistoric or historic property must be significant at the local, state, and/or federal level under one or more of the following criteria:

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 the 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 individual, or possesses high artistic values; or

4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally Determined Eligible for the National Register.
- California Registered Historical Landmarks from No. 770 onward.
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5.[9]
- Individual historical resources.
- Historical resources contributing to historic districts.
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

2.2.2 California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State. CEQA requires lead agencies to determine if a proposed project would have a significant effect on archaeological resources (PRC Sections 21000 *et seq*.). As defined in Section 21083.2 of the PRC a "unique" archaeological

[9] *Those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register.*

resource is 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 any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a 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.

In addition, CEQA Guidelines section 15064.5 broadens the approach to CEQA by using the term "historical resource" instead of "unique archaeological resource." The CEQA Guidelines recognize that certain historical resources may also have significance. The CEQA Guidelines recognize that a historical resource includes: (1) a resource in the California Register of Historical Resources; (2) a resource included in a local register of historical resources, as defined in PRC section 5020.1 (k) or identified as significant in a historical resource survey meeting the requirements of PRC section 5024.1 (g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of section 21084.1 of the PRC and section 15064.5 of the CEQA Guidelines apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site is to be treated in accordance with the provisions of PRC section 21083, which is a unique archaeological resource. The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. (CEQA Guidelines §15064.5(c)(4)).

2.3 LOCAL LEVEL

2.3.1 County of Inyo General Plan

The Conservation/Open Space Element (Element) of the County's General Plan (adopted 2001) states goals, policies, and implementation programs for the identification and protection of cultural resources within the County. These are listed below:

Goal Cul-1: Preserve and promote the historic and prehistoric cultural heritage of the County

Policy CUL-1.1: Partnerships in Cultural Programs – Encourage and promote private programs and public/private partnership that express the cultural heritage of the area.

Policy CUL-1.2: Interpretive Opportunities – Support and promote the development of interpretive facilities, such as roadside kiosks, museums, and restored historic buildings that highlight the County's cultural resources.

Policy CUL-1.3: Protection of Cultural Resources - Preserve and protect key resources that have contributed to the social, political, and economic history and prehistory of the area, unless overriding circumstances are warranted.

Policy CUL-1.4: Regulatory Compliance - Development and/or demolition proposals shall be reviewed in accordance with the requirements of CEQA and the National Historic Preservation Act.

Policy CUL-1.5: Native American Consultation - The County and private organizations shall work with appropriate Native American groups when potential Native American resources could be affected by development proposals.

Implementation Measures:

1. The County shall work in partnerships with private entities, other agencies, and educational institutions to support dissemination of knowledge of the historic and prehistoric past of the County. This may include acquisition of funding, promotion of festivals, and/or development of interpretive facilities.

2. The County should maintain and update the existing survey of historic structures (prepared by IMACA). This document should identify key resources that should be the focus for preservation.

3. If preservation of cultural resources is not feasible, every effort shall be made to mitigate impacts, including relocation of structures, adaptive reuse, preservations of facades, and thorough documentation and archival of records,

4. Native American groups shall be contacted at the preliminary stages of a project that may result in effects to Native American resources.

3.0 ENVIRONMENTAL SETTING

3.1 HISTORIC AND CURRENT LAND USES

Previous uses on Cabin Bar Ranch include former cattle ranching operations and an undeveloped 13-acre subdivision. Existing development on Cabin Bar Ranch includes two abandoned single-family homes, a man-made irrigation pond, a metal barn (formerly used as a barn and metal work shop), two pasture areas, Cabin Bar Ranch Road, a former model home, a mobile home, and four existing wells (i.e., three production wells, one domestic well). The two abandoned single-family homes were used as the primary residence of the Elton Family prior to the 1980s. The metal barn and irrigation pond, located in the central portion of the property, were used to support former cattle ranch operations. The two pasture areas, which are located immediately adjacent to the east side of U.S. Route 395 in the northern portion of the Study Area, were also used to support former cattle ranch operations. The northern pasture area is surrounded by a wood fence; the southern pasture area is surrounded by a barbed-wire fence. Cabin Bar Ranch Road and the former model home were previously used to access and advertise the previously proposed Cabin Bar Ranch subdivision (see **Figure 3**).

Approximately 13 acres of the north-central portion of Cabin Bar Ranch were subdivided for a proposed residential subdivision in 1982. This portion of the property was subdivided into 16 residential lots, which remain undeveloped with the exception of one model home. Much of the on-site development is associated with this old subdivision, including Cabin Bar Ranch Road, the model home, the underground utilities, and domestic well CBR-1. Cabin Bar Ranch Road exists as a paved roadway along the northern property line, extending from U.S. Route 395, east, up to a cul-de-sac in the center of the old subdivision. The former model home is maintained by the Applicant and is still used by visiting employees for short stays. The subdivided area also consists of several concrete-lined pond basins. These pond basins were never filled with water and are now overgrown with vegetation. Sewer and water lines currently exist beneath Cabin Bar Ranch Road, as well a telephone line. The telephone line is connected to the existing model home. The sewer line was designed to flow east under the force of gravity to a pump station south of the cul-de-sac, which would have then pumped to a leach field located south of the subdivision. However, this sewer line was never connected and wastewater from the model home is treated by an individual septic system located on the same parcel as the home.

The majority of Cabin Bar Ranch east of U.S. Route 395 was previously irrigated to support grasses for cattle grazing, using a surface sprinkler irrigation system fed by a pump located in the man-made irrigation pond on the property. The one exception to this is the portion of the property near the shoreline of the Owens Lake, where the property was flood irrigated by water from nine on-site springs.

3.2 LANDFORM, GEOLOGY, AND SOILS

Topographically, Cabin Bar Ranch sits at an elevation of approximately 3,600 feet above mean sea level. The interior of the site is generally flat with a slope of three to four percent in the western portion of the property, flattening out to one to two percent in the eastern portion of the property, adjacent to the Owens Lake. The sediments underlying the Study Area are classified younger Quaternary alluvium with a combination or either fan, fluvial, and/or lacustrine sediments of Late Pleistocene and Holocene age.

3.3 VEGETATION AND WILDLIFE

Plant communities identified within the Study Area by PCR biologists include red willow thicket, rubber rabbitbrush scrub, Mexican rush marsh, salt grass flat, disturbed/Fremont Cottonwood Stand, and ruderal. Wildlife species with potential to occur due to suitable habitat within the Study Area include Wong's springsnail, Owen's tui chub, Owen's pupfish, Swainson's hawk, loggerhead shrike, yellow breasted chat, least bittern, least Bell's vireo, spotted bat, Owen's Valley vole, and Mohave ground squirrel. Refer to **Section 4.C, Biological Resources**, of the Draft EIR for a detailed description of the vegetation communities and wildlife species within and in the vicinity of the Study Area.

3.4 HYDROLOGY

Cabin Bar Ranch is bordered on the east by the shoreline of the Owens Dry Lake, which has largely dried up as a result of water conveyance from the Owens River through the Los Angeles Aqueduct. As such, a dry lakebed remains in much of the area previously occupied by the lake , which reduces the quantity and quality of wildlife habitat in the region. Cartago Creek, an intermittent creek fed by winter snowmelt and summer storm events along the eastern escarpment of the Sierra Nevada Mountains, runs east-west across the Study Area. Additionally, nine springs are located on Cabin Bar Ranch, running along a former irrigation ditch that runs parallel to U.S. Route 395 south of Cartago Creek, approximately 550 feet east of the roadway. Groundwater seepage was encountered in all excavations within the Study Area associated with a previous geotechnical study prepared for the project site, at depths ranging from 11 to 15 feet below ground surface (Alder and Platz 2010). Three production wells (CGR-8, CGR-9, and CGR-10) are located in the central portion of Cabin Bar Ranch; these wells were drilled by the Applicant in 2010. An existing domestic water well (CBR-1), located west of the former irrigation pond, was drilled in the 1980s to provide domestic water for the proposed Cabin Bar Ranch subdivision. An underground water line connects CBR-1 to the model home.

4.0 CULTURAL SETTING

Following here is a brief overview of the cultural prehistory of the Study Area and surrounding region. The objective of this overview is to provide background for discussions of the archaeological resources in the Study Area, including the interpretations and evaluations in Chapters 7 and 8, respectively. Prehistory is most easily discussed chronologically, in terms of environmental change and recognized cultural developments. The following cultural chronology focuses on the history of the Great Basin and specifically the Owens Valley and spans nearly 12,000 Years Before Present (YBP). Several sections were adapted from Matthew R. Des Lauriers' chronology discussion in Parr et al. (2001).

4.1 PREHISTORIC BACKGROUND

4.1.1 Paleo-Indian Period (ca. 12,000-10,000 YBP)

Little is known of Paleo-Indian peoples in the Owens Valley, and the cultural history of this period follows that of North America in general. Recent discoveries in the Americas have challenged the theory that the first Americans migrated from Siberia, following a route from the Bering Strait into Canada and the Northwest Coast some time after the Wisconsin Ice Sheet receded (ca. 14,000 YBP), and before the Bering Land Bridge was submerged (ca. 12,000 YBP). A coastal migration route somewhat before that time is also possible. The timing, manner, and location of this crossing are a matter of debate among archaeologists, but the initial migration probably occurred as the Laurentide Ice Sheet melted along the Alaskan Coast and interior Yukon. The earliest radiocarbon dates from the Paleo-Indian Period in North America come from the Arlington Springs Woman site on Santa Rosa Island. These human remains date to approximately 13,000 YBP (Johnson et al. 2002). Other early Paleo-Indian sites include the Monte Verde Creek site in Chile (Meltzer et al. 1997) and the controversial Meadowcroft Rockshelter in Pennsylvania. Both sites have early levels dated roughly at 12,000 YBP. Life during the Paleo-Indian Period was characterized by highly mobile hunting and gathering. Prey included megafauna such as mammoth and technology included a distinctive flaked stone toolkit that has been identified across much of North America and into Central America. They likely used some plant foods, but the Paleo-Indian toolkit recovered archaeologically does not include many tools that can be identified as designed specifically for plant processing.

The megafauna that appear to have been the focus of Paleo-Indian life went extinct during a warming trend that began approximately 10,000 years ago, and both the extinction and climatic change (which included warmer temperatures in desert valleys and reduced precipitation in mountain areas) were factors in widespread cultural change. Subsistence and social practices continued to be organized around hunting and gathering, but the resource base was expanded to include a wider range of plant and game resources. Technological traditions also became more localized and included tools specifically for the processing of plants and other materials. This constellation of characteristics has been given the name "Archaic" and it was the most enduring of cultural adaptations to the North American environment.

According to Parr et al. (2001), Owens Valley work by Davis (1978) at China Lake suggested habitation contemporary with the Clovis Horizon elsewhere in the western United States, and the flaked stone evidence from Rose Valley (Borden 1971; Des Lauriers et al. 1997) supports this to some degree. While the

subsequent Lake Mojave Period has been documented at several locations in the Owens Valley proper (Basgall and McGuire 1988), the initial peopling of the region is poorly understood.

4.1.2 Lake Mohave Period (ca. 10,000-7,000 YBP)

The Lake Mojave complex is considered to be Paleoindian in nature and ancestral to the early Archaic cultures that follow it in time. Artifacts characteristic of Lake Mojave assemblages are stemmed, shouldered points often resembling asymmetrically elongated diamonds, crescents, an enigmatic class of artifacts of uncertain function with relatively well-established temporal significance (Parr et al. 2001).

4.1.3 Pinto Period (ca. 7,000-4,000 YBP)

Also known as the Clyde Phase in the Owens Valley (Bettinger 1976; Moratto 1984), the Pinto Period immediately follows the drying of the pluvial lakes. Pinto Period projectile points-also referred to as Little Lake points (Bettinger 1976; Moratto 1984; Warren and Crabtree 1986)-are often notched, weakly shouldered, and sometimes have poorly developed barbs. Materials such as basalt and rhyolite were utilized for their manufacture. More tractable lithic raw materials, such as obsidian, were not yet preferred. The vast majority of Pinto Periods points were manufactured through percussion flaking and pressure-flaked using wood, tooth, bone, or antler (Parr et al. 2001).

4.1.4 Elko Period (4,000-1,500 YBP)

The Elko Period is also known as the Gypsum Period and the Newberry Period (Bettinger and Taylor 1974; Warren and Crabtree 1986). This time period witnessed the adaptation of early archaic systems to the arid conditions that became prevalent throughout western North America after the Altithermal of the Middle Holocene (Moratto 1984). This widespread climate change most likely allowed more intensive occupation of the desert areas, and may have afforded a degree of resource security previously unavailable in the region (Parr et al. 2001).

In addition to the pursuit of an increasing diversity of resources, the hunting of large game seems to figure prominently in Elko Period economy and ideology. Projectile point types that date to this time period include Elko Eared, Elko Corner-notched, Humboldt Concave Base, and Gypsum Cave points. Towards the end of the Elko Period, larger dart points were replaced by smaller dart points, which also corresponds with the replacement of the atlatl projectile system by the bow and arrow (Moratto 1984; Warren and Crabtree 1986). Shortly after the end of the Elko Period the Numic Spread began (Sutton 1986, 1994; Bettinger 1994).

4.1.5 Rose Spring Period (1,500 -800 YBP)

The Rose Spring Period is also known as the Saratoga Springs Period and the Haiwee Period (Warren and Crabtree 1986:189). During this period, there there were increasing population densities, interregional trade and the development of settlement subsistence patterns in the Great Basin all of which contributed to the success and intensity of the "Numic Spread" (Bettinger 1977, 1989, 1994). Rose Spring projectile points are small side- or corner-notched arrow points that represent the first evidence for this highly effective weapon system (Yohe 1992).

4.1.6 Late Prehistoric Period (800 YBP to Contact)

Characterized most markedly by Cottonwood and Desert Side-notched projectile points and Owens Valley Brownware pottery, this phase possesses archaeological remains that are very similar to those of the Owens Valley Paiute and their neighbors. Also known as the Shoshonean Period, Marana Period, or Klondike Phase (Bettinger 1976, Warren and Crabtree 1986:191), site types from this period include large permanent or semipermanent villages on alluvial fans along the west side of the Owens Valley (Riddell 1951; Wilke 1983), hunting camps, seed collecting and processing sites along the valley floor, fishing and other communal activity areas along the river and lake, and seasonally occupied piñon camps in the White and Inyo mountains (Bettinger 1989).

4.1.7 Ethnographic Context

The Study Area lies within an area where several ethnographic groups, including the Koso Shoshone and Owens Valley Paiute, claim affiliation. For a detailed discussion of each group, refer to Parr et al. (2001). The lifeways of these groups are characteristic of the Late Prehistoric Period. The euroamerican incursion beginning in the mid-1800s contributed heavily to the depopulation of the Shoshone from traditional use area following the establishment of white settlements in Rose Valley and southern Owens Valley. Increased mining and ranching activities, followed by the establishment of a railway and the Los Angeles Aqueduct forever changed the Koso homeland. By the 1930's, those Shoshone remaining in the region had relocated to the Owens Valley Indian reservations at Lone Pine, Big Pine and Bishop (Ibid). Furthermore, the way of life of the Owens Valley Paiute changed drastically in the year after euroamerican settlement. Their lands were taken away and they became influenced by immigrant populations of neighboring Indians, who brought with them a major distrust and hatred of the settlers. The Owens Valley Paiute survived years of conflict and relocation and still remain in the valley, although they are mixed with groups of neighboring Indians brought into the aforementioned reservations (Ibid).

4.2 HISTORIC BACKGROUND

For a detailed historic period context, please refer to PCR's *Historic Resources Assessment Report: Crystal Geyser Cabin Bar Ranch Water Bottling Plant* (Wuellner et al. 2012).

5.0 PHASE I ASSESSMENT

5.1 METHODS

5.1.1 Cultural Resources Records Search

On September 28, 2011, PCR archaeologist Matthew Gonzalez conducted an in-house cultural resource records search at the CHRIS-EIC in Riverside, California. This records search included a review of all recorded historical resources and archaeological sites within a half-mile radius of the Study Area as well as a review of cultural resource reports and historic topographic maps on file. In addition, PCR reviewed the California Points of Historical Interest (CPHI), the California Historical Landmarks (CHL), the California Register, the National Register, and the California State Historic Resources Inventory (HRI) listings. The purpose of the record search is to determine whether or not there are previously recorded archaeological or historical resources within the Study Area that require inclusion in the current analysis. The results also provide a basis for assessing the sensitivity of the Study Area for additional and buried cultural resources.

5.1.2 Sacred Lands File Search and Native American Consultation

On May 13, 2011, Mr. Gonzalez commissioned a SLF records search of the Study Area through the NAHC. The NAHC is responsible for conducting SLF records searches to assist in the identification of Native American or prehistoric resources that may be impacted by implementing proposed projects. The SLF refers to the inventory of Native American or prehistoric resources that the NAHC maintains. The primary source of information for the SLF is California Native American individuals and groups who provide valuable locational information to the NAHC regarding resources that may not otherwise be shared with the CHRIS-EIC, other regional information centers, or other archives that maintain records on Native American or prehistoric resources. As a result, it has been established as an industry-wide standard to conduct SLF searches for all projects subject to CEQA and Section 106 to ensure that an exhaustive effort has taken place to identify Native American or prehistoric resources. Moreover, the NAHC recommends follow-up contact with Native American groups and/or individuals identified by the NAHC as having affiliation with the Study Area vicinity.

On October 14, 2011, each Native American group and/or individual listed (n=11) in the NAHC's Native American contact list for the project was sent a project notification letter and map and was asked to convey any knowledge regarding prehistoric or Native American resources (archaeological sites, sacred lands, or artifacts) located within the Study Area or surrounding vicinity. The letter included information such as Study Area location and a brief description of the Proposed Project. Results of the SLF search and follow-up consultation provide information pertaining to the nature and location of additional prehistoric or Native American resources to be incorporated in the assessment whose records may not be available at the CHRIS-EIC.

5.1.3 Paleontological Resources Records Search

On May 13, 2011, Mr. Gonzalez commissioned a paleontological records search through the NHMLAC in Los Angeles, California. This institution maintains files of regional paleontological site records as well as supporting maps and documents. These record searches entailed an examination of current geologic maps

and known fossil localities inside and within the surrounding region of the Study Area. Results of the record search indicate whether or not there are previously recorded paleontological resources or fossiliferous geological formations within the Study Area. The results also provide a basis for assessing the sensitivity of the Study Area for additional and buried paleontological resources.

5.1.4 Pedestrian Survey

On October 20, 2011, Mr. Garcia conducted a pedestrian survey of the approximately 43.24-acre Study Area using transects intervals totaling 10 to 15 meters. The ground surface within the Study Area was examined for the presence of archaeological and paleontological resources. Mr. Garcia surveyed 100 percent of the Study Area. A Trimble GeoXT Global Positioning System unit was used for navigation and documenting distribution of Study Area conditions and newly identified archaeological and paleontological resources. When a resource (such as an isolated flake or lithic scatter) was identified, PCR conducted a close-interval (1-3 meters) survey of an approximately 30-meter area surrounding the resource to establish the surface boundary of the resource based off artifact presence or absence. Detailed notes and digital photographs were also taken of the Study Area and surrounding vicinity. The purpose of the pedestrian survey was to identify any previously unrecorded archaeological and paleontological resources within the Study Area and to determine the potential for buried archaeological or paleontological deposits.

5.2 RESULTS

5.2.1 Cultural Resources Records Search

Results of the cultural resources records search revealed that five cultural resources studies have been conducted within the Study Area and more than 20 studies have been conducted within the half-mile radius. Four of the five studies include cultural resources investigations to support the CalTrans Olancha/Cartago Four-Lane project along U.S. Route 395. One of these studies include a phase I cultural resources assessment of the entire Cabin Bar Ranch property that was conducted in 1989 (see Dillon et al. 1989). Taken collectively, all of the studies address 100 percent of the Study Area and approximately 75 percent of the half-mile radius and demonstrate that the Study Area and surrounding vicinity have undergone previous cultural resources investigations. Although not available at the CHRIS-EIC, PCR obtained an archaeological resources assessment report from the Applicant that included an archaeological survey of portions of the current Study Area and for portions immediately outside the Study Area (see Johnson 2010). Johnson (2010) identified two archaeological resources, CBR-S-1/H and CBR-S-2, immediately outside and within the Study Area, respectively, as part of her study. These resources are described in detail below.

CBR-S-1/H

This resource was recorded by Johnson in 2010 and is described as a protohistoric archaeological site that measures approximately 80 m by 80 m in size and has potential to contain a subsurface archaeological deposit, based on the presence of artifacts in animal burrows. It is located approximately 200 m west of the area where the proposed bottling facility is to be constructed and 100 m northwest of the proposed access road alignment; therefore, CBR-S-1/H is located outside of the Study Area. The surface component of the resource consists of 89 brownware pottery sherds, five beads (two steatite, two shell or magnesite, one probable magnesite), two obsidian Desert series projectile points (one Desert Site-notched, one Cottonwood), one obsidian drill, seven obsidian bifaces, three obsidian unifacial simple flake tools, two milling slabs, one granite handstone, one chert pebble tool, eight pieces of fire-affected rock, and

approximately 80 pieces of debitage (i.e., waste material generated during the production of chipped stone tools). Historic-period artifacts include one pendant made from the rim fragment of a porcelain cup and one unmodified fragment of a thin porcelain cup or bowl. Fifteen faunal specimens, including many that are burnt or calcined, were also identified within the resource (Johnson 2010).

An additional 102 artifacts were identified on the surface in "isolated contexts" just outside CBR-S-1/H that were mapped in place and then removed by Johnson to a location within the site boundary of CBR-S-1/H per the request of Sandra Yonge of the Lone Pine Paiute-Shoshone tribe. Ms. Yonge recommended the artifacts to be moved because she suggested that they may have originated from CBR-S-1/H and were subsequently displaced by rodent and other ground-disturbing activities. The artifacts that were moved include Owens Valley brownware sherds, obsidian tools, an obsidian projectile point blank, obsidian debitage (n=60), obsidian bifaces, ground stone artifacts, ironstone china fragments, a blue glass trade bead, window glass, and several glass bottle fragments (aqua, amethyst, and frosted) (Ibid).

Johnson (2010) suggests the resource likely dates to the Protohistoric Period due to the presence of the historic-period pendant made from the rim fragment of a porcelain cup. The presence of beads and other items made of non-local materials suggest the inhabitants may have engaged in trade with groups from the California coast. Per the request of the Ms. Yonge, the Applicant has since covered a 50 m by 40 m area of the resource with the highest artifact density with fill soils to ensure its protection from looting (Ibid).

CBR-S-2

This resource was also recorded by Johnson in 2010 and was originally described as 25 isolated prehistoric and historic artifacts[10] that were identified on the surface within a 180 m by 100 m area. The resource is located within the Study Area where the proposed bottling facility is to be constructed. The artifacts include one obsidian Desert Side-notched point, an obsidian biface, 17 pieces of obsidian debitage, and six glass bottle fragments (amethyst, olive green, and cobalt blue) (Johnson 2010). The Desert Side-notched projectile point is characteristic of the Late Prehistoric Period (800 YBP to Contact).

Other Previously Recorded Resources near the Study Area

According to records from the CHRIS-EIC, more than 60 cultural resources have been previously recorded within a half-mile radius of the Study Area. These resources include built environment resources (i.e., the Los Angeles Aqueduct, historic-period buildings, railroads, etc.), prehistoric archaeological resources (i.e., artifact scatters, bedrock milling stations, burials, rock features, and isolated artifacts), and historic archaeological resources (i.e., historic refuse dumps and scatters, structure foundations, and other historic-period ruins). One of these archaeological resources, CA-INY-43/H (P-14-000043), is located within Cabin Bar Ranch but outside of the Study Area and is worth mentioning as part of the current analysis given its likely association with both CBR-S-1/H and CBR-S-2. It is described in detail below.

CA-INY-43/H (P-14-000043)

This resource was originally recorded by Harry Riddell in 1949 and was later revisited by Arnold Pilling and Adan Treganza in 1950. In 1989, Dillon conducted the most thorough recordation of the resource as part of

[10] *PCR classifies CBR-S-2 as an archaeological site.*

his cultural resources assessment of the Cabin Bar Ranch property (see Dillon et al. 1989). It is located on the west side of U.S. Route 395 and is therefore outside of the current Study Area. Some of the resource is located within the Cabin Bar Ranch property, while the majority is located on land managed by the U.S. Bureau of Land Management (BLM). The resource measures approximately 500 m by 450 m and consists of multiple granitic bedrock milling stations, patches of midden soil, late prehistoric period projectile points (Desert Side-notched), other diagnostic projectile points dating to earlier periods (Humbolt Basal-notched, Pinto, and Elko Eared), Owens Valley brownware pottery, obsidian debitage (obsidian samples sourced to Coso Volcanic field located 25 miles south), some chert and andesite debitage, and glass trade beads (Dillon 1991).

Late projectile points, Owens Valley brownware, and bedrock mortars suggest the surficial components of the resource date to the Late Prehistoric Period (800 YBP to Contact); however, other projectile points dating to earlier periods were also identified in the more northern area of the resource (Pinto Period – 7,000 to 4,000 YBP; Elko Period – 4,000 to 1,500 YBP; see Chapter 4). Dillon (1991) suggests the resource was occupied during the Protohistoric Period (1830 1865 A.D.) as Owens Lake was an area where several armed confrontations between early European/American settlers and local Paiute and Shoshone Native Americans (see Dillon et al. 1989 for discussion of these protohistoric and historic period events). Dillon suggests the resource was occupied as a seasonal village by the Owens Valley Paiute or Koso Shoshone and that the bedrock milling stations (that includes slicks and mortars) are indicative of habitation and female-oriented food processing activities. It is likely that the prehistoric inhabitants were attracted to the area by the proximity to the lake margin and the fresh water sources (i.e., Cartago Creek and the Cabin Bar Ranch springs) and he explains that the Cottonwood Creek Site (CA-INY-2), located six miles to the north, has the only other equally favorable natural conditions in the region (Dillon 1991).

The resource was abandoned by the Native Americans in the late 1860s after early ranchers established a presence at the mouth of Cartago Creek which was the northern terminus for the mule- and ox-driven wagons hauling ore from the Cerro Gordo mines to Los Angeles (Dillon 1991). This presence also included the construction of the Cartago Boat Landing (P-14-005197) in 1872 at the mouth of Cartago Creek where the famed Bessie Brady steamboat would unload ore from the mines to be transported to Los Angeles. Remnants of the rock wharf likely associated with Cartago Boat Landing were identified by PCR during the pedestrian survey in the form of a 20-m linear rock alignment. The rock alignment is currently outside of the current Study Area (approximately 80 m southeast of the nearest construction activity) but within the Cabin Bar Ranch property.

As part of the CalTrans Olancha/Cartago Four-Lane project along U.S. Route 395, Shelly Davis-King and Johnson interviewed Terald Goodwin, a member of the Lone Pine Paiute Shoshone Indian Reservation. According to Mr. Goodwin, his great-great-grandmother, *Wo-wo-ni-di-gee,* lived at CA-INY-43/H for some time and a particular bedrock milling station at the resource was utilized traditionally by her. Mr. Goodwin has old photographs of *Wo-wo-ni-di-gee* near the mule sheds at Cartago, including one photograph that shows her in her shelter near a corral and another near her "brush pile." The mules were used in the hauling of supplies and ore from the mines (Davis-King 2003).

With a National Register Status Code of "2S2,"CA-INY-43/H is an individual property that was determined eligible for listing in the National Register by a consensus through the Section 106 process and is also listed in the California Register. It was evaluated for listing by the BLM in 1992.

P-14-005197 - Cartago Boat Landing

The Cartago Boat Landing (CHPI-INY-006/P-14-005197) was designated as a CPHI in 1980. According to local legend, the town of Cartago was established in June 1872 by John Baptiste Daneri, a Lone Pine businessman who constructed a warehouse, store and the landing on the southwest shore of Owens Lake to capitalize on mining across Owens Lake at the Cerro Gordo mines.[11] From this port, the silver bullion from the Cerro Gordo mines was offloaded from the Bessie Brady steamer and transferred by mule and ox-driven wagons that took the silver to Los Angeles, and later Bakersfield. According to oral history, Daneri named the area Carthage after the ancient city-state in North Africa, located on eastern side of Lake Tunis, which became one of the largest and most powerful seaports in the Mediterranean. There were two other boat landings on Owens Lake: Daniel L. Ferguson constructed Ferguson's Landing on the northwest edge of the Owens Lake; and Brady and Ferguson constructed a long wharf at the northeast shore at Swansea.[12]

In October 1872, Daneri purchased an interest in Bessie Brady and with a partner incorporated the Owens Lake Steam Navigation Company. By January 1873 the cross-lake shipment became so popular there was a backlog of 18,000 bars of bullion lining the wharf and streets of Cartago. To deal with the backlog, a new freighting company comprised of mule teams began transporting the bullion to Los Angeles. The steamboat era on Owens Lake lasted only ten years. By 1879, the Cerro Gordo mines were beginning to decline. The Bessie Brady burned in 1882 and the Carson and Colorado Railroad was constructed, running from Keeler (near the Cerro Gordo Mines) to Moundhouse, Nevada in 1883, thereby changing all of the established freighting practices. The landing at Cartago and the steamers were no longer profitable or necessary.

By 1924, there were only traces of the wharf remaining, as most of its timbers had been salvaged for firewood by the Willie Brown family of Indians who lived among the cottonwoods between Cartago and Olancha (Pipkin 1974 in Daivs-King 2003). As discussed later in this chapter, remnants of the rock wharf likely associated with the Cartago Boat Landing were identified in 2011 by PCR during the pedestrian survey in the form of a 20-m linear rock alignment. The rock alignment is currently outside of the current Study Area (approximately 80 m southeast of the nearest construction activity) but within the Cabin Bar Ranch property.

TS-1 and TS-2

These resources were identified and recorded by Dillon in 1989 although it appears that no California Department of Parks and Recreation (DPR) Site forms were submitted to the CHRIS-EIC since the only source of information regarding these resources is found in his report from 1989 (see Dillon et al. 1989). As a result, no formal trinomials or primary numbers have been designated for them. TS-1 is located more than 600 meters southeast of the proposed access road alignment and near the southern boundary of the Cabin Bar Ranch property; therefore, it is located outside of the Study Area. It is described consisting of obsidian debitage (n= circa 20) and diagnostic Elko Eared and Northern Side-notched projectile points that may have been brought to the surface by cattle grazing activities after Owens Lake dried up around 1924. TS-1 measures approximately 80 m by 80 m in size and may have been occupied during the Elko Period (4,000 to 1,500 YBP) given the presence of Elko type projectile points (Dillon et al. 1989).

[11] *Bill Michael, Cartago (Independence, CA: Eastern California Museum: November 1981): 1.*

[12] *Richard E. Lingenfelter, "The Desert Steamers," Journal of the West (October 1962): 149-160.*

TS-2 is located more than 350 meters south of the proposed bottling plant location and 300 m east of the proposed access road location; therefore, it is located outside of the Study Area but within the Cabin Bar Ranch property. It is described as consisting of ground stone artifacts (manos and metates, n=6) that were buried by lakeshore deposits only to be brought to the surface by the trenching of a north-south irrigation ditch after the lake dried up. TS-2 measures approximately 15 m by 15 m in size (Ibid).

Dillon also identified more than 30 isolated prehistoric artifacts (i.e., chipped stone artifacts, pottery) in the Cabin Bar Ranch property that were predominantly located in three general areas; near the northern edge of the ranch, near the current location of CBR-S-1/H, and near the horse corrals/CBR-S-2 (Ibid). These isolated resources were not mapped in place by Dillon.

Native American Human Remains

According to records examined at the CHRIS-EIC, several Native American human remains have been encountered during past construction activities and several known Native American cemeteries are known to exist in the immediate vicinity of the Study Area and Cabin Bar Ranch property and in the surrounding region. Given the sensitive and confidential nature of these resources, no specific locational or descriptive information will be provided in this report.

No other resources listed in the CPHI, CHL, California Register, National Register, or HRI were identified within Study Area.

Conclusion

Although the current content and condition of some of these resources is currently unknown, these findings confirm the presence of past prehistoric and historic occupation within and in the immediate vicinity of the Study Area.

5.2.2 Sacred Lands File Search and Native American Consultation

Results of the SLF search through the NAHC did not indicate any known Native American cultural resources from the NAHC archives within the Study Area or the Cabin Bar Ranch property. The NAHC results also noted, however, that Native American cultural resources may be inadvertently discovered during ground-breaking activities. Pursuant to NAHC suggested procedure, follow-up letters were sent via certified mail on October 14, 2011 to the 11 Native American individuals and organizations (including Paiute and Shoshone contacts) identified by the NAHC as being affiliated with the vicinity of the Study Area to request any additional information or concerns they may have about Native American cultural resources that may be impacted by the proposed project. PCR has return receipts on file from 10 of the 11 Native American contacts. Mr. Joe Kennedy's letter was returned to PCR as undelivered.

As of May 3, 2012, PCR has received no direct responses to the letters from the Native American community. However, at the request of the County and the Applicant, PCR did consult with Ms. Katherine Bancroft of the Lone Pine Paiute-Shoshone Indian Reservation regarding the project prior to the implementation of the phase II assessment. Ms. Bancroft approved of PCR's recommendation to conduct archaeological test excavations at CBR-S-2 and was present to monitor the excavations. The NAHC SLF records search results

letter, the Native American contact list, and other Native American consultation documentation is provided in Appendix B of this report.

5.2.3 Paleontological Resources Records Search

Results of the paleontological resources records search through the NHMLAC revealed that no previously recorded vertebrate fossil localities are located within the Study Area or within the Cabin Bar Ranch property. The results did indicate that several localities have been recorded nearby in the same sedimentary deposits that underlie the Study Area. According to the NHMLAC, surficial deposits of the Study Area consist of younger Quaternary Alluvium which may contain Holocene- or Late Pleistocene-aged paleontological resources. The closet locality from these deposits is LACM 4538 that produced a specimen of Columbian mammoth six miles south of the Study Area near the North Haiwee Reservoir that was collected by William Mulholland during the construction of the Los Angeles Aqueduct. LACM 7716 – 7719 was encountered approximately 14 miles northeast of the Study Area on northeast shores of Owens Lake that produced specimens of bony fish, bird, jack rabbit, pocket gopher, and an even-toed ungulate. LACM 4691 was encountered on the north margin of the lake approximately 16 miles north of the Study Area that produced Proboscidea remains and a fossil mountain lion. The records search results letter from NHMLAC is provided in Appendix C of this report.

5.2.4 Pedestrian Survey

Ground surface visibility within the Study Area varied from zero to 100 percent. In particular, in the area where CBR-S-2 was identified (where the proposed bottling plant is proposed) and in the alignment for the new access road, the visibility varies from poor to good (25 to 75 percent) primarily due to vegetation cover. The ground surface could not be seen along Cabin Bar Ranch Road since the pavement obstructed views in this area. In all other areas of the Study Area, the visibility varied from zero to 100 percent depending on the vegetation cover. Existing development within the Study Area includes two pasture areas, Cabin Bar Ranch Road (that forms a cul-de-sac within the area where the proposed bottling plant is planned), corrals, and dilapidated modern-era pond troughs. These development disturbances may have displaced cultural resources from their original location. **Figures 4** and **5**, *Study Area Photographs*, depict the current conditions within the Study Area.

PCR located CBR-S-1/H outside of the Study Area and identified several artifacts (a pottery sherd, a ground stone artifact and several pieces of obsidian debitage) that are associated with it. Many of the artifacts could not be located since the area had been covered with clean fill soils by the Applicant per the request of Ms. Yonge to ensure protection from looting. PCR also located the 20-m-long linear rock alignment that is likely associated with P-14-005197 (Cartago Boat Landing); it is approximately 80 m southeast of the nearest construction activity but within the Cabin Bar Ranch property. The rock alignment consists of approximately 50 unmodified rounded river rock cobbles [average diameter – 30 centimeters (cm)] that were also used to construct the walls of the stone ruin at entrance to the Cabin Bar Ranch. The stones were likely taken from nearby stream beds or from the foothills of the eastern Sierra Mountains' escarpment one mile to the west. One piece of water-logged timber was identified 12 m north of the rock alignment that may have been associated with the landing. No other historic-period artifacts were found in the vicinity of the rock alignment although the area was heavily vegetated.

PCR also located CBR-S-2 and identified three new prehistoric isolate resources (CBR-I-1, -2, and -3) within or in the immediate vicinity of the Study Area during the pedestrian survey. The DPR Site Forms for each of

the resources is provided in Appendix D (Confidential) of this report and includes photographs of each resource. In addition, the resources are displayed spatially in **Figure D1**, *Archaeological Resources Map*, in Appendix D (Confidential), and are described in detail, by resource, as follows.

CBR-S-2

PCR identified several prehistoric obsidian flakes, small glass bottle fragments, and a farming implement in the area where CBR-S-2 was mapped by Johnson in 2010 which suggests at least some them may be the same artifacts. PCR classifies CBR-S-2 as an archaeological "site" that has undergone considerable disturbance from the construction of Cabin Bar Ranch Road, the pond troughs, underground utility lines, and vegetation growth. As a result, the artifacts may have been displaced from their original location. The ground surface visibility varied from poor to good (25 to 75 percent) primarily due to vegetation cover and Cabin Bar Road. PCR attempted to but could not locate the obsidian Desert Side-notch projectile point and biface that were placed in a distinct location by Johnson within the new site boundaries of the resource. Given the moderate amount of artifacts discovered on the surface, the high potential to encounter buried resources, and to evaluate the resource pursuant to CEQA, PCR conducted a Phase II Testing and Evaluation Assessment of CBR-S-2. The methods and results of the subsurface testing effort are presented in Chapter 6 of this report.

CBR-I-1

This resource consists of two isolated prehistoric waste flake (debitage) made from obsidian that were identified within one meter of each other. No cortex or modification is present on the artifacts. The artifacts are located within the Study Area in the corral area where the proposed bottle plant facility is planned. The artifacts were not collected by PCR.

CBR-I-2

This resource is an isolated prehistoric waste flake (debitage) made from obsidian. No cortex or modification is present on the artifact. It is located within the Study Area within the alignment for the proposed new access road. The artifact was not collected by PCR.

CBR-I-3

This resource consists of two isolated prehistoric waste flake (debitage) made from obsidian that were identified within five meters of each other. No cortex or modification is present on the artifacts. The artifacts are located outside the Study Area approximately 15 meters east of the alignment for the proposed new access road. The artifacts were not collected by PCR.



Photograph 1: Overview of Study Area, view south.



Photograph 2: Overview of dilapidated pond troughs, view south.



Photograph 3: Overview of Study Area showing dense vegetation cover, view east.



Photograph 4: Overview of Study Area, view east.

PCR

Study Area Photographs

Cabin Bar Ranch Water Bottling Facility Project

Source: PCR Services Corporation, 2012.

FIGURE

4

This page intentionally blank.



Photograph 5: Overview of Study Area, view south.



Photograph 6: Overview of Study Area, view northeast.



Photograph 7: Overview of Study Area where proposed new access road is planned, view south.



Photograph 8: Overview of P-14-005197 (Daneri's Landing), view east.

PCR

Study Area Photographs

Cabin Bar Ranch Water Bottling Facility Project

Source: PCR Services Corporation, 2012.

FIGURE

5

This page intentionally blank.

6.0 PHASE II ASSESSMENT

6.1 METHODS

6.1.1 Test Excavations

The type, quantity, and location of the excavation units were judgmentally selected by PCR to identify the surface and subsurface boundaries of CBR-S-2, to understand the nature of the soil and the subsurface disturbances (if any), and to evaluate the resource pursuant to CEQA, unless otherwise noted.

CBR-S-2

PCR manually excavated 38 Shovel Test Probes (STPs) within the boundaries of the resource and the immediate vicinity. The STPs were designated as STP 1 through STP 38. The locations of the STPs were chosen by PCR near surface artifact concentrations (for their high potential to retain buried artifacts) and throughout the resource to acquire information pertaining to the nature of the subsurface components of the resource. The STPs were excavated by hand (with a shovel) as 30-by-30-cm-diameter units with 20-cm level intervals. The STPs were excavated to depths of 60 cm to determine the presence or absence of intact buried cultural deposits (including whether additional artifact types or features other than chipped stone are present). The excavations units were terminated at depths that made shovel excavation no longer feasible or when bedrock or other impenetrable surface, such as compact sediment, was encountered. All excavated matrix (soil) was dry-screened through a 1/8" hardwire mesh sorting screens. Detailed field forms were prepared to document excavation activities, including soil descriptions (using Munsell Color Chart), presence/absence of artifacts, and reason for termination of excavation. Photographs were taken of the excavation units and to document large artifacts in place and in locations where stratigraphy could be identified in unit sidewalls. The spatial distribution of excavations units at CBR-S-2 is displayed in **Figure D2**, *CBR-S-2 Location Map*, in Appendix D of this report.

Other Isolate Resources

No test excavations were performed at the remaining three isolate resources (CBR-I-1, -2, and -3) due to their low potential to retain buried archaeological deposits.

6.1.2 Mapping and Surface Collection

PCR mapped all archaeological excavation units with a Trimble GeoXT Global Positioning System (GPS) unit that has sub-meter accuracy. These locations were assigned distinctive symbols and are displayed on map figures in confidential Appendix D. All of the surface artifacts that were identified during the testing effort were also mapped with the Trimble GPS and are displayed on the appropriate figures.

6.1.3 Artifact Processing

The collected artifacts were brought to PCR's archaeological laboratory in Irvine, California to be processed and catalogued. The material was not washed with water nor lightly brushed to loosen dirt. Since 100 percent of the archaeological assemblage consists of chipped stone artifacts, the methods for sorting other artifact classes (shell, faunal, ground stone, etc.) will not be discussed in this report. PCR noted any

modifications such as perforations, abrasions, serrations, and other attributes and whether any cortex was present on the chipped stone artifacts. Artifacts with similar provenience, artifact type, color, material, and attribute, were then grouped together, counted, and placed in curation-quality plastic zip-lock bags. Finally, each bag was given an archival artifact label and assigned a unique catalog number beginning with "001". The Artifact Catalog is in Microsoft Excel format and is provided in Appendix D of this report.

6.1.4 Analytical Studies

The type and limited amount of recovered material did not warrant analytical studies (i.e., obsidian hydration/sourcing, faunal analyses, radiocarbon analyses, etc.) so they were not performed for the current study.

6.2 RESULTS

6.2.1 CBR-S-2

Seven obsidian flakes (all debitage) were identified at depth during the testing effort. The artifacts were recovered in STPs 3, 5, 6, 31 and 38 at various levels. PCR also identified 19 obsidian flakes from the surface in the immediate vicinity of the STPs. It is unknown whether these surface artifacts were the same ones identified by Johnson in 2010. Thirty-eight percent (n=10) of the flakes were utilized including one flake (Catalog 16) that was utilized on all edges, including the notch. One flake exhibits attributes of platform preparation or pressure flaking.

No additional artifact classes or features were encountered and no substantial prehistoric or historic period deposit was identified. The sediment encountered during the testing effort is roughly consistent across the resource. It is composed of a moist semi-compact light brownish sand (75%) intermixed with gravels (0.5 to 3 cm in diameter, angular and subangular) (25%) that transitions into even moister sediment with a higher sand content at lower depths. Root systems from surface vegetation disturbed many STPs in the upper 10 cm of the unit. The excavation results are summarized in **Table 1**, *CBR-S-2 Excavation Summary*.

Table 1

CBR-S-2 Excavation Summary

Excavation Unit	Size (m) LxWxD	Total Volume Excavated (m^3)[a]	Artifacts Recovered?	Artifact Content	Level	Reason for Termination
STP 1	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 2	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 3	.3x.3x.60	.054	Yes	1 obsidian flake	0-20	Objectives Achieved
STP 4	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 5	.3x.3x.60	.054	Yes	1 obsidian flake	40-60	Objectives Achieved
STP 6	.3x.3x.60	.054	Yes	1 obsidian flake	0-20	Objectives Achieved
				2 obsidian flakes	20-40	Objectives Achieved
STP 7	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 8	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 9	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 10	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 11	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 12	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 13	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 14	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 15	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 16	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 17	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 18	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 19	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 20	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 21	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 22	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 23	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 24	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 25	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 26	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 27	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 28	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 29	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 30	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 31	.3x.3x.60	.054	Yes	1 obsidian flake	20-40	Objectives Achieved
STP 32	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 33	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 34	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 35	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 36	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 37	.3x.3x.60	.054	No	None	–	Objectives Achieved
STP 38	.3x.3x.60	.054	Yes	1 obsidian flake	20-40	Objectives Achieved

[a] *All matrix was screened through 1/8" hardwire mesh.*

Source: PCR Services Corporation, February 2012

7.0 DISCUSSION AND INTERPRETATION

7.1 CBR-S-2

The results from the testing effort at CBR-S-2 have confirmed that the resource extends to shallow depths (40 to 60 cm below surface) in only a few areas. Given the low quantity of artifacts recovered, it is classified as a low-density prehistoric lithic scatter with several historic period glass fragments. Given the lack of a buried stratified archaeological deposit combined with existing disturbances (i.e., Cabin Bar Ranch road, modern-era pond troughs), it appears that the artifacts at CBR-S-2 have likely been displaced from their original context, which reduces the potential for accurate interpretations of the resource. The only material type present is obsidian that may have been quarried from the Coso Volcanic Field, 25 miles south of the resource[13]. Thirty-eight percent (n=10) of the flakes were utilized, which suggest they may have been used as tools to cut grass or prepare animal hides, or for another activity. Nearly all of the flakes in the collection are attributed to the latter stage of the reduction sequence in the form of numerous interior (or tertiary) flakes. There are no primary core reduction flakes present which suggests that prepared cores were brought to CBR-S-2 for expedient flake-tool production. It appears this collection is an expedient flake-tool production and utilization assemblage.

Regarding chronology, the Desert Side-notched projectile point that Johnson identified on the surface at CBR-S-2 is the only time diagnostic artifact recovered from the resource and is characteristic of the Late Prehistoric Period (800 YBP to Contact). Given the same artifact constituents and the close proximity, it is likely that CA-INY-43/H, CBR-S-1/H, and CBR-S-2 are associated with each other and were occupied at the same time. In particular, both Dillon et al. (1989) and Johnson (2010) suggested that CA-INY-43/H and CBR-S-1/H, respectively, dated to the Protohistoric Period (1830 to 1865 A.D.). A protohistoric occupation is further supported by Terald Goodwin's account and photographs of his great-great-grandmother, *Wo-wo-ni-di-gee,* living at CA-INY-43/H for some time and that a particular bedrock milling station at the resource was utilized traditionally by her (Davis-King 2003). These photographs suggest that the local Native American community may have played a role in the transportation of the silver, lead, and zinc that was mined from Cerro Gordo and brought to Cartago via nearby Cartago Boat Landing (P-14-005197) to then be transported via mule-drawn wagons to Los Angeles. However, further research is necessary to confirm these associations. Regardless, it is likely that the favorable natural conditions (i.e., Owens Lake, Cartago Creek, natural springs, vegetation communities) near CA-INY-43/H, CBR-S-1/H, and CBR-S-2 would have attracted the initial prehistoric inhabitants to the area.

7.2 OTHER ISOLATE RESOURCES

The remaining resources identified during the phase I assessment include isolated finds that consist of chipped stone material similar to that found at CBR-S-2, which have likely been displaced from their original location. It is possible that these resources are also associated with a protohistoric occupation.

[13] *Dillon (1989) sourced obsidian from CA-INY-43/H to the Coso Volcanic Field source.*

8.0 ELIGIBILITY EVALUATION

Evaluation of archaeological resources is determined by conducting an "evaluation" of a resource's eligibility for listing in the National Register (per Section 106) and California Register (per CEQA); determining whether it qualifies as a "unique archaeological resource" (per CEQA); and determining whether the resource retains integrity. This is achieved by applying the National Register and California Register criteria (including criteria for a "unique archaeological resource" per CEQA) to the resources set out in the Regulatory Setting section of Chapter 2. Prehistoric archaeological resources (such as CBR-S-2) are most often recommended eligible under Criterion D or 4 (of the National or California Registers, respectively), which is the potential for the resource to contribute information important to the study of history or prehistory. If a resource is determined eligible for listing or qualifies as a "unique archaeological resource", then the resource is considered an archaeological resource pursuant to CEQA §15064.5 and any substantial adverse change to the resource is considered a significant impact on the environment.

8.1 CBR-S-2

Lithic scatters (i.e., scatters of chipped stone artifacts resulting from prehistoric stone tool manufacturing activities) are one of the most abundant resource types in California and several are known to exist in the vicinity of the Study Area as indicated by the cultural resources records search results. The results of PCR's phase II testing effort revealed that the resource lacks a buried stratified archaeological deposit which reduces the potential for accurate interpretations of the resource and its potential to contribute information important to the study of history or prehistory. In addition, PCR conducted a thorough testing program and formal recordation (see Appendix D for DPR Site Forms for CBR-S-2) at the resource that likely recovered the majority of the data potential from the resource. If additional research on the resources is requested, the artifacts and this report will be provided to the interested individuals. Further studies should focus of the association of CA-INY-43/H, CBR-S-1/H, CBR-S-2, and *Wo-wo-ni-di-gee.* Finally, PCR has collected all the artifacts from the resources which will limit many of the impacts to the resources from the proposed project.

As a result of the poor structural integrity of the resource, lack of subsurface stratified deposits, and the thorough phase II testing and recordation efforts that have exhausted its research potential, CBR-S-2 is recommended as ineligible for listing in the California or National Registers and does not qualify as a "unique archaeological resource" pursuant to CEQA. Therefore, impacts to the resources are not considered a significant impact on the environment and no further work is recommended at the resource.

8.2 OTHER ISOLATE RESOURCES

The scattered and random nature of the three isolated resources suggests that past and current land-use disturbances transported these items out of context from their original location. The lack of solid provenance data for the isolate resources has diminished their research potential to contribute information important to the study of history or prehistory. In addition, isolate resources are unlikely to retain additional buried components that would provide additional information as to the prehistory of the region. Finally, PCR has thoroughly recorded all of the resources on DPR Site Forms for additional research. As a result of these factors, the three isolate resources are not considered eligible for listing in the California or National Registers nor do they qualify as "unique archaeological resource" pursuant to CEQA. Therefore, impacts to the resources are not considered a significant impact on the environment and no further work is recommended at the resources.

9.0 IMPACTS ANALYSIS

9.1 CEQA SIGNIFICANCE THRESHOLDS

The current CEQA Guidelines state that a project will have a significant impact on the environment if it causes a substantial adverse change to a historical resource[14] or damage to a "unique archaeological resource." A substantial adverse change is caused when one or more of the following occurs:

- Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

- The significance of a historical resource is materially impaired when a project:

    a. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

    b. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

    c. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

The *Secretary of the Interior's Standards for Rehabilitation* (Standards) are codified at 36 Code of Federal Regulations (CFR) Section 67.7. In most circumstances, the Standards are relevant in assessing whether there is a substantial adverse change under CEQA. Section 15064.5b(3) of the CEQA Guidelines states in part that ". . . a project that follows the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (1995), Weeks and Grimmer, shall be considered as mitigated to a level of less than a significant impact on the historic resource," and therefore may be considered categorically exempt.

[14] *A historical resources can be an archaeological object, site or district that is listed in or determined eligible for the California Register*

9.2 POTENTIAL IMPACTS

The proposed excavation impacts will include rough grading across the majority of the Study Area from the surface to various depths below the surface. The excavations will be associated with the construction of the proposed project (i.e., new access road, leach mound, bottling plant facility, storage warehouse, parking and truck staging area, fire suppression building, and a fire access road). Other excavation activities such as trenching or boring may also be conducted.

9.2.1 Archaeological Resources

Although PCR identified four archaeological resources (CBR-S-2, CBR-I-1, -2, -3) within the Study Area or in the immediate vicinity, they are not recommended eligible for listing in the California Register nor do they qualify as unique archaeological resources; therefore, impacts to them are not considered a significant impact on the environment and no impact analysis is warranted.

It is possible that archaeological resources were not identified during PCR's pedestrian survey as a result of the historic land use (ranch activities), paved/dirt access road construction and operation, and the dense vegetation and irrigation activities that obstructed the ground surface in many areas of the Study Area. These same land use disturbances have likely displaced, removed, or destroyed archaeological resources that may have existed within the Study Area. Given the identification of more than 30 archaeological resources within and in the immediate vicinity of the Study Area and the favorable natural conditions (i.e., Owens Lake, Cartago Creek, natural springs, vegetation communities) that would have attracted prehistoric and historic inhabitants to the Study Area, there is still potential to encounter previously unknown archaeological resources during implementation of the proposed project. As a result, the overall sensitivity of the Study Area with respect to buried archaeological resources appears to be high. Mitigation measures are provided in Chapter 10 that will reduce potentially significant impacts to previously unknown archaeological resources that are unexpectedly discovered during project implementation to a less than significant level.

9.2.2 Paleontological Resources

Several fossil localities have been identified in the region at unknown depths below the ground surface in deposits that currently exist at depth within the Study Area. No paleontological resources were identified by PCR during the pedestrian survey but this a direct result of the poor surface visibility within the majority of the Study Area that may have obstructed the identification of resources on the surface. According to the NHMLAC, deep excavation associated with the proposed project will likely encounter paleontological resources (vertebrate fossils). As discussed earlier, excavations associated with implementation of the proposed project are unknown. As a result, mitigation measures are provided in the following chapter to reduce potentially significant impacts to previously unknown paleontological resources that are unexpectedly discovered during project implementation to a less than significant level.

9.2.3 Human Remains

According to records examined at the CHRIS-EIC, several Native American human remains have been encountered during past construction activities and several known Native American cemeteries are known to exist in the immediate vicinity of the Study Area and Cabin Bar Ranch property and in the surrounding region. As a result, the overall sensitivity of the Study Area with respect to buried human remains appears to

be high. Mitigation measures are provided in the following chapter to reduce potentially significant impacts to previously unknown human remains that are unexpectedly discovered during project implementation to a less than significant level.

10.0 SUMMARY OF RESULTS AND RECOMMENDED MITIGATION

10.1 ARCHAEOLOGICAL RESOURCES

CEQA Threshold of Significance: *The proposed project would result in a significant impact related to archaeological resources if it would cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the CEQA Guidelines.*

PCR identified one prehistoric archaeological site (CBR-S-2) and three prehistoric isolated artifacts (CBR-I-1, -2, and -3) within or in the immediate vicinity of the Study Area. These resources consist of a low-density of lithic scatter site and isolated waste flakes (debitage) which are items produced as a direct result of prehistoric stone tool manufacture. A subsequent phase II testing and evaluation program was undertaken on CBR-S-2 because of its high potential to contain a subsurface prehistoric deposit that may have produced information important to the study of history or prehistory. Results of the phase II testing and evaluation at CBR-S-2 have shown that it is not eligible for listing in the California or National Registers nor does it qualify as a "unique archaeological resource" pursuant to CEQA. This conclusion was reached by PCR based on the lack of a buried stratified archaeological deposit which reduces the potential for accurate interpretations of the resource and its potential to contribute information important to the study of history or prehistory. In addition, PCR conducted a thorough testing program and formal recordation (see Appendix D for DPR Site Forms for CBR-S-2) at the resource that likely recovered the majority of the data potential from the resource. Moreover, PCR has collected all the artifacts from the resources which will limit many of the impacts to the resource from the proposed project. Therefore, impacts to the resources are not considered a significant impact on the environment and no further work is recommended at the resource.

However, given the identification of more than 30 archaeological resources within and in the immediate vicinity of the Study Area and the favorable natural conditions (i.e., Owens Lake, Cartago Creek, natural springs, and vegetation communities) that would have attracted prehistoric and historic inhabitants to the Study Area, there is still potential to encounter previously unknown archaeological resources during construction of the proposed project. If such resources are unexpectedly encountered during project implementation, mitigation measure CULT-1, -2, and -3 would ensure that potential impacts to the resources are reduced to a less than significant level.

Mitigation Measure CULT-1: The Applicant shall retain a qualified archaeological monitor and Native American monitor who shall be present during construction excavations such as grading, trenching, grubbing, or any other construction excavation activity associated with the proposed project. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known archaeological resources, the materials being excavated (native versus fill soils), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the archaeological monitor.

Mitigation Measure CULT-2: In the event that archaeological resources are unearthed during ground-disturbing activities, the archaeological monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the find so that the find can

be evaluated. Work shall be allowed to continue outside of the vicinity of the find. All archaeological resources unearthed by Project construction activities shall be evaluated by the archaeologist. The Applicant shall coordinate with the archaeologist, the County, and the Native American representative to develop an appropriate treatment plan for the resources. Treatment may include implementation of archaeological data recovery excavations to remove the resource or preservation in place. The landowner, in consultation with the archaeologist, the County, and the Native American representative shall designate repositories in the event that archaeological material is recovered.

Mitigation Measure CULT-3: The archaeological monitor shall prepare a final report at the conclusion of archaeological monitoring. The report shall be submitted by the Applicant to the County, the Eastern Information Center, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures. The report shall include a description of resources unearthed, if any, treatment of the resources, and evaluation of the resources with respect to the California Register of Historical Resources and the National Register of Historic Places.

10.2 PALEONTOLOGICAL RESOURCES

CEQA Threshold of Significance: *The proposed project would result in a significant impact related to paleontological resources if it would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.*

Several fossil localities have been identified in the region at unknown depths below the ground surface in deposits that currently exist at depth within the Study Area. No paleontological resources were identified by PCR during the pedestrian survey but this may be a result of the poor surface visibility within the majority of the Study Area that could have obstructed the identification of resources on the surface. According to the NHMLAC, deep excavations associated with the proposed project will likely encounter paleontological resources (vertebrate fossils). As discussed earlier, excavations associated with implementation of the proposed project are unknown. As a result, mitigation measure CULT-4, -5, and -6 would ensure that potential impacts to paleontological resources are reduced to a less than significant level.

Mitigation Measure CULT-4: If construction excavations will reach depths of five feet or greater, a qualified paleontologist shall attend a pre-grading/excavation meeting and develop a paleontological monitoring program for excavations into older Quaternary Alluvium deposits. A qualified paleontologist is defined as a paleontologist meeting the criteria established by the Society for Vertebrate Paleontology. The qualified paleontologist shall supervise a paleontological monitor who shall be present at such times as required by the paleontologist during construction excavations below five feet or greater into older Quaternary Alluvium deposits. Monitoring shall consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting wet or dry screened sediment samples of promising horizons for smaller fossil remains. The frequency of monitoring inspections shall be determined by the paleontologist and shall be based on the rate of excavation and grading activities, the materials being excavated, and the depth of excavation, and if found, the abundance and type of fossils encountered.

Mitigation Measure CULT-5: If a potential fossil is found, the paleontological monitor shall be allowed to temporarily divert or redirect grading and excavation activities in the area of

the exposed fossil to facilitate evaluation and, if necessary, salvage. At the Paleontologist's discretion and to reduce any construction delay, the grading and excavation contractor shall assist in removing rock samples for initial processing. Any fossils encountered and recovered shall be prepared to the point of identification and catalogued before they are donated to their final repository. Any fossils collected shall be donated to a public, non-profit institution with a research interest in the materials, such as the Eastern California Museum or the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository.

Mitigation Measure CULT-6: The paleontologist shall prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted by the Applicant to the lead agency, the Eastern California Museum, the Natural History Museum of Los Angeles County, and other appropriate or concerned agencies to signify the satisfactory completion of the Project and required mitigation measures.

10.3 HUMANS REMAINS

CEQA Threshold of Significance: *The proposed project would result in a significant impact related to human remains if it would disturb any human remains, including those interred outside of formal cemeteries.*

As discussed earlier, a SLF search of the Study Area requested by PCR from the NAHC in Sacramento failed to indicate the presence of Native American cultural resources in the SLF database within the Study Area or Cabin Bar Ranch property. The NAHC results also noted, however, that the NAHC archive is not exhaustive and a negative result does not preclude the discovery of Native American cultural resources during any project groundbreaking activity. According to records examined at the CHRIS-EIC, several Native American human remains have been encountered during past construction activities and several known Native American cemeteries are known to exist in the immediate vicinity of the Study Area and Cabin Bar Ranch property and in the surrounding region. Given the sensitive and confidential nature of these types of resources, no specific locational or descriptive information will be provided. As a result, the overall sensitivity of the project site with respect to buried human remains appears to be high. If such resources are unexpectedly encountered during project implementation, Mitigation measure CULT-7 would ensure that potential impacts to the resources are reduced to a less than significant level.

Mitigation Measure CULT-7: If human remains are encountered unexpectedly during implementation of the proposed project, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). The MLD may, with the permission of the land owner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the land owner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items

associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.

Whenever the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner or his or her authorized representative rejects the recommendation of the descendants and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance.

11.0 REFERENCES CITED

Alder, Joseph A. and Thomas Platz
2010 Geotechnical Investigation and Results of Perlocation Testing: CG Roxane Water Bottling Plant, Cartago, California. Report on file with Crystal Geyser Roxane Bottling Complany, 1630 Kellog Drive, Weed, CA, 96094.

Basgall, Mark E. and Kelly R. McGuire
1988 The Archaeology of CA-INY 30: Prehistoric Culture Change in the Southern Owens Valley, California. Report on file, California Department of Transportation, Bishop.

Bettinger, Robert L.
1976 The Development of Pinyon Exploitation in Central Eastern California. *The Journal of California Anthropology* 3:81-95.

1977 Aboriginal Human Ecology in Owens Valley: Prehistoric Change in the Great Basin. *American Antiquity* 42:3-17.

1989 The Archaeology of Pinyon House, Two Eagles and Crater Middens: Three Residential Sites in Owens Valley, Eastern California. *Anthropological Papers of the American Museum of Natural History* 65.

1994 How, When and Why Numic Spread. In: *Across the West: Human Population Movement and the Expansion of the Numa*, edited by D.B. Madsen and D. Rhode, pp. 44-55. University of Utah Press, Salt Lake City.

Bettinger, Robert L. and R.E. Taylor
1974 Suggested Revisions in Archaeological Sequences of the Great Basin and Interior Southern California. *Nevada Archaeological Survey Research Papers* 5:1-26.

Borden, Ferris W.
1971 The Use of Surface Erosion Observations to Determine Chronological Sequence in Artifacts from a Mojave Desert Site. Archaeological Survey Association of Southern California, Paper No. 7.

Davis-King, Shelly
2003 Participants and Observers: Perspectives on Historic Native American Information From Independence to Haiwee Reservoir in Owens Valley for the Olancha/Cartago Four-Lane Project, U.S. Route 395, Inyo County, California. Report on file at the Eastern Information Center, University of California, Riverside.

Davis, Emma Lou (editor)
1978 The Ancient Californians: Rancholabrean Hunters of the Mojave Lakes Country. *Natural History Museum of Los Angeles County Science Series 29.*

Des Lauriers, Matthew R., Gerrit L. Fenenga, Gwyn Alcock and Richard Des Lauriers
1997 *Obsidian Hydration and the Paleoindian Occupation of the Rose Valley Site (CA-Iny-1799).* Paper presented at the annual Kelso Conference on Mojave Desert Prehistory, Ocotillo.

Dillon, Brian D., Carlton Jones, and Nobukatsu Hasebe
1989 Cultural Resources Survey and Evaluation of the Cabin Bar Ranch: A 400-Acre Property at Cartago, Inyo County, California. Report on file at the Eastern Information Center, University of California, Riverside.

1991 DPR Site Form update for resource CA-INY-43/H. Record on file at the Eastern Information Center, University of California, Riverside.

Johnson, Lynn
2010 An Archaeological Survey of Two Proposed Bottling Plant Construction Sites, Cabin Bar Ranch, Inyo County, California. Report on file with Crystal Geyser Roxane Bottling Complany, 1630 Kellog Drive, Weed, CA, 96094.

Johnson, John R., Thomas W. Stafford, Jr., Henry O. Ajie, and Don P. Morris
2002 Arlington Springs Revisited. *Proceedings of the Fifth California Islands Symposium*, edited by David R. Brown, Kathryn C. Mitchell and Henry W. Chaney, pp. 541–545. Santa Barbara Museum of Natural History, Santa Barbara.

Kroeber, A. L.
1925 *Handbook of the Indians of California*. Bureau of American Ethnology, Bulletin 78. Smithsonian Institution, Washington, D.C.

Meltzer, David J., Donald K. Grayson, Gerardo Ardila, Alex W. Barker, Dena F. Dincauze, C. Vance Haynes, Francisco Mena, Lautaro Nuñez, and Dennis J. Stanford
1997 On the Pleistocene Antiquity of Monte Verde, Southern Chile. *American Antiquity* 62(4):659-663.

Moratto, Michael J.
1984 *California Archaeology*. Academic Press, San Diego.

Parr, Robert E., R. Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, and Robert M. Yohe II
2001 Archaeological Survey Report: Cartago-Olancha Four-Lane Project, U.S. Route 395, Inyo County, California. Report on file at the Eastern Information Center, University of California, Riverside.

Riddell, Harry S.
1951 The Archaeology of a Paiute Village Site in Owens Valley. *Reports of the University of California Archaeological Survey* 12:14-28.

Sutton, Mark Q.
1986 Warfare and Expansion: An Ethnohistoric Perspective on the Numic Spread. *Journal of California and Great Basin Anthropology* 8:65-82.

1994 The Numic Expansion as Seen from the Mojave Desert. In: *Across the West: Human Population Movement and the Expansion of the Numa*, edited by D.B. Madsen and D. Rhode, pp. 133-140. University of Utah Press, Salt Lake City.

Warren, Claude N. and Robert H. Crabtree
1986 Prehistory of the Southwestern Area. In: *Handbook of North American Indians*, Vol. 11, Great Basin, edited by W.L. d'Azevedo, pp. 135-148. Smithsonian Institution, Washington, D.C.

Wilke, Philip J.
1983 An Archaeological Assessment of Certain Sites on Lower Cottonwood Creek, Inyo County, California. Report on file at the Inyo National Forest, Bishop, California.

Wuellner, Margarita J., Amanda Kainer, and Jon Wilson
2012 Historic Resources Assessment: Crystal Geyser Cabin Bar Ranch Water Bottling Plant, 1210 South U.S. Route 395, Cartago, Inyo County, California. Report on file at PCR Services Corporation, 1 Venture, Suite 150, Irvine, CA 92618.

Yohe, Robert M., II
1992 A Reevaluation of Western Great Basin Culutural Chronology and Evidence for the Timing of the Introduction of the Bow and Arrow to Eastern California Based on New Excavations at the Rose Spring Site (CA-Iny-372). Ph.D. dissertation, University of California, Riverside.

APPENDIX A – Personnel Qualifications

Kyle Garcia, SENIOR ARCHAEOLOGIST

Education

- B.A., Physical Anthropology, University of California, Santa Barbara, California, 2004

Registrations/Certifications

- Riverside County Registered Archaeologist #202
- 40-Hour HAZWOPER Training, 2010

Continuing Education

- Introduction to Professional Practice under Section 106 of the National Historic Preservation Act (NHPA), 2009
- Cultural Resources Orientation & Pro-Seminar, County of Riverside, 2011
- Cultural Resources Protection Under CEQA and Other Legislative Mandates, UCLA Extension, 2008
- Riverside County Archaeology and Cultural Sensitivity Training Program, 2007

Professional Affiliations

- Society for American Archaeology
- Society for California Archaeology
- Pacific Coast Archaeological Society
- Orange County Natural History Museum

Summary

Kyle Garcia is the Group Leader for PCR's Archaeological and Paleontological Division with over eight years of professional and academic experience in the archaeology and prehistory of California. Mr. Garcia is knowledgeable about archaeological resources in coastal, interior, and island settings. He specializes in faunal analysis and has worked in faunal laboratories at UCSB and the Santa Barbara Museum of Natural History.

Mr. Garcia has evaluated historic and prehistoric archaeological resources for listing in the National Register of Historic Places and the California Register of Historical Resources, conducted agency and Native American consultation, conducted and supervised all aspects of archaeological fieldwork and laboratory processing, conducted numerous record searches at the regional Information Centers across the State, and prepared many technical documents and sections in support of Environmental Impact Reports/Statements and Initial Studies/Environmental Assessments.

Experience

Mr. Garcia has contributed his services and archaeological expertise to over 300 projects at PCR subject to requirements of the California Environmental Quality Act (CEQA), Section 106 of the NHPA, the National Environmental Policy Act (NEPA), and other federal, State, and local regulations. These projects included energy, infrastructure, utility, residential, commercial, mixed-use, schools, parks, trail systems, and urban redevelopment serving a variety of public and private sector clients throughout California and Arizona. In addition to his archaeological work, Mr. Garcia has been cross-trained in paleontological mitigation monitoring and assisted in the excavations of a Miocene whale fossil near Irvine, California.

Peer Reviews: Mr. Garcia is often sought after to conduct Peer Review services of controversial projects across southern California. These reviews include environmental documentation for the Needles Highway Safety Realignment Project for the County of San Bernardino Department of Public Works and various infrastructure projects for Caltrans/San Bernardino Associated Governments.

General Project Experience: Mr. Garcia has extensive experience in dealing with projects with a large number of archaeological resources. His large-scale surveys include a pedestrian survey and site recordation of more than 200 historic and prehistoric archaeological resources as part of a Class III Inventory on an approximately 11,000-acre portion of the La Osa Ranch Project site in Pinal County, Arizona; and he directed the 1,400-acre field survey and the successful site recordation of over 150 prehistoric and historic archaeological resources per the Section 106 Process for a confidential project in Riverside County. He also served as Deputy Project Manager for the approximately 240-acre Archaeological Treatment & Restoration Plan for The Cove project that was subject to Section 106, where he performed the field survey, Native American consultation, prepared the final report, and supervised the thorough recordation and documentation of over 350 significant artifacts which included artifact photography and illustrations.

Energy Projects: He is well-versed in the potential effects of energy production projects on California Archaeology through his service as an on-call consultant to Southern California Edison (SCE) where he has served as the Project Director and Manager for over 100 SCE projects and managed SCE purchase order contracts in excess of $1.5M. These projects were subject to requirements of CEQA, Section 106 of the NHPA, and other local ordinances. These projects included deteriorated pole replacements, conduit and vault installations, distribution circuit installations, and emergency on-call archaeological survey and monitoring services for SCE property during recent southern California wildfires. Mr. Garcia not only managed the budgets and supervised the work but he also conducted most of the record searches, surveys, report writing, site recordation, and client/agency coordination for these projects. These projects also entailed rapid response services including close-interval surveys, construction monitoring, and sensitivity assessments for SCE property in areas damaged by the wildfires.

Presentations: Mr. Garcia presented a paper at the 72nd Annual Meeting for the Society of American Archaeology Conference in Austin, Texas in 2007. The paper focused on prehistoric 'yoni' features encountered on a project site proposed to be developed in western Riverside County, California.

Geographic Information Systems (GIS): Mr. Garcia has also gained valuable experience with recording historic and prehistoric archaeological sites with Garmin, Magellan, and sub-meter Trimble GeoXT Global Positioning System (GPS) units. He has worked with GIS software such as ArcPad, ArcGIS, and ArcView, and developed methods for using these products to accurately and efficiently record archaeological sites.

Matthew Gonzalez, ASSOCIATE ARCHAEOLOGIST/PALEONTOLOGIST

Education

- B.A., Classical Archaeology, University of California, Santa Barbara, California, 2005

Continuing Education

- 40-Hour HAZWOPER Training (Update), 2010
- Cultural Resources Protection Under CEQA and Other Legislative Mandates, UCLA Extension, 2008
- Riverside County Archaeology and Cultural Sensitivity Training Program, 2007

Professional Affiliations

- Society for American Archaeology

Summary

Matthew Gonzalez has seven years of experience in archaeological and paleontological investigations including identification of historic and pre-historic archaeological resources. Cross-trained as an archaeologist and paleontologist, Mr. Gonzalez has performed archaeological and paleontological surveys on a number of projects throughout Southern California and Arizona. His dual specialization enables him to perform surveys and monitoring for both disciplines, thereby providing time- and cost-efficient services to his clients. Mr. Gonzalez has led field crews on site investigations and participated in surveying, mapping, excavating, wet/dry screening, site recording, laboratory experience, and soil analysis. Mr. Gonzalez has considerable experience in both surface reconnaissance and subsurface investigations, marine fossil identification, as well as artifact analysis and classifications, specifically faunal and lithic analysis.

Experience

Archaeology: Mr. Gonzalez prepares letter, Phase I, Section 106, and CEQA-Plus reports; Initial Study and Environmental Impact Report (EIR) sections; and Native American letters. He is also skilled in client coordination, SB 18 Consultation, and Phase I and II data recovery. Mr. Gonzalez is also skilled in the application of Geographic Information Systems (GIS)/Global Positioning Systems (GPS) to facilitate field investigations and record searches, using ArcView and Google Earth to develop field maps useful to plot artifacts and survey sites.

He assisted in the archaeological surveys, site recording, and excavation for two large-scale projects including the 3,000-acre Heritage Fields [Orange County] Great Park in Irvine, California and for approximately 10,000 acres of the 19,000-acre La Osa Ranch in Pinal County, Arizona. He conducted archaeological surveys, recording, excavations, artifact processing, and construction monitoring to achieve mitigation compliance for a controversial KB Home residential development in Riverside County, California. He also conducted archaeological surveys for the 136-acre Trabuco Canyon 119 site in Orange County; Rosamond recycled water pipeline project in Kern County; various projects for the San Bernardino Associated Governments; LAX Master Plan; Cesar Chavez Roundabout Improvement Project in Los Angeles; the 175-acre Oasis Date Garden project in Riverside County; the Lytle Creek and Nuevo Road developments in San Bernardino and Riverside counties, respectively; and the 1,200-acre Skyline Ranch Project in Santa Clarita Valley; and over 75 Southern California Edison (SCE) projects including the Tea and Station Fires emergency response projects

Mr. Gonzalez has also conducted mitigation and construction monitoring for several projects. He provided archaeological monitoring for the Heritage Fields Great Park in addition to his survey work, for Building 319 of the Second Harvest Food Bank on the former El Toro Marine Corps Air Station; a John Laing Homes Newland Street development in Huntington Beach; the 16-acre Rossmore development in Redlands; and a number of SCE projects.

Paleontology: Mr. Gonzalez is experienced in all facets of paleontological resources consulting – surveying, fossil salvaging and analysis, sediment sampling, laboratory analysis, monitoring, and report writing. Mr. Gonzalez has performed any combination of these services on over 40 projects subject to State, federal, or local jurisdiction over the last five years.

Mr. Gonzalez surveyed, salvaged fossils, took sediment samples, performed laboratory analysis and construction monitoring, and assisted with report preparation associated with the 3,000-acre Heritage Fields [Orange County] Great Park. During the project, Mr. Gonzalez and the PCR team discovered a Miocene whale skeleton in the project study area. Mr. Gonzalez also performed the full spectrum of paleontological services for the Del Mar Hilton Gardens Inn in San Diego County. He has performed lab analysis, including processing, cleaning, sorting, cataloging archiving/preserving, and fossil analysis, for the Steven S. Wise Temple and Diamond Bar Site D project in Los Angeles County, and the 2nd Harvest Food Bank and Newland Street project for John Laing Homes in Orange County. He has performed surveys and/or prepared reports for projects throughout Southern California including the LAX Master Plan monitoring; SCE's Presidential Substation in Simi Valley; two recycled water projects; the 1,200-acre Skyline ranch development in Santa Clarita Valley; and the 3,000-acre Lytle Creek Specific Plan in San Bernardino County. In addition to his field work, Mr. Gonzalez has prepared sections for 20 CEQA documents for projects throughout California.

APPENDIX B – NAHC SLF Search Results, Native American Contact List, and Example Native American Notification Letter

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

May 20, 2011

Mr. Matthew Gonzalez, Archaeological Technician
PCR SERVICES CORPORATION
One Venture, Suite 150
Irvine, CA 92618

Sent by FAX to: 949- 753-7002
No. of Pages: 4

Re: Sacred Lands File Search and Native American Contacts list for the **"Crystal Geyser Cabin Bar Ranch Water Bottling Plant"** located south of the Town of Cartago, near Olancha in Inyo County, California,

Dear Mr. Gonzalez:

The Native American Heritage Commission (NAHC) conducted a Sacred Lands File search of the 'areas of potential effect,' (APEs) based on the USGS coordinates provided and found **Native American cultural resources were not identified** in the locations you specified. However, the NAHC Sacred Lands Inventory is not exhaustive; Native American cultural resources may be inadvertently discovered during ground-breaking activity.

The California Environmental Quality Act (CEQA – CA Public Resources Code §§ 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. CA Government Code §65040.12(e) defines "environmental justice" provisions and is applicable to the environmental review processes.

Early consultation, even during Initial Study or First Phase surveys with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Local Native Americans may have knowledge of the religious and cultural significance of the historic properties of the proposed project for the area (e.g. APE). Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). We urge consultation with those tribes and interested Native Americans on the list of Native American Contacts we attach to this letter in order to see if your proposed project might impact Native American cultural resources. Lead agencies should consider avoidance as defined in §15370 of the CEQA Guidelines when significant cultural resources as defined by the CEQA Guidelines §15064.5 (b)(c)(f) may be affected by a proposed project. If so, Section 15382 of the CEQA Guidelines defines a significant impact on the environment as "substantial," and Section 2183.2 which requires documentation, data recovery of cultural resources.

PCR

Partnering with local tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C 4321-43351) and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation.

Also, California Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery', another important reason to have Native American Monitors on board with the project.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. An excellent way to reinforce the relationship between a project and local tribes is to employ Native American Monitors in all phases of proposed projects including the planning phases.

Confidentiality of "historic properties of religious and cultural significance" may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APE and possibility threatened by proposed project activity.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Attachment: Native American Contact List

Native American Contact List
Inyo County
May 20, 2011

Big Pine Band of Owens Valley
Virgil Moose, Chairperson
P. O. Box 700 Owens Valley Paiute
Big Pine , CA 93513
bigpinetribaladmin@earthlink
760- 938-2003
(760) 938-2942-FAX

Timbisha Shoshone Tribe
Joe Kennedy, Chairperson
785 North Main Street, Suite Western Shoshone
Bishop , CA 93514
(760) 873-9003
(760) 873-9004 FAX

Bishop Paiute Tribe
William Vega, Chairperson
50 Tu Su Lane Paiute - Shoshone
Bishop , CA 93514
william.vega@bishoppaiute.
(760) 873-3584
(760) 873-4143

Lone Pine Paiute-Shoshone Reservation
Kathy Bancroft, Cultural Representative
P.O. Box 747 Paiute
Lone Pine , CA 93545 Shoshone
kathybancroft@yahoo.com
(406) 570-5289
(760) 876-8302 fax

Fort Independence Community of Paiute
Carl Dahlberg Chairperson
P.O. Box 67 Paiute
Independence CA 93526
stephanie@fortindependenc
(760) 878-2126
(760) 878-2311- Fax

Timbisha Shoshone Tribe THPO
Barbara Durham, Tribal Historic Preservation
P.O. Box 206 Western Shoshone
Death Valley , CA 92328
dvdurbarbara@netscape.
(760) 786-2374
(760) 786-2376 FAX

Lone Pine Paiute-Shoshone Reservation
Melvin R. Joseph, Chairperson
P.O. Box 747 Paiute
Lone Pine , CA 93545 Shoshone
admin@lppsr.org
(760) 876-1034
(760) 876-8302 Fax

Big Pine Band of Owens Valley THPO
Bill Hellmer, Tribal Historic Preservation Officer
P.O. Box 700 Paiute
Big Pine , CA 93513
amargosa@aol.com
(760) 938-2003
(760) 937-3331 - cell
(760) 938-2942 fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Crystal Geyser Cabin Bar Ranch Water Bottling Project; located near Cartago and Olancha in southern Inyo County, California for which a Sacred Lands File search and Native American Contacts list were requested.

Native American Contact List
Inyo County
May 20, 2011

Bishop Paiute Tribe THPO
Theresa Stone-Yanez
50 Tu Su Lane Paiute - Shoshone
Bishop , CA 93514
theresa.

(760) 937-0351 -work cell
(760) 873-4143 - FAX

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Cryatal Geyser Cabin Bar Ranch Water Bottling Project; located near Cartago and Olancha in southern Inyo County, California for which a Sacred Lands File search and Native American Contacts list were requested.



STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

September 21, 2011

Ms. Tanda Gretz, Planner
Inyo County Planning Department
P.O. Drawer L
Independence, CA 93526

Re: SCH#2011091055; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the **"Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project;"** located in the Cartago Community; Inyo County, California.

Dear Ms. Gretz:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3rd 604). The NAHC wishes to comment on the proposed project.

This letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. The NAHC Sacred Lands File (SLF) search resulted as follows: **Native American cultural resources were not identified** within one-half mile of the 'area of potential effect (APE) based on the USGS coordinates provided. Note: the absence of recorded Native American cultural resources does not preclude their existence. The area is known to the NAHC to be culturally sensitive.

The NAHC "Sacred Sites,' as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r).

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway.

Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and Section 2183.2 that requires documentation, data recovery of cultural resources.

Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254(r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Cc: State Clearinghouse

Attachment: Native American Contact List

Native American Contacts
Inyo County
September 21, 2011

Big Pine Band of Owens Valley
Virgil Moose, Chairperson
P. O. Box 700 — Owens Valley Paiute
Big Pine , CA 93513
bigpinetribaladmin@earthlink
760- 938-2003
(760) 938-2942-FAX

Timbisha Shoshone Tribe
Joe Kennedy, Chairperson
~~785 North Main Street, Suite~~ — Western Shoshone
Bishop , CA 93514
~~(760) 873-9003~~ → phone = 872-3614
~~(760) 873-9004 FAX~~ → FAX = 690-4486

1349 Rocking W Drive
Suite!

Bishop Paiute Tribe
William Vega, Chairperson
50 Tu Su Lane — Paiute - Shoshone
Bishop , CA 93514
william.vega@bishoppaiute.
(760) 873-3584
(760) 873-4143

Lone Pine Paiute-Shoshone Reservation
Kathy Bancroft, Cultural Representative
P.O. Box 747 — Paiute
Lone Pine , CA 93545 — Shoshone
kathybancroft@yahoo.com
(406) 570-5289
(760) 876-8302 fax

Fort Independence Community of Paiute
Chairperson
P.O. Box 67 — Paiute
Independence CA 93526
stephanie@fortindependenc
(760) 878-2126
(760) 878-2311- Fax

Timbisha Shoshone Tribe THPO
Barbara Durham, Tribal Historic Preservation
P.O. Box 206 — Western Shoshone
Death Valley , CA 92328
dvdurbarbara@netscape.
(760) 786-2374
(760) 786-2376 FAX

Lone Pine Paiute-Shoshone Reservation
Melvin R. Joseph, Chairperson
P.O. Box 747 — Paiute
Lone Pine , CA 93545 — Shoshone
admin@lppsr.org
(760) 876-1034
(760) 876-8302 Fax

Big Pine Band of Owens Valley THPO
Bill Helmer, Tribal Historic Preservation Officer
P.O. Box 700 — Paiute
Big Pine , CA 93513
amargosa@aol.com
(760) 938-2003
(760) 937-3331 - cell
(760) 938-2942 fax

This list is current only as of the date of this document.
Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2011091055; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project; located in southern Inyo County, California.

Native American Contacts
Inyo County
September 21, 2011

Kern Valley Indian Council
Robert Robinson, Co-Chairperson
P.O. Box 401
Weldon , CA 93283
brobinson@iwvisp.com
(760) 378-4575 (Home)
(760) 549-2131 (Work)

Tubatulabal
Kawaiisu
Koso
Yokuts

Bishop Paiute Tribe THPO
Matthew J. Nelson
50 Tu Su Lane
Bishop , CA 93514
(520) 404-7992 - cell
Matthew.
Nelson@bishoppaiute.org
(760) 873-4143 - FAX

Paiute - Shoshone

This list is current only as of the date of this document.
Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2011091055; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project; located in southern Inyo County, California.

October 14, 2011

Ms. Virgil Moose
BIG PINE BAND OF OWENS VALLEY INDIANS
P.O. Box 343
Big Pine, CA 93513

Re: PROPOSED CRYSTAL GEYSER CABIN BAR RANCH WATER BOTTLING PLANT IN INYO COUNTY, CALIFORNIA

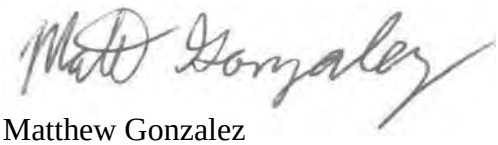
Dear Ms. Moose:

PCR Services Corporation (PCR) is preparing environmental documentation for the proposed Crystal Geyser Cabin Bar Ranch Water Bottling Plant in Inyo, California. Crystal Geyser Roxane is proposing the construction and operation of a bottling plant on an approximately 13 acre site just south of the town of Cartago, in the County of Inyo. The project will provide for the pumping of water from an existing well west of Highway 395, or a new production well(s) adjacent to existing springs, east of Highway 395 in the central portion of the project site. The Results of our Sacred Lands Search through the Native American Heritage Commission found that there are no known sites within one-half mile of the Project site.

In order to ensure that any areas containing cultural resources or sacred lands are considered, PCR requests any information you are willing to share regarding Native American or prehistoric resources (including properties, places, or archaeological sites) in the vicinity of the project site that may be affected by the proposed project. The project site is illustrated in section 1 of the Olancha, CA USGS 7.5' quadrangle map in Township 19 South, Range 36 East and section 6 of the Vermillion Canyon, CA USGS 7.5 quadrangle map in Township 19 South, Range 37 East (Figure 1, attached).

Thank you for your assistance with our efforts to address possible Native American concerns that may be affected by the proposed project. If you have any questions or need additional information, please contact me at (949) 753-7001 or via email at m.gonzalez@pcrnet.com.

Sincerely,
PCR SERVICES CORPORATION



Matthew Gonzalez
Archaeological/Paleontological Technician

Attachment

APPENDIX C – Paleontological Resources Records Search Results

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Vertebrate Paleontology Section
Telephone: (213) 763-3248
FAX: (213) 746-7431
e-mail: vrhue@nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

13 June 2011

Planning Consultants Research
233 Wilshire Boulevard, Suite 130
Santa Monica, CA 90401

Attn: Matthew Gonzalez, Archaeological / Paleontological Technician

re: Paleontological Records Search for the proposed Crystal Geyser Cabin Bar Ranch Water Bottling Plant Project, near Olancha, Inyo County, project area

Dear Matthew:

I have conducted a thorough search of our Vertebrate Paleontology records for the proposed Crystal Geyser Cabin Bar Ranch Water Bottling Plant Project, near Olancha, Inyo County, project area as outlined on the portion of the Olancha USGS topographic quadrangle map that you sent to Dr. Samuel A. McLeod via e-mail on 13 May 2011. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that occur in the proposed project area.

The surficial deposits in the proposed project area consist of younger Quaternary Alluvium in some combination of fan, fluvial, and lacustrine sediments of Late Pleistocene and Holocene age that may contain a typical Late Pleistocene to Recent faunal assemblage. The uppermost layers of these deposits usually do not contain significant vertebrate fossils. Our closest vertebrate fossil locality from these deposits is LACM 4538, near the current dam for the North Haiwee Reservoir southeast of Olancha, that produced a specimen of the Columbian mammoth, *Mammuthus columbi*, collected by William Mulholland during construction of the Los Angeles aqueduct. Our next closest cluster of fossil vertebrate localities from these deposits are LACM 7716 - 7719, located near the old railroad grade on the northeast shore of Owens Lake, west of Swansea and State Highway 136. These localities produced fossil specimens of bony fish, Teleostei, bird, Aves, jack rabbit, *Lepus*, pocket gopher, *Thomomys*, and even-toed

ungulate, Artiodactyla. Our next closest locality is LACM 4691, on the north margin of Owens Lake south of the Owens River where it is south of and parallels State Highway 136 southeast of Lone Pine, that produced probosicdean remains and a fossil specimen of mountain lion, *Felis concolor*.

Very shallow excavations in the younger Quaternary Alluvium in the proposed project area are unlikely to produce significant fossil vertebrate remains in the uppermost layers. Deeper excavations that extend down into the older Quaternary deposits, however, may well encounter significant vertebrate fossils. Any substantial excavations in the proposed project area, therefore, should be closely monitored to quickly and professionally recover any fossil remains while not impeding development. Any fossils collected should be placed in an accredited scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Vanessa R. Rhue

Vanessa R. Rhue
Vertebrate Paleontology

enclosure: draft invoice

APPENDIX D – CONFIDENTIAL APPENDIX: DPR Site Forms, Archaeological Resource Location Maps, and Artifact Catalog (Not for Public Dissemination)

These confidential appendix materials are on file at the Inyo County Planning Department offices

Appendix E: Historical Resources Assessment

PHASE I AND PHASE II HISTORICAL RESOURCES ASSESSMENT REPORT OF THE PROPOSED CRYSTAL GEYSER ROXANE CABIN BAR RANCH WATER BOTTLING FACILITY, INYO COUNTY, CALIFORNIA

CRYSTAL GEYSER ROXANE CABIN BAR RANCH WATER BOTTLING FACILITY
1210 SOUTH HIGHWAY 395
OLANCHA, INYO COUNTY, CALIFORNIA
(APNS: 033-020-11, 033-050-01, 033-440-01 THRU 18, 033-050-04)

Prepared on Behalf of:

CRYSTAL GEYSER ROXANE WATER COMPANY
Rick Moore, Chief Operations Manager
1630 Kellog Drive
Weed, CA 96094
Phone: (530) 938-1831

Prepared For:

COUNTY OF INYO PLANNING DEPARTMENT
Tanda Gretz, Senior Planner
P.O. Drawer
186 N. Edwards St.
Independence, CA 93526
Phone: (760) 878-0265

Report Prepared By:

PCR SERVICES CORPORATION
233 Wilshire Boulevard, Suite 130
Santa Monica, California 90401
Phone: (310) 458-4411

Author:

Margarita J. Wuellner, Ph.D., *Director of Historic Resources*
Jon L. Wilson, LEED AP, M.Arch., *Senior Architectural Historian*
Amanda Kainer, M.S., *Architectural Historian*

Olancha, CA 1994 USGS 7.5' Quadrangle
Section 1 of Township 19 South, Range 36 East and Section 5 of Township 19 South, Range 37 East

Study Area Acreage: 27.31 Acres
Surveyed Acreage: 27.31 Acres

Phase I Survey Conducted: October 20, 2011
Phase II Historic Resources Evaluation Conducted: February 27-29, 2012

Report Completed: June 2012

Resources Identified: *Point of Historical Interest*–Cartago Boat Landing (Daneri's Landing) CHPI-INY-006/P-14-005197 CBR-S-1/H, CBR-S-2, and P-14-005197 (update); *Sites*–Cartago Station House P-14-011515 and Gomez Homestead P-14-011514

Table of Contents

EXECUTIVE SUMMARY **1**

I. INTRODUCTION **1**
A. Proposed Project and Location 1
B. Project Description 1
C. Research and Field Methodology 2

II. REGULATORY FRAMEWORK **7**
A. Federal Level 7
1. National Register of Historic Places 7
B. State Level 8
1. California Register of Historical Resources 8
2. California Office of Historic Preservation Survey Methodology 10
C. Local Level 11
1. County of Inyo 11

III. ENVIRONMENTAL SETTING **13**
A. Historic Context 13
1. Development of the Subject Property 13
2. Euro-American Explorations and Early Settlements (1833-1900) 16
3. Mining (1872-1900) 18
4. Ranching (1862-1986) 23
5. Transportation – Stagecoaches, Rails and Roads (1863-1959) 27
6. Los Angeles Department of Water and Power (1905-1935) 28
7. Production of Alkaline Minerals (1912-1930) 28
8. Stone Building Construction 30
B. Identified Historical Resources 52
1. Known Historical Resources in the Project Vicinity 52
2. Historic Structure Survey: 1210 South Highway 395, APNS: 033-020-11, 033-050-01, 033-440-01 thru 18, 033-050-04 (Project Site) 52
C. Statement of Significance 74
D. Conclusion 76

IV. CEQA IMPACT ANALYSIS **77**
A. Significance Thresholds 77
1. CEQA Guidelines 77
B. Analysis of Project Impacts 78
C. Mitigation Measures 79
D. Level of Significance After Mitigation 81

IV. BIBLIOGRAPHY **82**
A. Publications 82
B. Newspapers and Periodicals 84

C. Public Records, Information, and Other Materials 85

V. APPENDIX 1

List of Tables

Table **Page**

Table 1 Assessment Book 1881, Cerro Gordo Freighting Company, Cartago School District – Description of Property 14
Table 2 List of Personal Property Owned by Cerro Gordo Freighting Company, 1881 15
Table 3 Pacific Coast Business Directory for circa 1872-1882: Lone Pine, Inyo Co. PO 18 miles S of Independence 21
Table 4 Grazing Permits for Arthur Lubken in the Mt. Whitney District Issued by U.S. Department of Agriculture Forest Service 25

List of Figures

Figure **Page**

Figure 1 Regional and Vicinity Map 3
Figure 2. Olancha, Scale 125000, 1905, County Inyo, Tulare (California Historic Topographic Map Collection, California State, Chico, http://cricket.csuchico.edu/maps/topo_search.html) 32
Figure 3. Olancha, Scale 125000, 1907, County Inyo, Tulare (California Historic Topographic Map Collection, California State, Chico, http://cricket.csuchico.edu/maps/topo_search.html) 33
Figure 4. Floor Plan of Gomez Homestead (Residence 2) (P-011515), Current (Inyo County Residential Building Record, 200-610 S HWY 395, Parcel 033-020-11, Bldg 2.) 34
Figure 5. Floor Plan of Residence 3, Current (Inyo County Residential Building Record, 200-610 S HWY 395, Parcel 033-020-11, Bldg 3.) 35
Figure 6. CalTrans as-built maps dated December 11, 1939 (Dean H. Dougherty, Phase I Environmental Site Assessment: Crystal Geyser Roxane Acquisition Parcels, Appendix B, prepared by Sierra Geotechnical Services, Inc., Bishop, California, 2010) 36
Figure 7. CalTrans as-built maps dated December 11, 1939 (Dean H. Dougherty, Phase I Environmental Site Assessment: Crystal Geyser Roxane Acquisition Parcels, Appendix B, prepared by Sierra Geotechnical Services, Inc., Bishop, California, 2010) 37
Figure 8. Route of Captain J.W. Davidson's Expedition From Fort Tejon to the Owens Valley, 1859 (J.W. Davidson, *The Expedition of Capt. J.W. Davidson from Fort Tejon to the Owens Valley in 1859*, edited by Philip J. Wilke and Harry W. Lawton, published by Ballena Press, Socorro, New Mexico, 1876) 38
Figure 9. Map of the Owens Valley, 1864 (Cultural Landscape Report: Manzanar National Historic Site, prepared by National Park Service Pacific West Region, 2006: 12) 39
Figure 10. Hauling Bullion (Virtual Transportation Museum, a Division of the Eastern California Museum, 2010.29.613 VTM) 40
Figure 11. The Bessie Brady, Color Painting by William McKeever (Al Millspaugh, "The Saga of the Bessie Brady," *Desert Magazine*, July 1974, p. 9.) 40
Figure 12. Map of Towns, Boat Lands, and Mines in Inyo County, circa 1875 (Eastern California Museum, County of Inyo, Independence, California) 41

List of Figures (Continued)

Page

Figure 13. Old wharf at Cartago, February 1, 1913 (Charles H. Lee Photo Collection, Number MS 99/1, University of California, Riverside, Water Resources Collections and Archives, Item 446a, Riverside, California) 42
Figure 14. Old beach at Cartago, February 1, 1913 (Charles H. Lee Photo Collection, Number MS 99/1, University of California, Riverside, Water Resources Collections and Archives, Item 446d, Riverside, California) 42
Figure 15. Old beach at Cartago, February 1, 1913 (Charles H. Lee Photo Collection, Number MS 99/1, University of California, Riverside, Water Resources Collections and Archives, Item 446e, Riverside, California) 43
Figure 16. Propeller Blade from the Bessie Brady at Cartago Wharf, February 1, 1913 (Charles H. Lee Photo Collection, Number MS 99/1, University of California, Riverside, Water Resources Collections and Archives, Item 446f, Riverside, California) 43
Figure 17. Cartago wharf showing groove worn into pile by mooring ropes, February 1, 1913 (Charles H. Lee Photo Collection, Number MS 99/1, University of California, Riverside, Water Resources Collections and Archives, Item 446g, Riverside, California) 44
Figure 18. Cartago Boat Landing, California Historical Point of Interest, Highway 395, Cartago, Inyo County, California (PCR 2011) 44
Figure 19. Arthur Lubken Ranch house, circa 1953 (Dean H. Dougherty, Phase I Environmental Site Assessment: Crystal Geyser Roxane Acquisition Parcels, Appendix B, prepared by Sierra Geotechnical Services, Inc., Bishop, California, 2010) 45
Figure 20. Arthur Lubken Ranch house, circa 1955 (Dean H. Dougherty, Phase I Environmental Site Assessment: Crystal Geyser Roxane Acquisition Parcels, Appendix B, prepared by Sierra Geotechnical Services, Inc., Bishop, California, 2010) 45
Figure 21. Arthur Lubken Ranch, view east, circa 1955 (Dean H. Dougherty, Phase I Environmental Site Assessment: Crystal Geyser Roxane Acquisition Parcels, Appendix B, prepared by Sierra Geotechnical Services, Inc., Bishop, California, 2010) 46
Figure 22. Abandoned café, Highway 395, Cartago, Inyo County (PCR 2011) 46
Figure 23. Abandoned building, Highway 395, Cartago, Inyo County, California (PCR 2011) 47
Figure 24. Cartago Camp, view to west, 1919 (George Pipkin, *Cartago, My Cartago*, Murchison Publications, 2011, p. 14.) 47
Figure 25. Cartago Soda Ash Plant, view to east, date unknown (George Pipkin, *Cartago, My Cartago*, Murchison Publications, 2011, p. 16.) 48
Figure 26. Cartago Plant, view to west, date unknown (George Pipkin, *Cartago, My Cartago*, Murchison Publications, 2011, p. 16.) 48
Figure 27. Blast Furnace, Cerro Gordo Mines (http://mojavedesert.net/mining-history/cerro-gordo/) 49
Figure 28. Early 20th Century Residence with Stone Detailing in Independence (PCR 2012) 49
Figure 29. Early 20th Century Residence with Stone Detailing in Independence (PCR 2012) 50
Figure 30. Early 20th Century Residence with Stone Detailing in Independence (PCR 2012) 50
Figure 31. Manzanar Military Police Sentry Post, Ca. 1942 (PCR 2012) 51
Figure 32. Manzanar Stone Walls, Ca. 1942 (PCR 2012) 51
Figure 33. Cartago Landing (P-14-005197) Site Map (Past Forward, Inc., "Olancha/Cartoga Four-Lane Project, US Route 395 Inyo County, California,"IN-868, June 2003, p. 30.) 58
Figure 34. Identified Contributing Historic Resources 59
Figure 35 Cartago Station House (Stone Ruin) (P-14-011515), south and west elevation, view to southeast (PCR 2011) 60
Figure 36. Cartago Station House (Stone Ruin) (P-14-011515), earth floor and debris, view to west (PCR 2011) 60

List of Figures (Continued)

Page

Figure 37. Metal implements embedded within Cartago Station House (Stone Ruin) (P-14-011515)(PCR 2012) 61
Figure 38. Porcelain pottery fragment embedded within mortar of Cartago Station House (Stone Ruin) (P-14-011515) (PCR 2012) 61
Figure 39. Cartago Station House (Stone Ruin) (P-14-011515), south elevation, view to north (PCR 2011) . 62
Figure 40. Cartago Station House (Stone Ruin) (P-14-011515), south elevation interior wall, view to south (PCR 2011) 62
Figure 41. Cartago Station House (Stone Ruin) (P-14-011515), north elevation interior wall, view to north (PCR 2011) 63
Figure 42. Los Angeles Pressed Brick (L.A.P.B.Co.) in the west front wall of Cartago Station House (Stone Ruin) (P-14-011515) (PCR 2012) 63
Figure 43. Historic debris found scattered within the Cartago Station House (Stone Ruin) (P-14-011515) (PCR 2012) 64
Figure 44. Cabin Bar Ranch sign, constructed 1984 (PCR 2011) 64
Figure 45. Cartago Boat Landing (Daneri's Landing) (CHPI-INY-006/P-14-005197) (PCR 2012) 65
Figure 46. Cartago Boat Landing (Daneri's Landing) (CHPI-INY-006/P-14-005197) (PCR 2012) 65
Figure 47. Interior of Gomez Homestead (Residence 2) (P-14-011514) showing squared timber construction (PCR 2012) 66
Figure 48. Residence 3 (left) and Gomez Homestead (Residence 2) (P-14-011514) (right); garage in center; old carriage road runs between Residences 3 and 2, view to north (PCR 2011) 66
Figure 49. Gomez Homestead (Residence 2) (P-14-011514), west and south elevations, view to east (PCR 2011) 67
Figure 50. Gomez Homestead (Residence 2) (P-14-011514), north elevation, view to south (PCR 2011) 67
Figure 51. Residence 3, south elevation, view to north (PCR 2011) 68
Figure 52. Residence 3, north and west elevation, view to southeast (PCR 2011) 68
Figure 53. Residence 3, east elevation, view to west (PCR 2011) 69
Figure 54. Residence 3, north elevation, view to southwest (PCR 2012) 69
Figure 55. Garage/Chicken Coop/Barn, view to south (PCR 2012) 70
Figure 56. Corrals and metal shed, view to east (PCR 2012) 70
Figure 57. Corrals and red storage shed, view to southeast (PCR 2012) 71
Figure 58. Ranch gate, view to east (PCR 2012) 71
Figure 59. Southern access road into property, view to east (PCR 2011) 72
Figure 60. Cartago Creek (PCR 2012) 72
Figure 61. Residence constructed in 1983, view to east (PCR 2012) 73

EXECUTIVE SUMMARY

This Historical Resources Assessment report, completed by PCR Services Corporation (PCR), documents and evaluates the federal, state, and local significance and eligibility of the property located at 1210 South Highway 395, Olancha, Inyo County, California. This report assesses the existing structures, sites and landscape features on the subject property for eligibility as historical resources, and analyzes the potential impacts of the Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project on potential historical resources, pursuant to California Environmental Quality Act (CEQA) guidelines. The report includes a discussion of the survey methods used, the jurisdictional framework for historical resources, provides the historic context for the project site as well as the results of the historical resources assessment for the subject property, the analysis of potential project impacts to the subject property, and mitigation recommendations for the proposed project.

The project site encompasses 27.31 acres and is located south of the unincorporated town of Cartago, in western Inyo County, California. The project location is shown in Figure 1, Regional and Vicinity Map. Existing historical resources identified in the project vicinity include Gomez Homestead (Residence 2) (P-14-011514) (ca. 1871) and Residence 3 (ca. 1910) and an old carriage road associated with the residences, the stone ruin of the former Cartago Station House (P-14-011515) (ca. 1872), and the remains of the Cartago Boat Landing (CHPI-INY-006/P-14-005197) (ca. 1872). The Cartago Station House ruin (P-14-011515) and Cartago Boat Landing remains (CHPI-INY-006/P-14-005197) are located outside of the impact area and would not be affected by the proposed project. Gomez Homestead (Residence 2) (P-14-011514) and Residence 3 would be demolished under the proposed project. Other ineligible property improvements less than 45 years in age include a single-family residence built in 1983 as a model home, a trailer, agricultural structures, a multi-purpose chicken coop/barn/garage, a metal barn, corrals, water features including a man-made irrigation pond, the road network, and three entrances into the property.

The period of significance for the subject property is 1871 through the early 1880s, beginning with the construction of a squared timber homestead (Gomez Homestead) (Residence 2) (P-14-011514) by Espitacio Gomez in 1871, the Cartago Boat Landing (CHPI-INY-006/P-14-005197) and the Cartago Station House (P-14-011515) for the Cerro Gordo Freighting Company in 1872, and ending with the burning of the steamer Bessie Brady in 1882 and construction of the railroad in the early 1880s which reduced the volume of the Cerro Gordo Freighting Company's business. The property is associated with the following historical and architectural themes: Euro-American Explorations and Early Settlements (1833-1900); Mining (1872-1900); Ranching (1862-1986); Transportation – Stagecoaches, Rails and Roads (1863–1959); and Stone Building Construction. The property was evaluated for conformance with National Register and California Register criteria. The Cartago Boat Landing (CHPI-INY-006/P-14-005197) is a previously designated California Point of Interest.

There is one designated historic resource on the project site: the Cartago Boat Landing (CHPI-INY-006/P-14-005197), a California Point of Historical Interest. Therefore, pursuant to the *CEQA Guidelines*, Section 15064.5, the landing site is considered a historic resource under CEQA. PCR prepared a survey update form to record new information obtained about this resource as a result of the field and research investigations. The PCR survey also identified and evaluated four previously unevaluated resources: an early 1870s stone ruin that once served as a station house for the Cerro Gordo Transportation Company; Gomez Homestead

(Residence 2) (P-14-011514) and Residence 3, and the old carriage road associated with the two residences. Two property resources, the Cartago Boat Landing (CHPI-INY-006/P-14-005197) and the Cartago Station House (P-14-011515), are considered eligible as potential historical resources under National Register Criteria A, B and D, and California Register Criteria 1, 2 and 4. The Gomez Homestead (Residence 2) (P-14-011514) is considered eligible under National Register Criterion D and California Register Criterion 4 as a potential historic site. The property also has a high probability for buried subsurface historic period remains associated with the activities of the Espitacio Gomez Ranch and the Cerro Gordo Freighting Company between 1871 and the early 1880s. The remaining property improvements lack sufficient age, integrity or significance to be considered for further evaluation as potential historical resources.

The Cartago Boat Landing (CHPI-INY-006/P-14-005197) and Cartago Station House (P-14-011515) are located outside of the project impact area and would not be affected; however, the Gomez Homestead (Residence 2) (P-14-011514) and Residence 3 would be demolished. The Gomez Homestead (Residence 2) (P-14-011514) contains a squared timber wall which appears to remain from the ca. 1871 homestead likely constructed by Espitacio Gomez. While the Gomez Homestead (Residence 2) (P-14-011514) lacks integrity as an architectural resource due to the substantial alterations to the structure by later additions, the squared timber construction of the extant wall and any other historic fabric associated with the period of significance in the walls, floor and roof, have a potential to yield important information about significant historic activities associated with the property. The project would therefore result in significant impacts on one potential historical resource, the Gomez Homestead (Residence 2) (P-14-011514), since demolition would result in the loss of important information pertaining to the property's historical significance. However, demolition monitoring and recordation of the findings by a qualified historian, architectural historian or historical archaeologist in accordance with the *Secretary of the Interior's Standards for Historical Documentation* would reduce potential impacts to a less than significant level. No other historical resources would be significantly impacted.

I. INTRODUCTION

A. PROPOSED PROJECT AND LOCATION

Crystal Geyser Roxane (the Applicant) is proposing the Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project (the proposed project). The proposed project would involve the construction of a spring water bottling facility and ancillary uses on the Cabin Bar Ranch. Cabin Bar Ranch is made up of 20 contiguous parcels and one non-contiguous parcel totaling approximately 420 acres, of which approximately 27.31 acres constitutes the proposed Study Area that is the focus of this analysis.

The proposed 27.31-acre Study Area is located south of the unincorporated town of Cartago, in western Inyo County, California (**Figure 1**, *Regional and Vicinity Map*). It is depicted on the United States Geological Survey (USGS) 1994 7.5' Olancha, CA topographic quadrangle map in Section 1 of Township 19 South, Range 36 East; and Section 5 of Township 19 South, Range 37 East. The Study Area is located in a relatively flat and rural area, predominated by open space and vegetated areas and is bounded to the north by the rural town of Cartago, U.S. Route 395 to the west, Owens Lake to the east, and open space to the south. Existing property improvements include two substantially altered single-family residences constructed in ca. 1871 and ca. 1910 and added to during the 1950s, and a mobile-home added in 1974 on APN 033-020-01, which were used to support the twentieth-century cattle ranch operations are located in the central portion of the parcel. In 1982, the northwest corner of the ranch was subdivided into 16 one-acre residential lots. The concrete-lined drainage ditches or ponds identified in the vicinity of these lots may be associated with the twentieth-century ranching activities or the later residential subdivision. Cabin Bar Ranch Road was paved along the northern property line from Highway 395 east into the new subdivision and a sign above the road entrance was constructed in 1984. Located northwest of the entrance to Cabin Bar Ranch Road is the 1872 Cartago Station House (P-14-011515) stone ruin. The 1872 linear stone feature identified as Cartago Boat Landing (CHPI-INY-006/P-14-005197) (also known as Cartago Wharf/Daneri's Landing) is located on the north side of Cartago Creek in the eastern portion of the Study Area. A ranch-style house was constructed on the central portion of APN 033-440-13 in 1982. The remaining parcels are vacant grasslands (APNS 033-050-01, 033-050-02, 033-0505-03 and APN 033-050-04), with the exception of some alkaline covered soil within these parcels.

B. PROJECT DESCRIPTION

The project proposes a spring water bottling facility and ancillary uses. The water bottling facility would include an approximately 198,500-square-foot bottling plant and an approximately 40,000-square-foot storage warehouse. Ancillary uses to the bottling facility would include a fire suppression building, a leach mound, a fire access road, and a parking and truck staging area. To provide adequate access from U.S. Route 395 to the bottling facility, the project would remove the site's existing access road (i.e., Cabin Bar Ranch Road) and construct a new permanent access road approximately 2,500 feet to the south.

The majority of the proposed project (i.e., proposed water bottling facility, warehouse, parking and truck staging area, and fire suppression building) would be constructed within the 13-acre previously subdivided area of Cabin Bar Ranch. The remainder of the project's proposed development would occur in proximity to but outside of the 13-acre subdivided portion of Cabin Bar Ranch.

C. RESEARCH AND FIELD METHODOLOGY

The Historic Resource Assessment was conducted by PCR's Cultural Resources personnel Margarita J. Wuellner, Ph.D., Director of Historic Resources, Jon L. Wilson, M.Arch., Senior Architectural Historian, and Amanda Kainer, M.S., Architectural Historian, Kyle Garcia, Senior Archaeologist, and Matt Gonzales, Associate Archaeologist/Paleontologist, who meet and exceed the *Secretary of the Interior's Professional Qualification Standards* in history, archaeology, and architectural history. Professional qualifications are provided in the Appendix.

PCR conducted phase I and II historical resource assessments of the project site between September 2011 and March 2012 to determine the potential impacts to historical resources for the purpose of complying with CEQA and the County's General Plan. The scope of work for the phase I assessment included a historical resources records search through the California Historical Resources System-Eastern Information Center (CHRIS-EIC), and a Phase I pedestrian survey of the Study Area. A review of the National Register of Historic Places (National Register) and its annual updates, the California Register of Historical Resources (California Register), and the California Historic Resources Inventory Database maintained by the State Office of Historic Preservation (OHP) was performed to identify any previously recorded properties within or near the survey area. Phase I and Phase II historical research was conducted at the Eastern California Museum, Inyo County Assessor Office, Inyo County Library, University of Riverside Water Resources Collections and Archives, Manzanar National Historic Site, Los Angeles Public Library, and various online databases, including the California Online Archives, the California Index, and historical Los Angeles Times. An intensive Phase II pedestrian site survey was undertaken to further document the existing conditions of the property. The scope of work for the Phase II evaluation included further focused property history research and background research, intensive physical examinations of the historic sites and structures on the project site. An evaluation of known resources regarding their eligibility for listing in the California Register of Historical Resources, analysis of project impacts, and preparation of mitigation measures to reduce potentially significant impacts to resources to a less than significant level.

The National Register and California Register evaluation criteria were employed to assess the significance of the property. In addition, the following tasks were performed for the study:

- Searched records of the National Register, California Register, and the California Historic Resources Inventory Database.
- Conducted field inspections of the study area and subject property in September 2011 and February 2012, and utilized the survey methodology of the State OHP.
- Photographed the subject property and examined other properties in the area that exhibited potential architectural and/or historical associations.
- Conducted site-specific research on the subject property utilizing building permits, assessor's records, Assessor's Land Books, Title records, historic topographic maps, historic photographs, census records, U.S. Department of Agriculture, Forest Service grazing permit files, and other published sources.
- Reviewed and analyzed ordinance, statutes, regulations, bulletins, and technical materials relating to federal, state, and local historic preservation, designation assessment processes, and related programs.



PCR

N

0 1,000 2,000 Feet

Regional and Vicinity Map

Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project

Source: ESRI Street Map, 2009; PCR Services Corporation, 2012.

FIGURE

1

This page is intentionally blank.

- Evaluated potential historical resources based upon criteria used by the National Register and the California Register.

This report presents the findings of both assessments (Phases I and II) and is intended to satisfy the cultural resource requirements of CEQA. Personnel involved in this assessment included PCR archaeologists, Mr. Kyle Garcia and Mr. Matthew Gonzalez, and PCR architectural historians, Dr. Wuellner, Mr. Wilson, and Ms. Kainer. Mr. Gonzalez conducted the record searches and Mr. Garcia and Ms. Kainer assisted Dr. Wuellner with the phase I and phase II survey and research efforts. Dr. Wuellner, Ms. Kainer and Mr. Wilson prepared this report and provided project management services. The professional qualifications of key personnel are provided in the Appendix of this report.

II. REGULATORY FRAMEWORK

Historical resources fall within the jurisdiction of several levels of government. Federal laws provide the framework for the identification, and in certain instances, protection of historical resources. Additionally, states and local jurisdictions play active roles in the identification, documentation, and protection of such resources within their communities. The National Historic Preservation Act (NHPA) of 1966, as amended and the California Register of Historical Resources are the primary federal and state laws and regulations governing the evaluation and significance of historical resources of national, state, regional, and local importance. Descriptions of these relevant laws and regulations are presented below.

A. FEDERAL LEVEL

1. National Register of Historic Places

The National Register of Historic Places (National Register) was established by the National Historic Preservation Act of 1966, as "an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment."[1] The National Register recognizes properties that are significant at the national, state, and/or local levels.

To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Four criteria for evaluation have been established to determine the significance of a resource:

A. It is associated with events that have made a significant contribution to the broad patterns of our history;

B. It is associated with the lives of persons significant in our past;

C. It embodies 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, or that represent a significant and distinguishable entity whose components may lack individual distinction;

D. It yields, or may be likely to yield, information important in prehistory or history.[2]

Districts, sites, buildings, structures, and objects of potential significance that are 50 years in age must meet one or more of the above criteria.

In addition to meeting the Criteria for Evaluation, a property must have integrity. "Integrity is the ability of a property to convey its significance."[3] According to *National Register Bulletin 15 (NRB)*, the National Register

[1] *36 Code of Federal Regulations (CFR) Section 60.2.*

[2] *"Guidelines for Completing National Register Forms," National Register Bulletin 16, U.S. Department of Interior, National Park Service, September 30, 1986. This bulletin contains technical information on comprehensive planning, survey of cultural resources and registration in the National Register of Historic Places.*

recognizes seven aspects or qualities that, in various combinations, define integrity: location, design, setting, materials, workmanship, feeling, and association. In assessing a property's integrity, the National Register criteria recognize that properties change over time, therefore, it is not necessary for a property to retain all its historic physical features or characteristics. The property must retain, however, the essential physical features that enable it to convey its historic identity.[4]

For properties that are considered significant under National Register Criteria A and B, the *National Register Bulletin, How to Apply the National Register Criteria for Evaluation* states that a property that is significant for its historic association is eligible if it retains the essential physical features that made up its character or appearance during the period of its association with the important event, historical pattern, or person(s).[5]

In assessing the integrity of properties that are considered significant under National Register Criterion C, the *National Register Bulletin, How to Apply the National Register Criteria for Evaluation* provides that a property important for illustrating a particular architectural style or construction technique must retain most of the physical features that constitute that style or technique.[6]

For properties that are considered significant under National Register Criteria D, the *National Register Bulletin, How to Apply the National Register Criteria for Evaluation* states that "the assessment of integrity for properties considered for information potential depends on the data requirements of the applicable research design. A property possessing information potential does not need to recall *visually* an event, person, process, or construction technique. It is important that the significant data contained in the property remain sufficiently intact to yield the expected important information, if appropriate study techniques are employed."[7]

B. STATE LEVEL

1. California Register of Historical Resources

The Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also carries out the duties as set forth in the Public Resources Code (PRC) and maintains the California Historical Resources Inventory and the California Register of Historical Resources. The State Historic Preservation Officer (SHPO) is an appointed

---

3 *National Register Bulletin 15, p. 44*.

4 *"A property retains association if it is the place where the event or activity occurred and is sufficiently intact to convey that relationship to an observer. Like feeling, association requires the presence of physical features that convey a property's historic character. . Because feeling and association depend on individual perceptions, their retention alone is never sufficient to support eligibility of a property for the National Register." Ibid, 15, p. 46.*

5 *Ibid.*

6 *"A property that has lost some historic materials or details can be eligible if it retains the majority of the features that illustrate its style in terms of the massing, spatial relationships, proportion, pattern of windows and doors, texture of materials, and ornamentation. The property is not eligible, however, if it retains some basic features conveying massing but has lost the majority of the features that once characterized its style." Ibid.*

7 *"For properties eligible under Criterion D, integrity is based upon the property's potential to yield specific data that addressed important research questions, such as those identified in the historic context documentation in the Statewide Comprehensive Preservation Plan or in the research design for projects meeting the Secretary of Interior's Standards for Archeological Documentation." Ibid.*

official who implements historic preservation programs within the state's jurisdictions. Also implemented at the state level, CEQA requires projects to identify any substantial adverse impacts which may affect the significance of identified historical resources.

The California Register of Historical Resources (California Register) was created by Assembly Bill 2881 which was signed into law on September 27, 1992. The California Register is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change."[8] The criteria for eligibility for the California Register are based upon National Register criteria.[9] Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.[10]

The California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register of Historic Places and those formally Determined Eligible for the National Register of Historic Places;
- California Registered Historical Landmarks from No. 770 onward;
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.11

Other resources which may be nominated to the California Register include:

- Individual historical resources;
- Historical resources contributing to historic districts;
- Historical resources identified as significant in historical resources surveys with significance ratings of Category 1 through 5;
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.[12]

To be eligible for the California Register, a historic resource must be significant at the local, state, or national level, under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

[8] *California Public Resources Code, Section 5024.1(a).*

[9] *California Public Resources Code Section 5024.1(b).*

[10] *California Public Resources Code Section 5024.1(d).*

[11] *Ibid.*

2. Is associated with the 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 individual, or possesses high artistic values; or

4. Has yielded, or may be likely to yield, information important in prehistory or history.

Additionally, a historic resource eligible for listing in the California Register must meet one or more of the criteria of significance described above and retain enough of its historic character or appearance to be recognizable as a historic resource and to convey the reasons for its significance. Historical resources that have been rehabilitated or restored may be evaluated for listing.[13]

Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. The resource must also be judged with reference to the particular criteria under which it is proposed for eligibility.[14]

2. California Office of Historic Preservation Survey Methodology

The evaluation instructions and classification system prescribed by the California Office of Historic Preservation in its Instructions for Recording Historical Resources provide a three-digit evaluation rating code for use in classifying potential historical resources. The first digit indicates one of the following general evaluation categories for use in conducting cultural resources surveys:

1. Listed on the National Register or the California Register;

2. Determined eligible for listing in the National Register or the California Register;

3. Appears eligible for the National Register or the California Register through survey evaluation;

4. Appears eligible for the National Register or the California Register through other evaluation;

5. Recognized as Historically Significant by Local Government;

6. Not eligible for any Listing or Designation; and

7. Not evaluated for the National Register or California Register or needs re-evaluation.

The second digit of the evaluation status code is a letter code indicating whether the resource is separately eligible (S), eligible as part of a district (D), or both (B). The third digit is a number that is used to further specify significance and refine the relationship of the property to the National Register and/or California Register. Under this evaluation system, categories 1 through 4 pertain to various levels of National Register and California Register eligibility. Locally eligible resources are given a rating code level 5. Properties found

[12] *California Public Resources Code Section 5024.1(e).*

[13] *California Code of Regulations, California Register of Historical Resources (Title 14, Chapter 11.5), Section 4852(c).*

[14] *Ibid.*

ineligible for listing in the National Register, California Register, or for designation under a local ordinance are given an evaluation status code of 6.

C. LOCAL LEVEL

1. County of Inyo

The County of Inyo has not adopted a local historic preservation ordinance. However, Section 15.24.020 of the County Code requires that before demolition of any structure greater than 50 years of age it must be verified the structure is not historically significant. The Inyo-Mono Association of Government Entities (IMAGE) in collaboration with the Inyo Mono Advocates for Community Action (IMACA) conducted a historic preservation survey of Inyo County from April 1, 1980 to May 1, 1981. However, the survey was never certified by Inyo County nor by the State Office of Historic Preservation, and therefore the survey findings are not enforceable under CEQA. The subject property was not included in this survey.

III. ENVIRONMENTAL SETTING

A. HISTORIC CONTEXT

The historic context developed below presents important themes associated within the historical development of the Owens Valley and Cartago, California, where the subject property is located. Research indicates the property is associated with the following historical and architectural themes: Development of the Subject Property, Euro-American Explorations and Early Settlements (1833-1900); Mining (1872-1900); Ranching (1862-1986); Transportation – Stagecoaches, Rails and Roads (1863–1959); Los Angeles Department of Water and Power (1905-1935); Production of Alkaline Minerals (1912-1930); and Stone Building Construction.

1. Development of the Subject Property

The identified resources situated within the subject property are located on Assessor Parcel No. 33-020-01. In 1950, the subject property was legally described as Township 19 South, Range 36 East, northeast of the southeast quarter of Section 1 (Assessor's Map Book 33, page 02, County of Inyo, California, 1950).

Before 1862, the area was most likely in its natural state. The Paiute occupied the land along the Western shore of Owens Lake and were irrigation farmers. European settlement in the area began after the Homestead Act of 1862 was adopted by the United States. The first recorded property owner of the subject property was Espitacio Gomez in 1873. California Land Patent Number 58 for Inyo County discloses Espitacio Gomez purchased 160 acres on July 10, 1873 for two hundred dollars.[15] The property description was Lot 1 infractional NE ¼ and NE ¼ of SE ¼, Section 1, Township 19S, Range 36 East and N ½ of Lot 2 infractional SW ¼ of Section 6, Township 190S, Range 37E. According to the cash land sale paperwork, Espitacio Gomez erected a house on the property on June 1, 1871 and used the land solely for agriculture and ranching purposes; the land was described as having no minerals. Based upon this evidence along with oral history represented in the existing Assessor Building Records and historic topographic maps (1905 and 1907), it appears that the timber portion of Gomez Homestead (Residence 2) (P-011515) was erected by Gomez in 1871. The National Archives Land Entry Files for Espitacio Gomez as well as other nearby property owners such as Ernst Heiligendorfer, Pedro Ruperez, and Leo Kikut are included in the Appendix of this report.

The published historical accounts of that area state that in 1872 the Cerro Gordo Freighting Company, owned by Mortimer W. Belshaw and Victor Beaudry, constructed a stagecoach station, warehouse, and general store in Cartago at the mouth of Cartago Creek on Owens Lake, presently within the subject property. The County of Inyo Assessment Book for 1881 held at the Eastern California Museum is the earliest available for Inyo County; it reveals that the land of which the subject property is a part was called the Gomez Ranch, located in Cartago, and operated as a freight terminal by the Cerro Gordo Freighting Company, see **Table 1**, *Assessment Book 1881, Cerro Gordo Freighting Company, Cartago School District – Description of Property*. The 1881 Assessment Book shows that the Cerro Gordo Freighting Company was paying both real and personal property taxes on 160 acres of the Gomez Ranch recorded in the Cartago District. The value of Gomez Ranch

[15] *Land entry file, DOCID 58, Espitacio Gomez, April 25, 1874, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.*

Table 1

Assessment Book 1881, Cerro Gordo Freighting Company, Cartago School District – Description of Property

	Land Value	Improvements
Gomez Ranch, 160 acres	800	1,700
Cerro Gordo Landing Station		200
Nine Mile Canon Station		400
Rose Springs Station		400
New Coso Station		300
Minietta Mine (Lookout District)	250	
Minietta Mill		2,500

Source: PCR Services Corporation, 2012

tract was $800 and existing improvements on the tract had total value of $1,700, a substantial sum at the time, indicating the presence of approximately five buildings and structures on the project site, given the mean average value of improvements owned by the Cerro Gordo Freighting Company in 1881 was $325 (see Table 2 below. In addition, the Company paid taxes for the Cerro Gordo Landing Station, Nine Mine Canon Station, Rose Springs Station, New Coso Station, Minietta Mine, and Minietta Mill, which were also recorded in the Cartago District (although they were not located there). The Gomez Ranch property was the largest Company land holding at the time. The Company paid $250 in real property taxes for the Minietta Mine in the Lookout District and the Minietta Mill improvements were valued at $2,500, over twice the value of improvements at the Cartago Landing Station. They paid taxes on the other four Stations although no land values were recorded, suggesting the Company owned the Stations but leased the land. The data in the Assessment Book indicates the freighting enterprise was managed from the Cartago District terminal that, by Remi Nadeau's account, was located at the subject property. The list of personal property owned by the Company in 1881 reveals operations had diminished from their mid-1870s peak, as described by published historical accounts. (See **Table 2**, *List of Personal Property Owned by Cerro Gordo Freighting Company, 1881*.)

The 1881 Assessment Book revealed that John Baptiste Daneri, the merchant for whom Cartago Wharf (Daneri's Landing) is commonly named, owned property and paid taxes in Lone Pine. There is no evidence in the Assessment Book or title records reviewed by PCR that Daneri owned any land in Cartago, although he may have invested in the Cerro Gordo Freighting Company's enterprise and could have funded construction of the landing.

A topographic map from 1905 (Figures 2 and 3) locates Cartago and Carthage along the southwest shore of Owens Lake; a small carriage road branches off to the east from the main wagon road, and two structures are situated across from one another on the east and west side of the carriage road. The structures and carriage road on the map are in the same approximate location as the existing road segment and Residences 2 and 3 identified by the PCR field survey within the subject property. Based upon this evidence along with the cash land sale to Espitacio Gomez recorded in California Land Patent 58 for Inyo County, it appears that the timber portion of Gomez Homestead (Residence 2) (P-011515) was most likely erected by Gomez in 1871.

Table 2

List of Personal Property Owned by Cerro Gordo Freighting Company, 1881

	Value
Solvent Debts	200
Goods, Wares, and Merchandise (Provisions)	500
2 tons of Flour	180
18 Wagons	2,700
Haines and C	450
8 Horses Half Breed	400
20 Dozen Poultry	100
68 Mules	4,080
15 Hogs	75
16 Pigs	32
18 Tons Grain	720
50 Tons Hay	450
10,000 feet Lumber	400

Total Personal Property 10,287, All Property 16,837, Total Tax 589.30. Paid June, 1881.

Source PCR Services Corporation 2012

Grazing Permits for the Mt. Whitney District reveal Arthur Lubken, a local Inyo County rancher, began ranching in the area in 1906, running cattle on Forest Service land during the spring, summer and fall, and moving them down to his brother's ranch (John Lubken's ranch near Independence) during the winter months. Although Lubken was ranching in the area and could possibly have occupied the subject property as early as 1907 when he first ran cattle in Township 19, the grazing permits reveal he did not acquire the ranch in Cartago until April 17, 1926.[16]

The California Desert Land Application Number 015629 (later renumbered to 021252) for Inyo County indicates Leo Kikut purchased land described as NW ¼, SE ¼Township 19S, Range 36E, Section 1 in 1927 and lived on the property from late 1920s through the 1930s.[17] Leo Kikut's land was located along the east side of US 395 on the adjacent lot to the south of the subject property and was described as:

> The land lies on the West side of Owens River Valley. It is desert in character and remunerative crops cannot be raised without irrigation. The soil is sandy and supports a growth of sagebrush. The State highway crosses the tract but will probably be moved further East off the land when the final location is made. The land above the highway is mostly rocky and unfit for cultivation. It is estimated that five acres, possibly a little more, are irrigable. The applicant proposes to raise grapes and garden truck. I found the applicant living on the land in a house which he built, 16 x 24, with an

[16] *Grazing Permits, Mt. Whitney District, United States Department of Agriculture, Forest Service, reviewed in the Eastern California Museum, Independence, Inyo County, California.*

[17] *Land entry file, serial patent No. 1082189, Kikut Leo, March 21, 1936, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.*

addition of 12 x 12. He now has a gas station partially completed but not operating. He is sinking a well 35 feet deep, 5 x 5 cribbed with 12" pipe therein.[18]

In summary, the soil on Leo Kikut's land was highly alkaline and not suitable for growing crops and was instead better suited for ranching. The character of the Leo Kikut's land described above was indicative of the character of the subject property abutting Leo Kikut's land. During this period, Arthur Lubken was using the subject property for ranching and not farming.

California Department of Transportation (CalTrans) as-built maps (Figures 6 and 7) dated December 11, 1939 show a segment of the subject property on the east side of US Highway 395. The map is labeled with A.L. Lubkin and W.J. Clark as owners of the subject property at the time. A "stone house," is depicted on the map in the same location as the existing stone ruin.

Title records reveal that on April 15, 1953 Arthur F. and Irene W. Lubken granted a portion of the subject property (APN 33-020-11) to Edward L. and Dorothy M. Thornburg.[19] In 1978, the property, including land, cattle, and grazing lease, was sold to Rick Stevens.[20] During the 1980s the subject property changed ownership several times. In 1982, the northwest corner of the ranch was subdivided into 16 one-acre residential lots and a model ranch-style home with irrigation pond was constructed on the central portion of APN 033-440-13.[21] Cabin Bar Ranch Road was paved along the northern property line from Highway 395 east into the new subdivision and the existing Cabin Bar Ranch sign above the road entrance was constructed in 1983. On July 9, 1986, Anheuser-Busch purchased the Cabin Bar Ranch from Rick Stevens and planned to utilize the property's water resources.[22]

2. Euro-American Explorations and Early Settlements (1833-1900)

In 1833, Captain Joseph Reddeford Walker, from Independence, Missouri, led the one of the first expedition into the Owens Valley as he was exploring the country and surrounding area of the Great Salt Lake. The valley, river, and lake were named in 1845 by John C. Fremont for Richard Owens, one of previous Fremont's guides, who was "a good mountaineer, good hunter, and good shot; cool, brave and of good judgment."[23] Following the accession of California to the United States in 1848, the first public land survey of the Owens Valley was conducted by A. W. Von Schmidt between 1855 and 1856 who incorrectly profiled the land as undesirable for agriculture. In 1859, Captain J.W. Davidson was dispatched from Fort Tejon to Owens Valley to patrol Indian livestock thieves, and as a result accurately reported on the ethno-history and geography of the area.

The next significant exploration of the area was directed by Captain J.W. Davidson in July 1859 (Figure 8), he was sent from Fort Tejon, south of Bakersfield, to the Owens Valley to "examine the country well with reference to its fitness for the purpose of an Indian reservation" as well as to report on "the agricultural,

[18] *Ibid, Desert Land Patent Investigation, June 15, 1927.*

[19] *Inyo County Recorder.*

[20] *County of Inyo, Assessor Book 232 (August 15, 1978): 765.*

[21] *"14 Homes Rising on Cattle Ranch," Los Angeles Times (June 27, 1982): 8.*

[22] *Sandy Harrison, "Bottling Plant Planned: Anheuser-Busch buys out Cabin Bar Ranch," July 11, 1986.*

[23] *Chalfant 1933, 98.*

timber and water resources."[12] He described his interactions with Paiutes situated on the subject property.[24] Davidson's official account was titled "Report of the Results of an Expedition to Owens Lake, and River, with the Topographical Features of the County, the Climate, Soil, Timber, Water, and also, the Habits, Arms, and Means of Subsistence of the Indian Tribes seen upon the March."[25] He concluded the Owens Valley was prime for settlement and held vast agricultural possibilities. It also appears from his observations there were limited settlement and agricultural activities in the area, which most likely remained limited until after passage of the Homestead Act in 1862, and began in earnest with the cessation of hostilities at the close of the Civil War in 1865.[26]

In 1860, the State of California began a comprehensive geological survey of the state. Under the direction of Josiah Whitney, a group of scientists including renowned naturalist William Brewer, undertook the California Geological Survey, initiating a period of exploration and documentation of natural resources throughout the uncharted areas of California. Brewer recorded aspects of the land in Owens Valley that had not appeared in earlier chronicles of the region, specifically the pervasive desert scrub vegetation. Shortly after in 1864 Holt's Map of the Owen's River Mining Country was drawn (Figure 9).

As permanent settlement in the Owens Valley increased, tensions developed between the new settlers and the indigenous Paiute population. White homesteaders began using the resources that formed the basis of Paiute culture. Grazing livestock and the removal of pinyon trees in the valley severely impacted the seed plants that were the basis of the Paiute's winter diet. As retaliation of the loss of food sources, the Paiute began raiding cattle herds which in turn caused violent disputes between the settlers and Paiutes. The Army established Camp Independence near the present-day Inyo county seat in 1862. In the spring of 1863, Captain Moses A. McLaughlin, gathered approximately 1,000 Indians on a forced march to San Sebastian Reservation in the southern San Joaquin Valley near Fort Tejon. This forced removal from the Owens Valley followed several years of bloody conflict between the Paiutes and the early settlers. With the construction of Camp the violence ceased and the camp remained active until 1877, providing protection for white settlers and travelers through the valley.[27]

By 1866 the rapid acquisition of land had begun. Many settlers came to the area for the promise of riches from mining, but once the pioneers reached the Owens Valley the gold mines were largely dry and they instead began to farm and raise livestock. The Homestead Act of 1862 gave pioneers five years to claim 160 acres and take title of their land for a small filing fee and a charge of $1.25 per acre. The subject property was claimed by Espitacio Gomez on July 10, 1873 for two hundred dollars.[28] Also during the early 1870s, other miners and farmers claimed land near Espitacio Gomez land. To the north of the subject property,

---

[24] *Robert Saunder, The Lost Frontier: Water Diversion in the Growth and Destruction of the Owens Valley Agriculture (Tuscon, AZ; University of Arizona Press, 1994): 25.*

[25] *J.W. Davidson, The Expedition of Capt. J.W. Davidson from Fort Tejon to the Owens Valley in 1859. Edited by Philip J. Wilke and Harry W. Lawton (Socorro, N.M.: Ballena Press, 1876): 19-20.*

[26] *Adapted from The Owens Valley Land Grab. http://www.usc.edu/libraries/archives/la/scandals/owens.html, accessed September 27, 2011.*

Robert E., R. Parr, Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II. Archaeological Survey Report: Cartago-Olancha Four-Lane Project, U.S. Route 395, Inyo County, California (Bakersfield California: Center for Archaeological Research, California State University, December 2001): 51.

[27] *Cultural Landscape Report: Manzanar National Historic Site. (National Park Service Pacific West Region, 2006): 11-12.*

[28] *Land entry file, DOCID 58, Espitacio Gomez, April 25, 1874, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.*

approximately seventy nine acres was claimed by Ernst Heiligendorfer, a mining technology scientist, on March 1, 1873 for ninety nine dollars. The legal description of Ernst Heiligendorfer's land was described as Lot Number 2 of infractional NE ¼ of Township 19S, Range 36E, Section 1.[29] The land patent indicated Ernst Heiligendorfer erected a house two years prior on May 1, 1871. On November 6, 1874, Pedro Ruperez, a Spanish farmer, claimed S ½ of SW ¼ Section 6, Township 19S, Range 37E SE ¼ of SE ¼ of Section 1 and NE ¼ of NE ¼ of Section 12, Township 19S, Range 36E containing 160 acres for 200 dollars.[30] The land patent indicated Pedro Ruperez erected a house and other ancillary structures in 1871, cultivated about sixty acres by raising and cutting hay, and used the remainder of the land for grazing purposes.

In 1872, the area faced a small setback as a result of a large earthquake, estimated now at over 8 on the Richter scale, causing a considerable amount of damage in the area. Because of the local building traditions of the Mexican occupants, the structures constructed of adobe bricks did not withstand the earthquake.[31] However, the amount of public land settled by the late 1870s and early 1880s was still relatively small. The Desert Land Act of 1877 allowed individuals to acquire more area, up to 640 acres, in hopes of drawing more settlers. By the mid-1890s most of the land in the Owens Valley had been claimed.[32]

In the 1890s the level of Owens Lake began to fall. The *Inyo Independent* announced in November 1894 that the shoreline had receded two hundred feet during the season.[33] In 1898, the Inyo Register reported "hundreds of yards of dry land are now seen around the edge of Owens Lake…Keeler used to be at the edge of the water, but its distance to shore is very noticeable."[34] The following year the situation worsened, "The rapid recession of Owens Lake is most observable on the east side. The old Cartago wharf, which in the early 70s stood in right feet of water is now about two miles away from the present shore."[35] According to longtime valley residents, the lake level had fluctuated little until 1894. By that time, irrigation canals in the northern end of the valley were put into service, and over the next ten years the shoreline receded fifty feet.

3. Mining (1872-1900)

The valley did not experience the extraordinary growth that the Gold Rush brought to other parts of California. The California Gold Rush began on January 24, 1848, after gold was found by James W. Marshall at Sutter's Mill in Coloma, California. More than ten years later the mining fever began in Inyo County. On July 4, 1859, the miner Chord Norst traveled from Dogtown (a Mono Camp) to Mono Gulch where he discovered gold and within a week the town of Monoville was established. In 1860, Farley's Mill was established south of Olancha Creek to process silver from Minnard Farley's silver mines in the Coso Mountains, approximately fifteen miles east of Owens Lake. One year later a town grew around the Farley's Mill, the current location of

---

[29] *Land entry file, DOCID 40, Ernst Heiligendorfer, April 20, 1875, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.*

[30] *Land entry file, DOCID 84, Pedro Ruperez, June 15, 1875, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.*

[31] *W.A. Chalfant, The Story of Inyo (Bishop, CA: Community Printing and Publishing, 1975): 260.*

[32] *Robert E. Parr,, R. Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II,* Archaeological Survey Report: Cartago-Olancha Four-Lane Project, U.S. Route 395, Inyo County, California *(Bakersfield California: Center for Archaeological Research, California State University, December 2001): 11-12.*

[33] *"Olancha Road, Owens Lake,"* Inyo Independent*, October 17, 1870.*

[34] *Robert A. Saunder, The Lost Frontier: Water Diversion in the Growth and Destruction of Owens Valley Agriculture (Tucson & London: University of Arizona Press, 1994): 96.*

[35] *Inyo Register, 1899.*

the town of Olancha. In 1867, the Farley Mill burned to the ground during an Indian uprising and the mill is now listed as California Historical Landmark No. 796.[36]

In 1865, a small scale rush erupted when gold was discovered by three Sonoran prospectors, led by Pablo Flores, to the north of Owens Lake at the Cerro Gordo mine. The Cerro Gordo mines, the Spanish name for "fat mountain," on the crest of west slope of Buena Vista Peak, were discovered by Pablo Flores in 1865 and was one of the most productive silver, lead, and zinc mines in Inyo county between 1868 and 1875.[37] At first Pablo Flores and other prospectors used surface mining techniques, with the prospectors processing ore in rudimentary adobe and stone ovens called *vasos*. The Cerro Gordo mines would turn into one of the largest silver producers in California. The Lone Pine Mining District, including Cerro Gordo and a section of Inyo Ridge, was organized on April 5, 1866. By 1870 a thousand claims were filed within the Long Pine Mining District. In 1872, federal mining laws were established and the district was reorganized and renamed Cerro Gordo.[38]

The Cerro Gordo mines were virtually unknown until 1867 when one of the Spanish speaking prospectors rode into Virginia City, Nevada, displaying the chunks of silver ore from the Cerro Gordo mines. The first Anglo-Americans to discover the Cerro Gordo mines were Mortimer W. Belshaw, a mining engineer, and his junior partner Abner B. Elder, from San Francisco. Mortimer Belshaw realized the Cerro Gordo mines could be controlled by the man who constructed and owned the smelters. Quickly they purchased interest in the Union Mining Company in the late 1860s. In 1870, Victor Beaudry, a French-Canadian who owned a general store at Cerro Gordo, acquired half of the interest in the Union Mining Company, thus making Union Mining Company the sole partnership Belshaw and Beaudry. The team established a mining town by constructing a toll road from Keeler to the Cerro Gordo mines, named the Yellow Grade Road; as well as two blast furnaces and a water supply system.[39] With the construction of a technologically innovative smelter the team eventually produced $3,500 worth of silver a day. Stagecoaches carried passengers up and down the winding eight-mile Yellow Grade Road to the Cerro Gordo. By the fall of 1868, Belshaw and Beaudry were producing silver-lead bullion at an expedient pace.[40]

Belshaw and Beaudary needed another partner in their business to handle the shipment of bullion, so in 1868 they hired Remi Nadeau to run a frightening company to transport bullion and formed the Cerro Gordo Frightening Company. The Cerro Gordo Freighting Company owned a variety of assets on the subject property (Assessor Parcel# 33-020-01) in 1881, as represented in Table 2 above. The company set up stations along the route to handle the shipment of mining products to Los Angeles, eventually ending in Los Angeles' newest port in San Pedro. Remi Nadeau perfected his freighting system between Cerro Gordo and Los Angeles, and his 16 to 20 mule teams were transporting 18 tons of bullion across the desert (Figure 10).[41] On December 1, 1871 Remi Nadeau fulfilled his contractual obligations with Belshaw and Beaudry, refused to re-sign with the Cerro Gordo Freighting Company, but kept his mules on the route as an

---

[36] *Robert E., R. Parr, Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II, 52.*

[37] *David C. Durham, California's Geographic Names: A Gazetteer of Historic and Modern Names of the State, 1998, p. 118.*

[38] *L. Burr Belden and Mary DeDecker, "Cerro Gordo: Lawless Comstock East of the Sierra," Death Valley to Yosemite: Frontier Mining Camps and Ghost Towns (Bishop, CA: Spotted Dog Press, 2009): 122-123.*

[39] *L. Burr Belden and Mary DeDecker, 123-125.*

[40] *Remi Nadeau,* Ghost Towns and Mining Camps of California *(Santa Barbara: Crest Publishers, 1999): 211.*

Robert E. Parr, R. Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II, 13-14.

[41] *Remi Nadeau,* Ghost Towns and Mining Camps of California *(Santa Barbara: Crest Publishers, 1999): 212.*

independent contractor. James Brady, a smelter operator at Swansea, accepted the Cerro Gordo freight contract and sublet it to William Osborne. As a whole, between 1869 and 1882, Remi Nadeau was the leading wagon freighter of Southern California, and dominated the cargo traffic to the desert mining camps of Eastern California.[42] A letter from Remi Nadeau's great great Grandson Remi E. Nadeau describes the station house at Cartago. The stone ruin on the subject property is likely the house described in this account.

> Nadeau's freighting company established stations a days travel apart, about 20 miles, along the route to Los Angeles. These stations consisted of corrals and a small house and were usually kept by a man and his wife. At these the teamsters and swampers were provided with lodgings and meals and the livestock with feed and water. I think the house at Cartago was similarly used. However, situated at the terminal as it was, it could have contained more rooms that the ones at other stations. Nadeau himself made frequent trips (by horse and buggy) along the route and it is quite likely that it was his custom to lodge there while at Cartago.[43]

The transportation of the heavy bullion was problematic, as the trip down the steep Yellow Grade Road and around the lake on mule-drawn wagons took approximately three weeks. To streamline the process James Brady and D.H. Ferguson of the Owens Silver-Lead Company decided to freight materials directly across Owens Lake. In 1872, they constructed a small steamer (85ft long, 16 ft wide, with a 16ft hold) and a wharf near a smelter at Swansea on the northeast side of Owens Lake. However, the great earthquake of March 16, 1872 delayed both projects and caused Owen's Lake to recede. The wharf under construction at Swansea had to be constructed 150 feet longer than originally planned. Another Lone Pine businessman, John Baptiste Daneri, constructed another landing for the steamer on the southwest side of Owens Lake, on the Lone Pine-Los Angeles Road. Daneri's Landing consisted of a warehouse, store, and rock landing. From this landing thirty tons of bullion could be loaded onto stagecoaches headed to Los Angeles. The cross-lake voyage saved 9 turbulent transportation days for the mule-drawn teams to Daneri's Landing (Figure 10). The steamer made her first trip across Owens Lake on June 27, 1872 to the landing in Cartago.[44] A week later, on the 4th of July, the steamship was christened the Bessie Brady (Figure 11) by Brady's young daughter at Ferguson's Landing, south of Lone Pine. In addition to Daneri's Landing and the Landing at Swansea, there was another landing, Ferguson's Landing, on the northwest edge of the Owens Lake.[45] A ca 1875 hand drawn sketch map shown on Figure 12 depicts the towns, boat landings and mines in Inyo County at the time.[46]

According to local legend, the town of Cartago was established in June 1872 after John Baptiste Daneri, a Lone Pine businessman, constructed a warehouse, store and landing on the southwest shore of Owens Lake to capitalize on mining across Owens Lake at the Cerro Gordo mines.[47] Daneri named the area Carthage after the ancient city-state in North Africa, located on eastern side of Lake Tunis, which became one of the largest and most powerful seaports in the Mediterranean. The town of Carthage is noted on historical topographic maps from 1905 and 1907 (Figures 2 and 3). Daneri did not actually own any part of the subject property during this period according to County of Inyo assessor research. As a successful businessman in Lone Pine

---

[42] *Remi Nadeau, "King of the Desert Freighter," 1981.*

[43] *Remi E. Nadeau, Letter to Dorothy C. Cragen, County Courthouse (February 14, 1965)*

[44] *Bill Michael, Cartago, Eastern California Museum (November 1981): 2.*

[45] *Richard E. Lingenfelter, "The Desert Steamers," Journal of the West (October 1962): 149-160.*

[46] *Robert E., R. Parr, Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II, 52-53.*

[47] *Bill Michael, Cartago (Independence, CA: Eastern California Museum: November 1981): 1.*

and co-owner of Denair and Stewart, General Merchandise (see **Table 3**, *Pacific Coast Business Directory for circa 1872-1882: Lone Pine, Inyo Co. PO 18 miles S of Independence.*), he likely saw Cartago as another lucrative business opportunity and pursued his business interests there as a commercial investor in the Cerro Gordo Freighting Company without holding title to the land. The Pacific Coast Business Directory has only three entries listed under the town of Cartago: Belshaw & Titsworth, proprietors freight steamer Bessie Brady; Cerro Gordo Freighting Company, freighting; and Villagas A., hotel.[48] In addition to the Cartago Boat Landing and the structures used by the Cerro Gordo Freighting Company, there was a hotel in the vicinity of the project site. Lone Pine, 18 miles south of Independence, was the primary commercial center in the area.

Table 3

Pacific Coast Business Directory for circa 1872-1882: Lone Pine, Inyo Co.
PO 18 miles S of Independence

Begole and Moore, Saloon
Brizzolara F, General Manager
Brown JS, Butcher
Columbo, WC Physician
Denair and Stewart, General Merchandise
Gothry F, Saloon
Harness, Livery Stable
Hart and Canty, Restaurant
Harvey and Burroughs, Blacksmiths
Hunt JW, Livery Stable and Saloon
Loomis RA, Postmaster
Munzinger and Lubkin, Brewery
Passama J, Bakery
Quillien, Shoemaker
Stratton JH, Hairdresser
Vincentello R, Hotel Proprietor
Ybasete, JD, Butcher
Zaun and Hauser, Brewery

Source: PCR Services Corporation, 2012

During the late 1870s Belshaw and Beaudry became encumbered in a lawsuit against the owners of the San Felipe Silver-Quartz Claim disputing the boundaries their legal mining areas. After two lengthy lawsuits ruling in the favor of the San Felipe Silver-Quartz Claim, the costly litigation combined with the increased

[48] *Pacific Coast Business Directory, p. 126, circa 1872-1882.. Held at the County of Inyo Library.*

costs of operation ended the Union Mining Company and the Cerro Gordo furnaces shut down in early 1878.[49] By 1879, the Cerro Gordo mines were beginning to decline. The Bessie Brady burned in 1882 and the Carson and Colorado Railroad was constructed, running from Keeler (near the Cerro Gordo Mines) to Moundhouse, Nevada in 1883 thereby changing all of the established freighting practices. The railroad provided a reliable and fast source of transport that kept the Cerro Gordo mines in business well into the 20th century. After the Union Mining Company ended their operations at the Cerro Gordo mines, other entrepreneurs attempted to strike it rich in the Cerro Gordo Mines.

After zinc was discovered in the mountains, Louis D. Gordon acquired the Cerro Gordo mines in 1914 and constructed a bucket tramway to carry ore down the side of the Inyo Range to a narrow gage railroad that had its terminus at Owens Lake.[50] However, the landing at Cartago and the steamers were no longer profitable or necessary. In 1913, Charles S. Lee, a civil and hydraulic engineer in Los Angeles, documented the Cartago landing.[51] By 1913, there was little left of the landing in Cartago (figures 13 to 17). By 1924, there were only traces of the wharf remaining, as most of its timbers had been salvaged for firewood by the Willie Brown family of Indians who lived among the cottonwoods between Cartago and Olancha.[52]

A Historical Point of Interest marker (Figure 18) dedicated June 10, 1978 and located on the subject property on Highway 395 memorializes this past history:

> *In the 1870s bullion bars from Cerro Gordo mines were hauled across Owens Lake on the steamer "Bessie Brady" to Cartago Boat Landing. Remi Nadeau's 14 mule teams hauled the bullion to Los Angeles, returning with freight.*[53]

John Baptiste Daneri (1831-1907)

John Baptiste Daneri (1831-1907) was born in Chivalry, Italy on March 6, 1831. At the age of 18 he immigrated to San Francisco with his three brothers where they established themselves as pioneer merchants. In approximately 1870, John Baptiste Daneri established a general merchandise store, Messrs. Daniel and Stewart, in Lone Pine. The California Land Patents Database for Inyo County reveals John B. Daneri purchased a property in Lone Pine (Township 190S, Range 360E, Section 028) on April 25, 1874. In 1877, John Baptiste Daneri moved to San Juan Capistrano and took up farming. Two years later, he married Catherine, the widow of his former partner Stewart, in San Francisco. In 1907, John Baptiste Daneri passed away while visiting his oldest daughter in Sheridan, Oregon.[54]

Remi Nadeau (1818-1886)

Remi Nadeau was born near Quebec, Canada in 1818 and later traveled to Minnesota. In 1860, Nadeau traveled to California across the plains, and adopted Los Angeles as his new home in the fall of 1861. He used Los Angeles as his headquarters while he engaged in the freighting enterprise in parts of California and

[49] *L. Burr Belden and Mary DeDecker, 130-131.*

[50] *Remi Nadeau,* Ghost Towns and Mining Camps of California *(Santa Barbara: Crest Publishers, 1999), 217.*

[51] *Charles H. Lee Photo Collection, Number MS 99/1, University of Riverside Water Resources Collections and Archives.*

[52] *Daivs-King, Participants and Observers: Perspectives on Historic Native American Information From Independence to Haiwee Reservoir in Owens Valley for the Olancha/Cartago Four-Lane Project, U.S. Route 395, Inyo County, California.*

[53] *Cartago Boat Landing, California Historical Point of Interest, Dedicated June 10, 1978, Slim Princess Chapter 395, E Clampus Vitus.*

[54] *Biography of Mrs. Catherine Daneri, Inyo County Library.*

Montana. In 1866, he established a permanent residence in Los Angeles. In 1873, he organized the Cerro Gordo Freighting Company with Mortimer Belshaw and Victor Beaudry, which hauled bullion from the Cerro Gordo mines to the port in San Pedro until 1883 when mule freighting was superseded by railroads.[55]

Remi Nadeau was an active member of Los Angeles society and invested in the future of the city. He actively purchased real estate and was said amass 32,050 acres. In 1885, he constructed the Nadeau Hotel, corner of 1st and Spring Streets. He was also interested in agriculture; he operated the Nadeau Vineyard, had a brief business venture growing and refining beets, and grew barley in Inglewood. Nadeau Street in Los Angeles was named after him, now renamed to East 79th Street.[56] Remi Nadeau passed away on January 15, 1886.

Ernst Heiligendorfer

On March 1, 1873 California Land Patent Number 40 indicates Ernst Heiligendorfer claimed seventy-nine acres legally described as Lot Number 2 of infractional NE ¼ of Township 19S, Range 36E, Section 1, to the north of the study area.[57] The property cost ninety nine dollars. The land patent indicates he erected a house three years before on May 1, 1871 and the property was not occupied for agriculture or trade. Ernst Heiligendorfer, a citizen of Germany was a scientist who specialized in mining technology. In 1874, while Heiligendorfer was a resident of Belmont, Nevada, he had two patents for the "Improvement in Reverberatory Furnaces for Roasting Ores" (no. 147,056, patented February 3, 1874) and "Improvement in Ore-Roasting Furnaces" (no. 157,515, patented December 8, 1874). In 1897, Ernst Heiligendorfer was living in Canelas, Estado de Durango, Mexico, where he patented a process to improve the chloridizing of silver ores.[58] These patents were profiled in Scientific American (1875) and the London Gazette (1874, 1877).

4. Ranching (1862-1986)

While the mines were operating, ranchers raised cattle, famers grew food, and merchants provided the supplies needed. With the passage of the Homestead Act in 1862, the land in the Owens Valley became available for private ownership.[59] In June 1873, the United States Land Office was moved from Aurora, Nevada to Independence and land in the County was officially claimed.[60] The population of Inyo County grew from just under 2,000 in 1870 to almost 4,400 in 1900. Farms almost doubled in the twenty years; in 1880, there were just 242, and by 1900, there were 424.[61] Ranching in the neighboring town of Olancha began during the 1860s.[62] Because of the highly alkaline soil and rocky topography around Owens Lake, farming

---

55 *James Miller Guinn, A History of California and an Extended Histpry of Los Angeles and Environs: Also Containing Biographies of Well-Known Citizens of the Past and Present, Volume 2 (Historic Record Company, 1915): 153-154.*

56 *"Nadeau Street," California Index, Los Angeles Public Library.*

57 *Land entry file, DOCID 40, Ernst Heiligendorfer, April 20, 1875, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.*

58 *United States Patent Office, Ernst Heiligendorfer of Canelas, Mexico, "Chloridizing Silver Ores," Patent No. 597,238 approved on January 11, 1898.*

59 *Adapted from The Owens Valley Land Grab. http://www.usc.edu/libraries/archives/la/scandals/owens.html, accessed September 27, 2011.*

Robert E., R. Parr, Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II. Archaeological Survey Report: Cartago-Olancha Four-Lane Project, U.S. Route 395, Inyo County, California (Bakersfield California: Center for Archaeological Research, California State University, December 2001): 51.

60 *W.A. Chalfant, The Story of Inyo (Bishop, CA: Community Printing and Publishing, 1975): 315-316.*

61 *Christopher Langley,* Images of America: Lone Pine *(Charleston, SC: Arcadia Publishing, 2007): 65.*

62 *Bill Michael, Cartago (Independence, CA: Eastern California Museum, November 1981): 1.*

the land was not practical; instead the land was used for ranching cattle, sheep, and goats. One of the most successful ranches in Olancha was August Walker's ranch who filed a patent in 1864 and ranched in the study area vicinity for twenty-four years.[63]

Gomez Ranch

Ranching most likely began on the subject property after the Homestead Act to 1862 was adopted by the United States. California Land Patent Number 58 for Inyo County reveals Espitacio Gomez purchased 160 acres on July 20, 1873 legally described as Lot 1 in infractional NE ¼ and NE ¼ of SE ¼, Section 1, Township 19S, Range 36 East and N ½ of Lot 2 in infractional SW ¼ of Section 6, Township 190S, Range 37E, encompassing the subject property (Assessor Parcel# 33-020-01). The County of Inyo Assessment Book of 1881, held at the Eastern California Museum, reveals the Gomez Ranch was owned and occupied in 1881 by the Cerro Gordo Freighting Company in Cartago. The value of land was $800 and a total of $1,700 had been made in improvements by that time. Based upon this evidence along with the documentation of the cash land sale to Espitacio Gomez recorded in California Land Patent 58 for Inyo County, it appears that the timber portion of Gomez Homestead (Residence 2) (P-011515) was erected by Gomez in 1871. The *Sierra Nevada Place Names: From Abbot to Zumwalt* identifies the subject property as the Gomez Meadow: "This land is just south of Cartago, on present-day US 395; the meadow is about six miles west of there, on the crest at the head of Cartago Creek."[64]

Arthur Lubken Ranch

The first grazing permit on file for Arthur Lubken (1887-1958) is on February 9, 1906, when he was applying to graze twenty head of cattle and eight horses in Townships 20, 21, and 22 for the Spring and Townships 18, 182, 30 for the Summer.[65] **Table 4**, *Grazing Permits in the Mt. Whitney District for Arthur Lubken,* lists all of the U.S. Forest Service grazing permits Arthur Lubken applied for between 1906 and 1927 in the Mt. Whitney District. During World War I, Arthur Lubken was stationed Washington at a field artillery camp and his wife handled his ranching business. In 1922, the permits reveal he owned approximately six acres of ranch property in Lone Pine. Four years later, Arthur Lubken also owned a ranch in Cartago on April 17, 1926. He is listed on the United States census from 1920 and 1930 as a cattle rancher living in vicinity of Lone Pine.[66] Photographs captured Arthur Lubken's two ranch houses during the 1950s (Figures 19 to 21).

On April 15, 1953 Arthur F. and Irene W. Lubken granted the land (APN 33-020-11) to Edward L. and Dorothy M. Thornburg.[67] By July 1953 the Thornbrughs were running 500 heads of beef cattle on

---

[63] *Robert E. Parr,, R. Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II, 12-13.*

[64] *Peter Browning, Sierra Nevada Place Names: From Abbot to Zumwalt (Great West Books, 211): 95.*

[65] *Arthur Lubken Grazing Permits, Mt. Whitney District, United States Department of Agriculture Forest Service, Number 72, February 8, 1906.*

Arthur Lubken Grazing Permits, Mt. Whitney District, United States Department of Agriculture Forest Service, March 5, 1906.

[66] *Arthur F. Lubken, California Death Index, 1940-1997 [database on-line]. Provo, UT, USA: Ancestry.com Operations Inc, 2000.*

1920 U.S. Census, population schedule, Lone Pine, Inyo County, Enumeration District [ED] 42, roll T625_94, sheet 1A; Ancestry.com, http://www.ancestry.com (accessed 29 September 2011).

1930 U.S. Census, population schedule, Township 4, Inyo County, Enumeration District [ED] 7, roll 119, sheet 15B; Ancestry.com, http://www.ancestry.com (accessed 29 September 2011).

[67] *Inyo County Recorder.*

Table 4

Grazing Permits for Arthur Lubken in the Mt. Whitney District Issued by U.S. Department of Agriculture Forest Service

Date	Description
2/8/1906	Twenty head of cattle, 8 head of horses.
3/5/1906	Reserve from April 1, 1906 to October 15, 1906. Townships 20, 21, and 22 (Spring Grazing); Townships 18, 182, 30 Range 34 (Summer)
3/1/1906	105 head cattle. Townships 20, 21, and 22 R 36 and 37 (Spring Grazing); Townships 18,19, 20 Range 34 and 34 (Summer)
4/14/1907	150 head cattle. Township 18, 19, 20 Range 34, 35.
1/14/1908	150 head cattle. Township 18, 19, 20 Range 34, 35 (Summer); Township 21, 22, 20 R 36 and 37 (Spring)
3/17/1909	275 Head of Cattle, 4 head of horses, cattle ranged during winter season on 400 acres about 4 miles due south of Lone Pine in Township 16 Range 36, I have regularly used range in sequoia National Forest during the past two years and grazed 150 head of cattle on paid forest during the past season from March 1 to October 15. Approved February 15, 1909. Grazing Sequoia National Forest ; Township 20-22 R's 36-37; T's 18-20 R's 34-35; T's 16-17 R's 35-36 .
3/12/1910	300 head of cattle; 10 horses; my home is located in the town of Lone Pine. Township 20-22 R 36-37 (Spring and Winter); T. 18-20 R. 34-36 (summer); T. 16-17 R. 35-36 (winter).
3/14/1911	145 head cattle, 10 horses
1/10/1910	300 cattle
1912	290 head of cattle, 10 head horses; J.H. and Arthur Lubken are partners in the use of the Casa Viejo.
3/1/1912	290 cattle, 10 horses owned
1/16/1912	290 cattle, 14 horses owned; I own no land. I lease 400 acres.
1/11/1913	150 cattle, owned 290 cattle, 10 horses
3/17/1914	Grazing 290 cattle, 10 horses, owned 290 cattle, 16 horses, 400 acres leased land 4.5 S of Lone Pine
1/25/1915	Owned 300 cattle, 12 horses
1/19/1916	Home ranch. Section 28 T. 15S R. 36E owned 300 cattle, 6 horses. Leased lands T. 16S R. 36E 800 acres 9 years reg used range in Sequoia National Forest and grazed 300 cattle.
1/8/1917	Portion of range will prob be ? some late in Spring
2/11/1917	465 head cattle
1/24/1918	Letter from Arthur Lubken Battery "B" 346 Field Artillery camp Lewis Washington to forest supervisor advising "my wife would be my agent for me while I was in the army and she will attend to matters regarding my permit. And I wish you would hold my rights in the forest reserve for me as I maybe a little bit behind in getting in my application as my wife is up here in Washington but she will attend to the matter right away."
10/15/1918	200 cattle, 10 horses 6/16-10/15/1918
3/11/1919	300 cattle, Mt. Whitney Range #7; Monarche Range (Summer); Rose (Spring-Summer)
11/29/2010	Lone Pine - no ranch property
2/17/1922	Do you own your own ranch property? Yes, 6 6/10 acres, Edwards addition Lone Pine. All alfalfa for saddle horses and milk cows reside for ranch in Lone Pine rent ranch property 6,515 acres west of R.R. on s.q. Aberdeen Station Field known as White Meadows. Field stock in winter or John H. Lubken ranch.

Table 4 (Continued)

Grazing Permits in the Mt. Whitney District for Arthur Lubken

Date	Description
Mar 1923	Letter to Mr. Jones "would like to ask you if I could set my permits back to 300 if I bought a ranch. I have a ranch in view of 420 acres…the ranch would be improved as soon as I could get it done."
4/17/1926	Resided in Lone Pine. Owned ranch property, acres near independence and part of the Cartago Field near Olancha on the August Walker Estate
	Calves winter on the John H. Lubken ranch, stock garage lease land during winter months outside on public range during part of winter and early spring. 200 cattle Rose (spring), 200 cattle monarch rayes.
4/20/1927	Lone Pine Ranch Land: "At Olancha and river bottom between Manzanar and Independence" owned 200 cattle, 6 horses

Source: PCR Services Corporation, 2012

approximately 500 acres of pasture land.[68] According the Inyo County assessor records, the Thornburgs constructed an addition on Gomez Homestead (Residence 2) (P-011515), doubling the square footage and also constructed various ranch support structures.[69]

A mobile-home was added to APN 033-020-011 in 1974.[70] In 1975 there was a 359 square foot addition on to the northwest portion of the original 1,406 square foot Residence 3 and at an unknown date the 330 square foot porch was enclosed. A 177 square foot addition was added to the northeast corner of the east residence. In 1978, the property, including land, cattle, and grazing lease, was sold to Rick Stevens.[71] The land sale included 359 cows, 20 bulls, 300 calves, 2 horse, main house, two dwellings, mobile home, shop, and other buildings. During the 1980s the subject property changed ownership. In 1982, the northwest corner of the ranch was subdivided into 16 one-acre residential lots.[72] Cabin Bar Ranch Road was paved along the northern property line from Highway 395 east into the new subdivision. A new ranch-style house and a man-made irrigation pond was constructed on APN 033-440-13 in 1982 to promote the proposed Cabin Bar Ranch subdivision and the Cabin Bar Ranch Road sign was constructed in 1984.[73] On July 9, 1986,

[68] *"Elmer the Elk Happy on Ranch at Olancha," Los Angeles Times (July 14, 1953): A7.*

[69] *Inyo County Assessor's files recorded a 1,765 single-family residence constructed in 1956.*

[70] *Inyo County Assessor's files recorded a mobile home addition in 1974.*

[71] *County of Inyo, Assessor Book 232 (August 15, 1978): 765.*

[72] *"14 Homes Rising on Cattle Ranch," Los Angeles Times (June 27, 1982): 8.*

[73] *Building Permit #17212 for 2,369 sq ft single-family residence. June 4, 1982. County of Inyo Public Works.*

Building Permit #17265 for entry monument. December 20, 1984. Richard Stevens owner. Valuation $21,000. "Twin concrete block columns stone faced with log suspenders between. County of Inyo Public Works.

Anheuser-Busch purchased the Cabin Bar Ranch from Rick Stevens and planned to utilize the property's water resources.[74]

5. Transportation – Stagecoaches, Rails and Roads (1863-1959)

Before train service and automobiles, travel in and out of Owens Valley was by stagecoach and horse or mule-drawn freight wagons. The main wagon route through the Owens Valley had developed along the western side of the valley, which connected various settlements, ranches, and springs.[19] The route was most likely an early Indian trail. Captain J.W. Davidson described the early road leading into the Owens Valley and to the west of Owens Lake: "Establishing a direct route between Salt Lake and all parts of California – avoiding entirely the Mojave Desert and securing to the traveler these important items to a comfortable journey – a good and direct road, and grass and water at distance. Carrying the road along the rim of the Great Basin, and entering *Wokopee* or Owens Valley, at its head by a very excellent pass."[75]

Olancha, approximately three miles south of Cartago, became a transportation center for Owens Valley during the 1860s. From Olancha, trails ran south to Los Angeles, west to Visalia, and east to Coso. The Owens River Stage Line was established in 1863 with a station in Olancha and soon after other stage lines were added.[76] The early dirt roads often navigated around obstacles and ranches, and there were often many stopping places so animals and passengers could rest.[77] Remi Nadeau began operating his mule-drawn freight wagons in 1869 from Cartago, on the road from Lone Pine to Los Angeles. The Cartago station was the primary freight terminal on the west side of Owens Lake. From Cartago, the freight was driven south to San Pedro. After 1873, a road from Keeler which joined the Old Coso Road along the south side of Owens Lake to Owens River Road was extensively improved by the Cerro Gordo Freighting Company.[78]

Carson and Colorado Railway

The construction of the narrow-gauge Carson and Colorado Railway began in 1880, and intended to extend the rail line from the existing Virginia and Truckee Railroad at Hawthorne, Nevada, through the Owens Valley to the Colorado River and terminating in Mojave. The rail line, nicknamed the "Slim Princess," was never completed, although the segment of the line extending to Keeler, on the eastern shore of the Owens Lake, was finished in July 1883. In March 1900, the Southern Pacific Railroad purchased the line with the intention of tying it into the existing Southern Pacific Railroad tracks in the Eastern Sierra. The Southern Pacific Line was completed through Cartago to Lone Pine to aid in the construction of the Los Angeles Aqueduct. Though the rail line was never finished, it did bring economic development to the valley and helped support the burgeoning mining industry. By 1932 passenger service was discontinued, and the Carson and Colorado railway was retired by Southern Pacific in 1959. [79]

---

[74] *Sandy Harrison, "Bottling Plant Planned: Anheuser-Busch buys out Cabin Bar Ranch," July 11, 1986.*

[75] *J.W. Davidson, The Expedition of Capt. J.W. Davidson from Fort Tejon to the Owens Valley in 1859, edited by Philip J. Wilke and Harry W. Lawton (Socorro, N.M.: Ballena Press, 1876): 35.*

[76] *Robert E. Parr, R. Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II, 12.*

[77] *Gussie M. Wood, "The Half-Way House on Georges Creek," Saga of Inyo County (Independence, CA: Eastern California Museum), 94.*

[78] *Elizabeth von Till Warren and Ralph J. Roske, Cultural Resources of the Califronia Desert, 1776-1980: Historic Trails and Wagon Roads (BLM): 33.*

[79] *Robert E., R. Parr, Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II, 53.*

Christopher Langley, Images of America: Lone Pine (Charleston, SC: Arcadia Publishing, 2007): 30.

U.S. Route 395

First commissioned in 1926, US 395 connected Spokane, Washington with Canada. During the 1930s, US 395 was extended from Spokane to San Diego by incorporating existing state routes. Today, US Route 395 connects the Canadian border to Interstate 15 near Victorville, California. Like many highways constructed during the mid-twentieth century, Highway 395 includes many examples of "roadside architecture," which was a design type for commercial locations on or adjacent to highways used for distance travelling. Adjacent to the subject property on the west side of Highway 395 is an abandoned roadside diner constructed during the 1950s (Figures 22 and 23). Often roadside commercial spaces were themed in idealized historic styles related to their regional history and sold regional crafts and food.[80]

6. Los Angeles Department of Water and Power (1905-1935)

As the City of Los Angeles grew during the early twentieth century, the need for new water sources led City engineers to the Owens Valley in the Eastern Sierra where water collected from the rivers and creeks that poured down out of the Sierras. The Los Angeles Aqueduct was constructed between 1905 and 1913 under the direction of self-taught engineer William Mulholland. Negotiated between 1905 and 1935, with most sales occurring between 1923 and 1934, this was one of the largest private land and water acquisitions by any local government in American history. [81] So much water was taken from the valley that the remaining farmers and ranchers formed alliances and rebelled against the draining of the valley's water. In 1924, a group of armed ranchers seized the Alabama Gates and dynamited a section of the aqueduct. However by 1928, Los Angeles owned 90 percent of the water in Owens Valley.[82]

About 1167 farms covering 262,102 acres were purchased for $20,768,233. The associated water rights acquired by the City raised Los Angeles' water supplies by over four times. As late as 1998, Owens Valley and the Mono Basin to the north contributed over 70% of the city's water. This was the first large-scale transfer of water rights in the American West, and it made the growth of Los Angeles possible. Until 1941 and the arrival of Colorado River water, there were no other major sources of supply. The Los Angeles Aqueduct drained most of the ground water located in the Owens Valley, ultimately transforming the Owens Lake into a dry lake bed.[83]

7. Production of Alkaline Minerals (1912-1930)

After the Owens Valley aqueduct was completed in 1912, Owens Lake quickly dried and left a deposit of alkaline minerals. During World War I, the German supply of potash and soda ash was cut off to the United States necessitating the production of these minerals in the United States. The soda ash industry moved into Cartago as the demand for soda ash increased during World War I. The California Alkali Plant was constructed along the shore of Owens Lake in Cartago, north of the subject property. A 1917 issue of *Metallurgical and Chemical Engineering Journal* described the proposed land acquisition of the California Alkali Company, "for the construction and equipping works for the manufacture of soda ash and other alkali products" to be constructed on Owens Lake, Inyo County for an estimated $20,000 for a factory site,

[80] *El Camino Sierra, http://www.owensvalleyhistory.com/el_camino_sierra/page76a.html, accessed May 1, 2012.*

[81] *Abraham Hoffman, "Origins of a Controversy: The U.S. Reclamation Service and the Owens Valley-Los Angeles Water Dispute," Arizona and the West 18, no.4 (Winter 1977): 333-346.*

[82] *Ibid.*

[83] *Ibid.*

$130,000 for building and equipment, and $50,000 for working capital.[84] The California Alkali Company was a division of the Inyo Development Company who purchased a considerable amount of land around Owens Lake in 1888, owned other soda plants around Owens Lake, and was listed as owner of part the subject property (APN 33-020-11) in 1918.[85] The Inyo Development Company filed suit against the City of Los Angeles in 1913 to prevent the City from diverting water out of the Owens River through the aqueduct that was lowering the Owens Lake and lessening soda plant production.[86] In 1921, the City of Los Angeles won the battle for water rights against the Inyo Development Company.[87]

The California Alkali Company, located north of the subject property, commenced operations in 1917 and constructed a company town that revived Cartago (Figures 24 to 26).[88] The self-contained company town was laid-out on a grid and included forty residences (worker cabins, managerial houses, and bunk houses), a school house, a mess hall, store/ice plant/post office building, and offices for the company, in addition to the plants itself.[89] The plant consisted of evaporating ponds, lime kilns, carbonating towers, and rotary soda dryers, in addition to the storage and handling facilities needed to ship the finished soda products to market by rail. There were also facilities for recreation including stable and corral for horses and a baseball diamond. United States census records from 1920 indicate there were 140 residents of Cartago, predominantly families, who were associated with the soda ash plant.[90]

In 1923 the Inyo Chemical Company purchased the California Alkali Company and one year later after modernization the factory was in full production. The manufacture of soda ash and other alkali materials was an important industry in the County of Inyo and was a major center of the United States soda industry. The Inyo Chemical Company was one of three plants producing soda ash on Owens Lake. The Inyo Chemical Company closed the plant in the early 1930s as a result of the Great Depression and the opening of trade with Germany.[91] The United States Census records were not found for Cartago in 1930. Today all that remains of the old company town are several of single-family Craftsman bungalows and the ruins of the plant; the town has been infilled with single-family residences and trailers. The soda refining plant has been removed, except for concrete foundations and substructures, lakebed evaporating ponds, and other ruins.[92]

---

84 *"Metallurgical and Chemical Engineering," (Vol 16) January 1-June 15, 1917, New York: Mc Graw-Hill Publishing Company, Inc., p. 409.*

85 *Inyo County Recorder.*

86 *"Mathews Wants Help," Los Angeles Times (August 14, 1918): II8.*

"Suit May Tie Up Aqueduct Plan," Los Angeles Times (July 23, 1913): I5.

87 *"City is Victor in Owens River Water Contest," Los Angeles Times (March 29, 1921): II13.*

88 *Walt Margerum, A Brief History of Owens Lake Mineral Production, http://www.carsoncolorado.com/pages/mining.html, accessed September 26, 2011.*

89 *George Pipkin, Cartago, My Cartago (Murchison Pub, 2011): 14.*

90 *1920 U.S. Census, population schedule, Cartago, Inyo County, Enumeration District [ED] 45, roll T625_94, sheet 1A, 1B, 2A; Ancestry.com, http://www.ancestry.com (accessed 29 September 2011).*

Douglas W Dodd, "Cartago Townsite P# 14-8141," Department of Parks and Recreation Forms, Department of History, CSU Bakersfield, CA (August 2001).

91 *Walt Margerum, A Brief History of Owens Lake Mineral Production, http://www.carsoncolorado.com/pages/mining.html, accessed September 26, 2011.*

92 *Douglas W Dodd, "Cartago Townsite P# 14-8141," Department of Parks and Recreation Forms, Department of History, CSU Bakersfield, CA (August 2001).*

8. Stone Building Construction[93]

Late Nineteenth Century Vernacular Stone Construction

The tradition of stone construction began in Inyo County during the late nineteenth century when European settlers began arriving in the region. Stones and river rock were readily available materials used to construct substantial structures. The early mines used stone construction for smelters and other auxiliary structures, for example the smelters at the Cerro Gordo are vernacular stone structures similar to the stone ruin on the subject property (Figure 27). The builders of the Cartago Station House (P-011515) at Cartago (stone ruin) gathered local stone for the walls of the structure and utilized the sand from Cartago Creek to make the mortar and plaster for the structure. The window headers, walls and floor were reinforced with discarded parts of freight wagons and mining machinery which appear similar to those now on display at the Eastern California Museum. The interior face of the walls were reinforced by wood timbers against which the uncut rubble stone was laid.

Early Twentieth Century Vernacular Stone Architecture (1900-1940)

During the early twentieth century, in areas where local stone was readily available, property owners continued to use the local stone material to build modest homes and commercial buildings. Gustav Stickley, editor of *The Craftsman* magazine, was a strong proponent of the use of natural, locally derived materials, such as cobblestones or cut stones, in the construction of bungalows that would blend into their surroundings. Regarding the use of stone he wrote:

> *In the building of modern country homes there seems to be no end to the adaptability of cobblestones and boulders in connection with the sturdier kinds of building material, for, if rightly placed with regard to the structure and the surroundings, they can be brought into harmony with nearly every style of architecture that has about it any semblance of ruggedness (Stickley 1979, p.141).*

Stickley acknowledged the popularity of using cobblestones for foundations, pillars, chimneys and fireplaces but believed that cut stones were more structurally sound in the construction of Craftsman houses versus small round cobblestones. He noted, however, that the "best examples" of stone houses were found in California. Illustrations and photographs of bungalows in journals and books of the time featured numerous examples of the use of stone for foundations, chimneys, porches, garden walls and sometimes half-walls, but few examples depicted houses constructed entirely of cobblestones. Gustav Stickley and others wrote that the modern urban or suburban home was a mixture of sophistication coupled with the natural. He relegated stone houses to the country and for seasonal use only, stating "Very few houses that are possible for modern civilized life – outside of the mountain camp – are sufficiently rough and primitive in construction to be exactly in harmony with the use of cobbles."

The writings of Gustav Stickley and the articles in *The Craftsman* magazine may have advised architects and builders to use local stone only for country houses and mountain camps; however, local builders and property owners continued to make use of readily available local stone for vernacular dwellings and commercial buildings and stone construction remained part of the local building tradition during the early twentieth century. Local builders were influenced by a variety of examples of other California houses made

[93] *Excerpted from "Focused Environmental Impact Report: River-Rock Bungalows," prepared for the City of Riverside by Milford Wayne Donaldson, July 1994.*

of river rock. The 1920s and '30s, in particular, evidenced a vernacular tradition of building stone houses near river washes simply because the material was abundant. Indeed, stone houses in Inyo County and the surrounding region tended to be located where cobbles were immediately available. Within Inyo County there are a variety of buildings that utilize stone construction in their exterior, for example in chimneys, low walls, and fences. A number of single-family residences in Independence, located approximately thirty-five miles north of the subject property, are constructed with river rock accents on the facades (Figures 28 to 30). There is an abandoned café with two associated buildings located outside of the subject property along Highway 395 (Figures 22 and 23) with low stone walls on the porch. There are also stone sentry posts and other remnants of stone structures at Manzanar constructed by Ryozo F. Kado, a interned stone mason, in the late summer of 1942 (Figures 31 and 32).[94]

[94] *Cultural Landscape Report: Manzanar National Historic Site (National Park Service Pacific West Region, 2006): 50-51.*

Historic Photographs and Maps

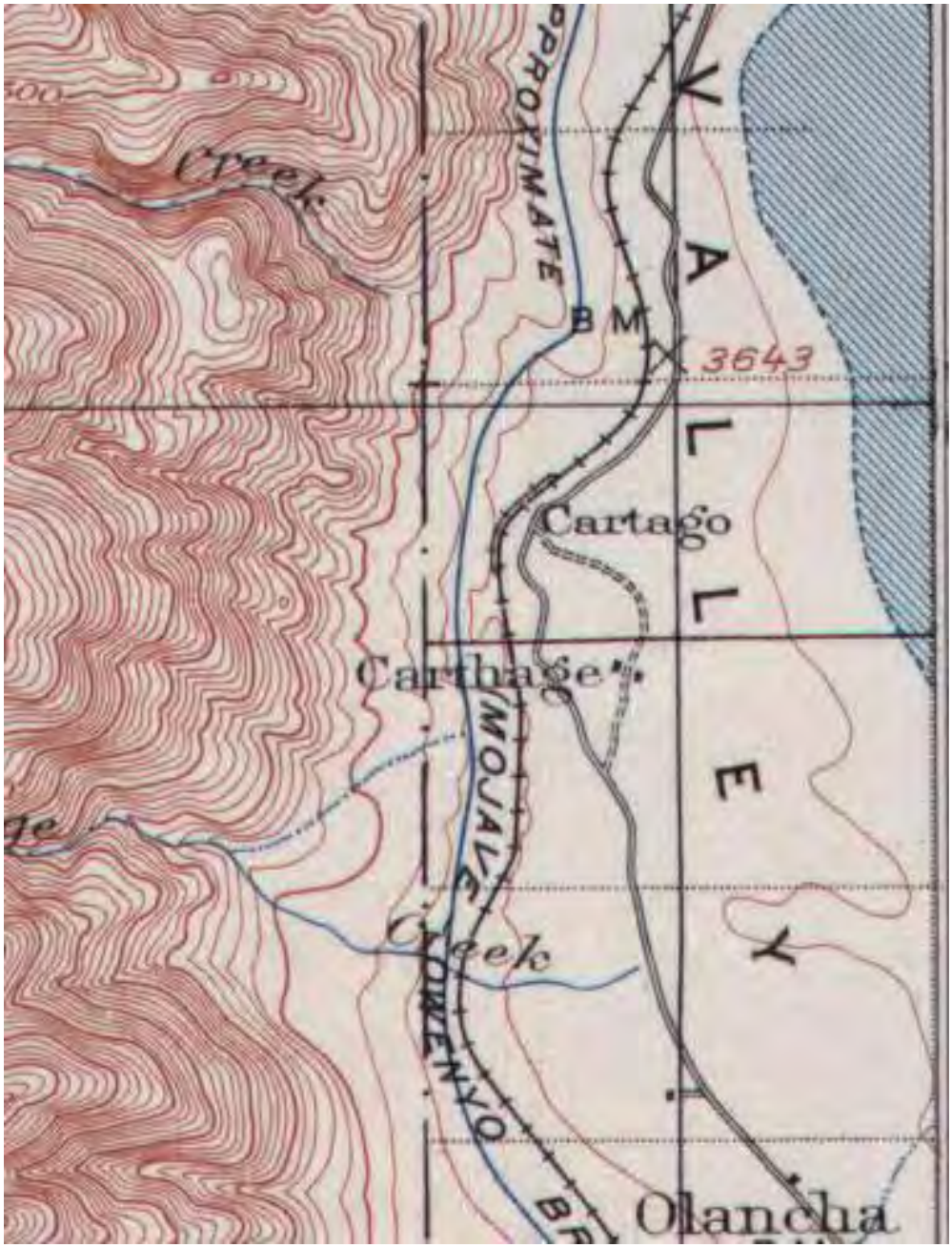


Figure 2. Olancha, Scale 125000, 1905, County Inyo, Tulare (California Historic Topographic Map Collection, California State, Chico, http://cricket.csuchico.edu/maps/topo_search.html)

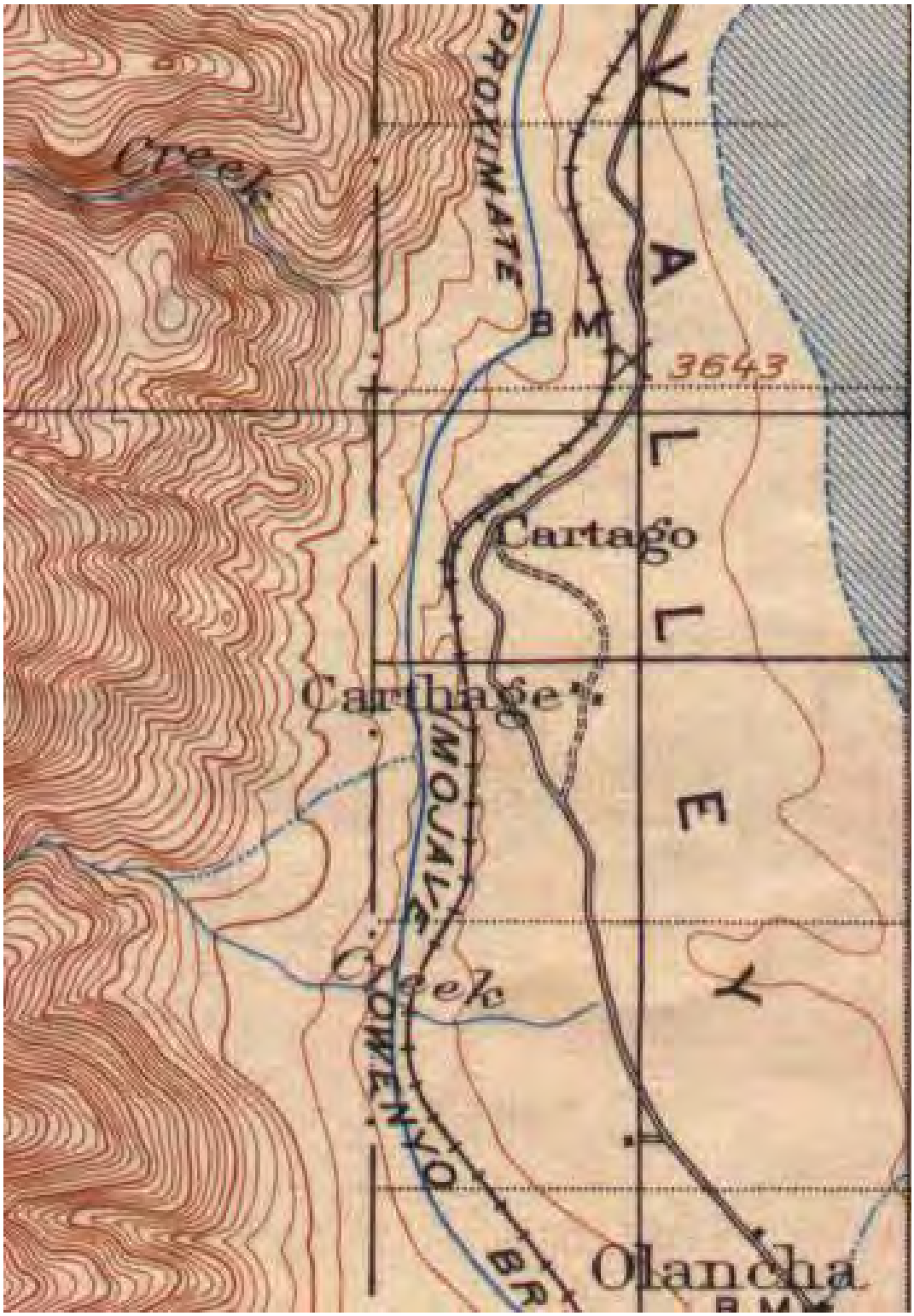


Figure 3. Olancha, Scale 125000, 1907, County Inyo, Tulare (California Historic Topographic Map Collection, California State, Chico, http://cricket.csuchico.edu/maps/topo_search.html)

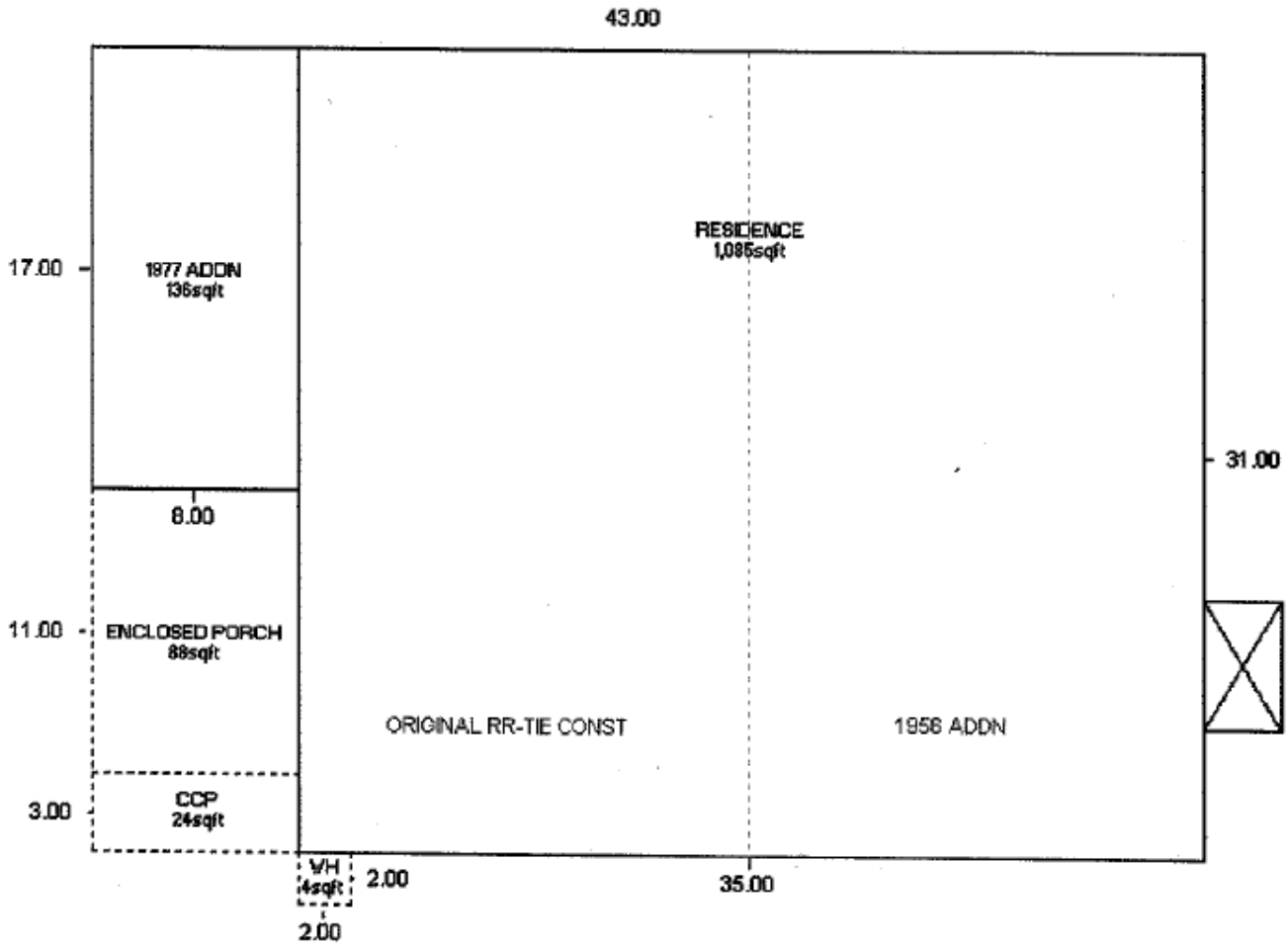


Figure 4. Floor Plan of Gomez Homestead (Residence 2) (P-011515), Current (Inyo County Residential Building Record, 200-610 S HWY 395, Parcel 033-020-11, Bldg 2.)

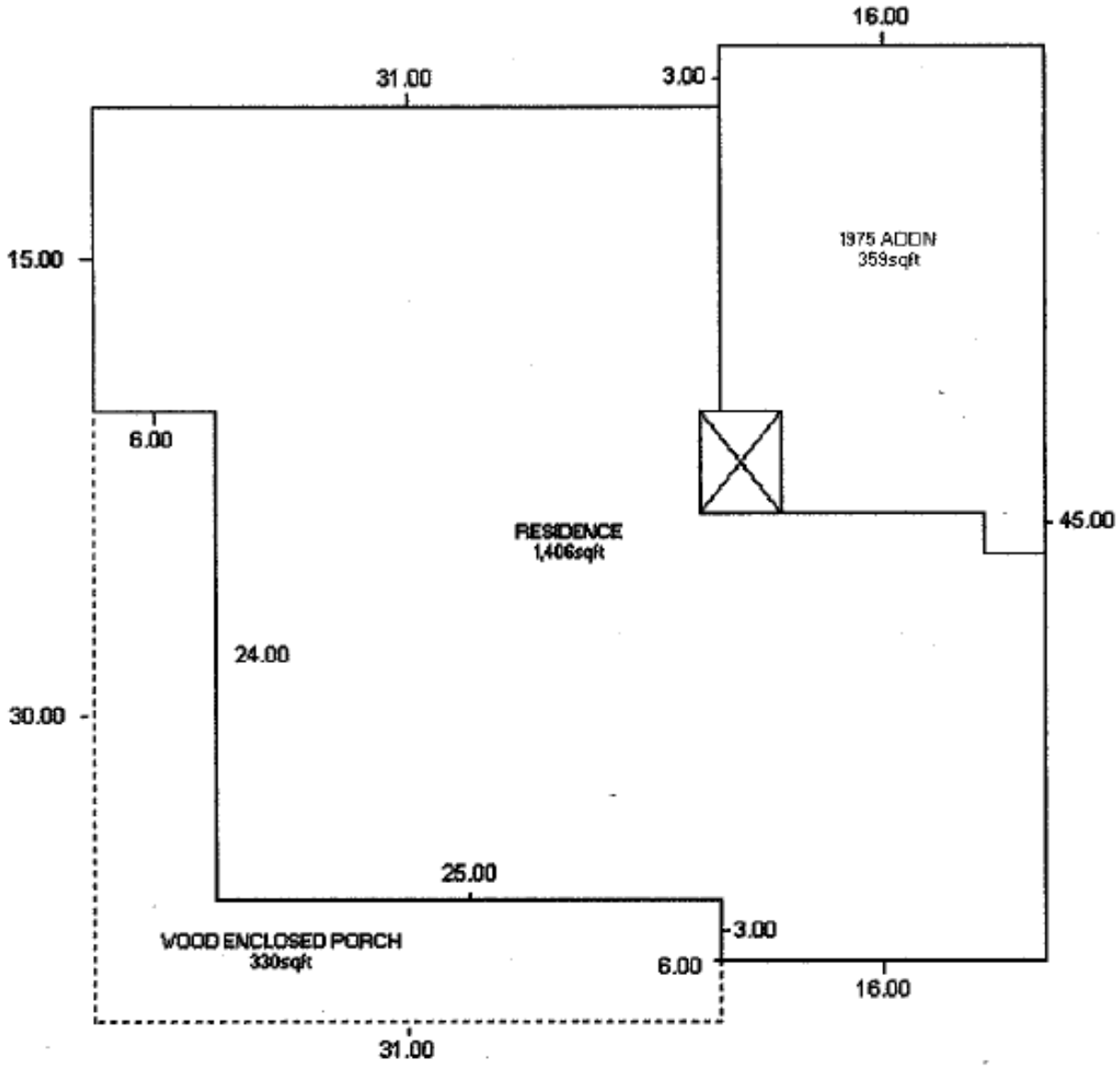


Figure 5. Floor Plan of Residence 3, Current (Inyo County Residential Building Record, 200-610 S HWY 395, Parcel 033-020-11, Bldg 3.)

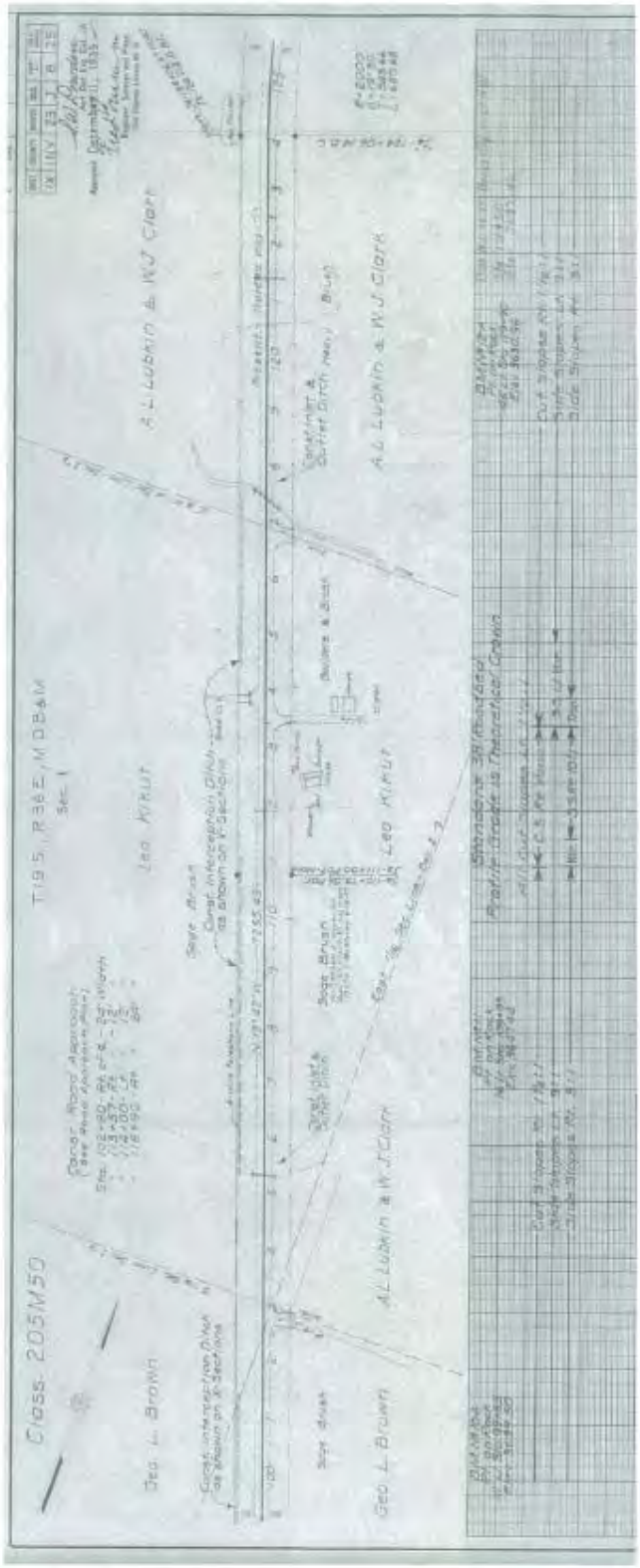


Figure 6. CalTrans as-built maps dated December 11, 1939 (Dean H. Dougherty, Phase I Environmental Site Assessment: Crystal Geyser Roxane Acquisition Parcels, Appendix B, prepared by Sierra Geotechnical Services, Inc., Bishop, California, 2010)

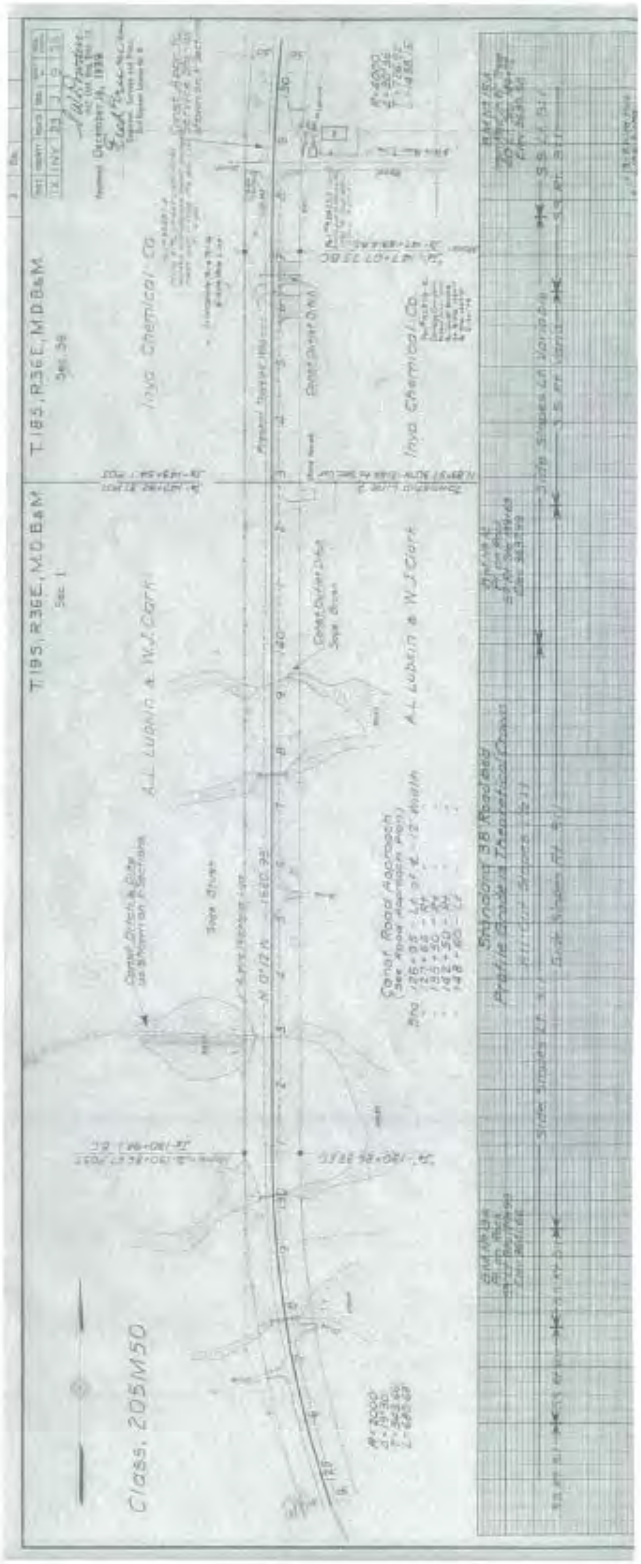


Figure 7. CalTrans as-built maps dated December 11, 1939 (Dean H. Dougherty, Phase I Environmental Site Assessment: Crystal Geyser Roxane Acquisition Parcels, Appendix B, prepared by Sierra Geotechnical Services, Inc., Bishop, California, 2010)

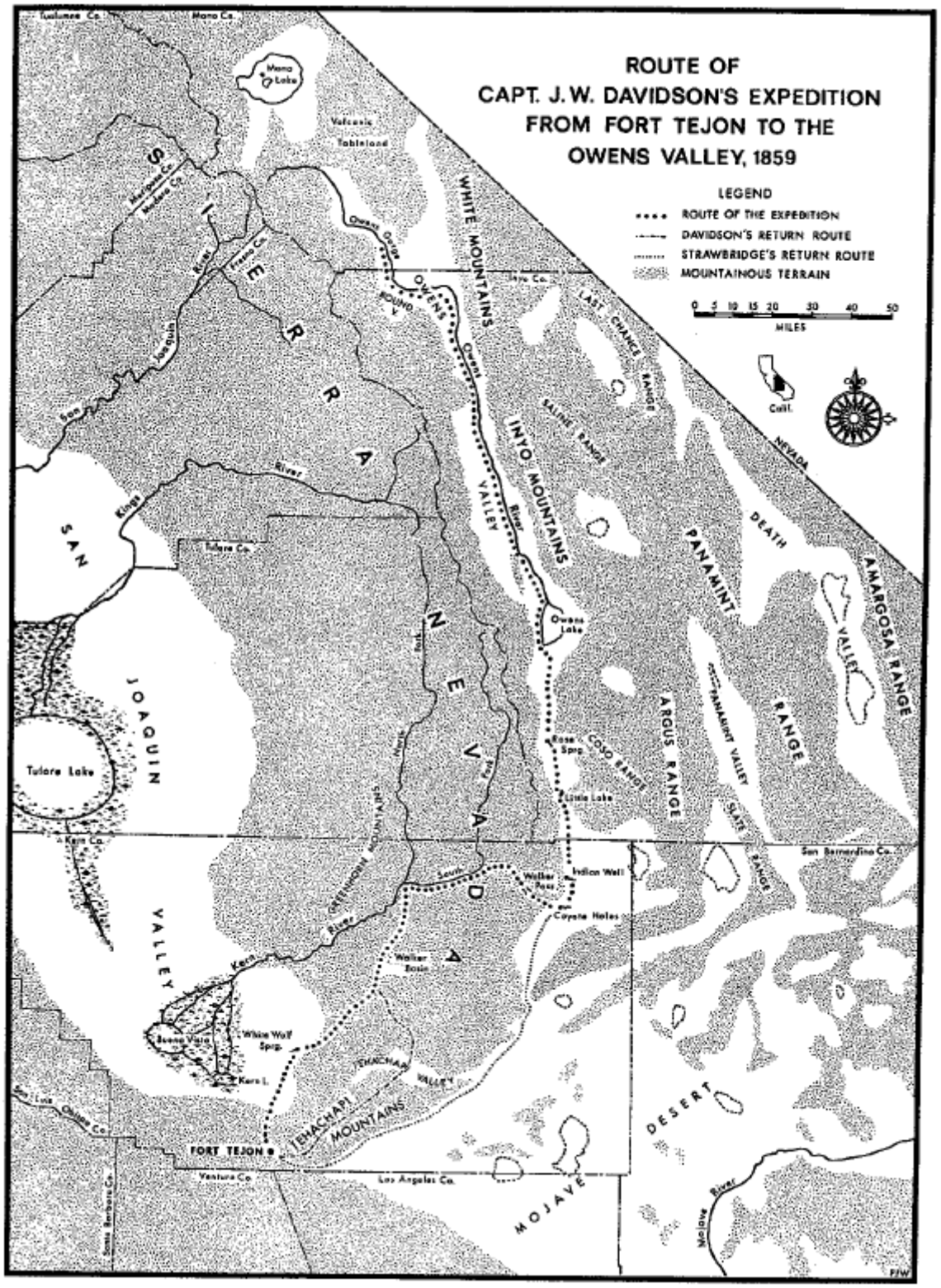


Figure 8. Route of Captain J.W. Davidson's Expedition From Fort Tejon to the Owens Valley, 1859
(J.W. Davidson, *The Expedition of Capt. J.W. Davidson from Fort Tejon to the Owens Valley in 1859*, edited by Philip J. Wilke and Harry W. Lawton, published by Ballena Press, Socorro, New Mexico, 1876)

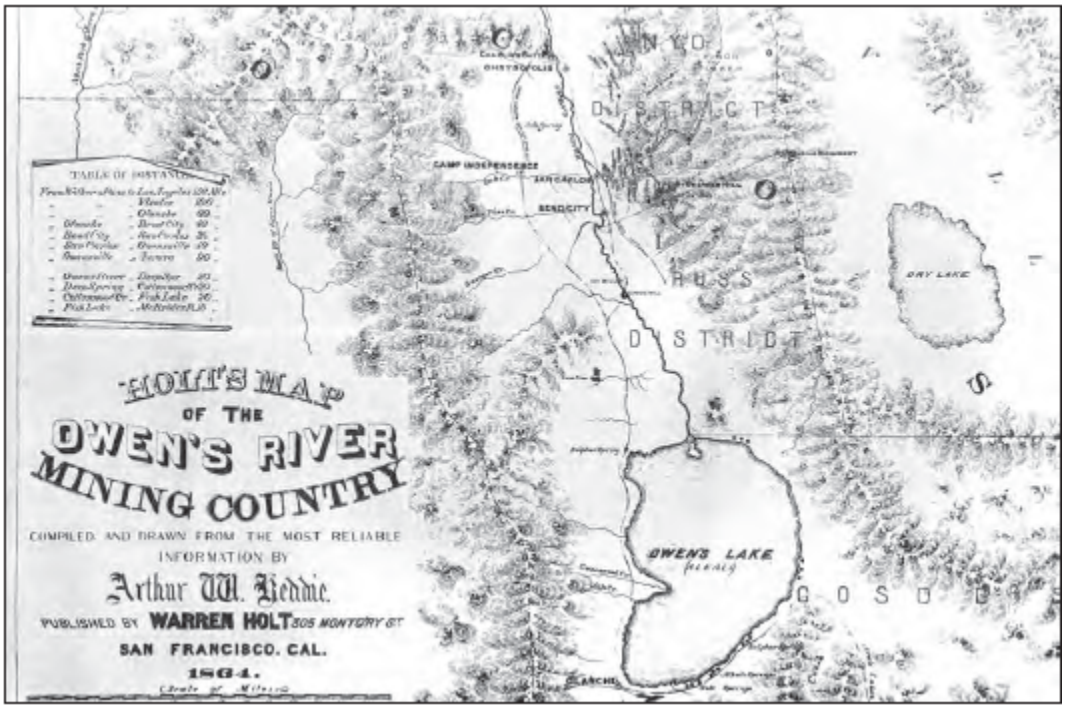


Figure 9. Map of the Owens Valley, 1864 (Cultural Landscape Report: Manzanar National Historic Site, prepared by National Park Service Pacific West Region, 2006: 12)



Figure 10. Hauling Bullion (Virtual Transportation Museum, a Division of the Eastern California Museum, 2010.29.613 VTM)

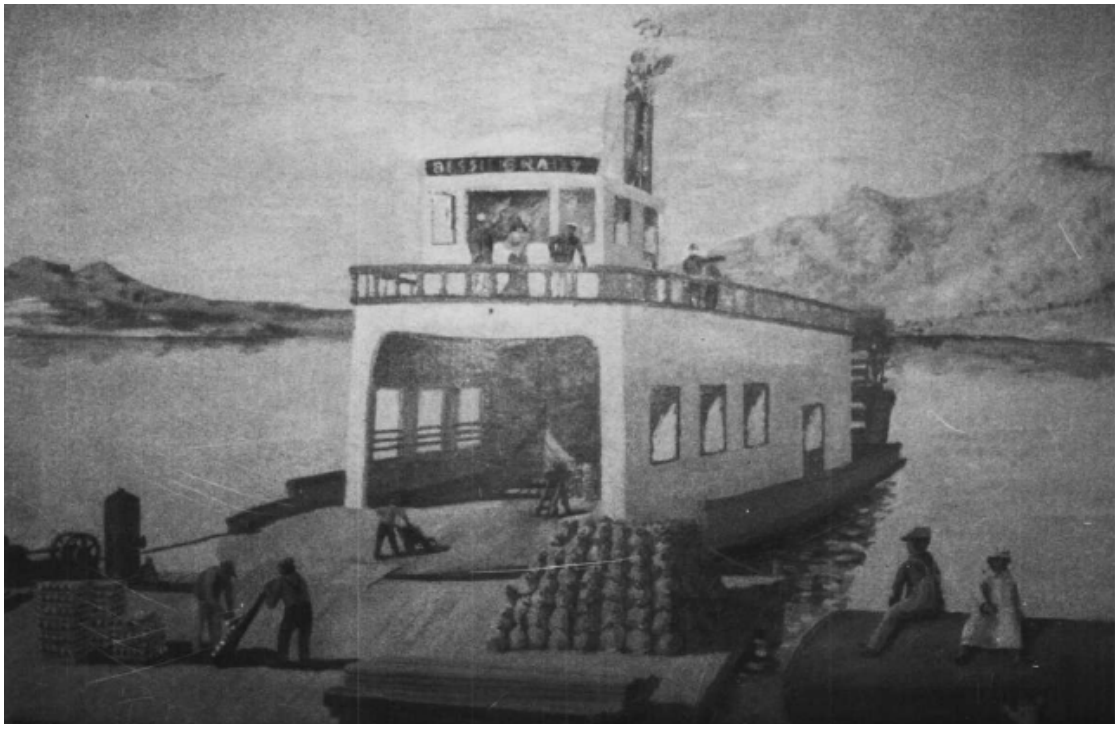


Figure 11. The Bessie Brady, Color Painting by William McKeever (Al Millspaugh, "The Saga of the Bessie Brady," *Desert Magazine*, July 1974, p. 9.)

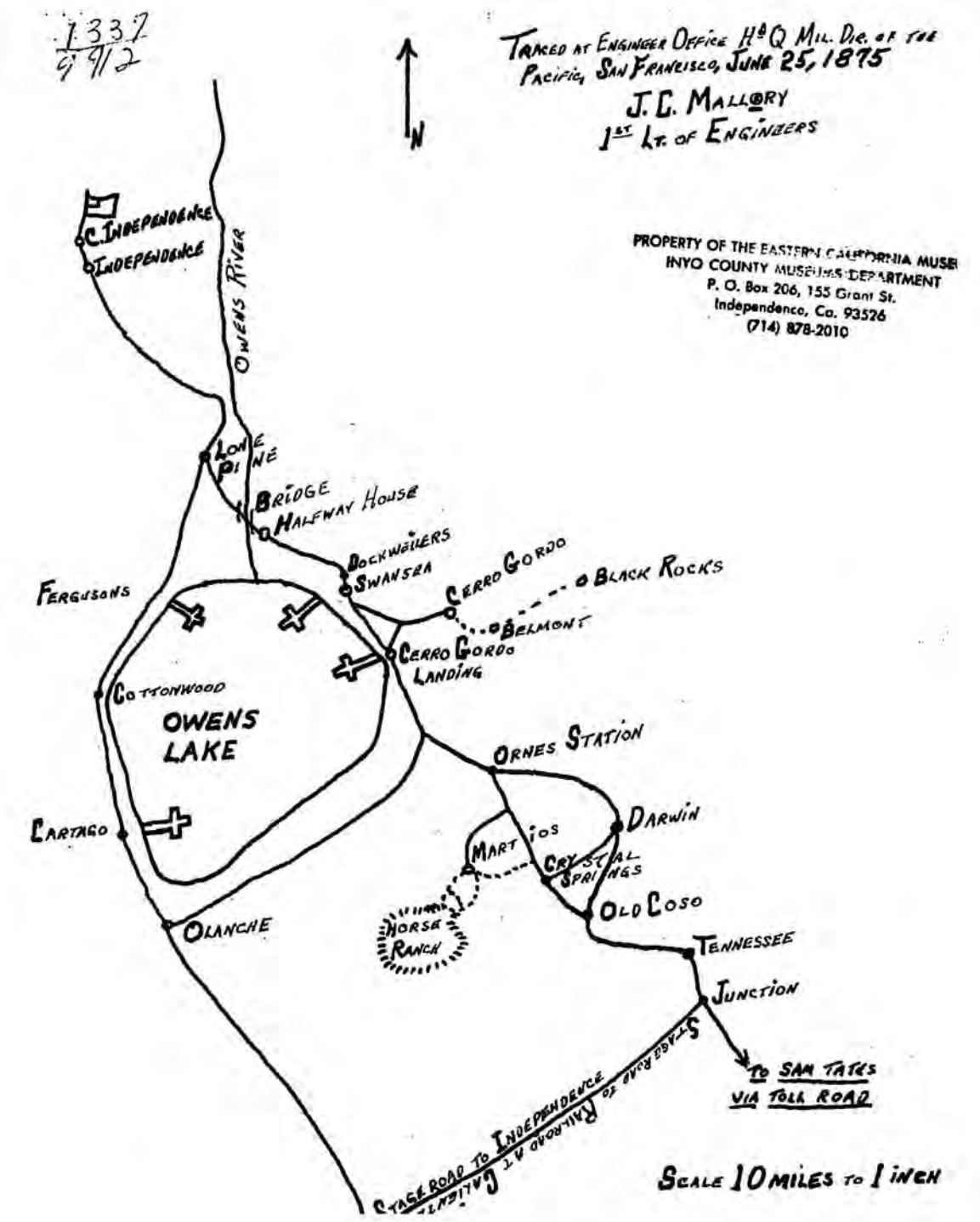


Figure 12. Map of Towns, Boat Lands, and Mines in Inyo County, circa 1875 (Eastern California Museum, County of Inyo, Independence, California)



Figure 13. Old wharf at Cartago, February 1, 1913 (Charles H. Lee Photo Collection, Number MS 99/1, University of California, Riverside, Water Resources Collections and Archives, Item 446a, Riverside, California)



Figure 14. Old beach at Cartago, February 1, 1913 (Charles H. Lee Photo Collection, Number MS 99/1, University of California, Riverside, Water Resources Collections and Archives, Item 446d, Riverside, California)



Figure 15. Old beach at Cartago, February 1, 1913 (Charles H. Lee Photo Collection, Number MS 99/1, University of California, Riverside, Water Resources Collections and Archives, Item 446e, Riverside, California)



Figure 16. Propeller Blade from the Bessie Brady at Cartago Wharf, February 1, 1913 (Charles H. Lee Photo Collection, Number MS 99/1, University of California, Riverside, Water Resources Collections and Archives, Item 446f, Riverside, California)



Figure 17. Cartago wharf showing groove worn into pile by mooring ropes, February 1, 1913 (Charles H. Lee Photo Collection, Number MS 99/1, University of California, Riverside, Water Resources Collections and Archives, Item 446g, Riverside, California)



Figure 18. Cartago Boat Landing, California Historical Point of Interest, Highway 395, Cartago, Inyo County, California (PCR 2011)



Figure 19. Arthur Lubken Ranch house, circa 1953 (Dean H. Dougherty, Phase I Environmental Site Assessment: Crystal Geyser Roxane Acquisition Parcels, Appendix B, prepared by Sierra Geotechnical Services, Inc., Bishop, California, 2010)

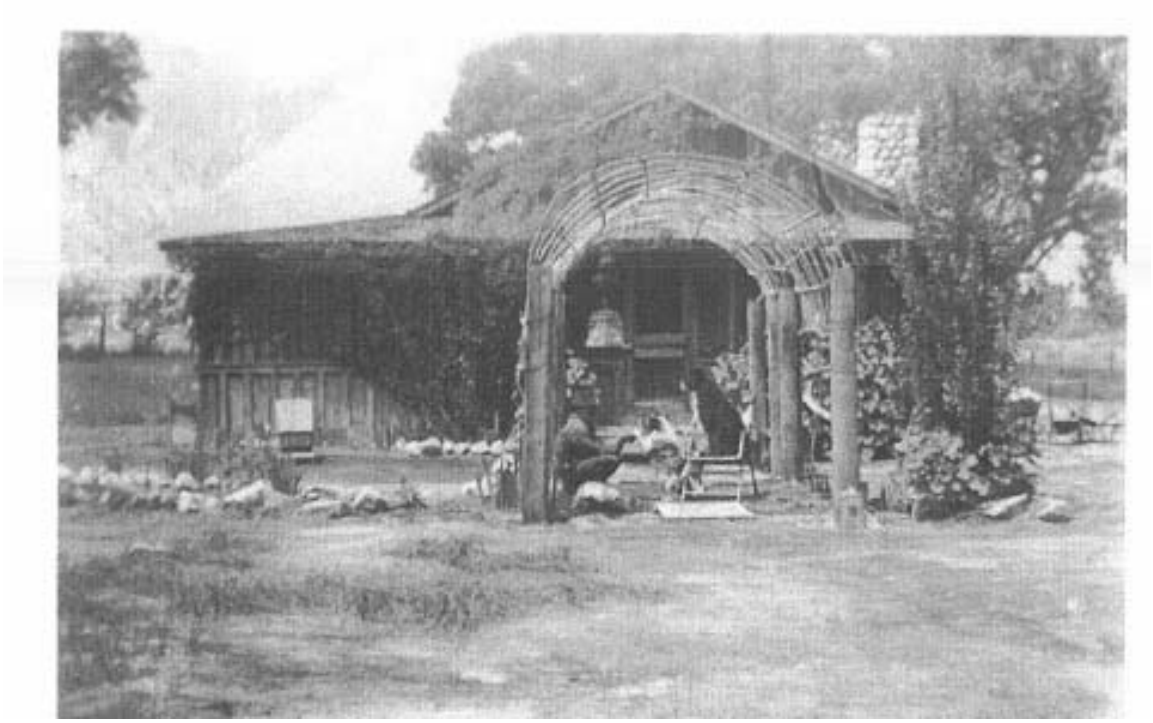


Figure 20. Arthur Lubken Ranch house, circa 1955 (Dean H. Dougherty, Phase I Environmental Site Assessment: Crystal Geyser Roxane Acquisition Parcels, Appendix B, prepared by Sierra Geotechnical Services, Inc., Bishop, California, 2010)

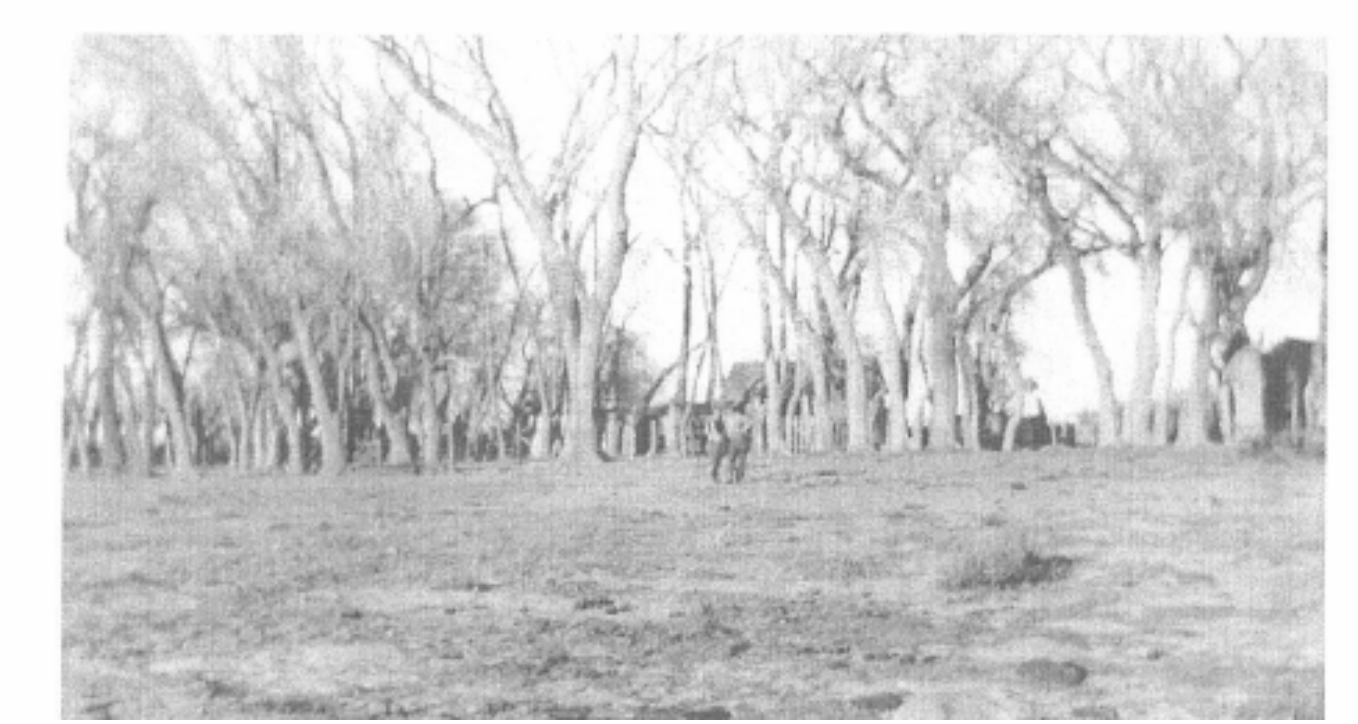


Figure 21. Arthur Lubken Ranch, view east, circa 1955 (Dean H. Dougherty, Phase I Environmental Site Assessment: Crystal Geyser Roxane Acquisition Parcels, Appendix B, prepared by Sierra Geotechnical Services, Inc., Bishop, California, 2010)



Figure 22. Abandoned café, Highway 395, Cartago, Inyo County (PCR 2011)



Figure 23. Abandoned building, Highway 395, Cartago, Inyo County, California (PCR 2011)

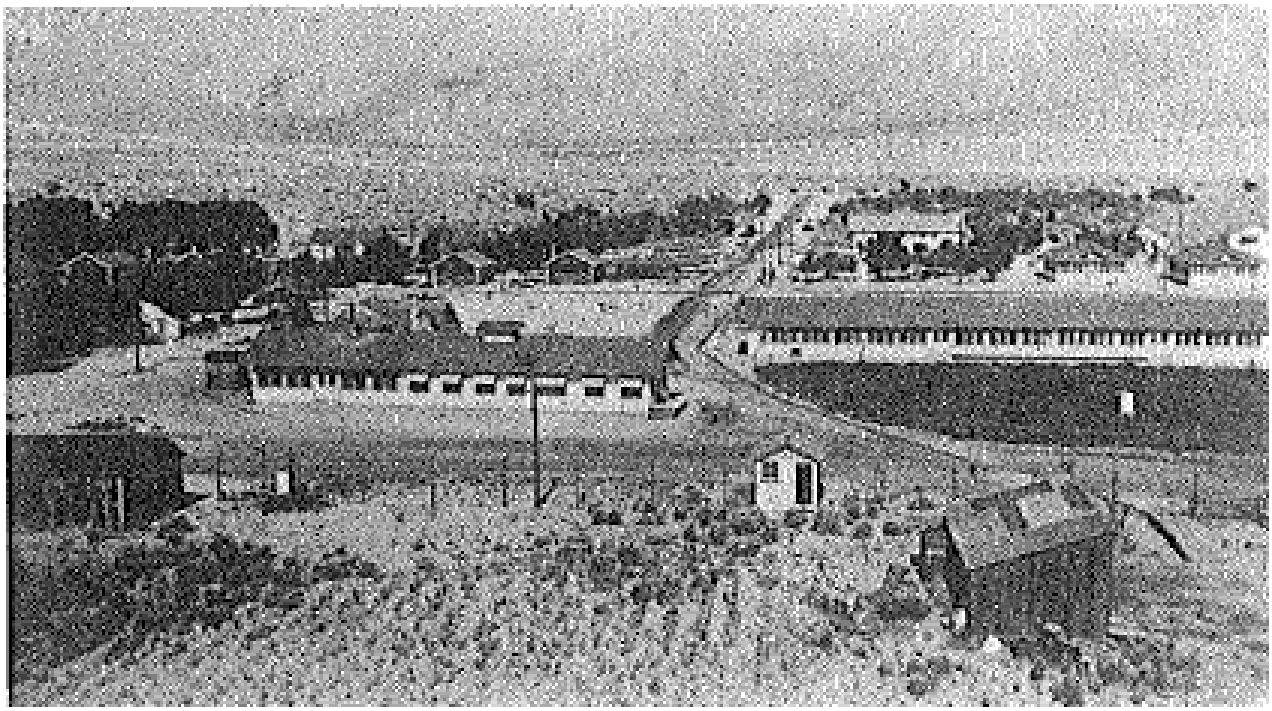


Figure 24. Cartago Camp, view to west, 1919 (George Pipkin, *Cartago, My Cartago*, Murchison Publications, 2011, p. 14.)



Figure 25. Cartago Soda Ash Plant, view to east, date unknown (George Pipkin, *Cartago, My Cartago*, Murchison Publications, 2011, p. 16.)



Figure 26. Cartago Plant, view to west, date unknown (George Pipkin, *Cartago, My Cartago*, Murchison Publications, 2011, p. 16.)



Figure 27. Blast Furnace, Cerro Gordo Mines (http://mojavedesert.net/mining-history/cerro-gordo/)



Figure 28. Early 20th Century Residence with Stone Detailing in Independence (PCR 2012)



Figure 29. Early 20th Century Residence with Stone Detailing in Independence (PCR 2012)



Figure 30. Early 20th Century Residence with Stone Detailing in Independence (PCR 2012)



Figure 31. Manzanar Military Police Sentry Post, Ca. 1942 (PCR 2012)



Figure 32. Manzanar Stone Walls, Ca. 1942 (PCR 2012)

B. IDENTIFIED HISTORICAL RESOURCES

1. Known Historical Resources in the Project Vicinity

On September 28, 2011, PCR archaeologist, Mr. Matthew Gonzalez, conducted an in-house cultural resource records search at the CHRIS-EIC in Riverside, California. This records search included a review of all recorded historical resources and archaeological sites within a half-mile radius of the Study Area as well as a review of cultural resource reports and historic topographic maps on file. The historical resources investigation included records searches and review of local histories to determine: (i) if known historical resources have previously been recorded within a half-mile radius of the project site; (ii) if the project site has been systematically surveyed by historians prior to the initiation of the study; and/or (iii) whether there is other information that would indicate whether or not the area of the project site is historically sensitive or may pose indirect impacts to adjacent historical resources. PCR consulted the National Register of Historic Places (National Register), California Register of Historic Places (California Register), California Historic Resources Inventory (HRI), California Points of Historical Interest (PHI) and California Historical Landmarks (CHL) to determine previously identified historical resources within a half-mile radius of the project site.

There is one previously recorded historical resource, a California Point of Historical Interest, within a half-mile radius of the project site. The Cartago Boat Landing (CHPI-INY-006/P-14-005197) was registered as a California Point of Historical Interest on June 6, 1980. The plaque dedicating the site is located on the east side of Highway 395 on the subject property, see Figure 18 above. The Department of Parks and Recreation Point of Historical Interest form from 1980 is provided in the Appendix. Remnants of the rock wharf likely associated with Daneri's Landing were identified in 2011 by PCR during the pedestrian survey in the form of a 20-m linear rock alignment. The rock alignment is currently outside of the current Study Area (approximately 80 m southeast of the nearest construction activity) but within the Cabin Bar Ranch property. A previous report prepared by Past Forward, Inc. and entitled "Olancha/Cartago Four-Lane Project, US Route 395 Inyo County, California"(IN-868) and prepared in June 2003, studied the Cartago Landing and prepared a site map (Figure 33). The report concluded the landing was a linear rock arrangement constructed of dry laid native stone and measured approximately 55 ft. long and "It appears soil now covers the bulk of the landing construction, although it was not archeologically confirmed during this project." The report also included a site map of the landing, as shown on Figure 33.

There are no other historical resources previously identified on the National Register of Historic Places (National Register), California Register of Historic Places (California Register), California Historic Resources Inventory (HRI), or California Historical Landmarks (CHL).

2. Historic Structure Survey: 1210 South Highway 395, APNS: 033-020-11, 033-050-01, 033-440-01 thru 18, 033-050-04 (Project Site)

The survey process undertaken for the purposes of this evaluation was conducted per the California Office of Historic Preservation (OHP) instructions, which gives a 45-year threshold for surveying properties for significance.[95] To date, no historic buildings or structures located on the subject property have been listed in

[95] *The 45-year criterion is a broad threshold that recognizes that there is commonly a five-year lag between resource identification and the date planning decisions are made.* Instructions for Recording Historical Resources*, Office of Historic Preservation, March 1995, 2.*

the National Register or the California Register. However, the Cartago Boat Landing (Cartago Wharf/Daneri's Landing) (CHPI-INY-006/P-14-005197), a registered California Point of Historical Interest, is located within subject property.

PCR completed an intensive-level survey of the subject property and the following structures were surveyed: Cartago Station House (stone ruin) (P-14-011515), Cartago Boat Landing (P-14-005197) (stone remains), two abandoned single-family residences (Gomez Homestead) (Residence 2) (P-14-011514) (ca. 1871), and Residence 3 (ca. 1910), one single-family residence built in 1983 as a model home, trailer, 1970s and 1980s agricultural structures, water features including a man-made irrigation pond, road network, and three entrances into the property. The two abandoned single-family homes were used as the primary ranch residences prior to the 1980s. The metal barn and irrigation pond, located in the central portion of the property, were used to support former cattle ranch operations. The two pasture areas, which are located immediately adjacent to the east side of U.S. Route 395 on the northern portion of the Study Area, were also used to support former cattle ranch operations. The northern pasture area is surrounded by a wood fence; the southern pasture area is surrounded by a barbed-wire fence. Cabin Bar Ranch Road and the former model home were previously used to access and advertise the Cabin Bar Ranch subdivision.

During the intensive-level survey, two single-family residences, Gomez Homestead (Residence 2) (P-14-011514) (ca. 1871) and Residence 3 (ca. 1910), an associated old carriage road, the remains of the Cartago Boat Landing constructed 1872 (P-14-005197), and the stone ruin of the former Cartago Station House (P-14-011515) (ca. 1872), were identified within the project site and were documented because of their potential to exhibit significance necessary for federal, state, or local designation, pursuant to CEQA due to their age. The stone ruin and Cartago Boat Landing are located outside of the impact area and would not be affected by the proposed project. The Gomez Homestead (Residence 2) (P-14-011514) and Residence 3 would be demolished under the proposed project. These resources were assessed for their historical and architectural significance against the applicable federal and state eligibility criteria. A written description accompanied by representative photographs and a statement of significance for the surveyed historical resources is provided below. The identified resources are depicted and labeled on the current aerial view of the study area in Figure 34.

a. Architectural Description

Cartago Station House (Stone Ruin) (P-14-011515)

Located northwest of the entrance to Cabin Bar Ranch Road is a stone ruin. Based upon the site history and physical evidence, the stone ruin located on APN 033-020-01 appears to have been built circa 1872 (Figure 35). Nadeau's account suggests a station house existed in Cartago during the 1870s and local history maintains that the Cerro Gordo Freighting Company and Daneri constructed a warehouse, store and landing there in 1872. The 1881 Inyo County Assessment Book documents that the Cerro Gordo Freighting Company paid tax on existing improvements in Cartago valued at $1,700. The construction method, materials and physical characteristics of the ruin as well as the site history data indicate it was most likely associated with the Cerro Gordo Freighting Company activities on the site between 1872 and 1882 and was probably constructed at the same time as the Cartago Boat Landing (Daneri's Landing). The stone ruin may be the structure described in Nadeau's account of the station house at Cartago, previously cited above. Situated at the primary freight terminal on the western side of Owen's Lake, the house was said to be larger than those at the other stations, and it is possible Nadeau stayed in the Cartago house himself during his frequent trips

along the route. The company stations consisted of corrals and a small house and were usually kept by a man and his wife. The teamsters and swampers were provided with lodgings and meals at the station, and the livestock were fed and watered.

The stone house originally had a rectangular plan and was oriented facing west toward the main north-south wagon road (now US 395). The west elevation had a center front door opening flanked by large rectangular window openings. A second door opening was located at the southeast corner of the building on the southern elevation, facing the road that enters the property at the existing Cabin Bar Ranch gate. A stone chimney was located in the center of the north elevation. Several small window openings were located along the top of the north and south elevations. Half of the interior space had a stone floor and the other half was probably covered with a wood floor; the space underneath the wood floor was probably used for storage.

The stone ruin has irregular rubble stone walls constructed of three- to ten-inch diameter granite, dolomite and Alabama mountain stones laid with a soft, granular, sand and lime mortar. The sand used in the mortar and plaster closely resembles the texture, color and consistency of the sand in Cartago Creek. The interior faces of the walls were originally supported by interior wood framing, against which the stonework was laid. There is no existing roof. Roughly half of the building has a stone floor, while the remaining floor space is earth (Figure 36). Miscellaneous parts abandoned from old wagons and mining equipment (Figure 37) were added to fill in and reinforce the floor and walls. Adding cast-off implements, bottles or other unwanted refuse as fillers in rubble stone structures was a common building practice at the time. The metal implements resemble the parts of other nineteenth century farming equipment, wagons and mining equipment presently on display at the Eastern California Museum in Independence, California. There is a large porcelain fragment embedded within the lower north wall of the ruin (Figure 38). There are several window openings (Figure 39) with wood framing and metal headers reinforced with discarded steel wagon/mining machinery parts (Figure 40). A chimney without a hearth is located in the center of the north wall. A later metal insert was installed, probably sometime during the 1920s or 1930s (Figure 41) when it appears the building received a new roof (since fallen in) and other structural repairs. Steel rebar reinforcing is evident on the east foundation wall where later repairs were made, and a second color of plaster appears to have been used in the repair of the stonework. The lower portion of the west elevation contains several red bricks and one yellow brick bearing the imprint of the Los Angeles Pressed Brick Company (L.A.P.B.Co. 84)(Figure 42), who manufactured bricks between 1887 to 1926.[96] The 84 on the brick indicates a type of wedge or angled brick for used for a curve of a furnace.[97] Historic debris scattered about the site include fragments of glass bottles, pottery, and heavily corroded metal fragments (Figure 43). Two of the fragments observed are pieces of an amber glass Clorox bottle, most likely manufactured circa 1929-30.[98]

A non-contributing Cabin Bar Ranch sign was constructed adjacent to the stone ruin in 1984 (Figure 44) and the road into the property was also paved.

[96] *Dan Mosier, Los Angeles Pressed Brick Company, Los Angeles yards, http://calbricks.netfirms.com/brick.lapbcobm.html.*

[97] *Email correspondence with Tom of the California Bricks Society, May 1, 2012.*

[98] *Linda C. Sandelin, Associate State Archaeologist, "Clorox Bottles: A Key to Their Identification and Date of Manufacture," June 11, 1998, http://www.fire.ca.gov/resource_mgt/archaeology/clorox.php*

Cartago Boat Landing Site (Daneri's Landing) (CHPI-INY-006/P-14-005197)

The Cartago Boat Landing Site, also known as Daneri's Landing (Figures 12, 17 and 18), is a linear feature consisting of large-granite boulders and sand located at the mouth of Cartago Creek, just north of the Creek. The landing is presently located at the edge of a meadow near the springs located along the spring line fault (Figures 33 and 34). The stones are fairly large in dimension and sand between the boulders is similar to the sand in the creek as well as the sand in the stone house ruin (Figures 45 and 46). Some of the boulders appear to be coated with a layer of calcified sediment or minerals. Approximately 40 feet inland from the landing, PCR observed three distinct pieces of heavily weathered wood timbers in amongst the scatter of Cottonwood remains. Upon close examination the wood timbers seem to have been water logged at one time and are heavily weathered indicating they have been exposed to the elements for a long period of time.

Gomez Homestead (Residence 2) (P-14-011514) and Residence 3

The Gomez Homestead (Residence 2) (P-14-011514) and Residence 3 have layered histories. Assessor records suggest the original portion of the Gomez Homestead (Residence 2) (P-14-011514) (Figure 4) was constructed in 1871, per oral history given to the County Surveyor by the owner on October 25, 1976. A sketch map and written notations on the Assessor's building record on December 4, 1956, describes the original portion of Gomez Homestead (Residence 2) (P-14-011514) as being "constructed of railroad ties."

Based on oral history represented in the existing Assessor Building Records, California Land Patent 58 for Inyo County, the historic topographic maps (1905 and 1907), and existing physical evidence, at least one of the two single-family residences on APN 033-020-01 may have been initially been a cabin constructed circa 1871 out of large squared wood timbers. PCR physically examined the two structures; a portion of wall visible in Gomez Homestead (Residence 2) (P-14-011514) reveals that a section of the house was indeed constructed of squared timber construction consistent with the County Surveyor's observations (Figure 47). Based upon this evidence, it appears that the timber portion of Gomez Homestead (Residence 2) (P-14-011514) was most likely erected by Espitacio Gomez in 1871.

A topographic map from 1905 (Figures 2 and 3) locates Cartago and Carthage along the southwest shore of Owens Lake; a small carriage road branches off to the east from the main wagon road, and two structures are situated across from one another on the east and west side of the carriage road. The two structures are located near the Cartago Boat Landing, although the landing is not indicated. The structures and carriage road on the map are in the same approximate location as the existing road and residences 2 and 3 identified during the PCR field survey (Figure 48). In 1956, a conventional wood-frame addition doubling the square footage of Gomez Homestead (Residence 2) (P-14-011514) (Figure 49) was constructed to the south of the original timber cabin. The 1956 wood-frame addition was sided with asbestos shingles. In 1977, a 177 square foot addition was built on to the northeast corner of Gomez Homestead (Residence 2) (P-14-011514) (Figure 50). Other alterations included an enclosed porch.[99]

Other associated ranch structures on the property constructed during the 1950s included a corral, dip chute, loading chute, chain link fence, scale, feed lot pins, and cattle squeeze (replaced in 1986).[100] In 1975, a pre-

[99] *Inyo County Residential Building Record, 200-610 S HWY 395, Parcel 033-020-11, Bldg 2.*

[100] *Inyo County Miscellaneous Building Record, Parcel 033-020-11, Sheet 3 of 10.*

fabricated barn was assembled.[101] In 1986, other additions to the property included a well and pump, tank, and load dock.[102] The existing ranch support and agricultural structures are less than 45 years in age and do not meet the age guideline for consideration as historical resources.

Gomez Homestead (Residence 2) (P-14-011514)

Based on oral history represented in the existing Assessor Building Records, California Land Patent 58 for Inyo County, the historic topographic maps (1905 and 1907), and existing physical evidence, it appears that the timber portion of Gomez Homestead (Residence 2) (P-14-011514) was erected by Espitacio Gomez in 1871. Gomez Homestead (Residence 2) (P-14-011514) is located east of the carriage road (Figures 47 and 48). The single-family vernacular Ranch-style Residence (ca. 1871; 1956 and 1977 additions) has a rectangular plan and is built of squared timber and conventional wood-frame construction with unfinished board and batten siding (Figures 49 and 50). The siding is in poor condition and appears to have failed in several areas. Squared wood timber construction is presently visible only in one interior wall of the residence, although timber construction may exist in the other walls. The roof is cross gabled with slightly overhanging eaves and is covered by composition roof shingles. There is a concrete masonry unit (CMU) chimney. Existing windows include wood 1/1 double-hung sash windows and replacement aluminum slider windows. The west façade has a three-part composite window with a center opening (the window has been removed) flanked by single-pane double-hung sash windows. The south elevation has one double-hung sash window. The primary entrance is through a wood door on the south elevation. There is a lean-to shed addition on the east elevation.

Residence 3

According to the assessor's building record, Residence 3 (Figure 5) has an estimated construction date of 1910, although, a structure is shown in the same location on the 1905 topographic map. Residence 3 is located across the carriage road to the west of Gomez Homestead (Residence 2) (P-14-011514). Residence 3 appears to be a substantially altered vernacular Ranch-style residence (Figures 51, 52, 53 and 54). A garage was constructed in 1954 north of the two residences and is now used as a chicken coop and barn (Figure 55). Residence 3 was sided with asbestos shingles in 1956. The septic system was updated in 1976 and replaced in 1987 with a holding tank and sewer lines to tie in with Cabin Bar Subdivision. In 1975 there was a 359 square foot addition on to the northwest portion of the 1,406 square foot residence and at an unknown date the 330 square foot porch was enclosed.[103] PCR did not observe any visible "railroad ties" inside Residence 3 and the assessor's building record makes no mention of any.

Residence 3 is rectangular in plan and is also built of conventional wood-frame construction covered with unfinished board and batten siding (Figures 51 to 54). The siding is in extremely poor condition and has failed in several places, and is patched with asbestos shingles in other areas. The primary entrance is through a wood panel door with four fixed windows located on the east elevation. The residence rests on wood beams slightly raised off the ground and is supported by a masonry point-load foundation. The roof is cross gabled with slightly overhanging eaves and is covered with composition roof shingles. A chimney rises

[101] *Inyo County Miscellaneous Building Record, Parcel 033-020-11, Sheet 4 of 10.*

[102] *Inyo County Miscellaneous Building Record, Parcel 033-020-11, Sheet 7 of 10.*

[103] *Inyo County Residential Building Record, 200-610 S HWY 395, Parcel 033-020-11, Bldg 3.*

from the center of the roof and has an arroyo stone veneer. All windows on the residence appear to be replacement aluminum slider windows (several have been removed or boarded over with plywood).

Setting

Located near the two residences to the northeast is a wood-frame garage presently used as a chicken coup or barn constructed in the 1980s (Figure 55). In the central portion of the property is a pre-fabricated metal barn assembled in 1975, [104] corrals replaced in and a red storage shed used to support former cattle ranch operations (Figures 56 and 57). Old horse or mule shoes bearing 19th century cut nails are associated with the early history of the property and are located in a wood box behind the storage shed. Cement lined irrigation or drainage ditches are located in the northern portion of the study area. Judging from their construction method, materials, condition and the size and age of a mature tree that has grown through the cement in one of the ditches, they may be associated with the early twentieth-century occupation of the site. In 1986, other additions included a well and pump, tank, and load dock.[105] The surrounding landscape presently consists of mature trees including Cottonwoods, a variety of shrubs, a grass lawn, an old heavily rutted dirt road, gravel roads, a mobile home and pastures are fenced with both wood and steel fencing. There are three access roads marked with entrance gates into the property, including the Cabin Bar Ranch gate and sign constructed in 1983, and two simple similar typical wood ranch gates near the center and at the southwestern corner of the property. Cartago Creek runs west to east through the property. A one-story wood-frame Ranch style model home constructed in 1983 was previously used to advertise the Cabin Bar Ranch subdivision.

b. Integrity

Cartago Station House (Stone Ruin) (P-14-011515)

The integrity of the stone ruin is extremely low. The building has largely failed. The roof is no longer extant, the floor is partially gone, the windows are removed leaving gaping openings and the walls have largely collapsed. The stone ruin retains evidence of the original construction method and materials, but it lacks integrity as a building or structure in every other respect. It can no longer be used for human habitation and can no longer be classified as a building or structure; thus, the existing structure is correctly classified as a ruin and was evaluated as a potential historic archaeological site (see below).

Cartago Boat Landing (Daneri's Landing) (CHPI-INY-006/P-14-005197)

The Cartago Boat Landing is also an archaeological resource.

Gomez Homestead (Residence 2) (P-14-011514) and Residence 3

The overall appearance and existing conditions of Residences 2 and 3, indicates that the integrity is low in terms of location, design, materials, workmanship, feeling, and association. The floor plans and dimensions of the residences have been altered by several additions, windows on both residences have been removed and replaced or boarded up, the board and batten siding is failing, missing and patched.

[104] *Inyo County Miscellaneous Building Record, Parcel 033-020-11, Sheet 4 of 10.*

[105] *Inyo County Miscellaneous Building Record, Parcel 033-020-11, Sheet 7 of 10.*

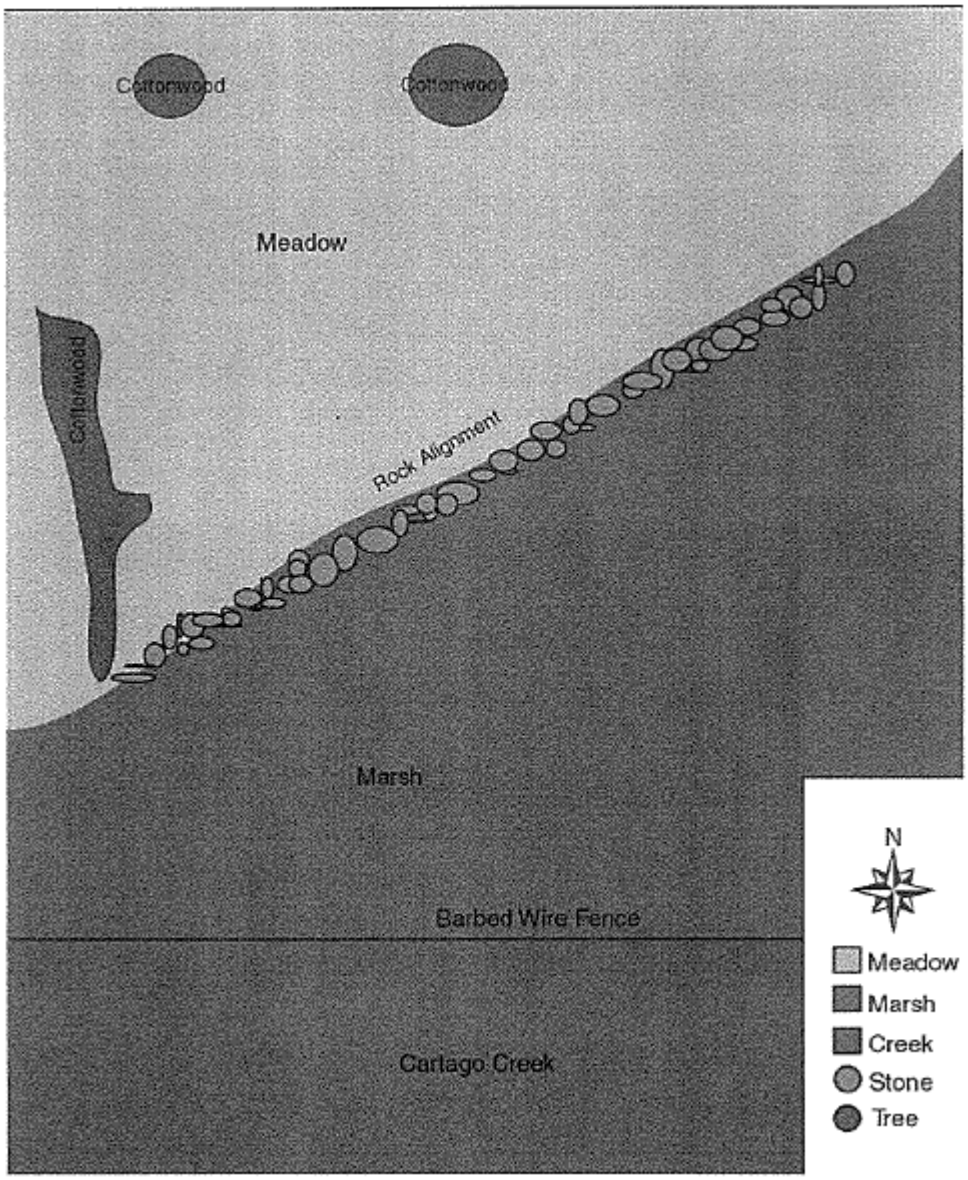
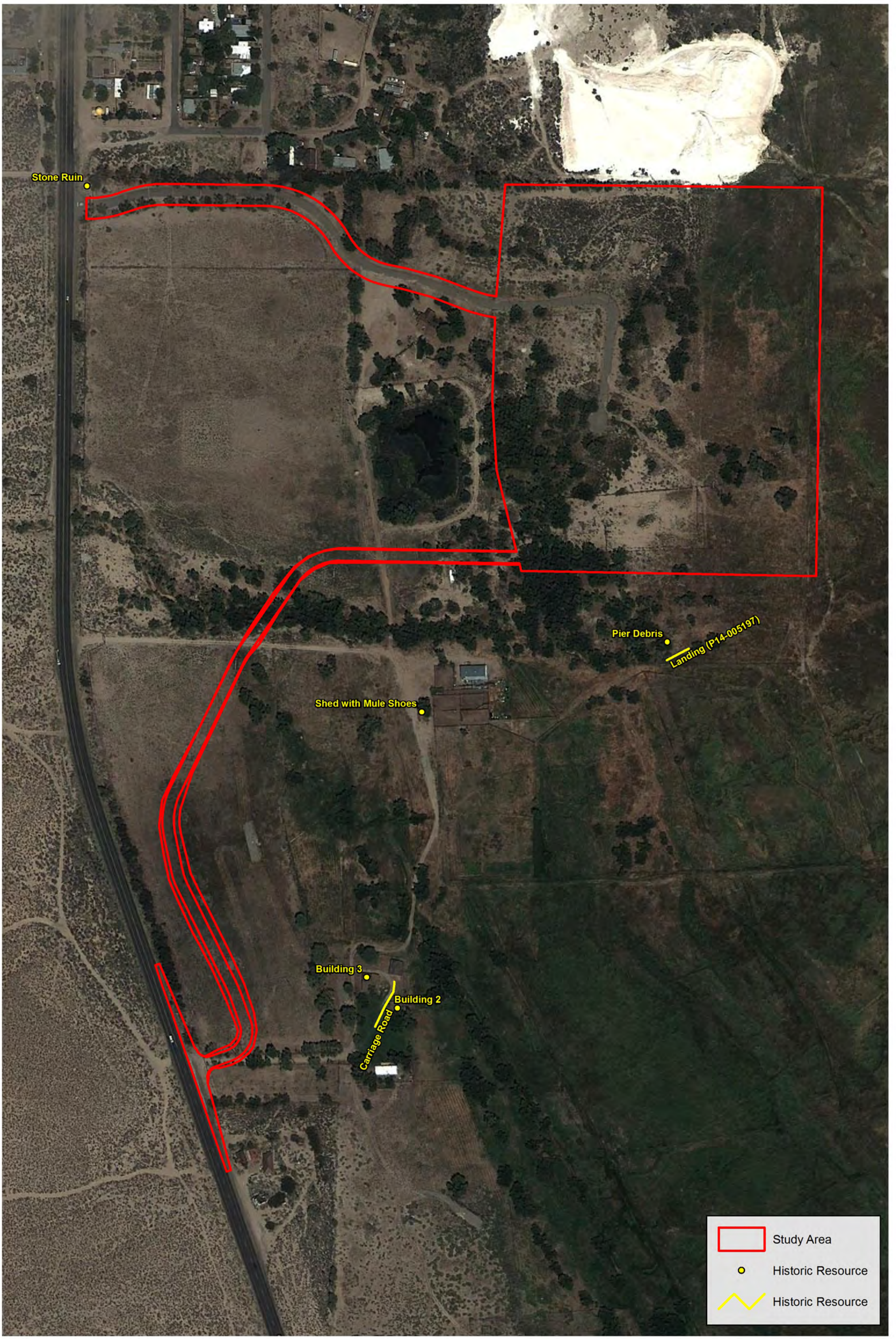


Figure 33. Cartago Landing (P-14-005197) Site Map (Past Forward, Inc., "Olancha/Cartoga Four-Lane Project, US Route 395 Inyo County, California,"IN-868, June 2003, p. 30.)



PCR

N

0 250 Feet 0 70 Meters

Identified Contributing Historic Resources

Cabin Bar Ranch Water Bottling Facility Project
Source: Google Earth, 2011; PCR Services Corporation, 2012.

FIGURE
34



Figure 35 Cartago Station House (Stone Ruin) (P-14-011515), south and west elevation, view to southeast (PCR 2011)



Figure 36. Cartago Station House (Stone Ruin) (P-14-011515), earth floor and debris, view to west (PCR 2011)



Figure 37. Metal implements embedded within Cartago Station House (Stone Ruin) (P-14-011515)(PCR 2012)



Figure 38. Porcelain pottery fragment embedded within mortar of Cartago Station House (Stone Ruin) (P-14-011515) (PCR 2012)



Figure 39. Cartago Station House (Stone Ruin) (P-14-011515), south elevation, view to north (PCR 2011)



Figure 40. Cartago Station House (Stone Ruin) (P-14-011515), south elevation interior wall, view to south (PCR 2011)



Figure 41. Cartago Station House (Stone Ruin) (P-14-011515), north elevation interior wall, view to north (PCR 2011)



Figure 42. Los Angeles Pressed Brick (L.A.P.B.Co.) in the west front wall of Cartago Station House (Stone Ruin) (P-14-011515) (PCR 2012)



Figure 43. Historic debris found scattered within the Cartago Station House (Stone Ruin) (P-14-011515) (PCR 2012)



Figure 44. Cabin Bar Ranch sign, constructed 1984 (PCR 2011)



Figure 45. Cartago Boat Landing (Daneri's Landing) (CHPI-INY-006/P-14-005197) (PCR 2012)



Figure 46. Cartago Boat Landing (Daneri's Landing) (CHPI-INY-006/P-14-005197) (PCR 2012)



Figure 47. Interior of Gomez Homestead (Residence 2) (P-14-011514) showing squared timber construction (PCR 2012)



Figure 48. Residence 3 (left) and Gomez Homestead (Residence 2) (P-14-011514) (right); garage in center; old carriage road runs between Residences 3 and 2, view to north (PCR 2011)



Figure 49. Gomez Homestead (Residence 2) (P-14-011514), west and south elevations, view to east (PCR 2011)



Figure 50. Gomez Homestead (Residence 2) (P-14-011514), north elevation, view to south (PCR 2011)



Figure 51. Residence 3, south elevation, view to north (PCR 2011)



Figure 52. Residence 3, north and west elevation, view to southeast (PCR 2011)



Figure 53. Residence 3, east elevation, view to west (PCR 2011)



Figure 54. Residence 3, north elevation, view to southwest (PCR 2012)



Figure 55. Garage/Chicken Coop/Barn, view to south (PCR 2012)



Figure 56. Corrals and metal shed, view to east (PCR 2012)



Figure 57. Corrals and red storage shed, view to southeast (PCR 2012)



Figure 58. Ranch gate, view to east (PCR 2012)



Figure 59. Southern access road into property, view to east (PCR 2011)



Figure 60. Cartago Creek (PCR 2012)



Figure 61. Residence constructed in 1983, view to east (PCR 2012)

C. STATEMENT OF SIGNIFICANCE

The period of significance identified for the subject property is circa 1871 through the early 1880s, beginning with the construction in circa 1871of the squared timber cabin by Espitacio Gomez now existing within the walls of Gomez Homestead (Residence 2) (P-14-011514) (substantially altered) and including the circa 1872 Cartago Boat Landing (Daneri's Landing) (ruined) (CHPI-INY-006/P-14-005197) and the associated circa 1872 stone Cartago Station House (P-14-011515) (ruined) for the Cerro Gordo Freighting Company and ending with the burning of the steamer Bessie Brady in 1882 and construction of the railroad in the early 1880s, which reduced the volume of the Cerro Gordo Freighting Company's business. The property is associated with the following historical and architectural themes: Euro-American Explorations and Early Settlements (1833-1900); Mining (1872-1900); Ranching (1862-1986); Transportation – Stagecoaches, Rails and Roads (1863–1959); and Stone Building Construction. The property was evaluated for conformance with criteria of the National Register and California Register. The Cartago Boat Landing (Daneri's Landing) (CHPI-INY-006/P-14-005197) is a previously designated California Point of Interest. The Cartago Boat Landing (CHPI-INY-006/P-14-005197) presently retains its historic significance and should continue to be listed under its current designation. In addition, two historic sites, the Cartago Boat Landing (CHPI-INY-006/P-14-005197) and the Cartago Station House (P-14-011515) are considered eligible as potential historic sites under National Register Criteria A, B and D, and California Register Criteria 1, 2 and 4. Gomez Homestead (Residence 2) (P-14-011514) is substantially altered and only the original squared timber cabin is considered eligible under National Register Criterion D and California Register Criterion 4 as a potential historic site. The old carriage road to Gomez Homestead (Residence 2) (P-14-011514) is also considered eligible as a potential historic site under National Register Criterion D and California Register Criterion 4. The project site has a high probability for buried subsurface historic period remains associated with the activities of the Gomez Ranch and the Cerro Gordo Freighting Company from 1871 to the early 1880s. The remaining structures lack sufficient integrity or significance to be considered eligible as potential historical resources. Therefore, the property was assigned a California Historic Resources Status Code of 3CS, "appears eligible for the California Register as an individual property through survey evaluation," and the proposed project was analyzed for potential impacts to historical resources to comply with CEQA.

> *National Register Criteria A: Is associated with events that have made a significant contribution to the broad patterns of our history.*
>
> *California Register Criteria 1: Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*

Eligible historic sites identified on the property including the Cartago Boat Landing (Daneri's Landing) (CHPI-INY-006/P-14-005197) and the Cartago Station House (P-14-011515) appear to be associated with the Cerro Gordo Freighting Company from 1872 through the early 1880s, which made a significant contribution to the broad patterns of National and California history and cultural heritage. The Cerro Gordo Freighting Company and associated mining activities in the Owens Valley played a formative role in the economic development of Inyo County, the surrounding region, and the City of Los Angeles during the late nineteenth century.

> *National Register Criteria B: Is associated with the lives of persons significant in our past.*
>
> *California Register Criteria 2: Is associated with the lives of persons important in our past.*

While previous owners of the subject property, Espitacio Gomez, Arthur F. Lubken and Edward L. Thornburg, were farmers and cattle ranchers, it appears that their contribution to ranching, agriculture, or commerce in the area does not rise to the threshold of significance for listing in the National or California Registers. The Cartago Boat Landing (Daneri's Landing) (CHPI-INY-006/P-14-005197) is associated with a prominent local businessman, John Baptiste Daneri (1831-1907), who resided in Lone Pine and may have invested in the Cerro Gordo Freighting Company and construction of the boat landing. The subject property is associated with the productive life of Remi Nadeau (1818-1886), who organized the Cerro Gordo Freighting Company in 1873 with Mortimer Belshaw and Victor Beaudry, which hauled bullion from the Cerro Gordo mines to the port in San Pedro. Nadeau operated the enterprise from the Cartago terminal on the subject property and stayed in the Cartago Station House (P-14-011515) at the subject property during his frequent travels back and forth to San Pedro. Nadeau was an active member of Los Angeles society and invested in the future of the city by amassing extensive real estate holdings. In 1885, he constructed the Nadeau Hotel, corner of 1st and Spring Streets. He was also interested in agriculture; he operated the Nadeau Vineyard, had a brief business venture growing and refining beets, and grew barley in Inglewood. Nadeau Street in Los Angeles was named after him, later renamed East 79th Street.

> *National Register Criteria C: Embodies 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, or that represent a significant and distinguishable entity whose components may lack individual distinction.*
>
> *California Register Criteria 3: Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.*

The existing structures situated on the subject property lack the necessary integrity and architectural significance to be considered eligible for designation under National Register Criterion C or California Register Criterion 3.

> *National Register Criteria D. It yields, or may be likely to yield, information important in prehistory or history.*
>
> *California Register Criteria 4. Has yielded, or may be likely to yield, information important in prehistory or history.*

The Cartago Boat Landing (Daneri's Landing) (CHPI-INY-006/P-14-005197) is a previously designated California Point of Interest. In addition, the Cartago Boat Landing (CHPI-INY-006/P-14-005197), the Cartago Station House (P-14-011515), Gomez Homestead (Residence 2) (P-011515), and the segment of old carriage road to Gomez Homestead (Residence 2) (P-14-011514) are considered eligible as potential historical sites under National Register Criteria D and California Register 4 for their potential to yield information important in the history and activities of Espitacio Gomez and the Cerro Gordo Freighting Company. The activities of Espitacio Gomez and the Freighting Company encompassed the subject property during the period of significance. The subject property has a high probability to yield historic period remains and important information associated with the activities of Espitacio Gomez and the Cerro Gordo Freighting Company from 1871 to the early 1880s.

Finally, the property does not contribute to a potential historic district. While there are other ranches from the period of significance located in the area, these ranches are not conjoined and do not collectively rise to the threshold of significance for the creation of a Rural Historic Landscape. Furthermore, the historic setting of the property during the period of significance has been compromised by the recession of Owen's Lake and the industrial activities of the adjacent soda ash plant operating between 1917 and 1930s.

D. CONCLUSION

The property was evaluated for conformance with criteria of the National Register and California Register. The Cartago Boat Landing (Daneri's Landing) (CHPI-INY-006/P-14-005197) is a previously designated California Point of Interest. Two historic sites, the Cartago Boat Landing (CHPI-INY-006/P-14-005197) and the Cartago Station House (P-14-011515) are considered eligible as potential historical resources under National Register Criteria A, B and D, and California Register Criteria 1, 2 and 4. Gomez Homestead (Residence 2) (P-14-011514) is considered eligible under National Register Criterion D and California Register Criterion 4 as a potential historic site. The subject property has a high probability for buried subsurface historic period remains associated with the activities of the Cerro Gordo Freighting Company from 1871 to the early 1880s. The remaining on-site improvements lack sufficient age, integrity or significance to be considered eligible as potential historical resources.

IV. CEQA IMPACT ANALYSIS

A. SIGNIFICANCE THRESHOLDS

1. CEQA Guidelines

Appendix G of the current State CEQA Guidelines state that a project involves a "substantial adverse change" when one or more of the following occurs:

- Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

- The significance of a historical resource is materially impaired when a project:

  a. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

  b. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

  c. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

The *Secretary of the Interior's Standards for Rehabilitation* (Standards) are codified at 36 Code of Federal Regulations (CFR) Section 67.7. In most circumstances, the Standards are relevant in assessing whether there is a substantial adverse change under CEQA. Section 15064.5b(3) of the CEQA Guidelines states in part that ". . . a project that follows the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (1995), Weeks and Grimmer, shall be considered as mitigated to a level of less than a significant impact on the historic resource," and therefore may be considered categorically exempt.

According to the *Secretary of the Interior's Standards*,

- *A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.*
- *The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.*

- *Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.*
- *Changes to a property that have acquired historic significance in their own right will be retained and preserved.*
- *Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.*
- *Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.*
- *Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.*
- *Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.*
- *New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.*
- *New additions and adjacent or related new construction will be undertaken in a a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*

B. ANALYSIS OF PROJECT IMPACTS

The proposed project was reviewed by qualified architectural historians and archeologists, who satisfy the *Secretary of the Interior's Professional Qualification Standards for History, Archaeology, and Architectural History*, pursuant to 36 CFR 61, to determine the significance of potential impacts to the identified historical resources on the project site. As discussed above, the subject property has a strong historical association with the early pattern of development of Inyo County as a center for mining between 1872 and 1900 and ranching between 1862 and 1986. The subject property is an example of a rural historic landscape that reflects the local development of the County of Inyo mining and agriculture industry. The property's combination of landscape elements and historic sites (e.g., Cartago Station House (P-14-011515), Cartago Boat Landing (CHPI-INY-006/P-14-005197), Gomez Homestead (Residence 2) (P-14-011514) and associated carriage road) are a rare mix of residential and commercial uses associated with the Espitacio Gomez Ranch and the Cerro Gordo Freighting Company that once operated here on the shores of Owens Lake. The period of significance identified for the subject property is ca. 1871 through the early 1880s, beginning with the construction of the Gomez Homestead, a squared timber cabin constructed in 1871 (Residence 2) (P-14-011514), the construction of the circa 1872 Cartago Boat Landing (Daneri's Landing) (ruined) (CHPI-INY-006/P-14-005197) and the associated stone Cartago Station House (ruined) (P-14-011515) for the Cerro Gordo Freighting Company and ending with the burning of the steamer the Bessie Brady in 1882 and construction of the railroad in the early 1880s. The Cartago Boat Landing (Daneri's Landing) is a previously designated California Point of Interest. Two historic sites, the Cartago Boat Landing (CHPI-INY-006/P-14-005197) and the Cartago Station House (P-14-011515) are considered eligible as

potential historical resources under National Register Criteria A, B and D, and California Register Criteria 1, 2 and 4. Gomez Homestead (Residence 2) (P-14-011514) and the associated segment of old carriage road to Gomez Homestead is considered eligible under National Register Criterion D and California Register Criterion 4 as a potential historic site. The subject property has a high probability for buried subsurface historic period remains associated with the activities of the Cerro Gordo Freighting Company from 1871 to the early 1880s. The remaining property improvements lack sufficient age, integrity or significance to be considered eligible as potential historical resources.

The Cartago Boat Landing (P-14-005197) and the Cartago Station House (ruin) (P-14-011515) are located outside of the impact area and would not be affected by the proposed project. Gomez Homestead (Residence 2) (P-14-011514) and Residence 3 would be demolished under the proposed project. Gomez Homestead (Residence 2) (P-14-011514) contains a squared timber wall which appears to remain from the ca. 1871 cabin likely constructed by Espitacio Gomez. Squared wood timber construction is presently visible only in one interior wall of the residence, although timber construction may exist in the other walls. Gomez Homestead (Residence 2) (P-14-011514) lacks integrity as an architectural resource due to the substantial alterations to the structure; however, the squared timber construction of the extant wall and any other historic fabric associated with the period of significance that may exist inside other walls, roof and floor, have the potential to yield important information about significant historic activities conducted on the site. The property has a high probability for buried subsurface historic period remains associated with the historically significant activities of Espitacio Gomez and the Cerro Gordo Freighting Company from 1871 to the early 1880s.

The proposed project would therefore result in significant impacts on one potential historical resource, Gomez Homestead (Residence 2) (P-14-011514), since this building would be demolished, resulting in the loss of important information pertaining to the property's historical significance. However, demolition monitoring and recordation of the findings by a qualified architectural historian or historical archaeologist would preserve important information about the history of the site and reduce potential impacts to less than significant. After mitigation, project impacts on historical resources would be less than significant.

C. MITIGATION MEASURES

The demolition of Gomez Homestead (Residence 2) (P-14-011514) will result in a significant impact to a potential historical resource. However, upon completion of mitigation measure HIST-1, Demolition Monitoring and Data Recovery, potential impacts would be reduced to less than significant because the important historical information which may be contained in the building would be recovered and recorded. In the event historic period archaeological artifacts are encountered during excavation, mitigation measures ARCH-1 to ARCH-4 will ensure that these resources receive appropriate preservation treatment. This mitigation measure is described below.

Mitigation Measure HIST-1 Demolition Monitoring and Data Recovery: As part of the project, Gomez Homestead (Residence 2) (P-14-011514) will be demolished. The Gomez Homestead (Residence 2) (P-14-011514) contains squared timber construction which appears to remain from the ca. 1871 cabin and has a potential to yield important information about significant historic activities conducted on the project site associated with the period of significance, ca. 1871-1883. The squared timber construction of the extant visible wall and any other historic fabric associated with the period of significance

that may exist inside other walls, roof and floor of Gomez Homestead (Residence 2) (P-14-011514), have a potential to yield important information about the site. The project applicant shall retain a qualified architectural historian or historical archaeologist to conduct construction monitoring during demolition of Gomez Homestead (Residence 2) (P-14-011514). Any important historic fabric or artifacts associated with the period of significance, ca. 1871-1883, shall be fully recorded in photographic images and written manuscript notes. Significant material retrieved from the site shall be salvaged, inventoried and properly archived in a suitable publically accessible historical collection for further analysis and interpretation. A qualified architectural historian, historical archaeologist or historic preservation professional who satisfies the Secretary of the Interior's Professional Qualification Standards for History, Archaeology, or Architectural History pursuant to 36 CFR 61, shall prepare the necessary written and illustrated documentation in a construction monitoring and data recovery report. This document shall record the history of Gomez Homestead (Residence 2) (P-14-011514) during the period of significance as well document its present physical condition through site plans; historic maps and photographs; sketch maps; 35mm photography; and written data and text. All documentation components shall be completed in accordance with the Secretary of the Interior's Standards Historical Documentation. The completed documentation shall be placed on file at the Eastern Information Center (CHRIS-EIC), University of California, Riverside, CA; the Eastern California Museum; and the County of Inyo Public Library.

Mitigation Measure ARCH-1: The Applicant shall retain a qualified archaeological monitor for ground disturbing activities associated with the proposed project. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known archaeological resources, the materials being excavated (native versus fill soils), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the archaeological monitor.

Mitigation Measure ARCH-2: In the event that historic period archaeological resources are unearthed during ground-disturbing activities, the archaeological monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the find so that the find can be evaluated. Work shall be allowed to continue outside of the vicinity of the find. All archaeological resources unearthed by Project construction activities shall be evaluated by the archaeologist. The Applicant shall coordinate with the historic archaeologist and the County to develop an appropriate treatment plan for the resources. Treatment may include implementation of archaeological data recovery excavations to remove the resource or preservation in place. The landowner, in consultation with the historic archaeologist and the County, shall designate repositories in the event that archaeological material is recovered.

Mitigation Measure ARCH-3: The archaeological monitor shall prepare a final report at the conclusion of archaeological monitoring. The report shall be submitted by the Applicant to the County, the Eastern Information Center, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures. The report shall include a description of resources unearthed, if any, treatment of the resources, and evaluation of the resources with respect to the California Register of Historical Resources and the National Register of Historic Places.

Mitigation Measure ARCH-4: If human remains are encountered unexpectedly during implementation of the proposed project, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). The MLD may, with the permission of the land owner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the land owner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.

Whenever the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner or his or her authorized representative rejects the recommendation of the descendants and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The mitigation measures outlined above would reduce potential impacts on historical resources to a less than significant level because the important information about Gomez Homestead (Residence 2) (P-14-011514) within the context of the property history during the period of significance would be recovered, interpreted and developed, and filed in an appropriate public archive for future use. After implementation and completion of the mitigation measures, the proposed project would have a less than significant impact on historical resources.

IV. BIBLIOGRAPHY

A. PUBLICATIONS

Bancroft. Bancroft's Guide for Travelers by Railway, Stap, and Steam Novigation in the Pacific. 1869

Baxter, R. Scott and Rebecca Allen. Olancha/Cartago Four-Lane Project, US Route 395 Inyo County, California. Richmond, CA: Past Forward, Inc., June 2003.

Belden, L. Burr and Mary DeDecker. Death Valley to Yosemite: Frontier Mining Camps and Ghost Towns. Bishop, CA: Spotted Dog Press, 2009.

Biography of Mrs. Catherine Daneri, Inyo County Library

California Code of Regulations, California Register of Historical Resources (Title 14, Chapter11.5), Section 4852(c).

California Public Resources Code § 5024.1.

Chalfant, W.A. *The Story of Inyo*. Bishop, CA: Community Printing and Publishing, 1975

Code of Federal Regulations (CFR), 36 § 60.2.

Davidson, J.W. *The Expedition of Capt. J.W. Davidson from Fort Tejon to the Owens Valley in 1859*. Edited by Philip J. Wilke and Harry W. Lawton (Socorro, N.M.: Ballena Press, 1876).

Dodd, Douglas W. "Cartago Townsite P# 14-8141." Department of Parks and Recreation Forms. Department of History, CSU Bakersfield, CA. August 2001.

Dougherty, Dean H. Phase I Environmental Site Assessment: Crystal Geyser Roxane Acquisition Parcels. (Biehop, CA: Sierra Geotechnical Services, Inc, 2010).

Harrison, Sandy. "Bottling Plant Planned: Anheuser-Busch buys out Cabin Bar Ranch." July 11, 1986.

Hoffman, Abraham. "Origins of a Controversy: The U.S. Reclamation Service and the Owens Valley-Los Angeles Water Dispute." Arizona and the West 18, no.4 (Winter, 1977): 333-346.

Hoffman, Abraham. *Vision or Villainy: Origins of the Owens Valley-Los Angeles Water Controversy*. College Station: Texas A&M University Press, 1981.

Land entry file, DOCID 58, Espitacio Gomez, April 25, 1874, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.

Land entry file, DOCID 40, Ernst Heiligendorfer, April 20, 1875, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.

Land entry file, DOCID 84, Pedro Ruperez, June 15, 1875, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.

Land entry file, serial patent No. 1082189, Kikut Leo, March 21, 1936, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.

Langley, Christopher. *Images of America: Lone Pine*. Charleston, SC: Arcadia Publishing, 2007.

Likes, Robert. *Looking Back at Cerro Gordo*.

Moore, James G. *Exploring the Highest Sierras*. Stanford, CA: Stanford University Press, 2000.

Ghost Towns and Mining Camps of California. Santa Barbara: Crest Publishers, 1999.

Nadeau, Remi. "King of the Desert Freighters." 1981.

National Park Service. *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*. Washington DC: U.S. Dept. of the Interior, National Park Service, Interagency Resources Division, 1990, rev. 1991.

National Park Service. *National Register Bulletin 16: Guidelines for Completing National Register Forms*. Washington, D.C.: U.S. Dept. of the Interior, National Park Service, 1986.

Office of Historic Preservation. *Instructions for Recording Historical Resources*. March 1995.

Office of State Historic Preservation. *California Historic Resources Inventory, Survey Workbook* (excerpts). Sacramento, CA: State of California, 1986.

Olson, Wilma R. *Olancha Remembered*. Sacramento, Ca: W.R. Olson, 1997.

Parr, Robert E., R. Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II. *Archaeological Survey Report: Cartago-Olancha Four-Lane Project, U.S. Route 395, Inyo*

County, California. Bakersfield California: Center for Archaeological Research, California State University, December 2001.

Parker, Patricia L. *National Register Bulletin 24, Guidelines for Local Surveys: A Basis for Preservation Planning*. Washington, DC: U.S. Government Printing Office, 1985.

Pipkin, George. *Cartago, My Carta*. Murchison Pub, 2011.

Rooke, Ralph J. and Elizabeth von Till Warren. BLM. *Cultural Resources of the California Desert 1776-1980: Historic Trails and Wagon Roads*.

Saunder, Robert A. *The Lost Frontier: Water Diversion in the Growth and Destruction of Owens Valley Agriculture* Tucson & London: University of Arizona Press, 1994.

Wood, Gussie M. "The Half-Way House on Georges Creek." *Saga of Inyo County*. Eastern California Museum, p. 94.

B. NEWSPAPERS AND PERIODICALS

"14 Homes Rising on Cattle Ranch." *Los Angeles Times*. June 27, 1982, p. 8

"City is Victor in Owens River Water Contest." *Los Angeles Times*. March 29, 1921, p. II13.

"Elmer the Elk Happy on Ranch at Olancha." *Los Angeles Times*. July 14, 1953, p. A7.

Gilbride, John. "Lost Bullion Ship of Owens Lake." *Desert Magazine*. November 1965, pgs. 28 – 31.

"Industrial: Financial, Construction and Manufacturers' News." *Metallurgical and Chemical Engineering*. Volume XVI. January 1-June 15, 1917. New York: Mc Graw-Hill Publishing Company, Inc, p. 409.

Inyo Independent, November 2, 1894, p. 3.

Inyo Independent, August 4, 1899, p. 3.

Inyo Register, September 8, 1898, p. 3.

Libecap, Gary D. "Chinatown Revisited: Owens Valley and Los Angeles – Bargaining Costs and fairness Perceptions of the First Mahor Water Rights Exchange. *Journal of Law, Economics, and Organization*. Yale University: Oxford University Press, May 4, 2008.

Lingenfelter, Richard E. "The Desert Steamers." *Journal of the West*. October 1962, pp. 149-160.

"Mathews Wants Help." *Los Angeles Times*. August 14, 1918, p. II8.

Millspaugh, Al. "The Saga of the Bessie Brady." *Desert Magazine*. July 1974, pgs. 8-10.

"Olancha Road, Owens Lake," Inyo Independent, October 17, 1870.

"Owens Lake is Source of Soda." *Los Angeles Times*. October 23, 1921, p. V3.

"Suit May Tie Up Aqueduct Plan." *Los Angeles Times*. July 23, 1913, p. I5.

"The Cabin Bar…an American Experience." *Sierra Life*. 44-47.

C. PUBLIC RECORDS, INFORMATION, AND OTHER MATERIALS

1920 U.S. Census, population schedule, Cartago, Inyo County, Enumeration District [ED] 45, roll T625_94, sheet 1A, 1B, 2A; Ancestry.com, http://www.ancestry.com (accessed 29 September 2011).

1920 U.S. Census, population schedule, Lone Pine, Inyo County, Enumeration District [ED] 42, roll T625_94, sheet 1A; Ancestry.com, http://www.ancestry.com (accessed 29 September 2011).

1930 U.S. Census, population schedule, Township 4, Inyo County, Enumeration District [ED] 7, roll 119, sheet 15B; Ancestry.com, http://www.ancestry.com (accessed 29 September 2011).

U.S. Geological Survey. Olancha [map]. 1:25,000. 7.5 Series. United States Department of the Interior, USGS, 1905.

U.S. Geological Survey. Olancha [map]. 1:25,000. 7.5 Series. United States Department of the Interior, USGS, 1907.

V. APPENDIX

National Archives Land Entry Files for Espitacio Gomez, Ernst Heiligendorfer, Pedro Ruperez, and Kikut Leo

Cartago Boat Landing (CHPI-INY-006/P-14-005197) California Point of Historical Interest Update Form, 2012

California Department of Parks and Recreation Form, Gomez Homestead (Residence 2) (P-14-011514), 2012

California Department of Parks and Recreation Survey Form, Cartago Station House (P-14-011515), 2012

Professional Qualifications

NATIONAL ARCHIVES ORDER FOR COPIES OF LAND ENTRY FILES

1. File TO BE SEARCHED: General Land Entry File

3. NAME OF ENTRYMAN (Last, First, and Middle names):	3. LAND LOCATED IN STATE OF:	4. APPROXIMATE DATE OF ENTRY:
Gomez Espitacio	California	Before 1908

5. PRE-1908 GENERAL LAND ENTRY FILES:

5a. SECTION NUMBER:	5b. TOWNSHIP NUMBER:	5c. RANGE NUMBER:
1	190S	360E

6. TYPE OF GENERAL LAND ENTRY:	POST-1908 GENERAL LAND ENTRY FILES:
Cash	9. SERIAL PATENT NUMBER:
7. PATENT FINAL CERTIFICATE OR DOUCMENT NUMBER: / 8. NAME OF LAND OFFICE:	

BOUNTY LAND WARRANT	10. YEAR OF AUTHORIZING WARRANT:	11. WARRANT NUMBER:	12. NUMBER OF ACRES:

Comments:

DOCID: 58; Date 4/25/1874

Item #	Item Description	Quantity Ordered	Quantity Balance	Quantity Fulfilled	Total Amount
FORM84	Land Entry File *Land Entry File (NATF 84)*	1	0	1	$40.00

This is your packing slip. An invoice requiring payment is included, if applicable.

Order Information (NARA use only):	
Service Ticket #:	E11-121283072E
Customer Name:	amanda kainer
Order Date:	4/27/2012 05:25:57
Prepared By:	NWCT1F
Unit Phone:	(202) 357-5385

E11-121283072E
amanda kainer
pcr services
233 wilshire blvd, ste 130
santa monica, CA, 90401
USA

NWCT1F

Mail Immediately

NATIONAL ARCHIVES ORDER FOR COPIES OF LAND ENTRY FILES

1. FILE TO BE SEARCHED: General Land Entry File

3. NAME OF ENTRYMAN (Last, First, and Middle names):	3. LAND LOCATED IN STATE OF:	4. APPROXIMATE DATE OF ENTRY:
Gomez Espitacio	California	Before 1908 4-25-1874

5. PRE-1908 GENERAL LAND ENTRY FILES:

5a. SECTION NUMBER:	5b. TOWNSHIP NUMBER:	5c. RANGE NUMBER:
1	190S MtD.	360E

6. TYPE OF GENERAL LAND ENTRY:

Cash

Inyo Co.

POST-1908 GENERAL LAND ENTRY FILES:

7. PATENT FINAL CERTIFICATE OR DOUCMENT NUMBER:	8. NAME OF LAND OFFICE:	9. SERIAL PATENT NUMBER:
58	~~Los Angeles~~, Independence	

BOUNTY LAND WARRANT	10. YEAR OF AUTHORIZING WARRANT:	11. WARRANT NUMBER:	12. NUMBER OF ACRES:

Comments:

DOCID: 58; Date 4/25/1874

6f 19-S/37-E

☐ **No. We are unable to locate the file you requested above. No Payment is required.**

☐ See the attached form, leaflet, or information sheet

DATE SEARCHED	SEARCHER	FILE DESIGNATION
5-3-12	GLB	Bx. 174

☐ A search was made but an examination of the General Land Office index to private land claims in _____ did not show the requested land entry.

☐ A search was made but the Seven States index to land entries in the public domain in _____ prior to 1908 did not show the requested entry.

☐ A search was made but the index to post-1908 land entries in the public domain did not show the requested entry.

☐ A search was made but the Records of the Bureau of Land Management (Record Group 49), including those of the former General land Office, document only the original transfer of tland from the United States to another party. Later land transactions are not recorded by the U.S. government, but by the county or state in which the land is located.

☐ A search was made but the requested Land Entry record was not found. There is a gap between file # _____ and file # _____. These files could have been missing or lost before they were accessioned by the National Archives.

Order Information (NARA use only):

Service Ticket #: E11-121283072E

Customer Name: amanda kainer

Order Date: 04/27/2012 17:25:57

E11-121283072E NWCT1F
amanda kainer
2017 euclid st apt b
santa monica, CA, 90405
USA

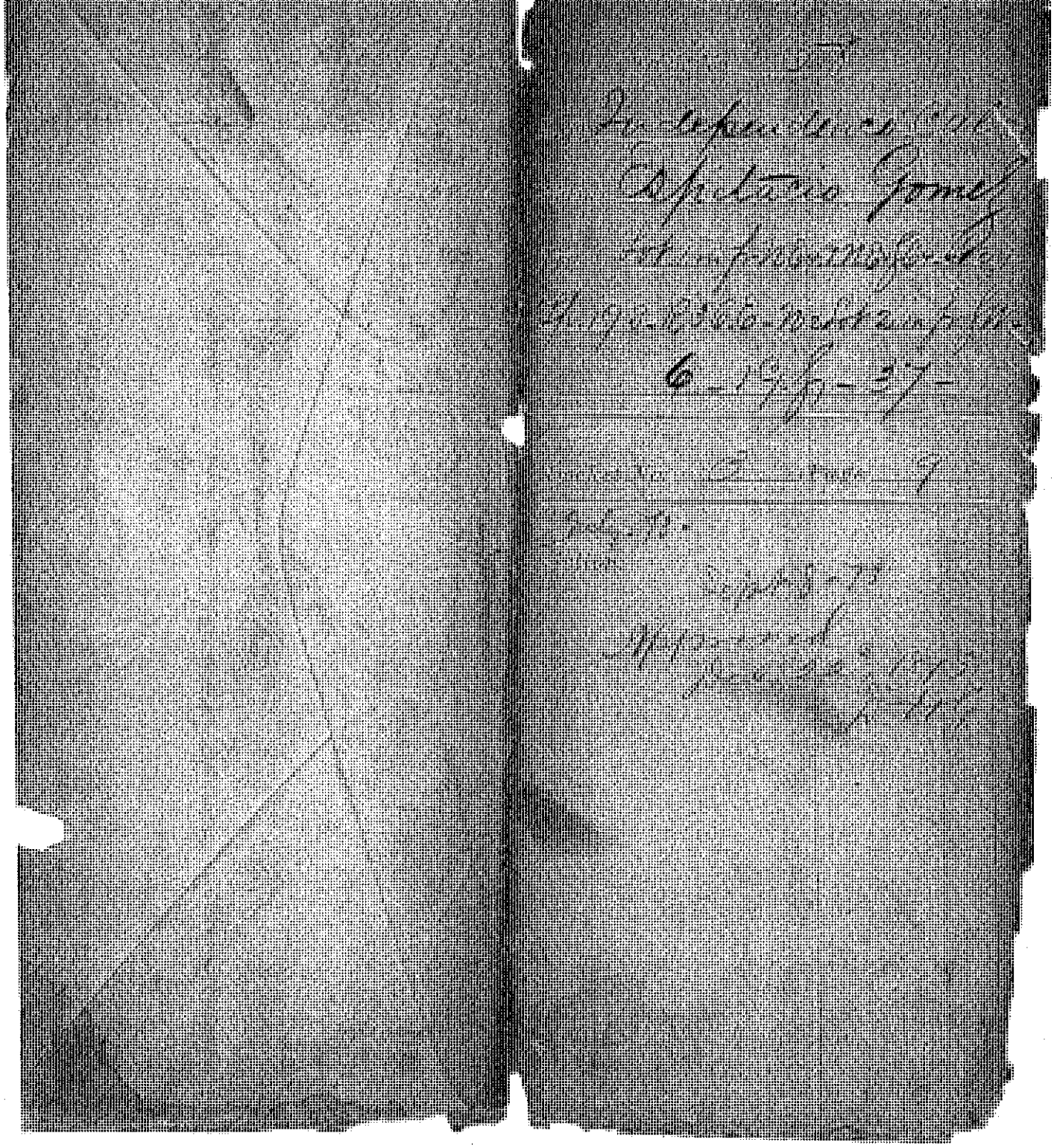
Reproduced at the National Archives

Dear Patron:

We regret that the enclosed photocopies are the best we were able to obtain using our normal reproduction process. This is caused primarily by the age and faded conditions of some of the documents from which these copies were made.

COMPLETED FILE ENCLOSED

BEST AVAILABLE COPY.



No. 58 Receiver's Office at Independence Cal July 10 1873.

RECEIVED *from* Espitacio Gomez

of Inyo ——— *County* California *the sum of* Two

hundred ——— *dollars and* ——— *cents; being in full for the*

Lot 1 in fr NE. 1/4 & NE. 1/4 of SE. 1/4. S. 1 Tp 19,

R. 36 E. and N 1/2 of Lot 2 in fr S. W. 1/4 of Sec 6.

~~fractional~~ *quarter of Section No.* *in Township*

No. 19 South *of Range No.* 37 East *containing*

159 84/100 *acres and* ——— *hundredths, at*

$ 1,25 *per acre.*

$200.00

P. A. Chalfant

Receiver.

No. 58 **LAND OFFICE** at Independence Cal July 10th 183

It is hereby certified, That, in pursuance of Law, Espiritacio Gomez

of Inyo County, State of California on this day purchased of the Register of this Office, the Lot ~~or~~ 1 in Fr NE¼ NE¼ of SE¼ Sec. 1, Tp. 19. S. R 36 East in Township No. S½ Lot 2. in Fr. S.W¼ of Section No. Nineteen South of Range No. Thirty Seven containing one hundred & ~~sixty~~ fifty nine 84/100 acres, at the rate of one dollar and 25 cents per acre, amounting to Two hundred dollars and cents, for which the said Espiritacio Gomez has made payment in full as required by law.

Now, therefore, be it known, That on presentation of this certificate to the COMMISSIONER OF THE GENERAL LAND OFFICE, the said Espiritacio Gomez shall be entitled to receive a Patent for the Lot above described.

J. Earl

Register.

AFFIDAVIT REQUIRED OF PRE-EMPTION CLAIMANT.

I, Espitacio Gomez, claiming the right of pre-emption under the provisions of the act of Congress, entitled "An act to appropriate the proceeds of the sale of the public lands, and to grant pre-emption rights," approved September 4, 1841, to ~~the~~ Lot 1 in fr NE ¼ and NE ¼ of SE ¼ Sec 1, Tp 19, S R, 36 East & N ½ of Lot 2 in fr SW ¼ quarter of section number Six, of township number 19 South, of range number 37 East, subject to sale at Independence, Cal, do solemnly swear that I have never had the benefit of any right of pre-emption under this act; that I am not the owner of three hundred and twenty acres of land in any State or Territory of the United States, nor have I settled upon and improved said land to sell the same on speculation, but in good faith to appropriate it to my own exclusive use or benefit; and that I have not, directly or indirectly, made any agreement or contract, in any way or manner, with any person or persons whatsoever, by which the title which I may acquire from the government of the United States should inure, in whole or in part, to the benefit of any person except myself. Witness C M Woolen Espitacio his X mark Gomez

I, Josiah Earl of the LAND OFFICE at Independence, Cal, do hereby certify that the above affidavit was taken and subscribed before me, this 19 day of June, A. D. 1873.

J. Earl R E

NON-MINERAL AFFIDAVIT.

COUNTY OF Inyo,
State OF California. } ss.

Espitacio Gomez being duly sworn according to law, deposes and says that he is the identieal Espitacio Gomez who is an applicant for Government title to ~~the~~ Lot 1 in fr. N. E 1/4 and N. E 1/4 of S. E 1/4, Sec 1, T. 19, S. R. 36 East and N 1/2 of Lot 2 in fr. S. W 1/4 of section number six, of Township 19 S, R. 37 East that he is well acquainted with the character of said described land, and with each and every legal subdivision thereof, having frequently passed over the same; that his knowledge of said land is such as to enable him to testify understandingly with regard thereto; that there is not, to his knowledge, within the limits thereof, any vein or lode of quartz or other rock in place, bearing gold, silver, cinnabar, lead, tin, or copper, or any deposit of coal; that there is not within the limits of said land, to his knowledge, any placer, cement, gravel, or other valuable mineral deposit; that no portion of said land is claimed for mining purposes under the local customs or rules of miners or otherwise; that no portion of said land is worked for mineral during any part of the year by any person or persons; that said land is essentially non-mineral land, and that his applieation therefor is not made for the purpose of fraudulently obtaining title to mineral land, but with tho object of securing said land for agricultural purposes.

Richard C. Woolard Espitacio X Gomez
his
mark

Subscribed and sworn to before me this 10th day of Feby, A. D. 1873, and I hereby certify that the foregoing affidavit was read to the said Espitacio Gomez previons to his name being subscribed thereto; and that deponent is a respectable person to whose affidavit full faith and credit should be given.

J. Earl
Register

with the above affiants Espitacio Gomez and Thomas Passmore and know each of them to be a credible person, a man of respectability, and that full faith and credit should be given to the above affidavits

P. Reed,

I concur in the above

T. C. W. Woodard.

Especial Service

Affidavit Required
~~of Claimants~~
Claimant & Proof
in Pumpkin Claims

No. 277

Filed July 10th 1873

J. Earl
Register

Land Office at
Independence
California

Land Office

Independence, Cal

Affidavit of Thomas Passmore

In the matter of the claim of Espitacio Gomez to Lot 1 in frl N.E 1/4 & N.E 1/4 of S.E 1/4 Sec 1. Tp 19 S.R. 36 East and N 1/2 of Lot 2 in frl S.W 1/4 of Section Six of Township 19 South, of Range 37 East.—

State of California }
County of Inyo — } S.S.

Thomas Passmore

of the County of Inyo, California being duly sworn touching the subject of enquiry, doth depose and say: I am a citizen of the United States over the age of Twenty one years; I am personally acquainted with Espitacio Gomez, claimant as above, I have known him since about the First day of

one years and a married man — I have heard read the above description of land sought to be entered by the claimant Espitacio Gomez, and know the premises; I know the claimant entered upon in person and erected a dwelling house upon said premises on or about the 1st day of June A.D. 1870, I know that he has since lived upon said land and made it his home and still continues to do so; that said land is occupied solely for agriculture and not trade, nor is it enclosed within the limits of any incorporated town village or city, and it is not within one mile of any Military Post.— I have frequently passed over said land and have held conversations in relation to it, and I do not know from my own knowledge or from hearsay that there are any salines or mines of any description on it, and I verily believe there are none; the claimant did not quit his residence on his own land to reside on the public land.— I believe the Claimant to be a bona fide pre-emptioner

Sworn and subscribed before me this 19th day of January A.D. 1873

Thos Papworth

J. Earl
Register

NATIONAL ARCHIVES ORDER FOR COPIES OF LAND ENTRY FILES

1. File TO BE SEARCHED: General Land Entry File

3. NAME OF ENTRYMAN (Last, First, and Middle names):	3. LAND LOCATED IN STATE OF:	4. APPROXIMATE DATE OF ENTRY:
Heiligendorfer Ernst	California	Before 1908

5. PRE-1908 GENERAL LAND ENTRY FILES:

5a. SECTION NUMBER:	5b. TOWNSHIP NUMBER:	5c. RANGE NUMBER:
1	190S	360E

6. TYPE OF GENERAL LAND ENTRY:
Cash

POST-1908 GENERAL LAND ENTRY FILES:

9. SERIAL PATENT NUMBER:

7. PATENT FINAL CERTIFICATE OR DOUCMENT NUMBER:	8. NAME OF LAND OFFICE:

BOUNTY LAND WARRANT	10. YEAR OF AUTHORIZING WARRANT:	11. WARRANT NUMBER:	12. NUMBER OF ACRES:

Comments:
DOCID: 40; Date 4/20/1875

Item #	Item Description	Quantity Ordered	Quantity Balance	Quantity Fulfilled	Total Amount
FORM84	Land Entry File *Land Entry File (NATF 84)*	1	0	1	$40.00

This is your packing slip. An invoice requiring payment is included, if applicable.

Order Information (NARA use only):	
Service Ticket #:	E11-121283101E
Customer Name:	amanda kainer
Order Date:	4/27/2012 05:29:24
Prepared By:	NWCT1F
Unit Phone:	(202) 357-5385

E11-121283101E
amanda kainer
pcr services
233 wilshire blvd, ste 130
santa monica, CA, 90401
USA

NWCT1F

Mail Immediately

NATIONAL ARCHIVES ORDER FOR COPIES OF LAND ENTRY FILES

1. FILE TO BE SEARCHED: General Land Entry File

3. NAME OF ENTRYMAN (Last, First, and Middle names):	3. LAND LOCATED IN STATE OF:	4. APPROXIMATE DATE OF ENTRY:
Heiligendorfer Ernst	California	Before 1908 4-20-1875

5. PRE-1908 GENERAL LAND ENTRY FILES:

5a. SECTION NUMBER:	5b. TOWNSHIP NUMBER:	5c. RANGE NUMBER:
1	190S	360E

6. TYPE OF GENERAL LAND ENTRY:	POST-1908 GENERAL LAND ENTRY FILES: Inyo Co.
Cash	

7. PATENT FINAL CERTIFICATE OR DOUCMENT NUMBER: 40	8. NAME OF LAND OFFICE: Independence	9. SERIAL PATENT NUMBER:

BOUNTY LAND WARRANT	10. YEAR OF AUTHORIZING WARRANT:	11. WARRANT NUMBER:	12. NUMBER OF ACRES:

Comments:

DOCID: 40; Date 4/20/1875

☐ **No. We are unable to locate the file you requested above. No Payment is required.**

☐ See the attached form, leaflet, or information sheet

DATE SEARCHED	SEARCHER	FILE DESIGNATION
5-3-12	GCS	Bx. 174

☐ A search was made but an examination of the General Land Office index to private land claims in _____ did not show the requested land entry.

☐ A search was made but the Seven States index to land entries in the public domain in _____ prior to 1908 did not show the requested entry.

☐ A search was made but the index to post-1908 land entries in the public domain did not show the requested entry.

☐ A search was made but the Records of the Bureau of Land Management (Record Group 49), including those of the former General land Office, document only the original transfer of tland from the United States to another party. Later land transactions are not recorded by the U.S. government, but by the county or state in which the land is located.

☐ A search was made but the requested Land Entry record was not found. There is a gap between file # _____ and file # _____. These files could have been missing or lost before they were accessioned by the National Archives.

Order Information (NARA use only):

Service Ticket #: E11-121283101E

Customer Name: amanda kainer

Order Date: 04/27/2012 17:29:24

E11-121283101E NWCT1F
amanda kainer
2017 euclid st apt b
santa monica, CA, 90405
USA

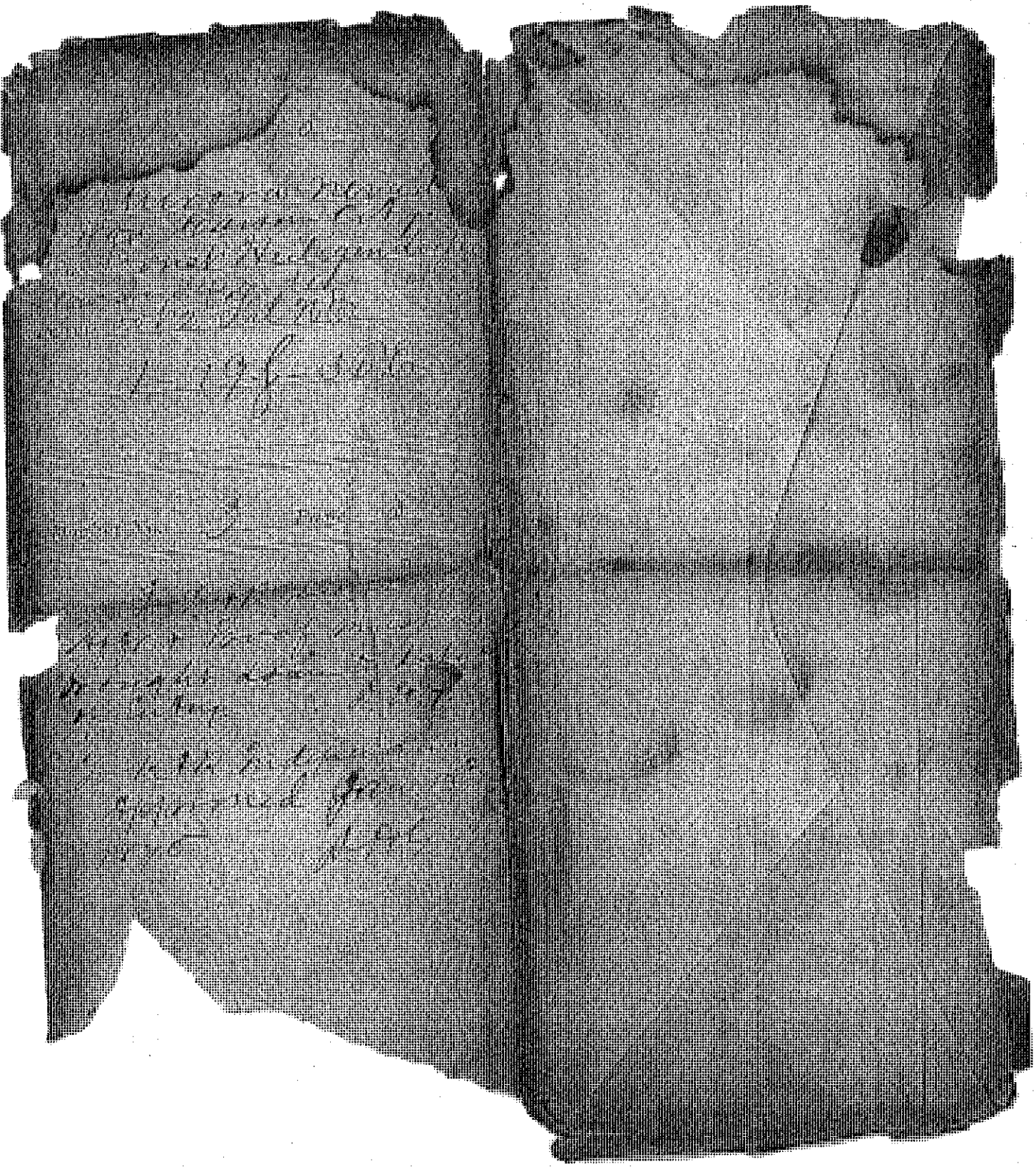
Reproduced at the National Archives

Dear Patron:

We regret that the enclosed photocopies are the best we were able to obtain using our normal reproduction process. This is caused primarily by the age and faded conditions of some of the documents from which these copies were made.

COMPLETED FILE ENCLOSED

BEST AVAILABLE COPY.



U. S. Land Office
Independence Cal Dec 28th/74

Hon. Com'r Gen. Land Office
Washington D.C.

Sir:

In compliance with instructions contained in letter "G" dated Dec. 22d 1873 I herewith enclose supplementar proofs of Ernest Heiligendorf, preemption Cash Entry No. 46 made March 1st 1873.

Very respectfully
Geo. H. McCallum
Register

Land Office at
Independence Iowa
Dec 28th 1874

Register transmits
Supplemental proofs
in cash Entry No. 40
Ernest Heiligendorfer

W. W. McCleary
Register

Dec 22 - 73

Pardon

16 — 423

Jan 9 1875

UNITED STATES LAND OFFICE.

I, Ernest Heiligendorfer, claiming the right of pre-emption, under the provisions of the Act of Congress, entitled "An Act to provide for the survey of the public lands in California, the granting of pre-emption rights therein, and for other purposes;" approved March 3, 1853, and Acts amendatory thereof and supplemental thereto, to the following described lands, viz:

SUBDIVISION.	SECTION.	TOWNSHIP.	RANGE.	NO. OF ACRES.	
Lot No. 2. in fractional N E ¼	No. 1	19 S.	36 E.	79 88/100	

Mount Diablo Base and Meridian, subject to sale at Independence U. S. Land Office, do solemnly swear that I am not the owner of three hundred and twenty acres of land in any State or Territory of the United States, nor have I settled upon and improved said land to sell the same on speculation, but in good faith to appropriate it to my own exclusive use or benefit; and that I have not, directly or indirectly, made any agreement or contract, in any way or manner, with any person or persons whomsoever, by which the title which I may acquire from the Goverment of the United States should inure, in whole or in part, to the benefit of any person or persons, except myself; and that I have not since March 3, 1853, had the benefit of the pre-emption laws of the United States in any State or Territory. So help me God.

Ernst Heiligendorfer

I, Geo. H. W. Callum Register of the Land Office at Independence, do hereby certify that the above affidavit was taken and subscribed before me, this 2nd day of December, A. D. 1874.

Geo. H. W. Callum Register

COUNTY OF Lassen ;
State OF California } ss.

Ernest Heiligendorfer being duly sworn according to law, deposes and says that he is the identical Ernest Heiligendorfer who is an applicant for Government title to the Lot No. 2 and fractional N. E¼ of Sec 1 Township 19 S R 36 East

that he is well acquainted with the character of said described land, and with each and every legal subdivision thereof, having frequently passed over the same; that his knowledge of said land is such as to enable him to testify understandingly with regard thereto; that there is not, to his knowledge, within the limits thereof, any vein or lode of quartz or other rock in place, bearing gold, silver, cinnabar, lead, tin, or copper, or any deposit of coal; that there is not within the limits of said land, to his knowledge, any placer, cement, gravel, or other valuable mineral deposit; that no portion of said land is claimed for mining purposes under the local customs or rules of miners or otherwise; that no portion of said land is worked for mineral during any part of the year by any person or persons; that said land is essentially non-mineral land, and that his application therefor is not made for the purpose of fraudulently obtaining title to mineral land, but with the object of securing said land for agricultural purposes.

Ernst Heiligendorfer

Subscribed and sworn to before me this 27th day of December, A. D. 1874, and I hereby certify that the foregoing affidavit was read to the said Ernest Heiligendorfer, previous to his name being subscribed thereto; and that deponent is a respectable person to whose affidavit full faith and credit should be given.

Geo. H. McCallum
Register

duly sworn according to law, on his oath says: That he is the identical Ernest Heiligendorfer who made Preemption Cash Entry No. 49, at Aurora Nevada, March 1st 1873. on Lot No. 2. in fractional N.E¼ of Section 1. in Township No. 19 S. Range 36. E. M.t. Diablo Base and Meridian

That his residence thereon was continuous from date of settlement, viz: about March 1st 1872, to the date of Making said Cash Entry, and that he made improvements thereon to the value of about five hundred dollars and that up to the date of making said Cash Entry No. 49, viz March 1st 1873, he had not, directly or indirectly, made any agreement, bargain, or contract, by Mortgage or otherwise to sell or dispose of said land or speculation; to any person or persons whomsoever, but that he, this affiant and claimant, did in good faith settle upon and purchase said land for the purpose of appropriating it to his own use and benefit, for the purposes of

Ernest Heiligenclosper
Cash Entry No 40
Made March 1st 1873

Supplemental proofs
Made in pursuance of
Commissioners letter
G dated Dec 22d 1873

Filed Dec 27th 1874
Geo H W Callum
Register

State of California.

~~District Court of the~~ ~~Judicial District of the State of California.~~

County of Inyo

I, Ernst Heiligendorfer do declare on oath that it is bona fide my intention to become a

CITIZEN OF THE UNITED STATES OF AMERICA,

and to renounce forever all allegiance and fidelity to all and any foreign Prince, Potentate, State and Sovereignty whatso ever; and particularly to

William 1st Emperor of Germany

Subscribed and sworn to this 19th day of April 1871. before me, SIGNED,

S. O. Moffat — Ernst Heiligendorfer

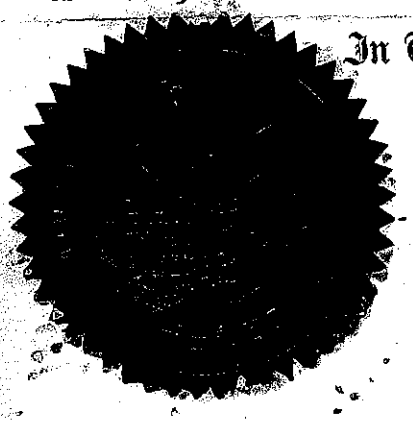
County Clerk, Inyo County

Int. Rev. Stamps 5 cts cancelled

County Clerk

Office of the ~~Clerk of the District Court of the Judicial District of the State of California~~, of the County of Inyo, California } ss.

I, S. O. Moffat, County Clerk ex officio Clerk of the County Court of the ~~District~~ County of Inyo ~~Judicial District~~ of the State of California, ~~County of~~ said Court being a Court of Record, having common law jurisdiction, and a Clerk and Seal, do certify that the above is a true copy of the original Declaration of Intention of Ernst Heiligendorfer on his application to become a Citizen of the United States, remaining in my office, upon the Records of said Court.



In Testimony Whereof, I have hereunto set my hand and affixed the Seal of said Court, this Twenty Sixth day of January in the year of our Lord one thousand eight hundred and Seventy two in the year of our Independence the ninety-

S. O. Moffat Clerk,

By [illegible] Deputy Clerk.

County of Inyo } ss.

S. J. Timms and L. A. Talcott being severally duly sworn doth depose and say that he is well acquainted with the land claimed by Ernst Heidgentafer and sought to be purchased by him from the Government of the United States. That Jack Nash has not resided on said land for four years ~~past~~ last past and has not resided in Inyo County during that period. Nor did the said Nash ever put on a dwelling house or any improvements upon said land. And deponents further say, That John Bellet who formerly filed a declaratory statement of his intention to claim the said land as a pre-emption claim, has abandoned said land and has not resided thereon for more than ~~five~~ six months

Sworn to before me this Twenty
Sixth day of January A.D. 1872.
And I further certify that said
Stevens and Talcott are respec-
table citizens and competent
and credible witnesses and that
full faith and credit should
be given to their testimony in any
Court or place.

S. P. Moffat
County Clerk
By Murlaumaustrand
Dpty Clk

Aurora Nevada

Affidavits of S.V. Stephens & L.A. Valcot in support of the claim of Ernst Heleginderfer

AFFIDAVIT REQUIRED OF PRE-EMPTION CLAIMANT.

I, Ernst Heiligendorfer, claiming the right of pre-emption under the provisions of the act of Congress, entitled "An act to appropriate the proceeds of the sale of the public lands, and to grant pre-emption rights," approved September 4, 1841, to the Lot No 2 in fpl NE quarter of section number 1, of township number 19 S, of range number 36 E, subject to sale at Aurora Nevada, do solemnly swear that I have never had the benefit of any right of pre-emption under this act; that I am not the owner of three hundred and twenty acres of land in any State or Territory of the United States, nor have I settled upon and improved said land to sell the same on speculation, but in good faith to appropriate it to my own exclusive use or benefit; and that I have not, directly or indirectly, made any agreement or contract, in any way or manner, with any person or persons whatsoever, by which the title which I may acquire from the government of the United States should inure, in whole or in part, to the benefit of any person except myself.

Ernst Heiligendorfer

I, Nelson Butler Register of the LAND OFFICE at Aurora Nevada, do hereby certify that the above affidavit was taken and subscribed before me, this 21st day of September, A. D. 187 2

Nelson Butler

Affidavit of Isaac Harris and Charles Miller—

In the matter of the ~~matter~~ of the claim of Ernst Heidgenduper to the fractional North East quarter of Section Number One Township Number nineteen South of Range Number Thirty Six East base and meridian of Mount Diablo and containing Seventy Nine and 88/100 acres

North Half of

State of California }
County of Inyo, } ss.

Isaac Harris and Charles Miller of the County of Inyo, State of California, being severally duly sworn touching the subject of inquiry each for himself doth depose and say: I am a citizen of the United States over the age of twenty one years, I am personally acquainted with Ernst Heidgenduper claimant as above I have known him since about the 1st day of May A. D. 1891 ——
I know that he ——

County one years and a single man. I have heard read the above description of land sought to be entered by the claimant Ernst Stedegendifer and know the premises - I know the claimant entered upon in person and erected a dwelling house upon said premises on or about the 1st day of May. A.D. 1871 - I know that he has since lived upon said land and made it his home and still continues to do so. That said land is occupied solely for Agriculture and not trade - nor is it enclosed within the limits of any incorporated town, village or city and it is not within one mile of any military post. I have frequently passed over said land and have held conversations in relation to it and I do not know from my own personal knowledge or from hearsay that there are any salines or mines on it of

residence to reside upon the public land - I believe the claimant to be a bona-fide pre-emptioner -

Lemuel Adams

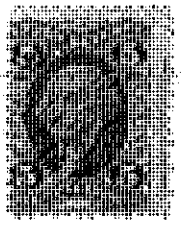
Sworn & Subscribed } Chas Miller
before me upon }
this the 1st day }
of November }
A. D. 1871 }

G. P. Moffat
County Clerk



and Charles Miller and know each of them to be a credible person a man of respectability and that full faith and credit should be given to the above affidavits—

S. T. Stevens.



I concur in the above—

P. Reddy,

State of California— do hereby
certify that the foregoing affidavits
of Ernst Steegendirfer, Isaac
Harris and Charles Miller were
taken and subscribed before me
this day— That I am personally
acquainted with each of said
affiants and with S. V. Stevens and
P. Reddy, whose names are
subscribed to the foregoing certificate
and know each of them to be a
credible person a man of respectability
and that full faith and credit should
be given to the foregoing affidavits
I further certify that the distance
from this place to the land office
at Aurora, Nevada, is more than one
hundred and thirty miles— that the
road is bad and through a dreary
and desolate region of sand and sage
brush—

In witness whereof I have
hereunto set my hand and affixed
the seal of said Court at Independence
this 1st day of Nov A.D. 1871—

S. P. McGlashan County Clerk

Aurora Nevada

Prof. Ernst Heiligendorfer

Preemption D.S. No. 262

Sec 1 — 19. S. 36. E —

Cash Entry

Reg & Rec No. 40

No. 46 **LAND OFFICE** at Aurora Nevada March 1st 1873

It is hereby certified, That, in pursuance of Law, Ernst Heiligendorfer

of Inyo County, State of California on this day purchased of the Register of this Office, the Lot or No two in Frl North East Quarter of Section No. One in Township No. 19 S. of Range No. 36 E. containing Twenty nine & 88/100 acres, at the rate of 1 dollar and 25 cents per acre, amounting to Ninety nine dollars and 85 cents, for which the said Ernst Heiligendorfer has made payment in full as required by law.

Now, therefore, be it known, That on presentation of this certificate to the COMMISSIONER OF THE GENERAL LAND OFFICE, the said Ernst Heiligendorfer shall be entitled to receive a Patent for the Lot above described.

Wilson Beetler Register.

No 40
Cook Entry
Aurora Nevada
Sec 1 – Town 19 S.R. 36

Notice
No Conf
Ent Aug. 27/73.
Turner

Approved.
Jan. 13th 1875.
D.D.Y.

Pat April-20-75-
Vol 2-b-48
"

52-816
37.

No. 40 Receiver's Office at Aurora Neb March 1st 18 73.

RECEIVED *from* Ernst Heidendorfer

of Hayes *County* Neb *the sum of* Ninety

Nine *dollars and* Eighty five *cents; being in full for the*

Lot No 2 in fr. N.E. *quarter of Section No.* One *in Township*

No. 9 South *of Range No.* 36. E *containing*

Seventy Nine *acres and* Eighty Eight *hundredths, at*

$1.25 *per acre.*

$99.85

Preëmption Act May 20th 1862

L M Dexter *Receiver.*

NATIONAL ARCHIVES ORDER FOR COPIES OF LAND ENTRY FILES

1. File TO BE SEARCHED: General Land Entry File

3. NAME OF ENTRYMAN (Last, First, and Middle names):	3. LAND LOCATED IN STATE OF:	4. APPROXIMATE DATE OF ENTRY:
Pedro Ruperez	California	Before 1908

5. PRE-1908 GENERAL LAND ENTRY FILES:

5a. SECTION NUMBER:	5b. TOWNSHIP NUMBER:	5c. RANGE NUMBER:
1	190S	360E

6. TYPE OF GENERAL LAND ENTRY:

Cash

POST-1908 GENERAL LAND ENTRY FILES:

9. SERIAL PATENT NUMBER:

7. PATENT FINAL CERTIFICATE OR DOUCMENT NUMBER:	8. NAME OF LAND OFFICE:

BOUNTY LAND WARRANT	10. YEAR OF AUTHORIZING WARRANT:	11. WARRANT NUMBER:	12. NUMBER OF ACRES:

Comments:

DOCID: 84; Date: 6/15/1875

Item #	Item Description	Quantity Ordered	Quantity Balance	Quantity Fulfilled	Total Amount
FORM84	Land Entry File *Land Entry File (NATF 84)*	1	0	1	$40.00

This is your packing slip. An invoice requiring payment is included, if applicable.

Order Information (NARA use only):	
Service Ticket #:	E11-121283130E
Customer Name:	amanda kainer
Order Date:	4/27/2012 05:31:06
Prepared By:	NWCT1F
Unit Phone:	(202) 357-5385

E11-121283130E
amanda kainer
pcr services
233 wilshire blvd, ste 130
santa monica, CA, 90401
USA

NWCT1F

Mail Immediately

NATIONAL ARCHIVES ORDER FOR COPIES OF LAND ENTRY FILES

1. FILE TO BE SEARCHED: General Land Entry File

3. NAME OF ENTRYMAN (Last, First, and Middle names):	3. LAND LOCATED IN STATE OF:	4. APPROXIMATE DATE OF ENTRY:
Pedro Ruperez	California	Before 1908

5. PRE-1908 GENERAL LAND ENTRY FILES:

5a. SECTION NUMBER:	5b. TOWNSHIP NUMBER:	5c. RANGE NUMBER:
1, 12	190S	360E

6. TYPE OF GENERAL LAND ENTRY:

Cash

Inyo Co.

POST-1908 GENERAL LAND ENTRY FILES:

7. PATENT FINAL CERTIFICATE OR DOUCMENT NUMBER:	8. NAME OF LAND OFFICE:	9. SERIAL PATENT NUMBER:
84	Independence	

BOUNTY LAND WARRANT	10. YEAR OF AUTHORIZING WARRANT:	11. WARRANT NUMBER:	12. NUMBER OF ACRES:

Comments:

DOCID: 84; Date: 6/15/1875

6/19-S/37-E

☐ **No. We are unable to locate the file you requested above. No Payment is required.**

☐ See the attached form, leaflet, or information sheet

DATE SEARCHED	SEARCHER	FILE DESIGNATION
5-3-12	GCS	Bx. 174

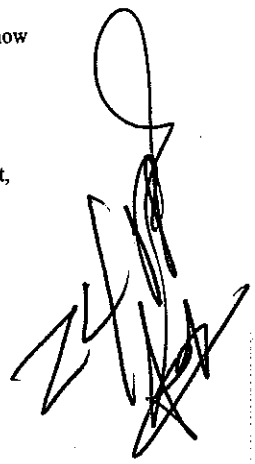
☐ A search was made but an examination of the General Land Office index to private land claims in _____ did not show the requested land entry.

☐ A search was made but the Seven States index to land entries in the public domain in _____ prior to 1908 did not show the requested entry.

☐ A search was made but the index to post-1908 land entries in the public domain did not show the requested entry.

☐ A search was made but the Records of the Bureau of Land Management (Record Group 49), including those of the former General land Office, document only the original transfer of tland from the United States to another party. Later land transactions are not recorded by the U.S. government, but by the county or state in which the land is located.

☐ A search was made but the requested Land Entry record was not found. There is a gap between file # _____ and file # _____. These files could have been missing or lost before they were accessioned by the National Archives.



Order Information (NARA use only):

Service Ticket #: E11-121283130E

Customer Name: amanda kainer

Order Date: 04/27/2012 17:31:06

E11-121283130E NWCT1F
amanda kainer
2017 euclid st apt b
santa monica, CA, 90405
USA



Reproduced at the National Archives

Dear Patron:

We regret that the enclosed photocopies are the best we were able to obtain using our normal reproduction process. This is caused primarily by the age and faded conditions of some of the documents from which these copies were made.

COMPLETED FILE ENCLOSED

BEST AVAILABLE COPY.

C. B. P. 166

Cash No. 84

L. O. Independence Cal"

Name Pedro Ruperez

Tract S½ S½ Sec. 6-19 S.-37 E.-Land
S½ S½ Sec. 1 and N½ N½
12-19 S.-36 E.-

Docket No. 3 Page 157

Mar. 1875

Action. Approved.
May 11th 1875
D. D. G.

U. S. Land Office
Independence Cal. Dec 28th 1874

Hon. Com'r. Genl Land Office
Washington D.C.

Sir.

I have the honor to transmit herewith, certified copy of Declaration of intention to become a citizen of the United States of Pedro Ruperez, to be attached to the record in his case transmitted with my letter accompanying reports for Month of November last.

Very respectfully
Geo. H. W. Calkins
Register

C

Independence Cash entry No. 84. Pre.
Sent to Div. "G" on the 11th inst.
Turner.

Land Office at
Independence Cal
Dec 28th 74

Register transmits
Citizen papers of
Pedro Rupeo

1 [illegible]
Cash entry #84 Register
Independence Cal
Refd to Div. G.
2 3d Jany 9. 1875.
[illegible]

Kreuder
vs
Gerding
16440

Jan 13 1875

State of California

~~Court of the~~

~~of the State of~~ ~~County~~ of Inyo

I, Pedro Ruperez do declare on oath, that it is bona fide my intention to become a CITIZEN OF THE UNITED STATES OF AMERICA, and to renounce forever, all allegiance and fidelity to all and any foreign Prince, Potentate, State and Sovereignty whatsoever; and particularly to the Provisional Government of Spain.

Subscribed and sworn to, this 23d day of August 1870 before me, SIGNED,

S. P. Moffat — Pedro Ruperez

County Clerk, Inyo County

Office of the Clerk of the County **Court** of the County of Inyo of the State of California ~~County of~~ } ss.

I, M. V. Hammerstrand Clerk of the County Court of the County of Inyo of the State of California ~~County of~~ said Court being a Court of Record, having common law jurisdiction, and a Clerk and Seal, do certify that the above is a true copy of the original Declaration of Intention of Pedro Ruperez on his application to become a Citizen of the United States, remaining in my office, upon the Records of said Court.

In Testimony Whereof, I have hereunto set my hand and affixed the Seal of said Court, this 21st day of November in the year of our Lord one thousand eight hundred and Seventy four in the year of our Independence the ninety-Eight

M V Hammerstrand Clerk.

By ~~Deputy Clerk~~.

Cooke's Blank, DECLARATION OF INTENTION.—Box No. 635. Printed and sold by Wm. B. Cooke & Co., Importing Stationers, San Francisco.

No. 824 **LAND OFFICE** at Independence Cal Nov 6th 1874

It is hereby certified, That, in pursuance of Law, Pedro Ruperez

of Inyo County, State of California on this day purchased of the Register of this Office, the Lot or S½ of SW¼ Sec 6 T. 19 S. R. 37 E. SE¼ of SE¼ of Sec 1 and NE¼ of NE¼ of Section No. 12 in Township No. 19 South of Range No. 36 East containing One hundred and Sixty acres, at the rate of One dollar and twenty five cents per acre, amounting to Two hundred dollars and —— cents, for which the said Pedro Ruperez has made payment in full as required by law.

Now, therefore, be it known, That on presentation of this certificate to the COMMISSIONER OF THE GENERAL LAND OFFICE, the said Pedro Ruperez shall be entitled to receive a Patent for the Lot above described.

Geo. H. McCallum Register.

No 84

Cash Entry

Independence Coal
Novr 2d 1874

Pedro Ruperez—
S½ of S W¼ Sec 6 T. 19 S
R. 37 E. S E¼ of S E¼ Sec 1
N E¼ of N E¼ Sec 12 T. 19 S
R. 36 E.

Unoffered Land—

Pay June 15 1875
Rec Vol 2 p 62

D S No 545.
Selected Oct 25th 1870
Filed March 31st 1871

No Conf. Ex. J. Jany 11-75
Approved. Turner
May 11th 1875.
$3 - D.F.E.
123.

M. Callum Register of U.S. Land Office aforesaid. Thomas Passmore who ~~depones his oath~~ being first duly sworn on his oath depones and says that he is a resident of Inyo Co. Cal. a native born citizen of the United States.

That he is well acquainted with Pedro Ruperez, who made Cash Entry No. 84 Nov. 2nd 1874 on the W1/2 of S.W.1/4 Sec 6 and S.E.1/4 of S.E.1/4 Sec 1 T. 19 S. R. 37 E. and N.E.1/4 of N.E.1/4 Sec 12 T. 19 S. R. 36 E. and knows that he was a bona-fida settler thereon.

That on the 9th day of December 1874 — he this deponent purchased for a valuable consideration all the improvement and right and title said Pedro Ruperez had or in and to said premises as evidenced by the Certified Copy of the instrument Attached hereto and made part of this Affidavit.

Deponent further says that said Pedro Ruperez has left this part of the Country and does not know his whereabouts and is

R. P. Loomis

Pedro Ruperez SEAL.

SEAL.

or never received the receipt, that
receipt from said Ruperz issued to
him by the Receiver of Public Moneys
at Independence. that after diligent search
he is unable to find said receipt.

Therefore, deponent prays that the
Patent issued said Ruperez and now
in said Land Office for delivery be
delivered to him this deponent and this
Affidavit be taken in lieu of said
receipt.

Thomas Patsmore

Subscribed and sworn to
before me this 1st day of
Oct 1875

Geo. L. McCallum
Register

Affidavit
of
Loss of Duplicate Receipt
by Thos Passmore

Cash Entry No 814
by Pedro Ruperez

Filed Oct 1st 1875
Geo. H. McCallum
Register

and in consideration of the sum of [illegible]

Dollars, Coin of the United States of America, to him in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has remised, released and forever quitclaimed, and by these presents does remise, release, and forever quitclaim unto the said party of the second part, and to his heirs and assigns, forever all that certain lot piece or parcel of land, situate, lying and being in the Town of Olancha

County of Inyo State of California

and bounded and particularly described as follows, to-wit:

The South half of the South West Quarter Section Six Township Nineteen South Range 37 East and the South East Quarter of the South East Quarter of Section One and the North East Quarter of the North East quarter Section twelve Township Nineteen South Range thirty six East and the party of the first part does hereby agree to Warrant and Defend the title to the Above described premises against all persons whatsoever

Together with all and singular the tenements, hereditaments and appurtenances thereunto belonging, or in anywise appertaining, and the reversion and reversions, remainder and remainders, rents, issues and profits thereof; and also all the estate, right, title, interest, in and to said property, possession, claim and demand whatsoever, as well in law as in equity, of the said party of the first part, of, in or to the said premises, and every part and parcel thereof, with the appurtenances.

To Have and to Hold, all and singular, the said premises, together with the appurtenances, unto the said party of the second part, and to his heirs and assigns forever.

In Witness Whereof, the said party of the first part, has hereunto set his hand and seal the day and year first above written.

Signed, Sealed and Delivered in the Presence of

R. P. Loomis

Pedro Rubalcaz SEAL.

SEAL.

December the [illegible]
and seventy four personally appeared before
me R. A. Loomis a Notary Public
in and for the said County of Inyo, Pedro
Ruperez whose name is subscribed to
the annexed instrument as a party thereto,
personally known to me to be the same person
described in and who executed the said annexed
instrument as a party thereto, and who has ack=
=nowledged to me that he executed the same
In Witness whereof I have hereunto set
my hand and affixed my official seal
the day and year in this Certificate first above
written

R. A. Loomis
Notary Public

of Pedro Ruperez to Thomas Passmore produced in evidence the Original being withdrawn and this Copy being made in lieu thereof.

In Witness Whereof I have hereunto set my hand this first day of October 1875

Geo. H. McCallum
Register

Deed

Pedro Ruperez

Mahenamee Cala

Nv 84

TO

Thomas Passmore

Deed.

Dated Dec 9th 1874

Recorded at the Request of

A. D. 18

at min. past

M. in Vol 2 } 456

of Deeds, page 62 }

Pedro Reperez
Patent delivered to
Thos. Passmore Oct 1st 1875
Geo. C. McCallum
Agent.

No. 84 Receiver's Office at Independence Nov 6th 1874.

RECEIVED *from* Pedro Ruperez

of Inyo *County* California *the sum of* Two hundred

_____ *dollars and* _____ *cents; being in full for the*

S½ of SW¼ Sec 6. T 19 S R 37 E. S E¼ of S E¼ Sec 1

and N E¼ of N E *quarter of Section No.* 12 *in Township*

No. 19 South *of Range No.* 36 East *containing*

One hundred & Sixty *acres and* _____ *hundredths, at*

$1.25 *per acre.*

$200.00

Thos Ivey

Receiver.

Pedro ~~,~~ Rupere~~z~~

On Land not subject to Private Entry.

I, Pedro Rupere~~z~~

of ~~P. O.~~ Inyo County, California,

having declared my intention to become a

~~a nat~~

citizen of the United States, ~~a married man~~, over

the age of twenty-one years, have on the 25 day of October

A. D. 1870, settled and improved the following described Government lands, ~~situate, lying and being in the county and State aforesaid, and more particularly described as follows, to wit:~~ viz: S½ of SW¼ of Section 6 T. 19 S R 37 E East and SE¼ of SE¼ of Sec. 1 N E¼ of NE¼

~~Quarter~~ of Section No. 12

Township No. 19 ~~North~~, South

Range No. 36 East,

Mount Diablo Base and Meridian.

~~In the District of lands subject to sale at the U. S. Land Office at Sacramento~~,

~~and containing~~ ~~acres~~; which ~~land has~~ not been offered at public sale, and thus rendered subject to private entry. And I do hereby give notice that I intend to claim said tract of land as a pre-emption right, under the provisions of the Act of Congress of 3d March, 1853, entitled "An Act to provide for the survey of Public Lands in California, the granting of Pre-emption rights therein, and for other purposes."

In Presence of

F Duperaty

Signed: Pedro Rupere~~z~~

Endorsed
No 5-45 filed Mar 31st 1871 Settled Nov 25 1870

NON-MINERAL AFFIDAVIT.

COUNTY OF Inyo,
State OF California. } ss.

Pedro Ruperez being duly sworn according to law, deposes and says that he is the identical Pedro Ruperez who is an applicant for Government title to the S½ of SW¼ Sec 6, T 19 S R 37 E. S E¼ of S E¼ Sec 1 N E¼ of N E¼ Sec 12 T 19 S R 36 E — 160 acres.

that he is well acquainted with the character of said described land, and with each and every legal subdivision thereof, having frequently passed over the same; that his knowledge of said land is such as to enable him to testify understandingly with regard thereto; that there is not, to his knowledge, within the limits thereof, any vein or lode of quartz or other rock in place, bearing gold, silver, cinnabar, lead, tin, or copper, or any deposit of coal; that there is not within the limits of said land, to his knowledge, any placer, cement, gravel, or other valuable mineral deposit; that no portion of said land is claimed for mining purposes under the local customs or rules of miners or otherwise; that no portion of said land is worked for mineral during any part of the year by any person or persons; that said land is essentially non-mineral land, and that his application therefor is not made for the purpose of fraudulently obtaining title to mineral land, but with the object of securing said land for agricultural purposes.

Pedro Ruperez

Subscribed and sworn to before me this 6th day of November, A. D. 1874

and I hereby certify that the foregoing affidavit was read to the said Pedro Ruperez previous to his name being subscribed thereto; and that deponent is a respectable person to whose affidavit full faith and credit should be given.

Geo. M. McCallum
Register.

United States Land Office.

I, Pedro Ruperez, claiming the right of pre-emption, under the provisions of the Act of Congress entitled "An Act to provide for the survey of the public lands in California, the granting of pre-emption rights therein, and for other purposes," approved March 3, 1853, and Acts amendatory thereof and supplemental thereto, to the following described lands, viz:

SUBDIVISION.	SECTION.	TOWNSHIP.	RANGE.	NO. OF ACRES.	
S½ of SW¼	6	19 S	37 E	160	
SE¼ of SE¼	1				
N E¼ of N E¼	12	19 S	36 E		

Mount Diablo Base and Meridian, subject to sale at Independence U. S. Land Office, do solemnly swear that I am not the owner of three hundred and twenty acres of land in any State or Territory of the United States, nor have I settled upon and improved said land to sell the same on speculation, but in good faith to appropriate it to my own exclusive use or benefit; and that I have not, directly or indirectly, made any agreement or contract, in any way or manner, with any person or persons whomsoever by which the title which I may acquire from the Government of the United States should inure, in whole or in part, to the benefit of any person or persons except myself; and that I have not since March 3, 1853, had the benefit of the pre-emption laws of the United States in any State or Territory. So help me God.

Pedro Ruperez

I, Geo. H. McCallum, Register of the Land Office at Independence do hereby certify that the above affidavit was taken and subscribed before me, this 6th day of November A. D. 1874

Geo. H. McCallum Register

A. L. BANCROFT & CO., PRINTERS AND STATIONERS.

California.....and am by occupation a.....Farmer.....

Ques. Do you know the claimant in this case? If so, state how long you have known him.

Ans. I do. I have known him.....about three Years last past

Ques. Is he a citizen of the United States? If so, native or naturalized?

Ans. He ~~is~~ has declared his intentions to become a citizen.

Ques. Is he the head of a family, or a single man over 21 years of age?

Ans. He is an unmarried man of lawfull age.....

.....

Ques. Do you know the land claimed by him? If you do, describe it.

Ans. I know it. I have known it about three Years last past
N is the S½ of SW¼ Sec 6 T. 19 S R. 37 E.
S 6¼ of S 6¼ Sec 1 N E¼ of N E Sec 12 T. 19 S R. 36 E

Ques. Are there any indications of Coal, salines or minerals of any kind on said land?

Ans. No. The land is agricultural, not mineral.

Ques. When did he enter upon the same, and for what purpose?

Ans. Claimant went on said land about four Years ago for the purpose of making it his home —

Ques. Did he leave land of his own to settle on this?

Ans. He did not.

Ques. Is he the owner of 320 acres of land in any State or Territory of the United States to your knowledge?

Ans. He is not.

Ans. His residence has been continuous since his settlement thereon with the exception of an occasional temporary absence on account of business

He has erected a dwelling house & several other out houses &c

Ques. What are the improvements worth in gold coin?

Ans. About One hundred dollars ($100.00)

Ques. How much of this land does he cultivate, and in what manner?

Ans. He cultivates about sixty acres by raising hay.

Thos Pasmore

The foregoing testimony having been first read over by the witness, and corrected to his satisfaction, was by him subscribed and sworn to before me this 6th day of November A. D. 1874

Geo. H. McCollum
Register.

Ans. I am of lawful age; reside in Fresno County, California and am by occupation a Farmer

Ques. Do you know the claimant in this case? If so, state how long you have known him.

Ans. I do. I have known him about five years

Ques. Is he a citizen of the United States? If so, native or naturalized?

Ans. He is a citizen of the U.S. by naturalization

Ques. Is he the head of a family, or a single man over 21 years of age?

Ans. He is unmarried man over 21 years of age

Ques. Do you know the land claimed by him? If you do, describe it.

Ans. I know it. I have known it about four years last past it is the S½ of SW¼ Sec 6 T 19 S R 37 E. S E¼ of S E¼ Sec 1 N E¼ of N E¼ Sec 12 T 19 S R 36 E.

Ques. Are there any indications of Coal, salines or minerals of any kind on said land?

Ans. No. The land is agricultural, not mineral.

Ques. When did he enter upon the same, and for what purpose?

Ans. about the 25th of October 1870 for the purpose of making the land his home

Ques. Did he leave land of his own to settle on this?

Ans. He did not.

Ques. Is he the owner of 320 acres of land in any State or Territory of the United States to your knowledge?

Ans. He is not.

Ans. His residence has been mentioned.

He has built a dwelling house thereon & Chicken house and other out houses.

Ques. What are the improvements worth in gold coin?

Ans. About One hundred dollars ($100 00)

Ques. How much of this land does he cultivate, and in what manner?

Ans. He cultivates about Sixty acres by raising and cutting hay

John Patrick

The foregoing testimony having been first read over by the witness, and corrected to his satisfaction, was by him subscribed and sworn to before me this 6th day of November A. D. 1874.

Geo. H. McCallum
Register.

Ques. Are you the head of a family, or a single man; and if the head of a family, of what does your family consist?

Ans. I am an unmarried Man

Ques. Are you a citizen of the United States? If so, native or naturalized?

Ans. I have declared my intentions & become a citizen

Ques. What is the description of the land you claim?

Ans. It is the same as described in my preemption affidavit hereto attached.

Ques. Are there any indications of Coal, salines or minerals of any kind on this land?

Ans. No. The land is agricultural, not mineral land.

Ques. When did you make actual settlement thereon?

Ans. October 25th 1870

Ques. Have you given any mortgage on said land, and have you made any agreement to sell the same?

Ans. I have not.

Ques. Did you leave land of your own to settle on this?

Ans. No.

Ques. Have you, at any time heretofore, filed a pre-emption declaratory statement on any land except that now claimed by you?

Ans. No.

thereon except when temporarily absent on business
I have erected a dwelling house thereon and other
out houses &c &c

Ques. What are these improvements worth?

Ans. About $ 100.00

Ques. For what purpose have you used this land, and how many acres thereof have you cultivated?

Ans. I have ploughed and cultivated about ~~Sixty~~ acres thereof for raising hay and the remainder I have used for grazing purposes

Pedro Ruperez

I hereby certify that the foregoing testimony was subscribed and sworn to before me, this 6th day of November 1874

Geo. H. McCallum
Register.
Receiver.

After a careful examination of the foregoing testimony We are of the opinion that the land is agricultural in character, and that the claimant Pedro Ropero ~~is the only person~~, under the preemption law, entitled to the land claimed by him, that although his improvements are very slight being valued at only one hundred dollars yet in consideration of his long and continued residence thereon We think he should be entitled to patent therefor after payment at one dollar and twenty five cents per acre.

Geo. H. McCallum
Register

Thos. Ivey

NATIONAL ARCHIVES ORDER FOR COPIES OF LAND ENTRY FILES

1. FILE TO BE SEARCHED: General Land Entry File

3. NAME OF ENTRYMAN (Last, First, and Middle names):	3. LAND LOCATED IN STATE OF:	4. APPROXIMATE DATE OF ENTRY:
Kikut Leo	California	1908 and After

5. PRE-1908 GENERAL LAND ENTRY FILES:

5a. SECTION NUMBER:	5b. TOWNSHIP NUMBER:	5c. RANGE NUMBER:
1	19-S MD.	36-E

6. TYPE OF GENERAL LAND ENTRY: Desert-Land

POST-1908 GENERAL LAND ENTRY FILES:

7. PATENT FINAL CERTIFICATE OR DOUCMENT NUMBER:	8. NAME OF LAND OFFICE:	9. SERIAL PATENT NUMBER:
021252	Sacramento	1082189

BOUNTY LAND WARRANT	10. YEAR OF AUTHORIZING WARRANT:	11. WARRANT NUMBER:	12. NUMBER OF ACRES:

Comments:

Township190S; Range 360E; Section 001; DocID: 1082189; Date□3/21/1936

☐ **No. We are unable to locate the file you requested above. No Payment is required.**

☐ See the attached form, leaflet, or information sheet

DATE SEARCHED	SEARCHER	FILE DESIGNATION
4-30-12	GKS	Bx. 41190

☐ A search was made but an examination of the General Land Office index to private land claims in _____ did not show the requested land entry.

☐ A search was made but the Seven States index to land entries in the puhlic domain in _____ prior to 1908 did not show the requested entry.

☐ A search was made but the index to post-1908 land entries in the public domain did not show the requested entry.

☐ A search was made but the Records of the Bureau of Land Management (Record Group 49), including those of the former General land Office, document only the original transfer of tland from the United States to another party. Later land transactions are not recorded by the U.S. government, but by the county or state in which the land is located.

☐ A search was made but the requested Land Entry record was not found. There is a gap between file # _____ and file # _____. These files could have been missing or lost before they were accessioned by the National Archives.

Order Information (NARA use only):

Service Ticket #: E11-121283159E

Customer Name: amanda kainer

Order Date: 04/27/2012 17:32:49

E11-121283159E NWCT1F
amanda kainer
2017 euclid st apt b
santa monica, CA, 90405
USA

Reproduced at the National Archives

Dear Patron:

We regret that the enclosed photocopies are the best we were able to obtain using our normal reproduction process. This is caused primarily by the age and faded conditions of some of the documents from which these copies were made.

COMPLETED FILE ENCLOSED

BEST AVAILABLE COPY.

SERIAL NO. 02142

CONFIDENTIAL

Reproduced for the National Archives

F 6-26 88 Fams

4-480a

THRU A DIRECTOR OF INVESTIGATIONS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE

A. A. WILHELM
Inspector.

Approved J. H. Favorite
Division Inspector, Department of Interior.

DEPT. OF THE INTERIOR
DEC 30 1935
RECEIVED
DIV. OF INVESTIGATIONS

DEC 26 1935
DEPT OF THE INTERIOR
REFERRED
DEC 30 1935
DIV. OF INVESTIGATIONS
GLO

~~FAVORABLE REPORT~~
FI 32165

Leo Mikut (Claimant.) of Olancha, California (Post-office address.)

made Desert land entry (old No.), now

Serial No. 021252, on September 7, 1926 for

NW¼ SE¼, Sec. 1, T 19 S, R 36 E, MDM

Sacramento Land District, upon which proof was made

May 22, 1935, not protested, and final certificate,
(If not protested, so state.)

No. , issued

1. Date of examination: April 24, 1935

2. Character of land:

3. Residence: The entryman is living upon it and said that no further reclamation would be performed before the date set for final proof

4. Cultivation and improvements: He has a house 20x30' in which he resides. One well 95 ft deep with water at 12 feet of the surface equipped with an old automobile engine and a small centrifugal pump. He says it produces about 10 miner's inches of water with the equipment which he now has and would produce more if properly equipped. There is another well 70 feet deep but not equipped with a pumping plant. There are only about 6 acres which are level enough for cultivation. Upon 2½ acres there was evidence that a crop of wheat and corn and garden vegetables had been produced. 5½ acres in all had been cleared of brush and plowed. The entryman represented that the remainder of the plowed area produced a crop of wheat about 3 years ago.

5. Other material facts: There was no evidence upon the ground when examined that a crop had been matured. The area is level enough that water could be applied to it and the capacity of the well which is equipped with the pumping plant is probably sufficient to irrigate the 6 acres of agricultural land.

RECEIVED
DEC 31 1935
G.L.O.

6. ~~Recommendations~~

NOTE: This report is prepared by Spec. Agent J. S. Hamman from interview with Special Agent A. A. Wilhelm, incapacitated by accident.

12/21/35
(Date.)

J. S. Hamman
~~Inspector~~, Department of Interior.
Special Agent.

CONFIDENTIAL.
Not for public inspection.

Reproduced at the National Archives

DEPARTMENT OF THE INTERIOR

Sacramento 021252
Appln.Extension of Time.
Favorable report.
J. S. Hamman,
Mining Engineer, G.L.O.

GENERAL LAND OFFICE

FAH 10-18

San Francisco, California,
November 16, 1932.

The Commissioner of the
General Land Office,
Washington, D. C.

APPROVED: NOV 26 1932
Chief of Field Division.

F 10-17-32

Sir:-

On September 7, 1926, Leo Kikut filed desert land application 015629 Visalia series (now 021252 Sacramento) for land described as the NW¼SE¼ Sec. 1, T. 19 S., R. 36 E., M.D.M., California. This application was favorably reported on by the writer in 1927 and subsequently allowed.

On August 8, 1931, the entryman filed application for an extension of time which was referred to the Chief of Field Division and assigned to me for field investigation. Examination was made on July 20, 1932, and the following information secured:

Three annual proofs have been made. The first well sunk by the entryman has caved in and he is sinking another. At the time I examined the entry the claimant was away on a summer's job, and he was also away working for the Forest Service during the summer of 1931. The place is the site of a gas station and store which the entryman has lea

RECEIVED
NOV 30 1932
G.L.O.

CONFIDENTIAL
NOT FOR PUBLIC INSPECTION

Reproduced at the National Archives

to another man. Very little appears to have been done looking to the reclamation of the land. The main thing appears to be the use for commercial purposes.

The time requested in the application is one year and this time will be up very shortly (August 8, 1932). It is therefore recommended that this extension of time be granted.

Very respectfully,

J. S. Hamman

Mining Engineer, G.L.O.

JSH:GEM

CONFIDENTIAL
NOT FOR PUBLIC INSPECTION

Reproduced at the National Archives

P DL 1252

4—030

DEPARTMENT OF THE INTERIOR

UNITED STATES LAND OFFICE

Sacramento, California
(Place)

September 25 1931

021252
(Serial number)

Returns for the last (First or last) half of month of September, 1931, Aug 8 (Date filed), 1931 Appln. for extension of time to make final proof and D & P 021252 Leo Kikut, Olancha, Cal (Name and address of applicant)

(Description of land involved)

NW¼SE¼ Sec. 1, Tp 19 N., Range 36 E. MDM

September 25, 1931 (Date referred to Chief of Field Division)

1928?

Register.

Entry allowed Sept. 16, 1927. Three annual proofs made.

NOTE.—This form is to be submitted with the Register's semimonthly returns for each application not returned by Chief of Field Division in time for transmittal with the returns for the period during which filed. NOT TO BE SUBMITTED IN DUPLICATE.

6—4688 GOVERNMENT PRINTING OFFICE

Reproduced at the National Archives

Olancha. Calif. Aug. 6th 1931.

Department of the Interior.
United States Land Office
Sacramento. Calif.

RECEIVED
U. S. LAND OFFICE
SACRAMENTO, CALIF.
AUG 8 1931
Fee ____

Dear Sir!

Concerning Serial No: 021252 for the NW 1/4 of the SE 1/4, Section 1. Township 19 S., R. 36 E. M.D.M., containing 40 acres; I would ask your department for an extension of time up to one year. I had the land prepared to receive the water in the year 1931 under an expense of $ 117.00, deepened the well 22 feet to a dept of 35 feet in the water or 55 feet from surface and put in well a 3 inch Centrifugal Pump.

As I still have to put ditches in place and intend to install a reservoir and connect the pump with an Engine and am now working for the U.S. Forest Service and will be working under U.S. Forest Ranger Shellenbarger until the middle of September 1931, I would Kindly ask you for an extension of time to produce a crop.

Yours very truly
Leo Rikett.

Subscribed and Sworn to before me this
6th day of August 1931
George Francis
Notary Public in and for the County of Inyo, State of California

Reproduced at the National Archives

SEP 2 0 1931

B. H. Sears

C. F. Boehm.

Subscribed and Sworn to before me
this 19 day of Sept 1931

Notary Public in and for the County of
Inyo, State of California.

Reproduced at the National Archives

Olancha. Calif. September 23rd 1931

Department of the Interior.
General Land Office.
Sacramento. Calif.

RECEIVED
U. S. LAND OFFICE
SACRAMENTO, CALIF.
Date SEP. 25 1931
Hour ....

Dear Sir!

Enclosed please find Application for extension of Time and the corroboration of two witnesses on reverse side.

One of the Witnesses Mr. Sears has done over one hundred dollars work for me on the desert claim this year.

We finished with the Forest Service on the 21st of this month and am thanking you for the extension of time.

Hoping this will be satisfactory, I remain

Yours very respectfully
Leo Kikut.

Reproduced at the National Archives

(formerly Vis.015629)

Sacramento 021252
(Dist.) (Serial.)

Advising inv. will be made.

4—096.

DEPARTMENT OF THE INTERIOR,

GENERAL LAND OFFICE.

512 Custom House,

San Francisco, Calif. Sept. 30, 1931.
(Place.) (Date.)

Honorable Commissioner,

General Land Office,

Washington, D. C.

Sir:

This is to advise you, in accordance with instructions under circular No. 474, that application for extension of time
(For D. L. E., relief, or extension of time.)

filed Aug. 8th-1931 by Leo Kikut, Olancha, California
(Date application filed.) (Name and address of applicant.)

in the matter of Sacramento 021252 (Serial.), (District.), made Sept. 16, 1927 (Date of entry.)

embracing NW¼ SE¼ Sec. 1
(Description.)

Sec. , Twp. 19 S., , Range 36 E., MDM.
(Meridian.)

has been listed for investigation by this office.

Very respectfully,

A. K. Farmer

Chief of Field Division.

RECEIVED
OCT 5 1931
U. L. O.

6—5358

MEM

Reproduced at the National Archives

RECEIVED
U. S. LAND OFFICE
SACRAMENTO, CAL.
Date JUN 24 1927
Hour

UNITED STATES
DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE

DLA 015629 Visalia
Favorable report
Inspector J.S.Hamman
FD 32165

Los Angeles, California
June 15, 1927.

Register,
U. S. Land Office,
Sacramento, Calif:

Approved: JUN 23 1927
J. N. Favorite
Division Inspector

Sir:

On September 7, 1926, Leo Kikut filed DLA 015629, Visalia series, for land described as the NW¼ SE¼, Section 1, T. 19 S., R. 36 E., M.D.M. The application was referred to the Division Inspector for action under Circular 383. Investigation was directed and same was made on May 23, 1927, the the following information secured:

The land lies on the West side of the Owens River Valley. It is desert in character and remunerative crops cannot be raised without irrigation. The soil is sandy and supports a growth of sagebrush. The State highway crosses the tract but will probably be moved farther East off the land when the final location is made. The land above the highway is mostly rocky and unfit for cultivation. It is estimated that five acres, possibly a little more, are irrigable. The applicant proposes to raise grapes and garden truck.

I found the applicant living on the land in a house which he built, 16 x 24, with an addition 12 x 12. He now has a gas station partially completed but not operating. He is sinking a well135 feet deep, 5x5 cribbed with a 12" pipe therein.

Reproduced at the National Archives

DLA 015629 Visalia #2

The well has 15 feet of water. With this well properly equipped with a pump, it is thought the entryman will have no trouble in reclaiming the irrigable portion of this land. The scheme is feasible but costly and the applicant appears willing to go through with it.

It is recommended that the application receive favorable consideration and approval at your hands.

Very respectfully,

J. H. Hamman

Inspector.

Reproduced at the National Archives

4-237

UNITED STATES
DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE

Division "F"

Initials of Clerk FMS Date FEB - 1 1936

BOARD OF EQUITABLE ADJUDICATION

J

Land Office Sacramento Serial No. 021252

Claimant Leo Kikut Kind of entry Desert

Date of entry September 16, 1927

Date of final proof June 1, 1935

Date of naturalization April 26, 1913

Reason for submission to the Board Final proof not submitted within the statutory period.

Excuse Ignorance of law.

The law has been complied with in all respects, except in the particular shown, and the case is a meritorious one. The entry is therefore confirmed.

Commissioner of the General Land Office.

Confirmation of entry approved: FEB 3 1936

First Assistant Secretary.

RECEIVED
FEB 4 1936
G. L. O.

Record returned to the General Land Office.

1-31 mvd

Reproduced at the National Archives

Shumaker
Marshes

4-237

UNITED STATES
DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE

Division ***

Initials of Clerk FMS Date FEB - 1 1936

BOARD OF EQUITABLE ADJUDICATION

Land Office Sacramento Serial No. 021252

Claimant Leo Kikut Kind of entry Desert

Date of entry September 16, 1927

Date of final proof June 1, 1935

Date of naturalization April 26, 1913

Reason for submission to the Board Final proof not submitted within the statutory period.

Excuse Ignorance of law.

The law has been complied with in all respects, except in the particular shown, and the case is a meritorious one. The entry is therefore confirmed.

Fred W. Johnson
Commissioner of the General Land Office.

Confirmation of entry approved FEB 3 1936

(Sgd.) T. A. WALTERS
First Assistant Secretary.

Record returned to the General Land Office.

1-31 mvd

Department of the Interior.

DESERT LANDS.

Certificate.

Reproduced at the National Archives

UNITED STATES

DEPARTMENT OF THE INTERIOR

GENERAL LAND OFFICE

WASHINGTON

JAN 10 1936

IN REPLY PLEASE REFER TO

Sacramento 021252 "F" FMS

Claimant

Leo Kikuo

FINAL CERTIFICATE AUTHORIZED.

DESERT.

Register,

Sacramento, California.

Sirs:

Referring to the entry by the claimant whose name and serial number of the entry appear above, final proof was submitted, but final certificate withheld at the request of the Special Agent in Charge.

A report has been received from a Special Agent setting forth that claimant has made sufficient compliance with the law. The final proof considered in connection with said report being satisfactory, you will, in the absence of objection, issue final certificate, noting thereon the date and initials of this letter. Entry is subject to the Act of August 30, 1890, reserving a right of way for ditches constructed by authority of the United States. Also, a right of way is reserved to the City of Los Angeles, California, under the Act of March 4, 1911, (36 Stat., 1253 - 1254) for a telephone line.

Final proof not submitted within statutory period. Entry to be submitted to the Board of Equitable Adjudication for for confirmation.

Very respectfully,

Assistant Commissioner.

1-9 WLS

Reproduced at the National Archives

4-035 c

ADDRESS ONLY THE COMMISSIONER OF THE GENERAL L. OFFICE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
WASHINGTON

JAN 1 0 1936

IN REPLY PLEASE REFER TO
Sacramento 021252 "F" FMS

Claimant
Leo Kikut

FINAL CERTIFICATE AUTHORIZED.
DESERT.

Register,

Sacramento, California.

Sir:

Referring to the entry by the claimant whose name and serial number of the entry appear above, final proof was submitted, but final certificate withheld at the request of the Special Agent in Charge.

A report has been received from a Special Agent setting forth that claimant has made sufficient compliance with the law. The final proof considered in connection with said report being satisfactory, you will, in the absence of objection, issue final certificate, noting thereon the date and initials of this letter. Entry is subject to the Act of August 30, 1890, reserving a right of way for ditches constructed by authority of the United States. Also, a right of way is reserved to the City of Los Angeles, California, under the Act of March 4, 1911, (36 Stat., 1253 - 1254) for a telephone line.

Final proof not submitted within statutory period. Entry to be submitted to the Board of Equitable Adjudication for for confirmation.

Very respectfully,

Antonette Frank

Assistant Commissioner.

1-9 WLS

Reproduced by the National Archives

Comm. (Orig) _____
Excess $ _____
Comm. (Final) _____
Pur. Mon. $ 40.00
Test Fees $ _____
Interest $ _____

4—372 a.
Form approved by the Secretary of the Interior June 24, 1916.

RECEIVED
U. S. LAND OFFICE
SACRAMENTO, CALIF.
JUN 3 1935
Hour _____

DEPARTMENT OF THE INTERIOR

DESERT-LAND ENTRY.

U. S. LAND OFFICE Sacramento, No. 021252

Withhold Certificate, Spec. Agt. in Charge, Department of the Interior.

FINAL PROOF.

R. 3/720149 40.00

TESTIMONY OF CLAIMANT.

QUESTION 1. State your name, age, occupation, and post-office address.

ANSWER. Leo Kikut age 56, mining and farming
Olancha, California.

QUESTION 2. Where were you born and of what State are you now a resident citizen? (If foreign born, evidence of naturalization must be filed with this proof unless already furnished.)

ANSWER. Germany ; Resident citizen of California, Copy of naturalization papers filed with first papers

QUESTION 3. Give the number and date of the desert-land entry, and describe the land for which this proof is made.

ANSWER. 021252 for NW¼SE¼ Sec 1, T 19 S., R. 36 E., MDM
40 acres. Made Sept 16, 1927

QUESTION 4. State the character of its soil, and what natural streams, springs, or bodies of water are upon or pass through or adjoin this land. And if any, do the streams or springs afford natural irrigation? State whether paying crops of any kind have been raised on any part of said land without artificial irrigation.

ANSWER. Sandy, none.
No paying crops without irrigation

QUESTION 5. Do you own and control, or have a clear right to, the use of water sufficient to irrigate all the irrigable portion of said land and for keeping the same permanently irrigated?

ANSWER. Yes

QUESTION 6. State the source and volume of the water supply, how acquired by you, and how maintained, and at what cost.

(Record evidence of the claimant's right to the use of the water, or other satisfactory evidence, in accordance with local laws, must be furnished.)

ANSWER. 2 wells, 70 and 95 feet deep, 12" casing; each well produces on an average of 15 miner's inches of water; bored the wells myself, pumps, gasoline engines; cost of wells, approx. $500.00

QUESTION 7. State from personal knowledge whether water from said source has been used in actually irrigating at least one-eighth of this land; also whether all the irrigable land in the entry can now be irrigated from main ditches constructed to or upon the land.

ANSWER. Water from wells has been used in irrigating one-eighth of land; yes from the pipes and ditches now on property.

Reproduced at the National Archives

QUESTION 8. State the number and dimensions of the main ditch or ditches, and also of all the ditches on each legal subdivision of the land which are or can be used in irrigating same; also the cost of the dams and ditches and the amount expended in the aggregate, in compliance with the legal requirements.

(If an expenditure of $3 per acre of the area of said land has not been shown by annual proofs, an itemized statement of expenditures must be furnished.)

ANSWER. 4" pipe connected with the ditches; 4 main ditches Also reservoir for purpose of irrigating gardens. This is on the 40 acres. $200.00 cost of pipes, dams and ditches; $100.00 reservoir expense; $500.00 for wells; $800.00 on irrigation project; $150.00 levelling

QUESTION 9. Over how many acres of this land have you seen water distributed through and by means of said ditches? Give the date of each distribution, the time occupied in making same, and the quantity of water per acre used. (State the quantity of water in acre-feet, miner's inches, or some recognized unit of measurement.)

ANSWER. 5 acres; whenever water is needed to raise the crops successfully; nearly continuously in growing season. at present producing 15" (miner's inches) and could produce 30 miner's inches.

QUESTION 10. If there are any high points or uneven surfaces not susceptible of practicable irrigation, state definitely the nature and aggregate area of same, and the proportion thereof in each legal subdivision of the entry. Is less than one-eighth of any legal subdivision susceptible of irrigation?

ANSWER. About 15 acres could be irrigated; 25 acres not very practicable but could be irrigated by extension of pipe line.

Only one subdivision in tract. More than one-eighth susceptible of irrigation.

QUESTION 11. Has any portion of the land been cultivated by actual tillage of the soil? If so, state definitely the number of acres thus tilled and describe generally the tillage, and briefly state its time, its object, and its result. What portion, if any, of the land so tilled was irrigated?

ANSWER. One-eighth of land has been cultivated by tillage of soil. 5 acres. Crop of 5 acres in corn, wheat, garden, fruit trees and vines and shade trees. 1933-1934; good result in corn and garden; trees growing well but not in bearing. All of cultivated land was irrigated.

QUESTION 12. Has an agricultural crop been planted and irrigated on said land? If so, state the kind of crop, when planted, the average yield per acre, and the number of acres so cultivated. (If crops have been thus produced in more than one year, state the kind, acreage, and results for each year.)

ANSWER. Yes. Corn, wheat, fruit trees garden and shade trees. 1933, 1934. Trees have no yield as yet. Corn average yield; garden, melons and vegetables fairly successful. Profitable yield. Wheat hurt by heavy winds. Same for both years, 1933 and 1934.

Reproduced at the National Archives

QUESTION 13. If an agricultural crop of any kind can not be produced on one-eighth portion of the land, by actual tillage and irrigation, state whether a crop of wild hay of merchantable value has been raised upon said land as a result of actual irrigation, and state the area on which it was raised and the quantity produced per acre.

ANSWER. No hay grown without irrigation and no wild hay with irrigation -

QUESTION 14. If there has been no actual tillage of the soil, and no agricultural crop can be produced by planting and irrigation, state what climatic conditions adverse to successful agriculture, if any, are prevalent in the vicinity in which this land is located. State fully the effect of such conditions on agriculture.

ANSWER. Has been actual tillage of the soil.

QUESTION 15. If, in your judgment, actual tillage of the soil would injure or destroy its productive qualities, state definitely your reasons for such belief.

ANSWER. Must be tilled to produce.

QUESTION 16. If paying crops of any kind have been raised on land adjacent to, or in the vicinity of, said land, without artificial irrigation, describe the same and state the year or years of cultivation, the kind of crop and quantity raised per acre, and the conditions which made the production of such crops possible.

ANSWER. None irrigation necessary to any crop

QUESTION 17. Has any coal or other mineral been discovered on said land, or is any coal or mineral known to be contained therein?

ANSWER. None

QUESTION 18. Are there any indications of coal, saline, or minerals of any kind on said land? If so, describe what they are.

ANSWER. None

QUESTION 19. Has any other person, individual, company, or corporation any interest whatever in said land or water right? If so, give the name, residence, and occupation of each person, the name and place of business of any such corporation or company, and the nature, amount, and extent of such interest.

ANSWER. None

Reproduced at the National Archives

QUESTION 20. Have you made any other desert-land entry, or has any other land embraced in any desert-land entry, in whole or in part, been assigned to you, or have you any interest, direct or indirect, in any other entry under the desert-land act?

ANSWER. No interest in any other desert-land entry.

QUESTION 21. Describe by legal subdivisions and by number, kind of entry, and office where made, any other entry or filing (not mineral), made by, or assigned in whole or in part to you since August 30, 1890.

ANSWER. Homestead Entry, N½ SW¼ Sec.4 Twp 19 R37 E.
SW¼ SW¼ Sec 4. Twp 19 R.37 E. NW¼ NW¼ Sec.9 Twp 19 R37 E.
Independence, California Land Office probably 1917

*QUESTION 22. If this proof is not submitted within the period allowed therefor, state definitely the reason for such delay.

ANSWER. Extension was granted for 2 years to make sufficient proof, in developing sufficient water

Leo Kikuet.
(Sign here, with full Christian name.)

☞ NOTE.—Every person swearing falsely to the above deposition will be punished as provided by law for such offense. (See sec. 5392 R. S., below.)

* NOTE.—A correct diagram, showing the location of all ditches and improvements, must be furnished with this proof, unless it was filed with the third annual proof.

I HEREBY CERTIFY that the foregoing deposition was read to or by deponent in my presence before deponent affixed signature thereto; that deponent is to me personally known (or has been satisfactorily identified before me by _____ (Give full name and post-office address.)); that I verily believe deponent to be the identical person hereinbefore described, and that said deposition was duly subscribed and sworn to before me, at my office, in Independence, Inyo County, California (Town, county, and State.), within the Sacramento land district, this 1st day of June, 1935

DORA MERITHEW
County Clerk
(Official designation of officer.)
By Eleanor Margaux Deputy Clerk

REVISED STATUTES OF THE UNITED STATES. TITLE LXX.—CRIMES.—CHAP. 4.

SEC. 5392. Every person who, having taken an oath before a competent tribunal, officer, or person, in any case in which a law of the United States authorizes an oath to be administered, that he will testify, declare, depose, or certify truly, or that any written testimony, declaration, deposition, or certificate by him subscribed is true, willfully and contrary to such oath states or subscribes any material matter which he does not believe to be true, is guilty of perjury, and shall be punished by a fine of not more than two thousand dollars, and by imprisonment, at hard labor, not more than five years; and shall, moreover, thereafter be incapable of giving testimony in any court of the United States until such time as the judgment against him is reversed. (See Sec. 1750.)

NOTE.—In addition to the above penalty, every person who knowingly or willfully in anywise procures the making or presentation of any false or fraudulent affidavit pertaining to any matter within the jurisdiction of the Secretary of the Interior may be punished by fine or imprisonment.

6—4221

Reproduced at the National Archives

4-373 a.
Form approved by the Secretary of the Interior, June 15, 1908.

RECEIVED
U. S. LAND OFFICE
SACRAMENTO, CALIF.
JUN 3 1935
Hour

DEPARTMENT OF THE INTERIOR.

DESERT-LAND ENTRY.

U. S. LAND OFFICE SACRAMENTO, CALIF., No. 021252

FINAL PROOF.

TESTIMONY OF WITNESS.

QUESTION 1. State your name, age, residence, occupation, and post-office address.

ANSWER. Concepsion Zuniga, 46, Olancha, California, Laborer Olancha, California.

QUESTION 2. Are you acquainted with Leo Kikut, who offers proof for land embraced in Desert-land Entry, No. 021252, made on the 16 day of Septembr, 19 27, upon NW¼SE¼ Sec. 1, T. 19 S., R. 36 E., MDM; how long have you known him, and where does he now reside?

ANSWER. Yes. Since 1923, At Olancha, California

QUESTION 3. Have you personal knowledge of this land? State its situation, the character of the soil, its proximity to water, and what natural streams, springs, or bodies of water are upon or pass through or adjoin it; and if any, is any part of the claim naturally irrigated by such stream or spring? State whether paying crops of any kind have been raised on any part of such land without artificial irrigation.

ANSWER. Yes. North of Olancha about 3 miles. Sandy. About 20 feet deep to water, No natural water of any kind on land. No. No.

QUESTION 4. Does the entryman own and control, or have a clear right to, water sufficient to properly and permanently irrigate all the irrigable land for which this proof is made?

ANSWER. Yes

QUESTION 5. State the source and volume of the water supply, how acquired, and how maintained.

ANSWER. Wells and pumps. Maybe 10 inches of water, Acquired by pumping, and supply kept up by pumps.

QUESTION 6. Has water been conducted upon the irrigable land for which this proof is made so as to irrigate and reclaim the same from its former condition to such an extent that it will produce an agricultural crop? If so, give the number, dimensions, and capacity of the main ditch or ditches, and also of all the ditches on each legal subdivision of the land which are used in irrigating the same, and the amount expended in complying with the legal requirements.
(If an expenditure of $1 per acre of the area of said land has not been shown by annual proofs, an itemized statement of expenditures must be furnished.)

ANSWER. Yes Main ditch carries about 12 inches. Probably about $1000 for wells and pumps and everything

Reproduced at the National Archives

QUESTION 7. Have you seen water distributed through and by means of said ditches over all the irrigable area on each legal subdivision of the land? State the dates when each distribution took place, the duration thereof, and the quantity of water per acre used.

ANSWER. Yes. 1934 from July to September, about the same time for the last two or three years before that.

QUESTION 8. If there are any high points or uneven surfaces not susceptible of practicable irrigation, state definitely the nature, extent, and aggregate area of same, and the proportion thereof in each legal subdivision. Is any entire legal subdivision not susceptible of irrigation?

ANSWER. Rocky and rough, about 30 acres.

No.

QUESTION 9. Has any portion of the land been cultivated by actual tillage of the soil? If so, state definitely the number of acres thus tilled, and describe generally the tillage, and briefly state its time, its object, and its result.

ANSWER. Yes. About 6 acres. Plowed and levelled ground planted corn and garden for last 3 years. To help on living Fair garden

QUESTION 10. Has an agricultural crop of any kind other than wild hay been planted or produced on any portion of the land? If so, state the kind of crop planted or raised, the average quantity per acre, and the number of acres employed in the planting and growth of said crop.

ANSWER. Yes. Corn, squash, grapes, fruit trees, Crop might be valued at $500. for the several years on the entire acreage tilled.

QUESTION 11. If an agricultural crop of any kind can not be produced on one-eighth portion of said land, by actual tillage of the soil, state whether a crop of wild hay of merchantable value has been raised upon any part of said land as a result of actual irrigation, and state the area on which it was raised and the quantity produced per acre.

ANSWER. Agriculturable crop been raised. No wild hay.

QUESTION 12. If there has been no actual tillage of the soil, or no agricultural crop planted or produced, state what climatic conditions adverse to successful agriculture, if any, are prevalent in the region in which this land is located. State fully the effect of such conditions on agriculture.

ANSWER. He has actually raised crops on land

QUESTION 13. If in your judgment actual tillage of the soil would injure or destroy its productive qualities, state definitely your reasons for believing that injury or destruction would result from actual tillage.

ANSWER. Tillage improves soil.

Reproduced at the National Archives

Form 4-273 a.

DESERT-LAND ENTRY.

U. S. LAND OFFICE, *Sacramento*

No. *021252*

FINAL PROOF.

TESTIMONY OF WITNESS.

Name *Lee Arbuckle*

Date *October 1, 1935*

Section *Thirty-three*

Township *19 N.*

Range *36 E.* *M. D. M.*

NOTATION OF ACTION.

(Space below for use in GENERAL LAND OFFICE only.)

QUESTION 13. Has any coal or other mineral been discovered on said land, or is any coal or metal known or believed to be contained therein? Are there any indications of coal, salines, or minerals of any kind on said land? If so, describe what they are.

ANSWER. No. No.

QUESTION 14. Have you any interest, direct or indirect, in this entry or in the land covered thereby, or in the water supply used in the irrigation?

ANSWER No.

(Sign here with full Christian name)

Any person swearing falsely to the above depositions will be punished as provided by law for such offenses. (Section 5392 R. S., below.)

I HENRY GENTRY that the foregoing deposition was read to or by deponent in my presence before deponent affixed signature thereto; that deponent is to me personally known (or has been satisfactorily

subscribed and sworn to before me, at my office, in Tuolumne County,

Tuolumne County, California, within the Sacramento

Land district, this 1st day

of June, 19 35.

County Clerk.

(Official designation of officer.)

By Henry Clerk

REVISED STATUTES OF THE UNITED STATES. TITLE LXX—CRIMES.—CHAP. 4.

SEC. 5392. Every person who, having taken an oath before a competent tribunal, officer, or person, in any case in which a law of the United States authorizes an oath to be administered, that he will truly, declare, depose, or certify truly, or that any testimony, declaration, deposition, or certificate by him subscribed is true, willfully and contrary to such oath states or subscribes any material matter which he does not believe to be true, is guilty of perjury, and shall be punished by fine of not more than two thousand dollars, and by imprisonment at hard labor not more than five years; and shall, moreover, thereafter be incapable to give testimony in any court of the United States until such time as the judgment against him is removed.

(See Sec. 5393.)

NOTE.—In addition to the above penalty, every person who knowingly is guilty of any of the practices mentioned in section 5 of the Act of June 3, 1878, is liable to a penalty of not less than $1,000 nor more than $5,000, and forfeits the land involved in such transaction, and any money paid for the land may be recovered by him or his representatives.

Reproduced at the National Archives

4–373 a.

Form approved by the Secretary of the Interior, June 15, 1908.

SACRAMENTO, CALIF.

JUN 3 1935

DEPARTMENT OF THE INTERIOR.

DESERT-LAND ENTRY.

U. S. LAND OFFICE Sacramento, No. 021252

FINAL PROOF.

TESTIMONY OF WITNESS.

QUESTION 1. State your name, age, residence, occupation, and post-office address.

ANSWER. William Brown, 40, Olancha, California, laborer

Olancha, California.

QUESTION 2. Are you acquainted with Leo Kikut, who offers proof for land embraced in Desert-land Entry, No. 021252, made on the 16 day of Spetmeber, 19 27, upon NW¼SE¼ Sec. 1, T. 19 S., R. 36 E., MDM; how long have you known him, and where does he now reside?

ANSWER. Yes about 20 years, on land he is proving up on

QUESTION 3. Have you personal knowledge of this land? State its situation, the character of the soil, its proximity to water, and what natural streams, springs, or bodies of water are upon or pass through or adjoin it; and if any, is any part of the claim naturally irrigated by such stream or spring? State whether paying crops of any kind have been raised on any part of such land without artificial irrigation.

ANSWER. Yes. About 2½ miles from Olancha post office.

Sandy, no surface water, just wells, near this land. No part of land irrigated by natural streams or springs. No crops possible without irrigation.

QUESTION 4. Does the entryman own and control, or have a clear right to, water sufficient to properly and permanently irrigate all the irrigable land for which this proof is made?

ANSWER. Yes.

QUESTION 5. State the source and volume of the water supply, how acquired, and how maintained.

ANSWER. Wells. Probably about 3 or 4 inches, has four inch centrifigal pump. Bored wells himself.

QUESTION 6. Has water been conducted upon the irrigable land for which this proof is made so as to irrigate and reclaim the same from its former condition to such an extent that it will produce an agricultural crop? If so, give the number, dimensions, and capacity of the main ditch or ditches, and also of all the ditches on each legal subdivision of the land which are used in irrigating the same, and the amount expended in complying with the legal requirements.

(If an expenditure of $3 per acre of the area of said land has not been shown by annual proofs, an itemized statement of expenditures must be furnished.)

ANSWER. Yes. Water piped to house and ditches for irrigation of trees and garden

6—637

Reproduced at the National Archives

QUESTION 7. Have you seen water distributed through and by means of said ditches over all the irrigable area on each legal subdivision of the land? State the dates when each distribution took place, the duration thereof, and the quantity of water per acre used.

ANSWER. Yes. Irrigated nearly all summer every other day until crop matured; 4 inch pipe runs full of water during irrigation.

QUESTION 8. If there are any high points or uneven surfaces not susceptible of practicable irrigation, state definitely the nature, extent, and aggregate area of same, and the proportion thereof in each legal subdivision. Is any entire legal subdivision not susceptible of irrigation?

ANSWER. About 30 acres cannot be irrigated.

QUESTION 9. Has any portion of the land been cultivated by actual tillage of the soil? If so, state definitely the number of acres thus tilled, and describe generally the tillage, and briefly state its time, its object, and its result.

ANSWER. Yes. 5 or 6 acres, plowed, levelled, furrowed it out about 4 or 5 years ago, planted Corn, trees, small ones, garden, melons, very good garden

QUESTION 10. Has an agricultural crop of any kind other than wild hay been planted or produced on any portion of the land? If so, state the kind of crop planted or raised, the average quantity per acre, and the number of acres employed in the planting and growth of said crop.

ANSWER. Yes. Corn, trees, garden, melons, etc.

QUESTION 11. If an agricultural crop of any kind can not be produced on one-eighth portion of said land, by actual tillage of the soil, state whether a crop of wild hay of merchantable value has been raised upon any part of said land as a result of actual irrigation, and state the area on which it was raised and the quantity produced per acre.

ANSWER. No wild hay.

QUESTION 12. If there has been no actual tillage of the soil, or no agricultural crop planted or produced, state what climatic conditions adverse to successful agriculture, if any, are prevalent in the region in which this land is located. State fully the effect of such conditions on agriculture.

ANSWER. Has been actual tillage.

QUESTION 13. If in your judgment actual tillage of the soil would injure or destroy its productive qualities, state definitely your reasons for believing that injury or destruction would result from actual tillage.

ANSWER. Tillage does not injure land.

Reproduced in the National Archives

QUESTION 14. If paying crops of any kind have been raised on any lands adjacent to, or in the vicinity of, said land, without artificial irrigation, describe the same and state the year or years of cultivation, the kind of crop and quantity raised per acre and the conditions which made the production of such crops possible.

ANSWER. Nothing raised without irrigation.

QUESTION 15. Has any coal or other minerals been discovered on said land, or is any coal or mineral known to be contained therein? Are there any indications of coal, salines, or minerals of any kind on said land? If so, describe what they are.

ANSWER. No.

QUESTION 16. Have you any interest, direct or indirect, in this entry or in the land covered thereby, or in the water supply used in its irrigation?

ANSWER. No.

William Brown.
(Sign here, with full Christian name.)

☞ NOTE.—Every person swearing falsely to the above deposition will be punished as provided by law for such offense. (See Sec. 5392 R. S., below.)

I HEREBY CERTIFY that the foregoing deposition was read to or by deponent in my presence before deponent affixed signature thereto; that deponent is to me personally known (or has been satisfactorily identified before me by); (Give full name and post-office address.)

that I verily believe deponent to be a credible witness and the identical person hereinbefore described, and that said deposition was duly subscribed and sworn to before me, at my office, in Independence, (Town.)

Inyo County, California within the (County and State.)

Sacramento land district, this 1st day of June, 19 35

DORA MERITHEW
County Clerk
(Official designation of officer.)
By Elinor Musgrave Deputy Clerk

REVISED STATUTES OF THE UNITED STATES. TITLE LXX.—CRIMES.—CHAP. 4.

SEC. 5392. Every person who, having taken an oath before a competent tribunal, officer, or person, in any case in which a law of the United States authorizes an oath to be administered, that he will testify, declare, depose, or certify truly, or that any written testimony, declaration, deposition, or certificate by him subscribed is true, willfully and contrary to such oath states or subscribes any material matter which he does not believe to be true, is guilty of perjury, and shall be punished by fine of not more than two thousand dollars, and by imprisonment, at hard labor, not more than five years; and shall, moreover, thereafter be incapable of giving testimony in any court of the United States until such time as the judgment against him is reversed. (See Sec. 1750.)

NOTE.—In addition to the above penalty, every person who knowingly or willfully in anywise procures the making or presentation of any false or fraudulent affidavit pertaining to any matter within the jurisdiction of the Secretary of the Interior may be punished by fine or imprisonment.

6—037

Reproduced at the National Archives

4-373 a.

DESERT-LAND ENTRY.

U. S. LAND OFFICE,
Sacramento

No. 021252

FINAL PROOF.

TESTIMONY OF WITNESS.

Name Mary Leo Kikut

Date June 11, 1935

Section NW¼SE¼ S. 1

Township 19 S.

Range 56 E. MDM

NOTATION OF ACTION.
(Space below for use in GENERAL LAND OFFICE only.)

QUESTION 13. Has any coal or other minerals been discovered on said land, or is any coal or mineral known to be contained therein? Answer yes or no. If so, describe what they are.

ANSWER. No.

QUESTION 14. Have you any interest, direct or indirect, in this entry or in the land covered thereby, or in the water supply used in its irrigation?

ANSWER. No.

(Sign here, with full Christian name.)

NOTE.—Every person swearing falsely to the above depositions will be punished as provided by law for each offense. (See sec. 5392 R. S., below.)

I HEREBY CERTIFY that the foregoing deposition was read to or by deponent in my presence before deponent affixed signature thereto; that deponent is to me personally known (or has been satisfactorily

(Give name of person before whom deposition was taken.)

that personally before deponent, and the said deposition was duly subscribed and sworn to before me, at my office, in Independence

Inyo County, California, within the

Sacramento Land District, this 21st day

of June, 1935.

(Official designation of officer.)

By [illegible] Deputy County Clerk

REVISED STATUTES OF THE UNITED STATES. Title LXX.—CRIMES. Chap. 4.

SEC. 5392. Every person who, having taken an oath before a competent tribunal, officer, or person, in any case in which a law of the United States authorizes an oath to be administered, that he will truly depose, declare, or certify truly, or that any testimony, declaration, deposition, or certificate by him subscribed is true, willfully and contrary to such oath states or subscribes any material matter which he does not believe to be true, is guilty of perjury, and shall be punished by fine of not more than two thousand dollars and by imprisonment at hard labor not more than five years; and shall, moreover, thereafter be incapable to give testimony in any court of the United States until the judgment against him is reversed.

Note.—Indictments in the above cases, conspiracy to subornly or willfully to commit the perjury, the making or procuring of any false oath or affirmation, or false testimony in any matter within the jurisdiction of the Secretary of the Interior may be transferred by him to the Department of Justice.

0—687

Reproduced at the National Archives

For use in HOMESTEAD and DESERT LAND Entries.

4—348 a

NOTICE FOR PUBLICATION.

(REGISTER.)

DEPARTMENT OF THE INTERIOR.

GENERAL LAND OFFICE, Sacramento, Calif., Apr. 2, 1935., 19__

NOTICE is hereby given that Leo Kikut,

of Olancha Calif., who, on Sept.16, 1927, 19__,

made Desert-Land Entry [redacted], No. 021252, for

NW¼SE¼

(Kind of application or entry.)

_____, Section 1,

Township 19-S., Range 36-E., M.D. Meridian,

has filed notice of intention to make final desert-land

(If homestead, insert "five year," "three year," or "commutation," as case may be.)

Proof, to establish claim to the land above described, before Clerk, Superior Court

(Name of officer.)

Independence, Calif., at _____, on the 22nd day of

May 1935, 19__

Claimant names as witnesses:

W.V. Butler, of _____

William Brown, of _____

William Mason and

Conception Zuniga all, of Olancha, Calif.

Inyo Independence

Independence, Cal.

Ellis Purlee

Commissioner or Register.

DEPARTMENT OF THE INTERIOR
U.S. Land Office at Sacramento, Calif.
Apr. 2, 1935.

Notice is hereby given that Leo Kikut, of Olancha, Calif., who on Sept. 16, 1927, made Desert Land Entry No. 021252, for NW¼SE¼, Section 1, Township 19 S., Range 36 E., M.D. Meridian, has filed notice of intention to make final desert-land Proof, to establish claim to the land above described, before Clerk Superior Court at Independence, Calif., on the 22nd day of May, 1935.

Claimant names as witnesses:

W.V. Butler,
William Brown,
William Mason and
Conception Zuniga, all of
Olancha, Calif.

ELLIS PURLEE,
Register.

(First Publication Apr. 12, 1935)
(Last Publication May 10, 1935)

CERTIFICATE AS TO POSTING OF NOTICE.

JUN 3 1935, 19__

I hereby certify that the above notice, or copy thereof, was posted conspicuously in this office on APR 3 1935, 19__; that it was posted until JUN 3 1935, 19__, and that no contest or protest has been filed to date hereof.

Ellis Purlee

Commissioner or Register.

Notice must be kept posted during entire period of publication. 6—1714

U. S. GOVERNMENT PRINTING OFFICE: 1930

Reproduced from National Archives

021252

4—348

For use in HOMESTEAD and DESERT LAND Entries.

RECEIVED
U. S. LAND OFFICE
SACRAMENTO, CALIF.
MAR 30 1935
Hour

NOTICE OF INTENTION TO MAKE PROOF

DEPARTMENT OF THE INTERIOR

U. S. LAND OFFICE at Sacramento California

March 28th, 1935

I, Leo Kikut, of

Olancha Calif, who, on September 16 1927, made

desert land entry (Kind of application or entry.), No. 021252, for

NW¼SE¼, Section 1,

Township 19S, Range 36E, M D Meridian,

hereby give notice of my intention to make final desert land proof
(If homestead, insert "five-year," "three-year," or "commutation," as case may be.)

Proof, to establish my claim to the land above described, before

Lora Meritheca, County Clerk of Inyo Co, (Name of officer.) at

Independence, California, on the 22th 22 day of

March May, 1935, by two of the following witnesses:

W V Butler, of Olancha, California

William Brown, of Olancha, California

William Mason, of Olancha, California

Conception Zuniga, of Olancha, California

Leo Kikut
(Signature of claimant.)

APR 2 - 1935, 19

Notice of the above intention to make proof will be published for a period of 5 consecutive weeks in the

Inyo Independence (Name of newspaper.) Independence Calif (Place of publication.)

which I hereby designate as the newspaper published nearest the land above described.

Ellis Purlee
Register.

U. S. GOVERNMENT PRINTING OFFICE: 1921 0—2657

Olancha

County of Inyo

DORA MERITHEW, COUNTY CLERK
Clerk of Superior Court
Clerk Board of Supervisors
INDEPENDENCE, CALIFORNIA

March 28th, 1935.

RECEIVED
U. S. LAND OFFICE
SACRAMENTO, CALIF.
MAR 30 1935
Hour ----------

Gentlemen:-

The paper nearest the land in question, is The Owens Valley Progress-Citizen.

We also have a paper in Independence, the Inyo Independent, but the first named paper is the nearer the land to be published.

Sincerely,

Dora Merithew

Dora Merithew,
County Clerk.

Reproduced at the National Archives

Reproduced at the National Archives

4—348

For use in HOMESTEAD and DESERT LAND Entries.

NOTICE OF INTENTION TO MAKE PROOF

DEPARTMENT OF THE INTERIOR Sacramento, Calif. Apr. 2, 1935.

U. S. LAND OFFICE at _____

Olancha Calif. Sept. 16, 1927, 19

Desert-Land Entry Act [illegible] 021832, of

Owens, who, on _____, 19 , made

_____, No. _____, for

(Kind of application or entry.)

_____, Section 1,

Township 19 S., Range 36 E., _____ M.D. Meridian,

hereby give notice of my intention to make final desert-land

(If homestead, insert "five-year," "three-year," or "commutation," as case may be.)

Proof, to establish my claim to the land above described, before

Clerk, Superior Court, at

(Name of officer.)

Independence, Calif., on the [illegible] day of

May 1935, 19 , by two of the following witnesses:

W.V. Butler, of

William Brown, of

William Mason and, of

Conception Zuniga all, of Olancha, Calif.

Ellis Parlee

(Signature of claimant.)

Lago Independence

Independence, Cal.

_____, 19

Notice of the above intention to make proof will be published for a period of _____ consecutive _____, in the

_____

(Name of newspaper.) (Place of publication.)

which I hereby designate as the newspaper published nearest the land above described.

_____

Commissioner or Register.

U. S. GOVERNMENT PRINTING OFFICE: 1931 6—2657

PLEASE FURNISH US WITH COPY OF PROOF
Please withhold FINAL CERTIFICATE until field investigation has been made and report submitted.
APR 4 1935 J. H. Favorite
(Date) Special Agent in Charge

Reproduced at the National Archives

HOMESTEAD and DESERT LAND Entries.

~~4-348 b~~

NOTICE FOR PUBLICATION.
(PUBLISHER.)

RECEIVED
U. S. LAND OFFICE
SACRAMENTO, CALIF.
MAY 13 1935
Hour

DEPARTMENT OF THE INTERIOR.

U. S. LAND OFFICE at Sacramento, Calif.

Apr. 2, 1935., 19

NOTICE is hereby given that Leo Kikut,

of Olancha Calif., who, on Sept.16, 1927, 19, made Desert-Land Entry ~~A-[illegible]~~ (Kind of application or entry.), No. 021252, for NW¼SE¼

, Section 1,

Township 19-S., Range 36-E., M.D. Meridian,

has filed notice of intention to make final desert-land (If homestead, insert "five year," "three year," or "commutation," as case may be.)

Proof, to establish claim to the land above described, before

Clerk, Superior Court (Name of officer.), at

Independence, Calif., on the 22nd day of

May 1935, 19

Claimant names as witnesses:

W.V. Butler, ~~of~~

William Brown, ~~of~~

William Mason and, ~~of~~

Comception Zuniga all, of Olancha, Calif.

Ellis Purlee
Register.

Inyo Independent
Independence, Cal.

(Last publication May 10, 1935)

~~☞~~ Publisher: Return this form to the Register at the end of the period of publication, with the "Affidavit of Publication" properly executed.

—LEGAL NOTICE—

DEPARTMENT OF THE INTERIOR
U.S. Land Office Sacramento Calif.
Apr. 2, 1935

Notice is hereby given that Leo Kikut, of Olancha, Calif. who on Sept. 16, 1927 made Desert Land Entry No. 021252 for NW¼SE¼ Section 1, Township 19-S., Range 36-E., M.D. Meridian has filed notice of intention to make final desert land proof, to establish claim to the land above described before Clerk, Superior Court at Independence, Calif. on the 22nd day of May 1935.

Claimant names as witnesses:
W. V. Butler
William Brown
William Mason and
Conception Zuniga, all of
Olancha, Calif.

ELLIS PURLEE
Register.

(First Publication Apr. 12, 1935)
(Last Publication May 10, 1935)

AFFIDAVIT OF PUBLICATION

I George W. Savage, Jr. co-publisher, of the (Publisher or foreman.)

Inyo Independent (Name of newspaper.)

published weekly (Daily or weekly.) at Independence, Cal (Place.)

do solemnly swear that a copy of the above notice, as per clipping attached, was published weekly (Daily or weekly.) in the regular and entire issue of said newspaper, and not in any supplement thereof, for 5 consecutive weeks, commencing with the issue dated Apr. 12, 1935, and ending with the issue dated May 10, 1935.

George W. Savage
(Signature.)

Subscribed and sworn before me this 11th day of May, 1935

Lamar P. Guthrie
NOTARY PUBLIC
in and for the County of Inyo, State of California
(Official designation.)

6—3051

GOVERNMENT PRINTING OFFICE

Reproduced at the National Archives

MP

Sacramento, California
May 24, 1935

Mr. Leo Kikut,
Olancha, California.

Dear Sir,

Your desert proof was taken on the wrong form. Will you please have the enclosed blanks completed and return to this office as soon as possible.

Very truly yours,

Register

Reproduced at the National Archives

40 mg

Excess $
Comm. (Final)
Pur. Mon. $40.00
Test Fees $
Interest $

4—369
Form approved by the Secretary of the Interior Aug. 31, 1923

DESERT
HOMESTEAD ENTRY
OTHER THAN UNDER THE STOCK-RAISING ACT

RECEIVED
U. S. LAND OFFICE
SACRAMENTO, CALIF.
MAY 24 1935

FINAL PROOF

TESTIMONY OF CLAIMANT

NOTE

DEPARTMENT OF THE INTERIOR

U. S. LAND OFFICE, Sacramento California Serial No. 021252

Additional Entry Serial No. ____

Receipt No. 2862367 31720149

40

NOTE.—The officer before whom this proof is made will see that all answers are complete and responsive to the questions, and that the answers bring out the pertinent facts showing the entryman's compliance or noncompliance with the laws under which the land was entered. Neither of the witnesses may be present while the testimony of the claimant is being given.

QUESTION 1. What is your full name, age, and post office address?

ANSWER. Name Leo Kikut

age 56 years; P. O. address Olancha, California

QUESTION 2. (a) Are you now a citizen of the United States? (b) If so, are you a native-born or naturalized citizen? (c) If naturalized, is a certified copy of your certificate of naturalization submitted with this proof, or is such copy now on file in the land office, and if so, with what entry was such copy filed? (d) If a married woman, give date of marriage and state husband's citizenship qualifications.

NOTE.—If applicant is alien born, he should state the fact and file evidence of citizenship in due form, either a certificate of his own naturalization in a court of competent jurisdiction, or, if claiming to be a citizen by virtue of his father's naturalization and his own minority and residence in the United States at the date thereof, or, if a married woman claiming citizenship by virtue of her husband's nativity or naturalization, then record evidence of the naturalization of the father, or husband, or an affidavit as to the nativity of the latter. Applicants who were at one time citizens of the United States, but who later became citizens of a foreign country, must file record evidence of their naturalization. Any female citizen of the United States invoking the benefits of the act of October 17, 1914 (38 Stat., 740), shall make oath showing the nationality of her husband, and that he is entitled to become a citizen of the United States.

ANSWER. (a) Yes ("Yes" or "No") (b) Naturalized ("Native-born" or "Naturalized") (c) Filed with application

(d) ____

QUESTION 3. Are you the same person who made original ~~homestead~~ Desert entry No. 021252 on September 16, 1927, and additional ~~homestead~~ entry No. ____ on ____, 19__, at the ____ Land Office, for 40 acres

NW¼ SE¼, Section 1, Township 19S, Range 36E, M D Meridian? M D

If not, give relationship to entryman.

ANSWER. ____

QUESTION 4. Are you married or single? ANSWER. Single

QUESTION 5. If married, of whom does your family consist?

ANSWER. Guardian for boy who lives with claimant

QUESTION 6. If a married woman, state whether your husband held an unperfected homestead entry during the period of residence claimed by you, and for what time he has resided on this land with you.

ANSWER. ____

6—0487

Reproduced at the National Archives

QUESTION 7. State fully: (a) whether the residence claimed in connection with this proof was made upon your original or your additional entry, (b) when you first established actual residence on the land, (c) if this proof is for an additional entry made under Section 7 of the enlarged homestead law for lands within 20 miles of the original homestead on which residence is maintained, state whether you owned the original entry during the entire period of such residence, (d) state any other facts in connection with your residence necessary to show compliance with the law.

(If this proof is for a contiguous additional entry and three years' residence has been shown in connection with proof previously submitted on the original entry, set forth such fact, and omit questions 8 and 9.)

ANSWER. (a) Original entry

(b) Within two or three months after filing on the land

(c)

(d) 5 acres cultivated, irrigated and crops raised every year

QUESTION 8. (a) Have you a habitable house on the land? (b) When was it built? (c) If built after residence was established, state where you resided before the house was built.

ANSWER. (a) Yes ("Yes" or "No") two houses (b) 1927

(c)

QUESTION 9. (a) Considering each "residence year" as beginning with the day and month on which residence was first established, state definitely the time, or times, during each residence year when actual residence was being maintained upon the land, and the time, or times, when no residence was being maintained; (b) state whether you, your family, or both were maintaining the residence and were absent from the homestead and the reason for each absence.

ANSWER.

(a) Actually resided on the land			Absent from the land	
Residence Year	From	To	From	To
1928	lived there all the time since entry :			
1929	from 1927 until the present		time May 22, 1935.	
1930				
1931				
1932				
1933				
1934				

(b) Family lived there all of the time. Applicant was absent only for work or business a few days at a time.

QUESTION 10. Describe the land embraced in above entry by legal subdivisions, showing fully the character of same, and kind and amount of timber, if any, and amount under cultivation.

(If several subdivisions are identical in character, they may be grouped together on one line)

ANSWER.

Section	Subdivision	General Character	Number of Acres				Feet of Saw Timber
			Now Cultivated	Not Cultivated but Cultivatable		Containing Trees or Brush	
				Profitably	Otherwise		
1	NW¼SE¼	Desert	5	20	20	1	

QUESTION 11. (a) State the number of acres cultivated, kind of crop planted, and amount harvested, each year, and to what extent you

Reproduced at the National Archives

have used the land for grazing. (b) If less than the amount required by law was cultivated in any year, the reason therefor should be given.

ANSWER. (a) 19 28, 1/2 acre garden, family garden vegetables

19 29, 1 acre garden planted for family use

19 30, 1 1/2 acres some fruit trees and garden

19 31, 1 1/2 " some grape vines besides garden

19 32, 2 acres total 1 1/2 planted to corn remainder to garden etc
1933 planted whole five acres " to corn wheat trees etc.

(b)

1933 cultivated and raised crop on whole 5 a. 1934 all cultivated

QUESTION 12. Describe fully and in detail the amount and kind of improvements on each subdivision, stating when same were made and giving the cost of each item.

ANSWER.

Year Constructed	Location of Improvements	Character of Improvement	Cost of Materials	Cost of Labor	Total Cost
1927	NW¼SE¼	Began a small house; Well	$100.00	$50.00	$150.00
1928	NW¼SE¼	House	$300.00	$400.00	700.00
1928	NW¼SE¼	Well finished 70'	$150.00	$300.00	450.00
1929	NW¼SE¼	House	$1000.00		1000.00
1930	NW¼SE¼	Land graded			150.00
1931	NW¼SE¼	Another well 100' Deep			500.00
1932	NW¼SE¼	Fencing & cultivating			150.00
1933	NW¼SE¼	Trees Recently made water reservoir 2 wells average 15" of water pumped by gasoline pump conducted by pipes and ditches.			

Total No. acres cultivated, 5 Total value of improvements, at least $ 2000.00

QUESTION 13. Is your present claim within the limits of an incorporated town or selected site of a city or town, or used in any way for trade or business? ANSWER. No

QUESTION 14. Are there any indications of coal, salines, or minerals of any kind on the land? If so, describe what they are.

ANSWER. No

QUESTION 15. Have you sold, conveyed, or agreed to sell or convey, any portion of the land? If so, to whom and for what purpose?

ANSWER. No

QUESTION 16. Have you optioned, mortgaged, or agreed to option or mortgage, or convey this land, or any part thereof? If so, when, to whom, and for what purpose and in what amount?

ANSWER. No

QUESTION 17. Have you any personal property of any kind elsewhere than on this claim? If so, describe the same, and state where the same is kept.

ANSWER. No

QUESTION 18. Have you ever made any other homestead entry? If so, describe the same.

ANSWER. Yes 1917 NW¼ NW¼ Sec.9 - 19-37

SW¼SW¼ of Sec 4 19 37 N½ SW¼ Sec.4 19 -37

QUESTION 19. Describe by legal subdivisions, or by number, kind of entry, and office where made, any entry for filing (not mineral) other than homestead made by you since August 30, 1890.

(Applications for the sale of isolated tracts are not considered as entries or filings)

ANSWER. No other entry except Homestead above described and previously filed on Desert entry but didnot prove up on it

QUESTION 20. Have either of the other witnesses been present while you were giving your above testimony? ANSWER. No

QUESTION 21. Have you any actual knowledge of any statement made by either of the other witnesses in their testimony in connection with this proof?

ANSWER. No

Leo Kikut.

(Sign with full Christian name)

☞NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. See Section 125, United States Criminal Code (over).

6—6487

Reproduced at the National Archives

I HEREBY CERTIFY that the deponent was examined separately and apart from the other witnesses in the case; that the foregoing deposition was read to or by deponent in my presence before deponent affixed signature thereto; that I verily believe deponent to be the identical person hereinbefore described, and that said deposition was duly subscribed and sworn to before me at my office, in Independence (Town) Inyo County, State of California within the Sacramento land district, this 22nd day of May, 1935

Deputy County Clerk
(Official designation)

FINAL AFFIDAVIT REQUIRED OF HOMESTEAD CLAIMANTS

Desert

Leo Kikut, having made a ~~Homestead~~ Entry of the NW¼SE¼

, Section 1, Township 19S, Range 36 E, MD Meridian, I do now apply to perfect said entry, and for that purpose do solemnly swear that I am a Naturalized (Native-born or Naturalized) citizen of the United States; that there is a habitable house upon NW¼SE¼ Sec. 1 19 S 36 E M.D.M. that residence and agricultural use of the land has been performed as set forth in my testimony; that no part of said land has been alienated, except as provided in section 2288 of the Revised Statutes; that I will bear true allegiance to the Government of the United States; and, further, that entryman had not heretofore perfected or abandoned an entry made under the ~~homestead~~ Desert laws of the United States, except abandoned an entry Desert

Leo Kikut.

I HEREBY CERTIFY that the foregoing affidavit was read to or by affiant in my presence before affiant affixed signature thereto; that I verily believe affiant to be a credible person and the identical person hereinbefore described, and that said affidavit was duly subscribed and sworn to before me, at my office, in Independence (Town) County of Inyo, State of California, this 22nd day of May, 19 35

DORA MERITHEW
County Clerk and ex-officio Clerk of the Superior Court, in and for the County of Inyo, State of California.
By Eleanor Mangrave
Deputy County Clerk
(Official designation)

UNITED STATES CRIMINAL CODE

SEC. 125. Whoever, having taken an oath before a competent tribunal, officer, or person, in any case in which a law of the United States authorizes an oath to be administered, that he will testify, declare, depose, or certify truly, or that any written testimony, declaration, deposition, or certificate by him subscribed, is true, shall willfully and contrary to such oath state or subscribe any material matter which he does not believe to be true, is guilty of perjury, and shall be fined not more than two thousand dollars and imprisoned not more than five years.

6—6487

U. S. GOVERNMENT PRINTING OFFICE: 1930

Reproduced at the National Archives

4—869a
Form approved by the Secretary of the Interior, Aug. 31, 1923.

Desert ~~HOMESTEAD~~ ENTRY

Other than under the Stock-raising Act.

FINAL PROOF

TESTIMONY OF WITNESS

DEPARTMENT OF THE INTERIOR

U. S. LAND OFFICE, Sacramento California Serial No. 021252

Additional Entry Serial No. _____

NOTE.—The officer before whom this proof is made will see that all answers are complete and responsive to the questions, and that the answers bring out the pertinent facts showing the entryman's compliance, or noncompliance, with the laws under which the land was entered. Neither the claimant nor the other witness may be present while the testimony of this witness is being taken.

QUESTION 1. What is your full name, age, and post office address?

ANSWER. Name, William Brown; age, 40 years; P. O. address, Olancha, California

QUESTION 2. Are you the same person who was mentioned in the published notice as William Brown?
(Officer before whom proof is taken will fill in the name as published.)

ANSWER. Yes

Question 3. How long have you known the claimant in this case and the

NW¼SE¼ Section 1,

Township 19S, Range 36E, MD Meridian,

the land embraced in Homestead Entry No. 021252, made at the Sacramento California Land Office?

ANSWER. I have known claimant 20 years, the land 35 years.

QUESTION 4. (a) Is entryman married? (b) Of whom does entryman's family consist?

ANSWER. (a) No (b) Just a boy lives with claimant

QUESTION 5. Is said tract within the limits of an incorporated town, or used in any way for trade or business?

ANSWER. No

QUESTION 6. If this proof is for an additional entry, state whether the entryman has resided upon such additional entry or upon his original entry.

ANSWER.

QUESTION 7. (a) At what date did entryman establish actual residence on said homestead? (b) Is there now a habitable house upon the land?

ANSWER. (a) At least five years ago (b) Yes

QUESTION 8. Has entryman, or entryman's family, maintained a residence elsewhere than on this land at any time since residence was thus established?

ANSWER. No has his home there all the time

QUESTION 9. Have entryman and family ever been absent from the homestead since thus establishing residence thereon? If so, state when, for how long, and for what reason.

ANSWER. Most of time is there except when working

6—6490

Reproduced at the National Archives

QUESTION 10. Considering each residence year as beginning at the date on which actual residence was established, state the number of months during each residence year that actual residence was maintained upon the land, and by whom?

ANSWER. First year, Maybe 2 months Second year, Dont remember
Third year, Fourth year,
Fifth year, Home every week

QUESTION 11. With regard to the land for which this proof is offered, state (a) the kind of soil; (b) contour of the surface, as "level," "rolling," "rough," "hilly," "mountainous," etc.; (c) number of acres which have been cultivated; (d) number of acres not cultivated which might be profitably cultivated; (e) number of acres containing trees of any kind; (f) number of feet of saw timber.

ANSWER. (a) sandy loan (b) mostly hilly small hills
(c) 5 acres (d) 20 (e) 2 (f) No

QUESTION 12. State the number of acres cultivated and kind of crop planted, each year, and state to what extent the land has been used for grazing.

ANSWER. 19 28, Cannot remember for each year but 5 acres
19, cultivated every year. so far as witness can remember
19; Corn, vegetables, melons, fruit trees
19,

QUESTION 13 (a). Describe fully and in detail the amount and kind of improvements on the land, stating when same were made and giving the cost of each item, and if proof is offered upon an additional entry under the stock-raising law state definitely which of such improvements are actually upon the additional entry and when they were placed there.

ANSWER.

Year Constructed.	Location of Improvements.	Character of Improvements.	Cost of Materials.	Cost of Labor.	Total Cost.
Cannot state what years improvements were made					
		Improvement has been gradual.			
		Concrete water reservoir			
		Well, 2 Houses and			
		sheds etc.			

Total No. acres cultivated 5 Total value of improvements $ Not known

QUESTION 13 (b). If any portion of the land has been cultivated, reclaimed by irrigation, cleared of trees or brush, seeded to cultivated grasses, or in any other manner handled so as to increase its productiveness, give full details and cost of such work, stating how many acres were so treated and upon which entry said work was done.

ANSWER. Irrigates part of cleared 5 acres

QUESTION 14. Are there any indications of coal, salines, or minerals of any kind on the land? If so, describe what they are.

ANSWER. No

Reproduced at the National Archives

QUESTION 15. Have you any knowledge or information that claimant has sold or contracted to sell, optioned, mortgaged, or agreed to option or mortgage this land? If so, give full details as to whom, for what purpose, and in what amount.

ANSWER. No

QUESTION 16. Have you personal knowledge, from your own observation, that claimant and his family (if any) actually resided upon and cultivated this land each year in accordance with your above testimony?

ANSWER. Yes, lives near and helps claimant on land.

QUESTION 17. How many times each year have you seen this land, and the claimant and his family residing thereon; and what other personal knowledge have you upon which your answers are based?

ANSWER. Nearly every day

QUESTION 18. Are you interested in this claim, or related to the claimant? If so, how?

ANSWER. No

QUESTION 19. Have either the claimant or the other witness been present while you were giving your above testimony?

ANSWER. No

QUESTION 20. Have you any actual knowledge of any statement made by the claimant or the other witnesss in their testimony in connection with this proof?

ANSWER. No

William Brown
(Sign plainly, with full Christian name.)

NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. See section 125, United States Criminal Code (below).

I HEREBY CERTIFY that the deponent was examined separately and apart from the other witnesses in the case; that the foregoing deposition was read to or by deponent in my presence before deponent affixed signature thereto; that I verily believe deponent to be the identical person hereinbefore described, and that said deposition was duly subscribed and sworn to before me at my office, in Independence (Town.), Inyo County, State of California, within the Sacramento land district, this 22nd day of May, 1935.

DORA MERITHEW
County Clerk and ex-officio Clerk of the Superior Court, In and for the County of Inyo, State of California.
(Official designation of officer.)

By Eleanor Mangouin Deputy Clerk

UNITED STATES CRIMINAL CODE.

SEC. 125. Whoever, having taken an oath before a competent tribunal, officer, or person, in any case in which a law of the United States authorizes an oath to be administered, that he will testify, declare, depose, or certify truly, or that any written testimony, declaration, deposition, or certificate by him subscribed, is true, shall willfully and contrary to such oath state or subscribe any material matter which he does not believe to be true, is guilty of perjury, and shall be fined not more than two thousand dollars and imprisoned not more than five years.

6—6490

U. S. GOVERNMENT PRINTING OFFICE: 1930

Reproduced at the National Archives

AFFIDAVIT OF PUBLICATION

STATE OF CALIFORNIA,
County of Inyo.—ss.

Robt. J. Sanders

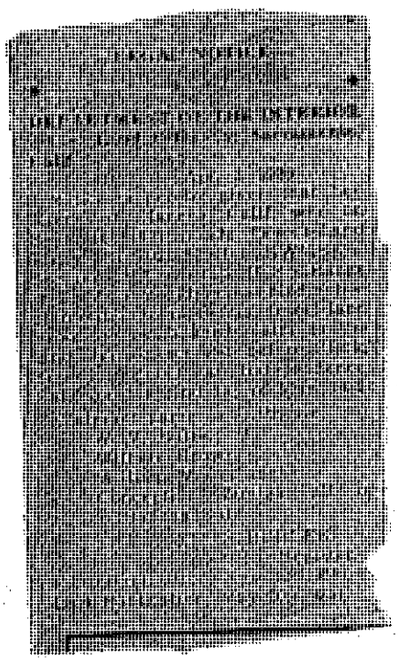
being first duly sworn, deposes and says:

That he is, and at all times hereinafter mentioned was, a citizen of the United States, over the age of twenty-one years, and a resident of said County, and is and was at and during all of said times the.....

Co- Publisher

of the Inyo Independent, a newspaper of general circulation and publication in the Town of Independence, County of Inyo, and the State of California, and that said Inyo Independent is and was at all times mentioned a newspaper of general circulation as that term is defined by the Political Code.

That at all times said newspaper has been published in the Town of Independence, County of Inyo, and State of California, at regular intervals for more than one year proceeding the first publication of the notice herein mentioned; that said notice was set in type not smaller than nonpareil, and was preceeded with words printed in black faced type not smaller than nonpareil, describing and expressing the general term and purport and character of the notice; that the notice of which the annexed is a true printed copy was published in said newspaper on the following dates towit:



April 12, 1935
April 19, 1935
April 26, 1935
May 3, 1935
May 10, 1935
....., 193.....
....., 193.....
....., 193.....
....., 193.....
....., 193.....
....., 193.....
....., 193.....
....., 193.....
....., 193.....

(Signed) Robt J. Sanders

.....

Subscribed and sworn to before me

this.....day of....., 193.....

Notary Public in and for the County of Inyo, State of California.

(My commission expires .....19.....)

My Commission Expires Dec. 21, 1938.

Reproduced at the National Archives

4—369a
Form approved by the Secretary of the Interior, Aug. 31, 1923.

Desert HOMESTEAD ENTRY

Other than under the Stock-raising Act.

FINAL PROOF

TESTIMONY OF WITNESS

DEPARTMENT OF THE INTERIOR

U. S. LAND OFFICE, Sacramento California Serial No. 021252

Additional Entry Serial No.

NOTE.—The officer before whom this proof is made will see that all answers are complete and responsive to the questions, and that the answers bring out the pertinent facts showing the entryman's compliance, or noncompliance, with the laws under which the land was entered. Neither the claimant nor the other witness may be present while the testimony of this witness is being taken.

QUESTION 1. What is your full name, age, and post office address?

ANSWER. Name, William Mason; age, 54 years; P. O. address, Cartago, California

QUESTION 2. Are you the same person who was mentioned in the published notice as William Mason?
(Officer before whom proof is taken will fill in the name as published.)

ANSWER. Yes

Question 3. How long have you known the claimant in this case and the

NW¼SE¼ Section 1,

Township 12S, Range 36 E., MD Meridian,

the land embraced in Homestead Entry 021252 No. 021252, made at the Sacramento California Land Office?

ANSWER. I have known claimant 7 years, the land 7 years. ✓

QUESTION 4. (a) Is entryman married? (b) Of whom does entryman's family consist?

ANSWER. (a) No (b) Man living with him and himself

QUESTION 5. Is said tract within the limits of an incorporated town, or used in any way for trade or business?

ANSWER. No

QUESTION 6. If this proof is for an additional entry, state whether the entryman has resided upon such additional entry or upon his original entry.

ANSWER.

QUESTION 7. (a) At what date did entryman establish actual residence on said homestead? (b) Is there now a habitable house upon the land?

ANSWER. (a) Not known (b) Yes

QUESTION 8. Has entryman, or entryman's family, maintained a residence elsewhere than on this land at any time since residence was thus established?

ANSWER. No

QUESTION 9. Have entryman and family ever been absent from the homestead since thus establishing residence thereon? If so, state when, for how long, and for what reason.

ANSWER. No, not for any length of time.

G—0400

Reproduced at the National Archives

QUESTION 10. Considering each residence year as beginning at the date on which actual residence was established, state the number of months during each residence year that actual residence was maintained upon the land, and by whom?

ANSWER. First year, Continuously Second year, Continuously Third year, Continuously Fourth year, Continuously Fifth year, Continuously

QUESTION 11. With regard to the land for which this proof is offered, state (a) the kind of soil; (b) contour of the surface, as "level," "rolling," "rough," "hilly," "mountainous," etc.; (c) number of acres which have been cultivated; (d) number of acres not cultivated which might be profitably cultivated; (e) number of acres containing trees of any kind; (f) number of feet of saw timber.

ANSWER. (a) Sandy Loam (b) partly rolling (c) Approx 10 (d) 10 (e) approx 10 (f) None

QUESTION 12. State the number of acres cultivated and kind of crop planted, each year, and state to what extent the land has been used for grazing.

ANSWER. 19 28, corn each year fruit trees grape vines
19, one year had alfalfa
19, Not much used for grazing
19,
19,

QUESTION 13 (a). Describe fully and in detail the amount and kind of improvements on the land, stating when same were made and giving the cost of each item, and if proof is offered upon an additional entry under the stock-raising law state definitely which of such improvements are actually upon the additional entry and when they were placed there.

ANSWER.

Year Constructed.	Location of Improvements.	Character of Improvements.	Cost of Materials.	Cost of Labor.	Total Cost.
Not known	NW¼SE¼	House, sheds	Approximately		$1000.00
		very good well			

Total No. acres cultivated 10 Total value of improvements $1000.00

QUESTION 13 (b). If any portion of the land has been cultivated, reclaimed by irrigation, cleared of trees or brush, seeded to cultivated grasses, or in any other manner handled so as to increase its productiveness, give full details and cost of such work, stating how many acres were so treated and upon which entry said work was done.

ANSWER. 10 acres cleared, irrigated by well water, cleared of sagebrush not estimated

QUESTION 14. Are there any indications of coal, salines, or minerals of any kind on the land? If so, describe what they are.

ANSWER. No

Reproduced at the National Archives

QUESTION 15. Have you any knowledge or information that claimant has sold or contracted to sell, optioned, mortgaged, or agreed to option or mortgage this land? If so, give full details as to whom, for what purpose, and in what amount.

ANSWER. No

QUESTION 16. Have you personal knowledge, from your own observation, that claimant and his family (if any) actually resided upon and cultivated this land each year in accordance with your above testimony?

ANSWER. Yes from own observation

QUESTION 17. How many times each year have you seen this land, and the claimant and his family residing thereon; and what other personal knowledge have you upon which your answers are based?

ANSWER. Lives one half mile from claimant's land and see it each day

QUESTION 18. Are you interested in this claim, or related to the claimant? If so, how?

ANSWER. No

QUESTION 19. Have either the claimant or the other witness been present while you were giving your above testimony?

ANSWER. No

QUESTION 20. Have you any actual knowledge of any statement made by the claimant or the other witnesss in their testimony in connection with this proof?

ANSWER. No

William Mason

(Sign plainly, with full Christian name.)

☞NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. See section 125, United States Criminal Code (below).

I HEREBY CERTIFY that the deponent was examined separately and apart from the other witnesses in the case; that the foregoing deposition was read to or by deponent in my presence before deponent affixed signature thereto; that I verily believe deponent to be the identical person hereinbefore described, and that said deposition was duly subscribed and sworn to before me at my office, in Independence (Town.) Inyo County, State of California, within the Sacramento land district, this 22nd day of May, 1935

DORA MERITHEW
County Clerk and ex-officio Clerk of the Superior Court, in and for the County of Inyo, State of California

By Eleanor Musgrave
Deputy County Clerk
(Official designation of officer.)

UNITED STATES CRIMINAL CODE.

SEC. 125. Whoever, having taken an oath before a competent tribunal, officer, or person, in any case in which a law of the United States authorizes an oath to be administered, that he will testify, declare, depose, or certify truly, or that any written testimony, declaration, deposition, or certificate by him subscribed, is true, shall willfully and contrary to such oath state or subscribe any material matter which he does not believe to be true, is guilty of perjury, and shall be fined not more than two thousand dollars and imprisoned not more than five years.

6—6490

U. S. GOVERNMENT PRINTING OFFICE: 1935

Reproduced at the National Archives

ADDRESS ONLY THE COMMISSIONER OF THE GENERAL LAND OFFICE

4-486 a
1x

UNITED STATES

DEPARTMENT OF THE INTERIOR

GENERAL LAND OFFICE

WASHINGTON Jan. 16, 1933

IN REPLY PLEASE REFER TO
Sacramento 021252 "F" FAH

Leo Kikut

Extension of time for final proof allowed on desert land entry.

Register,

Sacramento, California.

Sir:

It appearing from a showing made that claimant is entitled to the benefits of the act of March 28, 1908 (35 Stat. 52).

the statutory period of time within which final proof is required on the entry described below is hereby enlarged and extended to and to include September 16, 1934.

Advise claimant hereof by ordinary mail. Copy inclosed.

D. L. E. 021252 embracing NW¼ SE¼ Sec. 1, T. 19 S., R. 36 E., M. D. M., was made September 16, 1927.

No extension of time has heretofore been granted.

1-9-mr.

Very respectfully,

P. K. Parrott.
Acting Assistant Commissioner.

Reproduced at the National Archives

UNITED STATES
DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE

DL021252 DISTRICT LAND OFFICE

Sacramento, California
October 10, 1932

Mr. J. H. Favorite,
San Francisco, California.

Dear Sir,

On Sept 25, 1931 we sent you application for extension of time filed by Leo Kikut, D L 021252, for NW¼SE¼ Sec. 1, T. 19 S., R 36 E., M.D.M. Please let us know if you have reported this case.

Very truly yours,

Register

RECEIVED
OCT 14 1932
U. L. O.

Reproduced at the National Archives

P DL 021252

4—030

DEPARTMENT OF THE INTERIOR
UNITED STATES LAND OFFICE

Sacramento, California
(Place)

September 25 1931

021252
(Serial number)

Returns for the last (First or last) half of month of September, 1931, Aug 8 (Date filed),
1931 Appln. for extension of ti e to make final proof D E 021252 (Kind of application)
Leo Kikut, Olancha, Cal (Name and address of applicant)

(Description of land involved)
NW¼SE¼ Sec. 1, Tp 19 N., Range 36 E. MDM

September 25, 1931
(Date referred to Chief of Field Division)

John e Jay
Register.

Entry allowed Sept. 16, 1927. Three annual proofs made.

NOTE.—This form is to be submitted with the Register's semimonthly returns for each application not returned by Chief of Field Division in time for transmittal with the returns for the period during which filed. NOT TO BE SUBMITTED IN DUPLICATE.

6-4668 GOVERNMENT PRINTING OFFICE

Reproduced in the National Archives

4—001a

FILL OUT THIS BLANK WITH INK

Status Clerk:

Please furnish status appearing on the Tract Books affecting

Klamath Entry No. 021252

Claimant's name Leo Kinnet

Description NW¼ NE¼

Sec. 1 Tp. 19N R. 3 6 E Meridian M.D.

State California District Sacramento

T. B. Vol. 130, p. 37 32

FEB 11 1930 (Date of request), 19 W. D. Khamsey (Full name of clerk) Div. 4

Does posting and survey agree with above description Yes

Conflicts None

None

Rights-of-way Tel. Trans. Line, Oct 3/4/1911, City of Los Angeles, 028643 Independence, Calif., 1/7/1915. *

Withdrawals Temp. withdrawn Nov 26, 1934 "a" 1578415. withdrawn by Ex order July 16, 1933 - in aid of legislation see letter #29512 - Adm Grazing Dist, no. 1 Lee-1597966. Temp. withdrawn July 30, 1934 - for Proposed Grazing *

Information desired All Conflicts and withdrawals

6—35 To Recheck status

27 FMS

Part sec. 1 in Stock Driveway #235 = Calif #17 "a" 747197 ↗ the portion under this line is not within the exterior boundaries of the Klamath Reservation

* Tel-Line act 3-4-11 - city of Los Angeles 028457 Sacramento, apprd June 28, 1934

* district - 12" 1559734 - within Jen offices Klamath Power Project July 20, 1926 - 118959.

Date furnished 3/3 M-3-30, 19 30 (Full name of clerk)

This slip will be filed with case to which it pertains, and the status clerk, who must sign same, will be held responsible for its correctness.

WILLIAM SPRY, Commissioner

0—4174 U. S. GOVERNMENT PRINTING OFFICE: 1922

Received in "O" for status JUN 27 1935

Returned to "O" for status FEB 12 1930

Reproduced from the National Archives

4—07½

Form approved by the Secretary of the Interior April 27, 1916.

RECEIVED
U. S. LAND OFFICE
SACRAMENTO, CALIF.
OCT 9 — 1930
Date
Hour

DEPARTMENT OF THE INTERIOR.

DESERT-LAND ENTRY.

U. S. LAND OFFICE SACRAMENTO, CALIF., No. 021252

Third YEARLY PROOF.

TESTIMONY OF WITNESS.

(Read carefully the instructions on the back hereof.)

I, William Brown, (Give full Christian name.) of Olancha (Give full post-office address.),
do solemnly swear that I am well acquainted with the North West 1/4 of the South East 1/4, Section One,
Township 19 S., Range 36 E., M. D. Meridian,
containing Forty acres, situated in Inyo County, California (County and State.)
being the land embraced in Desert-Land Entry No. 021252,
Visalia Land Office Series,
in the name of Leo Kikut (Give full Christian name of claimant.); that from personal
examination I know that during the Third year after date of said
entry there were expended for the ultimate reclamation of said land the
amounts set forth and itemized below, the total sum thereof being not less
than one dollar per acre for the entire area of the entry:

In the actual construction of reservoirs, ~~dams~~, ~~canals~~, ~~ditches~~, laterals, ~~wells~~ (witness will cross out the items not alleged), the water from which is to be used for irrigating said land, located on NW 1/4, SE 1/4 Section 1. T. 19 S. R. 36 E. M.D.M. $ 50.00

In the purchase of (Materials or machinery.)
actually used in constructing
or actually installed for

In building a fence located on land, East of Highway. 20.00

In the first clearing or breaking of one acres in the
North East part of the 40 acres (Give location.) 20.00

In surveying for the purpose of ascertaining levels for

In cash payment for stock in the
Company, a receipt for which
is filed herewith,

Further expenditures

Remarks (such as length and capacity of ditches, etc.):
The building of Fence consisted of stringing 4 rows along east side of State Highway. The work on Reservoir consisted of excavating 30 x 50 feet from 1/2 to 3 feet deep and hauling Stone to Reservoir.

William Brown
(Sign here, with full Christian name.)

☞ NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. (See Sec. 125, U. S. Criminal Code—over.)

6—784

Reproduced at the National Archives

I HEREBY CERTIFY that the foregoing affidavit was read to or by affiant in my presence before affiant affixed signature thereto; that affiant is to me personally known (or has been satisfactorily identified before me by _____ (Give full name and post-office address.)); that I verily believe affiant to be the identical person hereinbefore described; and that said affidavit was duly subscribed and sworn to before me at my office, in Cartago (Town.), Inyo (County.), Calif (State.), within the Visalia land district, this Sixth day of Oct, 1930

J. D. Bailey

Notary Public in and for the County of Inyo, State of California.

(Official designation of officer.)

TESTIMONY OF WITNESS

(Read carefully the instructions on the back hereof.)

I, Herbert Ernest Bunn (Give full Christian name.), of Cartago (Give full post-office address.), do solemnly swear that I am well acquainted with the land described in the foregoing affidavit, and embraced in Desert-Land Entry No. 021252 Visalia Land Office Series, in the name of Leo Kikuit. (Give full Christian name of claimant.); that from personal examination I know that during the Third year after date of said entry there were expended for the ultimate reclamation of said land the amounts set forth and itemized below, the total sum thereof being not less than one dollar per acre for the entire area of the entry:

In the actual construction of reservoirs, ~~dams~~, ~~canals~~, ~~ditches~~, ~~laterals~~, ~~wells~~ (witness will cross out the items not alleged), the water from which is to be used for irrigating said land, located on the NW¼, SE¼ Section 1. Township 19 S. Range 36 E M.D. Meridian $50.00

In the purchase of _____ (Materials or machinery.)

actually used in constructing _____

or actually installed for _____

In building a fence located East of State Highway 20.00

In the first clearing or breaking of one acres in the North Easterly part of the 40 acres. (Give location.) 20.00

In surveying for the purpose of ascertaining levels for _____

In cash payment for stock in the _____, _____ Company, a receipt for which is filed herewith, _____

Further expenditures _____

Remarks (such as length and capacity of ditches, etc.):

_____

Herbert Ernest Bunn

(Sign here with full Christian name.)

☞ NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. (See Sec. 125, U. S. Criminal Code—over.)

o 8—784

Reproduced at the National Archives

I HEREBY CERTIFY that the foregoing affidavit was read to or by affiant in my presence before affiant affixed signature thereto; that affiant is to me personally known (or has been satisfactorily identified before me by _____);
(Give full name and post-office address.)

that I verily believe affiant to be the identical person hereinbefore described; and that said affidavit was duly subscribed and sworn to before me, at my office, in Cartago (Town.), Inyo (County.), Calif (State.), within the Nevada land district, this 2nd day of October, 1920

J B Bailey

Notary Public in and for the County of Inyo, State of California.
(Official designation of officer.)

AFFIDAVIT TO BE MADE ONLY IN CASE PROOF IS TAKEN OUTSIDE OF COUNTY.

I solemnly swear that _____, whose office
(Officer before whom proof is executed.)

is approximately _____ miles from the entry and outside the county in which the land is situated, is the officer nearest to (or most accessible from) the land authorized to administer oaths in desert-land cases, within the land district, for the reason that the office of the nearest officer within the county before whom the proof might have been executed, is located _____
(Facts as to nearness or accessibility of officer in county.)

_____
(Sign here, with full Christian name.)

Sworn to before me this _____ day of _____, 191

_____

_____
(Designation of officer.)

Note.—The claimant is not required to make oath as to annual expenditures upon or for the benefit of his entry, but the subjoined form is furnished for his convenient use in case he should desire to supplement the testimony of the witnesses with his own affidavit. He should promptly notify the local officers of any change in his post-office address.

(Read carefully the instructions on the back hereof.)

I, _____, do solemnly swear that I am
(Give full Christian name.)

the _____ who made
(Insert "same person" or "assignee of"—giving name of original entryman.)

Desert-Land Entry No. _____, _____ Land Office Series, embracing the land described in the foregoing testimony; that I am a bona fide resident citizen of the State of _____ (or that on _____, I removed to _____
(Date of removal.)

for the reason that _____);
(Occasion for removal.)

that my post-office address is _____; that during the _____ year after making said entry I expended in improvements necessary for the ultimate reclamation of the land, the sum of _____, being not less than one dollar per acre of the area thereof, the expenditure of which is

Reproduced at the National Archives

fully set forth in the following items, to wit:
(Cost of materials and labor to be itemized separately.)

_____ $_____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____
(Sign here, with full Christian name.)

I HEREBY CERTIFY that the foregoing affidavit was read to or by affiant in my presence before affiant affixed signature thereto; that affiant is to me personally known (or has been satisfactorily identified before me by _____);
(Give full name and post-office address.)
that I verily believe affiant to be the identical person hereinbefore described; and that said affidavit was duly subscribed and sworn to before me, at my office, in _____, _____
(Town.) (County.)
_____, within the _____
(State.)
land district, this _____ day of _____, 191

_____

_____
(Official designation of officer.)

READ CAREFULLY BEFORE PREPARING THE AFFIDAVITS.

The law requires an expenditure of not less than three dollars per acre, for the entire area entered, in the necessary irrigation, cultivation, and reclamation of the land, by means of main canals and branch ditches, and in permanent improvements upon the land.

During the first year after entry the claimant must file with the Register proof, by the separate affidavits of two witnesses other than himself, taken at the same time and place and before the same officer, that the full sum of one dollar per acre, for the entire area, has been so expended, and like proof must be made for each year thereafter until the full sum of three dollars per acre has been expended; and at the end of the third year the claimant must file a map or plan showing the character and extent of the improvements.

EXPENDITURES FOR WHICH PROOF WILL NOT BE ACCEPTED.

No proof of expenditure will be accepted unless the expenditure was essential to the actual or ultimate reclamation of the land.

A dwelling house is not essential to reclamation, and no allowance will be made therefor.

Plowing, after the first breaking of the land, seeding land to crops, irrigating, cultivating, and harvesting crops are not items for which proof of expenditure will be accepted.

The cost of windmill or pump will not be allowed unless it is specifically shown that the same was essential to the contemplated mode of irrigation and was not installed for domestic uses.

The cost of material for necessary construction work will not be allowed unless it actually has been applied to that use, and it must be so stated in the affidavit.

The cost of tools, implements, wagons, and repairs to same, used in construction work, can not be computed in the cost of construction.

No expenditure for surveying will be allowed unless it is specifically stated that it was for the purpose of establishing lines and levels of canals and ditches.

EXPENDITURES FOR WHICH PROOF WILL BE ACCEPTED.

Cost of constructing storage reservoir, well, canals, ditches, and maintaining same. The cost of each item must be stated separately, and the length, capacity, and location of the ditches and canals must be given.

Cost of water right, if payment therefor in cash be shown by evidence accompanying the annual proof.

Cost of clearing land, if it is shown to be the first clearing. The extent, character, and location of all clearing must be fully set forth.

Cost of first plowing or breaking. All claim for plowing or breaking must specifically state that it was the first plowing or breaking of the soil, and the area and location of the land broken must be stated.

Cost of fencing necessary to protect the land for the purpose of reclamation, the length, kind, and location to be stated.

Cost of any permanent improvement essential to the reclamation of the land, provided its purpose or use is shown.

BE SPECIFIC. SET FORTH IN DETAIL THE NATURE, CHARACTER, AND PURPOSE OF ALL IMPROVEMENTS, AND STATE COST OF EACH SEPARATELY.

SEC. 125, U. S. CRIMINAL CODE.

Whoever, having taken an oath before a competent tribunal, officer, or person, in any case in which a law of the United States authorizes an oath to he administered, that he will testify, declare, depose, or certify truly, or that any written testimony, declaration, deposition, or certificate by him subscribed is true, shall willfully and contrary to such oath state or subscribe any material matter which he does not believe to be true, is guilty of perjury, and shall be fined not more than two thousand dollars and imprisoned not more than five years.

NOTE.—In addition to the above penalty, every person who knowingly or willfully in anywise procures the making or presentation of any false or fraudulent affidavit pertaining to any matter within the jurisdiction of the Secretary of the Interior may be punished by fine or imprisonment.

o 6—784

Reproduced at the National Archives

Reproduced at the National Archives

OLANCHA. CALIF. OCTOBER. 6TH 1930.

U.S. LAND OFFICE.
VISALIA. CALIF.

RECEIVED
U. S. LAND OFFICE
SACRAMENTO, CALIF
Date OCT 9 1930
Hour

Dear Sir!

Enclosed am sending you third yearly Proof for Desert-land Entry No 021252 and sketch of portion of the 40 acres, I done improvements on.

The reservoir is dug and part of the rock and sand hauled, purchased 40 sacks Cement and 1000 feet of Pipe, 1 inch.

The reservoir and well are on high ground, so it will be possible to irrigate the triangle sketched.

The well is 30 feet deep and seems to stand up. so far I have a hand pump, but intend to put in a centrifugal pump to connect with reservoir, when finished.

I will try to make final Proof as soon as necessary improvements are completed.

The fence east of State Highway consist of 4 wires, posts 14 feet apart, the other two sides are also fenced.

Please state if I will have another year, to make final Proof.

Yours very truly
Leo Tikeit

Reproduced by the National Archives

4—074 h

Form approved by the Secretary of the Interior April 27, 1916.

DEPARTMENT OF THE INTERIOR.

RECEIVED U. S. LAND OFFICE SACRAMENTO, CALIF. Date DEC 19 1929 Hour

DESERT-LAND ENTRY.

U. S. LAND OFFICE SACRAMENTO, CALIF., No. 021252

Two YEARLY PROOF.

TESTIMONY OF WITNESS.

(Read carefully the instructions on the back hereof.)

I, Ed. Dodge, (Give full Christian name) of Olancha, Calif. (Give full post-office address.) do solemnly swear that I am well acquainted with the N.W. 1/4 of the S.E 1/4, Section 1, Township 19 S., Range 36 E., M.D. Meridian, containing 40 acres, situated in Inyo County, Calif. (County and State.) being the land embraced in Desert-Land Entry No. 021252, Land Office Series, in the name of LEO, KIRUT (Give full Christian name of claimant.); that from personal examination I know that during the two years after date of said entry there were expended for the ultimate reclamation of said land the amounts set forth and itemized below, the total sum thereof being not less than one dollar per acre for the entire area of the entry:

In the actual construction of ~~reservoirs, dams, canals, ditches, laterals,~~ wells (witness will cross out the items not alleged), the water from which is to be used for irrigating said land, located on the land, close to State Highway. $ 80.00

In the purchase of (Materials or machinery.) actually used in constructing

or actually installed for

In building a fence located along the State Highway

In the first clearing or breaking of acres in the (Give location.)

In surveying for the purpose of ascertaining levels for

In cash payment for stock in the Company, a receipt for which is filed herewith,

Further expenditures

Remarks (such as length and capacity of ditches, etc.):

Ed. Dodge (Sign here, with full Christian name.)

☞ NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. (See Sec. 125, U. S. Criminal Code—over.)

c.0—784

Reproduced at the National Archives

I HEREBY CERTIFY that the foregoing affidavit was read to or by affiant in my presence before affiant affixed signature thereto; that affiant is to me personally known (or has been satisfactorily identified before me by Lee Doxey Olancha Calif.);
(Give full name and post-office address.)

that I verily believe affiant to be the identical person hereinbefore described; and that said affidavit was duly subscribed and sworn to before me, at my office, in Bartons, Inyo, (Town.) (County.)
Calif., within the Visalia
(State.)
land district, this Eighth day of December, 1919

J B Bailey
Notary Public in and for the County of Inyo, State of California
(Official designation of officer.)

TESTIMONY OF WITNESS

(Read carefully the instructions on the back hereof.)

I, Carl A. Doersam, of Olancha Calif.,
(Give full Christian name.) (Give full post-office address.)
do solemnly swear that I am well acquainted with the land described in the foregoing affidavit, and embraced in Desert-Land Entry No. 021252 Land Office Series, in the name of Leo Kikut;
(Give full Christian name of claimant.)
that from personal examination I know that during the two years after date of said entry there were expended for the ultimate reclamation of said land the amounts set forth and itemized below, the total sum thereof being not less than one dollar per acre for the entire area of the entry:

In the actual construction of ~~reservoirs~~, ~~dams~~, ~~canals~~, ~~ditches~~, ~~laterals~~, wells (witness will cross out the items not alleged), the water from which is to be used for irrigating said land, located on the land, close to State Highway $ 80 00

In the purchase of
(Materials or machinery.)
actually used in constructing

or actually installed for

In building a fence located along the State Highway

In the first clearing or breaking of acres in the

(Give location.)

In surveying for the purpose of ascertaining levels for

In cash payment for stock in the Company, a receipt for which is filed herewith,

Further expenditures

Remarks (such as length and capacity of ditches, etc.):

Carl A Doersam
(Sign here with full Christian name.)

☞ NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. (See Sec. 125, U. S. Criminal Code—over.)

c 6—784

Reproduced in the National Archives

I HEREBY CERTIFY that the foregoing affidavit was read to or by affiant in my presence before affiant affixed signature thereto; that affiant is to me personally known (or has been satisfactorily identified before me by _____);
(Give full name and post-office address.)
that I verily believe affiant to be the identical person hereinbefore described; and that said affidavit was duly subscribed and sworn to before me, at my office, in Cartago, Inyo, Calif., within the Visalia land district, this 7th day of December, 1909

J. B. Bailey

Notary Public in and for the County of Inyo, State of California.
(Official designation of officer.)

AFFIDAVIT TO BE MADE ONLY IN CASE PROOF IS TAKEN OUTSIDE OF COUNTY.

I solemnly swear that _____, whose office
(Officer before whom proof is executed.)
is approximately _____ miles from the entry and outside the county in which the land is situated, is the officer nearest to (or most accessible from) the land authorized to administer oaths in desert-land cases, within the land district, for the reason that the office of the nearest officer within the county before whom the proof might have been executed, is located _____
(Facts as to nearness or accessibility of officer in county.)

_____
(Sign here, with full Christian name.)

Sworn to before me this _____ day of _____, 191

_____

_____
(Designation of officer.)

Note.—The claimant is not required to make oath as to annual expenditures upon or for the benefit of his entry, but the subjoined form is furnished for his convenient use in case he should desire to supplement the testimony of the witnesses with his own affidavit. He should promptly notify the local officers of any change in his post-office address.

(Read carefully the instructions on the back hereof.)

I, _____, do solemnly swear that I am
(Give full Christian name.)
the _____ who made
(Insert "same person" or "assignee of"—giving name of original entryman.)
Desert-Land Entry No. _____, _____ Land Office
Series, embracing the land described in the foregoing testimony; that I am a bona fide resident citizen of the State of _____ (or that on _____, I removed to _____
(Date of removal.)
for the reason that _____);
(Occasion for removal.)
that my post-office address is _____; that during the _____ year after making said entry I expended in improvements necessary for the ultimate reclamation of the land, the sum of _____ _____, being not less than one dollar per acre of the area thereof, the expenditure of which is

Reproduced at the National Archives

fully set forth in the following items, to wit:

(Cost of materials and labor to be itemized separately.)

_____ $_____

_____

_____

_____

_____

_____

(Sign here, with full Christian name.)

I HEREBY CERTIFY that the foregoing affidavit was read to or by affiant in my presence before affiant affixed signature thereto; that affiant is to me personally known (or has been satisfactorily identified before me by _____);

(Give full name and post-office address.)

that I verily believe affiant to be the identical person hereinbefore described; and that said affidavit was duly subscribed and sworn to before me, at my office, in _____, _____,

(Town.) (County.)

_____, within the _____

(State.)

land district, this _____ day of _____, 191

_____

_____

(Official designation of officer.)

READ CAREFULLY BEFORE PREPARING THE AFFIDAVITS.

The law requires an expenditure of not less than three dollars per acre, for the entire area entered, in the necessary irrigation, cultivation, and reclamation of the land, by means of main canals and branch ditches, and in permanent improvements upon the land.

During the first year after entry the claimant must file with the Register proof, by the separate affidavits of two witnesses other than himself, taken at the same time and place and before the same officer, that the full sum of one dollar per acre, for the entire area, has been so expended, and like proof must be made for each year thereafter until the full sum of three dollars per acre has been expended; and at the end of the third year the claimant must file a map or plan showing the character and extent of the improvements.

EXPENDITURES FOR WHICH PROOF WILL NOT BE ACCEPTED.

No proof of expenditure will be accepted unless the expenditure was essential to the actual or ultimate reclamation of the land.

A dwelling house is not essential to reclamation, and no allowance will be made therefor.

Plowing, after the first breaking of the land, seeding land to crops, irrigating, cultivating, and harvesting crops are not items for which proof of expenditure will be accepted.

The cost of windmill or pump will not be allowed unless it is specifically shown that the same was essential to the contemplated mode of irrigation and was not installed for domestic uses.

The cost of material for necessary construction work will not be allowed unless it actually has been applied to that use, and it must be so stated in the affidavit.

The cost of tools, implements, wagons, and repairs to same, used in construction work, can not be computed in the cost of construction.

No expenditure for surveying will be allowed unless it is specifically stated that it was for the purpose of establishing lines and levels of canals and ditches.

EXPENDITURES FOR WHICH PROOF WILL BE ACCEPTED.

Cost of constructing storage reservoir, well, canals, ditches, and maintaining same. The cost of each item must be stated separately, and the length, capacity, and location of the ditches and canals must be given.

Cost of water right, if payment therefor in cash be shown by evidence accompanying the annual proof.

Cost of clearing land, if it is shown to be the first clearing. The extent, character, and location of all clearing must be fully set forth.

Cost of first plowing or breaking. All claim for plowing or breaking must specifically state that it was the first plowing or breaking of the soil, and the area and location of the land broken must be stated.

Cost of fencing necessary to protect the land for the purpose of reclamation, the length, kind, and location to be stated.

Cost of any permanent improvement essential to the reclamation of the land, provided its purpose or use is shown.

BE SPECIFIC. SET FORTH IN DETAIL THE NATURE, CHARACTER, AND PURPOSE OF ALL IMPROVEMENTS, AND STATE COST OF EACH SEPARATELY.

SEC. 125, U. S. CRIMINAL CODE.

Whoever, having taken an oath before a competent tribunal, officer, or person, in any case in which a law of the United States authorizes an oath to be administered, that he will testify, declare, depose, or certify truly, or that any written testimony, declaration, deposition, or certificate by him subscribed is true, shall willfully and contrary to such oath state or subscribe any material matter which he does not believe to be true, is guilty of perjury, and shall be fined not more than two thousand dollars and imprisoned not more than five years.

NOTE.—In addition to the above penalty, every person who knowingly or willfully in anywise procures the making or presentation of any false or fraudulent affidavit pertaining to any matter within the jurisdiction of the Secretary of the Interior may be punished by fine or imprisonment.

Reproduced at the National Archives

Olancha. Calif. December 16th 1929.

RECEIVED
U. S. LAND OFFICE
SACRAMENTO, CALIF.
Date DEC 19 1929

Department of the Interior.
General Land Office.
Sacramento. Calif.

027252-1

Gentlemen!

Enclosed I am sending you the Testimony of the two Witnesses.

I spend considerable more for improvements as required for the two years, as the well is 5 feet by 5 feet timbered for 20 feet and a 12 inch casing for 33 feet, with 12 to 15 feet of water in the casing; so the well cost more than $80.00

as I am making a home on this land and there is always somebody living on this land I was of the impression that I could hold this land by occupation and it would not be necessary to make the yearly proof.

The State Highway allowed me a fence on the east side of the Highway for the entire lenght of the land. I have all the fence posts in place, the gates hung, and the corners braced.

Hoping that this will be satisfactory until next year, when I will build a reservoir, I remain

Yours very respectfully
Leo Tikent
Olancha Calif.

Reproduced at the National Archives

P

4—030

DEPARTMENT OF THE INTERIOR
UNITED STATES LAND OFFICE

Visalia, California
(Place.)

April 15, 1927

015629
(Serial number.)

Returns for the month of Apr 15, 1927, Sept 7, 1926
(Date filed.)

desert land (Kind of application.) Leo Kikut, Olancha, Calif (Name and address of applicant.)

(Description of land involved.)

NW¼SE¼ Sec. 1, Tp. 19 S, Range 36 E

MDM. April 15, 1927
(Date referred to Chief of Field Division.)

W. L. Summerlin
Register.

Right to make second entry granted by "F" WJC Oct 29, 1926

Posted 130/37 May 13/27 ADS

NOTE.—This form is to be submitted with the Register's monthly returns for each application not returned by Chief of Field Division in time for transmittal with the returns for the month during which filed. NOT TO BE SUBMITTED IN DUPLICATE.

6—4668

Reproduced at the National Archives

DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
WASHINGTON OCT 29 1926

IN REPLY PLEASE REFER TO : RIGHT TO MAKE SECOND ENTRY
: GRANTED.
Visalia 015629 "F" WJC : APPLICATION RETURNED FOR SUS-
: PENSION.

Claimant: Leo Kikut.

Act: September 5, 1914 (38 Stat., 712)

Register and Receiver:

Visalia, California.

Gentlemen:

The showing made in support of second entry, under the Act of September 5, 1914 (38 Stat., 712), by the claimant whose name and serial number of the application appear above, being deemed sufficient, the application is herewith returned for SUSPENSION pending determination as to whether the land is subject to appropriation by entries of this character.

Should the land be hereafter determined as subject to this character of entry, in allowing the application the initials and date of this letter should be noted thereon.

Very respectfully,

Acting Assistant Commissioner.

10-27-bbs

Reproduced from the National Archives

U. S. Land Office
Visalia, Calif.
Date SEP. 16 1926
Hour 2 P.M.

4—007c

(Form approved by the Secretary of the Interior October 31, 1914.)

DEPARTMENT OF THE INTERIOR

APPLICATION FOR SECOND ENTRY.

(To accompany application for a specific tract.)

(Act of September 5, 1914—Public, No. 194—63d Congress.)

U. S. LAND OFFICE, Visalia, No. 015629

I, Leo Kikut, of Olancha, Calif.
(Give post-office address.)
being an applicant for second Desert entry, do hereby make under oath the following statements regarding my former Desert entry, or entries, which I failed to perfect:

QUESTION 1. Give the number and series of the prior entry (or entries); also a description of the tract (or tracts) by legal subdivisions, section, township, and range.

No. 05571. - W½ of Lot 2 of NW ¼, SW NW ¼, NW SW ¼ of Sec. 3, Twp. 19 S., R. 37 E., M. D. M.

QUESTION 2. What examination of the land, and what inquiries as to its character, did you make before filing your former application (or applications) for entry? If you are referring to a desert-land entry (or entries), state what reason you had to believe that the required proportion of the tract, or tracts, could be reclaimed by you through irrigation.

I dug a well and found water in 12 feet and thought I could reclaim the land but there proved to be too much alkali in the soil.

QUESTION 3. If reference is had to a homestead entry, state whether you established residence on the land, how long you lived there, and what cultivation and improvements you had; if reference is had to a desert-land entry, state whether you took possession of the land, and, if so, how long you continued to exercise acts of ownership thereover.

QUESTION 4. State what improvements, if any, you made upon the land, describing in detail their nature and cost.

Plowed, harrowed and leveled 20 acres and seeded to grain at a cost of $400.00 over ~~$1000.00~~ - Dug a well 70 ft deep at a cost of about $600.00

Entire expense over $1000.00

30—3301

131

Reproduced at the National Archives

QUESTION 5. State when you abandoned the claim, and your reasons for that action, and whether you ever executed a relinquishment of the entry, giving the date thereof as nearly as possible, and stating to whom the paper was delivered.

Abonded claim in April, 1923. Was advised by the Agricultural & College of Berkley to give it up as it carried too high percent of Glauber salt or Black Alkali. Relinquished to Independence office of U. S. Land Office in 1923.

QUESTION 6. State what consideration, if any, you received for the abandonment or relinquishment of your claim; also whether you sold the improvements on the land. If such a sale was made, give full details thereof, including its date, the consideration received, and its precise relation to the relinquishment of your entry.

Received no consideration for relinquishment of land or for any improvements.

QUESTION 7. State any other facts regarding your first entry or entries which may have a bearing upon the question of your right to make entry under your present application.

Could not make a living on the land as the alkali prevented raising a crop.

Leo Kikut.
(Sign here, with full Christian name.)

☞ NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. See section 125, United States Criminal Code (over).

I HEREBY CERTIFY that the foregoing affidavit was read to or by affiant in my presence before affiant affixed signature thereto; that I verily believe affiant to be a qualified applicant and the identical person hereinbefore described; and that said affidavit was duly subscribed and sworn to before me, at my office, in Independence (Town.) Inyo County (County and State.), within the Visalia Land District, this 13th day of September, 19

Louis A. Bodle
County Clerk and ex-officio Clerk of the Superior Court, in and for the County of Inyo, State of California.
(Official designation of officer.)

69—4301

Reproduced at the National Archives

AFFIDAVITS OF WITNESSES.

(There need be only one witness, if his testimony is fully corroborative. Affidavits of witnesses may be executed before any officer authorized to administer oaths and having an official seal.)

I, Ira Brown, of Olancha Calif.

do state on oath that the above testimony of LeoKikut,

an applicant for second Desert entry, has been read to me; that I know of no facts which should disqualify him from making said entry, other than such as appear in his affidavit or are now stated by me; that this affidavit is made solely from my own knowledge of the facts.

I know that

Ira W. Brown

(Sign here with full Christian name.)

State of California }
Inyo County. } ss:

Subscribed and sworn to before me this ~~LeoKikut~~ 13th day of September, 19 26.

Louis A. Bodle

County Clerk and ex-officio Clerk of the Superior Court, in and for the County of Inyo, State of California.

(Official designation of officer.)

☞ NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. See section 125, United States Criminal Code (over).

I, Louis Brown, of Olancha, Calif.

do state on oath that the above testimony of Leo Kikut

an applicant for second Desert entry, has been read to me; that I know of no facts which should disqualify him from making said entry, other than such as appear in his affidavit or are now stated by

Reproduced at the National Archives

me; that this affidavit is made solely from my own knowledge of the facts.

I know that

Louis Brown

(Sign here, with full Christian name.)

☞ NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. See section 125, United States Criminal Code (below).

State of California } ss:
Inyo County.

Subscribed and sworn to before me this 13th day of September, 19 26.

Louis N. Goodale

(Official designation of officer.)

UNITED STATES LAND OFFICE at Visalia, California

September 20, 1926, 19

WE HEREBY CERTIFY that the foregoing application is for surveyed land and that there is no prior valid adverse right to the same. We recommend that the application be approved.

(If rejection is recommended, set out reasons therefor.)

W. S. Burnett

Register.

Receiver.

UNITED STATES CRIMINAL CODE.

SEC. 125. Whoever, having taken an oath before a competent tribunal, officer, or person, in any case in which a law of the United States authorizes an oath to be administered, that he will testify, declare, depose, or certify truly, or that any written testimony, declaration, deposition, or certificate by him subscribed, is true, shall willfully and contrary to such oath, state or subscribe any material matter which he does not believe to be true, is guilty of perjury, and shall be fined not more than two thousand dollars and imprisoned not more than five years.

Reproduced from the National Archives

U. S. Land Office
Visalia, Calif.
Date SEP. 16 1926
Hour 2 P.M.

4-274.

Form approved by the Secretary of the Interior November 12, 1907.

DEPARTMENT OF THE INTERIOR.

DESERT-LAND ENTRY.

U. S. LAND OFFICE, Visalia., No. 015629

RECEIPT No. 2862367 10 00

2862406

1st Applic'n 9-16-26

DECLARATION OF APPLICANT.

I, Leo Kikut (Male), a resident of
(Give full Christian name.) (Male or female.)
Olancha, Inyo County, California, do solemnly swear
(Town, County, and State.)
that I Leo Kikut, a naturalized citizen (Certified copy forwarded)
(Applicant must state whether native born, naturalized, or has filed declaration of intention to become a citizen. If not native born, certified copy of naturalization or declaration of intention, as case may be, must be filed with this affidavit.)
citizen of the United States, of the age of 48 years, and by occupation a Farmer and Miner; that my post-office address is Olancha, California; that I intend
(If a city, street and number must be given.)
to reclaim a tract of desert land not exceeding one-half section, or 320 acres, by conducting water upon the same within four years from date of entry, in manner as required by the Act of Congress approved March 3, 1877, entitled "An act to provide for the sale of desert lands in certain States and Territories," as amended by the Act of March 3, 1891. The land which I intend to reclaim is desert land and is described as follows:

(A map must be furnished which shall exhibit a plan showing the mode of contemplated irrigation as required by section 4 of said act. When entry is made on unsurveyed land the plan of contemplated irrigation must be indicated on a correct diagram showing by metes and bounds the land applied for. When practicable, the dimensions of said map or diagram should be 8½ x 14 or 14 x 17 inches.)

NW ¼ SE ¼, Section 1,
Township 19 S., Range 36 E., M. D. Meridian, containing
40 acres, situated in Inyo County, California,
(County and State.)
within the Visalia land district.

I further depose and declare that I have made no other declaration for desert lands nor any other entry under the provisions of said act, nor have I had assigned to me any lands entered under said act; that since August 30, 1890, I have not entered and acquired title to, nor am I now claiming, under an entry made under any of the nonmineral public-land laws, an amount of land which, together with the land now applied for, will exceed in the aggregate 320 acres; that the land above described borders on
No Streams
(State what stream or body of water and describe the same.)
and that there is through or upon said land No water
(Name and describe all water courses, springs, or other bodies of water.)
; that said land is not naturally irrigated or watered, nor overflowed at any season of the year by the foregoing or any other natural stream, spring, or other body of water; that I expect to obtain my water supply to irrigate said land from XX Wells. There are two artesian and one pumping well ½ mile to the north of this entry supplying about 50 inches of water each.; that the character of the soil is sandy.; that said land will not, without artificial irrigation, produce an agricultural crop of any kind in amount reasonably remunerative, and that it will not, when unfed by grazing animals, produce native grasses sufficient

6—18

Posted 130/37 Oct 23/26 Cross posted Desert 05571 131/122 Cancelled July 7/28 ADE

Reproduced at the National Archives

in quantity to make an ordinary crop of hay in usual seasons; that there are no trees on said land; that the same is essentially dry and arid land, wholly unfit for cultivation without artificial irrigation; that said land can not be successfully cultivated without being reclaimed by conducting water thereon; that it is a fact well known, patent, and notorious that the same will not, in its natural condition, produce any crop; that no portion of said land has ever been reclaimed by conducting water thereon, and there are no lands in the vicinity of this tract that are occupied by settlers and cultivated without artificial irrigation. And I further declare that I have personally examined every legal subdivision of the said land and there is not, to my knowledge, within the limits thereof, any vein or lode of quartz, or other rock in place, bearing gold, silver, cinnabar, lead, tin, or copper, or any deposit of coal; that there is not, within the limits of said land, to my knowledge, any placer, cement, gravel, or other valuable mineral deposit, salt springs, or deposits of salt; that no portion of said land is claimed for mining purposes under the local customs or rules of miners, or otherwise; that no portion of said land is worked for mineral during any part of the year by any person or persons; that said land is essentially nonmineral land, and that my declaration therefor is not made for the purpose of fraudulently obtaining title to mineral land, timber land, or agricultural land, but for the purpose of faithfully reclaiming the land above described by conducting water thereon, and that the land is not occupied and improved by any Indian and is unoccupied, unimproved, and unappropriated by any person claiming the same other than myself (except).

Leo Kikut,
(Sign here, with full Christian name.)

☞ NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. (See Sec. 5392, R. S., below.)

I HEREBY CERTIFY that the foregoing affidavit was read to or by affiant in my presence before affiant affixed signature thereto; that affiant is to me personally known (or has been satisfactorily identified before me by Personally known);
(Give full name and post-office address.)
that I verily believe affiant to be a qualified applicant and the identical person hereinbefore described; and that said affidavit was duly subscribed and sworn to before me, at my office, in Independence
(Town.)
Inyo County, California, within the Visalia
(County and State.)
land district, this 13th day of September, 1926.

Louis H. Dodge
County Clerk and ex-officio Clerk of the Superior Court, in and for the County of Inyo, State of California.
(Official designation of officer.)

REVISED STATUTES OF THE UNITED STATES. TITLE LXX.—CRIMES.—CHAP. 4.

SEC. 5392. Every person who, having taken an oath before a competent tribunal, officer, or person, in any case in which a law of the United States authorizes an oath to be administered, that he will testify, declare, depose, or certify truly, or that any written testimony, declaration, deposition, or certificate by him subscribed is true, willfully and contrary to such oath states or subscribes any material matter which he does not believe to be true, is guilty of perjury, and shall be punished by fine of not more than two thousand dollars, and by imprisonment, at hard labor, not more than five years; and shall, moreover, thereafter be incapable of giving testimony in any court of the United States until such time as the judgment against him is reversed. (See Sec. 1750.)

☞ NOTE.—In addition to the above penalty, every person who knowingly or willfully in anywise procures the making or presentation of any false or fraudulent affidavit pertaining to any matter within the jurisdiction of the Secretary of the Interior may be punished by fine or imprisonment.

6—13

Reproduced at the National Archives

U. S. Land Office
Visalia, Calif.
SEP 20 1926
Date.....
Hour 9 a.m.

AFFIDAVIT OF WITNESSES.

We, Ira Brown (Give full Christian name.), of Olancha, California. (Give full post-office address.)

57 years of age, and by occupation Laborer,

and Louis Brown (Give full Christian name.), of Olancha, Calif. (Give full post-office address.)

35 years of age, and by occupation Laborer,

do solemnly swear that we are well acquainted with the character of each and every legal subdivision or portion of the land described in the foregoing declaration, which said declaration has been read to us; that we became acquainted with said land by personal and careful examination of each and every legal subdivision or portion thereof; that we have been acquainted with it for 30 and 20 years, respectively; that our knowledge of the land is such as to enable us to testify understandingly concerning it; that same is desert, nonmineral land; and that each and every statement made by applicant in the foregoing declaration as to the condition, character, and situation of said land is true of our own personal knowledge; and we further state that we are not interested, in any way or manner, directly or indirectly, present or prospective, in the application or declaration in support of which this affidavit is made, nor in the land itself, nor in any title thereto which may be acquired by said applicant or any other person.

Ira W Brown
(Sign here, with full Christian name.)

Louis Brown
(Sign here, with full Christian name.)

☞ NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. (See Sec. 5392, R. S., preceding.)

I HEREBY CERTIFY that the foregoing affidavit was read to or by affiants in my presence before affiants affixed signatures thereto; that affiants are to me personally known (or have been satisfactorily identified before me by Personally known (Give full name and post-office address.));

that I verily believe affiants to be credible witnesses and the identical persons hereinbefore described, and that said affidavit was duly subscribed and sworn to before me, at my office, in Independence (Town.), Inyo County, California (County and State.), within the Visalia land district, this 13th day of September 19 26

Louis A. Bodle
County Clerk and ex-officio Clerk of the Superior Court, in and for the County of Inyo, State of California.
(Official designation of officer.)

UNITED STATES LAND OFFICE at .....

....., 19....

IT IS HEREBY CERTIFIED that, under the provisions of the Act of Congress approved March 3, 1877, entitled "An Act to provide for the sale of desert lands in certain States and Territories," as amended by the Act of March 3, 1891, the foregoing declaration of intention to reclaim the lands hereinbefore described has this day been allowed.

Register.

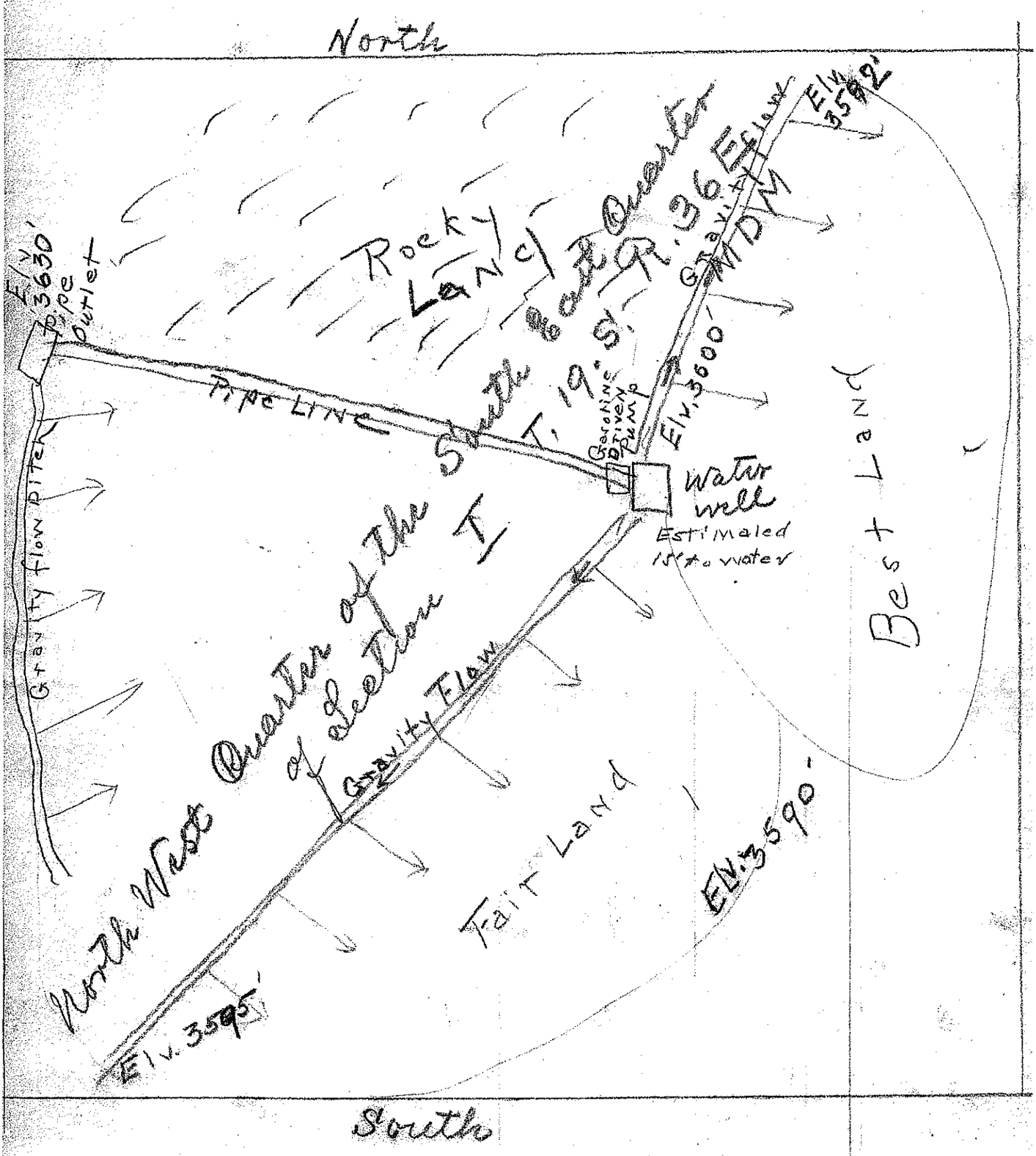
Receiver.

6—13

Reproduced at the National Archives

015629

To accompany Desert - Land Entry
of Leo. Kikert.



Reproduced at the National Archives

Received
U. S. Land Office
Visalia, Calif.
SEP 16 1926
Date.....
Hour... 2 pm

015629

AFFIDAVIT AS TO SPRING OR WATER HOLE
(Circular No. 1066)

I, Leo Kikut, do solemnly swear that I am well acquainted with the character of the land embraced in my ~~homestead application No.~~ Desert Application and with each and every legal subdivision thereof, having personally examined the same; that there is no spring or water hole upon any portion of the land. (OR)

No Springs or Water holes of any description, on ~~the~~ N.W. 1/2 of S.E. 1/4 of Sec. 1, Twp. 19 S. R. 36 E. M.D.M.

(If there should be a spring or water hole, give size, location and quantity of water, also state whether used as a public watering place and any other facts which you may have regarding same.)

Leo Kikut.
(Applicant)

(This affidavit must be corroborated by at least two witnesses.)

We Ira Brown of Olancha, Calif., and Louis Brown of Olancha, Calif., being sworn depose and say that we have read the foregoing affidavit of Leo Kikut, and know of our own personal knowledge that the statements therein contained are true.

Ira W Brown
(Witness)

Louis Brown
(Witness)

Subscribed and sworn to before me this 13th day of Sept., 1926.

Louis H. Rodee

County Clerk and ex-officio Clerk of the Superior Court, in and for the County of Inyo, State of California.

Reproduced at the National Archives

No.352675

THE UNITED STATES OF AMERICA

CERTIFICATE OF (SEAL) NATURALIZATION

Petition, Volume 7, page 177 Stub, Volume 11984, page 25

Description of holder. Age, 34 years, height, 5 feet, 10 inches, color, white, complexion, medium, color of eyes, blue, color of hair, brown, visible distinguishing marks, None.

(Signed) LEO KIKUT
(signature of holder)

UNITED STATES OF AMERICA,
SS:
Eastern District of Washington,

Be it remembered, that a regular term of the United States District Court of the Eastern District of Washington held at Spokane on the 26th day of April, in the year of our Lord nineteen hundred and thirteen, Leo Kikut, who previous to his naturalization was a subject of Germany, at present residing at number 216 East 1st Ave., City of Spokane, State of Washington, having applied to be admitted a citizen of the United States of America, pursuant to law, and the court having found that the petitioner had resided continuously within the United States for at least five years and in this State for one year immediately proceeding the date of the filing of his petition, and that said petitioner intends to reside permanently in the United States, had in all respects complied with the law in relation thereto, and that he was entitled to be so admitted, it was thereupon ordered by the said court that he be admitted as a citizen of the United States of America.

IN TESTIMONY WHEREOF the seal of the said court is hereunto affixed on the 26th day of April in the year of our Lord nineteen hundred and thirteen and of our Independence the one hundred and thirty-seventh.

(SIGNED) W. H. HARE
Clerk, U.S. Dist. Court, Eastern Dist. of Washington
(Official character of attestor.)

STATE OF CALIFORNIA,
SS:
COUNTY OF INYO,

I hereby certify that I have compared the above copy of the certificate of Naturalization No.352675 issued to Leo Kikut, and that the above copy is a true and correct copy of the original.

J. W. Leete
Notary Public, Inyo County, Calif.

My commission expires November 22, 1926

(Note; Proper showing as to naturalization is on file with record of Homestead Independence 05526, patented.)

Reproduced at the National Archives

4-362

DEPARTMENT OF THE INTERIOR

UNITED STATES LAND OFFICE

/r

Visalia, California
(Place.)

September 9, 1926
(Date.)

Leo Kikut

Olancha, Calif.

NOTICE OF REJECTION

Sir:

In reference to your application to make desert land entry

for the

NW¼SE¼, Section 1,

Township 19-S, Range 36-E, M.D. Meridian,

you are advised that on September 9, 1926, the Register and

Receiver of this office rejected the same for
(Insert "Rejected" or "Suspended," as the case may be.)

the reason that application papers were executed before a notary; Cancellation fee of $1.00 was not paid; statement as to practicability was not furnished; also showing by affidavit in accordance with Cir.1066 was not made.

N.B. (You and your witnesses should all appear before proper officers. Officer. The Clerk of Superior Court at Independence is the nearest qualified (See pages 7 and 8 of the enclosed circular, also copy of circular 1066, which are enclosed, as well as a sample form of affidavit to be made under circular 1066.)

You are allowed thirty days from notice hereof in which to

1. File new application executed before proper officer.
2. File new second homestead application, properly executed.
3. Pay the cancellation fee of $1.00
4. File statement as required on page 8 of the enclosed circular.
5. File special affidavit in accordance with circular 1066, which is needed even if there are no springs or water holes.

or to appeal from this decision to the Commissioner of the General Land Office; and upon your failure to take such action within the time specified, the case will be closed without further notice to you from this office. If an appeal is taken herefrom it must be filed in this office.

Please return this letter, in case you take any action or desire further information on the subject.

Respectfully,

, Register.

6—549

, Receiver.

Reproduced at the National Archives

Received
U. S. Land Office
Visalia, Calif.
Date SEP. 7 1926.
Hour 11.20 a.m.

015629

4—007c

(Form approved by the Secretary of the Interior October 31, 1914.)

DEPARTMENT OF THE INTERIOR

APPLICATION FOR SECOND ENTRY.

(To accompany application for a specific tract.)

(Act of September 5, 1914—Public, No. 194—63d Congress.)

U. S. LAND OFFICE, VISALIS, CALIFORNIA, No.

I, LEO KIKUT, of OLANCHA, CALIFORNIA,
(Give post-office address.)
being an applicant for second desert land entry, do hereby make under oath the following statements regarding my former desert land entry, ~~xxxxxxx~~, which I failed to perfect:

QUESTION 1. Give the number and series of the prior entry (or entries); also a description of the tract (or tracts) by legal subdivisions, section, township, and range.

Independence 05571 for W½Lot 2 of NW¼: SW¼NW¼: NW¼SW¼ Section 3, T. 19 S., R. 37 E., M.D.M. made October 21, 1918 and canceled by Letter "F" July 5, 1923

QUESTION 2. What examination of the land, and what inquiries as to its character, did you make before filing your former application (or applications) for entry? If you are referring to a desert-land entry (or entries), state what reason you had to believe that the required proportion of the tract, or tracts, could be reclaimed by you through irrigation.

About one month before making application for entry of my former application for entry I personally examanation the lands embraced is this ~~x~~ former application and dug several holes on the premises to acertain the depth to water, and I found that abundant water was available at 12 feet, and it was clearly evident that sufficient water could be developed from wells with which to irrigate the premises.

QUESTION 3. If reference is had to a homestead entry, state whether you established residence on the land, how long you lived there, and what cultivation and improvements you had; if reference is had to a desert-land entry, state whether you took possession of the land, and, if so, how long you continued to exercise acts of ownership thereover.

QUESTION 4. State what improvements, if any, you made upon the land, describing in detail their nature and cost.

I dug a well 70 feet deep, and I leveled, plowed, harrowed and seeded 20 acres, and constructed suitable irrigation ditches, the cost exceeded the sum of one thousand dollars, $1,000.00

Reproduced at the National Archives

QUESTION 5. State when you abandoned the claim, and your reasons for that action, and whether you ever executed a relinquishment of the entry, giving the date thereof as nearly as possible, and stating to whom the paper was delivered.

I abandoned this claim in April 1923. My reasons for abandoning this claim was that it was almost impossible to raise any crops on this land owing to the character of the soil which carried a very high content of alkali and glauber salts. After making several attemps to grow crops on this land I send specimen samples of the soil to state Agricultural College at Berkely, California and the soil analysis showed that this soil ran exceedingly high in alkali and glauber salts, and this institution advised me to give up trying to grow crops on this character of land.

QUESTION 6. State what consideration, if any, you received for the abandonment or relinquishment of your claim; also whether you sold the improvements on the land. If such a sale was made, give full details thereof, including its date, the consideration received, and its precise relation to the relinquishment of your entry.

None whatever

QUESTION 7. State any other facts regarding your first entry or entries which may have a bearing upon the question of your right to make entry under your present application.

Leo Kikut

(Sign here, with full Christian name.)

☞NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. See section 125, United States Criminal Code (over).

I HEREBY CERTIFY that the foregoing affidavit was read to or by affiant in my presence before affiant affixed signature thereto; that I verily believe affiant to be a qualified applicant and the identical person hereinbefore described; and that said affidavit was duly subscribed and sworn to before me, at my office, in Lone Pine (Town.), Inyo County, California (County and State.), within the Visalia Land District, this 2nd day of September, 1926.

NOTARY PUBLIC, INYO COUNTY, CALIF.
(Official designation of officer.)

My commission expires November 22, 1926

16—1301

Reproduced at the National Archives

AFFIDAVITS OF WITNESSES.

(There need be only one witness, if his testimony is fully corroborative. Affidavits of witnesses may be executed before any officer authorized to administer oaths and having an official seal.)

I, BARNEY H. SEARS, of Olancha, Calif.

do state on oath that the above testimony of Leo Kikut,

an applicant for second desert-land entry, has been read to me; that I know of no facts which should disqualify him from making said entry, other than such as appear in his affidavit or are now stated by me; that this affidavit is made solely from my own knowledge of the facts.

I know that the said Leo Kikut dug a well on the premises described in the above affidavit during the year 1920 and there was a large abundance of water available from this well and that the said Leo Kikut make sevral unsudcessful attempts to raise crops on these premises and notwithstanding that there was sufficientwater available and put on the land growing these crops that owing to land being a very high alkali character it was impossible to raise crops. The said Leo Kikut cleared , plowed , harrowed and seeded approximately 20 acres of this land during the year 1921, and that he constructed irrigation ditches on the premises suitable for irrigating this land.

Barney H. Sears

(Sign here with full Christian name.)

State of CALIFORNIA }
INYO County. } ss:

Subscribed and sworn to before me this 2nd day of September, 1926

NOTARY PUBLIC, INYO COUNTY, CALIF.

(Official designation of officer.)

NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. See section 125, United States Criminal Code (over).

I, ..., of .....

do state on oath that the above testimony of .....

an applicant for second ..... entry, has been read to me; that I know of no facts which should disqualify him from making said entry, other than such as appear in his affidavit or are now stated by

Reproduced in the National Archives

me; that this affidavit is made solely from my own knowledge of the facts.

I know that .....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(Sign here, with full Christian name.)

☞NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. See section 125, United States Criminal Code (below).

State of .....
.....County. } ss:

Subscribed and sworn to before me this .....day of .....
....., 19....

.....

.....
(Official designation of officer.)

UNITED STATES LAND OFFICE at .....

....., 19....

WE HEREBY CERTIFY that the foregoing application is for surveyed land and that there is no prior valid adverse right to the same. We recommend that the application be .....
(If rejection is recommended, set out reasons therefor.)

.....

.....

.....

.....
Register.

.....
Receiver.

UNITED STATES CRIMINAL CODE.

SEC. 125. Whoever, having taken an oath before a competent tribunal, officer, or person, in any case in which a law of the United States authorizes an oath to be administered, that he will testify, declare, depose, or certify truly, or that any written testimony, declaration, deposition, or certificate by him subscribed, is true, shall willfully and contrary to such oath, state or subscribe any material matter which he does not believe to be true, is guilty of perjury, and shall be fined not more than two thousand dollars and imprisoned not more than five years.

68—4391

Reproduced at the National Archives

Fees $
Comm (Orig) $
Excess $
Comm (Fin.) $
Cur Mon $ 10.00 9/6/27
Rent Fees $ Cliff

4-274.

Form approved by the Secretary of the Interior November 12, 1907.

Received
U. S. Land Office
Visalia, Calif.
Date SEP. 7 1926.
Hour 11:20 A.M.

Sacramento 021252

DEPARTMENT OF THE INTERIOR.

DESERT-LAND ENTRY.

Interest ~~U. S. LAND OFFICE~~, VISALIA, CALIFORNIA, No. ~~015629~~

~~Right to make~~ second entry granted by "F" Oct 29, 1926

RECEIPT No. 2862367

10.00

DECLARATION OF APPLICANT.

I, LEO KIKUT (MALE), a resident of
(Give full Christian name.) (Male or female.)

OLANCHA, CALIFORNIA, do solemnly swear
(Town, County, and State.)

that I am a naturalized ~~citi~~
(Applicant must state whether native born, naturalized, or has filed declaration of intention to become a citizen. If not native born, certified copy of naturalization or declaration of intention, as case may be, must be filed with this affidavit.)
citizen of the United States, of the age of 48 years, and by occupation a farmer and miner; that my post-office address is Olancha, California; that I intend
(If a city, street and number must be given.)
to reclaim a tract of desert land not exceeding one-half section, or 320 acres, by conducting water upon the same within four years from date of entry, in manner as required by the Act of Congress approved March 3, 1877, entitled "An act to provide for the sale of desert lands in certain States and Territories," as amended by the Act of March 3, 1891. The land which I intend to reclaim is desert land and is described as follows:

130

(A map must be furnished which shall exhibit a plan showing the mode of contemplated irrigation as required by section 4 of said act. When entry is made on unsurveyed land the plan of contemplated irrigation must be indicated on a correct diagram showing by metes and bounds the land applied for. When practicable, the dimensions of said map or diagram should be 8½ x 14 or 14 x 17 inches.)

Northwest quarter of the Southeast quater, Section 1,
Township 19 S, Range 36 E, M.D. Meridian, containing
40 acres, situated in Inyo County, State of California,
(County and State.)
within the Visalia land district.

I further depose and declare that I have made no other declaration for desert lands nor any other entry under the provisions of said act, nor have I had assigned to me any lands entered under said act; that since August 30, 1890, I have not entered and acquired title to, nor am I now claiming, under an entry made under any of the nonmineral public-land laws, an amount of land which, together with the land now applied for, will exceed in the aggregate 320 acres; that the land above described borders on

None (except as stated in application for second entry
(State what stream or body of water and describe the same.)
accompanying this application)

and that there is through or upon said land Nowater courses
(Name and describe all water courses, springs, or other bodies of water.)
springs or other bodies of water;
that said land is not naturally irrigated or watered, nor overflowed at any season of the year by the foregoing or any other natural stream, spring, or other body of water; that I expect to obtain my water supply to irrigate said land from the drilling of water wells;

that the character of the soil is sandy and decomposed granite;
that said land will not, without artificial irrigation, produce an agricultural crop of any kind in amount reasonably remunerative, and that it will not, when unfed by grazing animals, produce native grasses sufficient

6—13

Posted Oct 31/27 - 130/37 ALC-Div D.

Reproduced at the National Archives

in quantity to make an ordinary crop of hay in usual seasons; that there are no trees on said land; that the same is essentially dry and arid land, wholly unfit for cultivation without artificial irrigation; that said land can not be successfully cultivated without being reclaimed by conducting water thereon; that it is a fact well known, patent, and notorious that the same will not, in its natural condition, produce any crop; that no portion of said land has ever been reclaimed by conducting water thereon, and there are no lands in the vicinity of this tract that are occupied by settlers and cultivated without artificial irrigation. And I further declare that I have personally examined every legal subdivision of the said land and there is not, to my knowledge, within the limits thereof, any vein or lode of quartz, or other rock in place, bearing gold, silver, cinnabar, lead, tin, or copper, or any deposit of coal; that there is not, within the limits of said land, to my knowledge, any placer, cement, gravel, or other valuable mineral deposit, salt springs, or deposits of salt; that no portion of said land is claimed for mining purposes under the local customs or rules of miners, or otherwise; that no portion of said land is worked for mineral during any part of the year by any person or persons; that said land is essentially nonmineral land, and that my declaration therefor is not made for the purpose of fraudulently obtaining title to mineral land, timber land, or agricultural land, but for the purpose of faithfully reclaiming the land above described by conducting water thereon, and that the land is not occupied and improved by any Indian and is unoccupied, unimproved, and unappropriated by any person claiming the same other than myself (except None).

Leo Kikut.
(Sign here, with full Christian name.)

☞ NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. (See Sec. 5392, R. S., below.)

I HEREBY CERTIFY that the foregoing affidavit was read to or by affiant in my presence before affiant affixed signature thereto; that affiant is to me personally known (or has been satisfactorily identified before me by .....);
(Give full name and post-office address.)
that I verily believe affiant to be a qualified applicant and the identical person hereinbefore described; and that said affidavit was duly subscribed and sworn to before me, at my office, in Lone Pine, (Town.) Inyo County, California (County and State.), within the Visalia land district, this 2nd day of September, 19.26

J. M. Leeta

NOTARY PUBLIC, CALIFORNIA
(Official designation of officer.)

My commission expires November 22,1926

REVISED STATUTES OF THE UNITED STATES. TITLE LXX.—CRIMES.—CHAP. 4.

SEC. 5392. Every person who, having taken an oath before a competent tribunal, officer, or person, in any case in which a law of the United States authorizes an oath to be administered, that he will testify, declare, depose, or certify truly, or that any written testimony, declaration, deposition, or certificate by him subscribed is true, willfully and contrary to such oath states or subscribes any material matter which he does not believe to be true, is guilty of perjury, and shall be punished by fine of not more than two thousand dollars, and by imprisonment, at hard labor, not more than five years; and shall, moreover, thereafter be incapable of giving testimony in any court of the United States until such time as the judgment against him is reversed. (See Sec. 1750.)

☞ NOTE.—In addition to the above penalty, every person who knowingly or willfully in anywise procures the making or presentation of any false or fraudulent affidavit pertaining to any matter within the jurisdiction of the Secretary of the Interior may be punished by fine or imprisonment.

6—13

Reproduced from the National Archives

AFFIDAVIT OF WITNESSES.

We, Barney H. Sears (Give full Christian name.), of Olancha, Calif. (Give full post-office address.)
59 years of age, and by occupation tourist packer and rancher,
and (Mrs) Nellie Burkhardt (Give full Christian name.), of Lone Pine, California (Give full post-office address.)
39 years of age, and by occupation housewife,
do solemnly swear that we are well acquainted with the character of each and every legal subdivision or portion of the land described in the foregoing declaration, which said declaration has been read to us; that we became acquainted with said land by personal and careful examination of each and every legal subdivision or portion thereof; that we have been acquainted with it for 18 and 25 years, respectively; that our knowledge of the land is such as to enable us to testify understandingly concerning it; that same is desert, nonmineral land; and that each and every statement made by applicant in the foregoing declaration as to the condition, character, and situation of said land is true of our own personal knowledge; and we further state that we are not interested, in any way or manner, directly or indirectly, present or prospective, in the application or declaration in support of which this affidavit is made, nor in the land itself, nor in any title thereto which may be acquired by said applicant or any other person.

Barney H. Sears
(Sign here, with full Christian name.)

Nellie Burkhardt
(Sign here, with full Christian name.)

☞ NOTE.—Every person swearing falsely to the above affidavit will be punished as provided by law for such offense. (See Sec. 5392, R. S., preceding.)

I HEREBY CERTIFY that the foregoing affidavit was read to or by affiants in my presence before affiants affixed signatures thereto; that affiants are to me personally known (or have been satisfactorily identified before me by) (Give full name and post-office address.);
that I verily believe affiants to be credible witnesses and the identical persons hereinbefore described, and that said affidavit was duly subscribed and sworn to before me, at my office, in Lone Pine, (Town.)
Inyo County, California (County and State.), within the Visalia land district, this 2nd day of September, 1926

J. W. Leeds

NOTARY PUBLIC, INYO COUNTY, CALIF.
(Official designation of officer.)

My commission expires November 22, 1926

UNITED STATES LAND OFFICE at Sacramento, California

Favorable report, Div. Ins. dated June 15, 1927

September 16, 1927, 19

IT IS HEREBY CERTIFIED that, under the provisions of the Act of Congress approved March 3, 1877, entitled "An Act to provide for the sale of desert lands in certain States and Territories," as amended by the Act of March 3, 1891, the foregoing declaration of intention to reclaim the lands hereinbefore described has this day been allowed.

John C. Ong
Register.

Receiver.

6—18

Reproduced at the National Archives

GENERAL LAND OFFICE

ORDER NO. 349

Does not apply E-Wks.

Send Patent to

PATENT TRANSMITTED
APR 9 1936
TO LOCAL OFFICE

Appearance by

Approved for Patenting Feb 1st, 1926 FMS (Initials.)

List No.

Patent No.

Dated E LIST 14 539

Patent to contain reservation according to proviso to the Act of Aug. 30, 1890.

Patent to reserve a right of way for telephone line City of Los Angeles under act of March 4-1911 (36 Stat. 1253-1254)

Sacramento 0121 2552 Klamath Falls 021 (Land Office) Serial No. 01-1-1-80

ACTION TAKEN		
OCT 29 1926	Application to make 2nd desert land entry suspended and returned for reference to the Div. Inv. DJC "F"	6y-1935. 27 T.L.Div O to recheck status FMS F
Feb 8, 1928	Entry examined - O.K. R 162. "F"	1/10 - 35 B R Directing final certificate & issuance Pat. 1/10 - 3 3 T. Div D FMS F
2/14/32	Second Proof MOH-H D	1/10
MAR 6 1930	1 D - MOH-H	
OCT 28 1930	Third Proof MOH-H D	
12/9/31	No action awaiting C-F D. must-MOH-H D	
OCT 24 1931	No action - MOH-H D	
1/16/33	Time for final proof extended to 9/16/34 JAH "F"	
5/1/33	To "D" files JAH "F"	

1082186 PATENTED MAR 31 1936

GOVERNMENT PRINTING OFFICE

PCR Services Corporation (PCR) revisited the resource in October 2011 and February 2012 as part of proposed bottling plant development project (see Garcia 2012).

The Cartago Boat Landing (CHPI-INY-006/P-14-005197) was registered as a California Point of Historical Interest on June 6, 1980. The plaque dedicating the site is located on the east side of Highway 395 on the subject property, see Figure 10. Remnants of the rock wharf likely associated with Daneri's Landing were identified in 2011 by PCR during the pedestrian survey in the form of a 20-m linear rock alignment. A previous report prepared by Past Forward, Inc. and entitled "Olancha/Cartoga Four-Lane Project, US Route 395 Inyo County, California"(IN-868) and prepared in June 2003, studied the Cartago Landing and prepared a site map (Figure 11). The report concluded the landing was a linear rock arrangement constructed of dry laid native stone and measured approximately 55 ft. long and "It appears soil now covers the bulk of the landing construction, although it was not archeologically confirmed during this project."

Historical Background

The valley did not experience the extraordinary growth that the Gold Rush brought to other parts of California. The California Gold Rush began on January 24, 1848, after gold was found by James W. Marshall at Sutter's Mill in Coloma, California. More than ten years later the mining fever began in Inyo County. On July 4, 1859, the miner Chord Norst traveled from Dogtown (a Mono Camp) to Mono Gulch where he discovered gold and within a week the town of Monoville was established. In 1860, Farley's Mill was established south of Olancha Creek to process silver from Minnard Farley's silver mines in the Coso Mountains, approximately fifteen miles east of Owens Lake. One year later a town grew around the Farley's Mill, the current location of the town of Olancha. In 1867, the Farley Mill burned to the ground during an Indian uprising and the mill is now listed as California Historical Landmark No. 796.[1]

In 1865, a small scale rush erupted when gold was discovered by three Sonoran prospectors, led by Pablo Flores, to the north of Owens Lake at the Cerro Gordo mine. The Cerro Gordo mines, the Spanish name for "fat mountain," on the crest of west slope of Buena Vista Peak, were discovered by Pablo Flores in 1865 and was one of the most productive silver, lead, and zinc mines in Inyo county between 1868 and 1875.[2] At first Pablo Flores and other prospectors used surface mining techniques, with the prospectors processing ore in rudimentary adobe and stone ovens called *vasos*. The Cerro Gordo mines would turn into one of the largest silver producers in California. The Lone Pine Mining District, including Cerro Gordo and a section of Inyo Ridge, was organized on April 5, 1866. By 1870 a thousand claims were filed within the Long Pine Mining District. In 1872, federal mining laws were established and the district was reorganized and renamed Cerro Gordo.[3]

The Cerro Gordo mines were virtually unknown until 1867 when one of the Spanish speaking prospectors rode into Virginia City, Nevada, displaying the chunks of silver ore from the Cerro Gordo mines. The first Anglo-Americans to discover the Cerro Gordo mines were Mortimer W. Belshaw, a mining engineer, and his junior partner Abner B. Elder, from San Francisco. Mortimer Belshaw realized the Cerro Gordo mines could be controlled by the man who constructed and owned the smelters. Quickly they purchased interest in the Union Mining Company in the late 1860s. In 1870, Victor Beaudry, a French-Canadian who owned a general store at Cerro Gordo, acquired half of the interest in the Union Mining Company, thus making

Union Mining Company the sole partnership Belshaw and Beaudry. The team established a mining town by constructing a toll road from Keeler to the Cerro Gordo mines, named the Yellow Grade Road; as well as two blast furnaces and a water supply system.[4] With the construction of a technologically innovative smelter the team eventually produced $3,500 worth of silver a day. Stagecoaches carried passengers up and down the winding eight-mile Yellow Grade Road to the Cerro Gordo. By the fall of 1868, Belshaw and Beaudry were producing silver-lead bullion at an expedient pace.[5]

The published historical accounts of that area state that in 1872 the Cerro Gordo Freighting Company, owned by Mortimer W. Belshaw and Victor Beaudry, constructed a stagecoach station, warehouse, and general store in Cartago at the mouth of Cartago Creek on Owens Lake, presently within the subject property. The County of Inyo Assessment Book for 1881 held at the Eastern California Museum is the earliest available for Inyo County; it reveals that the land of which the subject property is a part was called the Gomez Ranch, located in Cartago, and operated as a freight terminal by the Cerro Gordo Freighting Company. The 1881 Assessment Book shows that the Cerro Gordo Freighting Company was paying both real and personal property taxes on 160 acres of the Gomez Ranch recorded in the Cartago District; the value of land was $800 and the structural improvements totaled $1,700, substantiating the presence of structures associated with the Cerro Gordo Freighting Company's activities in Cartago. In addition, the Company paid taxes for the Cerro Gordo Landing Station, Nine Mine Canon Station, Rose Springs Station, New Coso Station, Minietta Mine, and Minietta Mill, which were also recorded in the Cartago District (although they were not located there). The Gomez Ranch property was the largest Company land holding at the time. The Company paid $250 in real property taxes for the Minietta Mine in the Lookout District and the Minietta Mill improvements were valued at $2,500. They paid taxes on the other four Stations although no land values were recorded, suggesting the Company owned the Stations but leased the land. The data in the Assessment Book indicates the freighting enterprise was managed from the Cartago District terminal, located at the subject property by Remi Nadeau's account. The list of personal property owned by the Company in 1881 reveals operations had diminished from their mid-1870s peak, as described by published historical accounts.

Belshaw and Beaudary needed another partner in their business to handle the shipment of bullion, so in 1868 they hired Remi Nadeau to run a frightening company to transport bullion and formed the Cerro Gordo Frightening Company. The Cerro Gordo Freighting Company owned a variety of assets on the subject property (Assessor Parcel# 33-020-01) in 1881. The company set up stations along the route to handle the shipment of mining products to Los Angeles, eventually ending in Los Angeles' newest port in San Pedro. Remi Nadeau perfected his freighting system between Cerro Gordo and Los Angeles, and his 16 to 20 mule teams were transporting 18 tons of bullion across the desert.[6] On December 1, 1871 Remi Nadeau fulfilled his contractual obligations with Belshaw and Beaudry, refused to re-sign with the Cerro Gordo Freighting Company, but kept his mules on the route as an independent contractor. James Brady, a smelter operator at Swansea, accepted the Cerro Gordo freight contract and sublet it to William Osborne. As a whole, between 1869 and 1882, Remi Nadeau was the leading wagon freighter of Southern California, and dominated the cargo traffic to the desert mining camps of Eastern California.[7] A letter from Remi Nadeau's great great Grandson Remi E. Nadeau describes the station house at Cartago. The stone ruin on the subject property is likely the house described in this account.

> Nadeau's freighting company established stations a days travel apart, about 20 miles, along the route to Los Angeles. These stations consisted of corrals and a small house and were usually kept by a man and his wife. At these the teamsters and swampers were provided with lodgings and meals and the livestock with feed and water. I think the house at Cartago was similarly used. However, situated at the terminal as it was, it could have contained more rooms that the ones at other stations. Nadeau himself made frequent trips (by horse and buggy) along the route and it is quite likely that it was his custom to lodge there while at Cartago.[8]

The transportation of the heavy bullion was problematic, as the trip down the steep Yellow Grade Road and around the lake on mule-drawn wagons took approximately three weeks. To streamline the process James Brady and D.H. Ferguson of the Owens Silver-Lead Company decided to freight materials directly across Owens Lake. In 1872, they constructed a small steamer (85ft long, 16 ft wide, with a 16ft hold) and a wharf near a smelter at Swansea on the northeast side of Owens Lake. However, the great earthquake of March 16, 1872 delayed both projects and caused Owen's Lake to recede. The wharf under construction at Swansea had to be constructed 150 feet longer than originally planned. Another Lone Pine businessman, John Baptiste Daneri, constructed another landing for the steamer on the southwest side of Owens Lake, on the Lone Pine-Los Angeles Road. Daneri's Landing consisted of a warehouse, store, and rock landing. From this landing thirty tons of bullion could be loaded onto stagecoaches headed to Los Angeles. The cross-lake voyage saved 9 turbulent transportation days for the mule-drawn teams to Daneri's Landing. The steamer made her first trip across Owens Lake on June 27, 1872 to the landing in Cartago.[9] A week later, on the 4th of July, the steamship was christened the Bessie Brady (Figure 1) by Brady's young daughter at Ferguson's Landing, south of Lone Pine. In addition to Daneri's Landing and the Landing at Swansea, there was another landing, Ferguson's Landing, on the northwest edge of the Owens Lake.[10] A ca 1875 hand drawn sketch map shown on Figure 2 depicts the towns, boat landings and mines in Inyo County at the time.[11]

According to local legend, the town of Cartago was established in June 1872 after John Baptiste Daneri, a Lone Pine businessman, constructed a warehouse, store and landing on the southwest shore of Owens Lake to capitalize on mining across Owens Lake at the Cerro Gordo mines.[12] Daneri named the area Carthage after the ancient city-state in North Africa, located on eastern side of Lake Tunis, which became one of the largest and most powerful seaports in the Mediterranean. The town of Carthage is noted on historical topographic maps from 1905 and 1907 (Figures 3 and 4). Daneri did not actually own any part of the subject property during this period according to County of Inyo assessor research. As a successful businessman in Lone Pine and co-owner of Denair and Stewart, General Merchandise, he saw Cartago as another lucrative business opportunity. The Pacific Coast Business Directory has only three entries listed under the town of Cartago: Belshaw & Titsworth, proprietors freight steamer Bessie Brady; Cerro Gordo Freighting Company, freighting; and Villagas A., hotel.[13] Lone Pine, 18 miles south of Independence, was the primary commercial center in the area.

During the late 1870s Belshaw and Beaudry became encumbered in a lawsuit against the owners of the San Felipe Silver-Quartz Claim disputing the boundaries their legal mining areas. After two lengthy lawsuits ruling in the favor of the San Felipe Silver-Quartz Claim, the costly litigation combined with the increased costs of operation ended the Union Mining Company and the Cerro Gordo furnaces shut down in early 1878.[14] By 1879, the Cerro Gordo mines were beginning to decline. The Bessie Brady burned in 1882 and the Carson and Colorado Railroad was constructed, running from Keeler (near the Cerro Gordo Mines) to Moundhouse, Nevada in 1883 thereby changing all of the established freighting practices. The railroad provided a reliable and fast source of transport that kept the Cerro Gordo mines in business well into the 20th century. After the Union Mining Company ended their operations at the Cerro Gordo mines, other entrepreneurs attempted to strike it rich in the Cerro Gordo Mines.

After zinc was discovered in the mountains, Louis D. Gordon acquired the Cerro Gordo mines in 1914 and constructed a bucket tramway to carry ore down the side of the Inyo Range to a narrow gage railroad that had its terminus at Owens Lake.[15] However, the landing at Cartago and the steamers were no longer profitable or necessary. In 1913, Charles S. Lee, a civil and hydraulic engineer in Los Angeles, documented the Cartago landing.[16] By 1913, there was little left of the landing in Cartago (Figures 5 to 9). By 1924, there were only traces of the wharf remaining, as most of its timbers had been salvaged for firewood by the Willie Brown family of Indians who lived among the cottonwoods between Cartago and Olancha.[17]

A Historical Point of Interest marker (Figure 10) dedicated June 10, 1978 and located on the subject property on Highway 395 memorializes this past history:

> *In the 1870s bullion bars from Cerro Gordo mines were hauled across Owens Lake on the steamer "Bessie Brady" to Cartago Boat Landing. Remi Nadeau's 14 mule teams hauled the bullion to Los Angeles, returning with freight.*[18]

John Baptiste Daneri (1831-1907)

John Baptiste Daneri (1831-1907) was born in Chivalry, Italy on March 6, 1831. At the age of 18 he immigrated to San Francisco with his three brothers where they established themselves as pioneer merchants. In approximately 1870, John Baptiste Daneri established a general merchandise store, Messrs. Daniel and Stewart, in Lone Pine. The California Land Patents Database for Inyo County reveals John B. Daneri purchased a property in Lone Pine (Township 190S, Range 360E, Section 028) on April 25, 1874. The 1881 Assessment Book revealed that John Baptiste Daneri, the merchant for whom Cartago Wharf (Daneri's Landing) is commonly named, owned property and paid taxes in Lone Pine. There is no evidence in the Assessment Book or title records reviewed that Daneri owned any land in Cartago, although he may have invested in the Cerro Gordo Freighting Company's enterprise and could have funded construction of the landing. In 1877, John Baptiste Daneri moved to San Juan Capistrano and took up farming. Two years later, he married Catherine, the widow of his former partner Stewart, in San Francisco. In 1907, John Baptiste Daneri passed away while visiting his oldest daughter in Sheridan, Oregon.[19]

Remi Nadeau (1818-1886)

Remi Nadeau was born near Quebec, Canada in 1818 and later traveled to Minnesota. In 1860, Nadeau traveled to California across the plains, and adopted Los Angeles as his new home in the fall of 1861. He used Los Angeles as his headquarters while he engaged in the freighting enterprise in parts of California and Montana. In 1866, he established a permanent residence in Los Angeles. In 1873, he organized the Cerro Gordo Freighting Company with Mortimer Belshaw and Victor Beaudry, which hauled bullion from the Cerro Gordo mines to the port in San Pedro until 1883 when mule freighting was superseded by railroads.[20]

Remi Nadeau was an active member of Los Angeles society and invested in the future of the city. He actively purchased real estate and was said amass 32,050 acres. In 1885, he constructed the Nadeau Hotel, corner of 1st and Spring Streets. He was also interested in agriculture; he operated the Nadeau Vineyard, had a brief business venture growing and refining beets, and grew barley in Inglewood. Nadeau Street in Los Angeles was named after him, now renamed to East 79th Street.[21] Remi Nadeau passed away on January 15, 1886.

Current Condition of the Landing

Remnants of the rock wharf likely associated with Daneri's Landing were identified in 2011 by PCR in the form of a 20-meter-long linear rock alignment. The rock alignment consists of approximately 50 unmodified rounded river rock cobbles [average diameter – 30 centimeters (cm)] that were also used to construct the walls of the stone ruin at the entrance to the Cabin Bar Ranch. The stones were likely taken from nearby stream beds or from the foothills of the eastern Sierra Mountains' escarpment one mile to the west. One piece of water-logged timber was identified 12 m north of the rock alignment that may have been associated with the pier landing. No other historic-period artifacts were found in the vicinity of the rock alignment although the area was heavily vegetated. The rock alignment is currently outside of the development a (approximately 80 m southeast of the nearest construction activity) so it will be avoided by the proposed bottling plant project.

A new Location and Sketch map has been prepared by PCR for the resource that is more accurate than previous maps (see page 15 and 16 of this DPR site form).

Statement of Significance

The period of significance identified for the subject property is ca. 1871 through the early 1880s, beginning with the construction of the Cartago Boat Landing (Daneri's Landing)(ruined) and the associated stone Cartago Station House (ruined) and squared timber cabin (altered) for the Cerro Gordo Freighting Company and ending with the construction of the railroad in the early 1880s. The property is associated with the following historical and architectural themes: Euro-American Explorations and Early Settlements (1833-1900); Mining (1872-1900); Ranching (1862-1986); Transportation – Stagecoaches, Rails and Roads (1863–1959); and Stone Building Construction. The property was evaluated for conformance with criteria of the National Register and California Register. The Cartago Boat Landing (Daneri's Landing) is a previously designated California Point of Interest. Two historic sites, the Cartago Boat Landing and the Cartago Station House, are considered eligible as potential historical resources under National Register Criteria A, B and D, and California Register Criteria 1, 2 and 4. Residence 2 is considered eligible under National Register Criterion D and California Register Criterion 4 as a potential historic site. The subject property has a high probability for buried subsurface historic period remains associated with the activities of the Cerro Gordo Freighting Company from 1871 to the early 1880s. The remaining identified resources lack sufficient integrity or significance to be considered eligible as potential historical resources.

National Register Criteria A: Is associated with events that have made a significant contribution to the broad patterns of our history.
California Register Criteria 1: Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

Eligible historic sites identified on the subject property including the Cartago Boat Landing (Daneri's Landing) and the Cartago Station House (stone ruin) appear to be associated with the Cerro Gordo Freighting Company from 1871 through the early 1880s, which made a significant contribution to the broad patterns of National and California history and cultural heritage. The Cerro Gordo Freighting Company and associated mining activities in the Owens Valley played a formative role in the economic development of Inyo County, the surrounding region, and the City of Los Angeles during the late nineteenth century.

National Register Criteria B: Is associated with the lives of persons significant in our past.
California Register Criteria 2: Is associated with the lives of persons important in our past.

While previous owners of the subject property, Espitacio Gomez, Arthur F. Lubken and Edward L. Thornburg, were cattle ranchers, it appears that their contribution to ranching history in the area does not rise to the threshold of significance for listing in the National or California Registers. According to local legend, the Cartago Boat Landing (Daneri's Landing) is associated with a prominent local businessman, John Baptiste Daneri (1831-1907), who resided in Lone Pine and may have invested in the construction of the boat landing; however, no evidence was found that Daneri owned any land in Cartago during the period of significance for the subject property. The subject property is associated with the productive life of Remi Nadeau (1818-1886), who organized the Cerro Gordo Freighting Company in 1873 with Mortimer Belshaw and Victor Beaudry, which hauled bullion from the Cerro Gordo mines to the port in San Pedro. Nadeau operated the enterprise from the Cartago terminal and stayed in the Cartago Station House during his frequent travels back and forth to San Pedro. Nadeau was an active member of Los Angeles society and invested in the future of the city by amassing extensive real estate holdings. In 1885, he constructed the Nadeau Hotel, corner of 1st and Spring Streets. He was also interested in agriculture; he operated the Nadeau Vineyard, had a brief business venture growing and refining beets, and grew barley in Inglewood. Nadeau Street in Los Angeles was named after him, later renamed East 79th Street.

National Register Criteria C: Embodies 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, or that represent a significant and distinguishable entity whose components may lack individual distinction.
California Register Criteria 3: Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

The existing structures situated on the subject property lack the necessary integrity and architectural significance to be considered eligible for designation under National Register Criteria C or California Criteria 3.

National Register Criteria D. It yields, or may be likely to yield, information important in prehistory or history.
California Register Criteria 4. Has yielded, or may be likely to yield, information important in prehistory or history.

The Cartago Boat Landing (Daneri's Landing) is a previously designated California Point of Interest. In addition, the Cartago Boat Landing, the Cartago Station House and Residence 2 are considered eligible as potential historical resources under National Register Criteria D and California Register 4 for their potential to yield information important in the history and activities of the Cerro Gordo Freighting Company. The activities of the Freighting Company encompassed the subject property during the period of significance. The subject property has a high probability to yield historic period remains and important information associated with the activities of the Cerro Gordo Freighting Company from 1871 to the early 1880s.

Finally, the subject property does not contribute to a potential historic district. While there are other ranches from the period of significance located in the area, these ranches are not conjoined and do not collectively rise to the threshold of significance for the creation of a Rural Historic Landscape. Furthermore, the historic setting of the subject property during the period of significance has been compromised by the recession of Owen's Lake and the industrial activities of the adjacent soda ash plant operating between 1917 and 1930s.

Conclusion

The Cartago Boat Landing (Daneri's Landing) is a previously designated California Point of Interest. Two historic sites, the Cartago Boat Landing and the Cartago Station House, are considered eligible as potential historical resources under National Register Criteria A, B and D, and California Register Criteria 1, 2 and 4. Residence 2 is considered eligible under National Register Criterion D and California Register Criterion 4 as a potential historic site. The subject property has a high probability for buried subsurface historic period remains associated with the activities of the Cerro Gordo Freighting Company from 1871 to the early 1880s. The remaining identified resources lack sufficient integrity or significance to be considered eligible as potential historical resources.

References Cited:

Davis-King, Shelly
2003 Participants and Observers: Perspectives on Historic Native American Information From Independence to Haiwee Reservoir in Owens Valley for the Olancha/Cartago Four-Lane Project, U.S. Route 395, Inyo County, California. Report on file at the Eastern Information Center, University of California, Riverside.

Garcia, Kyle
2012 Phase I and II Archaeological and Paleontological Resources Assessment of the Proposed Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility, Inyo County, California. Report on file at PCR Services Corporation, 1 Venture, Suite 150, Irvine, CA, 92618.

Historical Photographs and Maps, and Current Photographs

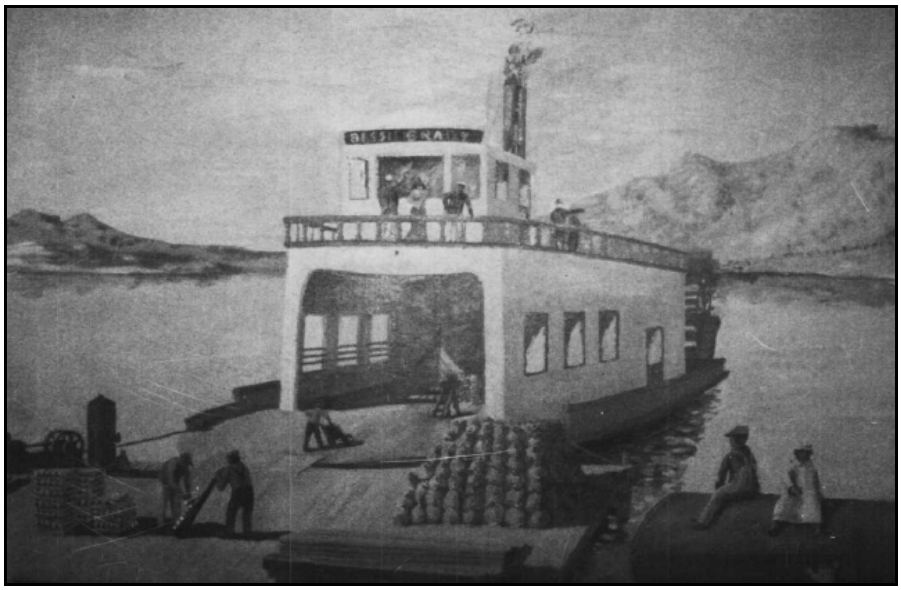


Figure 1. The Bessie Brady, Color Painting by William McKeever
(Al Millspaugh, "The Saga of the Bessie Brady," Desert Magazine, July 1974, p. 9.)

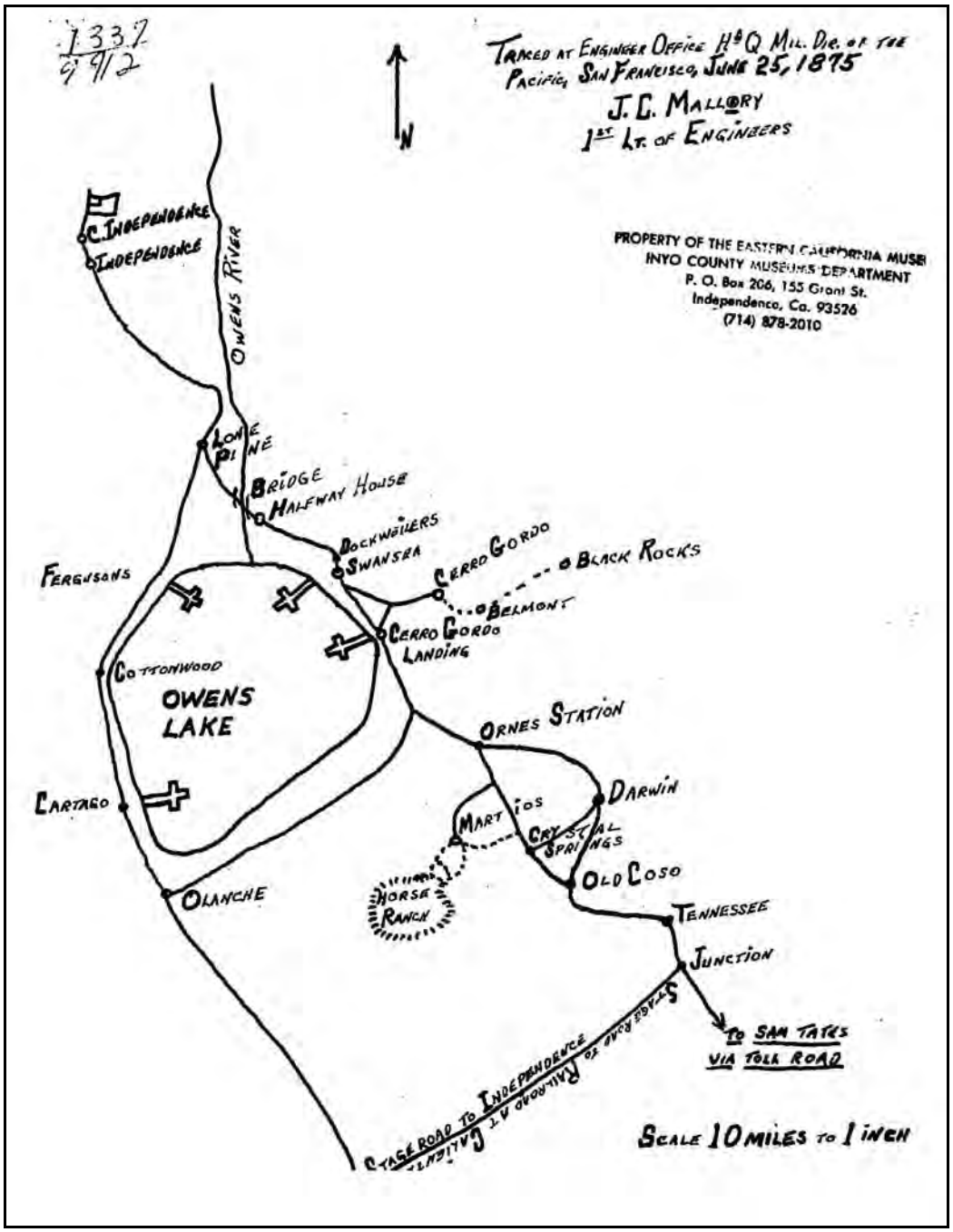


Figure 2. Map of Towns, Boat Lands, and Mines in Inyo County, circa 1975
(Eastern California Museum)

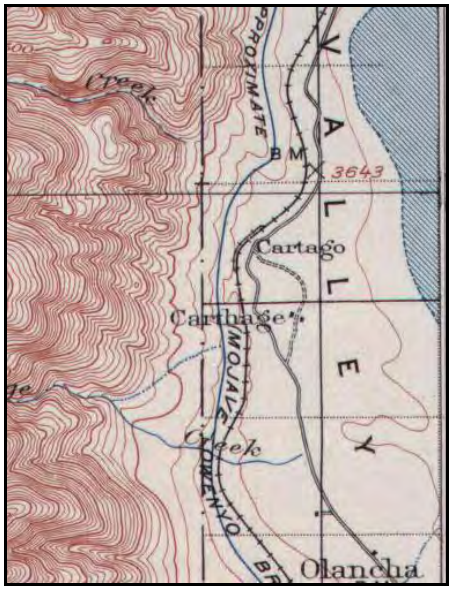


Figure 3. Olancha, Scale 125000, 1905, County Inyo, Tulare
(California Historic Topographic Map Collection, California State, Chico, http://cricket.csuchico.edu/maps/topo_search.html)

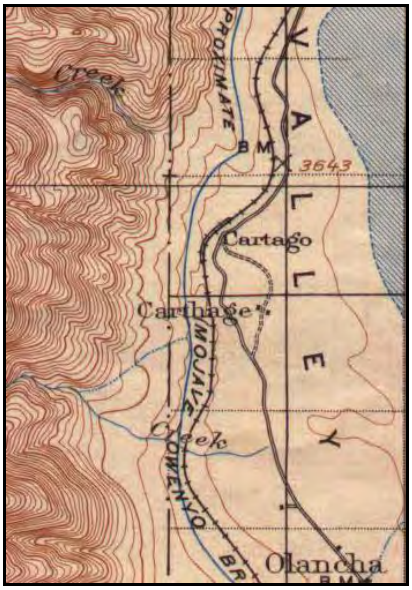


Figure 4. Olancha, Scale 125000, 1907, County Inyo, Tulare
(California Historic Topographic Map Collection, California State, Chico, http://cricket.csuchico.edu/maps/topo_search.html)



Figure 5. Old wharf at Cartago, February 1, 1913
(Charles H. Lee Photo Collection, Number MS 99/1, University of Riverside Water Resources Collections and Archives, Item 446a)



Figure 6. Old beach at Cartago, February 1, 1913
(Charles H. Lee Photo Collection, Number MS 99/1, University of Riverside Water Resources Collections and Archives, Item 446d)



Figure 7. Old beach at Cartago, February 1, 1913
(Charles H. Lee Photo Collection, Number MS 99/1, University of Riverside Water Resources Collections and Archives, Item 446e)



Figure 8. Propeller Blade from the Bessie Brady at Cartago Wharf, February 1, 1913
(Charles H. Lee Photo Collection, Number MS 99/1, University of Riverside Water Resources Collections and Archives, Item 446f)



Figure 9. Cartago wharf showing groove worn into pile by mooring ropes. Feb. 1, 1913
(Charles H. Lee Photo Collection, Number MS 99/1, University of Riverside Water Resources Collections and Archives, Item 446g)



Figure 10. Cartago Boat Landing Marker, California Historical Point of Interest, 2012 (PCR 2012)

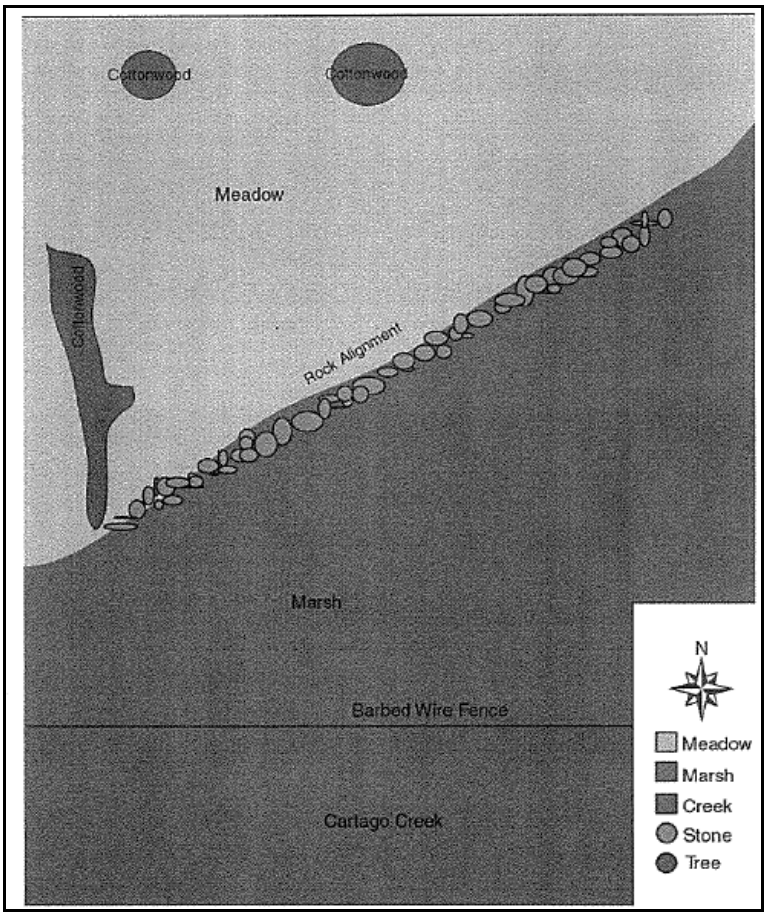


Figure 11. Cartago Landing (P-14-005197) Site Map
(Past Forward, Inc., "Olancha/Cartoga Four-Lane Project, US Route 395 Inyo County, California,"IN-868, June 2003, p. 30.)

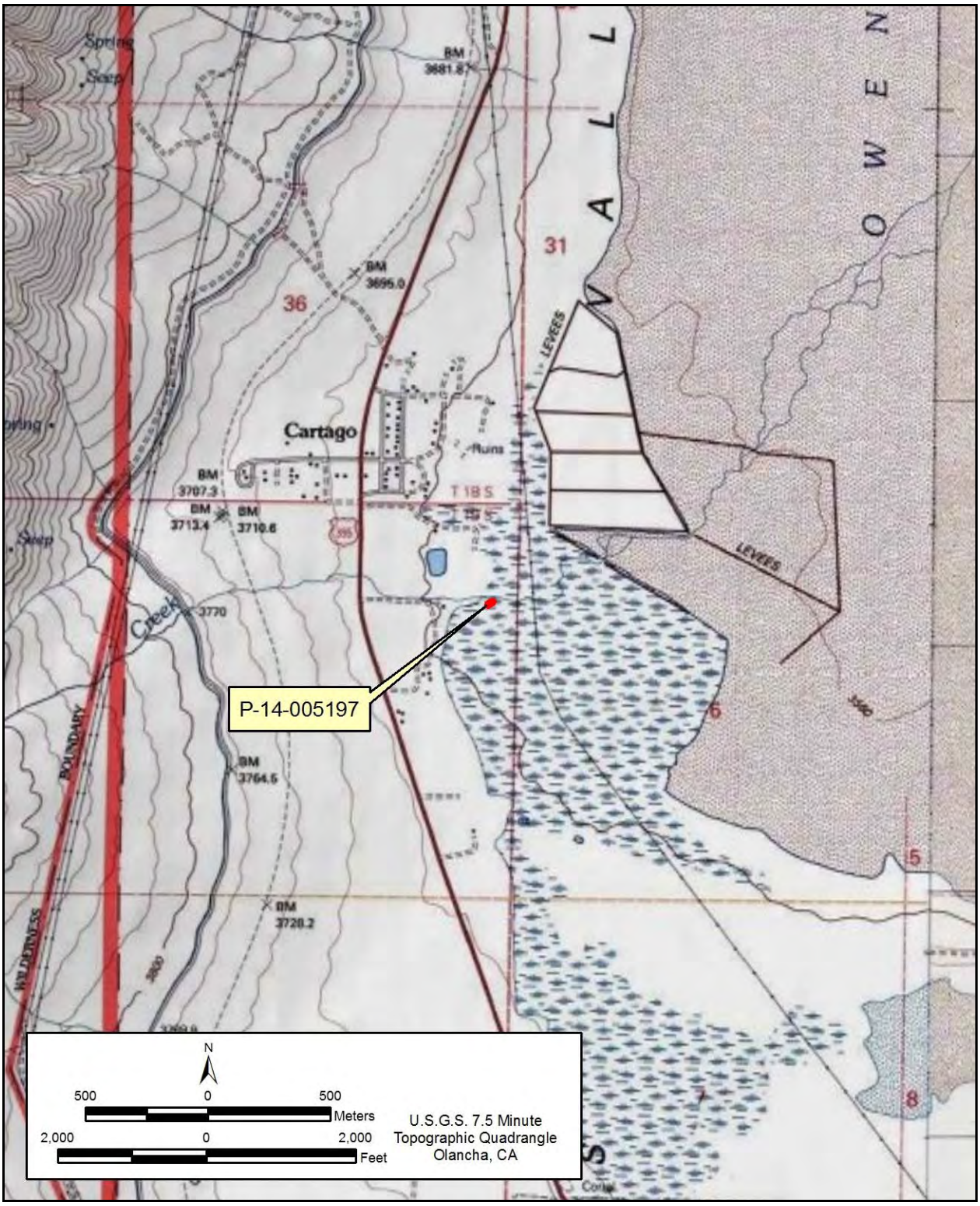


Figure 12. Cartago Boat Landing (PCR 2012)



Figure 13. Cartago Boat Landing (PCR 2012)

[1] Robert E., R. Parr, Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II, 52.
[2] David C. Durham, California's Geographic Names: A Gazetteer of Historic and Modern Names of the State, 1998, p. 118.
[3] L. Burr Belden and Mary DeDecker, "Cerro Gordo: Lawless Comstock East of the Sierra," Death Valley to Yosemite: Frontier Mining Camps and Ghost Towns (Bishop, CA: Spotted Dog Press, 2009): 122-123.
[4] L. Burr Belden and Mary DeDecker, 123-125.
[5] Remi Nadeau, *Ghost Towns and Mining Camps of California* (Santa Barbara: Crest Publishers, 1999): 211.
Robert E. Parr, R. Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II, 13-14.
[6] Remi Nadeau, *Ghost Towns and Mining Camps of California* (Santa Barbara: Crest Publishers, 1999): 212.
[7] Remi Nadeau, "King of the Desert Freighter," 1981.
[8] Remi E. Nadeau, Letter to Dorothy C. Cragen, County Courthous (February 14, 1965)
[9] Bill Michael, Cartago, Eastern California Museum (November 1981): 2.
[10] Richard E. Lingenfelter, "The Desert Steamers," Journal of the West (October 1962): 149-160.
[11] Robert E., R. Parr, Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II, 52-53.
[12] Bill Michael, Cartago (Independence, CA: Eastern California Museum: November 1981): 1.
[13] Pacific Coast Business Directory, p. 126. Date unknown. Held at the County of Inyo Library.
[14] L. Burr Belden and Mary DeDecker, 130-131.
[15] Remi Nadeau, *Ghost Towns and Mining Camps of California* (Santa Barbara: Crest Publishers, 1999), 217.
[16] Charles H. Lee Photo Collection, Number MS 99/1, University of Riverside Water Resources Collections and Archives.
[17] Daivs-King, Participants and Observers: Perspectives on Historic Native American Information From Independence to Haiwee Reservoir in Owens Valley for the Olancha/Cartago Four-Lane Project, U.S. Route 395, Inyo County, California.
[18] Cartago Boat Landing, California Historical Point of Interest, Dedicated June 10, 1978, Slim Princess Chapter 395, E Clampus Vitus.
[19] Biography of Mrs. Catherine Daneri, Inyo County Library.
[20] James Miller Guinn, A History of California and an Extended Histpry of Los Angeles and Environs: Also Containing Biographies of Well-Known Citizens of the Past and Present, Volume 2 (Historic Record Company, 1915): 153-154.
[21] "Nadeau Street," California Index, Los Angeles Public Library.


Spring
Seep
BM 3681.8
36
BM 3695.0
31
OWENS VALLEY
LEVEES
LEVEES
Cartago
Ruins
BM 3707.3
BM 3713.4
BM 3710.6
T 18 S
Seep
Creek
3770
P-14-005197
BOUNDARY
WILDERNESS
BM 3764.6
BM 3728.2
6
5
7
8
N
500 0 500
Meters
2,000 0 2,000
Feet
U.S.G.S. 7.5 Minute
Topographic Quadrangle
Olancha, CA

Resource Name or #: P-14-005197 (update)

Drawn by: PCR Services Corporation (GIS Dept.) **Date of Map:** April 2012



State of California — The Resources Agency **Primary #** P-14-011514
DEPARTMENT OF PARKS AND RECREATION **HRI #**

PRIMARY RECORD

Trinomial
NRHP Status Code 3CS

Other Listings
Review Code **Reviewer** **Date**

 ***Resource Name or #:** Gomez Homestead

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ☐ **Unrestricted** ***a. County:** Inyo

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Olancha **Date:** 1994 **T** 19S; **R** 37E ; N E ¼ **of** ¼ **of Sec 1 ;** San Bernardino **B.M.**

c. Address: 1210 South Highway 395 City: Olancha Zip: 93549

d. UTM: Zone: ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

APN 033-020-001

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Assessor records suggest the original portion of the Gomez Homestead was constructed in 1871, per oral history given to the County Surveyor by the owner on October 25, 1976. A sketch map and written notations on the Assessor's building record on December 4, 1956, describes the original portion of Gomez Homestead as being "constructed of railroad ties." Based on oral history represented in the existing Assessor Building Records, the historic topographic maps (1905 and 1907), and existing physical evidence, at least one of the two single-family residences on APN 033-020-01 may have been initially been a cabin constructed circa 1871 out of large squared wood timbers and timber portion of Gomez Homestead was erected by Espitacio Gomez in 1871. PCR physically examined the two structures; a portion of wall visible in Gomez Homestead reveals that a section of the house was indeed constructed of squared timber construction consistent with the County Surveyor's observations.

A topographic map from 1905 locates Cartago and Carthage along the southwest shore of Owens Lake; a small carriage road branches off to the east from the main wagon road, and two structures are situated across from one another on the east and west side of the carriage road. The structures and carriage road on the map are in the same approximate location as the existing road, Gomez Homestead, and residence 3 identified during the PCR field survey. In 1956, a conventional wood-frame addition doubling the square footage of Residence 2 was constructed to the south of the original timber cabin. The 1956 wood-frame addition was sided with asbestos shingles. In 1977, a 177 square foot addition was built on to the northeast corner of Residence 2. Other alterations included an enclosed porch. Other associated ranch structures on the property constructed during the 1950s included a corral, dip chute, loading chute, chain link fence, scale, feed lot pins, and cattle squeeze.

***P3b. Resource Attributes:** HP2

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☒Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing



P5b. Description of Photo: (View, date, accession #)
View to northeast, 2012

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both

***P7. Owner and Address:**
Crystal Geyser Roxane Water Company: 1630 Kellog Drive, Weed, CA 96094

***P8. Recorded by:** (Name, affiliation, and address)
PCR Services, 233 Wilshire Blvd, Ste 130, Santa Monica 90401

***P9. Date Recorded:** June 6, 2012

***P10. Survey Type:** (Describe)

***P11. Report Citation:** Historic Resources Assessment Report, Crystal Geyser Cabin Bar Ranch Water Bottling Plant, PCR Services, May 2012.

***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: Gomez Homestead
B2. Common Name: Gomez Homestead
B3. Original Use: Residence
B4. Present Use: Residence
***B5. Architectural Style:**
***B6. Construction History:** (Construction date, alterations, and date of alterations)
Circa 1871; 1956 and 1977 additions

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:**

B9a. Architect: Unknown
b. Builder: Unknown
***B10. Significance: Theme:** Development of the Subject Property; Euro-American Explorations and Early Settlements (1833-1900); Mining (1872-1900); Ranching (1862-1986); Transportation – Stagecoaches, Rails and Roads (1863–1959); Los Angeles Department of Water and Power (1905-1935); and Stone Building Construction. **Area:**
Period of Significance: ca. 1871 through the early 1880s **Property Type:** Single-Family Residence **Applicable Criteria:**
The period of significance identified for the property is ca. 1871 through the early 1880s, beginning with the construction in circa 1871 of the squared timber cabin by Espitacio Gomez now existing within the walls of Gomez Homestead (substantially altered) and including the circa 1872 Cartago Boat Landing (Daneri' s Landing)(ruined) and the associated circa 1872 stone Cartago Station House (ruined) for the Cerro Gordo Freighting Company and and ending with the burning of the steamer Bessie Brady in 1882 and construction of the railroad in the early 1880s, which reduced the volume of the Cerro Gordo Freighting Company' s business. The property was evaluated for conformance with criteria of the National Register and California Register. The Cartago Boat Landing (Daneri' s Landing) is a previously designated California Point of Interest. The Cartago Boat Landing presently retains its historic significance and should continue to be listed under its current designation. In addition, two historic sites, the Cartago Boat Landing and the Cartago Station House, are considered eligible as potential historic sites under National Register Criteria A, B and D, and California Register Criteria 1, 2 and 4. Gomez Homestead is substantially altered and only the original squared timber cabin is considered eligible under National Register Criterion D and California Register Criterion 4 as a potential historic site. The old carriage road to Gomez Homestead is also considered eligible as a potential historic site under National Register Criterion D and California Register Criterion 4. The project site has a high probability for buried subsurface historic period remains associated with the activities of the Gomez Ranch and the Cerro Gordo Freighting Company from 1871 to the early 1880s. The remaining structures lack sufficient integrity or significance to be considered eligible as potential historical resources.

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**
(See Continuation Sheets)

B13. Remarks:

***B14. Evaluator:** Amanda Kainer, PCR Services

***Date of Evaluation:** June 2012



(This space reserved for official comments.)

P3a. Description (continued)

One interior wall of the residence was constructed of squared wood timbers. Based on oral history represented in the existing Assessor Building Records, California Land Patent 58 for Inyo County, the historic topographic maps (1905 and 1907), and existing physical evidence, it appears that the timber portion of Gomez Homestead was erected by Espitacio Gomez in 1871. Gomez Homestead is located east of the carriage road. The single-family vernacular Ranch-style Residence (ca. 1871; 1956 and 1977 additions) has a rectangular plan and is built of squared timber and conventional wood-frame construction with unfinished board and batten siding. The siding is in poor condition and appears to have failed in several areas. The roof is cross gabled with slightly overhanging eaves and is covered by composition roof shingles. There is a concrete masonry unit (CMU) chimney. Existing windows include wood 1/1 double-hung sash windows and replacement aluminum slider windows. The west façade has a three-part composite window with a center opening (the window has been removed) flanked by single-pane double-hung sash windows. The south elevation has one double-hung sash window. The primary entrance is through a wood door on the south elevation. There is a lean-to shed addition on the east elevation.

Setting

Located near the two residences to the northeast is a wood-frame garage presently used as a chicken coup or barn constructed in the 1980s. In the central portion of the property is a pre-fabricated metal barn assembled in 1975, corrals constructed during the 1950s (recently replaced in 1996), and a red storage shed used to support former cattle ranch operations. Old horse shoes bearing cut nails are located in a wood box behind the storage shed. Cement lined irrigation or drainage ditches are located in the northern portion of the study area. In 1986, other additions included a well and pump, tank, and load dock. The surrounding landscape presently consists of mature trees including Cottonwoods, a variety of shrubs, a grass lawn, an old heavily rutted dirt road, gravel roads, a mobile home and pastures are fenced with both wood and steel fencing.

There are three access roads marked with entrance gates into the property, including the Cabin Bar Ranch gate and sign constructed circa 1983, the two similar typical wood ranch gates near the center and at the southwestern corner of the property. Cartago Creek runs west to east through the property.

Integrity
Gomez Homestead contains a squared timber wall which appears to remain from the ca. 1871 cabin likely constructed by Espitacio Gomez. While Gomez Homestead lacks integrity as an architectural resource due to the substantial alterations to the structure, the squared timber construction of the extant wall and any other historic fabric associated with the period of significance have a potential to yield important information about significant historic activities conducted on the project site. The overall appearance and existing conditions of Gomez Homestead indicates that the integrity is low in terms of location, design, materials, workmanship, feeling, and association. The floor plans and dimensions of the residence has been altered by several additions, windows on the residence have been removed and replaced or boarded up, the board and batten siding is failing, missing and patched.

1. Development of the Project site

The subject property (Assessor Parcel# 33-020-01) is legally described as Township 19 South, Range 36 East, northeast of the southeast quarter of Section 1 (Assessor's Map Book 33, page 02, County of Inyo, California, 1950). Before 1862, the project site was most likely in its natural state. The Paiute occupied the land along the Western shore of Owens Lake and were irrigation farmers. The project site was most likely occupied after the Homestead Act to 1862 was adopted by the United States. The first recorded property owner of the subject property was Espitacio Gomez in 1873. California Land Patent Number 58 for Inyo County discloses Espitacio Gomez purchased 160 acres on July 10, 1873 for two hundred dollars. The property description was Lot 1 infractional NE ¼ and NE ¼ of SE ¼, Section 1, Township 19S, Range 36 East and N ½ of Lot 2 infractional SW ¼ of Section 6, Township 190S, Range 37E. According to the cash land sale paperwork, Espitacio Gomez erected a house on the property on June 1, 1871 and used the land solely for agriculture and ranching purposes. The land was described as having no minerals. Based upon this evidence along with the documentation of the cash land sale to Espitacio Gomez recorded in California Land Patent 58 for Inyo County, it appears that the timber portion of Gomez Homestead was erected by Gomez in 1871.

In 1865, a small scale rush erupted in Inyo County when gold was discovered by three Sonoran prospectors, led by Pablo Flores, to the north of Owens Lake at the Cerro Gordo mine. In the late 1860s, Mortimer W. Belshaw and Victor Beaudry controlled the Cerro Gordo Mines and established the Union Mining Company. In 1872, the Cerro Gordo Freighting Company, owned by Mortimer W. Belshaw and Victor Beaudry constructed a stagecoach station, warehouse, and general store on the project site. Bullion was transported across the lake on a steamer, the Bessie Brady (1872-1882), and unloaded at the Cartoga Boat Landing, located on the project site, where the bullion was later transported on stagecoaches to Los Angeles. Between 1869 and 1882, Remi Nadeau was contracted to freight the bullion from Cartago to Los Angeles. The County of Inyo Assessment Book of 1881, held at the Eastern California Museum, reveals the project site (Assessor Parcel# 33-020-01) was part of the 160-acre tract still known as the Gomez Ranch in 1881. The assessment book describes the taxable property owned by the Cerro Gordo Freighting Company, including the Cerro Gordo Landing Station, the Nine Mile Canon Station, the Rose Springs Station, the New Coso Station, Minietta Mine (Lookout District), Minietta Mill, and the 160-acre Gomez Ranch in Cartago. The value of Gomez Ranch tract was $800 and existing improvements on the tract had total value of $1,700, a substantial sum at the time, indicating the presence of approximately five buildings and structures on the project site, given the mean average value of improvements owned by the Cerro Gordo Freighting Company in 1881 was $325.

(1) Development of the Project site (continued)

Between 1869 and 1882, Remi Nadeau was the leading wagon freighter of Southern California, and dominated the cargo traffic to the desert mining camps of Eastern California. A letter from Remi Nadeau's great great Grandson Remi E. Nadeau describes the station house at Cartago. The stone ruin on the project site is likely the house described in this account.

> Nadeau's freighting company established stations a days travel apart, about 20 miles, along the route to Los Angeles. These stations consisted of corrals and a small house and were usually kept by a man and his wife. At these the teamsters and swampers were provided with lodgings and meals and the livestock with feed and water. I think the house at Cartago was similarly used. However, situated at the terminal as it was, it could have contained more rooms that the ones at other stations. Nadeau himself made frequent trips (by horse and buggy) along the route and it is quite likely that it was his custom to lodge there while at Cartago.

According to local legend, the town of Cartago was established in June 1872 after John Baptiste Daneri, a Lone Pine businessman, constructed a warehouse, store and landing on the southwest shore of Owens Lake to capitalize on mining across Owens Lake at the Cerro Gordo mines. Daneri named the area Carthage after the ancient city-state in North Africa, located on eastern side of Lake Tunis, which became one of the largest and most powerful seaports in the Mediterranean. The town of Carthage is noted on historical topographic maps from 1905 and 1907. Daneri did not actually own any part of the project site during this period according to County of Inyo assessor research. As a successful businessman in Lone Pine and co-owner of Denair and Stewart, General Merchandise, he likely saw Cartago as another lucrative business opportunity and pursued his business interests there as a commercial tenant without holding title to the land. The Pacific Coast Business Directory has only three entries listed under the town of Cartago: Belshaw & Titsworth, proprietors freight steamer Bessie Brady; Cerro Gordo Freighting Company, freighting; and Villagas A., hotel. In addition to the Cartago Boat Landing and the structures used by the Cerro Gordo Freighting Company, there was a hotel in the vicinity of the project site. Lone Pine, 18 miles south of Independence, was the primary commercial center in the area.

Grazing Permits for the Mt. Whitney District reveal Arthur Lubken, a local Inyo County rancher, began ranching in the area in 1906, running cattle on Forest Service land during the spring, summer and fall, and moving them down to his brother's ranch (John Lubken's ranch near Independence) during the winter months. Although Lubken was ranching in the area and could possibly have occupied the project site as early as 1907 when he first ran cattle in Township 19, the grazing permits reveal he did not acquire the ranch in Cartago until April 17, 1926.

The California Desert Land Application Number 015629 (later renumbered to 021252) for Inyo County indicates Leo Kikut purchased land legally described as NW ¼, SE ¼Township 19S, Range 36E, Section 1 in 1927 and lived on the property from late 1920s through the 1930s. Leo Kikut's land was located along the east side of US 395 on the adjacent lot to the south of the subject property California Department of Transportation (CalTrans) as-built maps dated December 11, 1939 show a segment of the project site along the US Highway 395. The map is labeled with A.L. Lubkin and W.J. Clark as owners of the project site at the time. A "stone house," is depicted on the map in the same location as the existing stone ruin.

Title records reveal that on April 15, 1953 Arthur F. and Irene W. Lubken granted a portion of the project site (APN 33-020-11) to Edward L. and Dorothy M. Thornburg. In 1978, the property, including land, cattle, and grazing lease, was sold to Rick Stevens. During the 1980s the project site changed ownership several times. In 1982, the northwest corner of the ranch was subdivided into 16 one-acre residential lots and a model home with irrigation pond was constructed. On July 9, 1986, Anheuser-Busch purchased the Cabin Bar Ranch from Rick Stevens and planned to utilize the property's water resources.

2. Euro-American Explorations and Early Settlements (1833-1900)

In 1833, Captain Joseph Reddeford Walker, from Independence, Missouri, led the one of the first expedition into the Owens Valley as he was exploring the country and surrounding area of the Great Salt Lake. The valley, river, and lake were named in 1845 by John C. Fremont for Richard Owens, one of previous Fremont's guides, who was "a good mountaineer, good hunter, and good shot; cool, brave and of good judgment." Following the accession of California to the United States in 1848, the first public land survey of the Owens Valley was conducted by A. W. Von Schmidt between 1855 and 1856 who incorrectly profiled the land as undesirable for agriculture. In 1859, Captain J.W. Davidson was dispatched from Fort Tejon to Owens Valley to patrol Indian livestock thieves, and as a result accurately reported on the ethno-history and geography of the area.

The next significant exploration of the area was directed by Captain J.W. Davidson in July 1859, he was sent from Fort Tejon, south of Bakersfield, to the Owens Valley to "examine the country well with reference to its fitness for the purpose of an Indian reservation" as well as to report on "the agricultural, timber and water resources." He described his interactions with Paiutes situated on the subject property. Davidson's official account was titled "Report of the Results of an Expedition to Owens Lake, and River, with the Topographical Features of the County, the Climate, Soil, Timber, Water, and also, the Habits, Arms, and Means of Subsistence of the Indian Tribes seen upon the March." He concluded the Owens Valley was prime for settlement and held vast agricultural possibilities. It also appears from his observations there were limited settlement and agricultural activities in the area, which most likely remained limited until after passage of the Homestead Act in 1862, and began in earnest with the cessation of hostilities at the close of the Civil War in 1865.

In 1860, the State of California began a comprehensive geological survey of the state. Under the direction of Josiah Whitney, a group of scientists including renowned naturalist William Brewer, undertook the California Geological Survey, initiating a period of exploration and documentation of natural resources throughout the uncharted areas of California. Brewer recorded aspects of the land in Owens Valley that had not appeared in earlier chronicles of the region, specifically the pervasive desert scrub vegetation. Shortly after in 1864 Holt's Map of the Owen's River Mining Country was drawn.

As permanent settlement in the Owens Valley increased, tensions developed between the new settlers and the indigenous Paiute population. White homesteaders began using the resources that formed the basis of Paiute culture. Grazing livestock and the removal of pinyon trees in the valley severely impacted the seed plants that were the basis of the Paiute's winter diet. As retaliation of the loss of food sources, the Paiute began raiding cattle herds which in turn caused violent disputes between the settlers and Paiutes. The Army established Camp Independence near the present-day Inyo county seat in 1862. In the spring of 1863, Captain Moses A. McLaughlin, gathered approximately 1,000 Indians on a forced march to San Sebastian Reservation in the southern San Joaquin Valley near Fort Tejon. This forced removal from the Owens Valley followed several years of bloody conflict between the Paiutes and the early settlers. With the construction of Camp the violence ceased and the camp remained active until 1877, providing protection for white settlers and travelers through the valley.

By 1866 the rapid acquisition of land had begun. Many settlers came to the area for the promise of riches from mining, but once the pioneers reached the Owens Valley the gold mines were largely dry and they instead began to farm and raise livestock. The Homestead Act of 1862 gave pioneers five years to claim 160 acres and take title of their land for a small filing fee and a charge of $1.25 per acre. The subject property was claimed by Espitacio Gomez on July 10, 1873 for two hundred dollars. Land to the north of the subject property, approximately seventy nine acres, was claimed by Ernst Heiligendorfer on March 1, 1873 seventy nine acres in Township 19S, Range 36E, Section for ninety nine dollars. The legal description of Ernst Heiligendorfer's property was Lot Number 2 of infractional NE ¼ of Township 19S, Range 36E, Section 1. The land patent indicated Ernst Heiligendorfer erected on May, 1 1871. Pedro Ruperez claimed S ½ of SW ¼ Section 6, Township 19S, Range 37E SE ¼ of SE ¼ of Section 1 and NE ¼ of NE ¼ of Section 12, Township 19S, Range 36E containing 160 acres for 200 dollars.

In 1872, the area faced a small setback as a result of a large earthquake, estimated now at over 8 on the Richter scale, causing a considerable amount of damage in the area. Because of the local building traditions of the Mexican occupants, the structures constructed of adobe bricks did not withstand the earthquake. However, the amount of public land settled by the late 1870s and early 1880s was still relatively small. The Desert Land Act of 1877 allowed individuals to acquire more area, up to 640 acres, in hopes of drawing more settlers. By the mid-1890s most of the land in the Owens Valley had been claimed.

In the 1890s the level of Owens Lake began to fall. The *Inyo Independent* announced in November 1894 that the shoreline had receded two hundred feet during the season. In 1898, the Inyo Register reported "hundreds of yards of dry land are now seen around the edge of Owens Lake…Keeler used to be at the edge of the water, but its distance to shore is very noticeable." The following year the situation worsened, "The rapid recession of Owens Lake is most observable on the east side. The old Cartago wharf, which in the early 70s stood in right feet of water is now about two miles away from the present shore." According to longtime valley residents, the lake level had fluctuated little until 1894. By that time, irrigation canals in the northern end of the valley were put into service, and over the next ten years the shoreline receded fifty feet.

3. Mining (1872-1900)

The valley did not experience the extraordinary growth that the Gold Rush brought to other parts of California. The California Gold Rush began on January 24, 1848, after gold was found by James W. Marshall at Sutter's Mill in Coloma, California. More than ten years later the mining fever began in Inyo County. On July 4, 1859, the miner Chord Norst traveled from Dogtown (a Mono Camp) to Mono Gulch where he discovered gold and within a week the town of Monoville was established. In 1860, Farley's Mill was established south of Olancha Creek to process silver from Minnard Farley's silver mines in the Coso Mountains, approximately fifteen miles east of Owens Lake. One year later a town grew around the Farley's Mill, the current location of the town of Olancha. In 1867, the Farley Mill burned to the ground during an Indian uprising and the mill is now listed as California Historical Landmark No. 796.

In 1865, a small scale rush erupted when gold was discovered by three Sonoran prospectors, led by Pablo Flores, to the north of Owens Lake at the Cerro Gordo mine. The Cerro Gordo mines, the Spanish name for "fat mountain," on the crest of west slope of Buena Vista Peak, were discovered by Pablo Flores in 1865 and was one of the most productive silver, lead, and zinc mines in Inyo county between 1868 and 1875. At first Pablo Flores and other prospectors used surface mining techniques, with the prospectors processing ore in rudimentary adobe and stone ovens called *vasos*. The Cerro Gordo mines would turn into one of the largest silver producers in California. The Lone Pine Mining District, including Cerro Gordo and a section of Inyo Ridge, was organized on April 5, 1866. By 1870 a thousand claims were filed within the Long Pine Mining District. In 1872, federal mining laws were established and the district was reorganized and renamed Cerro Gordo.

The Cerro Gordo mines were virtually unknown until 1867 when one of the Spanish speaking prospectors rode into Virginia City, Nevada, displaying the chunks of silver ore from the Cerro Gordo mines. The first Anglo-Americans to discover the Cerro Gordo mines were Mortimer W. Belshaw, a mining engineer, and his junior partner Abner B. Elder, from San Francisco. Mortimer Belshaw realized the Cerro Gordo mines could be controlled by the man who constructed and owned the smelters. Quickly they purchased interest in the Union Mining Company in the late 1860s. In 1870, Victor Beaudry, a French-Canadian who owned a general store at Cerro Gordo, acquired half of the interest in the Union Mining Company, thus making Union Mining Company the sole partnership Belshaw and Beaudry. The team established a mining town by constructing a toll road from Keeler to the Cerro Gordo mines, named the Yellow Grade Road; as well as two blast furnaces and a water supply system. With the construction of a technologically innovative smelter the team eventually produced $3,500 worth of silver a day. Stagecoaches carried passengers up and down the winding eight-mile Yellow Grade Road to the Cerro Gordo. By the fall of 1868, Belshaw and Beaudry were producing silver-lead bullion at an expedient pace.

Belshaw and Beaudary needed another partner in their business to handle the shipment of bullion, so in 1868 they hired Remi Nadeau to run a frightening company to transport bullion and formed the Cerro Gordo Frightening Company. The Cerro Gordo Freighting Company owned a variety of assets on the subject property (Assessor Parcel# 33-020-01) in 1881. The company set up stations along the route to handle the shipment of mining products to Los Angeles, eventually ending in Los Angeles' newest port in San Pedro. Remi Nadeau perfected his freighting system between Cerro Gordo and Los Angeles, and his 16 to 20 mule teams were transporting 18 tons of bullion across the desert. On December 1, 1871 Remi Nadeau fulfilled his contractual obligations with Belshaw and Beaudry, refused to re-sign with the Cerro Gordo Freighting Company, but kept his mules on the route as an independent contractor. James Brady, a smelter operator at Swansea, accepted the Cerro Gordo freight contract and sublet it to William Osborne. As a whole, between 1869 and 1882, Remi Nadeau was the leading wagon freighter of Southern California, and dominated the cargo traffic to the desert mining camps of Eastern California. A letter from Remi Nadeau's great great Grandson Remi E. Nadeau describes the station house at Cartago. The stone ruin on the subject property is likely the house described in this account.

Nadeau's freighting company established stations a days travel apart, about 20 miles, along the route to Los Angeles. These stations consisted of corrals and a small house and were usually kept by a man and his wife. At these the teamsters and swampers were provided with lodgings and meals and the livestock with feed and water. I think the house at Cartago was similarly used. However, situated at the terminal as it was, it could have contained more rooms that the ones at other stations. Nadeau himself made frequent trips (by horse and buggy) along the route and it is quite likely that it was his custom to lodge there while at Cartago.

The transportation of the heavy bullion was problematic, as the trip down the steep Yellow Grade Road and around the lake on mule-drawn wagons took approximately three weeks. To streamline the process James Brady and D.H. Ferguson of the Owens Silver-Lead Company decided to freight materials directly across Owens Lake. In 1872, they constructed a small steamer (85ft long, 16 ft wide, with a 16ft hold) and a wharf near a smelter at Swansea on the northeast side of Owens Lake. However, the great earthquake of March 16, 1872 delayed both projects and caused Owen's Lake to recede. The wharf under construction at Swansea had to be constructed 150 feet longer than originally planned. Another Lone Pine businessman, John Baptiste Daneri, constructed another landing for the steamer on the southwest side of Owens Lake, on the Lone Pine-Los Angeles Road. Daneri's Landing consisted of a warehouse, store, and rock landing. From this landing thirty tons of bullion could be loaded onto stagecoaches headed to Los Angeles. The cross-lake voyage saved 9 turbulent transportation days for the mule-drawn teams to Daneri's Landing. The steamer made her first trip across Owens Lake on June 27, 1872 to the landing in Cartago. A week later, on the 4th of July, the steamship was christened the Bessie Brady by Brady's young daughter at Ferguson's Landing, south of Lone Pine. In addition to Daneri's Landing and the Landing at Swansea, there was another landing, Ferguson's Landing, on the northwest edge of the Owens Lake.

According to local legend, the town of Cartago was established in June 1872 after John Baptiste Daneri, a Lone Pine businessman, constructed a warehouse, store and landing on the southwest shore of Owens Lake to capitalize on mining across Owens Lake at the Cerro Gordo mines. Daneri named the area Carthage after the ancient city-state in North Africa, located on eastern side of Lake Tunis, which became one of the largest and most powerful seaports in the Mediterranean. The town of Carthage is noted on historical topographic maps from 1905 and 1907. Daneri did not actually own any part of the subject property during this period according to County of Inyo assessor research. As a successful businessman in Lone Pine and co-owner of Denair and Stewart, General Merchandise, he saw Cartago as another lucrative business opportunity. The Pacific Coast Business Directory has only three entries listed under the town of Cartago: Belshaw & Titsworth, proprietors freight steamer Bessie Brady; Cerro Gordo Freighting Company, freighting; and Villagas A., hotel. Lone Pine, 18 miles south of Independence, was the primary commercial center in the area.

During the late 1870s Belshaw and Beaudry became encumbered in a lawsuit against the owners of the San Felipe Silver-Quartz Claim disputing the boundaries their legal mining areas. After two lengthy lawsuits ruling in the favor of the San Felipe Silver-Quartz Claim, the costly litigation combined with the increased costs of operation ended the Union Mining Company and the Cerro Gordo furnaces shut down in early 1878. By 1879, the Cerro Gordo mines were beginning to decline. The Bessie Brady burned in 1882 and the Carson and Colorado Railroad was constructed, running from Keeler (near the Cerro Gordo Mines) to Moundhouse, Nevada in 1883 thereby changing all of the established freighting practices. The railroad provided a reliable and fast source of transport that kept the Cerro Gordo mines in business well into the 20th century. After the Union Mining Company ended their operations at the Cerro Gordo mines, other entrepreneurs attempted to strike it rich in the Cerro Gordo Mines.

After zinc was discovered in the mountains, Louis D. Gordon acquired the Cerro Gordo mines in 1914 and constructed a bucket tramway to carry ore down the side of the Inyo Range to a narrow gage railroad that had its terminus at Owens Lake. However, the landing at Cartago and the steamers were no longer profitable or necessary. In 1913, Charles S. Lee, a civil and hydraulic engineer in Los Angeles, documented the Cartago landing. By 1913, there was little left of the landing in Cartago. By 1924, there were only traces of the wharf remaining, as most of its timbers had been salvaged for firewood by the Willie Brown family of Indians who lived among the cottonwoods between Cartago and Olancha.

A Historical Point of Interest marker dedicated June 10, 1978 and located on the subject property on Highway 395 memorializes this past history:
In the 1870s bullion bars from Cerro Gordo mines were hauled across Owens Lake on the steamer "Bessie Brady" to Cartago Boat Landing. Remi Nadeau's 14 mule teams hauled the bullion to Los Angeles, returning with freight.

John Baptiste Daneri (1831-1907)
John Baptiste Daneri (1831-1907) was born in Chivalry, Italy on March 6, 1831. At the age of 18 he immigrated to San Francisco with his three brothers where they established themselves as pioneer merchants. In approximately 1870, John Baptiste Daneri established a general merchandise store, Messrs. Daniel and Stewart, in Lone Pine. The California Land Patents Database for Inyo County reveals John B. Daneri purchased a property in Lone Pine (Township 190S, Range 360E, Section 028) on April 25, 1874. In 1877, John Baptiste Daneri moved to San Juan Capistrano and took up farming. Two years later, he married Catherine, the widow of his former partner Stewart, in San Francisco. In 1907, John Baptiste Daneri passed away while visiting his oldest daughter in Sheridan, Oregon.

Remi Nadeau (1818-1886)
Remi Nadeau was born near Quebec, Canada in 1818 and later traveled to Minnesota. In 1860, Nadeau traveled to California across the plains, and adopted Los Angeles as his new home in the fall of 1861. He used Los Angeles as his headquarters while he engaged in the freighting enterprise in parts of California and Montana. In 1866, he established a permanent residence in Los Angeles. In 1873, he organized the Cerro Gordo Freighting Company with Mortimer Belshaw and Victor Beaudry, which hauled bullion from the Cerro Gordo mines to the port in San Pedro until 1883 when mule freighting was superseded by railroads.

Remi Nadeau was an active member of Los Angeles society and invested in the future of the city. He actively purchased real estate and was said amass 32,050 acres. In 1885, he constructed the Nadeau Hotel, corner of 1st and Spring Streets. He was also interested in agriculture; he operated the Nadeau Vineyard, had a brief business venture growing and refining beets, and grew barley in Inglewood. Nadeau Street in Los Angeles was named after him, now renamed to East 79th Street. Remi Nadeau passed away on January 15, 1886.

Ernst Heiligendorfer
On March 1, 1873 the California Land Patent Number 40 indicates Ernst Heiligendorfer was granted seventy-nine acres legally described as Lot Number 2 of infractional NE ¼ of Township 19S, Range 36E, Section 1, to the north of the study area. The property cost ninety nine dollars. The land patent indicates he erected a house three years before on May, 1 1871 and the property was not occupied for agriculture or trade. Ernst Heiligendorfer, a citizen of Germany was a scientist who specialized in mining technology. In 1874, while Heiligendorfer was a resident of Belmont, Nevada, he had two patents for the "Improvement in Reverberatory Furnaces for Roasting Ores" (no. 147,056, patented February 3, 1874) and "Improvement in Ore-Roasting Furnaces" (no. 157,515, patented December 8, 1874). In 1897, Ernst Heiligendorfer was living in Canelas, Estado de Durango, Mexico, where he patented a process to improve the chloridizing of silver ores. These patents were profiled in Scientific American (1875) and the London Gazette (1874, 1877).

4. Ranching (1862-1986)

While the mines were operating, ranchers raised cattle, famers grew food, and merchants provided the supplies needed. With the passage of the Homestead Act in 1862, the land in the Owens Valley became available for private ownership. In June 1873, the United States Land Office was moved from Aurora, Nevada to Independence and land in the County was officially claimed. The population of Inyo County grew from just under 2,000 in 1870 to almost 4,400 in 1900. Farms almost doubled in the twenty years; in 1880, there were just 242, and by 1900, there were 424. Ranching in the neighboring town of Olancha began during the 1860s. Because of the highly alkaline soil and rocky topography around Owens Lake, farming the land was not practical; instead the land was used for ranching cattle, sheep, and goats. One of the most successful ranches in Olancha was August Walker's ranch who filed a patent in 1864 and ranched in the study area vicinity for twenty-four years.

Gomez Ranch
Ranching most likely began on the subject property after the Homestead Act to 1862 was adopted by the United States. The California Land Patent Number 58 for Inyo County reveals Espitacio Gomez purchased 160 acres on July 20, 1873 legally described as Lot 1 in infractional NE ¼ and NE ¼ of SE ¼, Section 1, Township 19S, Range 36 East and N ½ of Lot 2 in infractional SW ¼ of Section 6, Township 190S, Range 37E, encompassing the subject property (Assessor Parcel# 33-020-01) on April 25, 1874. The County of Inyo Assessment Book of 1881, held at the Eastern California Museum, reveals the Gomez Ranch was owned and occupied in 1881 by the Cerro Gordo Freighting Company in Cartago. The value of land was $800 and a total of $1,700 had been made in improvements by that time. Based upon this evidence along with the documentation of the cash land sale to Espitacio Gomez recorded in California Land Patent 58 for Inyo County, it appears that the timber portion of Gomez Homestead was erected by Gomez in 1871. The Sierra Nevada Place Names: From Abbot to Zumwalt identifies the subject property as the Gomez Meadow: "This land is just south of Cartago, on present-day US 395; the meadow is about six miles west of there, on the crest at the head of Cartago Creek."

Arthur Lubken Ranch
The first grazing permit on file for Arthur Lubken (1887-1958) is on February 9, 1906, when he was applying to graze twenty head of cattle and eight horses in Townships 20, 21, and 22 for the Spring and Townships 18, 182, 30 for the Summer. During World War I, Arthur Lubken was stationed Washington at a field artillery camp and his wife handled his ranching business. In 1922, the permits reveal he owned approximately six acres of ranch property in Lone Pine. Four years later, Arthur Lubken also owned a ranch in Cartago on April 17, 1926. He is listed on the United States census from 1920 and 1930 as a cattle rancher living in vicinity of Lone Pine. Photographs captured Arthur Lubken's two ranch houses during the 1950s.

*Recorded by: PCR Services *Date: June 2012 ☒ Continuation ☐ Update

On April 15, 1953 Arthur F. and Irene W. Lubken granted the land (APN 33-020-11) to Edward L. and Dorothy M. Thornburg. By July 1953 the Thornbrughs were running 500 heads of beef cattle on approximately 500 acres of pasture land. According the Inyo County assessor records, the Thornburgs constructed an addition on Gomez Homestead, doubling the square footage and also constructed various ranch support structures.

A mobile-home was added to APN 033-020-011 in 1974. In 1975 there was a 359 square foot addition on to the northwest portion of the original 1,406 square foot Residence 3 and at an unknown date the 330 square foot porch was enclosed. A 177 square foot addition was added to the northeast corner of the east residence. In 1978, the property, including land, cattle, and grazing lease, was sold to Rick Stevens. The land sale included 359 cows, 20 bulls, 300 calves, 2 horse, main house, two dwellings, mobile home, shop, and other buildings. During the 1980s the subject property changed ownership. In 1982, the northwest corner of the ranch was subdivided into 16 one-acre residential lots. Cabin Bar Ranch Road was paved along the northern property line from Highway 395 east into the new subdivision. A new ranch-style house and a man-made irrigation pond was constructed on APN 033-440-13 in 1982 to promote the proposed Cabin Bar Ranch subdivision and the Cabin Bar Ranch Road sign was constructed in 1984.

On July 9, 1986, Anheuser-Busch purchased the Cabin Bar Ranch from Rick Stevens. The company planned to use the property for a water-bottling plant.

5. Transportation – Stagecoaches, Rails and Roads (1863-1959)

Before train service and automobiles, travel in and out of Owens Valley was by stagecoach and horse or mule-drawn freight wagons. The main wagon route through the Owens Valley had developed along the western side of the valley, which connected various settlements, ranches, and springs.[19] The route was most likely an early Indian trail. Captain J.W. Davidson described the early road leading into the Owens Valley and to the west of Owens Lake: "Establishing a direct route between Salt Lake and all parts of California – avoiding entirely the Mojave Desert and securing to the traveler these important items to a comfortable journey – a good and direct road, and grass and water at distance. Carrying the road along the rim of the Great Basin, and entering *Wokopee* or Owens Valley, at its head by a very excellent pass."

Olancha, approximately three miles south of Cartago, became a transportation center for Owens Valley during the 1860s. From Olancha, trails ran south to Los Angeles, west to Visalia, and east to Coso. The Owens River Stage Line was established in 1863 with a station in Olancha and soon after other stage lines were added. The early dirt roads often navigated around obstacles and ranches, and there were often many stopping places so animals and passengers could rest. Remi Nadeau began operating his mule-drawn freight wagons in 1869 from Cartago, on the road from Lone Pine to Los Angeles. The Cartago station was the primary freight terminal on the west side of Owens Lake. From Cartago, the freight was driven south to San Pedro. After 1873, a road from Keeler which joined the Old Coso Road along the south side of Owens Lake to Owens River Road was extensively improved by the Cerro Gordo Freighting Company.

Carson and Colorado Railway

The construction of the narrow-gauge Carson and Colorado Railway began in 1880, and intended to extend the rail line from the existing Virginia and Truckee Railroad at Hawthorne, Nevada, through the Owens Valley to the Colorado River and terminating in Mojave. The rail line, nicknamed the "Slim Princess," was never completed, although the segment of the line extending to Keeler, on the eastern shore of the Owens Lake, was finished in July 1883. In March 1900, the Southern Pacific Railroad purchased the line with the intention of tying it into the existing Southern Pacific Railroad tracks in the Eastern Sierra. The Southern Pacific Line was completed through Cartago to Lone Pine to aid in the construction of the Los Angeles Aqueduct. Though the rail line was never finished, it did bring economic development to the valley and helped support the burgeoning mining industry. By 1932 passenger service was discontinued, and the Carson and Colorado railway was retired by Southern Pacific in 1959.

U.S. Route 395

First commissioned in 1926, US 395 connected Spokane, Washington with Canada. During the 1930s, US 395 was extended from Spokane to San Diego by incorporating existing state routes. Today, US Route 395 connects the Canadian border to Interstate 15 near Victorville, California. Like many highways constructed during the mid-twentieth century, Highway 395 includes many examples of "roadside architecture," which was a design type for commercial locations on or adjacent to highways used for distance travelling. Adjacent to the subject property on the west side of Highway 395 is an abandoned roadside diner constructed during the 1950s. Often roadside commercial spaces were themed in idealized historic styles related to their regional history and sold regional crafts and food.

6. Los Angeles Department of Water and Power (1905-1935)

As the City of Los Angeles grew during the early twentieth century, the need for new water sources led City engineers to the Owens Valley in the Eastern Sierra where water collected from the rivers and creeks that poured down out of the Sierras. The Los Angeles Aqueduct was constructed between 1905 and 1913 under the direction of self-taught engineer William Mulholland. Negotiated between 1905 and 1935, with most sales occurring between 1923 and 1934, this was one of the largest private land and water acquisitions by any local government in American history. So much water was taken from the valley that the remaining farmers and ranchers formed alliances and rebelled against the draining of the valley's water. In 1924, a group of armed ranchers seized the Alabama Gates and dynamited a section of the aqueduct. However by 1928, Los Angeles owned 90 percent of the water in Owens Valley.

About 1167 farms covering 262,102 acres were purchased for $20,768,233. The associated water rights acquired by the City raised Los Angeles' water supplies by over four times. As late as 1998, Owens Valley and the Mono Basin to the north contributed over 70% of the city's water. This was the first large-scale transfer of water rights in the American West, and it made the growth of Los Angeles possible. Until 1941 and the arrival of Colorado River water, there were no other major sources of supply. The Los Angeles Aqueduct drained most of the ground water located in the Owens Valley, ultimately transforming the Owens Lake into a dry lake bed.

7. Stone Building Construction

Late Nineteenth Century Vernacular Stone Construction

The tradition of stone construction began in Inyo County during the late nineteenth century when European settlers began arriving in the region. Stones and river rock were readily available materials used to construct substantial structures. The early mines used stone construction for smelters and other auxiliary structures, for example the smelters at the Cerro Gordo are vernacular stone structures similar to the stone ruin on the subject property. The builders of the stone depot at Cartago (stone ruin) gathered local stone for the walls of the structure and utilized the sand from Cartago Creek to make the mortar and plaster for the structure. The window headers, walls and floor were reinforced with discarded parts of freight wagons and mining machinery which appear similar to those now on display at the Eastern California Museum. The interior face of the walls were reinforced by wood timbers against which the uncut rubble stone was laid.

Early Twentieth Century Vernacular Stone Architecture (1900-1940)

During the early twentieth century, in areas where local stone was readily available, property owners continued to use the local stone material to build modest homes and commercial buildings. Gustav Stickley, editor of *The Craftsman* magazine, was a strong proponent of the use of natural, locally derived materials, such as cobblestones or cut stones, in the construction of bungalows that would blend into their surroundings. Regarding the use of stone he wrote:

> *In the building of modern country homes there seems to be no end to the adaptability of cobblestones and boulders in connection with the sturdier kinds of building material, for, if rightly placed with regard to the structure and the surroundings, they can be brought into harmony with nearly every style of architecture that has about it any semblance of ruggedness (Stickley 1979, p.141).*

Stickley acknowledged the popularity of using cobblestones for foundations, pillars, chimneys and fireplaces but believed that cut stones were more structurally sound in the construction of Craftsman houses versus small round cobblestones. He noted, however, that the "best examples" of stone houses were found in California. Illustrations and photographs of bungalows in journals and books of the time featured numerous examples of the use of stone for foundations, chimneys, porches, garden walls and sometimes half-walls, but few examples depicted houses constructed entirely of cobblestones. Gustav Stickley and others wrote that the modern urban or suburban home was a mixture of sophistication coupled with the natural. He relegated stone houses to the country and for seasonal use only, stating "Very few houses that are possible for modern civilized life – outside of the mountain camp – are sufficiently rough and primitive in construction to be exactly in harmony with the use of cobbles."

The writings of Gustav Stickley and the articles in *The Craftsman* magazine may have advised architects and builders to use local stone only for country houses and mountain camps; however, local builders and property owners continued to make use of readily available local stone for vernacular dwellings and commercial buildings and stone construction remained part of the local building tradition during the early twentieth century. Local builders were influenced by a variety of examples of other California houses made of river rock. The 1920s and '30s, in particular, evidenced a vernacular tradition of building stone houses near river washes simply because the material was abundant. Indeed, stone houses in Inyo County and the surrounding region tended to be located where cobbles were immediately available. Within Inyo County there are a variety of buildings that utilize stone construction in their exterior, for example in chimneys, low walls, and fences. A number of single-family residences in Independence, located approximately thirty-five miles north of the subject property, are constructed with river rock accents on the facades. There is an abandoned café with two associated buildings located outside of the subject property along Highway 395 with low stone walls on the porch. There are also stone sentry posts and other remnants of stone structures at Manzanar constructed by Ryozo F. Kado, a interned stone mason, in the late summer of 1942.

*Recorded by: PCR Services *Date: June 2012 ☒ Continuation ☐ Update

A. Publications

Bancroft. Bancroft's Guide for Travelers by Railway, Stap, and Steam Novigation in the Pacific. 1869

Baxter, R. Scott and Rebecca Allen. Olancha/Cartoga Four-Lane Project, US Route 395 Inyo County, California. Richmond, CA: Past Forward, Inc., June 2003.

Belden, L. Burr and Mary DeDecker. Death Valley to Yosemite: Frontier Mining Camps and Ghost Towns. Bishop, CA: Spotted Dog Press, 2009.

Biography of Mrs. Catherine Daneri, Inyo County Library

California Code of Regulations, California Register of Historical Resources (Title 14, Chapter11.5), Section 4852(c).

California Public Resources Code § 5024.1.

Chalfant, W.A. *The Story of Inyo*. Bishop, CA: Community Printing and Publishing, 1975

Code of Federal Regulations (CFR), 36 § 60.2.

Davidson, J.W. *The Expedition of Capt. J.W. Davidson from Fort Tejon to the Owens Valley in 1859*. Edited by Philip J. Wilke and Harry W. Lawton (Socorro, N.M.: Ballena Press, 1876).

Dodd, Douglas W. "Cartago Townsite P# 14-8141." Department of Parks and Recreation Forms. Department of History, CSU Bakersfield, CA. August 2001.

Dougherty, Dean H. Phase I Environmental Site Assessment: Crystal Geyser Roxane Acquisition Parcels. (Biehop, CA: Sierra Geotechnical Services, Inc, 2010).

Harrison, Sandy. "Bottling Plant Planned: Anheuser-Busch buys out Cabin Bar Ranch." July 11, 1986.

Hoffman, Abraham. "Origins of a Controversy: The U.S. Reclamation Service and the Owens Valley-Los Angeles Water Dispute." Arizona and the West 18, no.4 (Winter, 1977): 333-346.

Hoffman, Abraham.*Vision or Villainy: Origins of the Owens Valley-Los Angeles Water Controversy*. College Station: Texas A&M University Press, 1981.

Land entry file, DOCID 58, Espitacio Gomez, April 25, 1874, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.

Land entry file, DOCID 40, Ernst Heiligendorfer, April 20, 1875, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.

Land entry file, DOCID 84, Pedro Ruperez, June 15, 1875, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.

Land entry file, serial patent No. 1082189, Kikut Leo, March 21, 1936, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.

Langley, Christopher. *Images of America: Lone Pine*. Charleston, SC: Arcadia Publishing, 2007.

Likes, Robert. *Looking Back at Cerro Gordo*.

Moore, James G. *Exploring the Highest Sierras*. Stanford, CA: Stanford University Press, 2000.

Ghost Towns and Mining Camps of California. Santa Barbara: Crest Publishers, 1999.

Nadeau, Remi. "King of the Desert Freighters." 1981.

National Park Service. *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*. Washington DC: U.S. Dept. of the Interior, National Park Service, Interagency Resources Division, 1990, rev. 1991.

National Park Service. *National Register Bulletin 16: Guidelines for Completing National Register Forms*. Washington, D.C.: U.S. Dept. of the Interior, National Park Service, 1986.

Office of Historic Preservation. *Instructions for Recording Historical Resources*. March 1995.

Office of State Historic Preservation. *California Historic Resources Inventory, Survey Workbook* (excerpts). Sacramento, CA: State of California, 1986.

Olson, Wilma R. *Olancha Remembered*. Sacramento, Ca: W.R. Olson, 1997.

Parr, Robert E., R. Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II. *Archaeological Survey Report: Cartago-Olancha Four-Lane Project, U.S. Route 395, Inyo County, California*. Bakersfield California: Center for Archaeological Research, California State University, December 2001.

Parker, Patricia L. *National Register Bulletin 24, Guidelines for Local Surveys: A Basis for Preservation Planning*. Washington, DC: U.S. Government Printing Office, 1985.

Pipkin, George. *Cartoga, My Cartoga*. Murchison Pub, 2011.

Rooke, Ralph J. and Elizabeth von Till Warren. BLM. *Cultural Resources of the California Desert 1776-1980: Historic Trails and Wagon Roads*.

Saunder, Robert A. *The Lost Frontier: Water Diversion in the Growth and Destruction of Owens Valley Agriculture* Tucson & London: University of Arizona Press, 1994.

Wood, Gussie M. "The Half-Way House on Georges Creek." *Saga of Inyo County*. Eastern California Museum, p. 94.

B. Newspapers and Periodicals

"14 Homes Rising on Cattle Ranch." *Los Angeles Times*. June 27, 1982, p. 8

"City is Victor in Owens River Water Contest." *Los Angeles Times*. March 29, 1921, p. II13.

"Elmer the Elk Happy on Ranch at Olancha." *Los Angeles Times*. July 14, 1953, p. A7.

Gilbride, John. "Lost Bullion Ship of Owens Lake." *Desert Magazine*. November 1965, pgs. 28 – 31.

"Industrial: Financial, Construction and Manufacturers' News." *Metallurgical and Chemical Engineering*. Volume XVI. January 1-June 15, 1917. New York: Mc Graw-Hill Publishing Company, Inc, p. 409.

B. Newspapers and Periodicals (continued)

Inyo Independent, November 2, 1894, p. 3.
Inyo Independent, August 4, 1899, p. 3.
Inyo Register, September 8, 1898, p. 3.
Libecap, Gary D. "Chinatown Revisited: Owens Valley and Los Angeles – Bargaining Costs and fairness Perceptions of the First Mahor Water Rights Exchange. *Journal of Law, Economics, and Organization*. Yale University: Oxford University Press, May 4, 2008.
Lingenfelter, Richard E. "The Desert Steamers." *Journal of the West*. October 1962, pp. 149-160.
"Mathews Wants Help." *Los Angeles Times*. August 14, 1918, p. II8.
Millspaugh, Al. "The Saga of the Bessie Brady." *Desert Magazine*. July 1974, pgs. 8-10.
"Olancha Road, Owens Lake," Inyo Independent, October 17, 1870.
"Owens Lake is Source of Soda." *Los Angeles Times*. October 23, 1921, p. V3.
"The Cabin Bar…an American Experience." *Sierra Life*. 44-47.
"Suit May Tie Up Aqueduct Plan." *Los Angeles Times*. July 23, 1913, p. I5.
"The Cabin Bar…an American Experience." *Sierra Life*. 44-47.

C. Public Records, Information, and Other Materials

1920 U.S. Census, population schedule, Cartago, Inyo County, Enumeration District [ED] 45, roll T625_94, sheet 1A, 1B, 2A; Ancestry.com, http://www.ancestry.com (accessed 29 September 2011).
1920 U.S. Census, population schedule, Lone Pine, Inyo County, Enumeration District [ED] 42, roll T625_94, sheet 1A; Ancestry.com, http://www.ancestry.com (accessed 29 September 2011).
1930 U.S. Census, population schedule, Township 4, Inyo County, Enumeration District [ED] 7, roll 119, sheet 15B; Ancestry.com, http://www.ancestry.com (accessed 29 September 2011).
U.S. Geological Survey. Olancha [map]. 1:25,000. 7.5 Series. United States Department of the Interior, USGS, 1905.
U.S. Geological Survey. Olancha [map]. 1:25,000. 7.5 Series. United States Department of the Interior, USGS, 1907.

Photographs



Residence 3 (left) and Gomez Homestead (right); garage in center; old carriage road runs between residences 3 and 2, view to north (PCR 2011)



Interior of Gomez Homestead showing squared timber construction (PCR 2012)



Gomez Homestead, north elevation, view to south (PCR 2011)



Corrals and red storage shed, view to southeast (PCR 2012)

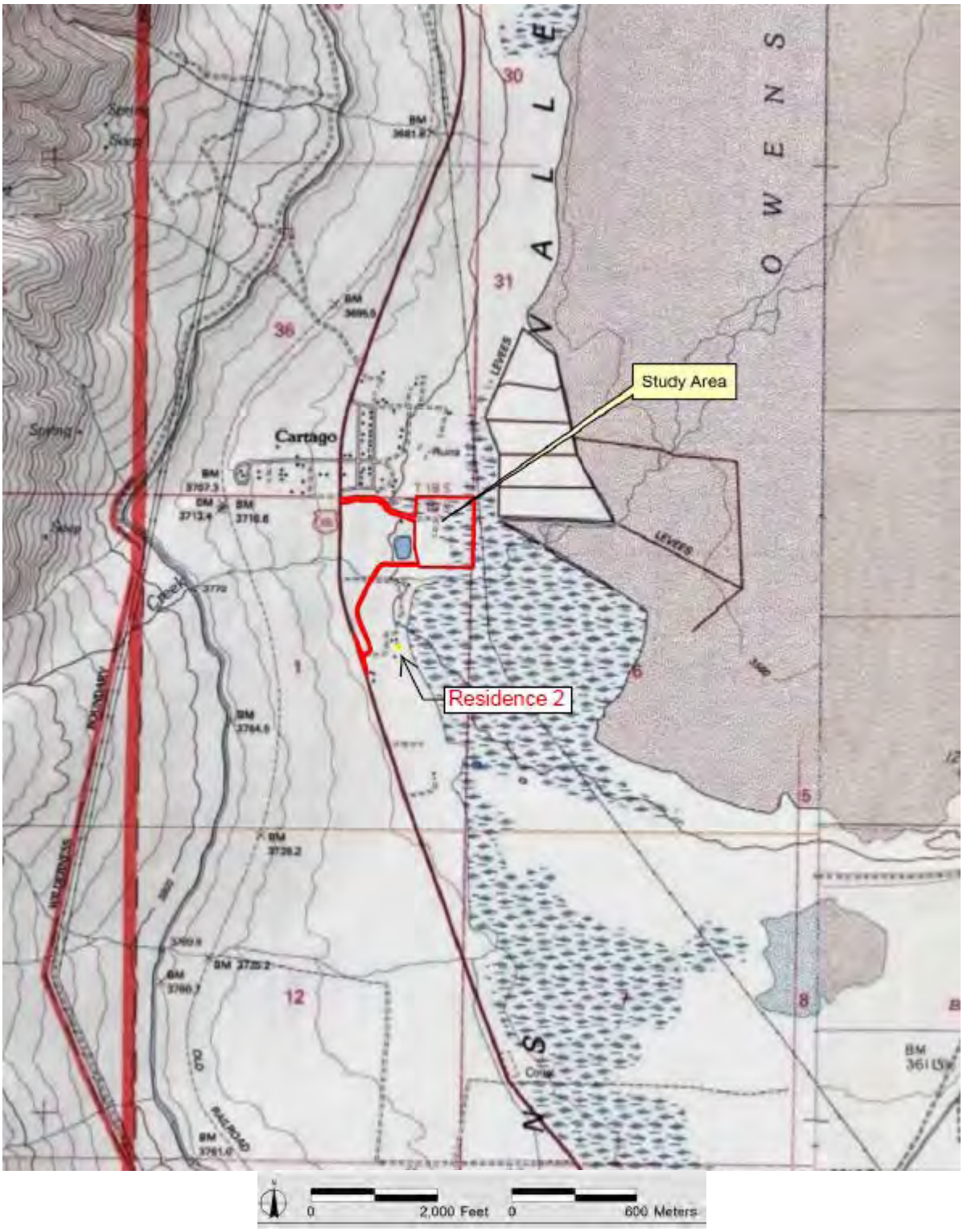


Southern access road into property, view to east (PCR 2011)



Ranch gate, view to east (PCR 2012)

Resource Name or #: Gomez Homestead
Map Name: USGS 7.5' Olancha, CA **Scale:** 1:24,000 **Date of Map:** 1994



State of California — The Resources Agency **Primary #** P-14-011515
DEPARTMENT OF PARKS AND RECREATION **HRI #**

PRIMARY RECORD

Trinomial
NRHP Status Code 3CS

Other Listings
Review Code **Reviewer** **Date**

 ***Resource Name or #:** Cartago Station House

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ☐ **Unrestricted** ***a. County:** Inyo

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Olancha **Date:** 1994 **T** 19S; **R** 37E ; NE ¼ **of** ¼ **of Sec 1 ;** San Bernardino **B.M.**

c. Address: 1210 South Highway 395 City: Olancha Zip: 93549

d. UTM: Zone: ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:
APN 033-020-001

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
Based upon the site history and physical evidence, the Cartago Station House located on APN 033-020-01 appears to have been built during the early 1870s. Remi Nadeau's account suggests a station house existed in Cartago during the 1870s and local legend maintains that Daneri constructed a warehouse, store and landing there in 1872. The 1881 Inyo County Assessment Book documents that the Cerro Gordo Freighting Company paid tax on existing improvements in Cartago valued at $1,700. The construction method, materials and physical characteristics of the ruin as well as the site history data indicate it was most likely associated with the Cerro Gordo Freighting Company between 1870 and 1882 and was probably constructed at the same time as the Cartago Boat Landing (Daneri's Landing). The stone ruin may be the structure described in Nadeau's account of the station house at Cartago, previously cited above. Situated at the primary freight terminal on the western side of Owen's Lake, the house was said to be larger than those at the other stations, and it is possible Nadeau stayed in the Cartago house himself during his frequent trips along the route. The company stations consisted of corrals and a small house and were usually kept by a man and his wife. The teamsters and swampers were provided with lodgings and meals at the station, and the livestock were fed and watered.

***P3b. Resource Attributes:** HP6, HP45, AH2, AH11

***P4. Resources Present:** ☒Building ☒Structure ☐Object ☒Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing



P5b. Description of Photo: (View, date, accession #)
View to southeast, 2012

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both

***P7. Owner and Address:**
Crystal Geyser Roxane Water Company: 1630 Kellog Drive, Weed, CA 96094

***P8. Recorded by:** (Name, affiliation, and address)
PCR Services, 233 Wilshire Blvd, Ste 130, Santa Monica 90401

***P9. Date Recorded:** June 6, 2012

***P10. Survey Type:** (Describe)

***P11. Report Citation:** Historic Resources Assessment Report, Crystal Geyser Cabin Bar Ranch Water Bottling Plant, PCR Services, May 2012.

***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):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 3CS

***Resource Name or #** Cartago Station House

B1. Historic Name: Cartago Station House
B2. Common Name: Cartago Station House
B3. Original Use: Station House B4. Present Use: Ruin

***B5. Architectural Style:**

***B6. Construction History:** (Construction date, alterations, and date of alterations)
Circa 1872

***B7. Moved?** ☒**No** ☐**Yes** ☐**Unknown** **Date:** **Original Location:**

***B8. Related Features:**

B9a. Architect: Unknown b. Builder: Unknown

***B10. Significance: Theme:** Development of the Subject Property; Euro-American Explorations and Early Settlements (1833-1900); Mining (1872-1900); Ranching (1862-1986); Transportation – Stagecoaches, Rails and Roads (1863–1959); Los Angeles Department of Water and Power (1905-1935); and Stone Building Construction. **Area:**
Period of Significance: ca. 1871 through the early 1880s **Property Type:** Commerical **Applicable Criteria:** A, B, D The Cartago Station House is considered eligible as potential historical resource under National Register Criteria A, B and D, and California Register Criteria 1, 2 and 4. The subject property has a high probability for buried subsurface historic period remains associated with the activities of the Cerro Gordo Freighting Company from 1871 to the early 1880s.

The Cartago Station House (stone ruin) is considered eligible as potential historical resource under National Register Criteria A and California Register 1. The Cartage Station House appears to be associated with the Cerro Gordo Freighting Company from 1871 through the early 1880s, which made a significant contribution to the broad patterns of National and California history and cultural heritage. The Cerro Gordo Freighting Company and associated mining activities in the Owens Valley played a formative role in the economic development of Inyo County, the surrounding region, and the City of Los Angeles during the late nineteenth century.

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**
(See Continuation Sheets)

B13. Remarks:

***B14. Evaluator:** Amanda Kainer, PCR Services

***Date of Evaluation:** June 2012



(This space reserved for official comments.)

***Required information**

P3a. Description (continued)

The Cartago Station House originally had a rectangular plan and was oriented facing west toward the main north-south wagon road (now US 395). The west elevation had a center front door opening flanked by large rectangular window openings. A second door opening was located at the southeast corner of the building on the southern elevation, facing the road that enters the property at the existing Cabin Bar Ranch gate. A stone chimney was located in the center of the north elevation. Several small window openings were located along the top of the north and south elevations. Half of the interior space had a stone floor and the other half was probably covered with a wood floor; the space underneath the wood floor was probably used for storage.

The stone ruin has irregular rubble stone walls constructed of three- to ten-inch diameter granite, dolomite and Alabama mountain stones laid with a soft, granular, sand and lime mortar. The sand used in the mortar and plaster closely resembles the texture, color and consistency of the sand in Cartago Creek. The interior faces of the walls were originally supported by interior wood framing, against which the stonework was laid. There is no existing roof. Roughly half of the building has a stone floor, while the remaining floor space is earth (Figure 36). Miscellaneous parts abandoned from old wagons and mining equipment were added to fill in and reinforce the floor and walls. Adding cast-off implements, bottles or other unwanted refuse as fillers in rubble stone structures was a common building practice at the time. The metal implements resemble the parts of other nineteenth century farming equipment, wagons and mining equipment presently on display at the Eastern California Museum in Independence, California. There is a large porcelain fragment embedded within the lower north wall of the ruin . There are several window openings with wood framing and metal headers reinforced with discarded steel wagon/mining machinery parts. A chimney without a hearth is located in the center of the north wall. A later metal insert was installed, probably sometime during the 1920s or 1930s when it appears the building received a new roof (since fallen in) and other structural repairs. Steel rebar reinforcing is evident on the east foundation wall where later repairs were made, and a second color of plaster appears to have been used in the repair of the stonework. The lower portion of the west elevation contains several red bricks and one yellow brick bearing the imprint of the Los Angeles Pressed Brick Company (L.A.P.B.Co. 84), who manufactured bricks between 1887 to 1926. The 84 on the brick indicates a type of wedge or angled brick for used for a curve of a furnace. Historic debris scattered about the site include fragments of glass bottles, pottery, and heavily corroded metal fragments (Figure 43). Two of the fragments observed are pieces of an amber glass Clorox bottle, most likely manufactured circa 1929-30.

A non-contributing Cabin Bar Ranch sign was constructed adjacent to the stone ruin in 1984 (Figure 44) and the road into the property was also paved.

Integrity

The integrity of the stone ruin is extremely low. The building has largely failed. The roof is no longer extant, the floor is partially gone, the windows are removed leaving gaping openings and the walls have largely collapsed. The stone ruin retains evidence of the original construction method and materials, but it lacks integrity as a building or structure in every other respect. It can no longer be used for human habitation and can no longer be classified as a building or structure; thus, the existing structure is correctly classified as a ruin and has been evaluated as a potential archaeological site.

B10. Significance (continued)

The Cartago Station House is considered eligible as potential historical resource under National Register Criteria B and California Register 2. While previous owners of the subject property, Espitacio Gomez, Arthur F. Lubken and Edward L. Thornburg, were cattle ranchers, it appears that their contribution to ranching history in the area does not rise to the threshold of significance for listing in the National or California Registers. According to local legend, the Cartago Boat Landing (Daneri's Landing) is associated with a prominent local businessman, John Baptiste Daneri (1831-1907), who resided in Lone Pine and may have invested in the construction of the boat landing; however, no evidence was found that Daneri owned any land in Cartago during the period of significance for the subject property. The subject property is associated with the productive life of Remi Nadeau (1818-1886), who organized the Cerro Gordo Freighting Company in 1873 with Mortimer Belshaw and Victor Beaudry, which hauled bullion from the Cerro Gordo mines to the port in San Pedro. Nadeau operated the enterprise from the Cartago terminal and stayed in the Cartago Station House during his frequent travels back and forth to San Pedro. Nadeau was an active member of Los Angeles society and invested in the future of the city by amassing extensive real estate holdings. In 1885, he constructed the Nadeau Hotel, corner of 1st and Spring Streets. He was also interested in agriculture; he operated the Nadeau Vineyard, had a brief business venture growing and refining beets, and grew barley in Inglewood. Nadeau Street in Los Angeles was named after him, later renamed East 79th Street. In addition, the Cartago Station House is considered eligible as potential historical resource under National Register Criteria D and California Register 4 for their potential to yield information important in the history and activities of the Cerro Gordo Freighting Company. The activities of the Freighting Company encompassed the subject property during the period of significance. The subject property has a high probability to yield historic period remains and important information associated with the activities of the Cerro Gordo Freighting Company from 1871 to the early 1880s.

A. Publications

Bancroft. Bancroft's Guide for Travelers by Railway, Stap, and Steam Novigation in the Pacific. 1869

Baxter, R. Scott and Rebecca Allen. Olancha/Cartoga Four-Lane Project, US Route 395 Inyo County, California. Richmond, CA: Past Forward, Inc., June 2003.

Belden, L. Burr and Mary DeDecker. Death Valley to Yosemite: Frontier Mining Camps and Ghost Towns. Bishop, CA: Spotted Dog Press, 2009.

Biography of Mrs. Catherine Daneri, Inyo County Library

California Code of Regulations, California Register of Historical Resources (Title 14, Chapter11.5), Section 4852(c).

California Public Resources Code § 5024.1.

Chalfant, W.A. *The Story of Inyo*. Bishop, CA: Community Printing and Publishing, 1975

Code of Federal Regulations (CFR), 36 § 60.2.

Davidson, J.W. *The Expedition of Capt. J.W. Davidson from Fort Tejon to the Owens Valley in 1859*. Edited by Philip J. Wilke and Harry W. Lawton (Socorro, N.M.: Ballena Press, 1876).

Dodd, Douglas W. "Cartago Townsite P# 14-8141." Department of Parks and Recreation Forms. Department of History, CSU Bakersfield, CA. August 2001.

Dougherty, Dean H. Phase I Environmental Site Assessment: Crystal Geyser Roxane Acquisition Parcels. (Biehop, CA: Sierra Geotechnical Services, Inc, 2010).

Harrison, Sandy. "Bottling Plant Planned: Anheuser-Busch buys out Cabin Bar Ranch." July 11, 1986.

Hoffman, Abraham. "Origins of a Controversy: The U.S. Reclamation Service and the Owens Valley-Los Angeles Water Dispute." Arizona and the West 18, no.4 (Winter, 1977): 333-346.

Hoffman, Abraham.*Vision or Villainy: Origins of the Owens Valley-Los Angeles Water Controversy*. College Station: Texas A&M University Press, 1981.

Land entry file, DOCID 58, Espitacio Gomez, April 25, 1874, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.

Land entry file, DOCID 40, Ernst Heiligendorfer, April 20, 1875, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.

Land entry file, DOCID 84, Pedro Ruperez, June 15, 1875, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.

Land entry file, serial patent No. 1082189, Kikut Leo, March 21, 1936, Inyo County, California. Section 1, Township 19-S, Range 36-E. Land Office; Records of the Bureau of Land Management; National Archives Building, Washington, DC.

Langley, Christopher. *Images of America: Lone Pine*. Charleston, SC: Arcadia Publishing, 2007.

Likes, Robert. *Looking Back at Cerro Gordo*.

Moore, James G. *Exploring the Highest Sierras*. Stanford, CA: Stanford University Press, 2000.

Ghost Towns and Mining Camps of California. Santa Barbara: Crest Publishers, 1999.

Nadeau, Remi. "King of the Desert Freighters." 1981.

National Park Service. *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*. Washington DC: U.S. Dept. of the Interior, National Park Service, Interagency Resources Division, 1990, rev. 1991.

National Park Service. *National Register Bulletin 16: Guidelines for Completing National Register Forms*. Washington, D.C.: U.S. Dept. of the Interior, National Park Service, 1986.

Office of Historic Preservation. *Instructions for Recording Historical Resources*. March 1995.

Office of State Historic Preservation. *California Historic Resources Inventory, Survey Workbook* (excerpts). Sacramento, CA: State of California, 1986.

Olson, Wilma R. *Olancha Remembered*. Sacramento, Ca: W.R. Olson, 1997.

Parr, Robert E., R. Scott Baxter, Matthew Des Lauriers, Claudia Garcia-Des Lauriers, Jill Gardner, Robert M. Yohe II. *Archaeological Survey Report: Cartago-Olancha Four-Lane Project, U.S. Route 395, Inyo County, California*. Bakersfield California: Center for Archaeological Research, California State University, December 2001.

Parker, Patricia L. *National Register Bulletin 24, Guidelines for Local Surveys: A Basis for Preservation Planning*. Washington, DC: U.S. Government Printing Office, 1985.

Pipkin, George. *Cartoga, My Cartoga*. Murchison Pub, 2011.

Rooke, Ralph J. and Elizabeth von Till Warren. BLM. *Cultural Resources of the California Desert 1776-1980: Historic Trails and Wagon Roads*.

Saunder, Robert A. *The Lost Frontier: Water Diversion in the Growth and Destruction of Owens Valley Agriculture* Tucson & London: University of Arizona Press, 1994.

Wood, Gussie M. "The Half-Way House on Georges Creek." *Saga of Inyo County*. Eastern California Museum, p. 94.

B. Newspapers and Periodicals

"14 Homes Rising on Cattle Ranch." *Los Angeles Times*. June 27, 1982, p. 8

"City is Victor in Owens River Water Contest." *Los Angeles Times*. March 29, 1921, p. II13.

"Elmer the Elk Happy on Ranch at Olancha." *Los Angeles Times*. July 14, 1953, p. A7.

Gilbride, John. "Lost Bullion Ship of Owens Lake." *Desert Magazine*. November 1965, pgs. 28 – 31.

"Industrial: Financial, Construction and Manufacturers' News." *Metallurgical and Chemical Engineering*. Volume XVI. January 1-June 15, 1917. New York: Mc Graw-Hill Publishing Company, Inc, p. 409.

B. Newspapers and Periodicals (continued)

Inyo Independent, November 2, 1894, p. 3.

Inyo Independent, August 4, 1899, p. 3.

Inyo Register, September 8, 1898, p. 3.

Libecap, Gary D. "Chinatown Revisited: Owens Valley and Los Angeles – Bargaining Costs and fairness Perceptions of the First Mahor Water Rights Exchange. *Journal of Law, Economics, and Organization*. Yale University: Oxford University Press, May 4, 2008.

Lingenfelter, Richard E. "The Desert Steamers." *Journal of the West*. October 1962, pp. 149-160.

"Mathews Wants Help." *Los Angeles Times*. August 14, 1918, p. II8.

Millspaugh, Al. "The Saga of the Bessie Brady." *Desert Magazine*. July 1974, pgs. 8-10.

"Olancha Road, Owens Lake," Inyo Independent, October 17, 1870.

"Owens Lake is Source of Soda." *Los Angeles Times*. October 23, 1921, p. V3.

"The Cabin Bar…an American Experience." *Sierra Life*. 44-47.

"Suit May Tie Up Aqueduct Plan." *Los Angeles Times*. July 23, 1913, p. I5.

"The Cabin Bar…an American Experience." *Sierra Life*. 44-47.

C. Public Records, Information, and Other Materials

1920 U.S. Census, population schedule, Cartago, Inyo County, Enumeration District [ED] 45, roll T625_94, sheet 1A, 1B, 2A; Ancestry.com, http://www.ancestry.com (accessed 29 September 2011).

1920 U.S. Census, population schedule, Lone Pine, Inyo County, Enumeration District [ED] 42, roll T625_94, sheet 1A; Ancestry.com, http://www.ancestry.com (accessed 29 September 2011).

1930 U.S. Census, population schedule, Township 4, Inyo County, Enumeration District [ED] 7, roll 119, sheet 15B; Ancestry.com, http://www.ancestry.com (accessed 29 September 2011).

U.S. Geological Survey. Olancha [map]. 1:25,000. 7.5 Series. United States Department of the Interior, USGS, 1905.

U.S. Geological Survey. Olancha [map]. 1:25,000. 7.5 Series. United States Department of the Interior, USGS, 1907.

Photographs



Stone ruin, south elevation, view to north (PCR 2011)



Stone ruin, south elevation interior wall, view to south (PCR 2011)



Stone ruin, north elevation interior wall, view to north (PCR 2011)



Los Angeles Pressed Brick (L.A.P.B.Co.) in the west front wall of stone ruin (PCR 2012)



Metal implements embedded within stone Ruin (PCR 2012)



Porcelain pottery fragment embedded within mortar of Stone Ruin (PCR 2012)

Photographs



Stone ruin, earth floor and debris, view to west (PCR 2011)

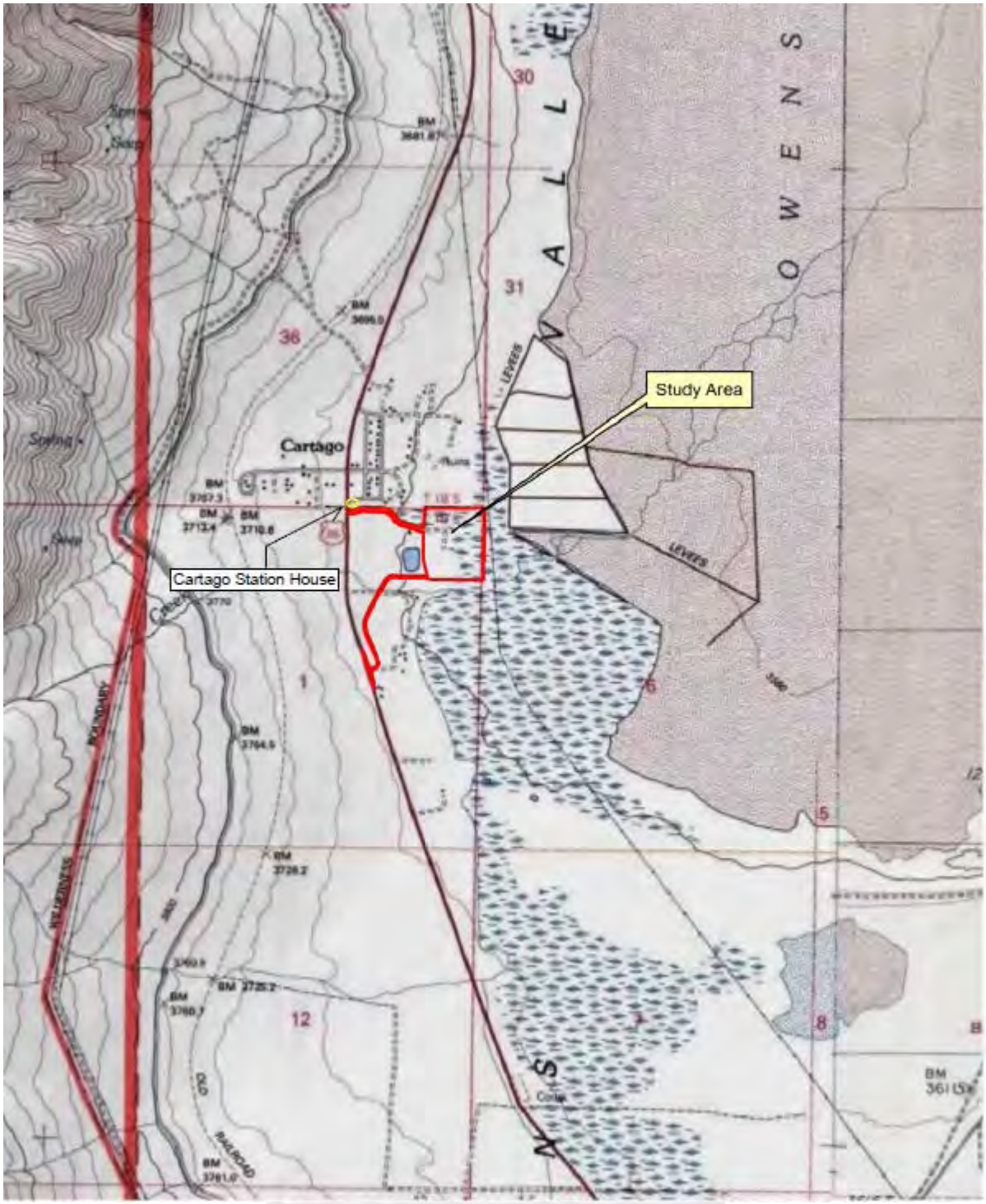


Historic debris found scattered within the stone ruin (PCR 2012)

LOCATION MAP

Resource Name or #: Cartago Station House

Map Name: USGS 7.5' Olancha, CA **Scale:** 1:24,000 **Date of Map:** 1994



Margarita J. Wuellner, Ph.D., DIRECTOR OF HISTORIC RESOURCES

Education

- Ph.D., Art History, University of California, Los Angeles, 2005
- M.A., Architectural History, and Certificate of Historic Preservation University of Virginia, Charlottesville, Virginia, 1991
- B.A., Art History, Oberlin College, Oberlin, Ohio, 1983

Professional Affiliations

- Santa Monica Conservancy
- Los Angeles Conservancy
- California Preservation Foundation
- Society of Architectural Historians, Life Member
- National Trust for Historic Preservation
- American Institute of Architects (AIA), National Allied Member
- American Architectural Foundation
- Association for Preservation Technology

Summary

Margarita J. Wuellner, Ph.D., has extensive academic and professional experience in art history, historical archaeology, architectural history, and historic preservation. Her qualifications and experience meet and exceed the Secretary of the Interior's Professional Qualification Standards in History, Archaeology, and Architectural History.

Dr. Wuellner has over 23 years of professional experience in the practice of historic preservation and cultural resources management in California and the United States. She has over 17 years of experience as a principal investigator, project manager, and technical lead for international, national and regional firms, including PCR Services Corporation, Inc., (2006-present); EDAW, Inc. (AECOM) (2004-2006); and Parsons Engineering Science, Inc. (Parsons) (1995-2004). Her early experience in historic preservation was with John Milner Associates, Inc., Alexandria, Virginia, (1991-1995); and Land and Community Associates in Charlottesville, Virginia, (1989-1992).

Dr. Wuellner has a substantial background in the study of European and American art and architecture and is a specialist in visual culture, Modernism, urbanism, and cultural landscape. She is a recipient of the Samuel H. Kress Foundation Fellowship in Art History; American Council of Learned Societies Fellowship in East European Studies; Edward A. Dickson Graduate Fellowship in Art History, UCLA; and the Thomas Jefferson, Dupont and Governor's State Graduate Fellowships in Architectural History, School of Architecture, University of Virginia.

Experience

Over the past six years Dr. Wuellner has strengthened and expanded the services and range of PCR's historic preservation practice. She has managed and conducted hundreds of historic resources investigations throughout California, in Texas and Canada, assisting clients with due diligence, planning and design, review and approval, mitigation and preservation treatment. Redevelopment, urban design and master planning projects are of primary interest to Dr. Wuellner. Author of hundreds of technical reports for incorporation into CEQA/NEPA environmental review documents (EIRs/EAs/EISs) she is highly experienced in addressing and reducing impacts to historic resources in support of project goals. With a broad national resume, Dr. Wuellner has extensive experience in the evaluation, management and treatment of historic properties for compliance with Sections 106 and 110 of the National Historic Preservation Act (NHPA), National Environmental Protection Act (NEPA), Section 4(f) of the Department of Transportation Act, the California Environmental Quality Act (CEQA), and local codes and ordinances. Highly experienced in the assessment of projects for conformance with the Secretary of the Interior's Standards, she frequently assists both government and private clients with adaptive reuse and rehabilitation projects by providing technical consultation services, agency coordination and legally defensible documentation.

As manager of PCR's on-call preservation services contract with the City of Santa Monica (2002-present), Dr. Wuellner manages and directs PCR staff and is responsible for maintaining and ensuring the high quality of PCR deliverables. She presently also manages additional on-call preservation consulting contracts with the County of San Bernardino Department of Public Works, City of Hermosa Beach, and Los Angeles Unified School District, and she has previously managed preservation consulting services contracts under master agreements with the Los Angeles Redevelopment Agency, and the City of Long Beach.

Dr. Wuellner has managed hundreds of projects throughout Southern California for public agencies and private clients including three large historic resources surveys for the Community Redevelopment Agency of the City of Los Angeles (CRA/LA) for the Wilshire Center/Koreatown Recovery Redevelopment Project Area (2009), Adelante Eastside (2008), and the Normandie 5 Redevelopment Project Area (2010). Education related project experience includes a district-wide survey for the Santa Monica Unified School District (SMMUSD), a California Register nomination for the UCLA Faculty Center, historic resources analyses for the USC Master Plan Project, and a HABS report for the former Schoenburg Institute, USC. Conservation experience includes exterior preservation of the San Bernardino Santa Fe Depot, preservation services for the Santa Monica City Hall Seismic and Jail Retrofit Project, Rehabilitation of the Dunbar Hotel, and a Conservation Management Plan for the RMS Queen Mary for the City of Long Beach. Cultural landscape projects include the Palisades Park Landmark Nomination, the Santa Monica City Hall Landscape Analysis, and historic resources documentation and analysis for the Huntington Education and Visitor Center Project EIR, San Marino, California.

Jon L. Wilson, M. Arch., LEED AP, SENIOR ARCHITECTURAL HISTORIAN II

Education

- M. Arch., School of Architecture, Tulane University, New Orleans, Louisiana, 2005
- M.A., American Architectural History, University of Mississippi, Oxford, Mississippi, 2000
- B.A., Early American History, Occidental College, Los Angeles, California, 1996
- Graduate Study, Architecture, Southern California Institute of Architecture, Los Angeles, California, 2003
- Graduate Study, Historic Preservation, Graduate School of Architecture, Planning & Preservation, Columbia University, New York, New York, 2002

Continuing Education

- LEED Workshop, U.S. Green Building Council
- Evaluating Historical Resources in the Los Angeles Area, Association of Environmental Professionals

Professional Affiliations

- The American Institute of Architects
- LEED Accredited Professional, U.S. Green Building Council
- Los Angeles Conservancy
- Santa Monica Conservancy
- American Farmland Trust

Awards and Fellowships

Sally Kress Tompkins Fellowship, Society of Architectural Historians, 2000

Summary

Jon Lamar Wilson has over nine years of professional and academic experience in the practice of architecture, historic preservation, and architectural history. He has a wide-ranging knowledge of nineteenth and twentieth-century American Architecture, with a specific focus on Central and Southern California and the American South. In particular, Mr. Wilson is an expert in both urban and rural housing types and how they relate to their larger context. His qualifications and experience exceeds those of the Secretary of the Interior's Professional Qualification Standards in History, Architectural History, and Historic Architecture.

Experience

Mr. Wilson has a broad training and professional experience in the practice of Historic Preservation and Cultural Resource Management. Most recently He has extensive experience consulting clients on projects for compliance of Sections 106 of the National Historic Preservation Act (NHPA), the California Environmental Quality Act (CEQA), and local preservation ordinances. Mr. Wilson is experienced in the assessment of projects for conformance with the Secretary of the Interior's Standards for the Rehabilitation of Historic Buildings, and has assisted clients with Historic American Buildings Survey (HABS) documentation, Historic Structure Reports (HSR), National Register of Historic Places nominations, California Register of Historical Resources nominations, local historic designation nominations, Historic Preservation Federal Tax Credit applications, preservation design, and feasibility reports.

HABS: Mr. Wilson worked professionally as an employee and a private contractor for the HABS, a historic building documentation department within the National Park Service. His relationship with HABS began after he won the Sally Kress Tompkins Fellowship, an academic research grant jointly awarded by HABS and the Society of Architectural Historians (SAH).

Mr. Wilson was the team leader for the historic resources surveys of the Wilshire Center/KoreaTown, Normandie 5, and Adelante Eastside Redevelopment Area Surveys for the CRA/LA. His qualifications meet the Secretary of the Interior's Standards in history, architectural history, and historic architecture. Mr. Wilson served as Senior Architectural Historian for the completion of the district-wide survey and evaluation of the Santa Monica-Malibu Unified Schools. Since 2007, he has acted as Senior Architectural Historian for PCR's on-call contract to provide preservation consultant services to the City of Santa Monica and has completed numerous projects under this task order including preliminary assessments, Landmark Assessments, plan reviews for conformance to the Secretary of the Interior's Standards and the local preservation ordinances, design consultation services for adaptive reuse projects, and Historic American Building Survey (HABS) recordation. He has conducted historic assessments and plan reviews for conformance to the Secretary of the Interior's Standards and the local preservation ordinance for numerous PCR projects in Laguna Beach, including recent projects for 154 Pearl, the oldest house in Laguna Beach, and 229 Arch Street, the home of renowned landscape painter William Wendt. He has conducted historical and cultural resources surveys for specific plans in Placentia and Santa Ana in Orange County, California, and in Whittier, California. Mr. Wilson conducted a survey of contributing "puestos" to the El Pueblo de Los Angeles Historic Monument and many other documents related to historic preservation and cultural resource management. In Riverside, Mr. Wilson helped produce the Historic Structures Report (HSR) for the National Historic Landmark Harada House and worked as a preservation consultant on the Fox Riverside Theater.

Amanda Kainer, M.S., ARCHITECTURAL HISTORIAN

Education

- M.S., Historic Preservation (Emphasis: Conservation), Columbia University, New York, New York, 2008
- B.S., Design, (Emphasis: Interior Architecture), University of California, Davis, California, 2002
- B.A., Art History, University of California, Davis, California, 2002

Professional Experience

- Intern, Historic Resources Group, Los Angeles California, Summer 2007

Professional Affiliations

- National Trust for Historic Preservation
- California Preservation Foundation
- Los Angeles Conservancy
- Santa Monica Conservancy
- Association of Preservation Technology Western Chapter

Training

- CEQA and Historic Resources: Thresholds, Mitigation &Case Studies, California Preservation Foundation Workshop, March 2011

Summary

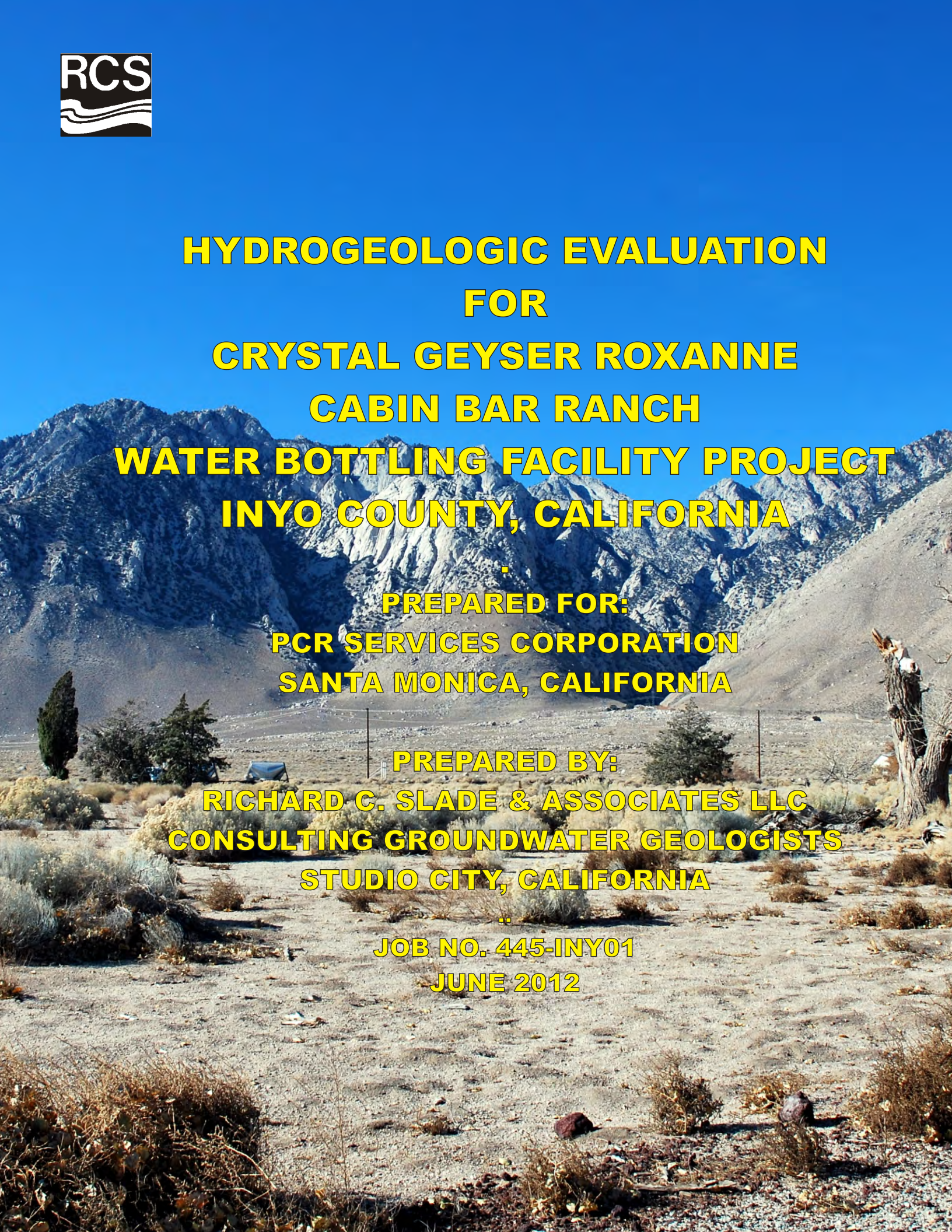
Amanda Kainer has over seven years of professional and academic experience in the practice of historic preservation and architectural history. Her qualifications and experience that meet and exceed the Secretary of the Interior's Professional Qualification Standards in History and Architectural History.

Experience

Ms. Kainer has conducted extensive archival research, field observation, and recordation for numerous PCR historic documentation projects. She served as the project architectural historian and provided survey and research support, assisted in database management and was a contributing author for three major Community Redevelopment Agency of the City of Los Angeles (CRA/LA) – Adelante Eastside, Wilshire Center/Koreatown, and Normandie 5 Historic Resources Surveys, and served as the PCR Survey Team Leader and co-author for the comprehensive survey of over 4,000 objects of fine and decorative arts aboard the RMS Queen Mary in Long Beach.

In addition, she has completed character-defining features reports, historic resources assessment reports, city landmark assessments, and assistance with investment tax credit applications and HABS documentations for PCR projects in Southern California. She has contributed to Historic Resource Assessments for private residential properties in Laguna Beach, Redondo Beach, Venice, and Hollywood. She has conducted extensive research and survey work and has prepared numerous landmark assessment reports for residential and commercial in the City of Santa Monica. Ms. Kainer recently completed historic landmark assessments for the Santa Monica Pier Sign, a commercial building on Main Street, and a Spanish Colonial Revival automobile dealership. Ms. Kainer has served as project architectural historian for numerous PCR projects in the Los Angeles metropolitan area including several historic resources assessment reports for compliance with CEQA for private properties in Los Angeles and a Section 106 significance evaluation for a redevelopment project in Ventura County and a proposed pipeline project in Pasadena. And she was also a co-author to a California Register nomination for the UCLA Faculty Center, located on the UCLA campus in Westwood, Los Angeles.

Appendix F: Hydrogeologic Evaluation



HYDROGEOLOGIC EVALUATION FOR CRYSTAL GEYSER ROXANNE CABIN BAR RANCH WATER BOTTLING FACILITY PROJECT INYO COUNTY, CALIFORNIA

.

PREPARED FOR:
PCR SERVICES CORPORATION
SANTA MONICA, CALIFORNIA

PREPARED BY:
RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
STUDIO CITY, CALIFORNIA

..

JOB NO. 445-INY01
JUNE 2012

RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS

HYDROGEOLOGIC EVALUATION FOR CRYSTAL GEYSER ROXANE CABIN BAR RANCH WATER BOTTLING FACILITY PROJECT INYO COUNTY, CALIFORNIA

PREPARED FOR:
PCR SERVICES CORPORATION
SANTA MONICA, CALIFORNIA

PREPARED BY:

RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
STUDIO CITY, CALIFORNIA

JOB NO. 445-INY01

JUNE 2012

12750 VENTURA BLVD., SUITE 202, STUDIO CITY, CALIFORNIA 91604
PHONE: (818) 506-0418 • FAX: (818) 506-1343; NAPA VALLEY - PHONE: (707) 963-3914

HYDROGEOLOGIC EVALUATION
FOR
CRYSTAL GEYSER ROXANE
CABIN BAR RANCH WATER BOTTLING FACILITY PROJECT
INYO COUNTY, CALIFORNIA

PREPARED FOR:

PCR SERVICES CORPORATION
SANTA MONICA, CALIFORNIA

PREPARED BY:

RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
STUDIO CITY, CALIFORNIA

JOB NO. 445-INY01

JUNE 2012



Earl LaPensee
California Certified Hydrogeologist No. 134



Richard C. Slade
Professional Geologist No. 2998

TABLE OF CONTENTS

SECTION TITLE	PAGE NO.
TABLE OF CONTENTS	1
LIST OF ABBREVIATIONS/ACRONYMS USED IN REPORT	4
INTRODUCTION	5
BACKGROUND	5
GEOGRAPHIC LOCATION	6
REGIONAL GEOLOGIC AND GROUNDWATER CONDITIONS	7
Alluvial/Colluvial Deposits	8
Basement Rock Complex	9
Faulting	10
LOCATION OF WATER-SUPPLY WELLS, MONITORING WELLS AND SPRINGS	11
PREVIOUS SITE-SPECIFIC WATER RESOURCE STUDIES	12
LeRoy Crandall & Associates May 1978 Report	12
Geothermal Surveys Inc. October 1982 Report	14
GSI October 1983 Report	16
James M. Montgomery, Consulting Engineers 1989 Report	18
Luhdorff & Scalmanini Consulting Engineers, November 1989 Report	22
Montgomery Watson, July 1993 Draft Environmental Impact Report	24
Geosyntec Consultants February 2011 Hydrogeology Report	26
Geosyntec Consultants April 19, 2012 Letter on Additional Pumping Impact	29
HYDROGEOLOGIC ANALYSIS	31
GEOLOGIC CONDITIONS	31
RCS Correlation Section A-A'	31
RCS Correlation Section B-B'	32
Relation of Cross Sections to Previous Hydrogeologic Studies	32
FIELD RECONNAISSANCE	33
RAINFALL DATA	34
STATIC WATER LEVEL DATA AND HYDROGRAPHS	36
CALCULATION OF GROUNDWATER IN STORAGE	38
CALCULATION OF GROUNDWATER UNDERFLOW	39
Introduction	39
Derivation of the Individual Parameters	40
Calculation of Underflow & Comparison to Total Proposed Production	42
Summary of Total Proposed and Existing Groundwater Production	43
IMPACT OF PUMPING BY OTHER AGENCIES	44
LADWP Owens Lake Dust Mitigation Program	44
LADWP Southern Owens Valley Solar Ranch Project	45
LADWP Lower Owens Valley River Project	45
Dirty Socks Duck Club	46

Rio Tinto Trona Mine 46
CalTrans Highway 395 widening project 47
Nearby Water Purveyors and Users 47
IMPACT OF PROPOSED PUMPING ON WATER LEVELS 48
IMPACT OF PROPOSED PUMPING ON NEARBY SPRINGS 51
PRELIMINARY CONCLUSIONS & RECOMMENDATIONS 54
PRELIMINARY CONCLUSIONS 54
Reports by Others 54
Geologic/Hydrogeologic Conditions 54
Rainfall and Accumulated Departure 55
Static Water Levels and Rainfall 55
Water Demand for Proposed Production Facility 56
Recharge to Groundwater 57
Groundwater in Storage 57
Groundwater Underflow and Impact of Pumping 58
Water Level Drawdown Impacts 59
PRELIMINARY RECOMMENDATIONS 60
Phasing of Development and Well Use 60
Operations 60
Data Collection 61
Data Review and Evaluation 62
CLOSURE 64
DISCLAIMER 64
REFERENCES REVIEWED 65

APPENDICES

APPENDIX 1 - FIGURES

Figure 1 Site Location Map
Figure 2A Geology Map
Figure 2B Geology Map Legend
Figure 2C Fault Map of Owens Valley
Figure 3 Well Location Map
Figure 4 JMM Geologic Cross Section
Figure 5 JMM Groundwater Flow Map for Shallow Zone
Figure 6 JMM Groundwater Flow Map for Production Zone
Figure 7 JMM-Defined Hydrologic Areas of the Cabin Bar Ranch Region
Figure 8A Geosyntec Geologic Cross Section A-A'
Figure 8B Geosyntec Geologic Cross Section B-B'
Figure 9A Precipitation Totals Graph
Figure 9B Accumulated Departure Curve of Rainfall

APPENDIX 2 - TABLES

Table 1A Summary of Available Water-Supply Well Construction Data

Table 1B Summary of Available Monitoring Well Construction Data
Table 1C Piezometer Perforation Intervals
Table 2 Available Pumping Water Level Data
Table 3 Model Calculated Values of Theoretical Drawdown

APPENDIX 3 – PLATES

Plate 1 RCS Electric Log Correlation Section A-A'
Plate 2 RCS Electric Log Correlation Section B-B'

APPENDIX 4 – PHOTOGRAPHS
APPENDIX 5 – WATER LEVEL HYDROGRAPHS

Figure 5-1 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer P-1
Figure 5-2 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer P-2
Figure 5-3 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer P-3
Figure 5-4 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer P-4
Figure 5-5 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer P-5
Figure 5-6 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer P-6
Figure 5-7 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer P-7
Figure 5-8 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer P-8
Figure 5-9 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer P-9
Figure 5-10 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer P-10
Figure 5-11 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer P-11
Figure 5-12 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer P-12
Figure 5-13 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer P-13
Figure 5-14 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer P-15
Figure 5-15 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer MW-2
Figure 5-16 Hydrograph of Static Water Levels Versus Accumulated Departure of Rainfall, Piezometer MW-3

LIST OF ABBREVIATIONS/ACRONYMS USED IN REPORT

The following provides a list of abbreviations that may be used more than once throughout this report and is provided for the convenience of the reader.

Abbreviation	Full Description
Text Abbreviations	
CBR	Cabin Bar Ranch
CGR	Crystal Geyser Roxane
CMW	Cartago Mutual Water Company
DRI	Desert Research Institute
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
E-Log	Electric log
LADWP	City of Los Angeles Department of Water and Power
JMM	James M. Montgomery Consulting Engineers
L&S	Luhdorff & Scalmanini Consulting Engineers Inc.
MCL	Maximum Contaminant Level
MW	Montgomery Watson
O&M	Operation and Maintenance
OVFF	Owens Valley Frontal Fault
PWL	pumping water level
S	storativity
SCADA	Supervisory Control & Data Acquisition
SNFF	Sierra Nevada Frontal Fault
SWL	static water level
T	transmissivity
USGS	U.S. Geological Survey
WRCC	Western Regional Climate Center
Units of Measure Abbreviations	
AF	acre-feet
AF/mo	acre-feet per month
AF/yr	acre-feet per year
bgs	below ground surface
cfs	cubic feet per second
gpd	gallons per day
gpm	gallons per minute
gpm/ft ddn	gpm per foot of water level drawdown
mg/L	milligrams per Liter
ND	not detected
sq-ft	square feet
µg/L	micrograms per Liter

INTRODUCTION

BACKGROUND

Crystal Geyser Roxane (CGR) is seeking to expand its production capacity through the construction of a new facility on a portion of the former (and adjoining) Cabin Bar Ranch (CBR) property in the Cartago area in the southern portion of Owens Valley, Inyo County, California. This new facility, which will encompass an area of 34.41 acres within the north-central portion of the ±160-acre CBR property, is proposed to increase the total groundwater production of CGR by 360 acre feet per year (AF/yr). This increased production will occur through the use of three existing wells, located in the western portion of the CBR that will be dedicated to serve the new facility. Another existing CBR well will be used for domestic-supply purposes, but production of groundwater from this well will be minimal.

The reported project development goals are scheduled as follows:

1. Phase I: Construction of a 106,500 square-foot building, including two new (initial) bottling lines.
2. Phase II: Construction of a 92,000 square-foot building, including the two additional bottling lines (a total of 4 new bottling lines for the new facility).
3. Phase III: Construction of a 40,250 square-foot storage building.

This total proposed increase in groundwater production is scheduled to occur with the sequential activation of the bottling lines as noted above: i.e., two new bottling lines in each of the first 2 phases of development. As such, each bottling line is to produce a total of 90 AF/yr of water, and the new facility will eventually entail utilizing a total of 360 AF/yr of groundwater at full project plant capacity. After Phase I construction has been completed, the total amount of groundwater that would be pumped is 180 AF/yr (via the initial two bottling lines); once Phase II construction is completed, the full 360 AF/yr of groundwater will be required by all four bottling lines. Further, at the full plant capacity of 360 AF/yr of groundwater use, a peak demand period is anticipated to occur over a period of three months in the summer of each year; hence, the bulk of production, or approximately 200 AF of groundwater, will be needed during those 3 months of every year. However, it should be noted that this 200 AF represents the maximum amount of groundwater that would be extracted during that 3-month period; the actual amount

that will be pumped could be less than 200 AF. The remaining amount of groundwater production, 160 AF, will be needed during the remaining nine months of each year.

The purposes of this current hydrogeologic evaluation are to review previous work performed by others on CBR and to provide an independent analysis of the hydrogeologic conditions of the area surrounding the proposed facility. Consequently, this report contains the following key elements:

- A summary of the previous work performed by other consultants in the area.
- A description of the basic hydrologic and hydrogeologic conditions in and around the CBR property.
- An assessment of possible impacts of pumping of the onsite wells on the local aquifer systems and on other onsite and offsite wells proximal to the new wells.
- Our preliminary conclusions and recommendations with regard to these issues.

GEOGRAPHIC LOCATION

Figure 1, "Site Location Map," in Appendix 1, which shows the general geographic location of CBR, reveals that the site is located near the southern end of Owens Lake, approximately 20 miles south-southeast of Lone Pine, the nearest large town in Owens Valley, Inyo County, California. The proposed project specifically lies within Section 1 of Township 19 South, Range 36 East of the Mt. Diablo Baseline and Meridian (MDB&M). The approximate GPS coordinates of the proposed 34.41-acre CGR facility on the 600-acre CBR property are: Latitude 33.318^{o}N, Longitude 118.021^{o}W.

Topographically, the southern portion of the Sierra Nevada Mountains occur approximately 3 miles west of the proposed facility and rise from the valley floor at 3,600 ft above mean sea level (msl) near Highway 395, to an elevation of approximately 10,500 ft above msl at the crest of the range (5 miles to the west of the CBR); this crest also serves as the local watershed divide and roughly coincides with the boundary between Inyo and Tulare counties. The total relief between the proposed CBR site and the watershed divide is 6,900 ft. However, Olancha Peak, at an elevation of approximately 12,130 ft above msl and located approximately 6½ miles southwest of the proposed 34.41-acre project, is situated along the southern portion of this watershed divide, thereby resulting is a total relief of 8,530 ft. The climate of the area is generally arid in the vicinity of Owens Lake, with rainfall generally being low along the valley floor. However, at the

higher mountainous elevations and along the watershed divide, rainfall and snowfall occur in much greater amounts.

REGIONAL GEOLOGIC AND GROUNDWATER CONDITIONS

The area lies within the southwestern portion of the Owens Valley Groundwater Basin of the South Lahontan Hydrologic Region, as defined by the California Department of Water Resources (DWR Bulletin 118 Update 2003). This large groundwater basin has not been separated into smaller groundwater subbasins by the DWR.

The overall geologic conditions of the area have been discussed in numerous published and unpublished reports in the past by other researchers and/or consultants, and our report will present only a summary of the local geologic conditions herein. The emphasis of this report will be more on the site-specific nature of the hydrogeologic conditions in the area of CBR.

Figure 2A, "Geologic Map of Region," and its accompanying Figure 2B, "Geology Map Legend," in Appendix 1, show and describe the locations and areal (lateral) extent of the various geologic materials that have been mapped by others to occur at ground surface throughout the region. Also provided on Figure 2A are the property boundaries of CBR and of the subject 34.41-acre project to allow the reader to relate the proposed CBR facility to the mapped geologic conditions in the region. The geologic contacts between the various earth materials shown on Figure 2A have been adapted directly from a map authored by duBray & Moore (1985) for the U.S. Geological Survey (USGS). Many of the geologic units listed on Figure 2B do not occur on Figure 2A, because they pertain to geologic materials that lie beyond the boundaries of the area mapped on Figure 2A herein. The availability and movement of groundwater in the area of the CBR is generally based on the ability of the local earth materials at and beneath the site to store, transmit, and yield groundwater to wells for beneficial use. These local hydrogeologic conditions have been defined in previous studies, and are discussed in greater detail below.

Alluvial/Colluvial Deposits

Basic Geologic Conditions

Nearby alluvial/colluvial deposits consist of two units as shown by the map symbols "Qal" (for alluvium) and "Qcl" (for colluvium) on Figure 2A. Generally, these units represent those sediments deposited during the Holocene geologic age (i.e., those less than 10,000 years old).

The Qal sediments generally consist of unconsolidated, coarse-grained sand and gravel occurring within alluvial fans along the front of the adjoining Sierra Nevada Mountains just west of CBR. Generally the composition of the material in the alluvial fans, being derived from the Sierra Nevada, consist of granitic debris of various particle sizes (sand to boulders) that have been eroded and shed from the west to the east, i.e., by streams draining from the mountains toward the lake. These deposits grade into and become intercalated with finer-grained sand, silt, clay and evaporite deposits towards Owens Lake. The unit labeled as "Qcl" (in the area north of CBR) consists of loose material, chiefly rocks and boulders on the easterly-facing mountain slopes of the Sierra Nevada; the Qcl unit does not occur at or near CBR.

The fine-grained materials within the lacustrine deposits of Owens Lake, especially the evaporite-type sediments were deposited by alternating wetting and drying (evaporation) cycles common to the history of the Owens Lake area. During some prior cycles, for example during the various glaciations of the Pleistocene geologic age, Owens Lake may have been at its greatest lateral extent and vertical depth, and this would have resulted in the deposition of abundant fine-grained material (silt and clay). At other periods, such as at the present, with low rainfall and high evaporation rates, deposition of evaporite-type material (consisting of admixtures of sodium and potassium chlorides, calcium carbonates and borates) would still tend to occur. Indeed, the appearance of "bathtub" rings representing old shorelines can be readily seen on aerial photographs at various locations along the sides of the lake. Further, wells drilled in Owens Lake have provided evidence that at depth there is a lack of evaporite minerals and that the evaporite layers at and near the surface of Owens Lake may only represent dry conditions for the last 2,000 years (Wilkerson et al, 2007). However, since the early-1900s, diversions of surface water to the Los Angeles Aqueduct from the Owens River and other streams along the Sierra Nevada, which would normally have flowed into Owens Lake, have also been partly responsible for the current dry lakebed conditions. Notwithstanding this, it is

likely that the areal extent of Owens Lake would have continued to decline throughout the years and centuries until the next glacial cycle sets in.

Basic Groundwater Conditions

The alluvial sediments mentioned above are recognized to comprise the major aquifer system within the southwestern portion of the Owens Valley Groundwater Basin, as defined by DWR (2003). The alluvial fan deposits comprise the alluvial aquifer systems whereas the near shore silt, clay and evaporite deposits in the area of the CBR comprise the intervening aquitards (aka, zones of low permeability strata). Because CBR lies close to the former shore of Owens Lake, it can be anticipated that some of the deposits underlying the eastern part of the ranch will be more fine-grained than those farther to the west along the main portion of the alluvial fan emanating from the mountain front.

Groundwater recharge to the alluvial aquifer system in the area is generally from infiltration of direct precipitation on the land surface and from infiltration of surface water runoff along local streams and creeks; the basic water source of this runoff is from the melting of the snowfields in the higher elevations within the Sierra Nevada to the west.

Basement Rock Complex

Rock Types

Basement complex rocks (a group of hard crystalline rocks designated by the map symbols Mzms, Mzmv, Kp and Kw on Figure 2A) are extensively exposed at ground surface throughout the topographically-elevated areas of the Sierra Nevada range west of the CBR. The basement rock complex is primarily comprised by the Whitney Granodiorite (denoted by the symbol Kw) and secondarily by the Paradise Granodiorite (Kp); both of these are crystalline igneous rocks of Cretaceous geologic age (see Figure 2B). The relief of the Sierra Nevada range in the area was the result of the continuing uplift and erosion of these rocks along the east side of the range along the Sierra Nevada frontal fault; this has created the rather steep and craggy highland regions observed today.

The genesis and mineralogy of these crystalline rocks in this mountain range are only of limited concern to groundwater conditions; the importance of these rocks lies only in their formation of the Sierra Nevada range (they are highly resistant to erosion, thereby forming the peaks and

crags of the range), in the role they have played in the formation of the alluvial fans and the associated alluvial aquifer systems, and in helping to permit the recharge of rainfall/snowmelt runoff into these aquifer systems.

Groundwater in the basement rocks typically occurs only within open, interconnected and laterally extensive joints and fractures in these rocks. Such fracture systems tend to be very complex in their geometric arrangement. Further, the amount of groundwater in storage in these granitic-type rocks generally tends to be low, and permeability values will tend vary greatly (large open fractures tend to more readily transmit groundwater than smaller, thinner fractures).

In the area of the CBR, the depth to basement rocks is unknown, not having been encountered in any of the maximum ±700-foot deep wells in the region. Further, data from wells drilled in Owens Lake bed reportedly encountered up to several thousand feet of sediments, consisting principally of silts and clay (Wilkerson et al, 2007); this indicates that the basement rock is deeper yet beneath the lake itself. Regardless, because of their relatively great depth in the region, these basement rocks do not constitute a local source of groundwater for wells located at the CBR or CGR properties.

Faulting

There are numerous faults that occur in the area of the CBR, as outlined in the reports by Slemmons et al (2008, 1968), Beanland and Clark (1994), duBray and Moore (1985), and numerous others whose papers are not specifically referred to herein. Indeed, Figure 2A illustrates the approximate locations of high angle normal, left-stepping, en echelon faults that occur within the lower elevations of the Sierra Nevada west of the CBR; these fault structures thus occur within the alluvial fan deposits that extend eastward into the Cartago area from the various canyons of the Sierra Nevada Mountains. This series of faults is considered to belong to the Sierra Nevada Frontal Fault (SNFF) system. Slemmons et al (2008) has termed this zone as the “Walker Lane, Eastern California shear zone or Eastern California seismic zone”. Movement along this zone may have occurred during Late Quaternary geologic time (the Pleistocene age, 2.5 million to 10,000 years ago).

In addition to the SNFF fault system, there is another prominent fault system that is present in the region: it extends from Big Pine and trends southeast through Lone Pine and, ultimately toward Owens Lake. This is known as the Owens Valley Fault Zone (OVFZ). This zone is reportedly manifested by numerous lineaments at ground surface and by scarps primarily that occur east of CBR (these have been attributed to movement that occurred during the Lone Pine earthquake of 1872). However, older traces or lineaments of faults associated with this zone are also shown to occur in the vicinity of CBR. The numerous traces associated with the OVFZ were mapped by Slemmons, et al (2008) with a right-lateral, strike-slip component exhibiting movement primarily within the Holocene geologic age (past 10,000 years).

Even though two fault systems have been delineated in the region, it is conceivable that these two systems are related. That is, the more recent faulting along the OVFZ could be related to movement along the older SNFF. However Slemmons, et al (2008) do show that the styles of faulting between the two fault zones differ in that the SNFF predominantly consists of high angle normal faults whereas the OVFZ is predominately right-lateral, strike slip in nature. The proximal spatial relationship between the two systems may be an indicator of this. Therefore, using terminology presented in Figueroa and Knott (2010), the two systems could be included under the generic term of the Owens Valley Frontal Fault and the CBR would occur entirely within this one zone. This report, however, is an evaluation of local hydrogeologic conditions for the proposed project and it is not within our scope of work to opine on local faulting.

LOCATION OF WATER-SUPPLY WELLS, MONITORING WELLS AND SPRINGS

Figure 3 illustrates the location of existing and historically-known water-supply wells, groundwater monitoring wells, piezometers and springs at and in the vicinity of CBR. Table 1A, “Summary of Available Water-Supply Well Construction Data,” Table 1B, “Summary of Available Monitoring Well Construction Data” and Table 1C, “Piezometer Perforation Intervals” (all in Appendix 1) provide the well construction data that are available for these wells and monitoring points. Figure 3 and the three tables provide the basic information and data that are discussed below in our descriptions and analyses of site-specific conditions and available data.

Not included in Table 1A are the construction details for eight individual water-supply wells (shown as Nos. EW-1 through EW-8 on Figure 3) owned by Elton. Currently, EW-1, EW-2, EW-

4, EW-5, EW-6 and EW-8 are the only existing, albeit inactive, Elton-property wells remaining (EW-8 is located west of Highway 395 and approximately 800 ft southwest of Well CGR-3 and is not shown on the map); Well Nos. EW-3 and EW-7 have been destroyed. Also not included in Table 2A are the construction data for nearby, but offsite, wells in the Cartago area that are owned by private citizens or the CMW. Construction data are not included therein because of the confidential nature of such privately-owned wells, as established by the DWR.

PREVIOUS SITE-SPECIFIC WATER RESOURCE STUDIES

There have been a number of prior studies in the Cartago area in regard to evaluations of the local groundwater resources. A list of the available hydrogeologic studies that were reviewed for this current hydrogeologic evaluation is provided in the references section of this report. The following provides only a summary of the salient issues discussed in each report in regard to the hydrogeologic conditions specifically within and around CBR. However, it should be noted that the summary of previous work provided below is only for background informational purposes; this current study does not provide any independent analyses of the data and information presented in these previous studies, with the exception of the most recent work conducted by Geosyntec Consultants (Geosyntec).

LeRoy Crandall & Associates May 1978 Report

LeRoy Crandall & Associates (LCA) conducted in 1978 what may be the earliest groundwater consulting study conducted on the CBR property. That LCA report discussed the natural occurrence of springs on the property and was prepared for Mr. Albert Elton. That short report had the stated purpose of certifying "…that the springs within Cabin Bar Ranch are natural in origin" and it helped to document the respective locations, probable origin and the quality of the water from those springs. In this report, LCA provided the following key information:

Details on the Geometry and Flow of the Springs

There were five large springs and numerous smaller springs (prior to May, 1978) in the eastern portion of CBR and also extending along a northwesterly trending line that occurs approximately 1000 ft east of Highway 395.

1. Spring No. 1, on the north, was estimated to have a flow of 120 gpm into a diversion reservoir.

2. The four other large springs occur in an area 3000 ft long and from 50 to 100 ft in width. The flow from these springs was being collected in a trench on the eastern side of the marshy area, which was about 6 ft wide to 2 to 4 ft deep, at the time of LCA's visit to the site in May 1978. The water in the trench was 1-foot below ground surface (bgs). Discharge from three of the springs could not be estimated individually but LCA mentioned that the average discharge from these other springs may have been about 75 gpm.
3. At a spring near the southern end of the trench, water was reported to originate in a medium- to coarse-grained layer of sand approximately 2 ft bgs.
4. One of the springs (No. 5, located 100 ft west of spring No. 4) had been previously developed by the installation of 12-inch casing to a depth of 60 ft bgs, which contained perforations at depths from 40 to 60 ft bgs. The artesian flow from the top of this casing was measured at 60 gpm and was being diverted into the nearby trench.
5. Ten (10) other smaller springs were observed in a marshy area of the ranch and were estimated to have flows ranging from 20 to 40 gpm, as reported by the manager of CBR at that time.

Origin of Springs

1. The springs were considered to occur along the outer (eastern) margins of the Cartago Creek alluvial fan that is comprised of coarse–grained alluvial debris derived from the known Cretaceous-aged igneous rocks of the Sierra Nevada. The deposits were described to become progressively finer-grained and less permeable in an easterly direction towards Owens Lake from the mountain front; near the lake, these materials merge with recent fine-grained lake deposits which are known to transmit water at a slow rate.
2. At the time of LCA's visit, Cartago Creek was reportedly flowing at a rate of 2000 gpm.
3. LCA alluded to faulting as a probable cause for the springs and cited a fault study conducted by a previous researcher (Slemmons, 1968) in which a fault was reported to extend about 2000 ft northwestward from Olancha and in the approximate direction of the onsite springs.
4. LCA discussed that if the fault did extend beneath the ranch, it could act as either a barrier or a conduit to groundwater flow.

Water Quality of Springs

1. Water quality data by LCA consisted only of field electrical conductivity (EC) measurements on water samples collected from each of the five main numbered springs. These data revealed that the EC of the samples ranged from 115 to 240 micromhos per centimeter (µmhos/cm). On a sample collected from runoff in Cartago Creek, an EC of only 40 µmhos/cm was obtained. These data were

extrapolated by LCA to reveal a total dissolved solids concentration (TDS) of the creek runoff that would be below the then-maximum contaminant level (MCL) of 500 milligrams per Liter (mg/L). Their EC values for the springs would represent TDS values for these springs of 75 to 156 mg/L, using the 0.65 extrapolation factor provided in the report; their actual calculated TDS values were not presented, however.

2. It was concluded by LCA that the low EC of the Cartago Creek runoff sample, when compared to the EC values for the 5 main springs, revealed that "…some mineralization is occurring as groundwater migrates through alluvial materials toward the ranch springs." Further, it was stated that the EC measurements from Spring No. 1 were "…somewhat superior to water from other springs if a low concentration of dissolved minerals is desired."

Geothermal Surveys Inc. October 1982 Report

Geothermal Surveys Inc. (GSI) performed their initial study on the groundwater resource potential in the area of CBR in 1982. At that time, a field reconnaissance by GSI revealed there were four existing water wells located on the 600-acre CBR property (these wells are shown on Figure 3 but they are not active at this time). Key site-specific, salient observations presented in this 1982 GSI report are as follows:

Geologic Conditions

1. GSI stated that the alluvial deposits were on the order of 800 to 1,400 ft thick.
2. The ranch is underlain chiefly by alluvial deposits (sand and gravel) that have been derived from the erosion of the Sierra Nevada Mountains to the west. Older sedimentary lake bed deposits and volcanic rocks (known to occur along portions of the mountain front) were not anticipated to be present beneath CBR.

Springs

1. CBR is located between two major faults, the Owens Valley fault (on the east) and the Sierra Nevada frontal fault (on the west), but no surface expression of these faults were reported on the property.
2. The springs on the ranch occur along an eroded, northwest-southeast trending fault scarp that was reported to be 3 to 6 ft higher on the west (i.e., the west side represents the upthrown side compared to the east side, or downthrown side, of the fault); the reported springs all occur at the base of this scarp. Further, several minor springs and seepages were reported from the face of the scarp in the southern portion of the ranch.
3. The scarp was reported to trend in a northwest-southeast direction and to be located about 1,100 ft east of Highway 395; this scarp appears to extend from the southern

boundary of the ranch, to a point approximately 850 ft south of the northern boundary near Highway 395.

4. GSI also reported the presence of two additional "apparent" eroded scarps west of Highway 395 (indeed, in a recent Google Earth® view of this area RCS noted there is a single linear feature which could be interpreted as a fault scarp dissected by an abandoned stream – this single scarp may be the two scarps observed by GSI). This scarp is parallel with the one to the east (thus, these faults could be considered to be "en echelon" faults). The vertical displacement is reportedly on the order of 10 ft and the scarps were visible for a distance of 1,500 ft to the north.
5. GSI concluded that the then-existing springs on the CBR property are likely controlled by the faulting on the property.

Groundwater Recharge & Supply

1. GSI estimated a total flow to the "basin" (i.e., within the local tributary watershed) of 4.2 cubic feet per second (cfs), or 1,900 gpm (note that the limits of their "basin" were not well defined in their report).
2. There is a groundwater underflow in the subsurface beneath the western boundary of CBR of about 80% of this water, or 3.4 cfs (1,500 gpm). GSI did state that this value was tentative and subject to revision.
3. The springs were estimated to produce a total of about 800 gpm. GSI did mention that this was the same as the flow estimated in the previous 1978 LCA report. However, in our review of that LCA report, we did not encounter that particular number. Rather, GSI appears to have estimated it on the reported individual flows from each spring in the LCA 1978 report.
4. The existing wells were reported to be artesian and produced on the order a combined total on the order of 100 gpm (a table in the GSI report states 120 gpm), whereas the springs have a total production of approximately 800 gpm. Thus, the total flow from all springs and wells was estimated to be 900 gpm. Based on this, GSI concluded that there was a total of approximately 600 gpm that was not being utilized by the ranch.
5. The groundwater in storage was estimated to be on the order of 66,000 acre-feet (AF) beneath the entire 600-acre CBR property; this estimate assumed an 1,100-foot thickness for the aquifer systems beneath the CBR (this clearly represents both the shallow and deep aquifer systems). Note that the groundwater in storage is the amount of water available at any particular time period and is based on groundwater levels for a specific date
6. GSI mentioned the possibility for the intrusion of saline water from Owens Lake to the east and suggested that further study was needed. Regardless of this, their report stated that development of artesian wells and deeper groundwater appeared to be "good."

GSI did discuss the construction of the four existing water-supply wells and tabulated their construction details. However, only the data were provided, and no definitive conclusions with regard to the relation of well construction to the availability of groundwater from the alluvial sediments were presented. It was recommended that groundwater production by those wells could be increased by pumping methods and that additional well testing would be needed to determine if production rates could be increased.

GSI October 1983 Report

Based on the findings and recommendations presented in their original study, GSI conducted an additional hydrogeological investigation and presented the results in this 1983-dated report. This additional work consisted of performing "geohydrologic" mapping of the springs and performing a "ground temperature survey" of the CBR. The purposes of this 1983 investigation were to**:**

- Select and prioritize future well sites.
- Determine if the onsite faults act as possible barriers to groundwater flow.
- Aid in drainage studies and planning then being performed by another consultant.
- Assess the current condition of the four onsite wells and formulate a rehabilitation and testing program.

This GSI investigation yielded the following results:

Geologic Conditions

GSI added the following additional conclusions with regard to geologic conditions, not mentioned in their previous 1982 report:

1. There are coarse-grained alluvial fan deposits west of Highway 395 whereas finer-grained silts and clays occur east of this highway. Thus, permeability decreases eastward thereby inhibiting groundwater flow; the presence of the northwestward-trending fault across the site further inhibits groundwater flow to the east.
2. The bed of Cartago Creek changes from a west-to-east direction to a sharp southeast direction on the east side of Highway 395. This segment of the creek may represent a continuation of the line of springs which may be fault controlled. Indeed, GSI coined the term "Spring Line fault" in their report.
3. The scarp on the west side of Highway 395 may be a separate fault or an eroded remnant of the Spring Line fault (note that a calculation of the angle of this fault based on their distances and elevations would make the fault a low-angle fault to the

east; GSI did note, however, that detailed mapping of these and related features were planned by others).

Springs and Streamflows

1. Springs and general seepage on the property are associated with the trend of the Spring Line fault and occur within 100 to 200 ft of this fault. Because of this linear relationship, then the fault is an "effective" barrier to easterly groundwater flow.
2. The flow from the springs are collected via a trench located along and adjacent to the east side of the fault. GSI measured the flow at two of the largest springs at rates of 125 and 475 gpm, respectively, and estimated the total flow from all springs and seepages to be 800 gpm; this agreed with a previous LCA 1978 estimate of the total flow of all individual springs.
3. GSI measured the stream flow in Cartago Creek, in May 1983, and estimated a value of approximately 800 gpm.

Geothermal Survey

A geothermal survey was performed to determine potential well sites. Based on this survey, GSI noted the following:

1. East of the fault, there appears to be evaporation of the "shallow water" near ground surface in the tight silt and clay deposits.
2. Their "new" data of the survey in the western portion of the survey conform to the general direction in which groundwater is "expected" to move through the Cartago Creek alluvial fan toward Owens Lake. The trends in their survey indicated that the western fault scarp (i.e., the one west? of Highway 395) may not be a complete barrier to groundwater flow.
3. East of the fault, their data reportedly conform to "what can reasonably be expected to be interpreted as a former extension of Owens Lake." GSI inferred that the area around and east of the fault is a transition zone where coarse-grained sediments from the west grade become interbedded with the fine-grained silt and clay deposits of Owens Lake; thus, they suggest a sedimentary transition zone rather than an abrupt linear change due to faulting. However, such a transitional barrier would tend to result in a gradational contact and with groundwater rising in a broad area, rather than along a narrow band or line.
4. Cartago Creek along that section of the fault was inferred to be an earlier creek alignment now buried by the more recent alluvium.

Based on the data and on other evidence, GSI tentatively concluded that: the other fault does not continue northeast of Highway 395; there is no barrier to groundwater flow in this region;

and flow is greater in some places due to differences in the permeability of the sediments. It appears that GSI still maintained that the Spring Line fault exists east of Highway 395.

Based on the results of their study, GSI provided the following key conclusions:

a. Most new well sites should be located west of the Spring Line fault, and these well would obtain their supply from permeable alluvial fan materials, thereby minimizing the risk of intrusion of saline groundwater from Owens Lake.
b. The fault appears to be a barrier to groundwater flow in most of the southern portion of the ranch and groundwater rises from shallow aquifers along the west side of the fault and flows eastward from the springs.
c. In the northern portion of the ranch, the fault is either a partial barrier to groundwater flow or the fault "dies out" and there is no barrier to groundwater flow.
d. East of the fault, there is a broad transitional zone where groundwater rises "pervasively" to the surface.
e. The prominent scarp west of Highway 395 does not represent a fault scarp but, if it is a scarp, it is not a complete barrier to groundwater flow.
f. The flow in Cartago Creek appears to have not changed significantly from those amounts reported by LCA in 1978.

With regard to the existing wells, no specific conclusions were listed, and only recommendations were provided for a general rehabilitation program for the then-existing wells. However, none of those prior recommendations are directly applicable or pertinent to this current hydrogeologic evaluation.

James M. Montgomery, Consulting Engineers 1989 Report

In early-1989, James M. Montgomery, Consulting Engineers (JMM) provided technical oversight activities on the construction of one new production well (PW-1) and three new groundwater monitoring wells (MW-1, MW-2 and MW-3) on the CBR property. The former Howard Pump Company conducted the actual drilling, construction and testing activities on these wells. These wells (the data from which are discussed in a later section of our report) were drilled for the purpose of conducting an aquifer test (i.e., a pumping test) of new Well PW-1 on the subject property. The JMM project was performed for the Anheuser-Busch Companies (ABC) as part of a proposed development by ABC to produce and deliver as much as 1,100 AF/yr from the former ranch to the ABC brewery in Los Angeles, via the Los Angeles Department of Water and

Power (LADWP) aqueduct. In association with this pumping test of deep onsite Well PW-1, 16 piezometers (P-1 through P-16, which were drilled and constructed in 1988 and early-1989), were also used to monitor water levels (see locations on Figure 3). Note on Table 1A that Well PW-1 is a deep well (perforations are from 200 ft to 650 ft bgs).

Hydrogeologic Conditions

Based on the data from the drilling of these wells, JMM provided the first detailed descriptions and a cross section of the hydrogeologic conditions at CBR. A copy of that JMM-prepared geologic cross section is provided herein as Figure 4, "JMM Geologic Cross Section, Cabin Bar Ranch Area," in Appendix 1. The approximate alignment of that cross section is provided on Figure 3 and is seen to extend beyond the mapped area toward the base of the Sierra Nevada on the west, and to near the western edge of Owens Lake on the east. As such, the cross section is more of a general depiction and interpretation of subsurface geologic conditions as there are no hard subsurface data from drilling west of Well No. PW-1 or east of the monitoring well MW-1. Further, as is clearly seen on Figure 4, JMM did not use or correlate the geophysical electric logs (E-Logs) of these wells for their interpretation of local subsurface conditions.

Nevertheless, as shown on their cross section, JMM delineated three separate aquifer systems beneath the ranch: a "shallow zone," a "principal aquifer" (also referred to as the "production zone," see Figure 4), and a "deep aquifer" zone. In addition, the local earth materials are depicted to be alluvial fan deposits consisting of sand, boulders and cobbles, intercalated with finer-grained Owens Lake bed deposits (consisting of silt, clay and peat). All of these sediments are shown to overlie crystalline basement; the depth to these crystalline rocks is unknown (as denoted by the question marks) because none of the wells in the region were drilled deep enough to encounter these rocks. The "shallow zone" was defined as the upper 150 ft of the sediments beneath CBR and is separated from the "principal aquifer" by low permeability materials at depths ranging from 125 to 150 ft bgs. In the area of the ranch, the thickness of their "principal aquifer" beneath that zone of lower permeability is approximately 90 ft.

JMM also illustrates the Spring Line fault, but is uncertain about the depth and/or angle of the fault (as denoted by the question marks on their cross section); their report does indicate a 1- to 3-foot offset of the deposits on the east side of the fault, based on the height of the fault scarp at

ground surface. JMM also cited a 1989 letter report submitted to them by a consultant, Dr. Kerry Sieh, wherein this professor concluded that this scarp is, indeed, a fault.

With regard to the other possible fault scarp that lies west of Highway 395, JMM mentioned that Dr. Sieh had also concluded that this other observed feature is likely not a fault but rather a delta-front feature "…formed by the interaction of prograding alluvial deposits and the waters of the most recent highstand of Owens Lake." According to this JMM report, this conclusion was supported by the drill hole data between PW-1 and MW-1 which exhibited an apparent lack of any displacement in the sediments between these two wells.

Groundwater Elevations & Flow Direction

Based on water level measurements in May 1989 from the wells and piezometers, JMM was able to determine local groundwater elevations and flow directions. Their data revealed the following key information:

1. Shallow groundwater levels at CBR have seasonal high elevations in February to March and seasonal low elevations in October.
2. Lower than average seasonal precipitation in 1988 may have contributed to a longer-term decline in shallow groundwater levels.
3. Locally, shallow groundwater elevations are affected by surface water elevations (e.g. fluctuations in groundwater levels in a piezometer near the CBR reservoir appeared to correspond to the surface water fluctuation observed in the reservoir).
4. Shallow groundwater flow generally mimics surface topography and was determined to flow in an easterly direction across CBR towards Owens Lake. Figure 5, "JMM Shallow Groundwater Flow Map, Cabin Bar Ranch Area," in Appendix 1, graphically illustrates the elevations and direction of groundwater flow as defined by JMM using water levels monitored on May 9, 1989 (a groundwater gradient calculated by RCS from that groundwater elevation contour map provides a gradient in the range of 0.05 to 0.07 feet per foot).
5. Groundwater flow in the production zone generally flows in a northeasterly direction, as depicted on Figure 6, "JMM Production Zone Groundwater Flow Map, Cabin Bar Ranch Area," in Appendix 1. This direction of groundwater flow in the main production zone on May 9, 1989 was reported by JMM to be consistent with the regional pattern of groundwater flow from the "Cartago/Olancha Creek" recharge area towards the Owens Lake discharge area (note, the RCS calculated gradient in this production zone was on the order of 0.002 ft/ft).

Results of Aquifer Testing

In May 1989, JMM conducted a long-term aquifer test of well PW-1, which was performed over a continuous period of 14 days (338 hours) and at a constant pumping rate of approximately 2800 gpm. This testing was conducted for the main aquifer production zone due to the depths of the perforations in PW-1 (200 ft to 650 ft bgs; see Table 1A). From the data generated during this testing, JMM concluded the following with regard to this aquifer:

1. No major hydraulic or low permeability boundaries (e.g., a fault) were detected within 2,000 ft of PW-1.
2. The aquifer zone was determined to be "leaky" after a permeable boundary was encountered after 300 minutes of pumping.
3. The hydraulic conductivity (H) of the zone was determined to be several orders of magnitude higher in the horizontal direction (H_h) compared to that in the vertical direction H_v). The calculated H_h value was 40 to 60 ft per day (ft/day).
4. The sediments underlying the ranch are highly heterogeneous (variable in grain sizes).
5. The transmissivity (T) value of this main production zone was deemed to be 198,300 gallons per day per foot of aquifer (gpd/ft), whereas aquifer storativity (S) was calculated to be 0.0013 cubic feet per square foot per foot (ft/ft; a dimensionless value).

With regard to the overlying shallow aquifer zone, JMM concluded the following:

1. The response of the shallow zone to pumping of the deeper zone was different than the response of the deep zone to pumping of the shallow zone.
2. Declines of water levels in the shallow zone in response to the pumping test were delayed and were of lesser magnitude compared to the declines observed in water levels for the main production zone.
3. The groundwater gradient for this shallow, 150-foot thick zone (as measured in the shallow piezometers between Highway 395 and the collector ditch at the springs), before and after the pumping, decreased from 0.0073 to 0.0069 ft/ft, respectively. Assuming an H_h value of 50 to 100 ft/day, the T value of the shallow zone was determined to range from 36,600 to 67,300 gpd/ft, according to JMM.

Impact on Local Wells

JMM also measured water levels in offsite wells in the Cartago area during their 14-day test period in 1989 and found that the pumping of their deep well PW-1 did slightly impact water levels in some of those wells. This impact was reported to consist of measured water level

drawdown ranging from 0.09 ft to 3.16 ft in those offsite wells. However, many of the offsite, privately-owned wells were also reportedly pumped intermittently by the various well owners during the pumping test of Well PW-1. It is also clear on the well location map (Figure 3 herein) that many of the offsite wells in Cartago are more closely spaced compared to the distance of PW-1 from these wells. JMM concluded that there was a greater impact from PW-1 to water levels in the deeper offsite wells compared to that in the shallower offsite wells.

Effect of Pumping on Water Quality

JMM also provided a short discussion on the effect of pumping of PW-1 on water quality samples collected from selected wells at CBR. The groundwater samples were tested for a limited number of general mineral and inorganic metal (trace elements) constituents. JMM reported that the results of the testing showed that there were no discernible trends and/or patterns in the data, thereby revealing there were no changes to groundwater quality due to the pumping of PW-1.

Luhdorff & Scalmanini Consulting Engineers, November 1989 Report

Luhdorff & Scalmanini Consulting Engineers (L&S) primarily conducted an analysis of the aquifer testing conducted by JMM for ABC. The analysis of the data was performed by L&S for ABC as part of the ABC proposal to Inyo County to export groundwater from CBR to its Van Nuys brewery in southern California. The proposed amount of groundwater to be exported from CBR was 1,100 AF per year (AF/yr). It should be noted that L&S referenced previous work conducted by GSI (summarized above) and by J.M Lord (1984); a copy of the Lord report was not available to RCS for this evaluation.

Hydrogeologic Conditions

L&S generally accepted the previous findings of GSI (1982 & 1983) with regard to the existence of the two faults at and near the property and did not provide an independent analysis in its report of the hydrogeologic conditions at the site. Their analysis was provided even though newly-acquired data from the construction of one pumping well and three deep groundwater monitoring (for the testing) and 14 piezometers had become available. Further, L&S still maintained the existence of a western fault, even though it had been previously concluded by

Sieh (1989) and JMM (1989) that such a fault did not exist. Nonetheless, with regard to hydrogeologic conditions at CBR, L&S provided the following:

1. There are two aquifer systems beneath the site, a shallower unconfined alluvial aquifer system and a deeper system of confined aquifers that can be treated as a single, but separate, aquifer system. These two aquifer systems are separated by a confining clay layer which restricts, but does not prevent the movement of groundwater between the shallower and deeper systems. Their conclusion concerning two aquifer systems beneath the site, instead of 3 systems reported by prior consultants, was made but it was not documented with the use and/or discussion of E-Logs.
2. Water moves initially into the shallow aquifer system by way of stream loss into the alluvial fan, and then downward into the deeper aquifer system in the western portion of the flow system (that is, flow is west to east, from the Sierra Nevada mountain front toward Owens Lake).
3. Water in the deeper aquifer systems then moves upward into the shallow aquifer system in response to "upward vertical gradients in the eastern portion of the flow system."
4. Estimates of groundwater recharge were summarized from previous studies and listed as being from 2,400 AF/yr (GSI, 1982) to 15,370 AF/yr (Lord, 1984). However, upon examination of the latter estimate, L&S re-calculated and re-estimated the total recharge to be on the order of 6,700 AF/yr.
5. Pumping during the aquifer test of deep well PW-1 caused water level drawdown interference in the onsite piezometers on the order of 0.6 to 0.8 ft, whereas in the monitored offsite wells in the Cartago area, the water level drawdown was up to 3 ft in a well owned by the CMW. Many of these offsite wells are reported to be relatively deep.
6. There was no change in the quality of groundwater during the test, as shown in water samples collected from selected wells; however, L&S did not provide the raw water quality data for any of the sampled wells in their report.
7. Their computer modeling of the results, based on a deep well pumping at a constant rate of 700 gpm and for a one-year continuous period, showed that a drawdown interference of one-foot might occur in privately-owned wells in Cartago and 2 ft in a well owned by CMW.
8. Based on their analyses of the deep aquifer system, L&S determined T values to range between 221,165 gpd/ft and 237,828 gpd/ft; S values ranged from 0.000586 to 0.000787.

Montgomery Watson, July 1993 Draft Environmental Impact Report

In 1993 Montgomery Watson (MW, formerly known as JMM) prepared a draft Environmental Impact Report (EIR) for ABC presenting a more comprehensive discussion of site conditions and addressing the impact of a proposed project that would have produced 1,100 AF/yr of groundwater from the deep aquifer beneath CBR and export it to its Los Angeles brewery; in this EIR the impact focused on local air, water and biological resources. This 1,100 AF/yr of groundwater would be pumped from existing well PW-1 (which was a deep well used in the 1989 pumping test project), and then delivered to the LADWP aqueduct located west of the property. In particular, Section 6 of that EIR specifically addressed the potential impact of the proposed project to the local groundwater resources. Much of the information, data and conclusions in the EIR with regard to hydrogeologic conditions were obtained from the previous 1989 JMM report on the drilling, construction and testing of onsite wells; the aquifer test and the results of that previous work by JMM were incorporated into the EIR.

In this 1993 Draft EIR, MW did discuss the water supply and water use at the ranch and conducted groundwater modeling based on the results of the prior aquifer testing. In this document, MW stated the following:

1. Cartago Creek is a major source of groundwater recharge to CBR, even though surface flows are ephemeral and usually occur only after storm events.
2. MW identified the watershed areas that are “tributary” to the ranch. Figure 7, “Hydrologic Areas of the Cabin Bar Ranch Region,” illustrates these MW-identified areas along with the outlined area of a groundwater model that was also prepared by MW. Shown on this figure are the combined alluvial and bedrock watershed areas for CBR; they encompass a total of 30,580 acres.
3. Percolation of water into the alluvial sediments from direct precipitation on the area was defined by MW to be on the order of 490 AF/yr.
4. Based on its modeling of the area, MW estimated that the total annual recharge to the alluvial sediments in the Cartago area ranged from a low of 2,829 AF/yr to a high of 18,550 AF/yr. MW recommended using a groundwater recharge estimate of 7,478 AF/yr.
5. Total annual recharge to the groundwater reservoir from precipitation and groundwater underflow ranged from 3,319 to 19,040 AF/yr, with an average annual recharge to the area from both sources of 7,000 AF/yr.
6. The total discharge of groundwater from evapotranspiration (10,000 to 18,000 AF/yr), surface outflow from rising water (200 to 1,000 AF/yr), and consumptive water use

from wells adjacent to CBR (at 450 AF/yr) amounted to a total of approximately 10,650 AF/yr to 19,450 AF/yr; groundwater underflow to the east "through" the Spring Line fault was not estimated by MW.

Also, based on its groundwater modeling results, the potential impacts of the proposed production and export of 1,100 AF/yr of groundwater from the deep aquifer at that time were evaluated and included the following:

- *Reduced flow from springs and seeps with the result of less water flowing into the main collector ditch*. MW was able to show through its modeling that there could be a 2% decrease in the flow of the springs. However, they concluded that spring flows would remain unchanged.
- *Lowered water levels in off-site wells with a loss of water supply to adjacent well owners.* At a pumping rate of approximately 700 gpm (needed to supply the then-desired volume of 1100 AF/yr of groundwater) from the deep onsite well PW-1, drawdown in offsite wells was modeled to range from less than one-foot to about 1.5 ft after a three-year period of continuous pumping by PW-1. (However, it should be noted that the current proposed pumping demand for the project is much less than the amount that was modeled by MW for another project that had a much higher groundwater demand. Consequently, the results of that 1993 modeling are not directly applicable to this current evaluation).
- *Lowered water levels in the shallow zone causing an impact to biological habitat*. Groundwater modeling conducted by MW at a pumping rate of 700 gpm reportedly yielded an average long-term water level drawdown of 0.3 to 0.6 ft in the shallow aquifer zone west of the collector ditch, but with this amount of drawdown stabilizing and not increasing after a period of three years. (Again, as noted above, the current proposed pumping demand for the project is much less than this amount that was modeled for another project with a much higher demand.) Consequently, the results of the 1993 modeling by MW are not directly applicable to this current evaluation.
- *A lowered water table or piezometric head resulting in land subsidence through compaction of the sediments.* This was calculated by MW as being on the order of 0.16 to 0.28 ft in the area of the aquifer test wells. However, MW stated that the possibility of observable subsidence outside the area of the aquifer test wells was remote.
- *Reversal of the existing west to east groundwater flow direction which could result in degradation of water quality in the shallow zone and in off-site wells.* MW modeled the possibility of intrusion of saline water from Owens Lake by a possible reversal of the groundwater gradient due to pumping and concluded that the horizontal migration of saline waters due to the pumping of a new well was considered to be "…not significant."

Geosyntec Consultants February 2011 Hydrogeology Report

In 2011, Geosyntec prepared a hydrogeologic investigation report for the currently-proposed CGR project. This 2011 report of the hydrogeologic investigation summarized the drilling and construction of four test holes, TH-1, TH-2, TH-3 & TH-4 in May 2010, three "test" wells, namely CGR-8, CGR-9 and CGR-10 in August 2010, conducting aquifer testing in those wells in September and October 2010, and performing technical evaluation and computer modeling of the resulting test data. From the data analysis, Geosyntec developed a hydrogeologic site conceptual model for the area in the vicinity of the proposed project site. Figure 3 shows the location of these test holes and "test" wells and Table 1A provides the construction parameters for each of the three "test" wells. CGR-8, CGR-9, and CGR-10 were all constructed to depths of 68 to 73 ft. Because their perforations occur at depths of 53 to 68 ft in CGR-8 and at 53 to 73 ft in CGR-9 and CGR-10, all three of these wells are considered to pump groundwater only from the shallow aquifer system beneath the CBR property.

In addition to the three "test" wells, Geosyntec also constructed five additional piezometers, RP-1 through RP-5 in September 2010. The purpose of these piezometers was to monitor changes in water levels during the testing and their construction details are provided on Table 1C.

Geologic Cross Sections

Based on the results of the drilling of their new wells, Geosyntec prepared two geologic cross sections, which incorporated the results from the wells used in the previous JMM (1989) aquifer testing program. Figures 8A and 8B, "Geosyntec Geologic Cross Section A-A'' and "Geosyntec Geologic Cross Section B-B'' respectively, are in Appendix 1 and illustrate the Geosyntec interpretation of the subsurface lithologic data. Their cross sections are provided only for reference; discussions regarding subsurface geologic conditions were presented in the Geosyntec February 2011 report, to which the reader is referred. However, it can be seen that their cross section A-A' shows generally coarse-grained, alluvial-type deposits exist from ground surface to a depth of at least 540 ft at MW-2 on the west and these coarse-grained sediments grade or transition to additional finer-grained strata on the east in the vicinity of the Spring Line fault; peat is even shown near ground surface at/near this fault. There is a prominent fine-grained layer which extends across their cross section from a depth of approximately 550 ft bgs at MW-2 on the west to a depth of about 470 ft near the fault on the east. Geosyntec's cross

section B-B' illustrates the lithology at/near the base of the shallow aquifer system to be a finer-grained silt and clay, (representing the lower aquitard for that zone); it is shown to occur between the depths of 75 and 115 ft bgs. The alignments of these two cross sections are provided on Figure 3; it is notable that Geosyntec, like all prior consultants, did not make use of available E-logs for their interpretation and correlation of strata from one well to another in the subsurface.

With regard to the geologic conditions, Geosyntec generally agreed with the results of work by previous consultants and delineated a three-layer system for their own subsequent groundwater flow modeling: a shallow aquifer zone (Layer 1) to a depth of 75 to 80 ft bgs; a fine-grained, silty/clayey layer (Layer 2) from ±75 to ±115 ft bgs; and a sandy alluvial aquifer layer (Layer 3) beneath Layer 2. In addition, Geosyntec addressed the existence of the springs and attributed these springs to a rise of groundwater at a linear feature that was considered to be either a fault or the approximate contact between coarse-grained sediments on the west and finer-grained sediments of low permeability on the east.

Aquifer Testing

Following construction of the new wells, Geosyntec conducted aquifer testing in each of their 3 new shallow wells; the 3 tested wells were CGR-8, CGR-9 and CGR-10. This test focused on obtaining the aquifer parameters of T and S for the shallow aquifer system and was performed for a continuous period of 72 hours and at a constant pumping rate of 170 gpm in each well. The pumping portion of each test was followed by a 24-hour recovery period. Water levels for each test were measured in selected P-series piezometers and in the newly-installed RP series of piezometers, as well as in each pumping well and selected monitoring wells (see locations on Figure 3). In addition to water level monitoring, groundwater samples were collected from each of the 3 pumping wells and analyzed for California Title 22 drinking water constituents; for additional details regarding this testing, please refer to the Geosyntec February 2011 report.

Geosyntec also tabulated changes in spring flows (for each aquifer test) at spring sites denoted as ES-1, ES-3A, CBS-2, CBS-4, CBS-6 and CBS-9. Their tabulated results revealed the following:

- For the CGR-8 aquifer testing, the springs generally decreased in flow near the end of each test, with the exception of ES-3A which exhibited an increase in flow by

about 11.6 gpm (this was 12.4% higher than the total spring flow prior to testing). The decreases in flow in the other springs ranged from 0.31 to 2.05 gpm (or 7% to 52% of the flow from each of these springs prior to the pumping test). ES-A is the farthest and southernmost spring from CGR-8.

- Springs flows at the end of aquifer testing at CGR-9 also showed decreases, with the exception of ES-1 which exhibited no change. The decreases in flow in the other springs ranged from 0.29 to 3.94 gpm (or 2 to 44% of the total flow from all monitored springs prior to this pumping test). Even though ES-3A is the southernmost spring, this still showed a very slight decrease in flow (2%) in comparison to ES-1 which is closer to the pumping well for this test (CGR-9).
- For CGR-10, the aquifer testing resulting in a decrease in spring flows from CBS-2, CBS-6 and CBS-9 by rates ranging from 0.6 to 4.3 gpm (25 to 47% change from the total pre-test flow). Spring CBS-4 showed no change in flow and ES-1 and ES-3A had a net increase in flow of 0.8 and 4.9 gpm (11.4% and 4.6% change from the pre-test flow), respectively.

Geosyntec Analysis of Test Data

Geosyntec performed an analysis of the test data for the aquifer parameters of T and S, using two mathematical solutions for the recorded drawdown in each of the water level observation wells. The two methods used were the Theis unconfined solution and the Neuman-Witherspoon leaky confined solution. Table 2, "Listing of Transmissivity and Storativity Values" in Appendix 2, identifies the T and S values obtained by Geosyntec from the fitting of the curves to the observation well drawdown data. Review of those values reveals the following:

- The calculated T for each test of CGR-8, CGR-9 and CGR-10 exhibited a wide range of values: from 53,863 gpd/ft to 386,630 gpd/ft. Calculated S values ranged from 0.0002029 to 0.002627. Recall that each well produces groundwater solely from the shallow aquifer.
- Data from piezometers P-2, P-4, P-5, P-11 & P-12 generally yielded much lower T values in comparison to the water level data from the actual wells. These T values ranged from 29,431 gpd/ft to 174,086 gpd/ft. Calculated S values ranged from 0.0000378 to 0.008613.
- The T values are generally higher for each test from the observation well data compared to the values calculated from water level data from the piezometers. It is likely that the T values from the piezometers are generally lower because the piezometers are relatively shallow (typically less than 30 ft deep), and hence they do not fully penetrate the shallow aquifer system.

Groundwater samples were collected by Geosyntec near the end of the pumping portion of each aquifer test. They concluded that none of the detected constituents exceeded its respective MCL and that the results indicated "excellent water quality".

Geosyntec Groundwater Flow Modeling

Based on the results of testing, Geosyntec conducted a three-dimensional groundwater flow model (using Modflow) for the site under four separate pumping scenarios. This was a three-layer model that simulated the springs, pumping wells, observation wells, evapotranspiration (ET), and the fault; the fault line was set as an hydraulic flow barrier for groundwater flow to the east. Values for input into their detailed Modflow model were based on the data and "professional judgment" as reported by Geosyntec. The following summarizes the predictions by Geosyntec for flows in the springs along the Spring Line fault and possible changes in groundwater levels, based on their modeling:

- Geosyntec provided a realistic operational long-term pumping scenario for the proposed new facility, with a total groundwater production of 360 AF/yr in one of their four scenarios (at the end of the proposed 3 phases of facility development). This particular scenario consisted of pumping of the three existing wells (CGR-8, CGR-9 and CGR-10) and a fourth domestic-supply water well (CGR-D) at their typical average rates needed to meet the total water demand each year. Specifically, each of the three existing wells would be pumped continuously at an average rate of 67 gpm, whereas the domestic-supply water well would be pumped at an average rate of 22.4 gpm (a combined pumping rate of 223.4 gpm for all wells). The simulation was performed under steady-state conditions when equilibrium has been achieved (i.e., groundwater levels did not change).
- Based on the above scenario, the model showed that springs flows could be decreased by up to 17.6%. In addition, under this same scenario, groundwater levels were modeled to be slightly lower in two onsite water level monitoring points: P-10 at the northern end of the site (by 0.2 ft); and OW-7U at the southern end of the site (by 0.4 ft).

Geosyntec Consultants April 19, 2012 Letter on Additional Pumping Impact

In response to a request by the Inyo County Planning Department, Geosyntec conducted an additional groundwater modeling (simulation) effort in order to predict only the potential impact on nearby springs (along the Spring Line fault) that might be induced by short-term pumping of the onsite wells at a maximum total demand of 200 AF over a 90-day period of continuous pumping (i.e., during the summer months). For this short-term high pumping rate scenario, the

maximum combined pumping rate for onsite wells was set at 500 gpm; this included 150 gpm from each of the three existing wells (CGR-8, CGR-9 and CGR-10), and 50 gpm from the domestic well (CGR-D). The same model parameters used in the February 2011 Geosyntec report, were used in this more recent analysis. The results of this simulation revealed that the total flow to the springs would be reduced by 39%.

HYDROGEOLOGIC ANALYSIS

GEOLOGIC CONDITIONS

Based on the geologic logs of the boreholes for new water wells, test wells and groundwater monitoring wells performed by others, and on available electric logs (E-logs), RCS independently analyzed those data and stratigraphically correlated the resistivity signatures shown on the available E-logs in order to independently evaluate subsurface geologic conditions beneath the CBR and CGR properties. Plates 1 and 2, "RCS Electric Log Correlation Section A-A'" and "RCS Electric Log Correlation Section B-B'"; respectively, (in Appendix 3) graphically illustrate the results of our correlation of E-logs, whereas Figure 3 shows the alignment of these two correlation sections.

RCS Correlation Section A-A'

This cross section extends from CGR-10 on the northwest to CGR-3 on the southeast. With the exception of MW-1, the cross section is based primarily on the geologic logs and E-logs from the shallow groundwater monitoring wells and water-supply wells (see Table 1A). Thus, this cross section illustrates the correlation of 2 key marker beds shown on the E-logs: a beige-colored unit known to be a coarse-grained unit at the base of the shallower aquifer zone; and a gray-colored unit recognized to be a fine-grained aquifer just below the base of the shallow aquifer zone. The typical depths of the wells on this section range from 78 ft on the northern end of the cross section line, to 83 ft on the southern end of the section line. At/near the bottom (base) of this shallow aquifer zone, as mentioned above, is a prominent fine- to coarse-grained sand and gravel layer (shown as the beige color on Section A-A', between the depths of 60 ft bgs and 82 ft bgs), which is easily recognized on the E-Logs by a significant and abrupt increase in the resistivity in that depth interval. The fine-grained, silty and clayey unit is shown in a gray color just below this sand/gravel layer. This unit represents the aquitard between the upper shallower aquifer unit (from which CGR wells -8, -9 and -10 will obtain their water supply) and deeper, undifferentiated aquifer units (from which those wells will not obtain their supply).

RCS Correlation Section B-B'

This cross section begins just west of PW-1 on the west, extends across the Spring Line fault, and terminates near an offsite LADWP monitoring well (DWP-7), located on Owens Lake bed approximately 8,300 ft northeast of PW-1. Because of the large lateral distance between PW-1 and DWP-7, the eastern side of this cross section has been artificially shortened to fit onto a shorter page width.

In this cross section, the depth to the base of the shallow aquifer zone on the west side of the fault is seen to range from approximately 120 ft bgs at PW-1, to 80 ft bgs at MW-1. However, on the east side of the fault, lithologic data and E-Log data are lacking and, thus, better definition of the stratigraphy in this area is not possible. As a result, we have grouped the sediments on the east side of the fault into a unit termed "undifferentiated Owens Lake lacustrine deposits" and these deposits may not be correlative to deposits on the west side of the fault. Also, for the purposes of this report, the amount of vertical displacement (offset) of the stratigraphic layers across the Spring Line fault has been assumed to be on the order of 50 ft, although a better estimate for the actual amount of vertical offset cannot be made due to the lack of data on the east side of that fault.

Relation of Cross Sections to Previous Hydrogeologic Studies.

In previous studies, JMM, (1989) and Montgomery Watson, (MW, 1993), described three separate aquifer systems beneath the Ranch: a shallow zone, a principal aquifer (i.e., the production zone), and a deep aquifer zone. The shallow zone was defined by JMM as being within the upper 150 ft of the sediments and this zone was separated from a deeper "principal aquifer" (also referred to as the "production zone"), by lower permeability materials between the depths of 125 to 150 ft bgs (see Figure 4). The thickness of the "principal aquifer" was cited by JMM to be 90 ft. An ever deeper zone, called the "deep aquifer", was interpreted by JMM to occur beneath the "principal aquifer."

The cross sections provided herein do not correlate directly to those aquifer systems as previously outlined by (JMM, 1989; and MW, 1993), principally because the focus of this current study was on the upper alluvial aquifer system penetrated by the three CGR wells that are to be used in the future to meet the groundwater demand of the proposed project. Thus, in this

regard our geologic cross sections show a shallow aquifer zone that corresponds to and generally agrees with that proposed by Geosyntec (2011). Further, the "deeper aquifer" systems, illustrated by the RCS cross sections, have not been individually differentiated with regard to the previous studies and, thus, they may encompass the lower portion of the JMM-defined "shallow aquifer." As such, the lower portion of the JMM-defined "shallow aquifer" may be hydraulically connected to that shallow aquifer described in this current study.

FIELD RECONNAISSANCE

A field reconnaissance of CBR and the surrounding region was performed by two RCS ground-water geologists on December 6, 2011. The purpose of this field reconnaissance was to view the locations of onsite and offsite water-supply wells at and proximal to CBR. In addition to this, RCS met with CGR representatives with the objective of obtaining basic information on the plant operations, water usage and the locations of wells at the current CGR facility. During this field reconnaissance and meeting, the following data and information were obtained:

1. Initially, a visit to Cartago Creek was performed to assess the existence of what was reported by others to be a well on the south side of the creek channel, approximately 300 ft west of Highway 395. The sediments in the bottom of the creek channel from this location to the culvert on the west side of the highway were observed to have been stained with a dark reddish brown color which was estimated, based on visual observation at that time, to be an iron oxide/oxy-hydroxide coating. The source of this staining was observed to emanate from a pipe that exited near the top of the slope on the south side of the channel. This pipe, although partially buried, was then traced approximately 1000 ft to the south, to the location of PW-1; this well was formerly used during the JMM 1989 aquifer testing for ABC (see JMM 1989 report summary above). GCR staff reported that this well has not been pumped for several years. The staining observed along the dry channel of Cartago Creek is due to the presence of iron and/or manganese in the groundwater pumped from PW-1.
2. What appeared to be a well, near the outlet of the discharge line from PW-1 on the side of the creek, was actually a metal standpipe protecting a switching mechanism; the purpose of this switching mechanism was reported by GCR personnel to be for diversion of water from PW-1 into a pipeline leading to the LADWP aqueduct. Photographs (Nos. 4-1 through 4-7) of this standpipe and PW-1 are provided in Appendix 4.
3. The wells at the GCR facility were visited to assess their above-ground wellhead conditions. Currently, Well Nos. CGR-2 and CGR-7 are active facility production wells for the current bottling facility, whereas CGR-3 and CGR-4 are used only for domestic purposes at the existing plant, as reported by CGR staff. None of the wells

observed at the plant at the time of our visit were equipped with a flow meter, although the wells did have sounding tubes in which water level soundings could be made. The active plant wells (CGR-2 and CGR-7) are equipped with pressure transducers that automatically record water levels on a regular basis. Measurements made by RCS using a manual electric tape water level sounder yielded a SWL of 13.43 ft below top of casing (btc, approximately 1-foot above grade) in CGR-3, and a SWL of 7.06 ft btc (approximately 1.8 ft above grade) in CGR-4. These depths are very similar to those monitored previously in the same two wells by CGR personnel.

4. A visit to each of the 3 existing wells to be used for the proposed 34.41-acre facility (CGR-8, CGR-9, CGR-10) revealed that each of these well casings consists of stainless steel. Each wellhead had a locked cap access, and the top of the casing extended approximately 3 ft above ground surface and was surrounded by a 4-foot by 4-foot, square cement pad. There were no pumps in the wells and/or any other above ground structures or piping present at the time of the site visit. It was apparent that none of these 3 wells has ever been pumped to supply groundwater for any onsite purpose, other than during the pumping tests by Geosyntec in 2010.

RAINFALL DATA

The climate in the region along the floor of Owens Valley tends to be dry during the hot summer months but cool and wet during the winter months. In order to evaluate the effect of rainfall on groundwater levels on wells, rainfall trends based on raingage data are needed because these water levels are influenced by percolation of direct precipitation on the land surface and by the recharge from streams and creeks (e.g. Cartago Creek). In order to assess the impact of recharge by these streams, rain data and snowfall data are needed on the west side of the valley and along the crest of the nearby Sierra Nevada, neither of which are available. Instead, based on our research of rainfall data, there were available historic rainfall data from the closest raingage to the site, which is located on the east side of Owens Valley at Haiwee Reservoir (raingage No. 043710); this gage is approximately 13 miles southeast of the project.

This Haiwee raingage serves as an analogue for rainfall in the area of CBR, because this gage is located at the same approximate elevation (3,830 ft above msl) as CBR (at 3,610 ft above msl) and, hence, direct rainfall on the land surface at each location should be similar in magnitude. Thus, the trends seen in the Haiwee raingage data can be considered to generally mimic those patterns with regard to rainfall and snowfall/snowmelt on the west side of the valley. The difference between the two locations is that there is very little rainfall/snowmelt runoff along the streams which drain the mountains on the east side of the valley (this area is considerably drier), compared to the

west side of the valley in the area of CBR which benefits from a much greater amount of rainfall/snowmelt runoff from the Sierra Nevada to the west.

The data from the Haiwee raingage were obtained on a calendar year basis from the Western Regional Climate Center (WRCC) of the Desert Research Institute (DRI) in Reno, Nevada for the period 1923 through 2011. Figure 9A, "Yearly Rainfall Totals" and Figure 9B, "Accumulated Departure of Rainfall Graph" graphically provide the annual rainfall totals as a bar chart and a graph of accumulated departure for annual rainfall from the long-term average annual rainfall, respectively, for the period of record. The purposes of these two graphs are to define the long-term average annual rainfall at the gage, to illustrate long-term water level trends (changes) in rainfall in the region, and to provide a relative means of comparing the trend in rainfall to changes in water levels for various wells in the area of CBR.

Figures 9A and 9B provide the following information:

- Annual rainfall totals on Figure 9A have ranged from a low of 0.76 inches in 2007, to a high of 17.27 inches in 1983. The long-term average annual rainfall for the period of record (1923 through 2011) is 6.16 inches.
- The highest rainfall totals (totals equal to or greater than the sample standard deviation added to the average annual rainfall total for the period of record (9.8 inches) occurred during the years 1931, 1943, 1945, 1952, 1963, 1969, 1974, 1976, 1978, 1980, 1983 (the historic high), 1984, 1992, 1995, 2005 and 2010. These years represent relatively "wet" years, for the period of record.
- The lowest rainfall totals (lower than one standard deviation at or under the average, or a value of 2.9 inches occurred during the years 1923 to 1925, 1928 & 1929, 1931 & 1932, 1942, 1947 & 1948, 1950, 1953, 1964, 1972, 1989 & 1990, 2007 (historic low) and 2009; these years represent relatively "dry" years in the area.
- The accumulated rainfall departure values on Figure 9B are plotted relative to the long-term average annual rainfall of 6.16 inches for the 1923 through 2011 period of available data. The zero line on the accumulated departure graph represents the long-term average annual rainfall. The purpose of the accumulated departure curve is to illustrate temporal trends in the rainfall data. Points plotted above that zero line represent years of excess precipitation, whereas points plotted below that line represent years of deficient precipitation, relative to the long-term mean value. For example, the slopes of the curves declining to the right-hand side of the graph (negative slopes) indicate those years where accumulative precipitation totals are declining, relative to the long-term average; these declining trends represent general periods of deficient rainfall or a "typical dry period." Conversely, those portions of the curve ascending towards the right-hand side of the graph (positive slopes) indicate years where accumulative precipitation totals are increasing, relative to the long-term mean

value; in essence, these rising trends represent general periods of increased rainfall, or a "typical wet period." Typical "wet" and "dry" periods are denoted on Figure 9B.

- Some of the accumulated departure totals, calculated for those time periods showing deficient precipitation, may represent a year or two of rainfall that has been well above the mean value. For example, the year of 1983, the highest on record, had an extremely high rainfall total (17.27 inches), even though the accumulated rainfall departure point for this year was still well below the zero line. Thus, the high amount of rainfall during that one year was not enough to raise the accumulated departure curve to a point above the zero line, since accumulated departure totals prior to 1983 were all showing deficient values relative to the long-term average value. Rainfall totals from 1983 to 2005 were not adequate to raise the totals above the zero line.
- Figure 9B shows a series of years when precipitation was declining (a hydrologically dry period or drought) relative to the long-term mean value. There was a long period of decline (or drought) between 1942 and 1961, with a shorter-term wet period of only 4 years superimposed on the longer period. However, starting in 1962 and continuing through to 1984 rainfall was generally increasing (hydrologically, a "wet" period), with a few intervening dry periods of only a few years, as noted by the curve ascending to the right on the graph. Between 1984 and 2004 (20-year duration) another hydrologically "wet" period is seen, with some intervening "dry" periods of a few years in duration, but this period exhibits a slightly lower slope indicating that there were more years with rainfall below the average than the previous period wet period. However, starting in 2005 rainfall totals were not adequate to continue the previously hydrological wet trend and showed a significant decline between 2005 and 2009 (a shorter term dry period), after which rainfall totals were sufficient to again raise levels above the zero line. However, no prediction can be made to determine if rainfall totals will be either increasing or decreasing in the future.

Figure 9B appears to illustrate that for many years following 1961 and generally continuing through to 2010, rainfall has generally been slightly elevated and on the rise, relative to the long-term average annual value of 6.16 inches. This could indicate the rainfall was sufficient to provide increasing amounts of recharge to the alluvial aquifer systems in the southern portion of the Owens Valley; recharge amounts have been assessed by other consultants since 1982 on an acre-foot per year basis (GSI, L&S, and JMM).

STATIC WATER LEVEL DATA AND HYDROGRAPHS

It is generally useful to analyze available historic SWL data in order to discern possible long-term changes in those levels over time and to determine groundwater flow directions (when available SWL data are used in conjunction with wellhead elevations). Long-term accumulations of water level data for individual wells are the most useful records because these records can be used to

determine the historically highest and lowest SWLs over time, and to help define possible trends in water levels both seasonally and from year to year over time. Furthermore, current SWLs can then be compared to those that have been recorded over time in specific wells, and, also, SWL comparisons can be made to different wells and to wells in different parts of a geographic area (such as in the vicinity of CGR).

RCS obtained available SWL data from various monitoring sites within and proximal to the CBR and CGR properties. Specifically, these data were obtained from Geosyntec for piezometers and groundwater monitoring wells for the 1996 through January 2012 time period. Using these SWL data, RCS created hydrographs of the SWLs versus time for the various monitoring sites with available data. The resulting water level hydrographs for these wells are provided in Appendix 5, as Figures 5-1 through 5-16. Between 1996 and 2000, the SWLs were collected on a more frequent monthly basis, but, after this time, SWLs were measured and recorded less frequently at each site. Superimposed on each of these hydrographs is a plot of the monthly accumulated departure of rainfall for the 1995 through 2012 time period, as adapted from Figure 9-B. The purpose of this superimposed plot is to permit analysis of possible trends in the SWLs to trends in monthly rainfall patterns.

Figures 5-1 through 5-16 reveal the following with regard to SWLs and their accompanying trends:

1. Figures 5-1 through 5-14 illustrate the depths to and changes in SWLs over time in each of the shallow piezometers for which data were available. The water levels on these graphs are plotted versus the accumulated rainfall departure by month for the Haiwee rain gage. The series of graphs show that SWLs have ranged from ground surface (i.e. flowing artesian conditions in P-15) to a depth of 24 ft bgs. There appears to be no correlation between the actual depths of the piezometers and their actual SWL depths over time, as expected, because all of these piezometers lie within the shallow aquifer system.
2. This group of plots also show that SWLs may have declined slightly over time in these piezometers (perhaps by 1 or 2 ft). The accumulated monthly rainfall departure curve appears to show that during this entire time period, overall monthly rainfall has also been declining, even though rainfall data exhibited seasonal high amounts in the early portion of each year and seasonal low amounts towards the end of each year. The intervening high water level periods show a correspondence to those periods where rainfall was rising and declining on a seasonal basis. Further, the overall trend in the accumulated departure of monthly rainfall curve also shows a declining trend between 1996 and 2012 and, thus, provides evidence that the changes in SWLs in the

piezometers are related principally to changes in rainfall (and the resulting recharge) over time.

For example, between 1996 and 2000, each graph shows the seasonal changes in water levels with increasingly shallower (higher) water levels during the early- to mid-portion of each year and increasingly deeper water levels in the later portion of each year. In comparison, the accumulated monthly rainfall departure curve shows the corresponding pattern of elevated percentages in the beginning of each year, gradually declining to seasonally low percentages by the middle to end of each year. The SWL and rainfall patterns generally mimic each other, thereby indicating that changes in water levels are the direct result of and influenced principally by rainfall patterns.

3. Figure 5-15 and 5-16 illustrate SWLs and their trends in two ±600-foot deep groundwater monitoring wells, MW-2 and MW-3. These monitoring wells are perforated much deeper than each of the piezometers that, as a group, only extend to maximum depths of 38 ft bgs. Monitoring wells MW-2 and MW-3 have perforations ranging between 165 ft and 615 ft bgs.

   The hydrographs show that SWLs in MW-2 ranged between 7 ft and 18 ft bgs and that these SWLs are much shallower than those recorded for MW-3; SWLs in MW-3 generally ranged between 45 and 57 ft (with a very shallow point at 16.5 ft in early-1998 – possible error in measurement?). The difference in the SWLs between these 2 deep monitoring wells could be attributed to their different depths of perforations (MW-3 has deeper perforations) and the difference in elevation between the two wells (MW-3 is slightly higher in elevation by approximately 40 ft).

   Regardless, the SWLs in these two monitoring wells illustrate the same declining trends in SWLs and the same correspondence between their levels and the accumulated departure of monthly rainfall totals for the 1996 through 2011 time period. This provides additional evidence that even the deeper aquifer systems are recharged by rainfall.

CALCULATION OF GROUNDWATER IN STORAGE

RCS has performed a preliminary calculation of the theoretical amount of groundwater in storage in order to estimate the volume of groundwater that could be available in the shallow aquifer system at any one point in time. This calculation would then allow a comparison of the total amount of pumping to the entire amount of groundwater that could be available to the onsite CBR wells.

To calculate the volume of groundwater in storage, the following formula was used:

$S_{gw} = (Ab)S_y$, where:

S_{gw} = volume of groundwater in storage, in units of cubic feet.

A = ground surface area of the aquifer system being considered, in units of square feet, (ft^2) which is equal to surface width (ft) times surface length (ft) of the

property. As a conservative estimate, only that portion of the CBR overlying the shallow alluvial aquifer system that lies west of the Spring Line fault was used because groundwater east of the fault is generally considered to be not useable for water-supply purposes. The surface area of CBR west of this fault was calculated to be approximately 3,560,000 square feet (ft^2) or 82 acres.

b = saturated thickness of potentially water-bearing sediments, in units of ft. In this case, the saturated thickness of the shallow aquifer was assigned a value of 70 ft using late-2011 depths to water.

S_y = specific yield of the shallow sediments, which is that amount of water that can be drained from the aquifer system by gravity. A conservation estimate of 20% (0.20) was used for this parameter.

The resulting calculations yield a value for the total groundwater in storage of 49,840,000 cubic feet (ft^3). Converting this to acre feet (AF) of water yields a value of 1,148 AF; this represents the approximate volume of groundwater currently in storage in the shallow aquifer system beneath that portion of CBR west of the Spring Line fault. Thus, the total amount of water (360 AF/yr) that is to be pumped by CGR-8, CGR-9 and CGR-10 at the full capacity of the new plant in the future is approximately 31% of the total amount of groundwater currently in storage in the shallow aquifer system for the area bounded by CBR property lines and the Spring Line fault. However, the amount that is planned to be pumped will be continuously replenished by surface water recharging the shallow aquifer system, and by groundwater underflow from the west. L&S (1989) calculated an annual volume of groundwater recharge of 6,700 AF/yr and MW (1993) calculated an annual volume of groundwater recharge of 7,500 AF/yr to the entire shallow and deep aquifer systems. Thus, it appears that the planned amounts of groundwater pumping will be sufficiently replenished on an average annual basis.

CALCULATION OF GROUNDWATER UNDERFLOW

Introduction

A preliminary calculation of the groundwater underflow within the shallow aquifer system in the area of the three subject CGR wells was performed for this project. Such an underflow calculation involves determining the cross sectional area of saturated flow along a vertical plane that is perpendicular to the known groundwater elevation contours; this is because groundwater is known to flow in a direction that is perpendicular to such elevation contours.

The vertical plane used herein is oriented generally north-south and extends from the Spring Line fault on the north to a point about 1800 ft west of CGR Well No. 8, the most southerly of the 3 wells proposed to be pumped to meet the future groundwater demands of the proposed plant.

The calculation of groundwater underflow was performed using the relation: Q = KiA, where the parameters are defined as follows:

- Q = the amount of groundwater underflow in the shallow aquifer system, in gallons per day (gpd).
- K = the hydraulic conductivity of the sediments, in gallons per day per square foot (gpd/ft^2) through which the flow occurs; the magnitude of this parameter was estimated based on aquifer testing results performed by Geosyntec in their February 2011 report.
- i = the hydraulic gradient in feet per foot (ft/ft), which is the slope of the water table in this vertical plane and is based on available water level data from selected piezometers in the area of the proposed project. Four different i values were calculated: one under fall conditions, where water table gradients generally have a low value due to reduced rainfall and recharge from the Sierra Nevada; a second for spring conditions, where water table gradients tend to be steeper than in summer with increased recharge from the Sierra Nevada due to increased rainfall and the melting of snowfall from the winter months; a third under dry summer conditions, when recharge generally starts to decline; and a fourth to represent the most recent conditions.
- A = the cross sectional area through a saturated section of the shallow aquifer system, in square feet (ft^2). In this case, the saturated thickness of this system (b) for a traverse through the alluvium that is perpendicular to the direction of the groundwater flow (i).

Derivation of the Individual Parameters

Evaluation of each of the parameters listed above was based on available data obtained from the testing conducted by Geosyntec in October 2010 for their report dated February 2011. The following summarizes our evaluation of each of the above-listed parameters:

Hydraulic Conductivity (K): a K value was obtained from the Geosyntec analysis of the results of their October 2010 aquifer testing performed on CGR Well No. 10, which used CGR Well Nos. 8 and 9 as additional water level observation wells. In those results, T values were modeled using a number of analytical solutions for the water level data from each well. Review of those results revealed that T values in the three wells tested ranged from a low of 94,190 gpd per foot of saturated aquifer thickness (gpd/ft) to 386,600 gpd/ft. Their results exhibited a great degree of variability in the calculated T values, depending upon which CGR well was being pumped and on the solution they

used to calculate T; such variations could indicate anisotropic aquifer conditions. However, for our evaluation of groundwater underflow across the area, and because of the short cross sectional area being used to calculate this underflow, an average T value of 250,000 gpd/ft was used; this value is considered to represent a conservative estimate for T. Converting this T value to K, by dividing T by b [the saturated aquifer thickness (in this case, 70 ft)], yields a K value of 3,581 gpd/ft^2 for the shallow aquifer system.

Groundwater Gradient (i): this value was calculated using three of the shallow piezometers for each of four time periods: Fall (October) 2010, Spring (April) 2011, Summer (July) 2011, and the most recent Winter (January) 2012 period. For each of these periods, the groundwater elevations at each of the three selected piezometer were plotted on a basemap, and the direction and gradient of groundwater flow were determined through the use of the classical three-point solution, typically used by hydrogeologists for a sloping water surface. Based on this solution for these four time periods, the water table in the area of these three piezometers had a groundwater gradient ranging from 0.0025 to 0.0030; the average of the four values was calculated to be 0.00274. For each time period the groundwater flow direction in the shallow aquifer was generally to the east-southeast.

Cross Sectional Area (A): the value for the area was based on the distance between the Spring Line fault and a point 1,800 ft south of this fault along a line through CGR-10. This line was set as perpendicular to the groundwater flow direction and represents the length of the cross sectional area. The saturated thickness of the shallow aquifer, denoted by the letter b, along this line, changes slightly in both summer and spring, because SWLs are known to change seasonally. From the RCS correlation section A-A', the saturated thickness is on the order of 70 ft. For the calculation, the saturated thickness was held constant and the cross-sectional area A was calculated to be 126,000 ft^2 (70 ft thick times 1,800 ft long).

Thus, in review, for our calculation of groundwater underflow (Q, in gpd) the following values were calculated for use in regard to our later calculations regarding the potential impact of pumping of the subject wells on other nearby wells:

Q = KiA, where:

K = 3,581 gpd/ft^2
i = 0.002 to 0.003

A = 126,000 ft^2

Hence, Q=1.13 to 1.35M gallons per day, or about 3.5 to 4.1 AF/day, or ±1,280 to 1,500 AF/yr.

Calculation of Underflow & Comparison to Total Proposed Production

The groundwater underflow through the area of the three wells (1.13 to 1.35) million gpd converts to a total yearly volume of underflow through the shallow aquifer ranging from 1,310 AF/yr to 1,520 AF/yr (1 AF = 325,841 gallons). At full capacity in the future, wells CGR-8, CGR-9, and CGR-10 are proposed to be pumping a total of 360 AF/yr; this total production amount represents approximately 28% to 24%, respectively, of the total annual amount of groundwater underflow within only the shallow alluvial section through that area of the proposed project and the three proposed water-supply wells.

Leakage of the deeper aquifer systems into the shallow aquifer systems was described as occurring beneath the site by previous investigators (JMM, 1989, Luhdorff & Scalmanini, 1989, Geosyntec, 2011). Thus the above calculated values of underflow do not include any/all additional underflow in those deeper aquifer systems that lie below the shallow aquifer system; these deeper aquifer system(s) have their own (and additional) component of groundwater underflow, that underflow will not be utilized by the three wells in the future. Additionally, the groundwater in this deeper system has the ability to recharge and/or replenish the groundwater pumped from the shallow aquifer zone, via leakage. The total amount of this leakage on a yearly basis and the degree of impact of this leakage to the shallow aquifer system cannot be currently ascertained with any certainty. Thus, the ranges in the amount of groundwater underflow calculated above represents a minimum range of values.

It should be noted that in the vicinity of these three wells, there are no other onsite wells pumping from the shallow aquifer. However, approximately 550 ft southeast of CGR-8 are several wells (CGR-4, CGR-2, CGR-3, CGR-5, CGR-6 and CGR-7) which comprise the potential water-supply sources for the existing CGR facility. Of these wells CGR-2, CGR-3, CGR4 and CGR-7 are active and are currently pumped by the existing facility to meet its total annual water supply. Nonetheless, because these wells are located on CGR property to the south, then they can also be considered in the calculations, as they generally obtain their water supply from the same shallow alluvial aquifer system as does CGR-8, CGR-9 and CGR-10.

Further, several other additional privately-owned wells are known to have been historically constructed in the southern portion of the CGR facility, namely EW-1, EW-2, EW-4, EW-5, EW-6

and EW-8 (the latter well is not shown in Figure 3); However, none of these wells is active at this time.

Summary of Total Proposed and Existing Groundwater Production

It has been established that the total groundwater volume to be pumped for the proposed production operations at the 34.41-acre site is 360 AF/yr at full plant capacity in the future. However, the existing CGR facility also obtains its supply from the shallow aquifer system and wells CGR-2 and CGR-7, in particular, are screened between the depths of 51 and 70 ft and, thus, obtain their supply entirely from the same system as do the three subject wells on the adjacent DBR property, namely wells CGR-8, CGR-9 and CGR-10. Consequently, the demand from the existing production wells must also be considered in determining the impact of the future production on groundwater underflow. Based on conversations with Geosyntec Staff (Geosyntec, 2011) current plant demand at the existing facility may be on the order of 275 to 325 AF/yr (the active wells at the existing CGR plant are not metered). Using the reported maximum value in this range and adding in the proposed production of 360 AF/yr for the proposed facility yields a total combined production of 685 AF/yr for all wells to be pumped by CGR, at full plant capacity, in the future.

In order to determine the impact of producing 685 AF/yr of groundwater on the underflow through the entire area from CGR-10 on CBR southward to CGR-2 on the existing CGR plant site, then the total groundwater underflow toward both properties must also be calculated. Thus, the line of cross- sectional flow mentioned above must be lengthened farther south to a point west of CGR-2. This results in a total length of section of 2200 ft resulting in a total cross sectional area (A) value of 154,000 ft^2. Using the same above values for K and i as in the previous calculations for the underflow solely to the CBR property, then the total amount of underflow through this larger cross sectional area ranges approximately from 1,600 to 1,850 AF/yr. Thus, the total amount of groundwater (685 AF/yr) that is to be produced by the existing facility and the proposed production operations at full plant capacity in the future would range from 43% to 37%, respectively, of the total estimated underflow in the shallow aquifer system across the region.

In comparison, L&S (1989) calculated the annual volume of groundwater recharge to be 6,700 AF/yr for both the shallow and deep aquifer systems; the total underflow to the shallow aquifer systems beneath the CBR and CGR properties, as shown above, is in the range of 1600 to 1850 AF/yr.

IMPACT OF PUMPING BY OTHER AGENCIES

There are other agencies and/or entities that are currently pumping and/or may potentially pump from the Owens Valley aquifer systems in the region and that may pose a potential cumulative impact, when considered in conjunction with the groundwater extractions planned for the proposed water production facility. One of these agencies is the LADWP, which has a few current and future projects which could potentially cause an impact to groundwater resources at CBR. These LAPD projects include:

- The Owens Lake Dust Mitigation Program
- Southern Owens Valley Solar Ranch Project
- Lower Owens River Project

In addition to LADWP, the other agencies and/or entities that could also potentially impact the water resources at CBR include:

- Dirty Socks Duck Club
- Rio Tinto Trona Mine
- Caltrans Highway 395 – Olancha/Cartago Four-Lane Project
- CMW which supplies local groundwater to nearby Cartago residences (just north of the proposed project area) that do not have their own domestic water wells.
- Various residences that have their own domestic water well for supply (see Figure 3).

LADWP Owens Lake Dust Mitigation Program

LADWP is currently pumping from the Owens Lake bed in order to suppress dust that will become airborne during windy days. The LADWP operates this program from its headquarters at an old soda plant on the west shore of Owens Lake (Jessey & Reynolds, 2009). Prior to LADWP using the site for its operations, brine from wells near Cartago on the west side of Owens Lake was piped to the ponds at this soda plant for concentration of borate, carbonate and sulfate- type minerals by evaporation.

Currently LADWP's closest well (No. 7) to CBR is located within the Owens Lake bed approximately one mile northeast of the proposed facility. Because of its distance and because the Spring Line fault separates Owens Lake bed from the shallow aquifer system beneath the subject property, from which the facility wells will be obtaining their supply, then it is highly unlikely that pumping of this, or any other LADWP well used for dust suppression on the lake bed, will affect the water resources in the vicinity of the proposed water production facility.

LADWP Southern Owens Valley Solar Ranch Project

In September 2010, the LADWP issued a notice of preparation of a Draft EIR for this project. This project will consist of an array of solar panels at two sites, covering approximately 1,600 acres at each of the two 3,100-acre sites. These sites will be located in the valley north of Owens Lake, with one being northeast of the town of Lone Pine and the other east of Lone Pine, approximately 17 miles north of CBR. As described in the LADWP notice (2010), staffing at the proposed solar facility would number approximately 10 individuals to perform routine operational, maintenance, and security tasks. The majority of water use at the facility would be for periodic washing of the solar panels; reportedly, this would occur up to four times per year and use about 12 AF of water per year. The source of the water to be used was not explicitly mentioned in the NOP, but could be from surface water sources. Because of its great distance from CBR, impact to the groundwater resources at the CGR project site is anticipated to be insignificant.

LADWP Lower Owens Valley River Project

The LORP was originally formulated in 1991 between LADWP and Inyo County in order to protect the environment from the effects of groundwater pumpage by the LADWP and the export of this pumped groundwater to Los Angeles. As such, it is a mitigation plan to help restore habitats along the Lower Owens River and Owens Lake area. The source of this water would be from diversion of Aqueduct water along a 56-mile stretch of the Owens River between Blackrock and Lone Pine, with the objective of increasing river flow. As such, the increased flow of the river would help to recharge unconfined shallow aquifers in the valley region north of Owens Lake. Even though the groundwater resources would be replenished, it is not likely that pumping of the CGR wells would have a significant impact on the increased recharge and, converse-

ly, the increased recharge would not likely benefit the CGR project, because the major component of recharge to the aquifers underlying CBR is from rainfall emanating in the Sierra Nevada to the west.

Dirty Socks Duck Club

This is a relatively new entity and is in the preliminary stages of development. It is located near the southernmost shore of Owens Lake, approximately 1 ¼ miles east-southeast of the CGR wells. The stated purpose of this club, as obtained from its website, is to:

- Provide new habitat for migratory birds
- Establish an area for enthusiasts to view visiting migratory birds
- Provide habitat for local species of wildlife
- Establish a place for education on the impact of humans in the local environment
- Promote the local economy
- Insure there is a place for future generations to enjoy.

There are reportedly over 140 acres of ponds on the 452-acre Duck Club property. Six wells are reportedly used to supply these ponds and the proposed development is to consist of growing food for the waterfowl entering the area. No data were available for the six wells, with regard to well construction, pumping rates, water levels, etc. However, following initial development of the ponds, which will require large volumes of water to complete, then it will be necessary to maintain these ponds with additional extractions of groundwater. The current and future extractions from existing wells at the club are not known, but during development it may require a minimum of 140 AF of water and likely much greater amounts to complete the ponds. Because these ponds are located greater than one mile from the CGR wells, then pumpage of the CGR wells will likely have little, if any, impact on the groundwater resources in the vicinity of the duck ponds and, conversely, pumpage from the Duck Club wells is also not likely to affect groundwater resources beneath CBR.

Rio Tinto Trona Mine

There is very little available information with regard to this mine. However, the site of the current LADWP headquarters, approximately 11 miles north of the proposed CBR project, was an old “soda” mine that formerly processed brines pumped from wells in the Cartago area (Jessey

& Reynolds, 2009). This old "soda" mine appears to be the site of one of the Rio Tinto mines (formerly operated by U.S. Borax). However, no processing or mining is currently conducted at this location and the wells in the Cartago area that were supplying this facility may no longer be operational.

In addition, directly east of Cartago and at the northern boundary of CBR are the ruins and former evaporation ponds associated with the processing of borate minerals (see Figure 3). Indeed, currently there exists a large pile of white mineral material north of and adjacent to CBR. No borate type minerals are currently being processed at this facility.

It appears that no mining or processing of borate minerals and no pumping of groundwater for this processing are currently being performed in the Cartago area. Thus, there would be no additional cumulative impact on the groundwater resources of the Cartago area.

CalTrans Highway 395 widening project

Caltrans plans to widen Highway 395 in the Olancha/Cartago area to four lanes. Based on information obtained from CalTrans staff (Messrs. Ron Chegwidden and Cedrick Zemistis, pers. comm., November 18, 2011), this widening is scheduled to occur in 2016 and it will take two years to widen 12 miles of highway to the four lanes. Water use will be primarily for dust control during grading operations and the reported source of water for this project will be from the LADWP aqueduct. Thus, no impact on groundwater resources of this project is anticipated in the CBR area..

Nearby Water Purveyors and Users

CMW is the only water purveyor of significant size that could potentially have a cumulative impact to the water resources in the area of the proposed production facility. This water supplier currently has 38 connections and reportedly pumps 10 to 12 AF/yr in order to supply their system connections (Mr. Tom Deck, pers. comm. November 18, 2011). However, their one active well (CMW-2, see Figure 3) is perforated primarily in a deeper aquifer system; this deeper system is separated from the shallow aquifer system by an aquitard. Consequently, this existing active CMW well is not anticipated to pose a significant cumulative impact on the water resources of the shallow aquifer system.

Finally, the several residences (perhaps ±20; see Figure 3) that occur north and northwest of the project site obtain their domestic supply through privately-owned, residential-type wells screened primarily within the shallow aquifer system. These wells generally pump at very low rates (ranging from 5 to 10 gpm), and they are pumped only upon occasion each day; hence, these ±20, existing privately-owned wells may produce, cumulatively, on the order of 10 to perhaps 20AF/yr. Further, these wells have been producing for the past several years and now comprise background impacts on the local groundwater resources of the shallow aquifer system. Thus, the cumulative impact of these wells on the local groundwater resources of the shallow aquifer system is considered to be not significant.

IMPACT OF PROPOSED PUMPING ON WATER LEVELS

Parameter Estimation

A preliminary estimate of the theoretical impact of pumping of the three wells (CGR-8, CGR-9 and CGR-10) at full plant capacity on water levels in other wells in the vicinity of CBR was calculated using the basic analytical program PUMPIT. This program is able to calculate the amount of this impact in terms of the theoretical amount of water level drawdown that might be induced in nearby wells by pumping from the three new wells. For this water level drawdown calculation, two scenarios were estimated, one at full plant capacity (i.e., 3 wells to pump a total of 360 AF/yr) for a one-year time period and another for a shorter-term, 90 day pumping period at a higher rate to estimate the effect of maximum project demand on water levels. In calculating the theoretical drawdown impact, the following basic assumptions were used:

- The aquifer is homogeneous, isotropic, and of infinite areal extent.
- All wells being evaluated fully penetrate the unconfined shallow aquifer system (to as deep as 80 ft bgs); this is the only aquifer system being pumped by the 3 proposed pumping wells. Those wells with perforations starting below the aquitard (at a depth ranging from 80 to 100 ft bgs) that directly underlies this shallow aquifer system are not considered as they are not likely to exhibit any impact in their water levels due to the pumping of shallow wells CGR-8, CGR-9 and CGR-10.
- Average values for groundwater flow direction and gradient were utilized in the shallow aquifer, as determined in our analysis of groundwater underflow above, and the values are: the groundwater flow is 30 degrees south of east, and has an average gradient of 0.00274 ft/ft.

- A pumping rate of 75 gpm was used for each of the three wells (225 gpm total). The duration of pumping of the new wells is based on a continuous, 24-hours per day basis; hence, there are no pump shutdowns for any of the entire pumping periods assumed for the calculations. On this basis, the three wells pumping continuously (i.e., 100% of the time) at this rate would provide the 360 AF/yr project demand at full plant capacity.
- Continuous time periods of 30 days, 60 days, 90 days and 180 and 360 days, at the constant pumping rate of 75 gpm, was assumed for each well.
- Simulation of the theoretical amount of water level drawdown in the aquifer was conducted under transient conditions (flow to the wells is in a continuous dynamic state) using the previously estimated T value of 250,000 gpd/ft. and on an estimated storativity (S) value of 0.001 (dimensionless).
- The Spring Line fault is assumed not to be a barrier to groundwater flow to the east.

Calculated Drawdown Values

Table 3, "Model-Calculated Values of Theoretical Water Level Drawdown," shows the theoretical drawdown values that were derived from the above-listed parameters for the pumping of the new wells at CBR under the above listed conditions. Table 3 shows that the water level drawdown interference that might theoretically be induced in the piezometers, groundwater monitoring wells and other proximal water-supply wells perforated solely within the shallow aquifer zone (i.e., to a depth of 80 ft bgs) while CGR-8, CGR-9 and CGR-10 are each pumping at a constant rate of 75 gpm. Table 3 reveals that theoretical water level drawdowns range from a minimum of 0.54 ft in CGR-1 and CGR-3 after 30 days of pumping, to a maximum of 1.21 ft in piezometer P-12 after 360 days of continuous pumping. The piezometer P-10, which displayed theoretical water level drawdowns ranging from 0.62 ft after 30 days of pumping to 0.87 ft after 360 days of pumping, is located near the northern boundary of CBR and represents the most distant onsite monitoring point from the proposed pumping wells. Water level drawdowns in shallow but offsite wells farther to the north of P-10 will be less than that range calculated for P-10 because they are even more distant from the 3 proposed pumping wells. For deep wells (those not containing perforations in the shallow aquifer) potential water level drawdown should be nil.

However, it is important to note that the calculations for the theoretical drawdown interference using PUMPIT presented herein represent a maximum water level drawdown-case scenario.

Based on our long-term field experience in water level monitoring during actual pumping tests, drawdown impact in nearby wells by pumping of wells under real-world conditions is less, and often significantly less, than that which has been theoretically calculated using the same model software that was used herein. This may be due to the following conditions that could not be addressed by this model:

- The aquifer represented is an ideal system, whereas the actual aquifer system is not an ideal case, because it could have changing directions of groundwater flow and gradients.
- Heterogeneity of the sediments. The types of sediments, including particle size (fine-sand to gravel) in the area of the pumping wells, and CBR in general, exhibit lateral changes (i.e., "facies" changes) and, consequently, the T and S values also will change (become lower in some directions and higher in others), as was observed in the Geosyntec testing of CGR-8, CGR-9 and CGR-1. Thus, the actual observed drawdown in wells in the region, when the three wells are pumping, are likely to be significantly less in some directions, whereas in other wells the observed drawdown could be slightly greater (but not greater than the modeled calculated values, because the pumping scenario represents a maximum drawdown-case.
- The impact of recharge to the groundwater system. This may change and, indeed, may increase into the area, with the local but slight lowering of the water table. That is, as pumping from the wells continues, and the local groundwater gradient is artificially increased, and as groundwater levels are temporarily lowered, then recharge into the system has the potential to increase. At some point in time, this recharge will result in the drawdown cone of the pumping wells to become stable (i.e. achieve steady-state conditions), at which time no additional or further drawdown will be induced in other offsite proximal wells.
- Pumping durations. The model assumes that pumping from the wells will be continuous. However, in actuality pumping is likely to be sporadic and there will be periods where little or no pumping is being done, thereby allowing water levels to recover to their pre-pumping levels. The exact scheduling of any non-pumping periods is not known at this time. It should be noted that when pumping is being done, pumping rates from each well may be higher for the shorter pumping periods, in order to meet the 360 AF/yr demand at full plant capacity. Nonetheless, the assumed pumping rate above still represents a maximum drawdown-case scenario.
- Effect of the Spring Line fault has not been considered. This fault may be, at least, a partial barrier to groundwater flow and as such presents a potential boundary condition. Typically, this type of boundary condition has the effect of increased water level drawdowns as the drawdown cone intercepts the boundary. Nevertheless, this effect is likely not to result in much greater water level drawdowns in nearby wells. No such (negative) boundaries were identified in any of the prior pumping tests of onsite wells by others.

Comparison to Previous Calculations of Water Level Drawdown

Modeling of water level drawdown was initially performed by MW (1993) to determine the impact of pumping of PW-1, at rate of 700 gpm for a continuous three year time period (along with another onsite water-supply well at a rate of 60 gpm) to other wells at CGR and in Cartago. Based on that simulation, MW predicted water level drawdowns to range from less than one-foot to as much as 1.5 ft in CMW-1. However, what is notable here is the difference in location for PW-1, compared to the three new wells proposed to be used, the significantly higher pumping rates compared to that which will be required by the proposed project, and the differences between the deeper zone of groundwater production for PW-1 and the current situation, where only the shallow zone will be utilized where the production will be spread out between three wells.

Drawdown previously predicted by the modeling efforts by Geosyntec (2011), under a long-term pumping scenario, is considered to be reasonable because the modeling was performed only for the shallow unconfined aquifer system. Drawdown values from the modeling of a long-term pumping scenario, with the total demand of 360 AF/yr being obtained from four wells (the three new wells at 67 gpm and another smaller domestic well at 22.4 gpm, reportedly ranged from 0.2 to 0.4 ft at the north and south boundaries, respectively. The type of modeling performed by Geosyntec is considered to provide a better approximation of actual aquifer conditions and potential water level drawdown conditions resulting from the proposed pumping scenario at full plant capacity.

IMPACT OF PROPOSED PUMPING ON NEARBY SPRINGS

Pumping of water from the three CBR wells (CGR-8, CGR-9 and CGR-10) will likely exert some effect on the springs because of their proximity to the wells and because these springs generally appear to originate from the shallow aquifer system (likely due to the barrier effect of the Spring Line fault). Geosyntec (February 2011) provided adequate documentation with regard to the measurements they performed on the spring flows during their pumping tests of these three wells.

As discussed previously herein, and also summarized below, Geosyntec provided the following information on changes in the spring flows during their 72-hour pumping test of each well at a rate of 170 gpm:

- During CGR-8 aquifer testing, the springs generally decreased in flow near the end of each test, with the exception of ES-3A which exhibited an increase in flow of about 11.6 gpm (this was 12.4% higher than the total spring flow prior to testing). The decreases in flow in the other springs ranged from 0.31 to 2.05 gpm (or 7% to 52% of the flow from each of these springs prior to the pumping test). ES-3A is the farthest and southernmost spring from CGR-8.
- Springs flows at the end of aquifer testing of CGR-9 also showed decreases, with the exception of that at ES-1 which exhibited no change. The decreases in flow rates in the other springs ranged from 0.29 to 3.94 gpm (or 2 to 44% of the total flow from all monitored springs prior to this pumping test). Even though ES-3A is the southernmost spring, this still showed a very slight decrease in flow (2%) in comparison to ES-1 which is closer to the pumping well for this test (CGR-9).
- Testing of CGR-10 resulted in a decrease in spring flows at CBS-2, CBS-6 and CBS-9 by rates ranging from 0.6 to 4.3 gpm (25 to 47% change from the total pre-test flow). Spring CBS-4 showed no change in flow, whereas ES-1 and ES-3A displayed a net increase in flow of 0.8 and 4.9 gpm (11.4% and 4.6% change from the pre-test flow), respectively.

In order to determine the potential effect of long-term pumping of the wells on the springs, Geosyntec performed steady state modeling in 2011 to show what changes might occur in the total flow from the springs, during the simulated average pumping of the wells. In that modeling, it was shown that the total, collective flow from the springs could exhibit a 17.6% decrease, at the maximum plant demand of 360 AF/yr. However, Geosyntec also performed modeling (in April 2012) for a short-term, high-capacity pumping scenario where the three onsite production wells and the domestic well were modeled to be continuously pumping at a total combined maximum rate of 500 gpm over a 90-day period (i.e., during the summer months); this short-term, high capacity pumping would create a total pumped volume of 200 AF in the 90-day period. This modeling scenario yielded a 39% decrease in the spring flows. This is slightly greater than two times that predicted for the previous scenario, mentioned above. However, this new time period is short and during the other nine months of each year only the remaining (and lower) water demand of 160 AF would be pumped (where the pumping rate of each of the three production wells would be on the order of 82 gpm and the domestic well would pump at about 8 gpm). Hence, the stresses induced on the shallow aquifer system during these 9-month

periods each year would be considerably reduced and the system would likely return to its original, pre-summer pumping conditions.

The observational and modeling data provided by Geosyntec appear to be the best indicator of future changes over time for each of the springs at the test pumping rates. However, it is possible that over extended time periods, there could be additional decreases in flows at the test pumping rate (for example, over a period of 90 days when the greatest demand is anticipated to occur) that are currently difficult to quantify herein. However, data on long-term changes in flow of the springs can be obtained at a later time when pumping from the new facility commences.

PRELIMINARY CONCLUSIONS & RECOMMENDATIONS

PRELIMINARY CONCLUSIONS

Based upon our review of basic hydrogeologic information and data available for the 2 adjoining properties (CGR on the south and CBR on the north), the following preliminary conclusions are provided:

Reports by Others

1. At least 6 different independent firms, dating from 1978 to 2011, have provided consulting services regarding surface and subsurface geologic and hydrogeologic conditions on the CGR and/or CBR properties. Their projects involved: drilling and construction of monitoring wells, "test" wells and piezometers; drilling and construction of water-supply wells; preparation of geologic cross sections to help define aquifers beneath the properties; ongoing monitoring of water levels; performing aquifer tests in several different water wells; quantifying the aquifer parameters of T and S; providing estimates of groundwater recharge and underflow; and conducting different levels of groundwater modeling. The information and data presented herein are for background purposes only.

Geologic/Hydrogeologic Conditions

1. Based on our electric log correlations, there is a shallow aquifer system, comprised of fine-grained sand to gravel, which extends to a depth of approximately 80 ft bgs beneath the area and lies west of the Spring Line fault. Lying beneath this shallow aquifer is a silty clay to clayey silt aquitard ranging between the depths of 80 to 100 ft bgs; this aquitard which separates the upper shallower aquifer system from deeper aquifers, extends westward from the fault to, at least, water-supply well PW-1. East of the fault are mainly fine-grained sediments deposited in a lacustrine environment.

   Our analysis of the hydrogeologic conditions indicates a shallow aquifer zone that corresponds to and generally agrees with that proposed by Geosyntec (2011). However, the shallow aquifer system defined herein represents only the upper portion of the "shallow" aquifer system as established by JMM. The "deeper aquifer" systems, illustrated on the RCS cross sections, have not been differentiated with regard to the previous studies and, thus, may encompass the lower portion of the JMM-defined "shallow aquifer" and their deeper zones. The lower portion of the JMM "shallow aquifer" and deeper aquifer zones could likely be hydraulically connected, and leakage of water from these aquifers to the shallow aquifer defined in this study is likely occurring.
2. The Spring Line fault, as mapped by others, appears to be, at least, a partial barrier to groundwater flow to the east, as evidenced by a line of springs in the region and a reported prominent fault scarp. The proposed new CBR facility and well CBR-1 lie

east of the Spring Line fault, whereas the 3 existing wells to be used to supply groundwater for the proposed facility lie west of that fault.

3. Calculation of the groundwater flow direction and gradient for late-2010, 2011 and January 2012 using SWLs from selected piezometers reveals that groundwater in the shallow aquifer generally flows towards the east-southeast in the area of CBR and ranges in gradient from 0.0025 to 0.003 ft/ft.

Rainfall and Accumulated Departure

1. Rainfall has averaged approximately 6.2 inches in the area based on raingage data obtained from Haiwee Reservoir, located approximately 13 miles south of CBR. This raingage has an available rainfall record dating from 1923. These data serve as an analog to direct precipitation to the land surface in the vicinity of CBR.
2. Using the accumulated departure of rainfall curve for the historic period of record (1923 through 2011), the following rainfall trends have occurred in the region: an overall rainfall deficient period (i.e., a drought) from 1923 to 1960, with an intervening, short hydrologically "wet" period from 1942 through 1946. This was followed by a long, hydrologically "wet" period through 2011. Between 1960 and 1984 there were more years of above average rainfall than between 1984 through 2011, as evidenced by a notable change in rainfall patterns from relatively steeply increasing rainfall amounts until 1984, followed by slowly increasing rainfall amounts.

Static Water Levels and Rainfall

1. Based on water level hydrographs of SWL data from piezometers and groundwater monitoring wells in the area of CBR, water levels tend to be shallow and have ranged from ground surface (i.e., an artesian condition) to a depth of 24 ft bgs in the area of CBR.
2. Hydrographs prepared for this project show that SWLs in the CGR wells have tended to follow rainfall patterns since the beginning of data collection in 1996. However, the frequency of water level monitoring in these wells has declined over time; further, water levels in only a few wells are currently recorded by pressure transducers. RCS monitored water levels in 2 inactive CGR wells during our December 2011 field visit, and these recent measurements were found to corroborate the independent data collected in late-2011 from these same wells by CGR staff.
3. These levels appear to naturally rise and decline in response to changes in seasonal rainfall. Further, the accumulated departure of rainfall since 1996 indicates a declining trend or pattern in rainfall, and the SWLs in the piezometers and wells also show a similar declining pattern. This provides evidence that rainfall is the current, major influence that impacts SWLs in the wells. However, because water levels in the shallow aquifer system have been relatively shallow, sometimes even achieving flowing artesian conditions at ground surface, and because they also display a direct response to rainfall patterns, it can be inferred that the pumping of the existing CGR wells has had no detrimental impact on water levels to date in the shallow aquifer system. Importantly,

none of the hydrographs show any evidence of a continuous, progressive or increasing decline trend in water levels over time in any well.

Water Demand for Proposed Production Facility

1. Existing water-supply wells CGR-8, CGR-9 and CGR-10, located west of the Spring Line fault but proximal to the proposed 34.41-acre facility, will provide the entire water supply to the new facility. These wells are planned to produce a total of 360 AF/yr of groundwater from the shallow aquifer system on an annual basis for this proposed plant once it has reached full capacity. As such, if the wells were to pump on a continuous basis (24 hours a day, 7 days a week, 365 days a year), then each would need to pump at a constant rate of 75 gpm. However, it is possible that during the summer months groundwater production could be increased temporarily, for a 3-month (90-day time period), in order to satisfy the increased summertime demand for the bottled product; during this period a total of 200 AF of water could be pumped from the wells. After this period, the remaining 160 AF of the total estimated annual demand would be pumped from the same onsite wells over the remaining 9 months of each year. Nonetheless, it is apparent that the wells will not be pumped on a continuous operational basis and the final rates and time schedules have not yet been established.

2. These three onsite wells are each perforated entirely within the shallow aquifer system and as such will derive their supply solely from this system; except for the pumping tests of these 3 wells in late-2010, none of these 3 wells have ever been pumped to supply groundwater for any onsite use. There are offsite wells to the north (such as residential wells) that also obtain their supply from this same system but, being residential-type wells, their annual pumping volumes in the Cartago environment are expected to be small (less than 1 AF/yr per well). However, CMW Wells 1 and 2 have deeper perforations, below the aquitard at 80 to 100 ft and, thus, obtain their supply solely from the deeper aquifer system(s). Thus, pumping of CGR-8, CGR-9 and CGR-10 will likely not impose much, if any, impact on these deeper wells.

3. CGR-2 and CGR-7 are additional active wells, located on the existing CGR plant south of the proposed 34.41-acre production facility and are used to currently supply the process water to that plant. These two wells, reportedly produce on the order of 275 to 325 AF/yr. There are two other active wells at the plant, CGR-3 and CGR-4, which are used only to supply an additional but very limited amount for domestic purposes. Because of this, these two wells pump only minimal amounts of water. All other CGR wells at the plant are reportedly not active. The annual production volume of each of these wells has been estimated based on the annual production of water bottled by the facility. However, the annual production could be better constrained for each individual well, if the currently active wells on the CGR property were also to be equipped with individual flow meters.

Recharge to Groundwater

1. Groundwater recharge in the region is via infiltration of direct rainfall and infiltration of surface water runoff along creeks and streams emanating from the Sierra Nevada mountains on the west. Cartago Creek, which has its headwaters in the highly elevated portions of the Sierra Nevada and which flows directly into the proposed 34.41-acre site, serves as a major source of surface water replenishment to the shallow aquifer system. In addition to Cartago Creek, there are several other minor tributaries located both south and north of this creek, which originate at lower elevations in the Sierra Nevada mountains and also contribute recharge to the shallow aquifer system in the area of CBR.
2. Hence, groundwater is considered to initially move eastward within the shallow alluvial sediments, which emanate from the east side of the Sierra Nevada, and then downward into the somewhat deeper aquifer system; both systems exist on the west side of the Spring Line fault and both overlie the crystalline basement rocks in the region. Upward vertical gradients in the eastern portion of the groundwater flow system, which lies at and along the fault, allow the groundwater to move upward as springs along this geologic structure.
3. The prior work by L&S (1989) had independently calculated a total recharge volume of 6,700 AF/yr and MW in 1993 determined a total recharge to the local alluvial sediments of nearly 7,500 AF/yr. Both of these independent values are in the same magnitude for this alluvial aquifer system.

Groundwater Quality

1. Only limited data exist for the current water quality in the shallow and deep aquifers beneath the 2 adjoining properties. Clearly the water quality is appropriate for use in the bottling facility and nearby residents have been using groundwater from shallow and deep wells for their own private domestic use for many years. Further, CMW does not have an onsite water treatment facility as would normally be required by the California Department of Public Health if their groundwater did not currently have appropriate quality for public use.
2. Based on the water quality and water level results generated during prior pumping tests of water wells on the CBR property, it is our opinion that saline groundwater within the fine-grained sediments located <u>east</u> of the Spring Line fault will not move west across/through the fault into the coarser-grained alluvial deposits that lie <u>west</u> of the fault.

Groundwater in Storage

1. Calculation of the amount of groundwater in storage in the shallow alluvial aquifer system for that area bounded by the CBR property lines and the west side of the Spring Line fault was performed, in order to determine the total amount of groundwater in storage at any one point in time. The purpose of this was to compare

that calculated value to the total planned amount (360 AF/yr) of groundwater to be produced by CGR-8, CGR-9 and CGR-10.

2. Our calculation yielded a value of 1148 AF of groundwater currently in storage in the shallow aquifer system that lies solely beneath that portion of CBR located west of the Spring Line fault. In comparison the total amount of groundwater planned to be pumped from the three wells is approximately 31% of the total amount of groundwater currently in storage. However, the amount of groundwater pumped will be continuously replenished by surface water recharging the alluvial aquifer system. L&S (1989) and later MW (1993) independently calculated total recharge volumes of 6,700 AF/yr and 7,500 AF/yr, respectively, to both the shallow and deeper aquifer systems and, thus, the planned amount of production will be readily replenished on an average annual basis by this recharge water.

Groundwater Underflow and Impact of Pumping

1. Calculation of groundwater underflow was performed for a cross sectional area within the shallow alluvial aquifer system, perpendicular to the groundwater flow direction. The parameters for these calculations were based on the calculation of groundwater gradient and on an estimated value of T. For this calculation, a T value of 250,000 gpd/ft was used, along with groundwater gradient values ranging from 0.0025 to 0.003 ft/ft and a groundwater flow direction to the east-southeast.

2. For a cross sectional area along an 1,800-foot traverse southward from the Spring Line fault, through CGR-10 to a point west of CGR-8, the groundwater underflow was determined by RCS to range from 1,310 AF/yr to 1,520 AF/yr. Based on a total anticipated production at plant capacity of 360 AF/yr for future operations, the proposed amount ranges from 28% to 23%, respectively, of the total groundwater underflow through the shallow aquifer system in this area.

3. The existing CGR facility utilizes two additional, unmetered wells, CGR-2 and CGR-7, for current plant production; these two wells pump groundwater from the same shallow aquifer system that the three new wells will use. Consequently, the total impact of the combined pumping of all wells was also calculated. Since the two existing wells occur farther to the south, then the cross section area was increased to encompass these wells. The maximum amount produced from these two wells is reported to be on the order of 325 AF/yr and combined with proposed amount to be pumped from the three new wells amounts to a total of 685 AF/yr that is to be pumped from the shallow aquifer at full plant capacity in the future. The total amount of groundwater underflow in the shallow aquifer system through the entire area between the Spring Line fault southward through to a point on CGR property, located west of CGR-2, was calculated by RCS to range from 1,600 AF/yr to 1,850 AF/yr. Therefore, the total amount of groundwater to be obtained from the shallow aquifer in the future at full plant capacity (by the existing and proposed wells) ranges from 38% to 43% of the total amount of groundwater underflow estimated in this area. However, these two existing wells appear to have little to no impact on the current

groundwater conditions and, thus, the new wells will impose only their additional pumping impact on these conditions.

Water Level Drawdown Impacts

1. A calculation (simulation) of the impact (induced water level drawdown) of pumping of the three wells, on water levels in other monitoring wells and water supply wells, was performed based on the above established values of T, S and groundwater flow direction and gradient and on a continuous pumping rate of 75 gpm, at each well, for a maximum period of 360 days. These calculations were performed using a simple analytical model called PUMPIT, which is based on gross assumptions for an ideal aquifer system.
2. The results of calculation of water level drawdown in the piezometers, monitoring wells and water supply wells perforated in only the shallow alluvial aquifer systems revealed that at the north boundary of the CBR (at piezometer P-10) the maximum theoretical drawdown induced in a well at that location would be 0.87 ft whereas near the southern boundary of CBR (at CGR-2 and CGR-3), a maximum theoretical drawdown of 0.54 ft was obtained. Our long-term field monitoring of water levels during actual pumping tests (on other projects) has revealed that theoretically-calculated water level drawdown values are invariably greater and sometimes much greater than actual drawdown values recorded in the field.
3. Previous consultants (JMM, 1989 & Geosyntec, 2011) previously determined water level drawdown impact ranging from 0.2 to 0.6 ft in other wells in the region. However, they were using more sophisticated groundwater models which account for several other factors that our modeling program does not. Consequently, their results are more representative of aquifer conditions in the area and our calculated value serves to confirm their overall results.
4. With regard to the possible effect of the proposed pumping on the springs along the Spring Line fault, it has been shown through Geosyntec modeling efforts (in 2011 and 2012) that there could theoretically be a reduction in the amount of the spring flows. Under a long-term pumping scenario (2011), with the wells pumping throughout the year, at a combined average pumping rate of 170 gpm. to meet the 360 AF demand, the estimated decrease in streamflow was calculated to be approximately 17%. Under a short-term high production pumping scenario, with the wells operating at a higher capacity (at a combined rate of 500 gpm), to meet a temporarily increased demand of 200 AF during only three months of each summer, then the impact on the springs was modeled to result in a 38% decrease in flows of the springs along the Spring Line fault. However, it should be noted that production from these wells will be decreased for the remaining 9 months of each year to satisfy the remaining annual demand of 160 AF. Under these conditions, the increased demand is only temporary and following that summer period, recharge to the aquifer system will be at its highest (during the winter and spring months), and the shallow aquifer system should be able to recover to its pervious, pre-summer conditions.

PRELIMINARY RECOMMENDATIONS

Based on our review and evaluation of site hydrogeologic conditions at CBR and CGR work, we provide the following recommendations:

Phasing of Development and Well Use

We support the planned sequential activation of the four separate production lines for the proposed facility and the use of the 3 existing wells (CBR-8, CBR-9 & CBR-10) located west of the Spring Line fault and also CBR-1, located east of the Spring Line fault, for domestic supply purposes only.

Operations

It is understood that the future water use at the proposed 34.41-acre production facility will be phased-in through the sequential activation of four bottling lines that would eventually have a total water demand of 360 AF/yr at full plant capacity. The three wells to be used (CGR-8, CGR-9, and CGR-10) have already been constructed and subjected to pumping tests by others, and are essentially ready for equipping at this time. Because the wells were constructed a few years ago, and prior to installing the permanent pump in each well, RCS recommends that a video log survey of each well casing be performed to serve as a baseline for the current condition of each well and to determine whether or not rehabilitation in any/all of the wells should be performed at this time (see below).

RCS also recommends that during the initial sequential activation of the first two production lines after Phase I building has been completed, all three wells be utilized so that the total groundwater demand is spread between the three wells. This recommendation will help accomplish the following:

- Not allow any one of the wells to sit idle (i.e., not pumped) for extended periods of time, wherein bacterial/biological growth (biofilm) could proliferate and help clog the perforations and gravel pack, which will tend to reduce the specific capacity (production capacity of the wells).
- Mitigate water level drawdown impact in the vicinity of any one pumping well. Spreading the production amongst the three wells will result in lower water level drawdown impact as opposed to pumping only one well at its full capacity while leaving the other two sit idle.

- During the initial phase in period, with all three wells in operation, then the actual effect of the pumping on water levels can be better evaluated by conducting water level monitoring in piezometers, springs and groundwater monitoring wells in the surrounding area.

Data Collection

A regular program of data collection and database maintenance is essential to providing a long-term accumulation of data that can be reviewed for changes in groundwater conditions over time. Examples of such data collection efforts are as follows:

1. Ensure that all wells that are currently pumped and that plan to be pumped in the future in the area of the CBR and CGR are equipped with properly calibrated and accurately-reading flow meters that read in both instantaneous flow (in gpm) and total flow (in gallons or AF), on an individual well basis. These meters can be located at a proper location on the discharge pipe near each wellhead or at another location within the bottling facility suitable for the measurement and recording of flow data. These totalizer flow dial data should be monitored and recorded on a regular basis (at each well at least once each week). The use of flow meters for each pumping well will allow for a more accurate determination of the amounts of groundwater that would be pumped from CGR-8, CGR-9, and CGR-10 and also the amount that are currently pumped from the existing active plant wells (CGR-2 and CGR-7) and the two active domestic supply wells for the plant (CGR-3 and CGR-4).
2. It is understood that the two active plant wells, CGR-2 and CGR-7, are equipped with pressure transducers which provide continuous monitoring of SWLs. It is recommended that the two other active wells at CGR be equipped with such transducers as well.
3. In order to monitor future water levels near the northern boundary of the proposed facility, it is recommended that well CBR-1 (the proposed domestic production well), located approximately 1070 ft northeast of CGR-10, also be equipped with a transducer to continuously record water levels. The well casing for CBR-1 is perforated between 60 and 120 ft bgs; these depths are in the same general perforation zones of CGR-8, CGR-9 and CGR-10 (53 ft to 88 ft bgs). Hence, monitoring of the water levels in this onsite domestic-supply well would yield data on possible changes in the water levels that might be induced, as a result of the proposed pumping, on shallow offsite wells owned by others that lie north and northwest of the facility.
4. For those CBR and CGR wells that are currently not pumped and there are no plans to pump, we recommend removing the existing pumps and using these wells as additional groundwater monitoring wells. These wells should also be equipped with transducers so that their SWLs (and PWLs) can be recorded and evaluated on a continuous and regular basis. For those wells that occur relatively close to a current

or future monitoring point and that will not be used again, then permanent destruction of those additional wells is recommended.

5. In addition to collection of water level data via transducers, manually measure and record water levels in all active, inactive water supply wells, observation or monitoring wells and piezometers at CBR and at CGR on a monthly basis. These data can then be tabulated in a separate data sheet/file listing the date and time of measurement, the depth to water below ground surface, the respective groundwater elevation, and the current operating status of each well (static or pumping condition). It is important to note that if the well is pumping, then a measurement for a SWL should be collected 24-hours following shutdown of pumping in that well.
6. As an alternative to manual measurements, set-up a Supervisory Control and Data Acquisition (SCADA) system to record SWLs in CGR wells on a daily basis, twice each day (say at 8:00 AM and 8:00 PM), with the date, time, and depth to water measurements. These data can be presented in an Excel worksheet for later review, graphing` and analysis.
7. There were very little available long-term and regularly scheduled water quality data from the wells that could be analyzed for selected key water quality constituents, such as the general minerals (e.g. the common cations and anions) and inorganic chemicals (trace elements). Thus, with regard to establishing a database where possible long-term trends and changes in water quality could be better evaluated, collection of groundwater samples at least once every three years from the pumping wells and key groundwater monitoring wells for analysis of: physical constituents (e.g. temperature, electrical conductivity, turbidity, pH; general minerals, trace metals; and the radiological constituents is recommended. These constituents are useful when reviewing water quality to evaluate temporal changes in groundwater quality in the area.
8. Spring flows should continue to be monitored and evaluated on a regular basis in the future.

Data Review and Evaluation

After the data have been collected for each phase of development, RCS also recommends that there should be an ongoing process of review, evaluation and interpretation of those data by qualified groundwater professionals. This is useful because as pumping is conducted on a regular basis and as groundwater conditions change, due to external factors (such as changes in rainfall), then the proposed pumping program can be modified to adjust to such changes in conditions, prior to expanding the groundwater production to the next higher pumping capacity. Examples of such data review and interpretation could consist of the following:

1. Plot the production quantities from each well, along with rainfall and SWLs, in order to assess the impact of pumping on SWLs in all monitored sites.

2. Changes in spring flow over time should be plotted against total pumping of the three wells and changes in rainfall over time.
3. Plot temporal changes in key water quality constituents in groundwater samples from the wells. Typical key water quality constituents would be total dissolved solids, electrical conductivity, color and selected cations and anions, such as calcium, magnesium, sodium and boron and bicarbonate, sulfate and chlorides. Tracking changes in these constituents in those wells close to the fault would provide indication of any possible intrusion of any water quality from the east side of the fault into the sediments on the west side.

CLOSURE

DISCLAIMER

This Hydrogeologic Evaluation has been prepared for PCR Services Corporation and applies strictly to evaluating only the hydrogeologic and groundwater conditions in the vicinity of the former Cabin Bar Ranch (CBR) and the adjoining Crystal Geyer Roxane (CGR) facility in the Cartago area of Inyo County, California. No other work such as the drilling, testing or sampling of existing wells at these sites was performed by RCS, nor was any field mapping or investigations performed to help determine the characteristics of the aquifer systems beneath the site. Rather, this report has relied heavily on work conducted by others on characterizing the aquifer systems, and on our evaluations of existing data and information. This hydrogeologic evaluation and report has been prepared in accordance with the care and skill generally exercised by reputable professionals, under similar circumstances and in this or similar localities. No other warranty, either express or implied, is made to the professional advice presented herein.

REFERENCES REVIEWED

Beanland, S. and Clark, M.M., 1994, *The Owens Valley Fault Zone, Eastern California, and Surface Faulting Associated with the 1872 Earthquake*. U.S. Geological Survey Bulleting 1982,

California Department of Water Resources, 2003, California's Groundwater. Bulletin 118 update of 1975 version.

du Bray, E.A. & Moore, J.G., 1985, *Geologic Map of the Olancha Quadrangle, Southern Sierra Nevada, California.* U.S. Geological Survey Miscellaneous Field Studies Map MF-1734, Scale: 1:62,500.00

Figueroa, A.M. and Knott. J.R., 2010, *Tectonic geomorphology of the southern Sierra Nevada Mountains (California): Evidence for uplift and basin formation*. Geomorphology, Vol, 123, p. 34-45, Elsevier.

Geosyntec Consultants, February 7, 2011; *Test Well Installation and Hydrogeology Report, Cabin Bar Ranch, U.S. Highway 395, Olancha, California; prepared for CG Roxane, LLC.*

_____, April 19, 2012, *Groundwater Modeling Results, Short-Term High-Production Impacts on Spring Flows, Cabin Bar Ranch Project, Crystal Geyser Roxane*. Letter to Mr. Rick Moore of Crystal Geyser Roxane. 2 pp.

Geothermal Surveys, Inc., 28 October 1982; *Preliminary Geohydrologic Investigation of the Cabin Bar Ranch Area, Inyo County, California.*

_____, October 1983; *Ground Temperature Survey and Additional Geohydrologic Investigations, cabin Bar Ranch, Inyo County, California*.

Hollet, K.J., Danskin, W.R., McCaffrey, W.G. & Walti, C.L., 1991, *Geology and Water Resources of Owens Valley, California.* U.S. Geological Survey Water Supply Paper 2370-B. 77 pp.

James M. Montgomery, 1989, Untitled Report on Summary of Well Construction Activities at Cabin Bar Ranch, 23 pp.

Jessey, J.R. and Reynolds, R.E., 2009, *Landscape Evolution at an Active Plate Margin*: *a field trip to Owens Valley* in Landscape Evolution at an Active Plate Margin, Jessey, J.R. & Reynolds, R.E. Eds. Desert Studies Consortium, California State University, Fullerton, and LSA Associates Inc, Riverside, CA. 209 pp. April 2009.

LADWP, March 31, 2004, *Final Environmental Impact Report & Environmental Impact Statement, Lower Owens River Project.*

_____, September 30, 2010, *Notice of Preparation (NOP) of Draft EIR for the Southern Owens Valley Solar Ranch*. 18 pp.

Lee. C.H., 1912, *An Intensive Study of the Water Resources of a Part of Owens Valley, California*. U.S. Geological Survey Water Supply Paper 294.

Lee, W.T., 1906, *Geology and Water Resources of Owens Valley, California.* U.S. Geological Survey Water Supply and Irrigation Paper No. 181. 8 pp.

LeRoy Crandall & Associates, May 16, 1978, "Report on the Occurrence of Natural Springs, Cabin Bar Ranch, Inyo County, California" 8 pp.

Lord, J.M., 1984, *Position Paper: Water Supply Potential, Cabin Bar Ranch (Cartago, Olancha and Walker Creeks).*

Luhdorff & Scalamini, Consulting Engineers, November, 1989; *Aquifer Test Analysis and Evaluation, Cabin Bar Ranch*; prepared for County of Inyo.

Montgomery Watson, July 1993; *Los Angeles Department of Water and Power, Revised Draft Environmental Impact Report for the Anheuser-Busch Companies, Los Angeles Brewery, Water Supply Study;* Volumes 1 and Volume 2, Technical Appendices.

Sieh, K. E, 1989, *Neotectonics of the Cabin Bar Ranch Area*, letter report prepared for James M. Montgomery Consulting Engineers, Inc.

Sierra Geotechnical Services Inc, January 12, 2010*; Geotechnical Investigation and Results of Percolation Testing, CG Roxane Water Bottling Plant, Cartago, California.*

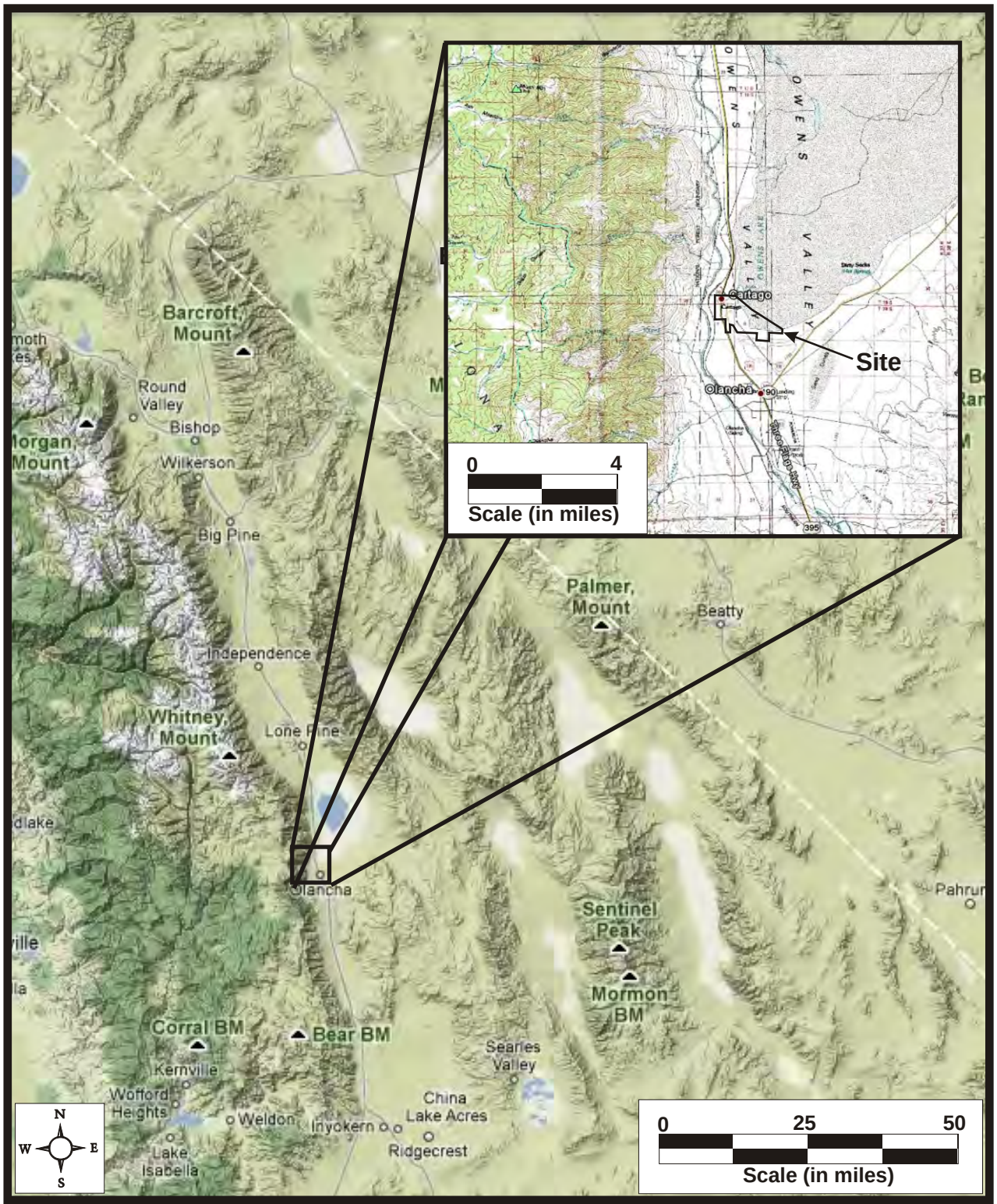
Slemmons, D.B., Vittori, E., Jayko, A.S., Carver, G.A. and Bacon, S.N., 2008, *Quaternary fault and lineament map of Owens Valley, Inyo County, eastern California.* Geological Society of America Map and Chart 96, Map Scale (metric); 1:100,000 with

Slemmons, D.B., 1968, *Historic Faulting in Owens Valley, California*. Abstract with Programs, Cordilleran Section of the Geological Society of America.

Wilkerson, G, Milliken, M, Saint-Amand, P, & Saint-Amand, D, August 2007, *Roadside Geology and Mining History, Owens Valley and Mono Basin*. Bureau of Land Management guidebook, June 1 to 3 Field Trip. 134 pp.

APPENDICES

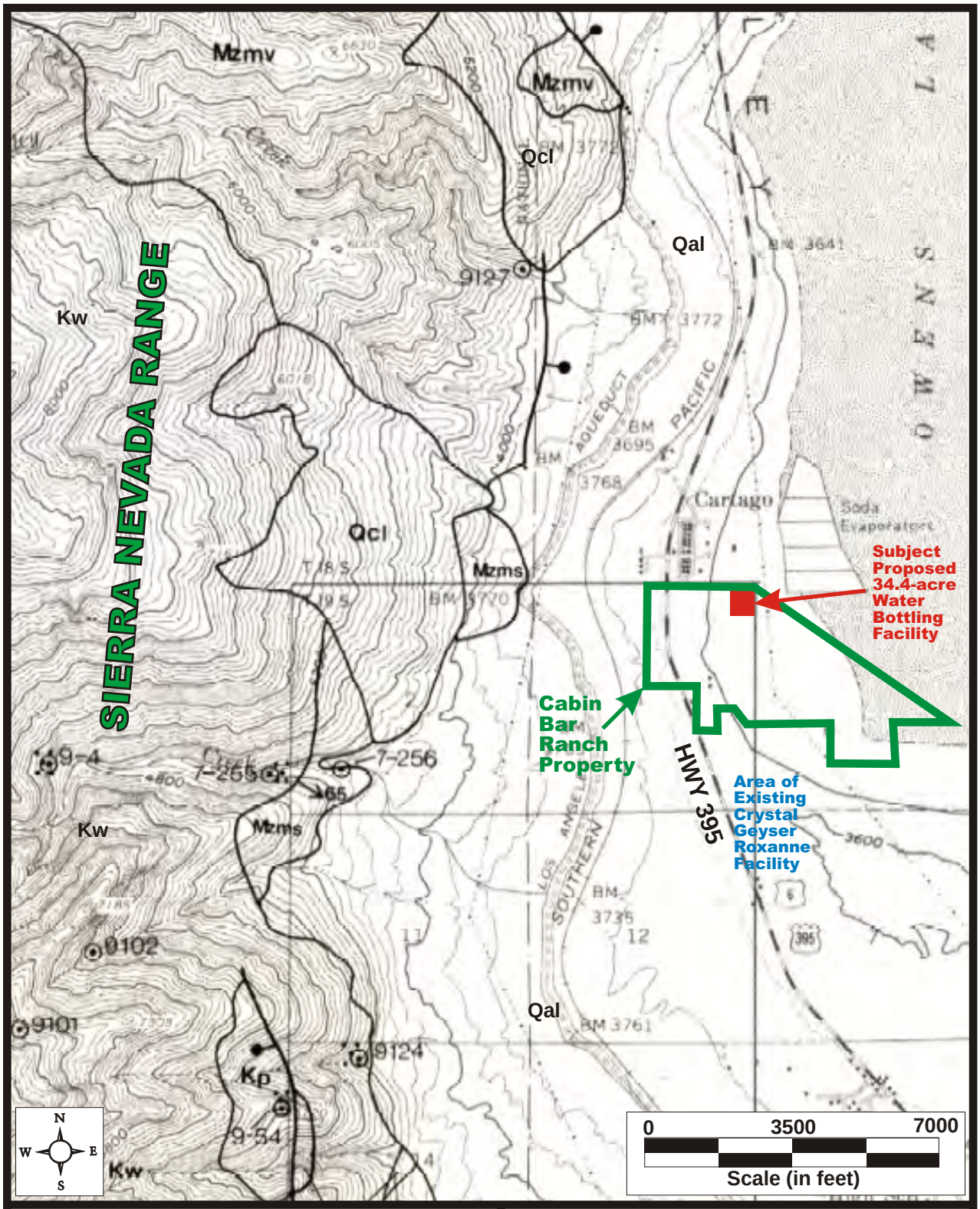
APPENDIX 1
FIGURES



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Phone (818) 506-0418
Fax (818) 506-1343

FIGURE 1
SITE LOCATION MAP
CABIN BAR RANCH AREA

Job No. 445-INY01 **June 2012**



RCS
RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Phone (818) 506-0418
Fax (818) 506-1343

FIGURE 2A
GEOLOGY MAP
CABIN BAR RANCH AREA

Job No. 445-INY01 June 2012

DESCRIPTION OF MAP UNITS

SURFICIAL DEPOSITS

Qal — ALLUVIUM—Lacustrine and stream deposits underlying meadows, alluvial fan deposits at the range front, and lake, beach, and evaporite deposits of Owens Lake

Qt — TALUS—Weathered rock deposits at base of cliffs and in gullies

Qcl — COLLUVIUM—Accumulations formed by downslope movement of rock and soil along the range front

Qgs — GRUS AND SAND—Accumulation of material resulting from in-place weathering of rock and sand found peripheral to alluvial deposits

Qm — GLACIAL MORAINE—Crests of morainal ridges shown by pattern

VOLCANIC ROCKS

Qrl — RHYOLITE OF LONG CANYON—Porphyritic pumiceous rhyolite dome with associated pyroclastic flow lobes located at the head of Long Canyon and to the northeast. Bacon and Duffield (1979) reported a K-Ar age of 0.185±0.15 m.y.

Trt — RHYOLITE OF TEMPLETON MOUNTAIN—Flow-banded and dense pumiceous rhyolite forming one large dome, Templeton Mountain, and a smaller dome adjacent on the northeast. Bacon and Duffield (1979) reported a K-Ar age of 2.4±0.3 m.y.

GRANITIC ROCKS

Kap — APLITE DIKES AND SILLS—Fine-grained, locally pegmatitic granite cutting all plutons in the quadrangle but especially common in parts of the Whitney Granodiorite

Kw — WHITNEY GRANODIORITE—Typically coarse-grained and strongly porphyritic granodiorite and granite. Biotite is the principal mafic mineral, hornblende is minor. K-Ar ages range from 78.4 to 84 m.y. in four samples (Evernden and Kistler, 1970)

Kao — ALASKITE OF OLANCHA PEAK—Fine- to coarse-grained equigranular alaskite containing less than two percent mafic minerals, principally biotite

Kp — PARADISE GRANODIORITE—Together with the Whitney Granodiorite forms a composite intrusion. Porphyritic granodiorite with minor granite. Potassium-feldspar phenocrysts are characterized by abundant, zonally arranged inclusions of biotite and hornblende

Kpb — PLUTONIC BRECCIA OF TIMOSEA PEAK—Complex intrusion including mafic plutonic rock, aplite, and granodiorite. All lithologies crosscut one another

Krr — GRANODIORITE OF REDROCK MEADOW—Medium-grained light-colored granodiorite, locally porphyritic. Unmapped blocks of various sizes are contained within the alaskite of Kern Peak

Kcc — GRANITE OF CARROLL CREEK—Coarse-grained granite, locally porphyritic. Hornblende and biotite are subhedral

KJgd — MISCELLANEOUS GRANODIORITE—Small bodies of fine- to medium-grained dark-colored granodiorite found on the range front associated with the Whitney Granodiorite

KJm — MAFIC PLUTONIC ROCK—Includes fine-grained diorite and tonalite, poikilitic hornblende gabbro, and hybridized mafic granodiorites

Jd — MAFIC DIKES—Predominantly fine-grained diorite and granodiorite porphyry

Jsm — DIORITE OF SCHAEFFER MEADOW—Strongly sheared mafic granodiorite. Hornblende is subhedral to euhedral

Jkp — ALASKITE OF KERN PEAK—Fine- to coarse-grained equigranular alaskite containing less than five percent mafic minerals, principally biotite

METAMORPHIC ROCKS

Mzms / **(Mzq)** — METASEDIMENTARY ROCK—Chiefly fine-grained biotite schist. Locally includes: Mzq, quartzite

Mzmv / **(Mzmr)** — METAVOLCANIC ROCKS—Chiefly fine-grained metamorphosed dacite and andesite tuffs and flows. Minor basalt. Locally includes: Mzmr, metarhyolite. Includes felsic flows, tuffs, and ash deposits

---

O / 30 / Y — CONTACT, APPROXIMATELY LOCATED, SHOWING DIP—O, older rock; Y, younger rock

HIGH-ANGLE NORMAL FAULT—Dotted where concealed. Ball and bar on downthrown side

STRIKE AND DIP OF JOINTS, SHOWING OFFSET

70 — Inclined, left-lateral offset

60 — Inclined, offset unknown

Vertical, offset unknown

50 — STRIKE AND DIP OF FOLIATION IN METAMORPHIC ROCKS

STRIKE AND DIP OF FOLIATION IN IGNEOUS ROCKS

60 — Inclined

Vertical

Dip unknown

Foliation absent

10 — BEARING AND PLUNGE OF LINEATION IN IGNEOUS ROCKS

75 — BEARING AND DIP OF SCHLIEREN LAYERING

NOTE: Foliation and lineation in igneous rocks measured on mineral grains and mafic inclusions. Foliation in metamorphic rocks measured on mineral grains and aggregates and clastic fragments

Cu — AREA OF MINOR COPPER MINERALIZATION AND STAINING

q — QUARTZ VEIN

7-255 — LOCATION AND FIELD NUMBER OF ROCK SAMPLE

Geologic Legend Adapted From USGS Map, titled "Geologic map of the Olancha Quadrangle, Souther Sierra Nevada, California" by Edward A. Du Bray and James G. Moore, Published in 1985.

RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Phone (818) 506-0418
Fax (818) 506-1343

FIGURE 2B
GEOLOGY MAP LEGEND
CABIN BAR RANCH AREA

Job No. 445-INY01 **January 2012**

WAL-1
WAL-2
DIE-1
WIC-1
Cartago
CMW-1 /CMW-2
HUG-1
TON-1
Ruins
HOL-2
HOL-1
HAR-1
RIL-1
RIL-2
BIL-1
SIE-1
LAW-1
HAT-1
BIY-1
ADK-1
T 18 S
T 19 S
ROG-1
RIL-3
HAN-1
P-10
BM
3710.6
395
Approximate Location
of
34.4 Acre
Water Bottling Facility
CBR-1
P-8
P-9
A
CBR-2
P-6
P-7
B'
CBR-3
B
P-11
RP-4
MW-3
CGR-10
CBS-9
P-5
B
A
A
A'
A'
P-12
CBS-8
P-15
P-16
(destroyed?)
PW-1
MW-2
TH-1
CBS-7
CBS-6
MW-1
RP-3
CGR-9
MW-4
(destroyed)
CBS-1
TH-2
CBS-2
CBR-4
RP-2
RP-5
P-1
P-2
TH-3
CBS-3
CBS-4
CGR-8
P-13
WAI-1
P-4
RP-1
TH-4
CBS-5
P-3
P-14
BM
3764.5
OW-7U
CGR-4
ES-1
OW-7M
EW-1
CGR-6
ES-3A
CGR-2
EW-2
B'
CGR-5
EW-4
CGR-7
EW-3
EW-5
EW-6
OW-1
CGR-1
CGR-3
EW-7
A'
A
A'
2011 Cross Section Transect created by Geosyntec.
A
A'
2011 Cross Section Transect created by RCS
A
A'
1989 Cross Section Transect created by JMM
500
0
500
Feet

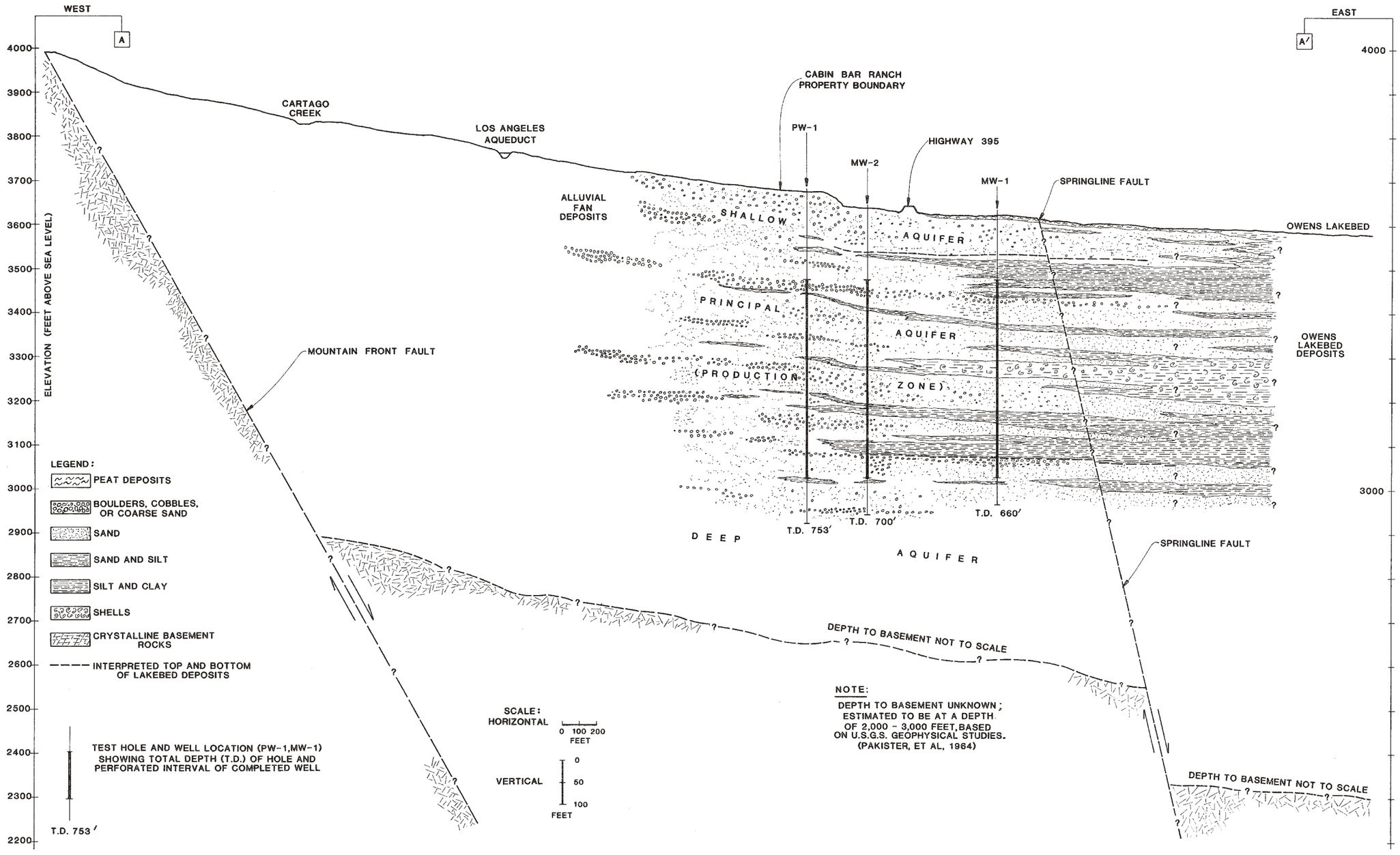
Legend

- Other Wells
- CBR Monitoring Wells
- CBR Production Wells
- CBR Piezometers
- Wells with Electric Logs
- CBR Springs
- Spring Line Fault Trace

Note: EW = Historic and/or Existing Elton Well

Richard C. Slade & Associates LLC
Consulting Groundwater Geologists

Project No: 445-INY01	FIGURE 3 WELL LOCATION MAP
Date: June 2012	
Author: LAB	
Filename: Figure 3 - Location Map.wor	
Projection: UTM Zone 10 (NAD 27 for US) Custom Projection	12750 Ventura Blvd., Studio City, CA 91604 Phone: (818) 506-0418 Fax: (818) 506-1343



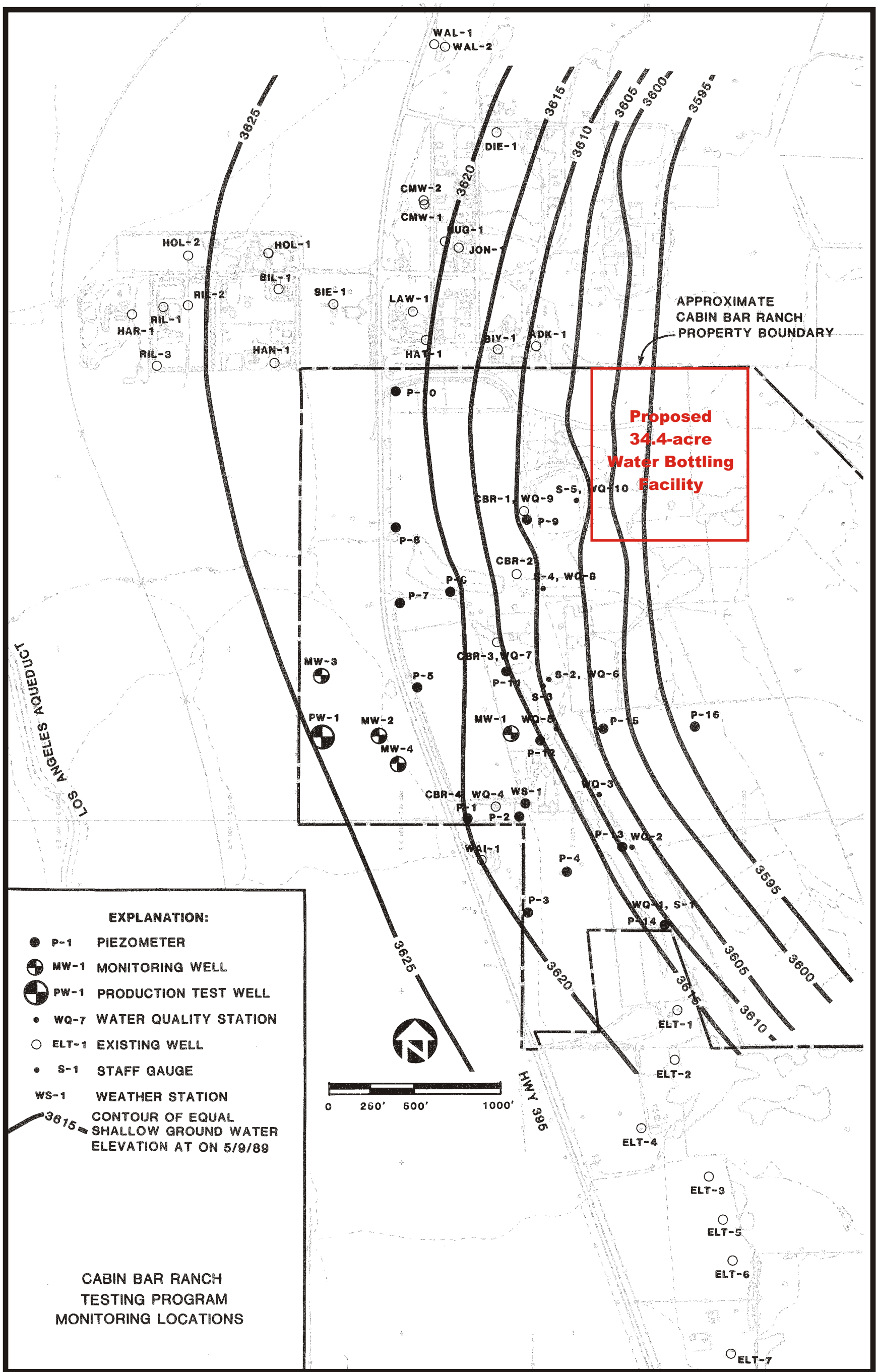
RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Phone (818) 506-0418
Fax (818) 506-1343

Adapted from original cross section by James M Montgomery Consulting Engineers, 1989 & 1993

FIGURE 4
JMM GEOLOGIC CROSS SECTION
CABIN BAR RANCH AREA

Job No. 445-INY01

June 2012

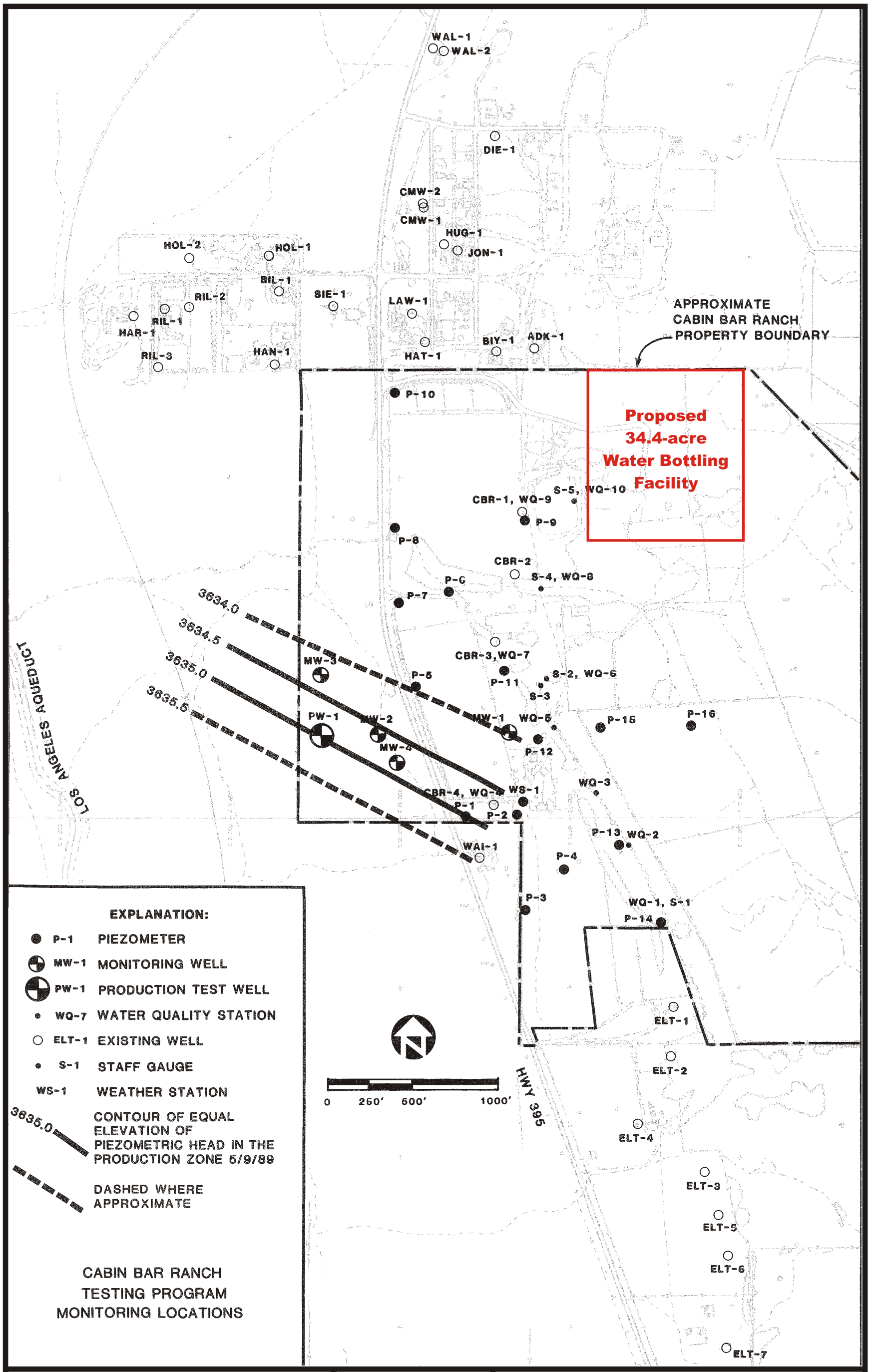


RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Phone (818) 506-0418
Fax (818) 506-1343

Adapted from original cross section by James M Montgomery Consulting Engineers, 1989 & 1993

FIGURE 5
JMM GROUNDWATER FLOW MAP FOR SHALLOW ZONE CABIN BAR RANCH AREA

Job No. 445-INY01 June 2012

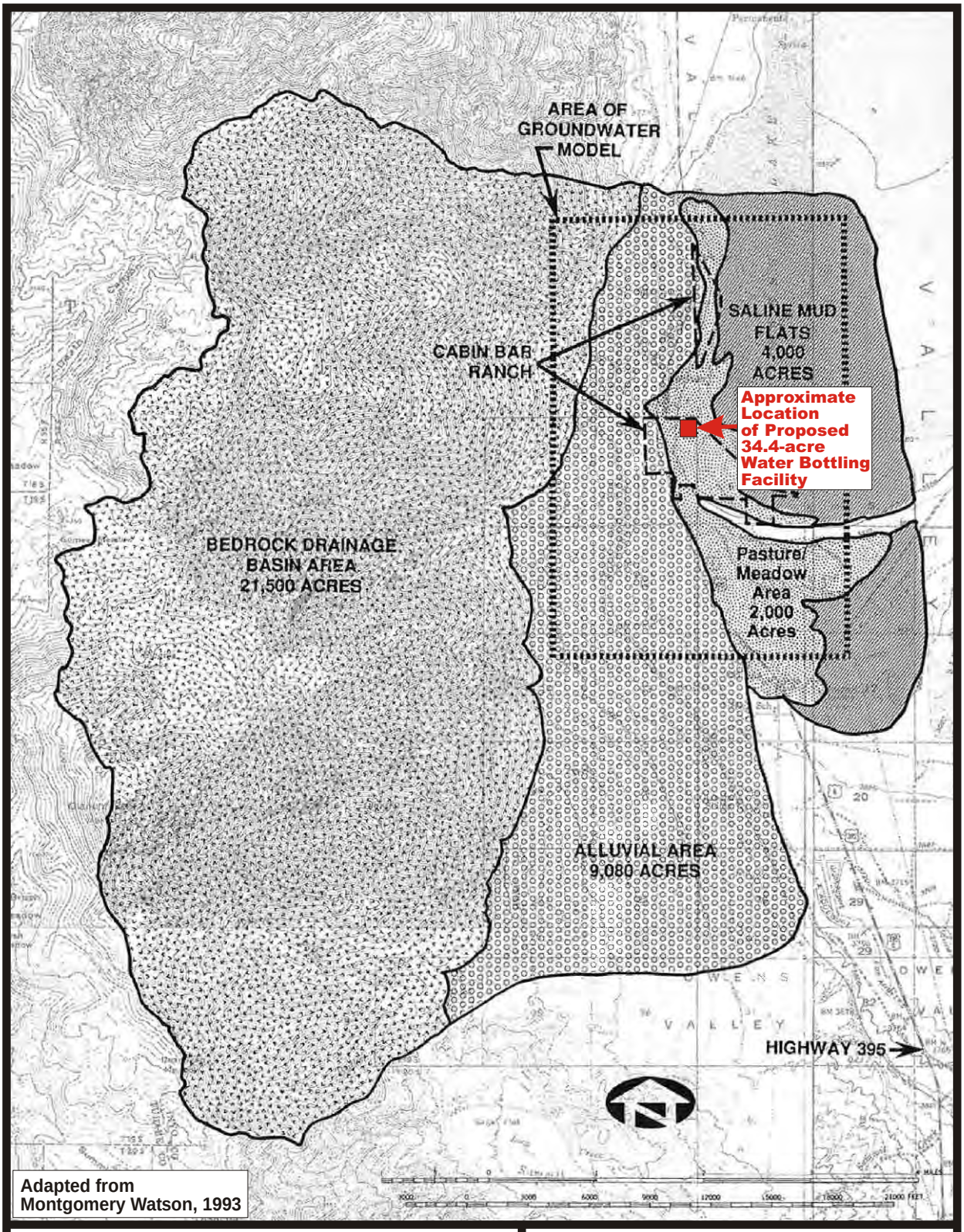


RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Phone (818) 506-0418
Fax (818) 506-1343

Adapted from original cross section by James M Montgomery Consulting Engineers, 1989 & 1993

FIGURE 6
JMM GROUNDWATER FLOW MAP FOR PRODUCTION ZONE CABIN BAR RANCH AREA

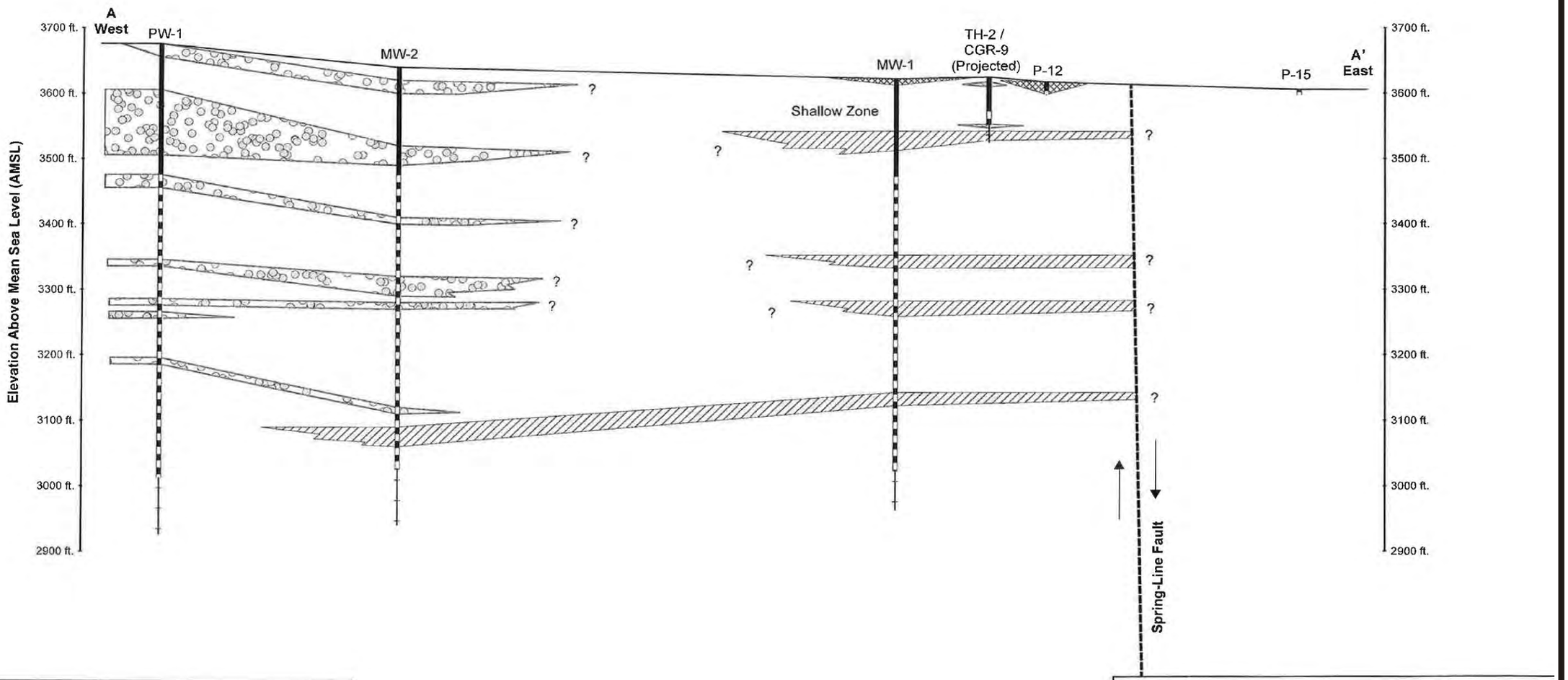
Job No. 445-INY01 June 2012



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Phone (818) 506-0418
Fax (818) 506-1343

FIGURE 7
JMM-DEFINED HYDROLOGIC AREAS OF THE CABIN BAR RANCH REGION

Job No. 445-INY01 **June 2011**



Site Geologic Cross Section A - A'

Cabin Bar Ranch, Olancha, CA

Geosyntec consultants

Santa Barbara | February 2011

Figure 5

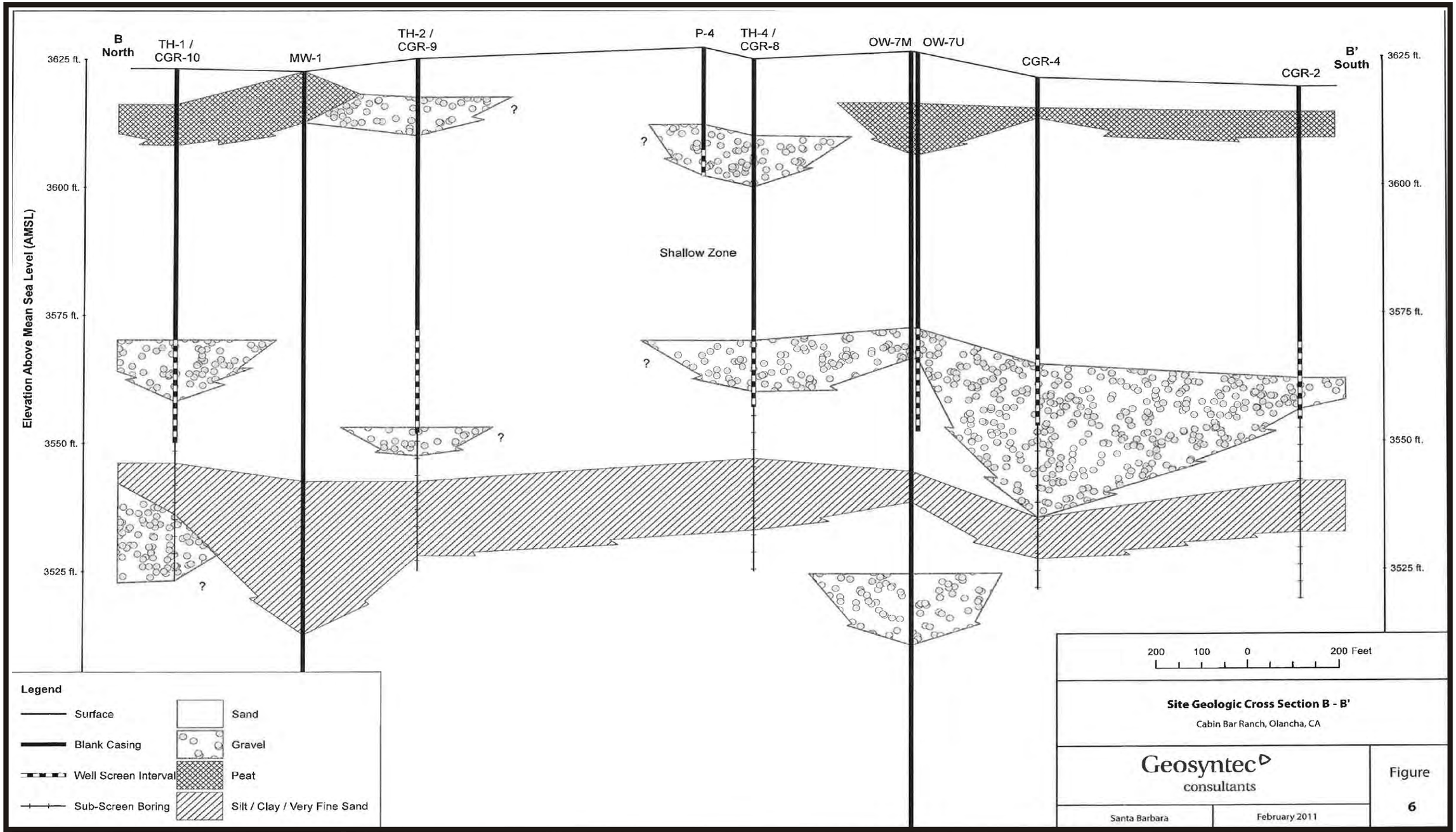
RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Phone (818) 506-0418
Fax (818) 506-1343

Adapted from original cross section by Geosyntec, February 2011

FIGURE 8A
GEOSYNTEC GEOLOGIC CROSS SECTION A-A'
CABIN BAR RANCH AREA

Job No. 445-INY01

June 2012



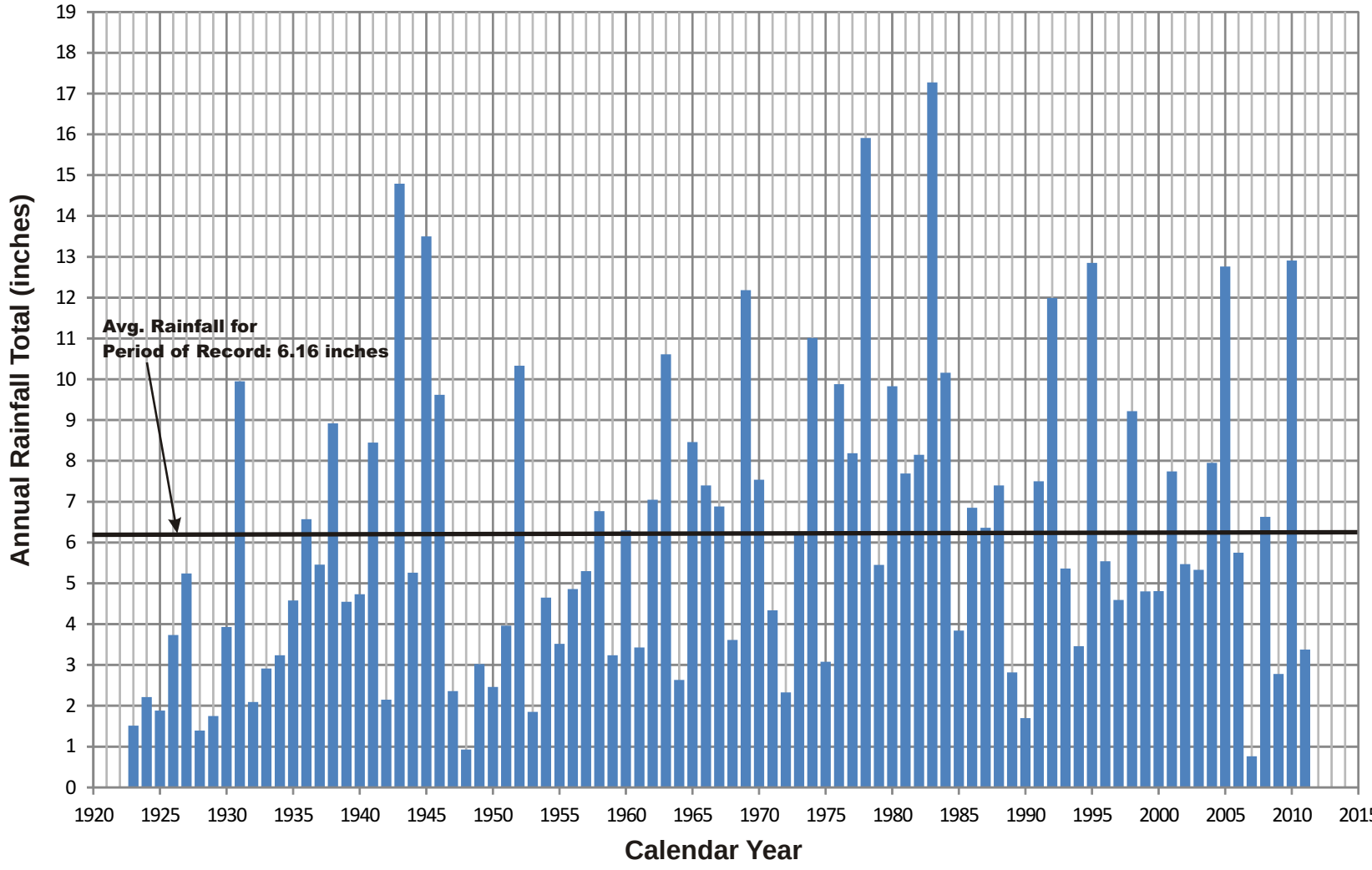
RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Phone (818) 506-0418
Fax (818) 506-1343

Adapted from original cross section by Geosyntec, February 2011

FIGURE 8B
GEOSYNTEC GEOLOGIC CROSS SECTION B-B'
CABIN BAR RANCH AREA

Job No. 445-INY01

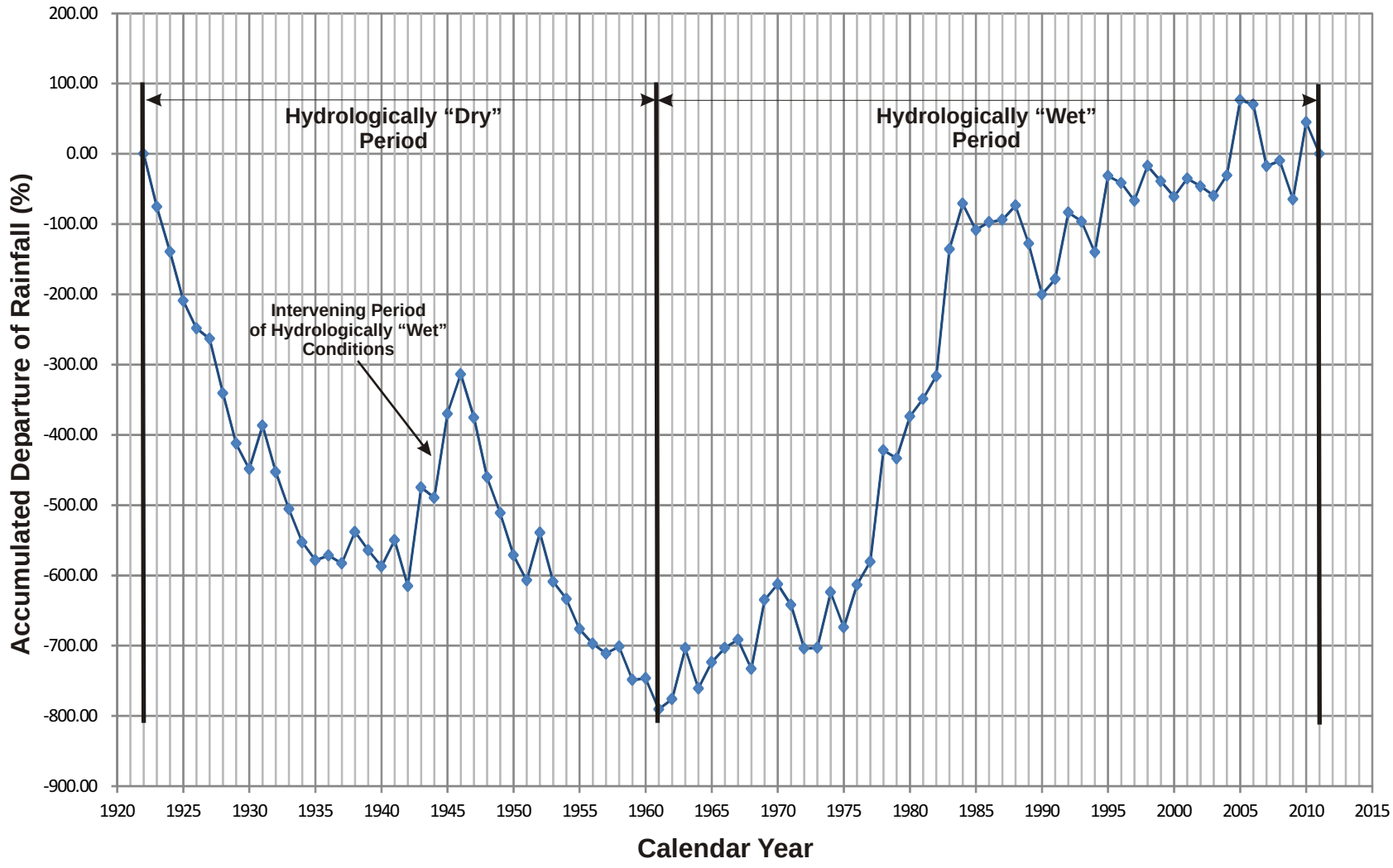
June 2012



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Phone (818) 506-0418
Fax (818) 506-1343

FIGURE 9A
YEARLY RAINFALL TOTALS
HAIWEE RESERVOIR RAIN GAGE

Job No. 445-INY01 **June 2012**



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Phone (818) 506-0418
Fax (818) 506-1343

FIGURE 9B
ACCUMULATED DEPARTURE OF RAINFALL
HAIWEE RESERVOIR RAIN GAGE

Job No. 445-INY01 **June 2012**

APPENDIX 2
TABLES

TABLE 1A
SUMMARY OF AVAILABLE WATER-SUPPLY WELL CONSTRUCTION DATA
CABIN BAR RANCH PROPERTY
INYO COUNTY, CALIFORNIA

Well No.	State Well Completion Report No.	Date Drilled	Method of Drilling	Pilot Hole Depth (ft)	Casing Type & Depth (ft)	Casing Diameter (in)	Borehole Diameter (in)	Sanitary Seal Depth (ft)	Perforation Intervals (ft)	Type of Perforations	Slot Opening of Perforations (in)	Type of Gravel Pack	Pumping Data Reported by Driller at Date of Construction				
													Date	Type of Test	Duration of Test (hrs)	Estimated Test Rate (gpm)	Static Water Level (ft)
CBR-1	ND	ND	direct rotary	198	steel, ND	10	14	ND	60-120	ND	ND	ND	ND	airlift	ND	300	artesian flow @ 60 gpm
CBR-2 (?)	231281 (?)	7/82	direct rotary	187	steel, 186	10	14	20	62-123, 143-186	louvers (?)	0.125	ND	8/4/82	airlift	2	250	artesian flow @ 50 gpm
CBR-3	ND	ND	direct rotary	300	none installed	N/A	6	ND	ND	ND	ND	N/A	ND	ND	ND	N/A	artesian flow at 6 gpm
CBR-4	N/A	ND	ND	60	steel, 60	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CBR-5	575965	10/94	direct rotary	70	PVC to 52; then stainless steel to 67	all 10	17	49	52-67	well screen	0.06	coarse aquarium	10/7/94	ND	ND	ND	2
PW-1 (1989 test production well)	256267 E-logged on 2/9/89	3/89	direct rotary	753	steel 663	16	28	50	200-650	louvers	0.080 (80 slot)	ND	3/89	pumping	ND	2800 by pump	41
CGR-1	Geologic Log by Dames & Moore	4/90	direct rotary	94	PVC to 57; then stainless steel to 88	4 PVC; then 6 stainless steel	ND	52	57-88	well screen	0.020	#3 sand	ND	ND	ND	ND	ND
CGR-2	No E-log performed; Geologic Log by Dames & Moore	11/92	direct rotary	91	PVC to 50; then stainless steel to 65	All 10	22	50	51-65	well screen	0.080	#4 to #12 sand	ND	ND	ND	ND	ND
CGR-3	396391 E-logged on 9/20/03; Geologic Log by Dames & Moore	9/93	direct rotary	86	PVC to 52; then stainless steel to 72	All 10	17	53	56-72	well screen	0.050	#4 to #16 sand	ND	ND	ND	ND	ND
CGR-4	575694 E-logged on 8/2/94; Geologic log by Dames & Moore	8/94	direct rotary	100	PVC to 53; then stainless steel to 67	All 10	20	50	52-67	well screen	0.070	#4 to #12 sand	9/22/94	ND	ND	ND	5

TABLE 1A
SUMMARY OF AVAILABLE WATER-SUPPLY WELL CONSTRUCTION DATA
CABIN BAR RANCH PROPERTY
INYO COUNTY, CALIFORNIA

Well No.	State Well Completion Report No.	Date Drilled	Method of Drilling	Pilot Hole Depth (ft)	Casing Type & Depth (ft)	Casing Diameter (in)	Borehole Diameter (in)	Sanitary Seal Depth (ft)	Perforation Intervals (ft)	Type of Perforations	Slot Opening of Perforations (in)	Type of Gravel Pack	Pumping Data Reported by Driller at Date of Construction				
													Date	Type of Test	Duration of Test (hrs)	Estimated Test Rate (gpm)	Static Water Level (ft)
CGR-5	575695 E-logged on 8/3/94; Geologic log by Dames & Moore	8/94	direct rotary	97	PVC to 52; then stainless steel to 67	All 10	20	49	52-67	well screen	0.060 or 0.070	#4 to #12 sand	10/7/94	ND	ND	ND	2
CGR-6	575966 E-logged on 8/2/94; Geologic Log by Dames & Moore	8/94	direct rotary	100	PVC to 53; then stainless steel to 68	All 10	20	±50	53-68	well screen	0.060	#4 to #12 sand	10/94	ND	ND		3
GCR-7	575967 (log for test hole at site)	9/94	direct rotary	104	PVC to 55; then stainless steel to 70; then PVC to 100	All 10	17	50	55-70	well screen	0.060	coarse aquarium	9/94	ND	ND	ND	artesian flow of 3 to 5 gpm
CGR-8	e0116254; nearby TH-4 borehole E-logged on 5/27/10	8/10	direct rotary	68	stainless steel, 68	10	18	50	53-68	well screen	0.070	#4 to #12	8/16/10	with pump	8	Q=400 s=20 Q/s=20	11
CGR-9	e0116289; nearby TH-2 borehole E-logged on 5/26/10	8/10	direct rotary	73	stainless steel, 73	10	18	50	53-73	well screen	0.070	#4 to #12 sand	8/19/10	with pump	8	Q=400 s=20 Q/s=20	10
CGR-10	e0166312; nearby TH-1 borehole E-logged on 5/25/10	8/10	direct rotary	73	stainless steel, 73	10	18	50	53-73	well screen	0.070	#4 to #12 sand	8/23/10	with pump	8	Q=400 s=20 Q/s=20	5

NOTES: 1. ND = no data; NA = not available
2. Original Data for the CBR Wells 1 through 4 adapted from GSI 1982 report (Table 2).
3. Data shown for CGR-8, -9, and -10 are from official driller's logs of each well and may differ slightly from those data listed on the geologic log of each well. Also, it is not known why driller listed identical test rates and drawdown values on each of his logs for these wells.

TABLE 1B
SUMMARY OF AVAILABLE MONITORING WELL CONSTRUCTION DATA
CABIN BAR RANCH PROPERTY
INYO COUNTY, CALIFORNIA

Well No.	State Well Completion Report No.	Date Drilled	Method of Drilling	Pilot Hole Depth (ft)	Casing Type & Depth (ft)	Casing Diameter (in)	Borehole Diameter (in)	Sanitary Seal Depth (ft)	Perforation Intervals (ft)	Type of Perforations	Slot Opening of Perforations (in)	Type of Gravel Pack
OW-1	Geologic Log by Dames & Moore	8/90	direct rotary	70	PVC 69	4	ND	43	49-69	cut slots	#20	ND
OW-7U	Geologic Log by Dames & Moore	NA	direct rotary	704	NA 74½	5	NA	50	54½-74½	NA	NA	NA
OW-7M	Geologic Log by Dames & Moore	NA	direct rotary	704	NA 252	5	NA	188	212-252	NA	NA	NA
MW-1	256260 E-logged on 3/23/89	3/89	direct rotary	660	PVC 600	4	12	115	150-600	ND	0.060 (60-slot)	ND
MW-2	288949 E-logged on 4/5/89	4/89	direct rotary	700	steel(?) 615	4	12	130	165-615	louvers	0.060 (60-slot)	ND
MW-3	288952 E-logged on 4/18/99	4/89	direct rotary	510	steel 420	4	12	165	200-420	louvers	0.060 (60-slot)	ND
MW-4 (destroyed, 6/1987))	256303	1/89	direct rotary	91	steel 84	6	9	20	20-84	ND	ND	ND

NOTES: 1. ND = no data; NA = not available

TABLE 1C
PIEZOMETER PERFORATION INTERVALS
CABIN BAR RANCH
INYO COUNTY, CALIFORNIA

Piezometer Number	Date Installed	Perforation Interval (ft bgs)
P- 1	April 1988	23 to 28
P- 2		23 to 28
P- 3		24 to 29
P- 4		20 to 25
P- 5		23 to 28
P- 6		23 to 28
P- 7		29 to 34
P- 8		33 to 38
P- 9		20 to 25
P- 10		33 to 38
P- 11		14 to 19
P- 12		14 to 19
P- 13		14 to 19
P- 14		8 to 13
P- 15	April 1989	4 to 9
P- 16		5 to 10
RP- 1	Sept 2010	6 to 8
RP- 2		6 to 8
RP- 3		5 to 7
RP- 4		5 to 7
RP- 5		1 to 3

NOTES: The P series piezometers consist of 2-inch diameter galvanized steel tubes. No data available on the screened type or size. See JMM (1989) and MW (1993) for additional details on these piezometers.

The RP piezometers consisted of a 2-foot section of stainless steel screen with 0.020-inch slots joined with a galvanized steel pipe to ground surface and equipped with steel risers above the ground. See Geosyntec (2011) for additional detail regarding the construction of these piezometers.

TABLE 2
LISTING OF TRANSMISSIVITY AND STORATIVITY VALUES
SEPTEMBER-NOVEMBER 2010
AQUIFER TESTING OF CGR WELL NOS. 8, 9, 10

Well No.	Peforation Interval (ft bgs)	Transmissivity (ft^2/min)	Transmissivity (gpd/ft)	Storativity	Solution (Model) Method
CGR-8 Testing 10/15 - 10/18/2010					
CGR-9	53-73	34.32	369,717	0.002564	Theis (unconfined)
		33.58	361,745	0.002627	Newman Witherspoon (leaky)
CGR-10	53-73	34.83	375,211	0.00081	Theis (unconfined)
		35.81	385,768	0.0007865	Newman Witherspoon (leaky)
P-4	20-25	16.16	174,086	0.00006458	Theis (unconfined)
		8.883	95,693	0.002111	Newman Witherspoon (leaky)
CGR-9 Testing 9/17 - 9/20/2010					
CGR-8	53-68	21.64	233,120	0.0008107	Theis (unconfined)
		13.1	141,122	0.0003981	Newman Witherspoon (leaky)
CGR-10	53-73	14.19	152,864	0.0007711	Theis (unconfined)
		8.743	94,185	0.0004714	Newman Witherspoon (leaky)
P-2	23-28	11.12	119,792	0.006404	Theis (unconfined)
		8.502	91,589	0.008613	Newman Witherspoon (leaky)
P-12	14-19	10.8	116,345	0.001376	Theis (unconfined)
		2.732	29,431	0.001264	Newman Witherspoon (leaky)
CGR-10 Testing 11/12-11/15/2010					
CGR-8	53-68	35.89	386,630	0.0007906	Theis (unconfined)
		27.49	296,140	0.0007701	Newman Witherspoon (leaky)
CGR-9	53-73	14.64	157,711	0.0000657	Theis (unconfined)
		5.0	53,863	0.0002029	Newman Witherspoon (leaky)
P-5	23-28	10.17	109,558	0.0000378	Theis (unconfined)
		6.352	68,428	0.0004988	Newman Witherspoon (leaky)
P-11	14-19	5.932	63,903	0.001883	Theis (unconfined)
		4.587	49,414	0.003757	Newman Witherspoon (leaky)

Note: Data from Appendix J of GeoSyntec February 2011 Report

TABLE 3
MODEL CALCULATED VALUES OF THEORETICAL WATER LEVEL DRAWDOWN
CABIN BAR RANCH AREA

WELL NO.	Water Level Drawdown (ft)				
TIME PERIOD (days)>>	**30**	**60**	**90**	**180**	**360**
CGR-3	0.54	0.61	0.65	0.72	0.80
CGR-1	0.54	0.62	0.66	0.73	0.80
CGR-7	0.61	0.68	0.72	0.79	0.87
CGR-5	0.64	0.71	0.76	0.83	0.90
CGR-2	0.70	0.77	0.81	0.88	0.95
CGR-6	0.74	0.81	0.85	0.92	0.99
CGR-4	0.79	0.86	0.90	0.97	1.05
P-3	0.81	0.88	0.92	0.99	1.06
OW7MU	0.82	0.89	0.94	1.01	1.08
P-14	0.78	0.85	0.89	0.97	1.04
P-4	0.88	0.95	0.99	1.06	1.13
P-13 & RP-1	0.93	1.00	1.04	1.12	1.19
RP-5	0.90	0.97	1.01	1.09	1.16
P-1	0.86	0.93	0.97	1.04	1.12
CBR-4	0.92	0.99	1.03	1.11	1.18
RP-2	0.90	0.98	1.02	1.09	1.16
MW-4	0.81	0.88	0.92	1.00	1.07
RP-3	0.93	1.00	1.05	1.12	1.19
P-12	0.96	1.03	1.07	1.14	1.21
P-15	0.87	0.94	0.99	1.06	1.13
P-16	0.71	0.78	0.82	0.90	0.97
MW-1	0.97	1.04	1.08	1.16	1.23
MW-2	0.80	0.87	0.92	0.99	1.06
PW-1	0.74	0.81	0.85	0.92	1.00
RP-4	0.90	0.98	1.02	1.09	1.16
P-5	0.85	0.92	0.96	1.03	1.11
MW-3	0.73	0.80	0.84	0.91	0.99
P-11	0.91	0.98	1.03	1.10	1.17
CBR-3	0.86	0.93	0.98	1.05	1.12
P-7	0.75	0.82	0.87	0.94	1.01
P-6	0.78	0.85	0.89	0.96	1.03
CBR-2	0.76	0.83	0.88	0.95	1.02
P-8	0.69	0.76	0.80	0.87	0.94
P-9	0.71	0.78	0.83	0.90	0.97
CBR-1	0.71	0.78	0.82	0.89	0.96
P-10	0.62	0.69	0.73	0.80	0.87
CMW-1 & CMW-2	0.54	0.61	0.66	0.73	0.80

Notes: Based on a T value of 250,000 gpd and an S value of 0.001

APPENDIX 3
PLATES

North

A

Intersection with B - B'

South

A'

Elevation (ft asl)

3660
3640
3620
3600
3580
3560
3540
3520
3500
3480
3460
3440
3420
3400

CGR-10 (TH-1) 3619.72
MW-1
CGR-9 (TH-2) 3618.95
TH-3
CGR-8 (TH-4) 3617.78
CGR-4 3616.72
CGR-6 ND
CGR-5 ND
OW-1
CGR-3 ND

TD = 110'
TD = 110'
TD = 109'
TD = 102'
TD = 100'
TD = 98'
TD = 98'
TD = 660'
TD = 69'
E-log TD = 77'
Geologic Log TD = 86'

E-log for TH-3 is available but is not shown hereon due to lack of space on this cross section.

Geologic data from geologic log of nearby CGR-1; TD = 94'

Sand and Gravel Undifferentiated

Shallow Aquifer Zone

Aquitard

Sand and Gravel Undifferentiated

Deeper Aquifer Systems

Legend

Well Number → CGR-6

Perforated Interval →

← Geophysical electric log of pilot borehole

Water Surface Elevation in each well for January 2012 from Geosyntec.
ND = No Data

20'
200'

Vertical Scale 1" = 20'
Horizontal Scale 1" = 200'
Vertical Exaggeration = 10X

Notes: 1. See Figure 3 for locations of cross sections
2. Total Depth (TD) shown above represents total depth of pilot borehole listed on E-log or geologic log.

RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd. Suite 202
Studio City, CA 91604
Phone (818) 506-0418
Fax (818) 506-1343

PLATE 1
RCS ELECTRIC LOG CORRELATION SECTION A - A'
CABIN BAR RANCH

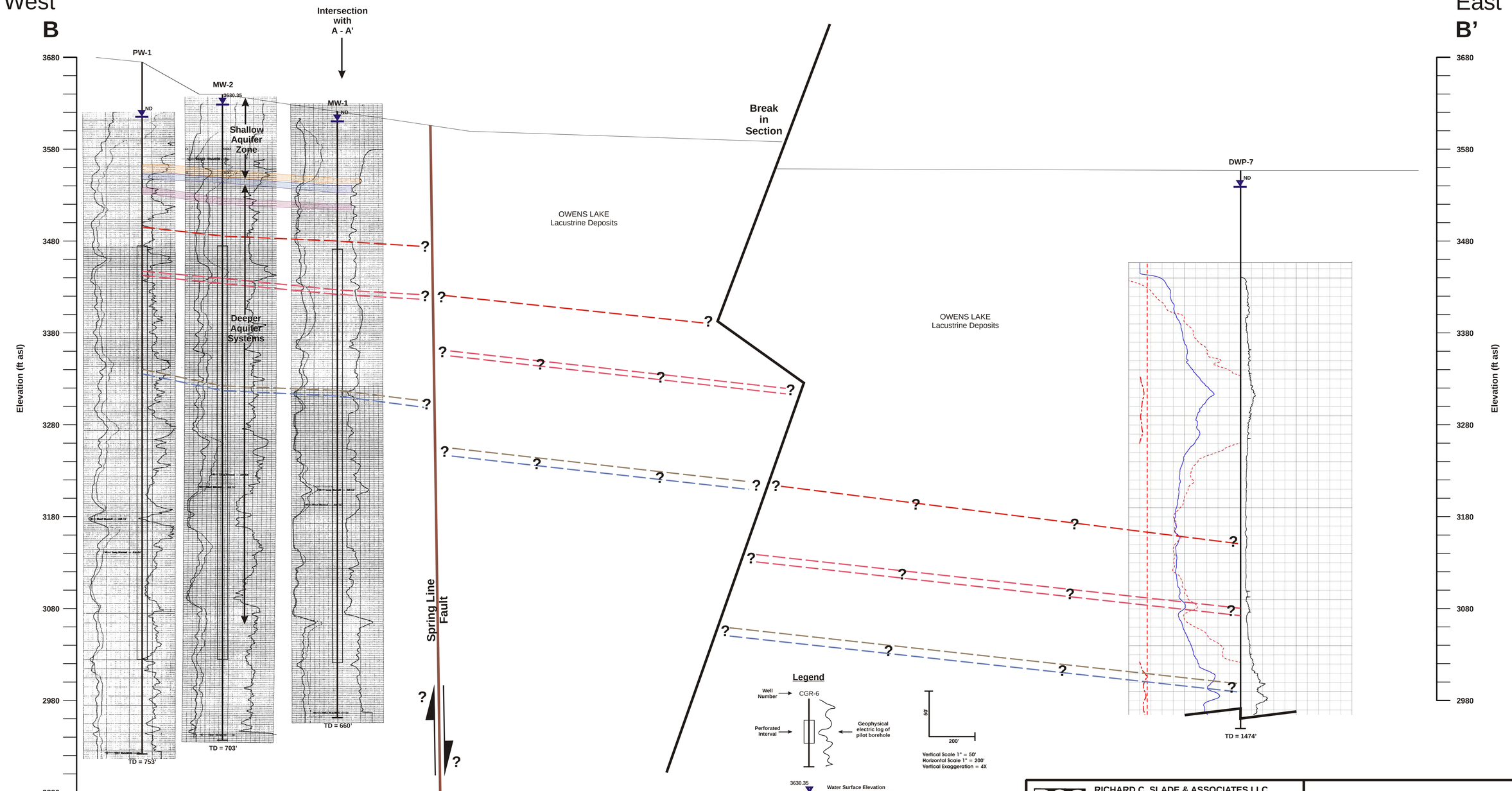
Job No. 445-INY01 June 2012

West

B

East

B’



Notes: 1. See Figure 3 for locations of cross sections
2. Total Depth (TD) shown above represents total depth of pilot borehole listed on E-log.

RCS

RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd. Suite 202
Studio City, CA 91604
Phone (818) 506-0418
Fax (818) 506-1343

PLATE 2
RCS ELECTRIC LOG CORRELATION SECTION B - B’
CABIN BAR RANCH

Job No. 445-INY01 June 2012

APPENDIX 4
PHOTOGRAPHS



**Photo 4-1: Surface staining and standpipe.
View to the southwest.**



Photo 4-2: Interior view of standpipe showing switching mechanism.



Photo 4-3: Surface staining extending downstream in Cartago Creek. Standpipe in foreground. View to the northeast.



Photo 4-4: Upstream view of surface staining and standpipe. View towards the west.



Photo 4-5: Well PW-1. Note discharge pipe heading to the north. View to the east.

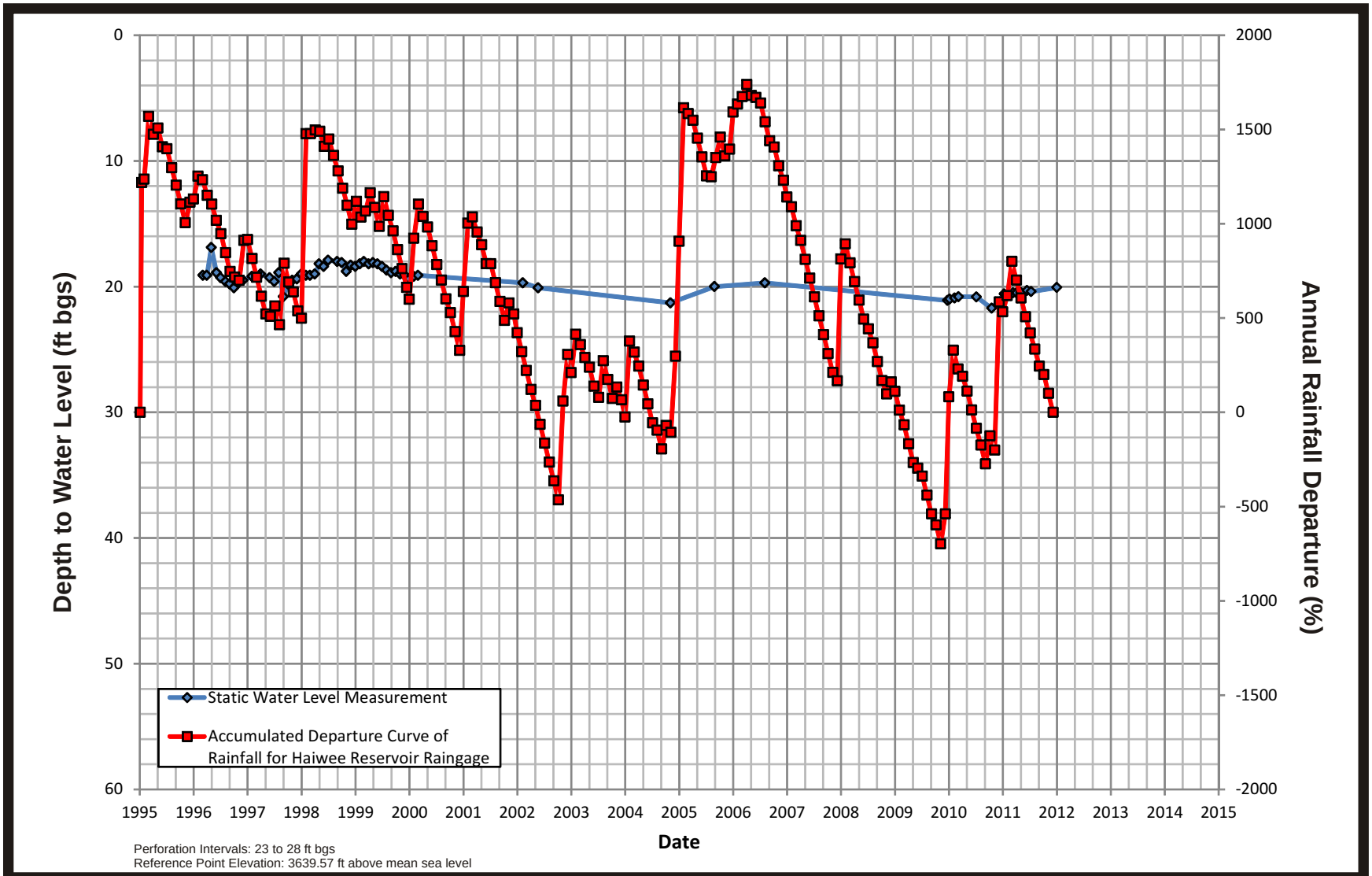


Photo 4-6: Well PW-1. Discharge pipe heads to the north. View towards the southwest.



Photo 4-7: Vents along buried discharge line heading to the north. View towards the south.

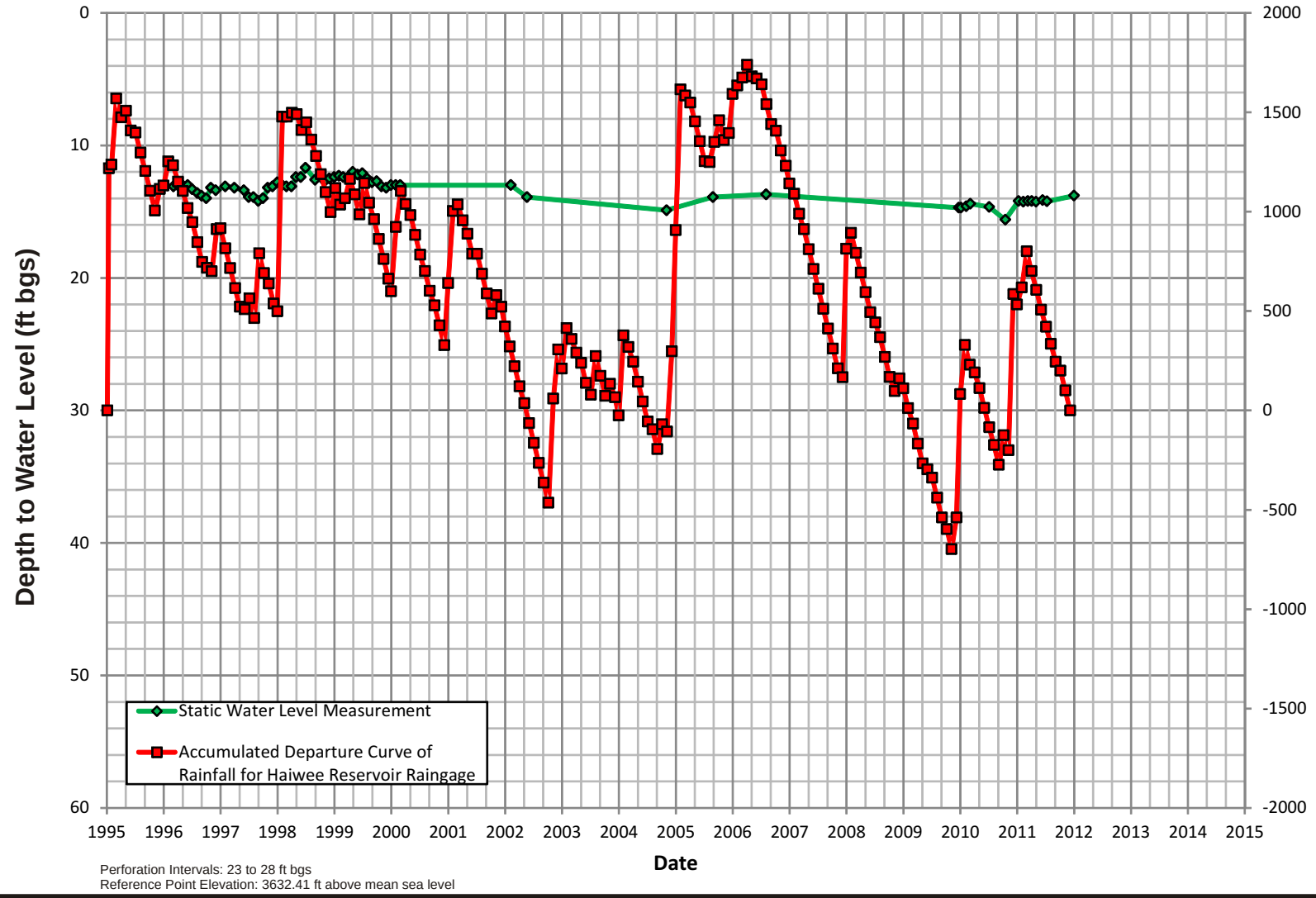
APPENDIX 5
WATER LEVEL HYDROGRAPHS



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-1
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL
PIEZOMETER P-1, CABIN BAR RANCH

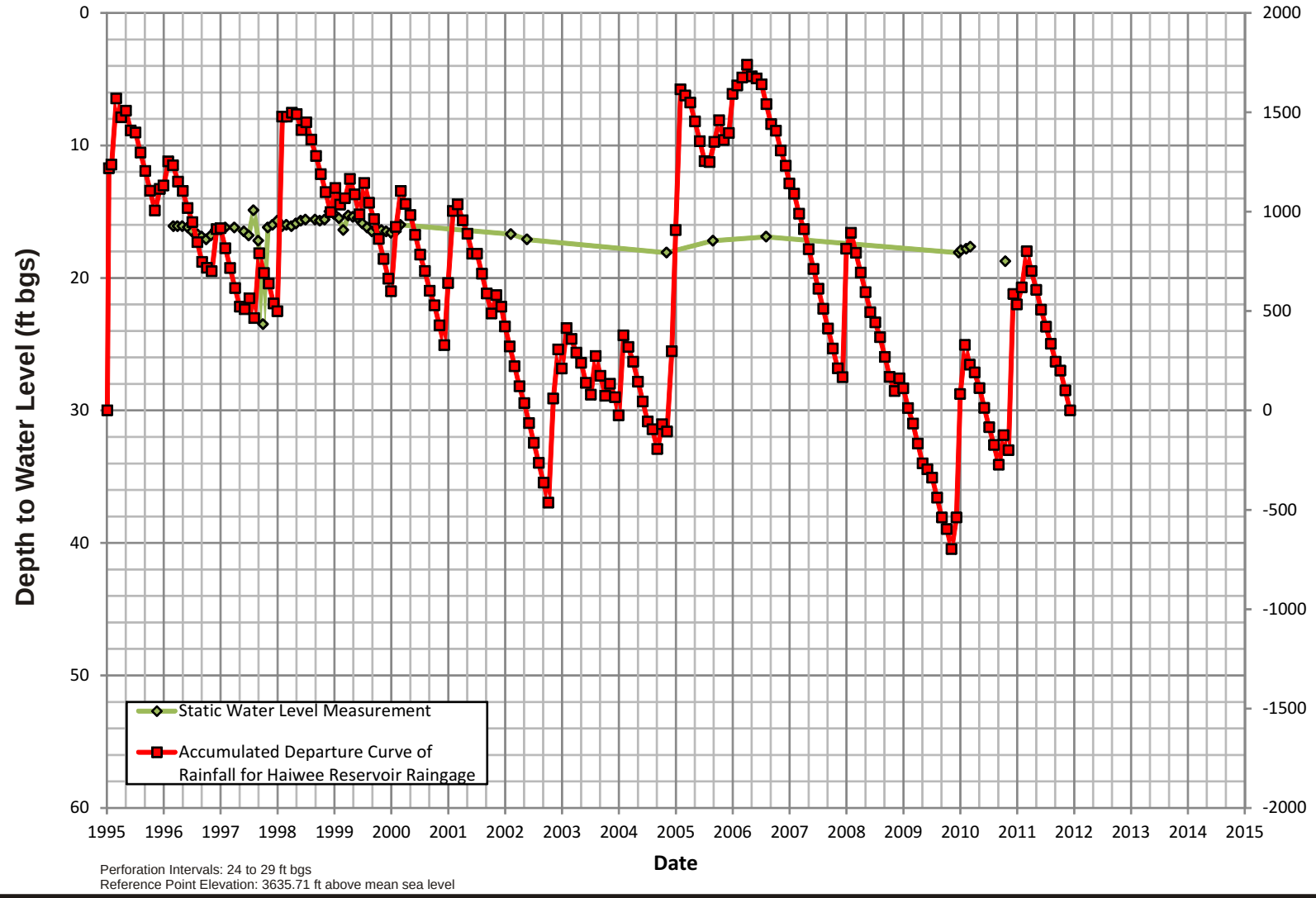
Job No. 445-INY01 **June 2012**



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-2
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL PIEZOMETER P-2, CABIN BAR RANCH

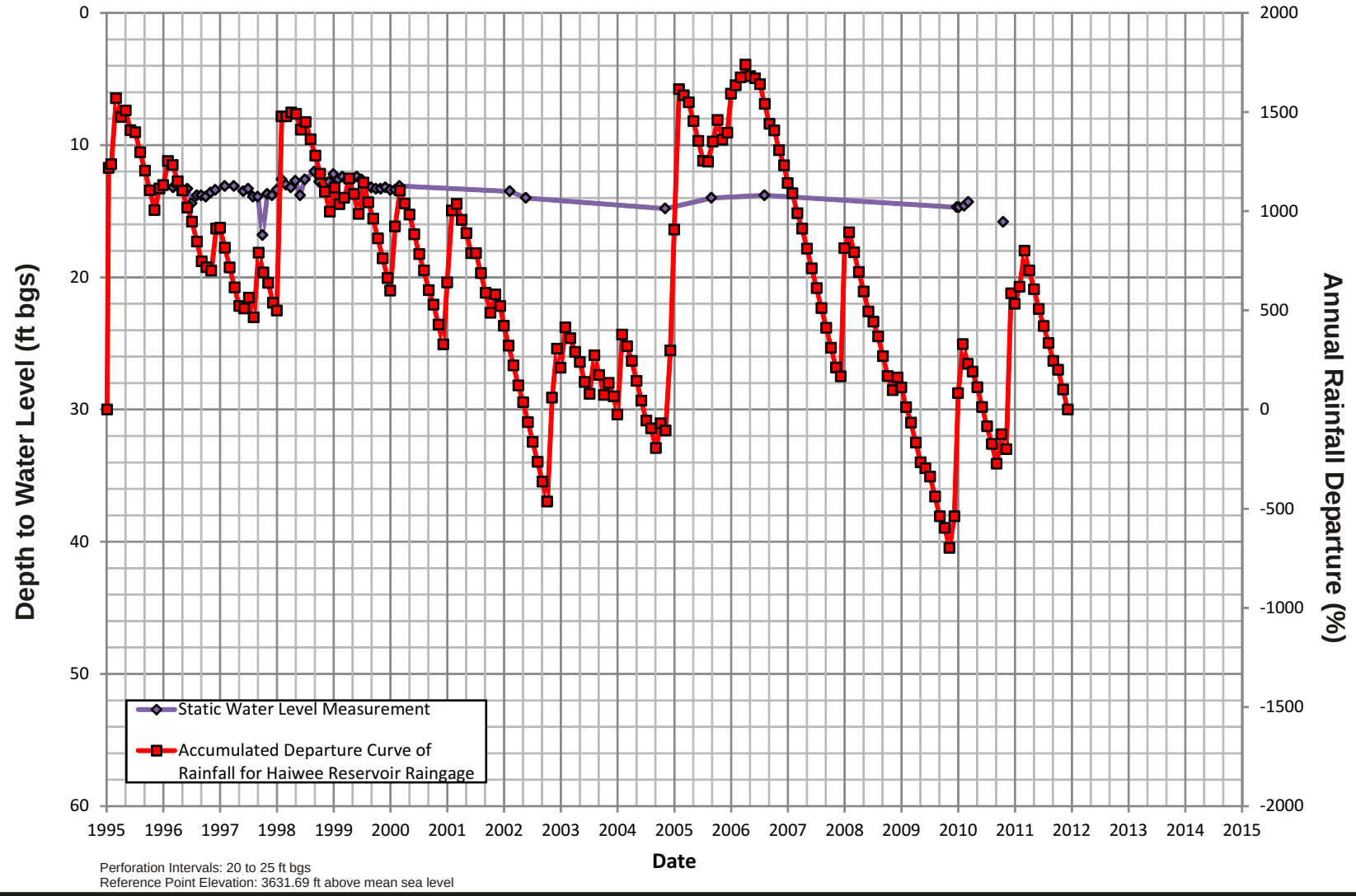
Job No. 445-INY01 **June 2012**



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-3
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL PIEZOMETER P-3, CABIN BAR RANCH

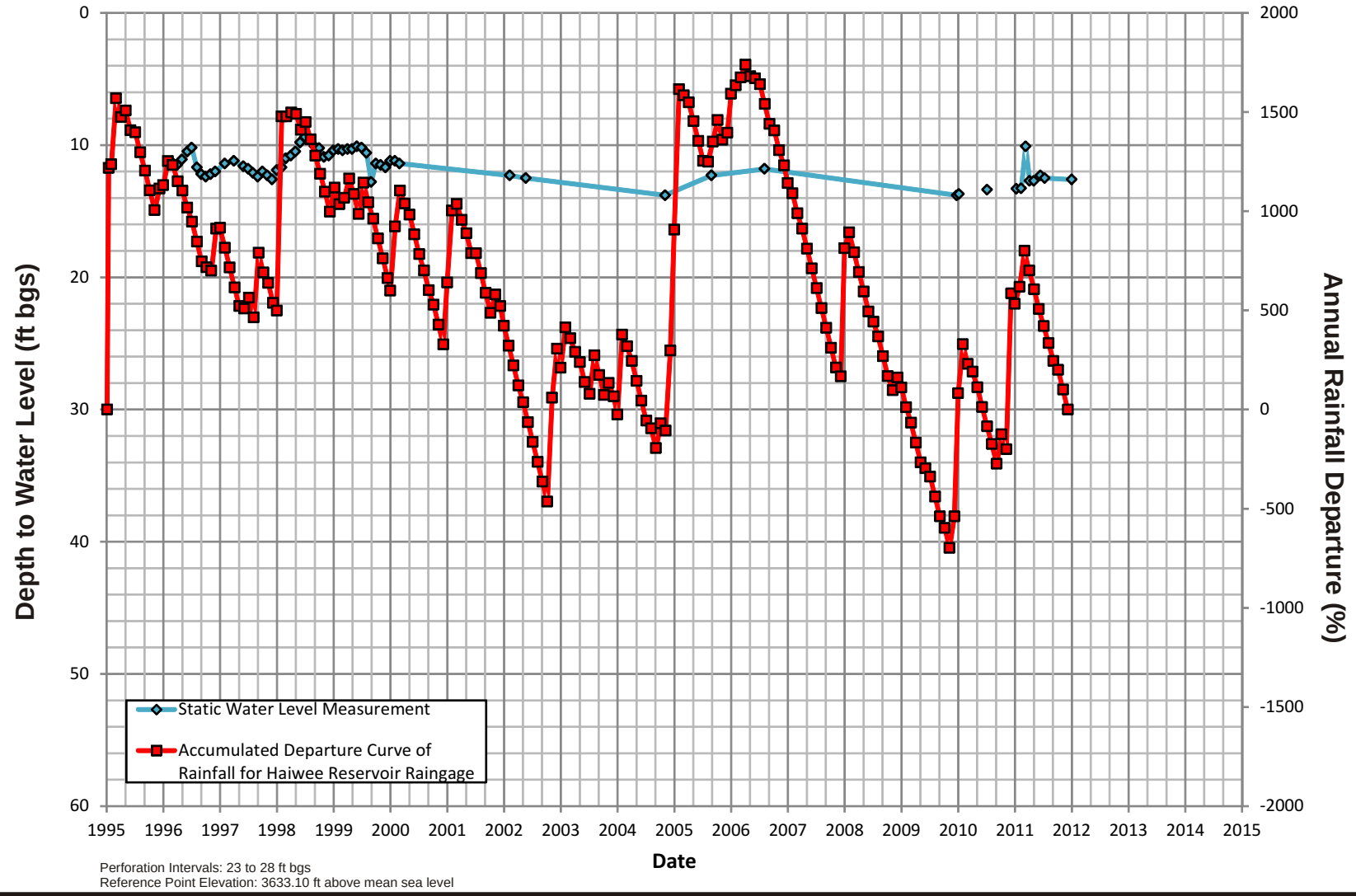
Job No. 445-INY01 **June 2012**



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-4
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL PIEZOMETER P-4, CABIN BAR RANCH

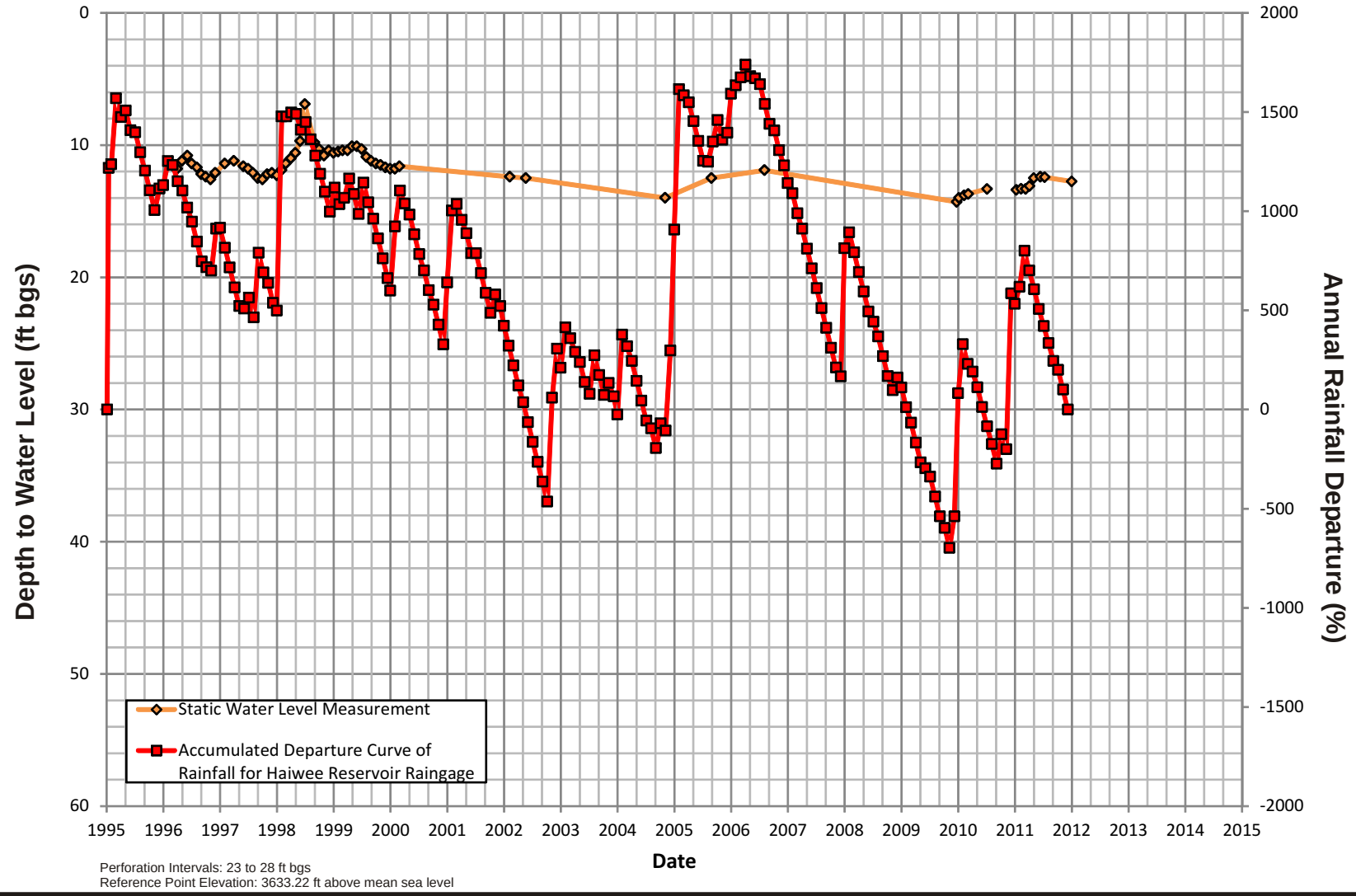
Job No. 445-INY01 **June 2012**



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-5
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL PIEZOMETER P-5, CABIN BAR RANCH

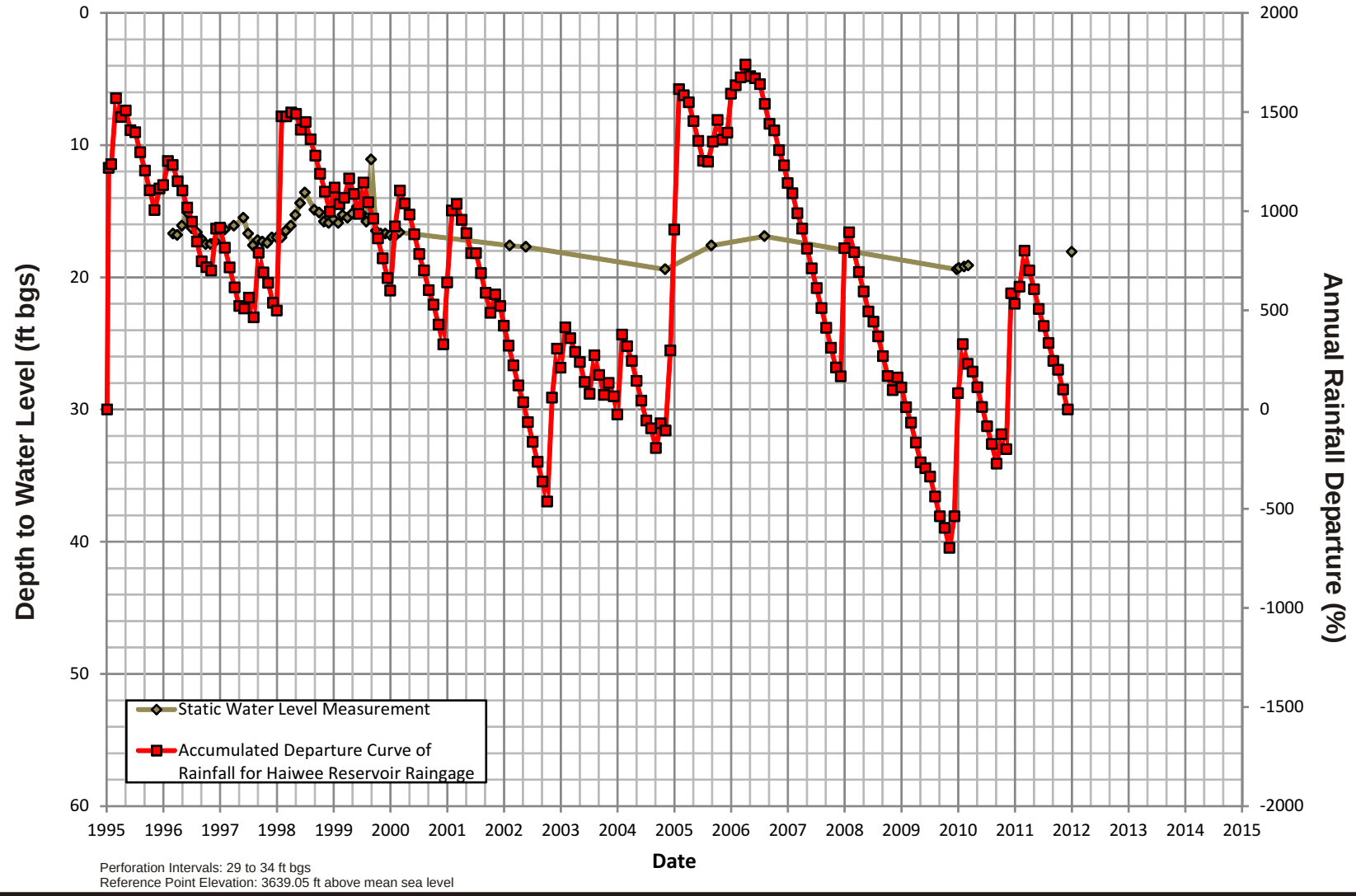
Job No. 445-INY01 **June 2012**



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-6
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL PIEZOMETER P-6, CABIN BAR RANCH

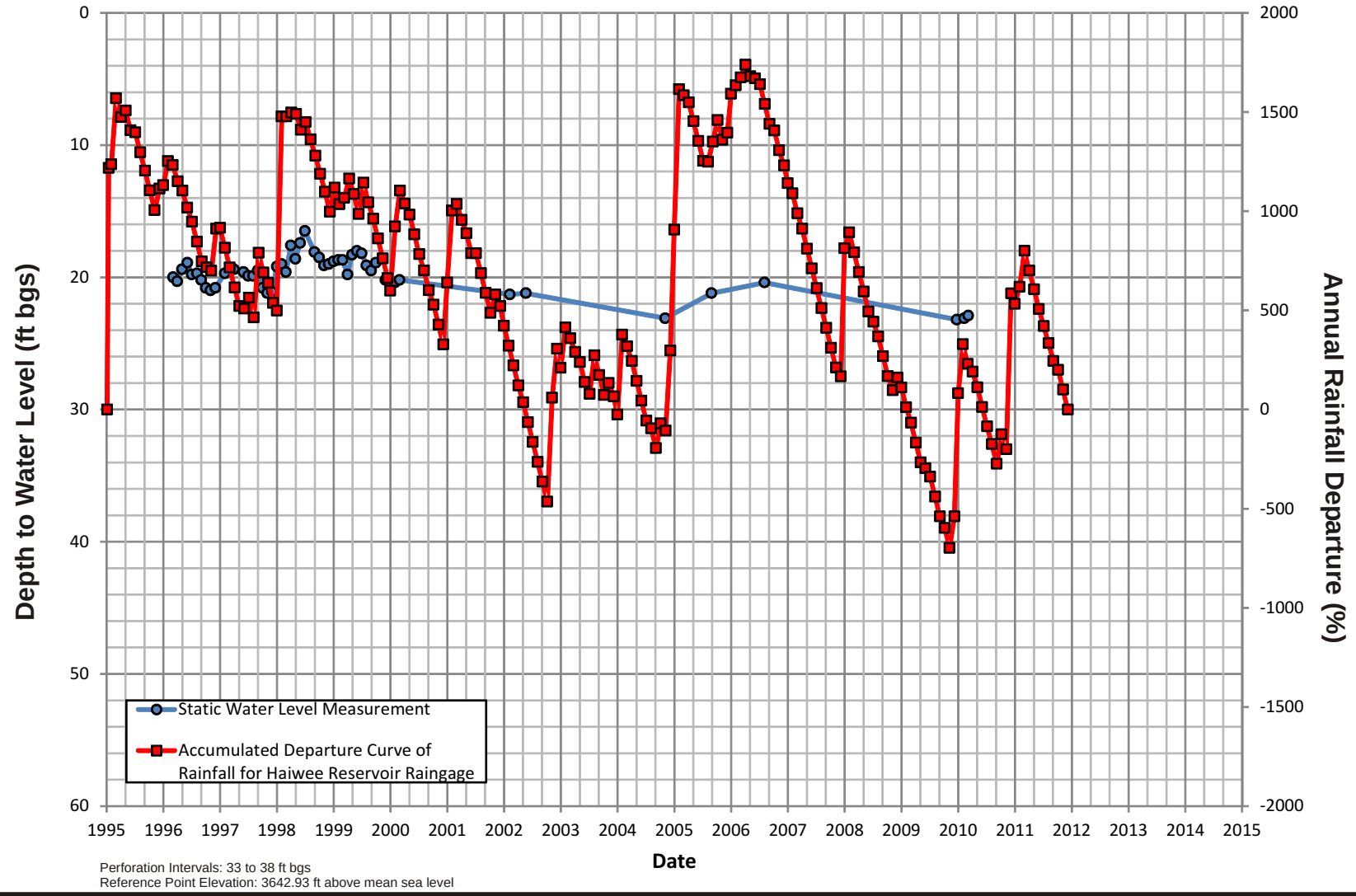
Job No. 445-INY01 **June 2012**



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-7
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL PIEZOMETER P-7, CABIN BAR RANCH

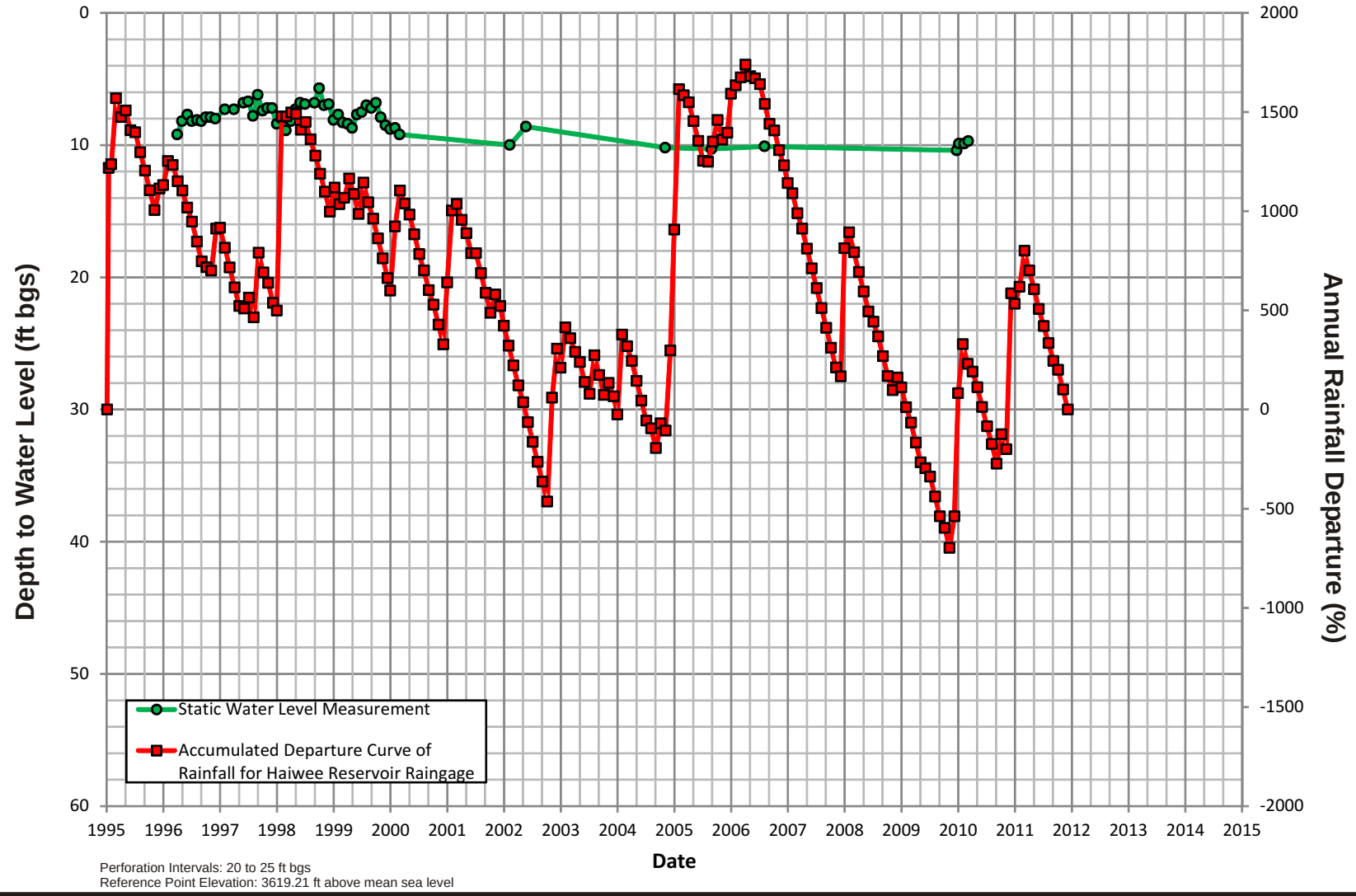
Job No. 445-INY01 **June 2012**



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-8
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL PIEZOMETER P-8, CABIN BAR RANCH

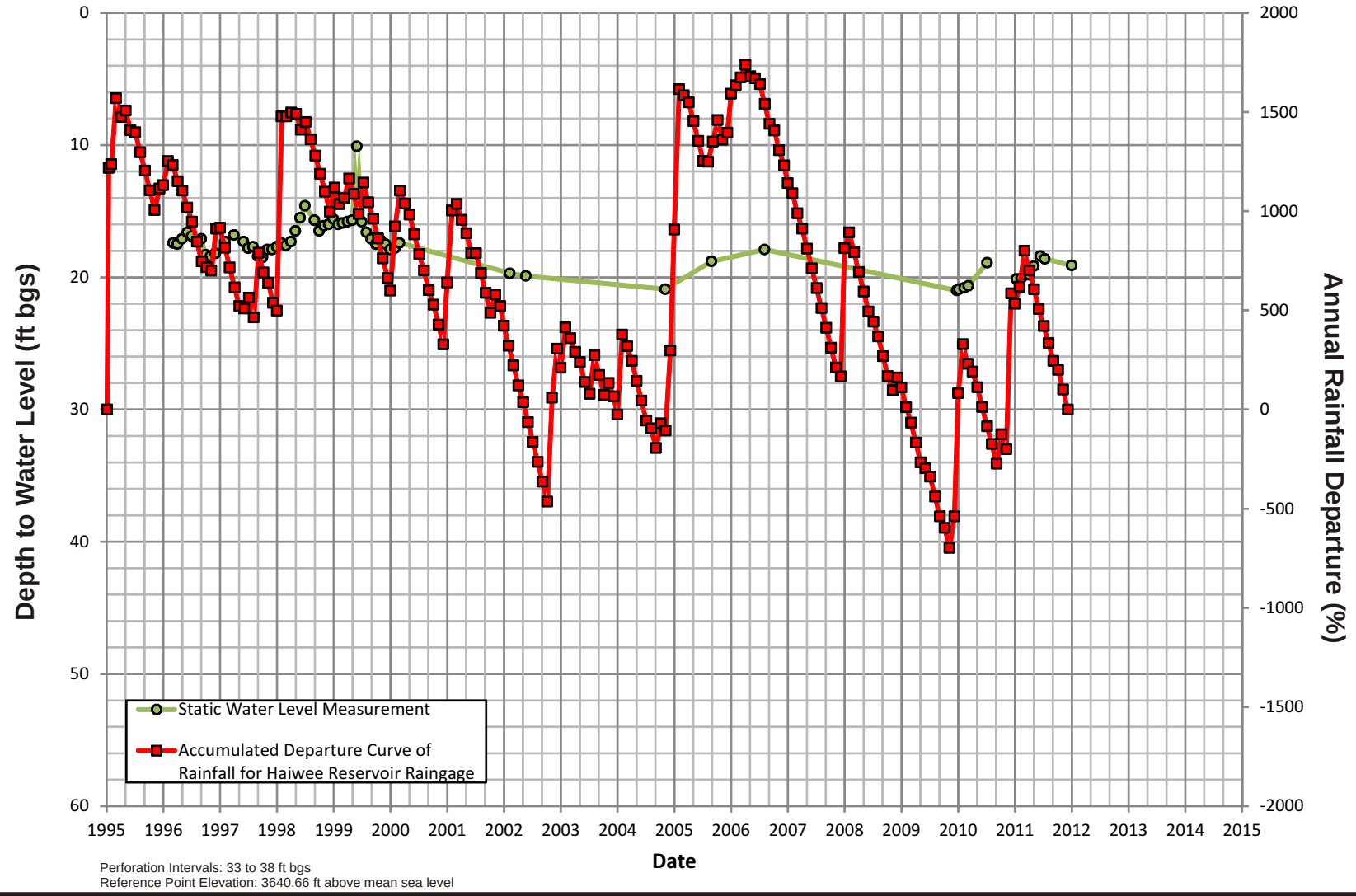
Job No. 445-INY01 **June 2012**



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-9
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL PIEZOMETER P-9, CABIN BAR RANCH

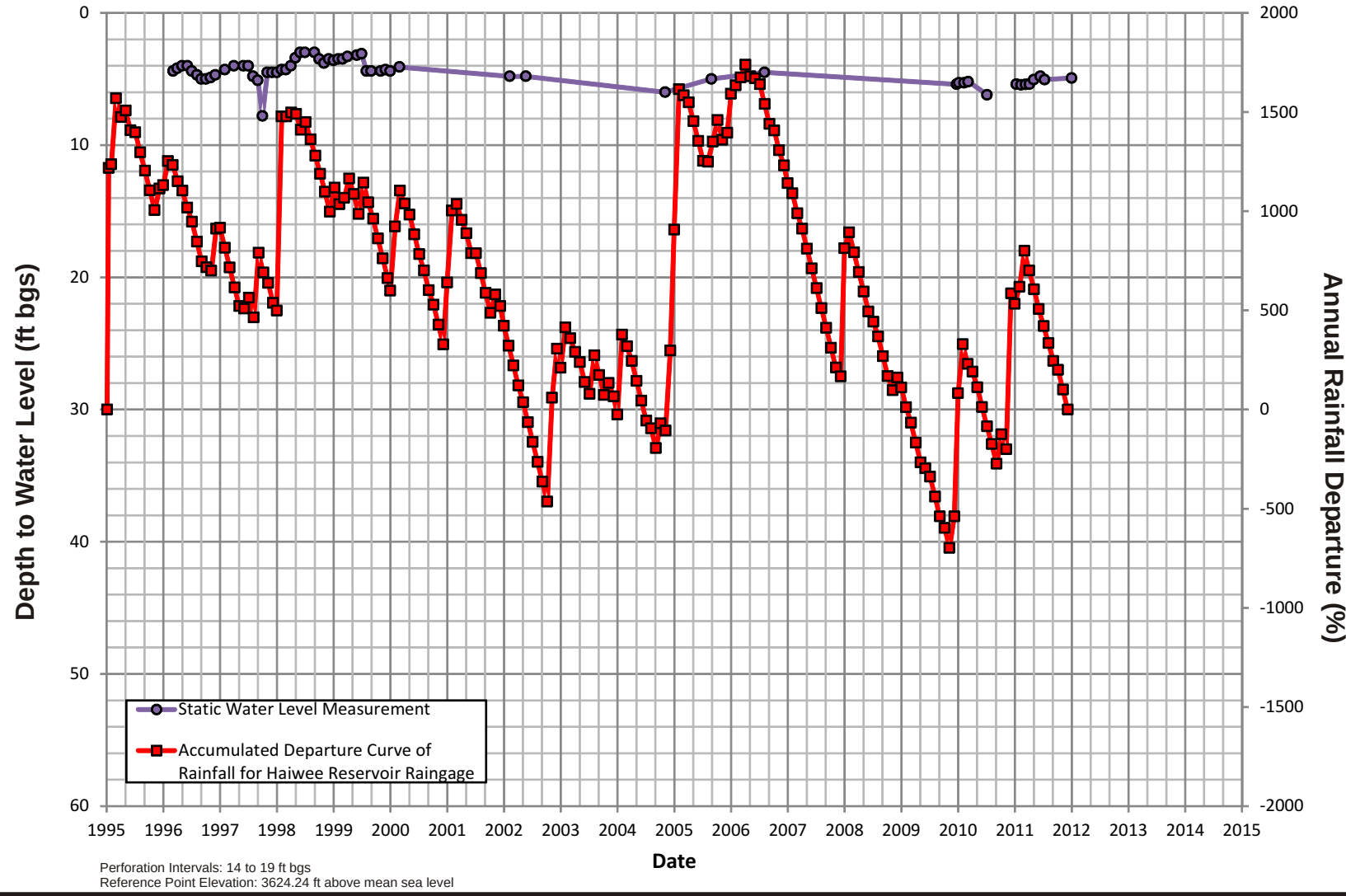
Job No. 445-INY01 **June 2012**



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-10
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL PIEZOMETER P-10, CABIN BAR RANCH

Job No. 445-INY01 **June 2012**

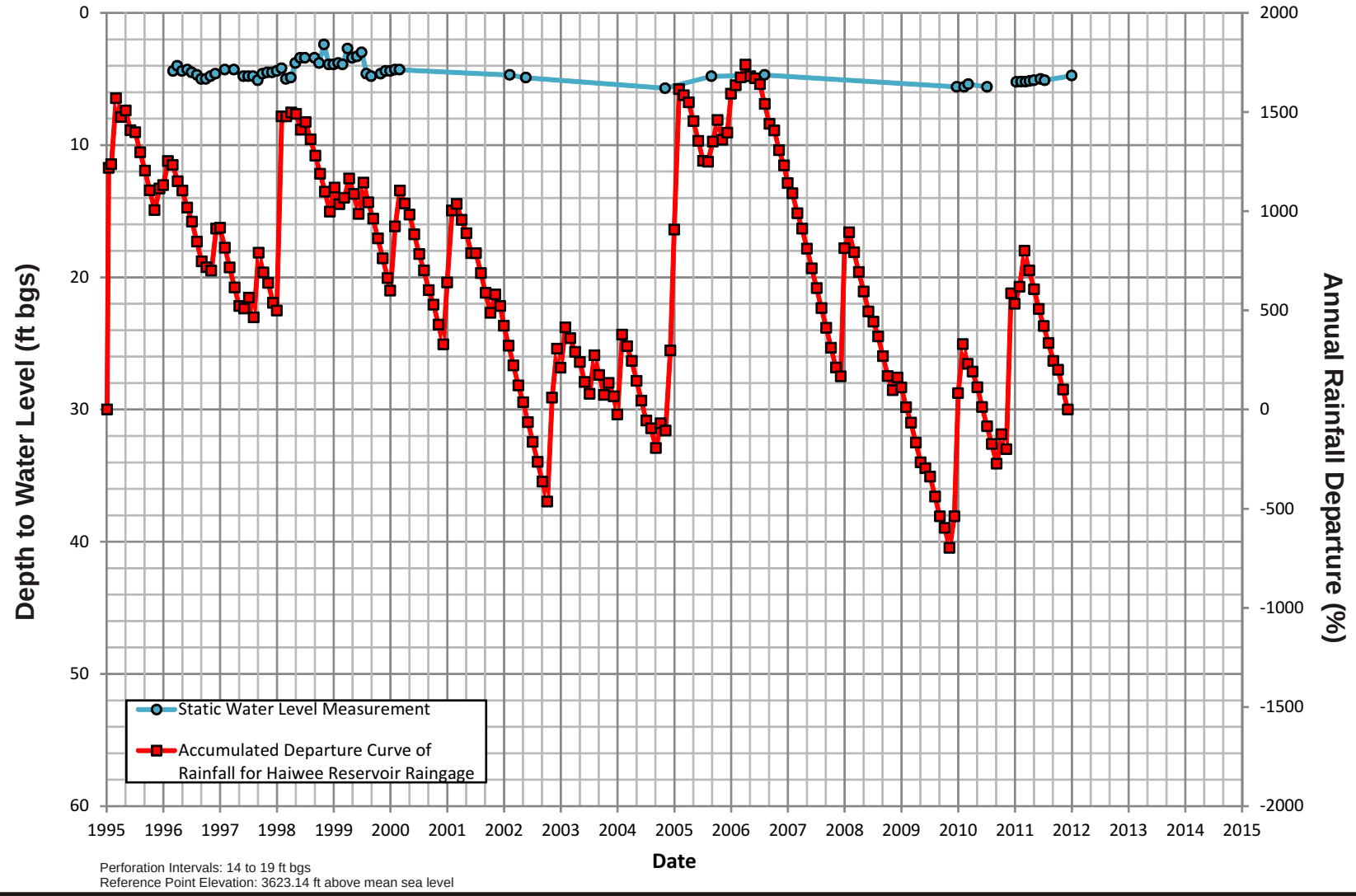


Perforation Intervals: 14 to 19 ft bgs
Reference Point Elevation: 3624.24 ft above mean sea level

RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-11
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL PIEZOMETER P-11, CABIN BAR RANCH

Job No. 445-INY01 **June 2012**

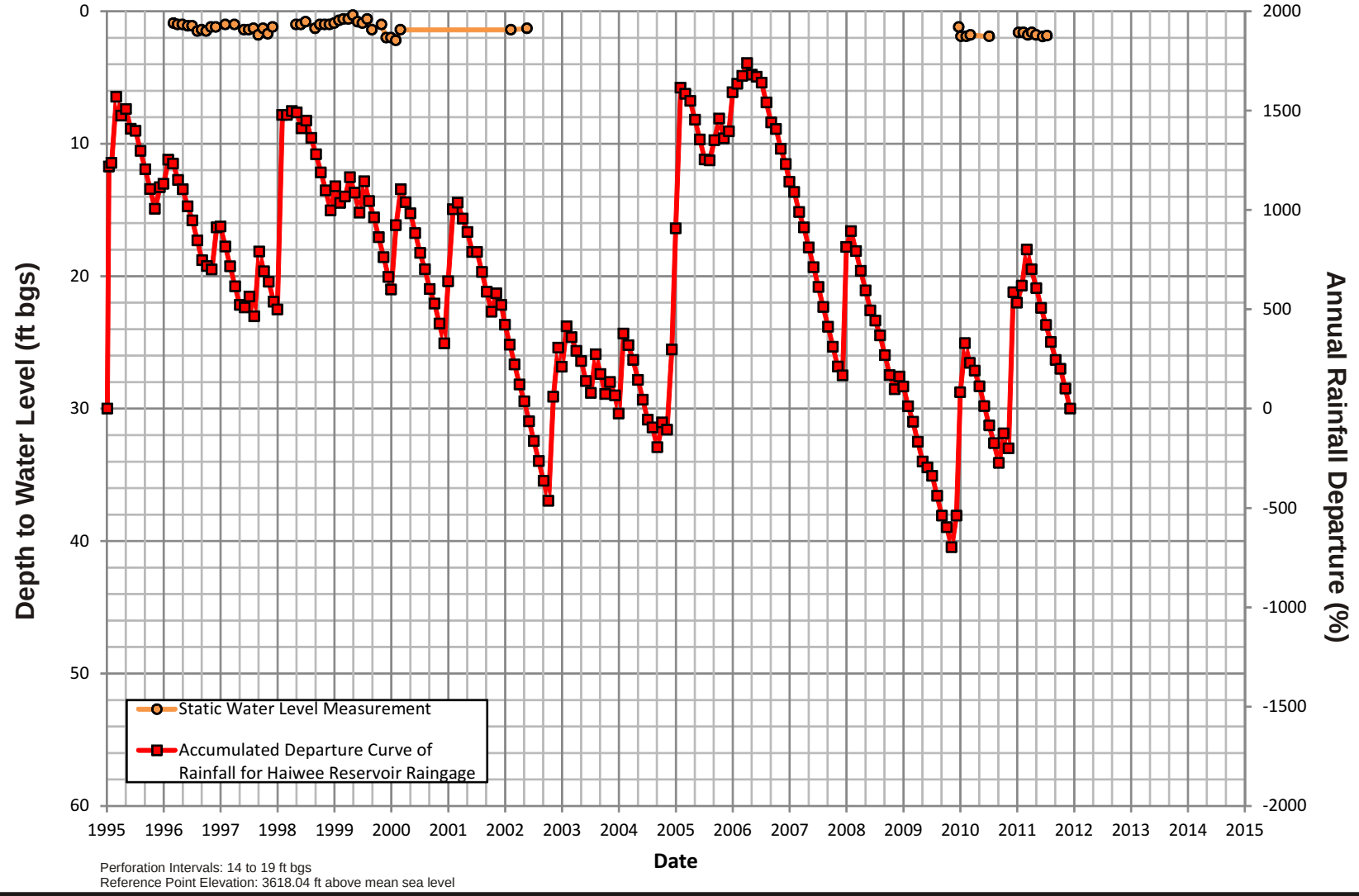


Perforation Intervals: 14 to 19 ft bgs
Reference Point Elevation: 3623.14 ft above mean sea level

RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-12
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL PIEZOMETER P-12, CABIN BAR RANCH

Job No. 445-INY01 **June 2012**

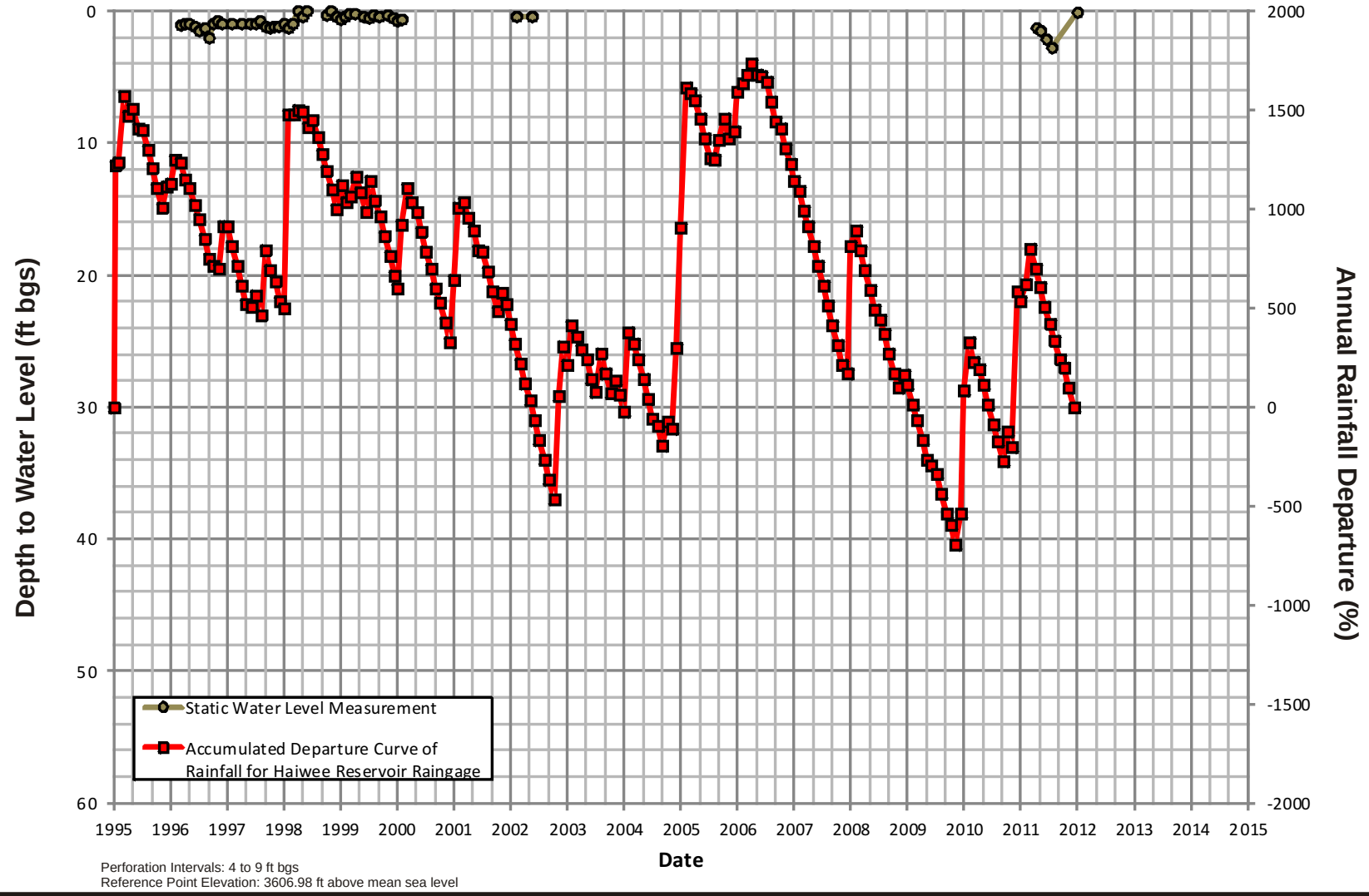


Perforation Intervals: 14 to 19 ft bgs
Reference Point Elevation: 3618.04 ft above mean sea level

RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-13
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL PIEZOMETER P-13, CABIN BAR RANCH

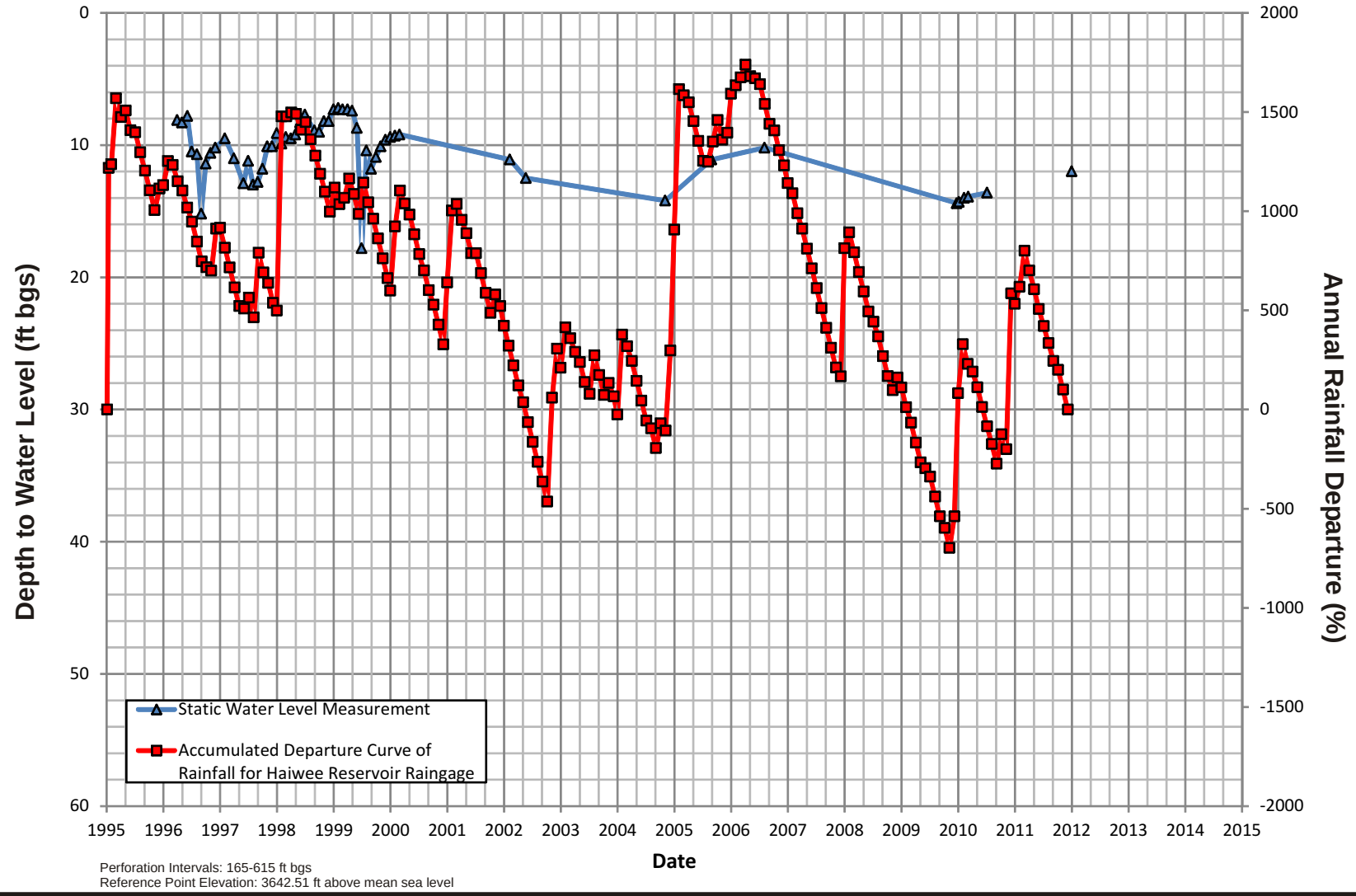
Job No. 445-INY01 **June 2012**



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-14
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL PIEZOMETER P-15, CABIN BAR RANCH

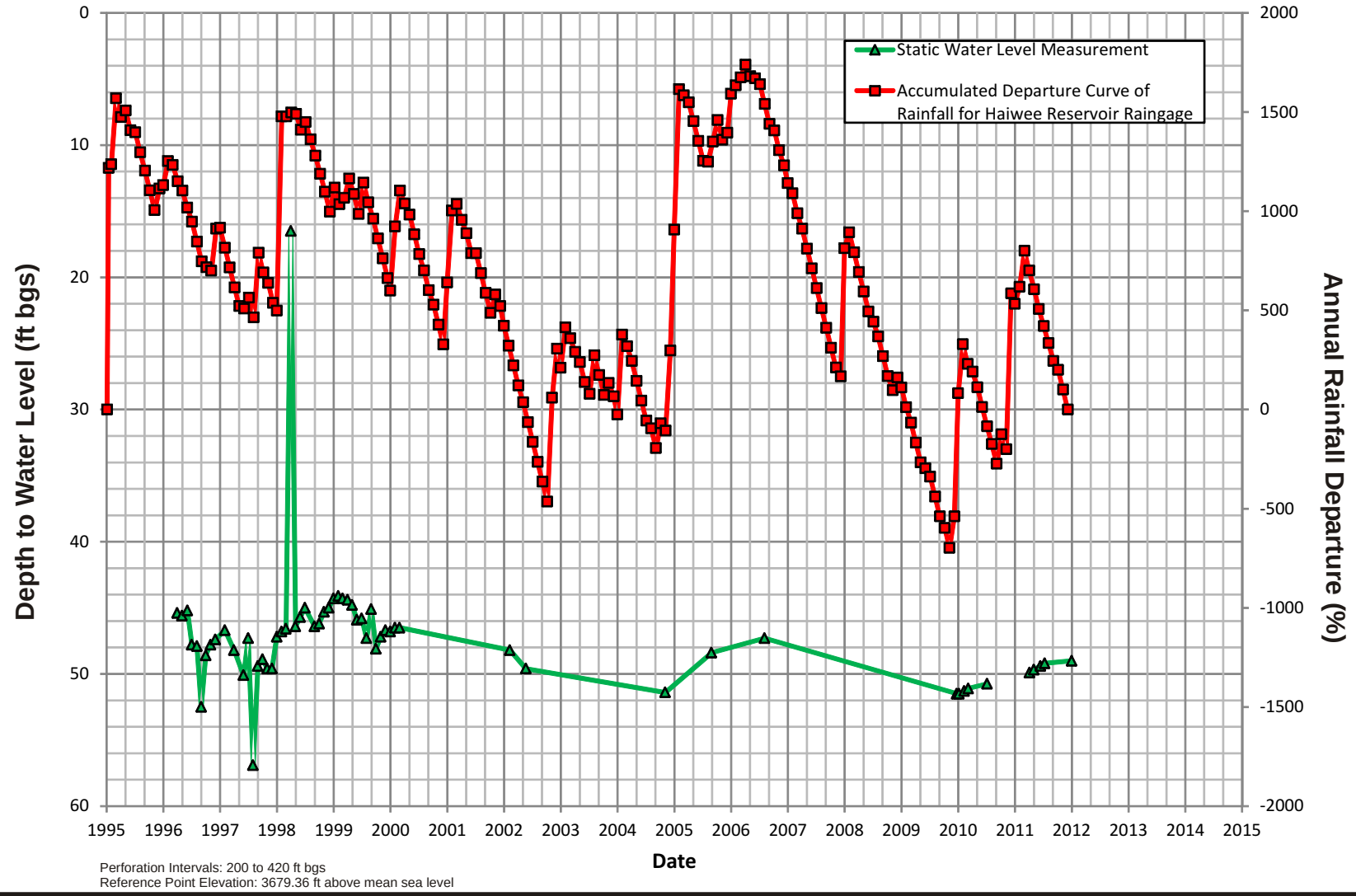
Job No. 445-INY01 **June 2012**



RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-15
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL MONITORING WELL MW-2, CABIN BAR RANCH

Job No. 445-INY01 **June 2012**



Perforation Intervals: 200 to 420 ft bgs
Reference Point Elevation: 3679.36 ft above mean sea level

RICHARD C. SLADE & ASSOCIATES LLC
CONSULTING GROUNDWATER GEOLOGISTS
12750 Ventura Blvd., Suite 202
Studio City, CA 91604
Studio City Phone (818) 506-0418
Napa Phone (707) 963-3914
Fax (818) 506-1343

FIGURE 5-16
HYDROGRAPH OF STATIC WATER LEVELS VERSUS ACCUMULATED DEPARTURE OF RAINFALL MONITORING WELL MW-3, CABIN BAR RANCH

Job No. 445-INY01 **June 2012**

Appendix G: Noise Technical Data

Appendix

- Construction Noise Calculations

Project: Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project

Construction Phase: ***Site Grading***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	80	40%	300	
Water Trucks	1	80	10%	300	
Graders	1	85	40%	400	
Compactor (Ground)	1	83	20%	400	

Receptor: ***R1***

Results:

Hourly Leq: **66**

Source for Ref. Noise Levels: FHWA, RCNM 2005

Project: Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project

Construction Phase: ***Building Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Cement and Mortar Mixers	1	79	40%	300	0
Paver	1	77	50%	300	0
Compactor (Ground)	1	83	20%	400	0
Cranes	1	81	40%	400	0
Pickup Truck	1	75	40%	400	0

Receptor: ***R1***

Results:

Hourly Leq: **65**

Source for Ref. Noise Levels: FHWA, RCNM 2005

Appendix H: Traffic Impact Analysis

Crystal Geyser Roxane Cabin Bar Ranch
Water Bottling Plant Traffic Impact Analysis



Prepared for

PCR Services Corporation

Prepared by

LSC Transportation Consultants, Inc.

Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Plant Traffic Impact Analysis

Prepared for

PCR Services Corporation
233 Wilshire Boulevard, Suite 130
Santa Monica, California 90401

Prepared by

LSC Transportation Consultants, Inc.
2690 Lake Forest Road, Suite C
P.O. Box 5875
Tahoe City, California 96145

July 23, 2012

LSC #117110

TABLE OF CONTENTS

SECTION **Page**

1 Introduction 1
Scope of Study 1

2 Existing Conditions 3
Existing Roadways 3
Existing Traffic Volumes 3

3 Proposed Conditions 7
Project Description 7
Trip Generation, Distribution and Assignment 7

4 Level of Service Analysis 11
Description 11
Level of Service Standard 11
Level of Service Analysis 11

5 Future Cumulative Conditions 13
Future Traffic Volumes 13
Future Intersection LOS 13
Future Evaluation with Caltrans Project 13

6 Traffic Impacts and Mitigation 17
Impact on US 395 Traffic Volumes 17
Level of Service Impacts 17
Turn Lane Warrants at the Site Access 18
Driver Sight Distance 18

APPENDIX

A – Site Plan
B – Caltrans Weekly Traffic Volumes on US 395
C– LOS Description
D – LOS Calculations

LIST OF TABLES

TABLE **Page**

1 Hourly Trip Generation 9
2 Intersection Level of Service at Site Access Point 12
3 Future 2031 Traffic Volumes at Site Access Point with Potential Frontage Road 16

LIST OF FIGURES

FIGURE **Page**

1 Crystal Geyser Site Location 2
2 2011 Traffic Volumes 5
3 Future 2031 Traffic Volumes 14

Section 1

INTRODUCTION

This report documents the findings and conclusions of a Traffic Impact Analysis (TIA) for the proposed Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Plant Project in Inyo County, California. The new plant would be located just south of the town of Cartago, California along US 395 and about three-quarters of a mile north of the existing Crystal Geyser Plant (which will remain), as shown in Figure 1. A detailed site plan of the proposed project can be found in the Appendix A. The purpose of this study is to determine the impacts of the traffic generated by the project on the surrounding roadway infrastructure, as well as other transportation-related impacts. The existing Crystal Geyser facility, to the south, is not part of this proposed project.

SCOPE OF STUDY

This study includes analysis of one intersection, the site access roadway's intersection with US 395, as this is the only intersection potentially affected by the project. Typical busy summer conditions are evaluated, given that the peak periods of traffic activity associated with the proposed bottling plant as well as the highest levels of background traffic on US 395 occur during the summer months. Caltrans weekly traffic volumes on US 395 near the proposed project over the course of one calendar year, which indicate that the highest traffic volumes occur during the summer season, can be found in Appendix B.

The following scenarios were analyzed:

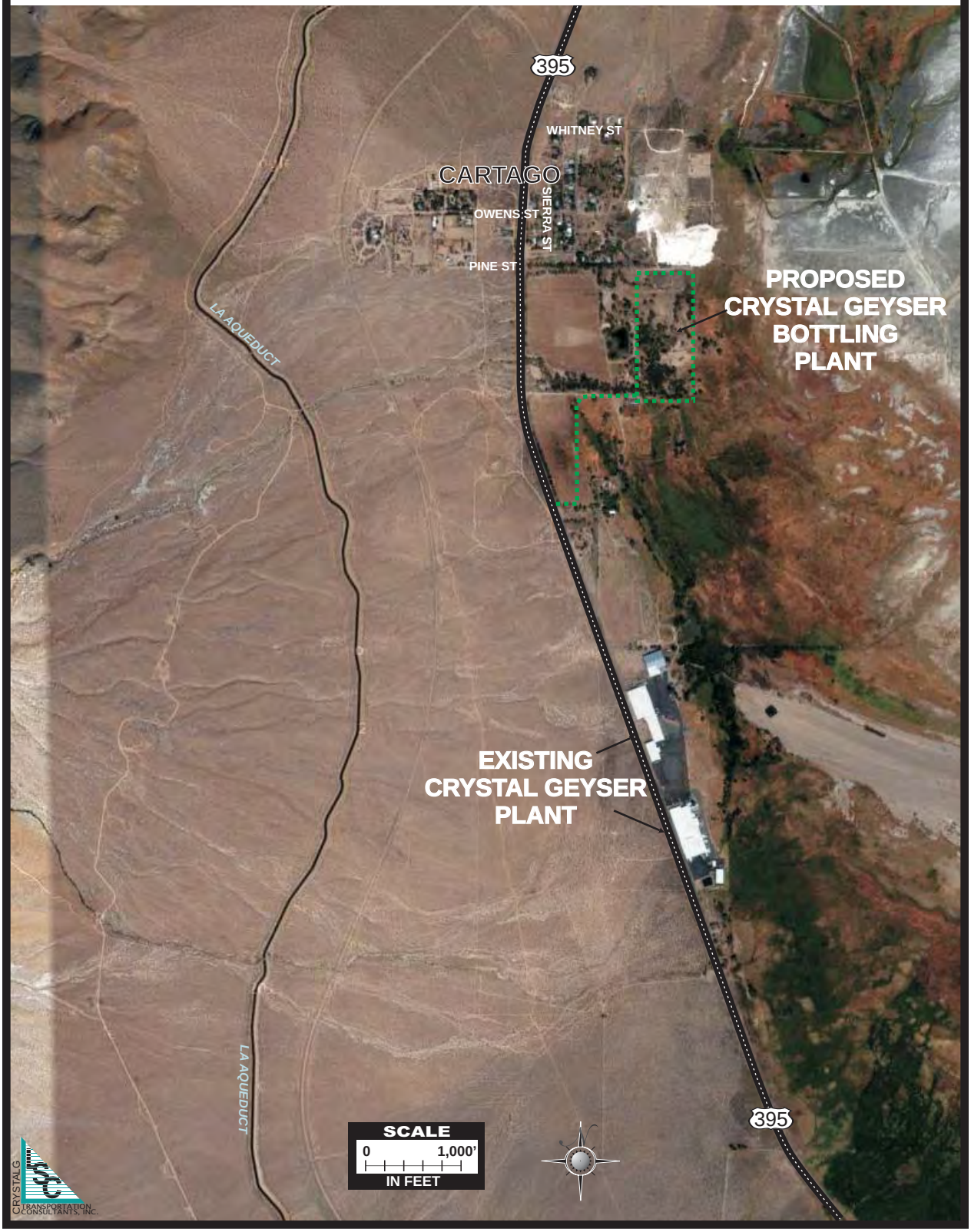
- Existing (2011) without project
- Existing (2011) with project
- Future (2031) without project
- Future (2031) with project
- Future (2031) with project and with Caltrans 4-lane project

In addition, the following traffic-related issues are addressed in this report:

- Project impact on US 395 traffic volumes
- Intersection Level of Service (LOS) impacts
- The need for turn lanes at the site access intersection
- Driver sight distance at the site access intersection

FIGURE 1

Crystal Geyser Site Location



Section 2
EXISTING CONDITIONS

This section describes the existing roadways and documents the existing traffic volumes in the vicinity of the project site.

EXISTING ROADWAYS

The study area includes US 395, Cabin Bar Ranch Road, and the proposed site access roadway. Additional roadways in Cartago are not analyzed, given that the proposed project would generate only one percent of its truck traffic to the north of the site, and the increase in PM peak-hour traffic volumes to the north is expected to be minimal. The roadways within the study area are described as follows:

US 395

The US 395 corridor is a key element of the surface transportation network for California and the nation. It serves as the key transportation corridor connecting the eastern Sierra region, Mono and Inyo Counties, and western central Nevada to Southern California. It also serves as the "Main Street" for the communities it passes through. In the vicinity of the project, US Route 395 is an interstate highway running north-south along the east side of the Sierra Nevada Mountains. This section just south of Cartago consists of one lane in each direction with no median with a posted speed limit of 55 miles per hour. In addition, US 395 is recognized as a Class III bike route within the study area.

Cabin Bar Ranch Road

Cabin Bar Ranch Road is a private paved access road to Cabin Bar Ranch which extends from US 395 to the center of the formerly proposed subdivision. This road will be abandoned and demolished during the construction of the new access road.

EXISTING TRAFFIC VOLUMES

Existing traffic volumes on US 395 were based on Caltrans traffic count data for the year 2010 (the most recent year for which data is available). Hourly volume data was obtained from Caltrans' count station located on US 395 immediately north of the junction of State Route (SR) 190 north of Olancha, or about 2.5 miles south of the proposed site access point. Given that the peak periods of traffic associated with the bottling plant occur on weekdays in the summer season, this study analyzed busy summer non-holiday weekday conditions. Based on a review of continuous peak hour traffic volumes from June 2010 through August 2010, it was determined that the busiest non-holiday weekday traffic occurred on Friday July 30th, 2010 from 1:00 PM to 2:00 PM.

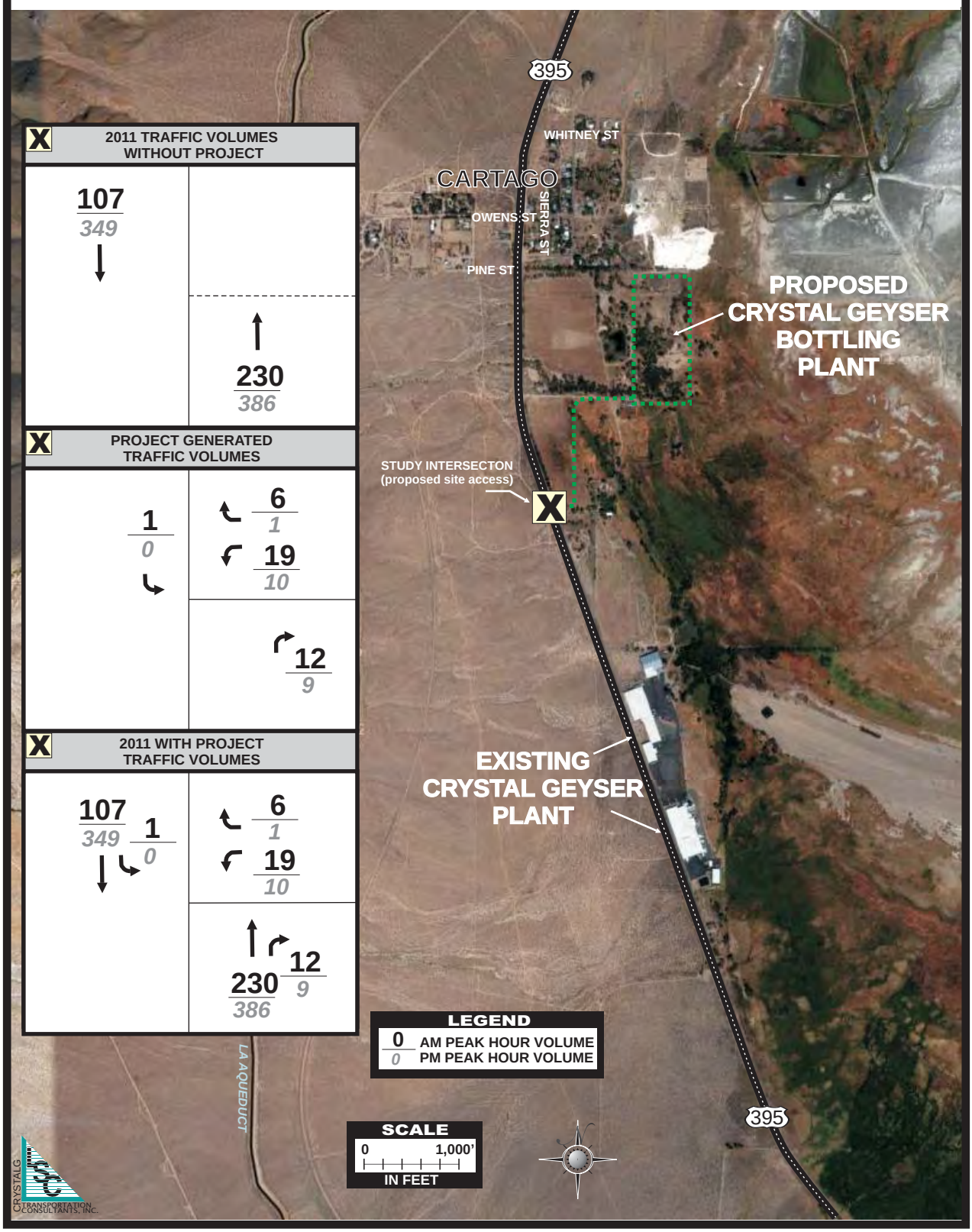
In order to adjust the 2010 volumes to reflect 2011 conditions, five years of average annual daily traffic (AADT) volumes were obtained from Caltrans at a point along US 395 immediately north of State Route 190 (to the south of the project site). This data shows a five percent decrease in volumes over the last five years or a one percent

annual average decrease. The 2010 design volumes were not decreased, in order to remain conservative in this analysis. The existing traffic volumes for the 2011 PM peak hour, which is considered to occur from 1:00 PM to 2:00 PM, at the location of the proposed intersection are 230 vehicles northbound and 107 vehicles southbound.

Additionally, the peak hour of project-generated traffic activity was analyzed. As shown in Section 3 of this report, the maximum number of trips generated by the project occurs between 7:00 AM and 8:00 AM. Traffic volumes from this time period (which is considered to be the AM peak hour) under existing conditions without the project were obtained from the Caltrans volumes on the "design day", with 386 northbound vehicles and 349 southbound vehicles. The existing AM and PM traffic volumes without the proposed project are illustrated in Figure 2.

FIGURE 2

2011 Traffic Volumes



This page intentionally left blank.

Section 3
PROPOSED CONDITIONS

The project location, the size of the project, and the anticipated date of project completion are all important elements that need to be considered to determine the impacts of the proposed project on roadway capacity and traffic safety. It is also important to evaluate how the project will operate with respect to the existing roadway network, estimate how much new traffic it will generate, identify how traffic generated by the project site would be distributed, and identify how it would impact existing traffic patterns.

PROJECT DESCRIPTION

The proposed project encompasses a new spring water bottling facility on the Cabin Bar Ranch Property. Construction would be divided into three phases, with the first phase including a 106,500-square-foot building housing two bottling lines and a new access road. Phase II would consist of a 92,000-square-foot addition which would include the additional two bottling lines, and Phase III would add a 40,000-square-foot storage warehouse. For the purposes of this traffic study, only full buildout of the site is evaluated, and impacts are not assessed separately for each phase. The new facility would operate on weekdays only. The project includes provision of an employee shuttle, which would run to/from the south three times a day.

All traffic would access the site via the new private site access road, which would intersect US 395 at a point located about 2,500 feet south of the existing Cabin Bar Ranch Road. The new access road would be a two-lane roadway with a total pavement width of 24 feet. The existing driveway, Cabin Bar Ranch Road, would be abandoned.

TRIP GENERATION, DISTRIBUTION AND ASSIGNMENT

Trip Generation

The first step in the analysis of traffic impacts is to prepare an estimate of the number of trips generated by the proposed project. Trip generation is the evaluation of the number of vehicle-trips that would either have an origin or destination at the project site. As standard trip generation rates are not provided for a bottling plant, a detailed trip generation estimate was developed based upon an analysis of truck trip patterns and "person-trip" patterns at the existing Crystal Geyser Plant in Olancha, which is located approximately 0.75 miles south of the project site. Based on this information from the existing facility, the proposed project would include 4 types of trips: trucks, service vehicles, employees, and visitors.

Trucks

A total of 80 trucks per day would arrive and depart the new bottling plant, based on information provided by the distribution manager of the existing Olancha Crystal

Geyser facility. Specifically, an estimated 40 trucks will be associated with Phase I, 20 additional trucks with Phase II, and 20 additional trucks with Phase III. At full buildout, these trucks will each generate 2 one-way trips for a total of 160 one-way trips per day (80 entering and 80 exiting). Next, it is necessary to determine when the truck trips will occur throughout the day. Twenty-five (25) percent of the trips or 40 one-way trips are projected to occur during three two-hour peak periods a day (7:00 AM to 9:00 AM, 12:00 PM to 2:00 PM and 6:00 PM to 8:00 PM), with the remaining trips spread out through the day. To estimate conditions during the busiest hour, it was estimated that 60 percent of the trucks would enter and exit in the first hour of each two-hour peak period, for a total of 12 trucks and 24 one-way trips during the first two peak times of the day. Conversely, during the evening peak hours from 6:00 PM to 8:00 PM, it was estimated that 60 percent of the trucks would enter and exit in the second hour of the two-hour period, as shown in Table 1.

Service Vehicles

At most, approximately 4 propane trucks, 1 solid waste disposal truck, 1 service contractor truck, and 1 delivery truck are expected to visit the site over the course of a typical busy day. These vehicles would generate a total of 14 one-way trips (7 arriving and 7 departing). These trips are assumed to be distributed evenly throughout the day between 7:00 AM and 6:00 PM.

Employees

During the peak summer months, the bottling plant would employ a maximum of 50 people over 3 shifts. On a typical busy day a maximum of 17 employees would be onsite at one time. Employees will commute to the plant via the proposed employee shuttle or by personal vehicle. The following assumptions were made in order to estimate the number of trips generated by employees:

- 60 percent of employees are assumed to live south of the plant and 40 percent are assumed to live north of the plant (10 southern employees and 7 northern employees per shift)
- 50 percent of employees commuting to/from the south along US 395 would use the shuttle (this equates to 5 employees riding the shuttle and 5 employees using personal vehicles per shift)
- An average vehicle occupancy rate of 1.1 employees per vehicle is assumed for employees traveling to/from the site via personal automobile, based on data provided in the *2005-2009 American Community Survey* (US Census) for the Olancha/Cartago area (Dividing 7 employees to/from the north by 1.1 employees per vehicle yields 6 personal vehicles traveling to/from the north per shift. Similarly 5 personal employee vehicles would travel to/from the south plus one shuttle trip, for a grand total of 12 vehicles)
- Each vehicle is assumed to make one trip to and one trip from the site (24 trips per shift).

Table 1: Hourly Trip Generation

Hour Start Time	Trucks		Service Vehicles		Employee Vehicles[1]		Visitor Vehicles		Total Vehicle Trips		
	In	Out	In	Out	In	Out	In	Out	In	Out	Total
12:00 AM	1	1							**1**	**1**	**2**
1:00 AM	1	1							**1**	**1**	**2**
2:00 AM	1	1				1			**1**	**2**	**3**
3:00 AM	1	1			1				**2**	**1**	**3**
4:00 AM	1	1							**1**	**1**	**2**
5:00 AM	1	1							**1**	**1**	**2**
6:00 AM	1	1			12				**13**	**1**	**14**
7:00 AM	12	12	1	1		12			**13**	**25**	**38**
8:00 AM	8	8							**8**	**8**	**16**
9:00 AM	1	1	1	1					**2**	**2**	**4**
10:00 AM	2	2							**2**	**2**	**4**
11:00 AM	1	1	1	1		1			**2**	**3**	**5**
12:00 PM	12	12			1		2		**15**	**12**	**27**
1:00 PM	8	8	1	1				2	**9**	**11**	**20**
2:00 PM	1	1	1	1	12				**14**	**2**	**16**
3:00 PM	2	2				12			**2**	**14**	**16**
4:00 PM	1	1	1	1					**2**	**2**	**4**
5:00 PM	1	1							**1**	**1**	**2**
6:00 PM	8	8	1	1					**9**	**9**	**18**
7:00 PM	12	12				1			**12**	**13**	**25**
8:00 PM	1	1			1				**2**	**1**	**3**
9:00 PM	1	1							**1**	**1**	**2**
10:00 PM	1	1			12				**13**	**1**	**14**
11:00 PM	1	1				12			**1**	**13**	**14**
Total	**80**	**80**	**7**	**7**	**39**	**39**	**2**	**2**	**128**	**128**	**256**

Note: Projected peak hour of the plant is shaded

Note 1: Includes shuttle vehicle trips.

Source: LSC Transportation Consultants, Inc. and Crystal Geyser Staff

Crystal Geyser.xls

- One employee per shift is assumed to make a round trip off-site for lunch, errands, etc. in the middle of the shift (2 trips per shift).

Based on these assumptions, a total of 26 one-way vehicle-trips (13 entering and 13 exiting) are estimated to be made by employees per shift this includes both employee personal vehicles and shuttle trips. Daily, counting all three shifts, a total of 78 trips (39 entering and 39 exiting) are expected to be made by employees. The shift changes are expected to occur at 7:00 AM, 3:00 PM and 11:00 PM. Assuming employees arrive in the hour before their shift starts and depart in the hour after their shift ends, the resulting trips by hour are shown in Table 1.

Visitors

Two visitors are expected to visit the site on a typical busy day generating 4 one-way trips (2 entering and 2 exiting). To be conservative, these trips are assumed to occur mid-day, which corresponds to the period of highest traffic volumes on the highway.

Total Trip Generation

In summary, the total number of trips generated by the site is estimated to be approximately 256 one-way trips (128 inbound and 128 outbound) on a peak weekday, as shown in Table 1. The peak hour of site-generated traffic activity would occur between 7:00 AM and 8:00 AM, with a total of 38 one-way trips (13 entering and 25 exiting).

Trip Distribution and Assignment

It is necessary to identify the direction the project trips will travel along US 395 to and from the site. About 99 percent of truck trips and 60 percent of all other types of trips are expected to be made to/from the south, as the nearest sizable residential area and commercial markets are located to the south. The project's trip generation was assigned through the study intersection based this distribution pattern, and the resulting AM and PM peak-hour turning movement volumes are shown in Figure 2. Adding the project-generated volumes to the "2011 without project" volumes yields the "2011 with project" volumes also shown in Figure 2.

Section 4

LEVEL OF SERVICE ANALYSIS

Traffic operations at the proposed site access (private driveway) intersection were assessed in terms of Level of Service (LOS) and delay.

DESCRIPTION

LOS is a concept that was developed by transportation engineers to quantify the level of operation of intersections and roadways (*Highway Capacity Manual (HCM)*, Transportation Research Board, 2010). LOS measures are classified in grades "A" through "F," indicating the range of operation. LOS "A" signifies the best level of operation, while "F" represents the worst. A detailed LOS description is provided in Appendix C. The HCM 2010 methodologies were applied to all intersections.

LEVEL OF SERVICE STANDARD

According to the *Inyo County General Plan Circulation Element* (December 2001), all roadways in the County should maintain LOS C or better. For highways within the County, LOS C should be maintained except where roadway expansions or reconfigurations necessary for this will adversely impact the small community character and economic viability of designated Central Business Districts.

LEVEL OF SERVICE ANALYSIS

Given that the proposed site access intersection along US 395 does not yet exist, there are no LOS deficiencies under existing conditions without the project. Intersection LOS was evaluated "with project" conditions. Appendix D presents the actual output from each of the runs performed, and Table 2 summarizes the results for Year 2011 conditions with the project. As indicated, the proposed intersection would operate at an acceptable LOS C or better with the project during both the AM and PM peak hours.

Table 2: Intersection Level of Service at Site Access Point

BOLD indicates LOS standard is exceeded

Scenario	With Project			
	Worst Movement[1]		Total Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Existing (2011)				
AM Peak Hour	12.1	B	0.9	A
PM Peak Hour	18.9	C	0.3	A
Future (2031)				
AM Peak Hour	13.4	B	0.8	A
PM Peak Hour	**25.5**	**D**	0.3	A
PM Peak Hour With Southbound Acceleration Lane	17.4	C	0.2	A
Future (2031) With Caltrans Project Assuming Frontage Road				
AM Peak Hour	8.6	A	4.2	A
PM Peak Hour	8.7	A	1.4	A
Future (2031) With Caltrans Project Assuming Divided Highway				
AM Peak Hour Eastern Intersection	13.0	B	1.0	A
AM Peak Hour Western Intersection	9.9	A	1.4	A
PM Peak Hour Eastern Intersection	15.3	C	0.4	A
PM Peak Hour Western Intersection	11.2	B	0.3	A

Note 1: The worst movement at this intersection is on the westbound approach (vehicles departing the private driveway of the proposed Crystal Geyser Plant).

Source: LSC Transportation Consultants, Inc. Crystal Geyser.xls

Section 5
FUTURE CUMULATIVE CONDITIONS

The potential traffic impacts of the proposed project under future cumulative conditions were evaluated. First, Year 2031 traffic volumes were estimated without the project. Next, 2031 volumes with the project were estimated and LOS was analyzed. Finally, the traffic conditions with the proposed Caltrans Olancha-Cartago 4-Lane Project ("Caltrans Project") were analyzed.

FUTURE TRAFFIC VOLUMES

Future 2031 traffic volumes were estimated by applying an average annual growth rate to the 2011 volumes. The *Olancha/Cartago Four Lane Project Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment* (Federal Highway Administration and Caltrans, August 2010) estimated the average annual growth rate in traffic volumes along US 395 will be 1.3 percent for the next 20 years. This growth is assumed to include the growth in traffic volumes associated with other future cumulative projects in the region. This growth rate was applied to the 2011 traffic volumes in order to estimate the 2031 volumes, which are shown in Figure 3. Adding the project-generated traffic volumes to the "2031 without project" volumes yields the "2031 with project" volumes also presented in Figure 3.

FUTURE INTERSECTION LOS

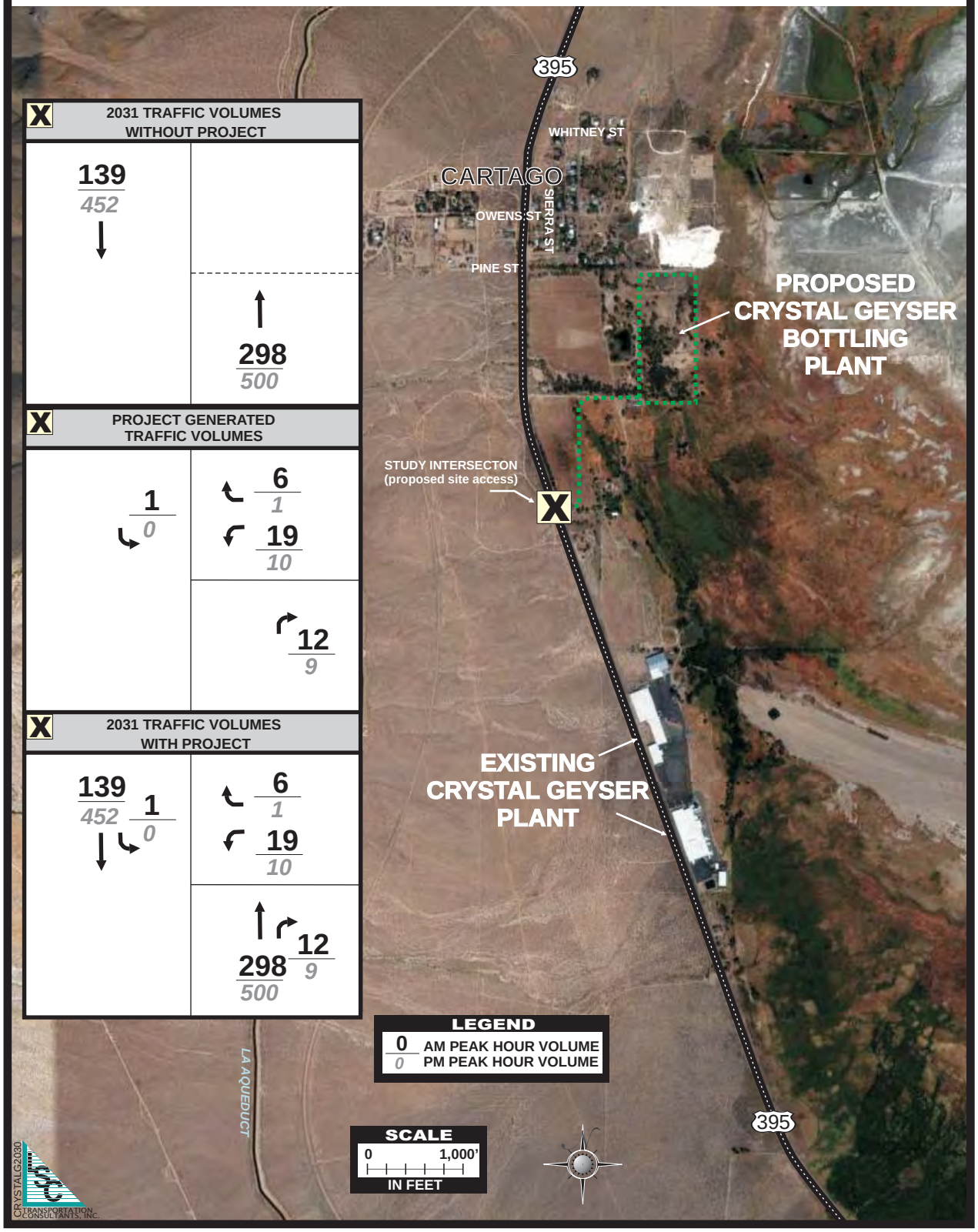
Given that the proposed site access intersection along US 395 would not exist without the proposed project, there are no LOS deficiencies under 2031 conditions without the project. The LOS calculations for 2031 conditions with the project are included in Appendix D and summarized in Table 2. At the intersection of US 395 and the proposed driveway, the worst movement (the project's private driveway) is expected to degrade from LOS C to an unacceptable LOS D during the PM peak hour, with an average delay of approximately 25.5 seconds per vehicle. Note the LOS for all vehicles on US 395 would remain acceptable during the PM peak hour, and no queuing is expected to occur on US 395. Only vehicles exiting the proposed private driveway would experience LOS D. The AM peak hour remains at an acceptable LOS B.

FUTURE EVALUATION WITH CALTRANS PROJECT

The Caltrans Olancha/Cartago Four Lane Project proposes to construct a controlled access divided expressway in the area of the project, with construction tentatively scheduled to start in 2016. The four-lane highway would begin south of Olancha and pass west of Olancha and the Los Angeles (LA) Aqueduct. Once the alignment crosses Olancha Creek, the preferred alternative would then cross the LA Aqueduct and continue north through Cartago along the existing highway to meet up with the previously constructed Ash Creek Four Lane Project.

FIGURE 3

Future 2031 Traffic Volumes



As of October 2011, Caltrans was considering two options in the Cartago area: one would convert existing US 395 to a frontage road and the other would use the existing US 395 lanes as the northbound lanes. Both options are considered in this study.

Conversion of Existing Highway to Frontage Road

The resulting roadway configuration with the potential conversion of existing US 395 to a frontage road is based on the Caltrans site plan for the "Combined Alternative" dated June 29, 2011. This plan indicates the frontage road would intersect the new US 395 at a point located about 300 feet to the north of the proposed site access driveway. It is estimated that only about 10 percent of the traffic would remain on the frontage road with the remainder shifting onto the new highway. With this configuration, most of the trips made to/from the Crystal Geyser project site would make a left turn into the site from the frontage road and a right turn out. The resulting peak-hour traffic volumes at the Site Access/Frontage Road intersection are shown in Table 3.

The LOS at the site access intersection was evaluated under this configuration, and the results are shown in the lower portion of Table 2. The LOS calculations are included in Appendix D. As indicated, the site access intersection along the frontage road is expected to operate at a good LOS (LOS A) during the 2031 AM and PM peak hours.

Conversion of Existing US 395 to New US 395 Northbound

With the potential conversion existing US 395 to a divided four-lane highway at the site access point, the existing two-lane highway would become the northbound lanes and the southbound lanes would be constructed to the west. For the purposes of this analysis, a median crossover is assumed to be provided at the Crystal Geyser site access point. As shown in Table 2, an acceptable LOS (LOS C or better) would be provided in the 2031 AM and PM peak hours under this scenario. Alternatively, if the median crossover is offset to the north of the site access driveway, the LOS is expected to be acceptable. In any case, Caltrans staff recently indicated that trucks accessing the new Crystal Geyser facility to/from the south on US 395 would be able to access US 395 southbound without utilizing the roadways in the Cartago community to the north.

Table 3: Future 2031 Traffic Volumes at Site Access Point With Potential Frontage Road

Site Access/Frontage Road Intersection	Northbound			Southbound			Westbound			Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
2031 AM Peak Hour	0	30	1	12	14	0	1	0	24	0	0	0	82
2031 PM Peak Hour	0	50	1	8	45	0	1	0	10	0	0	0	115

Source: LSC Transportation Consultants, Inc. Crystal Geyser.xls

Section 6

TRAFFIC IMPACTS AND MITIGATION

The following potential areas of transportation impacts are considered in this section:

- Project's percent impact on US 395 traffic volumes
- Intersection Level of Service impacts
- The need for turn lanes at the site access intersection
- Driver sight distance at the site access intersection

IMPACT ON US 395 TRAFFIC VOLUMES

The project would have the following impact on the two-way traffic volumes along US 395 at a point immediately south of the site access point:

- Existing 2011 AM Peak Hour – 9 percent increase
- Existing 2011 PM Peak Hour – 3 percent increase
- Future 2031 AM Peak Hour – 7 percent increase
- Future 2031 PM Peak Hour – 2 percent increase

To the north of the site driveway, implementation of the proposed project would result in an increase in two-way traffic volumes of up to 2 percent during the 2011 and 2031 AM peak hour. The impact on traffic volumes during the PM peak hours would be minimal, considering that no truck trips are expected to be made to/from the north during the PM peak hour. Note that the project impact on traffic volumes along US 395 in 2031 is the same with or without the Caltrans project.

LEVEL OF SERVICE IMPACTS

The site access intersection is expected to operate at an acceptable Level of Service (LOS) C or better under existing and future peak periods with the proposed project and the existing highway configuration, with the exception of one scenario. During the 2031 PM peak hour, the site access approach (the project driveway) is calculated to operate at LOS D, which exceeds the LOS standard. Note the LOS for all vehicles on US 395 would remain acceptable during the PM peak hour, and no queuing is expected to occur on US 395. Only vehicles exiting the proposed private driveway would experience LOS D. Provision of a left-turn acceleration lane for vehicles exiting the plant and traveling southbound along US 395 would improve the LOS to an acceptable LOS C or better during peak periods in 2031. This improvement is indicated on the current Crystal Geyser site plans, in accordance with Caltrans requirements. No additional mitigation measures are necessary from an intersection LOS standpoint.

With implementation of the Caltrans Project and conversion of the existing highway to a frontage road, the LOS at the Frontage Road/Site Access intersection would be acceptable during the 2031 AM and PM peak-hour periods. Similarly, with the Caltrans Project and the potential divided 4-lane highway, adequate LOS would be provided at

the site access intersection in 2031.

ANALYSIS OF THE NEED FOR TURN LANES AT THE SITE ACCESS INTERSECTION

A left-turn lane warrant analysis was performed for the project access point using the *Guidelines for Reconstruction of Intersections* (Caltrans 1985). With the existing highway configuration, the peak-hour volume warrants are not met for a southbound left-turn lane along US 395 for southbound vehicles turning left into the site under existing or future scenarios with the proposed project, with or without the Caltrans 4-Lane Project.

As the Caltrans Guidelines do not provide a numerical right-turn lane warrant, the need for a right-turn lane along US 395 at the site access point was evaluated using the National Cooperative Highway Research Program's (NCHRP) *Report 457 "Evaluating Intersection Improvements: An Engineering Study Guide"* (Transportation Research Board, 2001). The peak-hour volume warrants are not met for a northbound right-turn lane on US 395 under existing or future scenarios with the proposed project, with or without the Caltrans 4-Lane Project.

Although the peak-hour volumes do not meet the warrants for new turn lanes, provision of a northbound right-turn lane along US 395 for northbound vehicles turning right into the project site would provide a significant safety benefit, considering the level of truck traffic entering the site from the south. This right-turn lane would effectively separate trucks and other vehicles that are slowing to make a right turn into the site from those vehicles in the through lane. Similarly, provision of a left-turn acceleration lane for vehicles exiting the site and traveling southbound along US 395 would minimize the acceleration taking place in the southbound through lane, thereby minimizing the disruption to through traffic. The current Crystal Geyser site plans include a southbound left-turn lane and a northbound right turn lane for vehicles entering the site from US 395 as well as acceleration lanes for vehicles exiting the site traveling either north or south on along US 395, in accordance with Caltrans requirements to better provide for turn movements.

DRIVER SIGHT DISTANCE

A detailed evaluation of the driver sight distance at the site access intersection along US 395 was performed as a part of this study. Driver sight distance is an important criterion to consider at this location, as drivers preparing to enter US 395 or a frontage road from a driveway must be able to see and react to oncoming traffic in both directions in a safe manner. There are two types of sight distance criteria to consider at the site access location: stopping sight distance and corner sight distance.

Stopping Sight Distance

Stopping sight distance requirements are meant to ensure that a driver on the approaching uncontrolled roadway (US 395) has adequate time to perceive and react to the presence of an obstruction in the roadway, and come to a stop in a safe

manner. This is the minimum distance needed for a driver on US 395 approaching the proposed driveway to see an object in their travel path (such as a vehicle exiting the driveway) and safely come to a stop. The Caltrans Highway Design Manual specifies minimum stopping sight distance requirements as a function of roadway design speed. Based upon a posted speed limit of 55 miles per hour on US 395, the required stopping sight distance is 500 feet. More than 700 feet of stopping sight distance is provided for drivers approaching the proposed driveway in either direction along US 395. Therefore, adequate stopping sight distance would be provided at this intersection.

Corner Sight Distance

The corner sight distance requirements are meant to provide 7-1/2 seconds for the driver on the crossroad to complete the necessary maneuver, while the approaching vehicle travels at the assumed design speed of the major roadway. These requirements are based primarily on consideration of the passenger car as the design vehicle. However, most of the traffic turning left out of the site consists of truck traffic. The required sight distance for trucks turning left onto a crossroad is substantially longer than that for passenger cars. The corner sight distance requirements for single-unit and combination trucks can be estimated using tabulated values provided by the American Association of State Highway and Transportation Officials (AASHTO) in *A Policy on Geometric Design of Highways and Streets*. Assuming a design speed of 55 miles per hour on US 395, the required corner sight distance for a single-unit truck is calculated to be about 770 feet. Similarly, the required corner sight distance for a combination truck is approximately 930 feet. Over 1,200 feet of corner sight distance would be provided at the proposed site access point. As this exceeds the minimum requirements, the corner sight distance is considered to be adequate.

Driver Sight Distance With Caltrans Project

Assuming the potential conversion of the existing Highway 395 to a frontage road, adequate driver sight distance would be provided at the site access intersection, considering that travel speeds along the frontage road are expected to be the same as or lower than those along the existing highway.

Assuming the potential conversion of existing US 395 to a 4-lane divided highway, the prevailing travel speed along the new highway is expected to increase to about 65 miles per hour. At 65 miles per hour, the required stopping sight distance and corner sight distance for passenger cars are about 660 feet and 715 feet, respectively. In addition, the corner sight distance requirements for single-unit and combination trucks are approximately 910 feet and 1,100 feet, respectively. As over 700 feet of stopping sight distance and over 1,200 feet of corner sight distance would be provided under the proposed project, no driver sight distance deficiencies are identified.

It is recommended that the final landscaping plans not hinder the corner sight distance at the site access point.

Appendix A
Site Plan

PROPOSED STORMWATER RETENTION BASIN

APN 33-050-01
APN 33-020-11

PROPOSED SEWAGE DISPOSAL LEACH MOUND 1200 sf TOP 2400 sf

LINED EVAPORATION POND

PROPOSED FIRE SERVICE WATER STORAGE TANK

PROPOSED EMPLOYEE/ VISITOR PAVED PARKING AREA-35 SPACES

PROPOSED PAVED LOADING DOCKS/DELIVERY AREA

148'

PROPOSED PAVED LOADING/ DELIVERY AREA

R=72' L=113.5'

GRADE BREAK 3599.4FS

SEE SHEET 4 FOR PLANT GRADING AND TREE REMOVAL THIS AREA

PROPOSED STORAGE WAREHOUSE 40,250 SQ. FT. PHASE III

24' WIDE ACCESS ROAD

PROPOSED BOTTLING PLANT 198,500 SQ. FT 3599.5 F.F.

PHASE II

PHASE I

20' WIDE PAVED FIRE ACCESS AT BLDG PERIMETER

GRADE BREAK 3607.0FS

EXISTING IRRIGATION RESERVOIR TO BE USED BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME AS A FISH REARING POND

EXISTING RANCH HOUSE TO REMAIN

CBR-1 P-9

EXISTING DOMESTIC WATER MAIN TO PROVIDE POTABLE WATER TO PLANT (LOCATION APPROXIMATE)

R=148' L=136.6'

CBR-2

GRADE BREAK 3622.8FS

R=162' L=158.8'

SEE SHEET 4 TREE REMOVAL THIS AREA

P-6

EXISTING CABIN BAR RANCH RD (TO BE ABANDON'D)

CBR-3 P-11

P-15

CBS-3

CBS-2

CBS-1 WELL SUMP

CBS-6

CBS-7 EXISTING MOBILE HOME TO REMAIN

CBS-8

P-12

CBS-9 EXISTING MAINTENANCE CABINS TO BE DEMOLISHED

MW-1

P-2

CBR-4

R=75' L=117.9'

P-1

24' WIDE ACCESS ROAD

R=200' L=50.6'

SEE SHEET 4 TREE REMOVAL THIS REA

R=200' L=131.4'

P-5

PROPOSED SOUTHBOUND HWY 395 LEFT TURN LANE AND NORTHBOUND ACCELERATION LANE PER CAL TRANS REQUIREMENT

PROPOSED NORTHBOUND HWY 395 LEFT TURN LANE AND SOUTHBOUND ACCELERATION LANE PER CAL TRANS REQUIREMENTS

HWY 395

P-10 P-8 P-7

HWY 395

EXISTING MAINTENANCE CABIN TO BE DEMOLISHED

MW-2

LEGEND

- PROPERTY LINE
- 3630 EXISTING GROUND CONTOUR & ELEV.
- 3630 PROPOSED FINISHED GROUND CONTOUR & ELEV.
- SD PROPOSED STORMDRAIN LINE
- SS PROPOSED SANITARY SEWER LINE
- W EXISTING/PROPOSED WATER MAIN
- PROPOSED 2:1 FILL SLOPE
- PROPOSED 2:1 CUT SLOPE
- PROPOSED A.C PAVEMENT
- PROPOSED FIRE HYDRANT
- W EXISTING DOMESTIC WATER PRODUCTION WELL
- P EXISTING PIEZOMETER
- MW EXISTING MONITORING WELL
- S EXISTING SPRING

SITE COVERAGE

SITE AREA: 420.02 ac.

BUILDING FOOTPRINT(I & III)	238,750 sq.ft.
FIRE STORAGE TANK & BLDG	2,980 sq.ft.
AC PAVEMENT:	
PARKING/BLDG FIRE RD	149,115 sq.ft.
FUTURE ROAD	77,270 sq.ft.
TEMPORARY ROAD	29,302 sq.ft.
TOTAL SITE COVERAGE:	497,417 sq.ft. (2.7%)
EXISTING IMPERVIOUS AREA:	13,280 sq.ft. (bldgs)
	56,211 sq.ft. (cabin bar rd.)

GRAPHIC SCALE

120 0 60 120 240 480

(IN FEET)
1 inch = 120 ft.

K:\II Mammoth\II-4 cad\master plan\II-4master plan.dwg, Apr 29,2011 1:09pm jay

tha
triad/holmes assoc
civil engineering
land surveying
MAMMOTH LAKES
BISHOP
NAPA
REDWOOD CITY
SAN LUIS OBISPO

PREPARED & SUBMITTED BY:

REGISTERED PROFESSIONAL ENGINEER THOMAS A PLATZ NO. C 41039 EXP. 3/31/11 CIVIL STATE OF CALIFORNIA

DATE:

Copyright (C) 2010 by Triad/Holmes Associates

All Rights Reserved. This Document is Intended Only for Use on the Project Specified in the Title Block. Any Reproduction of this Document or Portions of this Document, Without the Expressed Written Consent of Triad/Holmes, is Prohibited.

REVISIONS:	BY:

PREPARED FOR:

CG ROXANE
1630 KELLOGG DR.
WEED, CA. 96094

GRADING AND UTILITIES PLAN

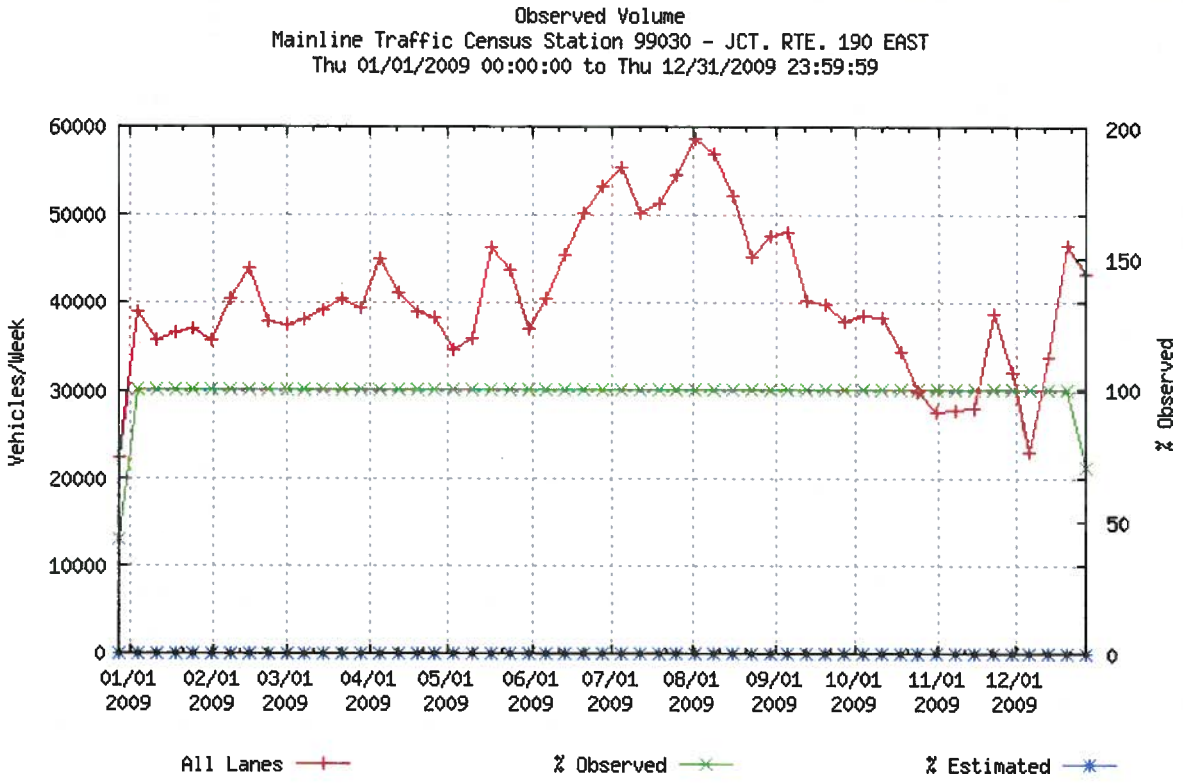
CGR CABIN BAR RANCH

WATER BOTTLING FACILITY
CG ROXANE

DATE	4-14-10
SCALE	AS SHOWN
DRAWN	TP/GP
JOB NO.	915.4
DWG	4
SHEET	4 OF 5

Appendix B

Caltrans Weekly Traffic Volumes on US 395



Source: Caltrans www.pems.dot.ca.gov (December 2011)

Appendix C
LOS Descriptions

Descriptions of Levels of Service

The concept of LOS is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A LOS definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations, from A to F, with LOS A representing the best operating conditions and LOS F the worst.

Level of Service Definitions

In general, the various levels of service are defined as follows for uninterrupted flow facilities:

- Level of service A represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.

- Level of service B is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.

- Level of service C is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.

- Level of service D represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

- Level of service E represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to “give way” to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.

- LOS F is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Level of service F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow which causes the queue to form, and level of service F is an appropriate designation for such points.

Appendix D
LOS Calculations

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LGS*	Intersection	*395/Driveway*
Agency/Co.	*LSC*	Jurisdiction	*Inyo Co*
Date Performed	*10/11/2011*	Analysis Year	*2010*
Analysis Time Period	*2010 AM PP*		

Project Description *Crystal Geyser TIA*

East/West Street: *Driveway*	North/South Street: *US 395*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*230*	*12*	*1*	*107*	
Peak-Hour Factor, PHF	*1.00*	*0.90*	*0.90*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*255*	*13*	*1*	*118*	*0*
Percent Heavy Vehicles	*0*	--	--	*100*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*20*		*6*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*22*	*0*	*6*
Percent Heavy Vehicles	*0*	*0*	*0*	*80*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*1*		*28*				
C (m) (veh/h)		*890*		*534*				
v/c		*0.00*		*0.05*				
95% queue length		*0.00*		*0.17*				
Control Delay (s/veh)		*9.0*		*12.1*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*12.1*					
Approach LOS	--	--	*B*					

Copyright © 2010 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LGS*	Intersection	*395/Driveway*
Agency/Co.	*LSC*	Jurisdiction	*Inyo Co*
Date Performed	*10/11/2011*	Analysis Year	*2010*
Analysis Time Period	*2010 PM PP*		

Project Description *Crystal Geyser TIA*

East/West Street: *Driveway* | North/South Street: *US 395*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*386*	*9*	*0*	*349*	
Peak-Hour Factor, PHF	*1.00*	*0.90*	*0.90*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*428*	*10*	*0*	*387*	*0*
Percent Heavy Vehicles	*0*	--	--	*100*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*10*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*11*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*80*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*0*		*12*				
C (m) (veh/h)		*750*		*271*				
v/c		*0.00*		*0.04*				
95% queue length		*0.00*		*0.14*				
Control Delay (s/veh)		*9.8*		*18.9*				
LOS		*A*		*C*				
Approach Delay (s/veh)	--	--	*18.9*					
Approach LOS	--	--	*C*					

Copyright © 2010 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LGS*	Intersection	*395/Driveway*
Agency/Co.	*LSC*	Jurisdiction	*Inyo Co*
Date Performed	*10/11/2011*	Analysis Year	*2030*
Analysis Time Period	*2030 AM PP*		

Project Description *Crystal Geyser TIA*

East/West Street: *Driveway*	North/South Street: *US 395*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*298*	*12*	*1*	*139*	
Peak-Hour Factor, PHF	*1.00*	*0.90*	*0.90*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*331*	*13*	*1*	*154*	*0*
Percent Heavy Vehicles	*0*	--	--	*100*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*20*		*6*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*22*	*0*	*6*
Percent Heavy Vehicles	*0*	*0*	*0*	*80*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*1*		*28*				
C (m) (veh/h)		*824*		*457*				
v/c		*0.00*		*0.06*				
95% queue length		*0.00*		*0.20*				
Control Delay (s/veh)		*9.4*		*13.4*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*13.4*					
Approach LOS	--	--	*B*					

Copyright © 2010 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LGS	Intersection	395/Driveway
Agency/Co.	LSC	Jurisdiction	Inyo Co
Date Performed	10/11/2011	Analysis Year	2030
Analysis Time Period	2030 PM PP		

Project Description: Crystal Geyser TIA

East/West Street: Driveway | North/South Street: US 395

Intersection Orientation: North-South | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		500	9	0	452	
Peak-Hour Factor, PHF	1.00	0.90	0.90	0.90	0.90	1.00
Hourly Flow Rate, HFR (veh/h)	0	555	10	0	502	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				10		1
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.90	1.00	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	11	0	1
Percent Heavy Vehicles	0	0	0	80	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		0		12				
C (m) (veh/h)		1017		188				
v/c		0.00		0.06				
95% queue length		0.00		0.20				
Control Delay (s/veh)		8.5		25.5				
LOS		A		D				
Approach Delay (s/veh)	--	--	25.5					
Approach LOS	--	--	D					

Copyright © 2010 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY With Frontage Rd

General Information

Analyst	*LGS*
Agency/Co.	*LSC*
Date Performed	*10/11/2011*
Analysis Time Period	*2030 AM PP w Caltrans Project*

Site Information

Intersection	~~*395*~~*/Driveway / Frontage Rd*
Jurisdiction	*Inyo Co*
Analysis Year	*2030*

Project Description *Crystal Geyser TIA*

East/West Street: *Driveway* | North/South Street: *US 395*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*30*	*1*	*12*	*14*	
Peak-Hour Factor, PHF	*1.00*	*0.90*	*0.90*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*33*	*1*	*13*	*15*	*0*
Percent Heavy Vehicles	*0*	--	--	*100*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*1*		*25*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*1*	*0*	*27*
Percent Heavy Vehicles	*0*	*0*	*0*	*80*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*13*		*28*				
C (m) (veh/h)		*1123*		*1031*				
v/c		*0.01*		*0.03*				
95% queue length		*0.04*		*0.08*				
Control Delay (s/veh)		*8.2*		*8.6*				
LOS		*A*		*A*				
Approach Delay (s/veh)	--	--	*8.6*					
Approach LOS	--	--	*A*					

Copyright © 2010 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY With Frontage Rd

General Information

Analyst	LGS
Agency/Co.	LSC
Date Performed	10/11/2011
Analysis Time Period	2030 PM PP w Caltrans Project

Site Information

Intersection	~~395~~/Driveway/Frontage Rd
Jurisdiction	Inyo Co
Analysis Year	2030

Project Description: Crystal Geyser TIA

East/West Street: Driveway | North/South Street: US 395

Intersection Orientation: North-South | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		50	1	8	45	
Peak-Hour Factor, PHF	1.00	0.90	0.90	0.90	0.90	1.00
Hourly Flow Rate, HFR (veh/h)	0	55	1	8	50	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				1		10
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.90	1.00	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	1	0	11
Percent Heavy Vehicles	0	0	0	80	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		8		12				
C (m) (veh/h)		1562		981				
v/c		0.01		0.01				
95% queue length		0.02		0.04				
Control Delay (s/veh)		7.3		8.7				
LOS		A		A				
Approach Delay (s/veh)	--	--	8.7					
Approach LOS	--	--	A					

Copyright © 2010 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LGS	Intersection	395/Driveway
Agency/Co.	LSC	Jurisdiction	Inyo Co
Date Performed	10/24/2011	Analysis Year	2030
Analysis Time Period	Future AM PP		

Project Description: Divided Highway - East Intersection

East/West Street: Proposed Driveway	North/South Street: US 395
Intersection Orientation: North-South	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		298	12			
Peak-Hour Factor, PHF	1.00	0.90	0.90	1.00	0.90	1.00
Hourly Flow Rate, HFR (veh/h)	0	331	13	0	0	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	0	0
Configuration		T	TR			
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)		1			20	6
Peak-Hour Factor, PHF	1.00	0.90	0.90	1.00	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	1	0	0	22	6
Percent Heavy Vehicles	0	100	0	0	60	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		T				TR

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					TR		T	
v (veh/h)					28		1	
C (m) (veh/h)					551		449	
v/c					0.05		0.00	
95% queue length					0.16		0.01	
Control Delay (s/veh)					11.9		13.0	
LOS					B		B	
Approach Delay (s/veh)	--	--	11.9			13.0		
Approach LOS	--	--	B			B		

Copyright © 2010 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LGS*	Intersection	*395/Driveway*
Agency/Co.	*LSC*	Jurisdiction	*Inyo Co*
Date Performed	*10/24/2011*	Analysis Year	*2030*
Analysis Time Period	*Future AM PP*		

Project Description *Divided Highway - West Intersection*

East/West Street: *Proposed Driveway*	North/South Street: *US 395*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)				*1*	*139*	
Peak-Hour Factor, PHF	*1.00*	*0.90*	*0.90*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*1*	*154*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*2*	*0*
Configuration				*LT*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*20*		
Peak-Hour Factor, PHF	*1.00*	*0.90*	*0.90*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*22*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*80*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*0*
Configuration				*L*		

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*	*L*					
v (veh/h)		*1*	*22*					
C (m) (veh/h)		*1636*	*763*					
v/c		*0.00*	*0.03*					
95% queue length		*0.00*	*0.09*					
Control Delay (s/veh)		*7.2*	*9.9*					
LOS		*A*	*A*					
Approach Delay (s/veh)	--	--	*9.9*					
Approach LOS	--	--	*A*					

Copyright © 2010 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LGS*	Intersection	*395/Driveway*
Agency/Co.	*LSC*	Jurisdiction	*Inyo Co*
Date Performed	*10/24/2011*	Analysis Year	*2030*
Analysis Time Period	*Future PM PP*		

Project Description *Divided Highway - East Intersection*

East/West Street: *Proposed Driveway*	North/South Street: *US 395*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*500*	*9*			
Peak-Hour Factor, PHF	*1.00*	*0.90*	*0.90*	*1.00*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*555*	*10*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*0*	*0*
Configuration		*T*	*TR*			
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)		*0*			*10*	*1*
Peak-Hour Factor, PHF	*1.00*	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*11*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*80*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*T*				*TR*

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*TR*		*T*	
v (veh/h)					*12*		*0*	
C (m) (veh/h)					*362*		*437*	
v/c					*0.03*		*0.00*	
95% queue length					*0.10*		*0.00*	
Control Delay (s/veh)					*15.3*		*13.2*	
LOS					*C*		*B*	
Approach Delay (s/veh)	--	--	*15.3*					
Approach LOS	--	--	*C*					

Copyright © 2010 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LGS	Intersection	395/Driveway
Agency/Co.	LSC	Jurisdiction	Inyo Co
Date Performed	10/24/2011	Analysis Year	2030
Analysis Time Period	Future PM PP		

Project Description: *Divided Highway - West Intersection*

East/West Street: *Proposed Driveway* | North/South Street: *US 395*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)				0	452	
Peak-Hour Factor, PHF	1.00	0.90	0.90	0.90	0.90	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	502	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	0	0	0	2	0
Configuration				LT	T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				10		
Peak-Hour Factor, PHF	1.00	0.90	0.90	0.90	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	11	0	0
Percent Heavy Vehicles	0	0	0	80	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	0
Configuration				L		

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT	L					
v (veh/h)		0	11					
C (m) (veh/h)		1636	596					
v/c		0.00	0.02					
95% queue length		0.00	0.06					
Control Delay (s/veh)		7.2	11.2					
LOS		A	B					
Approach Delay (s/veh)	--	--	11.2					
Approach LOS	--	--	B					

Copyright © 2010 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LGS*	Intersection	*395/Driveway*
Agency/Co.	*LSC*	Jurisdiction	*Inyo Co*
Date Performed	*10/11/2011*	Analysis Year	*2030*
Analysis Time Period	*2030 PM PP Mitigated*		

Project Description *Crystal Geyser TIA*

East/West Street: *Driveway*	North/South Street: *US 395*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*500*	*9*	*0*	*452*	
Peak-Hour Factor, PHF	*1.00*	*0.90*	*0.90*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*555*	*10*	*0*	*502*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*10*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*11*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*80*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*0*		*12*				
C (m) (veh/h)		*1017*		*302*				
v/c		*0.00*		*0.04*				
95% queue length		*0.00*		*0.12*				
Control Delay (s/veh)		*8.5*		*17.4*				
LOS		*A*		*C*				
Approach Delay (s/veh)	--	--	*17.4*					
Approach LOS	--	--	*C*					

Copyright © 2010 University of Florida, All Rights Reserved



PCR Pasadena
80 South Lake Avenue
Suite 570
Pasadena, California 91101
TEL 626.204.6170
FAX 626.204.6171

PCR Santa Monica
233 Wilshire Boulevard
Suite 130
Santa Monica, California 90401
TEL 310.451.4488
FAX 310.451.5279

PCR Irvine
One Venture
Suite 150
Irvine, California 92618
TEL 949.753.7001
FAX 949.753.7002

PCRinfo@pcrnet.com