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Old Spanish Trail National Historic Trail



The Old Spanish Trail is an historical trade route that connected the northern New Mexico settlements of (or near) Santa Fe, New Mexico with those of Los Angeles, California and southern California. Approximately 700 mi (1,100 km) long, the trail ran through areas of high mountains, arid deserts, and deep canyons. It is considered one of the most arduous of all trade routes ever established in the

Q Enter a city, park or trail name



38.7 mi

Elevation gain 2,673 ft

Route type Point to point

Enjoy this 38.7-mile point-to-point trail near Tecopa, California. Generally considered an easy route. This trail is great for scenic driving, and it's unlikely you'll encounter many other people while exploring. The trail is open year-round and is beautiful to visit anytime.



Scenic driving Views

Description

This is a beautifully remote scenic driving route through the desert. This route can be used as a scenic drive to Las Vegas. It connects Nevada Highway 160 with California Highway 127. You can use this route to bypass Interstate 15. This route is actually a historic trade and supply route used by Native Americans and by european settlers.



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PREFACE

Traffic Profile

This lists the 2022 traffic volumes for counts locations on the California state highway system. Peak hours, peak month ADTs and annual ADTs are shown at count locations. Significant volume changes (breakpoints) in the traffic profile along each route are counted and identified by name and post mile value. In addition to the profile breakpoints, there are county lines and landmarks to aid in orientation. The numbers shown apply to the highway immediately back and ahead of the locations. Therefore, between any two successive breakpoints along the route it may be assumed that traffic volumes will vary from one breakpoint to the next at a reasonably uniform rate of increase or decrease. Where only a single set of figure appears between two breakpoints, a constant volume of traffic may be assumed for the intervening section of highway.

All traffic volume figures listed include traffic in both directions unless otherwise indicated.

Route Number

All California State highways are listed in order of Legislative Route Number

Post Mile

Each profile breakpoint is identified by the postmile value corresponding to that point on the highway. The post mile value increase from the beginning of a route within a county to the next county line. The post mile values start over again at each county line. Post mile values increases from South to North or West to East depending upon the general direction the route follows within the state. The post mile at a given location will remain the same year after year. When a section of road is relocated, new post miles (usually noted by an alphabetical prefix such as "R" or "M") are established for it.

Annual Average Daily Traffic (Annual ADT)

Annual average daily traffic is the total traffic volumes for the year divided by 365 days. The traffic count year is from October 1st through September 30th. Few locations in California are counted continuously. Traffic counting is generally performed by electronic counting instruments moved from location to location throughout the State in a program of continuous traffic count sampling. The resulting counts are adjusted to an estimate of annual average daily traffic by compensating for seasonal influence, weekly variation and other variables which may be present. Annual ADT is necessary for presenting a statewide picture of traffic flow, evaluating traffic trends, computing collision rates, planning and designing highway and other purposes.

Peak Month ADT

The peak month ADT is average daily traffic for the month of heaviest traffic flow. This data is obtained because on many routes, high traffic volumes which occur during a certain season of the year are more representative of traffic conditions that the annual ADT.

Peak Hour

This list includes an estimate of the "peak hour" traffic at points on the state highway system. This value is useful to traffic engineers in estimating the amount of congestion experienced and shows how near to capacity the highway is operating. Unless otherwise indicated, peak hour values indicate the volume in both directions.

A few hours each year are higher than the "neak hour " but not many. In urban and suburban

areas, the peak hour normally occurs every weekday, during what is considered "rush hour" traffic. On roads with large seasonal fluctuations in traffic, the peak hour is the hour near the maximum for the year but excluding a few (30 to 50 hours) that are exceedingly high and are not typical of the frequency of the high hours occurring during the season.

Explanation of Traffic Counts

Explanatory Diagram of Traffic Counts



Generally, in California West to East routes are even numbered, while South to North routes are odd numbered. In addition, the postmile values increase from South to North or West to East depending upon the general direction the highway follows within the state, except the following 5 backward routes, Route 71 (North to South), Route 224 (East to West), Route 282 (East to West), Route 580 (East to West), and Route 780 (East to West).

Highway Closures List

Regular Winter Closure https://dot.ca.gov/travel/winter-driving-tips

DISTRICT	ROUTE	ROUTE_SFX COUNTY	PM_PFX	Md	PM_SFX	LOCATION DESCRIPTION	BACK_PEAK_HOUR	BACK_PEAK_MADT	BACK_AADT	AHEAD_PEAK_HOUR	AHEAD_PEAK_MADT	AHEAD_AADT
09	127	INY		0.000	SAN BERNARDINO/INYO COUNTY LINE					170	1100	900
09	127	INY		6.510	OLD SPANISH TRAIL HWY		170	1100	900	140	980	850
09	127	INY		14.749	SHOSHONE, SOUTH JCT. RTE. 178 EAST		170	1350	1100	150	1050	850
09	127	INY		16.249	NORTH JCT. RTE. 178 WEST		90	640	420	60	480	340
09	127	INY		16.430	NORTH JCT RTE 178 WEST		90	560	420	70	420	340
09	127	INY		41.990	SOUTH OF STATELINE ROAD		60	450	340	180	1550	1150
09	127	INY		42.149	JCT. RTE. 190 WEST		200	1750	1460	90	1000	850
09	127	INY		49.420	NEVADA STATE LINE		90	950	790			

10%

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Memorandum

Making Conservation a California Way of Life

To: DEPUTY DISTRICT DIRECTORS, Design

Date: June 30, 2020



Subject: BIKEWAY FACILITY SELECTION GUIDANCE

This memorandum provides supplemental guidance on the evaluation and selection of bikeway facility type using the Federal Highway Administration's Bikeway Selection Guide (FHWA Guide) published in February 2019 that can be found online at

https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa18077.pdf.

The FHWA Guide and this Bikeway Facility Selection Guidance are a resource to help transportation practitioners make informed decisions about trade-offs relating to the evaluation and selection of the bikeway types based on location context, user characteristics, and project constraints. The Bikeway Facility Selection Guidance will typically be applied during the Project Initiation Development (PID) and Project Approval and Environmental Document (PA&ED) phases to further refine the preferred facility type selected during project scoping as per the attached Contextual Guidance for Bike Facilities Memo issued by the Division of Transportation Planning as well as the FHWA Guide.

This Bikeway Facility Selection Guidance is to be used as supplemental information to existing Department guidance and standards. It does not replace current design standards in the Highway Design Manual (HDM) or Design Information Bulletins (DIBs) nor supersede Department policies. The FHWA Guide introduces practitioners to commonly used bicycle planning concepts such as bicyclist user types and level of traffic stress. It supports the application of design flexibility and the need for engineering judgement in project decision-making. It also identifies a variety of bikeway facility types that are consistent with the following California Streets and Highways Code Section 890.4 defined bikeway categories: Class I Bike Paths, Class II Bike Lanes, Class III Bike Routes, and Class IV Separated Bikeways. California law allows for the placement of bikeways on all streets and highways, unless prohibited, at the discretion of the owner-operator of the facility. Collaboration with local government together with this guidance will help make decisions for the accommodations of the bicycle mode of travel.

The FHWA Guide includes descriptions of facilities that are not typically appropriate on the State highway system (SHS) but may be considered on parallel local streets. These include bicycle boulevards and advisory bike lanes, which should not be considered on the SHS. Because these facilities are not typically appropriate, they are not discussed in the HDM or DIBs.

Bicycle Boulevards

As stated in the FHWA Guide, bicycle boulevards are low-stress bikeways primarily located on low-volume, low-speed local roads. This application will typically not be suitable for use on the SHS due to the moderate to higher volumes and speeds often associated with highways that also serve as community main streets.

Bicycle Boulevard application on residential street in Silicon Valley, San Francisco Bay Area of California; "BLVD" marking not MUTCD compliant



However, at locations where the local agency proposes the use of a bicycle boulevard on the SHS, collaboration is encouraged to explore a parallel route on the local road system where a bicycle boulevard application may be appropriate. In this case, coordination with the local agency is required to provide the context-appropriate infrastructure on the local road. Collaboration is also needed when the local agency proposes a bicycle boulevard to cross the State highway. When a bicycle boulevard is identified as the selected facility type for riders of all ages and abilities, this does not preclude the requirement to provide for bicycle travel on the SHS even when only moreconfident riders can be accommodated. Informational signing may be provided on the SHS to direct less-confident bicyclists to the lower stress bicycle boulevard.

Advisory Bike Lanes or Edge Lane Roads

Another application for accommodating bicycles on typically very low-volume, low-speed narrow roadways is the advisory bike lane also known as edge lane roads. This bikeway facility is not to be used on the SHS at this time but can be applied on the local road system. Use of this bikeway facility type requires FHWA experimental approval and typically is not appropriate for moderate to higher volumes and speeds that are associated with most State highways.



Advisory bike lanes on residential street in New Hampshire: Danny Kim, The Dartmouth (college newspaper); custom sign not MUTCD compliant

Please note the CA MUTCD does not have a sign policy for the advisory bike lane nor is the sign covered by the California MUTCD. Until further guidance is issued on this treatment, advisory bike lanes are not to be applied on the SHS.

General Application of The FHWA Guide

The FHWA Guide's Figure 9: Preferred Bikeway Type for Urban, Urban Core, Suburban and Rural Town Contexts was derived from research of various well known and established manuals and guides where the research team concluded that context for bikeway selection is relevant to the volume and speed of motor vehicles. However, bikeway selection is also a context-sensitive decision involving the location context, user characteristics, and project constraints.

For early project scoping and planning activities, the FHWA Guide's Section 3: Bikeway Selection Planning as well as the attached Contextual Guidance Memo issued by the Division of Transportation Planning provide the broader process used in identifying the preferred bicycle facility for users of all ages and abilities. The planning process accounts for project location, context, and corridor-level bicycle needs. Early bikeway evaluation and selection is informed by a local, regional, or state bikeway plan.

During the PID to PA&ED phase of the project, bikeway evaluation and selection will involve the consideration of real-world contexts such as land-use, right-ofway, roadway safety, operations, maintenance and environmental considerations. If the preferred facility per the FHWA Guide's Figure 9 is not feasible, there may still be opportunities to explore alternative bicycle facilities.

Table 1 below provides roadway context characteristics specific to each bikeway category that offer greater flexibility beyond the preferred bikeway type in Figure 9 of the FHWA Guide. These context characteristics should be used with engineering judgement when the preferred bikeway type is not feasible on a project by project basis. More confident riders can be accommodated in the higher speed and volume roadways where appropriate after the various considerations highlighted below have been assessed.

Various considerations should be explored when evaluating and selecting the bikeway type from Table 1, particularly along constrained roadways and local road networks. The FHWA Guide provides sound guidance in the section entitled "Assessing and Refining the Desired Bikeway Type" beginning on page 24. Other considerations from the FHWA Guide are highlighted such as:

- Unusual motor vehicle peak hour volumes
- Traffic vehicle mix
- Parking turnover and curbside activity
- Driveway/intersection frequency
- Direction of operation
- Vulnerable populations
- Network connectivity gaps
- Transit considerations for selecting bikeways

Consider the increased vehicular weaving that occurs at intersections, wide roadways of more than one lane in each direction, driveways, bus stops and onstreet parking. Strategies to mitigate the conflicts such as consolidation of driveways, removing parking, and others should be considered. Local agency guidance and policies should be considered when selecting bikeway type on the local road system, particularly with respect to speed and volume thresholds.

	Class I Bike Paths	Class III Bike Routes	Class II Bike Lane or Buffered Bike Lanes	Class IV Separated Bikeways
Description	A completely separated facility for the exclusive use of bicycles and pedestrians with crossflow by motor vehicles minimized. Offer recreation or high-speed commute routes when motor vehicle and pedestrian conflicts are minimized. Typically provided along rivers, ocean fronts, canals, parks, etc.	Provides for shared use with pedestrian or motor vehicle traffic either to: (1) provide continuity to other bicycle facilities (typically Class II); or (2) designate preferred routes through high demand corridors. Established with bike route signs and shared roadway markings along the route.	Provides a striped lane for one-way bike travel on a street or highway. Buffered bike lanes are separated by a marked buffer between the bike lane and the traffic lane or parking lane.	Provides for exclusive use of bicycles (cannot be used by pedestrians or vehicular traffic) and includes a horizontal and vertical separation (e.g., flexible posts, on-street parking, grade separation) required between the separated bikeway and through vehicular traffic.
Context	Urban and Rural	Urban and Rural	Urban	Urban and Rural
Posted Speed Limit	*Any speed	*Any speed	50 mph or lower (consider buffer above 35 mph)	30 mph or higher
Motor Vehicle Traffic Volume	*Any volume	*Any volume	20,000 ADT or lower (consider buffer above 10,000 ADT)	Any volume, typically 6,000 ADT or greater
Other Considerations	See HDM Index 1003.1 for further guidance.	See HDM Index 1003.3 for further guidance.	See HDM Index 301.2 for further guidance.	See Design Information Bulletin 89 for further guidance.

Table 1: Bikeway Context Characteristics

Legend:

*Note that caution should be exercised with engineering judgement regarding Class I and III bikeway application on the State highway system and local road network, particularly at intersections. For Class III Bike Routes in shoulders of higher speed and volume roadways, there may be limited availability to provide the bikeway on an alternative lower speed and volume environment. See design considerations guidance included before Table 1 above.

Description – Bikeway facility type definition and typical application. See the Caltrans Highway Design Manual (HDM) Index 1002.1 for further information.

Context – Roadway context describing the physical environment and land uses surrounding the State highway where the bikeway is appropriate. Rural areas include developing corridors and city or town centers (rural main streets). Urban and urbanized areas include low density

parklands and residential neighborhoods, high density urban main streets (e.g., community centers or corridors, downtown cores). Suburban is considered to be included with both rural and urban areas. See HDM Index 81.3 for further information.

Posted Speed Limit – The maximum speed limit that the facility type (See Context for urban and rural roadway types) is compatible.

Motor Vehicle Traffic Volume – The maximum traffic volume (average Annual Daily Traffic or ADT) that the bikeway facility type (Bikeway Class I-IV) is compatible. These are general thresholds, particularly in urban areas. Factors such as outside lane width, percent heavy truck volume, speed limit, and presence of on-street parking can have significant effects on the appropriateness of a facility. For urban areas, consider the Bicycle Level of Traffic Stress (LTS) Score from the FHWA Guide.

Other Considerations - Further information regarding the appropriateness of each facility type.

FHWA Bikeway Selection Guide Training Opportunities

FHWA has recorded a webinar to provide an overview and training of the bikeway facility selection guidance found in the FHWA Guide. The webinar is located online at

http://www.pedbikeinfo.org/webinars/webinar_details.cfm?id=80

If you require further assistance with evaluating and selecting the appropriate bikeway facility for a project, please consult with the District Design Liaison, District Bicycle Coordinator, or District Complete Streets Planning Staff. Any questions regarding this guidance memo may be directed to the Headquarters Division of Design, Chief, Office of Standards and Procedures.

Attachment Contextual Guidance for Bike Facilities Memo c: Jeanie Ward-Waller, Deputy Director, Planning and Modal Programs Rachel A. Carpenter, Chief Safety Officer, Safety Programs Marlon Flournoy, Chief, Division of Transportation Planning Anika Jesi, Acting, Sustainability Program Manager, Sustainability Program Vijay Talada, Traffic Control Devices & Legal Liaison, Traffic Safety Engineering Antonette Clark, Chief, Office of Standards & Procedures, Division of Design Rebecca Mowry, Office of Standards & Procedures, Division of Design Gordon Brown, Office of Project Support, Division of Design DOD Office Chiefs

California Healthy Places Index Specific Health Alliance

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A warning in Tecopa: Don't drink the water



Larry Levy, fire chief with Southern Inyo Fire Protection District, right, and Jim Furlough, make their weekly potable water delivery rounds to residents in Tecopa, California on June 21. Jason Ogulnik/Special to the Pahrump Valley Times

By Henry Brean Special to the Pahrump Valley Times June 29, 2016 - 8:41 am

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TECOPA, Calif. ☐ On summer days, Larry Levy and Jim Furlough start their delivery route early to beat the withering heat in this Mojave Desert village one mountain range removed from Death Valley.

They meet near the Tecopa Hot Springs public mineral baths to load a flatbed trailer with 75 jugs of purified water trucked in from Las Vegas, 80 miles to the east. Then they hop in the cab of Levy s pickup and hit the road at around 7 a.m.

Their route each Tuesday takes them down nearly every road and past almost every house in town. The trip typically takes them ⊠a couple three hours,⊠ Levy said. ⊠It depends on how much conversation we get into.⊠

For most of the community⊠s roughly 150 full-time residents, these grantfunded deliveries are the only clean drinking water they get.

Tecopa doesn t have a central water system. What flows from local taps comes from scattered residential groundwater wells drilled down into an aquifer famous for its naturally heated, mineral-rich water, but not for its purity.

Some wells flow cleaner than others, but even the good ones contain levels of arsenic and fluoride at or above state and federal limits.

■It■s bad for your teeth if you drink too much,■ said Levy, a 15-year resident who also serves as chief and chief mechanic for the Southern Inyo County Fire Protection District, the local volunteer fire and rescue service.
■Kids that grew up here drinking the water have kind of brown, mottled teeth.■

Water quality is especially bad within the 1 square mile surrounding Tecopa Hot Springs, where signs warn the many seasonal visitors not to drink what comes out of the tap.

The groundwater there contains 40 times more arsenic and four times more total dissolved solids than the maximum contaminant level allowed by the Environmental Protection Agency.

■People definitely do drink it, but it s pretty gross, said Patrick Donnelly, who lives in nearby Shoshone, California, and works for an environmental nonprofit, the Amargosa Conservancy, that is trying to help Tecopa with its water problems. It has a distinctive odor and taste, approaching sewer quality.

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MILES TO GO BEFORE THEY DRINK

A few people in town have installed their own filtration systems, but most residents import their drinking water from Nevada. Once a week or so, they make the 80-mile round trip to Pahrump, the closest town with a grocery store, to fill jugs or buy the bottled stuff by the case.

Work is underway on a far more convenient alternative: a well and treatment system connected to a vending machine at the edge of town so residents can get clean water on demand without having to leave the state.

A crew contracted by Inyo County installed the 12-foot-by-12-foot concrete building and began testing water treatment equipment there about six weeks ago.

Inyo water director Bob Harrington said county officials hoped to get by with a less-expensive filtration process, but recently decided they needed to install a reverse-osmosis system at more than triple the price.

The extra \$35,000 for the costlier system will come from the county. Just over \$200,000 in grant money from California s State Water Resources Control Board has paid for the rest of the project.

The county now hopes to get the vending machine online in late July or early August, roughly a year later than originally planned.

The delay has frustrated some Tecopa residents.

Amy Noel is an artist and co-owner of Tecopa Hot Springs Resort, where the water emerges from its artesian source at about 120 degrees. Instead of a hot water heater, Noel has a cooling tank.

She said the vending machine project seems to be dragging under the county⊠s supervision.

■We are a tiny community that pays big (tourism) and sales taxes for our region to get so few services, ■ the 15-year resident said.

Harrington is sympathetic. He never expected the project to take this long either.

■There have been a lot of obstacles to doing this kind of project in such a remote place. We■re frustrated too,■ he said.

Levy said this sort of thing just comes with the territory. It can be hard for their town to get noticed **B** let alone get help **B** at the very edge of California.

■Whenever I talk to someone in Sacramento, I tell them to get a map. You need to get out a map so you know what we■re talking about,■ he said.

Tecopa is even isolated within its own county. The Inyo County seat is in Independence, on the opposite side of Death Valley, almost 200 miles away.

■I always bring greetings from the frontier when I go, ■ Levy said.

DELIVERING FOR THE COMMUNITY

When the delivery service began in August 2014, it was expected to last no more than a year, just long enough to get the water vending machine built.

But last August, with little sign of progress on the vending station, Inyo County spent the last of the state water board s grant money for the deliveries. If the Amargosa Conservancy and others hadn t swooped in at the last minute to secure another \$90,000 from the state, the service would have stopped.

During Tuesday**¤**s three-hour run, as the biting horseflies buzzed and the temperature crept toward a high of 114, Levy and Furlough distributed about 70 five-gallon jugs, each weighing 40 pounds.

■This week we■re a little light,■ said Furlough, who moved to the desert from Baltimore about three years ago. ■People are running for the hills because of the heat.■

In the winter, when the area swells with seasonal residents, the two men will distribute about 90 jugs a week.

One of their biggest customers is Carlo Roncancio, a fashion photographer who has called Tecopa home for the past 20 years.

He said he likes the way his well water tastes, but he doesn⊠t trust it. ⊠You just don⊠t know what kind of toxins are in there,⊠ he said.

So he gets the maximum five bottles a week from the delivery truck instead.

■If it wasn t for Larry and Jim, this wouldn t be happening, Roncancio said. They re going far and beyond their responsibility. It makes me feel like we re in a giving community.

Noel predicts the vending machine will have a similar impact on people⊠s lives, just as soon as it⊠s finished. ⊠It⊠s huge to be able to have purified water and not have to drive 80 miles round trip,⊠ she said.

TAKING WATER FOR GRANTED

The delivery route includes Levy s own home, not far from the hot springs. He said he and his wife use two or three of the jugs a week just for drinking and cooking. The rest of their water flows from an artesian well on their property and comes out of the tap at about 112 degrees.

■It■s hard to get a cold shower around here,■ said Karin Pine, who lives down the street from Levy.

The 16-year Tecopa resident runs what she calls a spa and ⊠body-work retreat⊠ for people seeking ⊠relief from the stresses and stimulations of the

city.⊠

She and some of her neighbors used to get their drinking water from a hose outside the elementary school in Tecopa, but she stopped because the high mineral content was giving her kidney stones.

The hose eventually was shut off, Pine said, after regulators forced the tiny school to install a filtration system for its students and staff and stop distributing water to the public.

She said she is grateful the community will be getting a water vending machine, but she⊠s really going to miss the delivery service. After years of lugging her water home from Pahrump, she loves having it brought right to her doorstep.

■III be back to hauling water bottles. It will just be a shorter trip in the truck, Pine said. ■ItIIS OK. ItIIS why we all moved out here. We Ire all pioneers. You have to put up with some inconveniences.

The last stop on Tuesday⊠s route is Cynthia⊠s, a hostel and bed and breakfast at the edge of Tecopa.

Its namesake proprietor, Cynthia Kienitz, said the water from her well is among the cleanest in town, but ⊠you wouldn⊠t want to drink it every day.⊠

She hopes Tecopa⊠s struggle to get safe drinking water will give ⊠whiny city people⊠ in places like Las Vegas a new appreciation for what they have.

■Everybody takes water for granted,■ she said. ■It■s like food. Nobody really knows where it comes from. Nobody cares.■

But after 20 years in Tecopa, she has come to expect a little hardship with her tranquility.

■I guess when you live out here, you live out here because you love it. And you accept all the things that come with it, all the inconveniences, ■ Kienitz said..

ĭ You do what you need to do to live here.

Contact Henry Brean at hbrean@reviewjournal.com. Find @RefriedBrean on Twitter.

Tecopa Safe Drinking Water and Fire Water Supply Feasibility Study

Tecopa and Tecopa Hot Springs California

JWI.1345



Prepared For:

Amargosa Conservancy Post Office Box 63 Shoshone, California 92384

Prepared By:



R O Anderson

1603 Esmeralda Avenue Minden, Nevada 89423

November 12, 2013

Jon Philipp, California Professional Geologist and Certified Hydrogeologist, as an employee of Johnson Wright, Inc., has prepared the following "Tecopa Safe Drinking Water and Fire Water Supply Feasibility Study" dated November 12, 2013. His signature and stamp appear below:

Jon Philipp

Professional Geologist #7945 Certified Hydrogeologist #864 November 12, 2013



Kent Neddenriep, California Professional Civil Engineer, as an employee of R.O.Anderson, Inc., has prepared the following "Tecopa Safe Drinking Water and Fire Water Supply Feasibility Study" dated November 12, 2013. His signature and stamp appear below:

Alt R Midan

Kent Neddenriep Professional Civil Engineer #48475 November 12, 2013



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EXECUTIVE SUMMARY

The communities of Tecopa and Tecopa Hot Springs, located in remote southeastern Inyo County, have no safe sources of potable drinking water and lack auxiliary storage for fire water supply. While nearly all households have private wells, the local geology and hydrogeology suggests that it is doubtful any of the domestic wells in the region meet the State of California safe drinking water standards for dissolved constituents such as fluoride, arsenic and other minerals.

Johnson Wright, Inc. (JWI) and their partner, R.O Anderson Engineering, Inc. (JWI Team), performed a Feasibility Study on behalf of the Amargosa Conservancy (AC) to address the range of water quality and supply issues in Tecopa and Tecopa Hot Springs. Preliminary conclusions from this feasibility study were developed based on reviewing available hydrogeological information for the Tecopa area, assessing the groundwater resources available and the water supply requirements, and holding community meetings to provide feedback on the study.

Fire water storage is considered to be the most urgent need of the residents of Tecopa as drinking water is currently available in Pahrump. Therefore, it is recommended to provide fire water storage immediately. If funds are not available for two fire water storage tanks, one tank would provide significant benefit over the current conditions.

If only one fire water storage facility can be funded, input from the Fire District is critical to determine the preferred location because they will be using the tank and best know the advantages and disadvantages of each location as it relates to their needs. Further, investigation of the existing welded steel storage tank is warranted before proceeding with its use. If the tank is found to be in reasonably good condition then it should be used for fire water storage to reduce the cost of equipment, otherwise, a new polyethylene storage tank is recommended.

The supply of a source of safe drinking water in the area is also a high priority. Fill stations at both proposed locations would be beneficial to the area. However, if both fill stations are constructed it is expected that the use of each fill station would be approximately one half of the use if only one were to be constructed and the revenues would not be sufficient to cover the operation and maintenance costs. For economic reasons the fill station at in Tecopa Heights is recommended.



1.0 INTRODUCTION

The communities of Tecopa and Tecopa Hot Springs, located in remote southeastern Inyo County, California (Figure 1), have no safe sources of potable drinking water. While nearly all households have private wells, the local geology and hydrogeology suggests that it is doubtful any of the domestic wells in the region meet the State of California safe drinking water standards for dissolved constituents such as fluoride, arsenic and other minerals. Currently, residents either drive 45 miles to Pahrump, Nevada to purchase purified water or they drink unregulated well water. The long-term health effects associated with highly mineralized water is a concern for this community. In addition to the economic impact of residents purchasing purified water and health impact for residents who drink private well water, there is also an urgent need to establish water storage capacity for the local volunteer emergency services district. Recent fires have brought to light the difficulty of controlling fires in the area without the ability to quickly refill the various fire-fighting vehicles. The storage of water could also be vital for providing water during emergencies that involve power outages, which are a frequent result of the desert high winds and heat.

Johnson Wright, Inc. (JWI) assembled a team (JWI Team) with extensive technical experience and local understanding to execute a Feasibility Study on behalf of the Amargosa Conservancy to address the range of water quality and supply issues in Tecopa and Tecopa Hot Springs. The Feasibility Study provides an analysis of the current situation, a range of possible solutions, and estimates of the costs of these solutions. The JWI Team consists of:

- Johnson Wright, Inc., Lead Consultant, Hydrogeology
- R.O. Anderson Engineering, Inc., Engineering and GIS

The Feasibility Study involved reviewing available hydrogeological information for the Tecopa area, assessing the groundwater resources available and the water supply requirements, and holding community meetings to provide feedback on the study. This information was used to develop potential project alternatives and requirements, which were then further refined to develop the recommended alternatives and estimated costs.



2.0 DATA COLLECTION AND ASSESSMENT ACTIVITIES

The JWI Team reviewed available hydrogeological information for the Tecopa area, including technical reports, available data, maps and other information. Relevant data were used to perform a hydrogeological assessment that evaluated the groundwater resources (water quality and quantity) available for use for the proposed project. This included three water samples collected from Tecopa area wells as part of this Feasibility Study, water quality and quantity data collected as part of the Amargosa Conservancy's Amargosa River Hydrologic Survey, and other publically available data including a variety of data provided by local residents and businesses. The available water quality data were scrutinized for pertinent water quality parameters, including exceedances of the primary and secondary drinking water standards as defined by Title 22 of the California Code of Regulations. The primary contaminants in the area are arsenic and fluoride, which have maximum contaminant levels (MCLs) of 10 micrograms per liter ($\mu g/L$) and 2.0 milligrams per liter (mg/L), respectively.

2.1 Feasibility Study Sample Collection Activities

Three groundwater samples were collected and analyzed as part of this Feasibility Study. The sample collection locations included the domestic water-supply well at the 590 Sunset Road residence, the water-supply well located at the Tecopa-Francis School on Old Spanish Trail Highway, and the out of service hand-dug well at Cynthia's Hostel located at 2001 Old Spanish Trail Highway. The samples were all collected on April 24, 2013. Each sample was properly packaged and transported on ice to Advanced Technology Laboratories, Inc. (ATL, a California-certified analytical laboratory) in Las Vegas, Nevada for analysis. Each sample was analyzed for metals, cations, anions, alkalinity, hardness, total dissolved solids, specific conductivity, total organic carbon, arsenic speciation and sulfide. The locations of the three wells where data were collected are shown on Figure 2. The details of the analytical results from the three samples collected are discussed and presented in Section 4.1.1 of this report. Appendix A contains the laboratory report from ATL.

2.2 Other Groundwater Analytical Data

Additional groundwater analytical data were compiled from a number of different sources as part of this Feasibility Study. The data includes springs and groundwater samples collected as part of the Amargosa Conservancy's ongoing hydrologic survey and groundwater data from Tecopa Hot Springs. The locations of the data collection points are shown on Figure 3.

2.3 Information Canvassing Efforts

An essential facet of the water resource evaluation for this Feasibility Study was the identification of private wells, and the businesses and residences that rely upon them, for their domestic drinking water supply. To that end, the JWI team conducted a well canvassing effort for the Tecopa and Tecopa Hot Springs area which included visual tours of the area, conversations with local officials, business owners and residents, and the distribution/collection of domestic water source and use questionnaires. The questionnaire was distributed to the Tecopa and Tecopa Hot Springs community and 30 responses were obtained. The purpose of the questionnaire was to collect information to better assess who would use the water, where the infrastructure should be built, the amount of water necessary to meet community needs, and the cost of the drinking water and fire water supply systems. The community was asked to provide input on the number of year round and seasonal residents, the source of household and drinking water, and whether they would use potable water if it were made available in Tecopa. A summary of the conversations and information collected are found in Appendix B. Please note that private information shared with the JWI team are not included in this report, and that questionnaires submitted as part of this Feasibility Study have been destroyed.

2.4 Mapping and Number of Residents

Updated copies of Inyo County's GIS database were obtained as well as the best available aerial photography of the region. This information was used to create base maps showing the area including roads, significant features, and parcel lines. These maps are contained in Appendix C and are also submitted electronically in ArcGIS format.

The 2010 U.S. Census listed 150 full time residents in the Tecopa area, which includes Tecopa Heights, Tecopa Hot Springs, and downtown Tecopa. Based upon survey results from hand delivered questionnaires and site visits made during this feasibility study, it was estimated that an additional 220 people may be present as a transient population during winter seasonal tourism periods, for an estimated total combined population of roughly 375 people. The transient population is based upon an estimate of the Recreational Vehicle (RV) spaces and an assumption of 2 people per RV space.

2.5 Maxey-Eakin Water Supply Availability Estimate

As availability of surface water supplies are not anticipated for either fire-fighting or potable water, a groundwater assessment to evaluate potential sources of potable and/or fire-fighting water supplies in the Tecopa area was conducted. Based on our previous work in the Amargosa Basin, we believe that a portion of the recharge to the Tecopa area south of Tecopa Hot Springs is derived from recharge that occurs in the Kingston Range (Figure 4), which moves downward



(1)

toward the Amargosa River. As part of the Feasibility Study, an estimate of groundwater recharge in the Kingston Range area was conducted using a Maxey-Eakin analysis. The Maxey-Eakin method uses precipitation at various elevations to estimate groundwater recharge from a mountainous drainage area, such as the western slopes of the Kingston Range.

The first step of the Maxey-Eakin analysis is to establish a correlation between average yearly precipitation and elevation using weather station data. Currently, there is only one local precipitation station at an elevation substantially above the Amargosa River, so the analysis will represent a screening-level recharge estimate for the purposes of this Feasibility Study. However, looking beyond to areas such as Death Valley and the Spring Mountains, over thirty annual precipitation values were obtained at elevations ranging from below sea level to over 8,000 feet above sea level. The annual precipitation values were plotted against elevation and a polynomial trend line was fit to the data, the equation for which defines the general relationship used in the Maxey-Eakin analysis. This plot is shown in Figure 5 and the equation from the polynomial fit to the data is:

 $P = 0.00000018L^2 + 0.00094946L + 1.79781040$

where *P* is precipitation and *L* is the elevation. The precipitation corresponding to the range of elevations for the Kingston Range was calculated using Equation 1. To perform the Maxey-Eakin analysis, three areas were measured that corresponded to the elevations that bracketed three different precipitation zones: 8-12 inches, 12-15 inches, and 15-20 inches. The measured areas (*A*) along with the average precipitation for each of these zones and the Maxey-Eakin coefficient (α_i) were entered into the Maxey-Eakin (ME) equation defined below to obtain water availability:

$$ME_{\text{recharge}} = \sum_{i=1}^{3} A_i \propto_i P_i \tag{2}$$

A summary of the values used to estimate the recharge for the Kingston Range is presented in Table 1. The total estimated recharge using the Maxey-Eakin analysis is 728 acre-feet per year. Based on this estimated recharge rate and the anticipated average water usage of 355 gallons per day (0.4 acre-feet per year) for the communities of Tecopa and Tecopa Hot Springs, ample groundwater is available in the region to support this usage. In addition, potential impacts to well owners, springs, and the federally-designated Wild and Scenic River from the possible water usage are not anticipated.





Elevation	Precipitation	Average	Average			
Range	Zone	Precipitation	Precipitation	M-E	Area	Recharge
(feet)	(inches)	(inches)	(feet)	coefficient	(square feet)	(acre-ft/year)
6300 - 7700	15 - 20	17.5	1.46	15%	19,621,015	99
5300 - 6300	12 - 15	13.5	1.13	7%	141,341,242	256
3800 - 5300	8 - 12	10	0.83	3%	650,988,265	374
					Total Recharge	728

Table 1. Values used in the Maxey-Eakin Analysi

M-E coefficients obtained from Maxey and Eakin (1949)



3.0 COMMUNITY CONSULTATION

Several community meetings were held at the Tecopa Community Center in order to obtain feedback from the community regarding the Feasibility Study. The first community meeting was held on April 10, 2013 with the purpose of introducing the project and getting some initial verbal feedback from the community about the various aspects of the project. This meeting initiated several weeks of data collection efforts, including canvassing the community for domestic supply wells, encouraging business owners and residents to fill out questionnaires regarding community water supplies and uses, and consulting with local officials including the Southern Inyo Fire Protection District (SIFPD) Fire Chief Lawrence Levy.

The information collected immediately following the first community meeting was compiled and forwarded to R.O. Anderson for use in performing a preliminary analysis regarding potential options for establishing a drinking water supply and fire suppression water supply for Tecopa. These initial options were presented to the Tecopa community at a meeting conducted on July 10, 2013. At this meeting, the various options were presented followed by an open discussion.



4.0 RECOMMENDED PROJECT ALTERNATIVES AND ESTIMATED COSTS

The recommended project alternatives and estimated costs are presented in this section in two parts. The safe drinking water supply alternatives are first discussed followed by the discussion on the alternatives for the fire water supply. Each part discusses two alternatives, the potential locations of the water supply, environmental permitting, and a cost analysis.

Below is a summary of the alternatives that were selected for this study. The first two are for the safe drinking water supply and the last two are for the fire water supply:

- A dispensing station for potable water located at the fire district property in Tecopa Heights using the new fire Department well including dispensing for RV use. Treatment will be by adsorption with no waste stream.
- A dispensing station for potable water located at the Community Center in Tecopa Hot Springs using the existing water supply including dispensing for RV use. Treatment will possibly include chlorination water softening prior to the Reverse Osmosis charcoal filtration. This treatment will have a waste stream that most likely will be disposed of in the wastewater treatment ponds.
- A static water supply at the fire district property in Tecopa Heights filled by their new well and using the site tank.
- A static fire water supply at the fire property in Tecopa Hot Springs with a new polyethylene tank to be filled by the fire tender during non-emergencies.

4.1 Safe Drinking Water Supply

4.1.1 Water Quality

Presently there is no known local source of drinking water that meets either Federal or California safe drinking water standards available to the community of Tecopa. Of primary concern is the presence of elevated levels of arsenic and fluoride in the local water. While the concentrations of arsenic do vary between sources in the Tecopa area, all of the sources sampled in this study presented concentrations in excess of the primary Maximum Contaminant Level (MCL)¹ for the State of California – i.e. > 10 μ g/L. Fluoride is also present at levels in excess of the State of



¹ The United States Environmental Protection Agency (USEPA) sets primary MCLs which are legally enforceable standards to protect the health of drinking water consumers. Secondary MCLs are non-enforceable standards for contaminants that may either cause cosmetic effects (skin discoloration) or have aesthetic effects on the water such as taste and odor (USEPA, 2013). States may choose to enforce Federal secondary MCLs at their discretion.

California primary MCL of 2.0 mg/L. Subsequently, residents and visitors must either consume untreated water pumped from domestic wells, provide their own treatment, or purchase treated water from another location. Even though most residences are served by domestic wells, many residents indicated that they prefer to purchase their water from a treated source in Pahrump, Nevada, about 45 miles away from the Tecopa area, citing health concerns and aesthetic issues (taste) for not consuming well water.

Arsenic is a toxic substance for humans, and ingestion of arsenic may result in a myriad of adverse health conditions for the consumer, including increased risk of cancer (USEPA, 2013). Fluoride at low levels (below the MCL) can have positive health effects – especially dental health. Ingestion of fluoride at high levels however, can have adverse health effects including increased risk of bone fractures and pain, as well as adverse cosmetic effects on teeth, especially in children (USEPA, 2013). The primary MCL for the State of California is 2 mg/L and the Federal primary MCL is 4 mg/L (2 mg/L is the Federal secondary MCL).

In addition to arsenic and fluoride, the water quality results indicate that the groundwater in the Tecopa Hot Springs area exceeds secondary standards for Total Dissolved Solids (TDS) and sulfate. Secondary standards are in place for aesthetics including odor and taste and exceeding these standards do not have definitive adverse health effects. Further, high turbidity (cloudiness resulting from suspended particles), pH, hardness, silica, sulfates and alkalinity (characteristic of mineralized ground water) are present at high levels, which can adversely impact available water treatment options even though they do not have adverse health or aesthetic affects.

4.1.1.1 Tecopa Heights

Many of the full time residents in the Tecopa area reside in Tecopa Heights, which lies to the east of the downtown Tecopa near the intersection of Old Spanish Trail and Furnace Creek Road. Three existing wells were sampled in Tecopa Heights as a part of this study – the School Well, Cynthia's Well, and the well located at 590 Sunset Road. The locations of these wells are shown on the Area Map included in Figure 2. The water quality results for each of these wells are included in Table 2 below. As can be seen from the water quality analysis, all three wells exceed the Federal and State of California primary MCL for arsenic (10 μ g/L, which is the equivalent of 0.010 mg/L) and the Federal secondary and State primary MCL for fluoride (both 2 mg/L). In addition to arsenic and fluoride, the ground water sampled in the area of Tecopa Heights contains relatively high levels of sulfate, hardness, alkalinity, and pH. The results of the water quality analysis performed for three wells in the Tecopa Heights area are shown in Table 2, which also lists both the Federal and State of California primary and secondary MCLs for reference. One well (Cynthia's Well) showed high turbidity which is not commonly found in groundwater, likely a result of the hand dug nature of the well itself.



4.1.1.2 Tecopa Hot Springs

Tecopa Hot Springs lies to the north of downtown Tecopa and is a popular location for tourists to visit, especially in the winter. All of the local businesses, including Recreational Vehicle (RV) parks and the County-owned campground, are located in Tecopa Hot Springs which makes this area ideal for locating a potable water source. The ground water in the vicinity of Tecopa Hot Springs is of a lesser quality than that of the wells sampled in Tecopa Heights. While no samples were taken during the course of this feasibility study, historic water quality analysis reports of the Hot Springs (from February of 2012) are available and are included as Table 3 below. All of the constituents of concern for the Tecopa Heights area discussed previously are present at higher concentrations in the ground water near Tecopa Hot Springs, with arsenic levels up to 42 times the MCL. The relatively high concentration of total dissolved solids (TDS) at over 2,000 mg/L classifies the water as "brackish water." Brackish water is water that has a saline content greater than freshwater and less than seawater. Additionally, fluoride is present at a concentration of 3.6 mg/L which exceeds the California MCL and approaches the Federal MCL for safe drinking water (4.0 mg/L). Silica, alkalinity, and sulfates are also present at high concentrations, with sulfate levels over twice the Federal and California secondary MCLs.



Baramotor	Federal		California		Unite	Cynthia's	School	590 Sunset	
Falameter	Primary MCL	Secondary	Primary MCL	Secondary	Units	Well	Well	Well	
Arsenic	0.01	-	0.01	-	mg/L	0.011	0.032	0.014	
Arsenic III (Arsenite)	0.01	-	0.01	-	mg/L	0.000197	0.000370	0.000288	
Fluoride	4	2	2	-	mg/L	2.8	2.3	2.5	
Turbidity	-	1 - 5	-	5	NTU	2.0	0.51	0.35	
Barium	1	-	1	-	mg/L	0.023	0.025	0.025	
Copper	1.3	1	1.3	1	mg/L	ND	0.0073	ND	
Iron	-	0.3	-	0.3	mg/L	ND	ND	0.12	
Zinc	-	5	-	5	mg/L	ND	0.15	0.012	
Chloride	-	250	-	250	mg/L	43	86	51	
Nitrogen, Nitrate (As N)	10	-	45	-	mg/L	ND	0.16	0.22	
Sulfate	-	250	-	250	mg/L	210	210	190	
рН	-	6.5 - 8.5	-	-	ph Units	7.9	7.9	8	
Boron	-	-	-	-	mg/L	0.88	2.8	0.81	
Calcium	-	-	-	-	mg/L	16	23	38	
Magnesium	-	-	-	-	mg/L	19	21	23	
Molybdenum	-	-	-	-	mg/L	0.013	0.010	0.007	
Silica (SiO2)	-	-	-	-	mg/L	52	46	35	
Strontium	-	-	-	-	mg/L	0.69	0.78	1.4	
Vanadium	-	-	-	-	mg/L	0.0056	0.0069	0.0058	
Hardness, Calcium (As CaCO3)	-	-	-	-	mg/L	39	56	95	
Hardness, Magnesium (As CaCO3)	-	-	-	-	mg/L	80	88	95	
Total Hardness (As CaCO3)	-	-	-	-	mg/L	120	140	190	
Alkalinity, Bicarbonate (As	-	-	-	-	mg/L	300	310	200	
Alkalinity, Carbonate (As	-	-	-	-	mg/L	11	ND	ND	
Alkalinity, Total (As	-	-	-	-	mg/L	320	310	210	
Suspended Solids	-	-	-	-	mg/L	54	ND	ND	
(Residue, Non-Filterable) Temp. at time of pH	_	-	-	_	nh Units	25	25	25	
Analysis						20	20	20	
Aluminum	-	0.2	-	0.2	mg/L	ND	ND	ND	
Antimony	0.006	-	0.006		mg/L	ND	ND	ND	
Beryllium	0.004	-	0.004	-	mg/L	ND	ND	ND	
Cadmium	0.005	-	0.005	-	mg/L	ND	ND	ND	
Chromium	0.1	-	0.05	-	mg/L	ND	ND	ND	
Cobalt	-	-	-	-	mg/L	ND	ND	ND	
Lead	0.015	-	0.015	-	mg/L	ND	ND	ND	
Manganese	-	0.05	-	0.05	mg/L	ND	ND	ND	
Nickel	-	-	0.1	-	mg/L	ND	ND	ND	
Selenium	0.05	-	0.05	-	mg/L	ND	ND	ND	
Silver	-	0.1	-	0.1	mg/L	ND	ND	ND	
Thallium	0.002	-	-	-	mg/L	ND	ND	ND	
Mercury	0.002	-	0.002	-	mg/L	ND	ND	ND	
Nitrogen, Nitrite	1	-	1	-	mg/L	ND	ND	ND	
Phosphorus, Dissolved Orthophosphate (As P)	-	-	-	-	mg/L	ND	ND	ND	
Alkalinity, Hydroxide (As CaCO3)	-	-	-	-	mg/L	ND	ND	ND	
Organic Carbon, Total	-	-	-	-	mg/L	ND	ND	ND	
Sulfide	-	-	-	-	mg/L	ND	ND	ND	

Table 2: Tecopa Heights Water Quality Analysis

Sulfide ND : Non-detect


Baramatar	Federal		Califo	rnia	Unite	Hot
Falameter	Primary MCL	Secondary	Primary MCL	Secondary	Units	Springs
Arsenic	0.01	-	0.01	-	mg/L	0.42
Fluoride	4	2	2	-	mg/L	3.6
Total Dissolved Solids	-	500	-	500	mg/L	2200
Sodium	-	-	-	-	mg/L	19
Potassium	-	-	-	-	mg/L	19
Sulfate	-	250	-	250	mg/L	510
рН	-	6.5 - 8.5	-	-	ph Units	8.2
Calcium	-	-	-	-	mg/L	4.4
Magnesium	-	-	-	-	mg/L	1.8
Silica (SiO2)	-	-	-	-	mg/L	100
Total Hardness (As	-	-	_	_	ma/l	18
CaCO3)					g/ =	
Alkalinity, Bicarbonate (As	_	-	-	_	ma/l	730
CaCO3)					mg/⊏	100
Alkalinity, Total (As	_	-	_	_	ma/l	600
CaCO3)					mg/∟	000
Total Phosphorus	-	-	-	-	mg/L	0.14
Iron	-	0.3	-	0.3	mg/L	ND
Nitrogen, Nitrate (As N)	10	-	45	-	mg/L	ND
Alkalinity, Carbonate (As	_	_	_	_	ma/l	ND
CaCO3)					ing/∟	
Manganese	-	0.05	-	0.05	mg/L	ND
Nitrogen, Nitrite	1	-	1	-	mg/L	ND
Phosphorus (As P04)	-	-	-	-	mg/L	ND
Alkalinity, Hydroxide (As	_	_	_	_	ma/l	ND
CaCO3)					ing/L	
Sulfide	-	-	-	-	ma/L	ND

Table 3: Tecopa Hot Springs Water Quality Analysis

ND : Non-detect

4.1.2 Water Treatment

The 2010 U.S. Census listed 150 full time residents in the Tecopa area, which includes Tecopa Heights, Tecopa Hot Springs, and downtown Tecopa. Based upon survey results from hand delivered questionnaires and site visits made during this feasibility study, it was estimated that an additional 220 people may be present as a transient population during peak winter seasonal tourism periods, for an estimated total combined maximum population of roughly 375 people. The transient population is based upon an estimate of the RV spaces and an assumption of 2 people per RV space. For the purpose of estimating the daily quantity of treated drinking water required to serve the Tecopa area a rate of 1.1 gallon per capita-day was assumed. Since it is anticipated that tourists will likely use the treated water source to fill their RV water tanks, a factor of safety of 1.5 was included in the maximum daily treated water demand estimate for a total maximum daily demand of about 600 gallons per day (GPD).



During the hot summer months there is very little use of the RV parks. Additionally, more of the permanent homes are vacant. It is assumed that during the summer the population will be approximately 100 people and there will be very few RV fill-up's, resulting in an estimated summer water use of 110 GPD.

For this report it is assumed that the peak winter daily water consumption for drinking will be 600 GPD, the summer water consumption for drinking will be 110 GPD, and the annual water consumption for drinking will be 355 GPD or 0.40 acre feet per year in the Tecopa Area. Additionally, the water supply for consumption should be capable of supplying water at a reasonable rate of approximately 10 gallons per minute. This is so that water bottles or RVs could be filled in a reasonable amount of time.

Since arsenic and fluoride are the primary constituents of concern in the Tecopa area, any water treatment system considered must be effective at reducing both arsenic and fluoride concentrations. There are a number of options for treating this water and each option varies in cost, time, and effectiveness, as well as sensitivity to the feed water quality. Based upon the relatively small quantity of water to be treated daily, the feed water quality, and past experience, treatment options were narrowed down to two types of systems, viz. Adsorption and Reverse Osmosis.

4.1.3 Adsorption

Adsorption (as contemplated in this study) is the process by which a contaminant such as arsenic is physically removed from water and attached to a porous media. Adsorption can be an effective treatment process for removing both arsenic and fluoride, however, the adsorption media is non-selective and therefore competing ions in the feed water will tend to 'compete' for adsorption sites on the media. Significant competing ions include silica and phosphorous (as orthophosphate), and recommended feed water levels for these ions are less than 30 mg/L and less than 1 mg/L, respectively (Amargosa Conservancy, 2012). This process is considered the most feasible option for treating water in the Tecopa Heights area, even though the silica level is slightly higher than the recommended concentration of less than 30 mg/L. This results in the adsorption media having to be changed slightly more often than if silica were not present.

A typical adsorption system would consist of a small building to house the system, piping, and appurtenances. Feed water would be delivered from a nearby well to a pre-filter which would remove large particles, sediment, and debris. From the pre-filter, water would then enter the adsorption media canisters where arsenic and other contaminants would largely be removed. Treated water leaving the adsorption media could then be supplied to consumers. Initial conversations with Isolux, a potential adsorption system manufacturer, indicate that up to 140,000 gallons could be treated per set of adsorption media canisters given the water chemistry.



We have assumed 94,000 gallons per canister and that they would last up to 5 months at peak winter usage of 600 GPD before the canisters would need to be replaced. The life of the pre filter is more difficult to predict and depends upon the turbidity and suspended solids in the water. It is assumed that these would have a useful life of approximately one half of that of the adsorptive media or 45,000 gallons. There would not be a back flush requirement and no waste stream would be associated with an adsorption system. When the pre filters and adsorptive media filters are replaced the used components will be disposed of either through testing to verify that they do not meet the criterion of a hazardous waste and disposal at a landfill or sent back to the supplier who will either recycle the components or properly dispose of them.

4.1.4 Reverse Osmosis

Reverse Osmosis (RO) is the process by which water is permeated across a selective filter membrane via a pressure differential which is typically supplied by a pump. The treated water which permeates through the filter membrane could then be supplied to consumers. RO typically requires soft water (hardness less than 17 mg/L), low iron and silica concentrations, and low turbidity. For these reasons, RO is not generally recommended for the Tecopa area. Hardness can scale (clog) the RO membranes and silica will tend to abrade and damage the RO membranes. However, brackish water RO systems may potentially be suitable for the Tecopa Hot Springs area, since the feed water quality in this area would not be viable for either adsorption or standard RO systems.

A typical brackish water RO system would include multimedia and activated carbon pre-filters, followed by an anti-scalant injection, and depending on the nature of the arsenic present, possibly chlorine injection prior to the pre-filters. After the pre-filtration and chemical injection, the water would be sent to the RO membranes where arsenic and other contaminants would be removed. Cooling of the water is also recommended. The water would then be distributed for consumption. As with all RO systems there would be a waste stream of "brine" which would need to be disposed of, most likely into the existing sewage ponds west of the Community Center as discussed later in this Report.

4.1.5 Distribution

Distribution for consumption could be provided in a number of different ways, however, given the low daily demand and relatively close geographic proximity of the residents in the Tecopa area, a central point of entry treatment and distribution system (fill station) is recommended. This could be accommodated by a water vending machine that would provide people the option of filling water bottles (5 gallon bottles for instance) or RV tanks, similar to those located at grocery stores. Water would be supplied to the vending machine from the treatment system at the same building that houses the treatment works. Arizona Water Vending, a potential



distributor of water vending machines, has a distribution machine that could be mounted inset to one of the treatment building walls, which would provide consumers with access to the vending machine while keeping the water treatment system and connection protected inside the building. This type of system is essentially the same as that which is being currently used by those Tecopa residents who purchase their water in Pahrump, Nevada.

4.1.6 Location

The locations for fill stations should be convenient and near the area where water will be used. Additionally, if the cost of operation and maintenance of these fill stations is to be recovered by charging for the water (as discussed later in this report) they should have good visibility in order to promote sales and increase revenue. Further, the locations should have the proper general plan designations so that the use will be compatible with other uses in the area. Finally, the locations must have access to a suitable water supply or the ability to drill a well, power and have the ability to secure a long term agreement with the owner of the property for the use.

At the second Community Meeting these criterion were discussed and through consensus two potential locations for fill stations have been determined to best meet this criterion – the 2.5 acre Fire District leased parcel near the intersection of Bob White Way and Furnace Creek Road in Tecopa Heights (a portion of APN 046-310-02, a separate parcel number has not yet been assigned) and near the community center adjacent to Tecopa Hot Springs Road in Tecopa Hot Springs (APN 046-220-22).

4.1.6.1 Tecopa Heights

The proposed location for a fill station in Tecopa Heights is the 2.5 acre parcel leased by the Southern Inyo Fire District from the Bureau of Land Management (BLM). This is leased for public purposes under BLM Lease Number CACA 45857 01 and is a portion of APN 046-310-02 as shown on the Area Map in Figure 2 This location is very convenient to the Tecopa Heights residents being on the edge of the residential area. It is visible from Old Spanish Trail that has significant tourist and RV use. The current general plan designation is Open Space Recreation however, the Fire department is in the process of developing a fire station at this location and the general plan designation and zoning is expected to be changed to public facilities. With that change a fill station would be a compatible use. A new well was recently drilled at this site and is constructed to modern standards with an appropriate sanitary seal. The well log is included in Figure 6. The location of the well is approximately between Cynthia's Well and the 590 Sunset Well and is expected to have similar water quality to these two wells. Further, there are no known sources of groundwater contamination in the area. Eventually a septic system will be constructed to serve the fire station and there is adequate area at this site to properly separate the new septic from the existing well. Electrical power has recently been brought to this site and is



expected to be available. In conversations with Fire Chief Lawrence Levy the Fire District is preliminarily agreeable to the use of a portion of their parcel and partial use of their well for a filling station. The existing Lease with the BLM must be amended to allow this use and the improvements of the fill station approved by the BLM. The conceptual plans for the Tecopa Heights fill station are included as Figure 7. The design is based upon a flow rate of 10 gallons per minute and an annual average flow of 355 gallons per day.

4.1.6.2 Tecopa Hot Springs

The proposed location for a fill station in Tecopa Hot Springs is the Community Center parcel leased from the BLM, APN 046-220-22. This parcel is listed as a BLM Recreation Site, and the County Park is located on this parcel west of Tecopa Hot Springs Road. This location would conveniently serve the transient tourist population as it is very near the existing RV parks and campgrounds.

The Community Center may find this fill station convenient. This location already has a public facilities general plan designation and the fill station will be a compatible use. Electric power is available nearby and there is domestic water available that is permitted as a Transient Noncommunity small water system through Inyo County, #1400096. This type of water system permit does not regulate or require treatment for arsenic or fluoride and throughout the facility there are notifications to not drink the water. Additionally this water is warm. In conversations with Kathy Barton, the Inyo County Small Water Systems Coordinator the water supply which is from a spring box at the hot springs east of Tecopa Hot Springs Road has been determined to not be under the influence of surface water. However, the spring box needs some improvement and better operation and management is recommended. The water quality at this site is not ideal but there are no potential sites in this area with significantly better water quality. The existing Lease with the BLM (CACA-45831) must be amended to allow this use and the improvements of the fill station approved. The conceptual plans for the Tecopa Hot Springs fill station are included as Figure 8. The design is based upon a flow rate of 10 gallons per minute and an annual average flow of 355 gallons per day.

4.1.7 Permitting

It is anticipated that any water treatment system in the Tecopa area would need to be licensed as a private water source through the California Department of Public Health Food and Drug Branch (CDPH FDB). Licensure as a private water source requires multiple water quality testing regimens – including general chemical, physical, and radiological tests to be performed annually and bacteriological tests performed weekly. The water vending station must also be sanitized once every 30 days and have the most recent sanitation date listed in a visible location. The design of the water treatment system must be performed by a licensed professional registered in



the State of California, and the design of the system must include information about the hydrogeology of the source aquifer and supply well. Additional licensure for vending the treated water will also be required through the CDPH FDB. CDPH FDB will also require that the source well be approved by the local health agency, which in this case is Inyo County Environmental Health.

The waste stream from RO treatment is considered an industrial discharge and not domestic sewage and therefore is not currently permitted to be discharged to the existing sewer treatment ponds that are operated by Inyo County and permitted by the Lahontan Regional Water Quality Control Board (LRWQCB) under Board Order 6-94-102.

The waste stream from the RO treatment is expected to have very high concentrations of Total Dissolved Solids (TDS) and other contaminants. The existing sewage treatment works discharges to the groundwater through partially lined evaporation / percolation ponds. LRWQCB policy requires that the groundwater cannot be degraded unless findings are made that the degradation is in the best interest of the people. Therefore, because the waste stream from the RO is expected to be higher in TDS than the groundwater, discharging this higher concentration of TDS to the groundwater will degrade the groundwater. The existing permit through the LRWQCB will have to be modified to allow the discharge and findings made with the permit application that this degradation of the groundwater is in the best interests of the This is a very rigorous process requiring significant study and effort estimated to cost people. \$25,000 as reflected in the cost estimates. Alternatively, the treatment and disposal system at the sewage lagoons would have to be modified so that the concentrations of pollutants are equal to or less than the groundwater. This is expected to require more costly physical modifications to the treatment works and therefore is not preferred.

Other potential concerns with a discharge to the existing sewage treatment system include conveying the flow to the collection system and the available capacity of the system. The location of the fill station is upgradient of the collection system so gravity flow should not be a problem. Also the flow will be minimal, up to approximately 400 GPD so capacity in the pipes and lagoon should not be a concern.

Both of the proposed locations for a water treatment facility will require building permits and plan reviews through Inyo County Planning Department (ICPD). If the fill station located in Tecopa Heights is developed prior to the general plan designation being modified to Public Facilities by Inyo County, it will likely require a special use permit be obtained to construct a dispensing station.



4.1.8 Environmental Permitting

As discussed previously the fill stations are not expected to be contrary to existing land use. Therefore, it is anticipated that fill stations will be Categorically Exempt under the California Environmental Quality Act (CEQA) for several reasons: 1) they are new construction of small structures; 2) they may be considered adjustments to existing facilities; and 3) they may be considered the installation of health or safety protection devices. Further, the estimated annual use of 0.40 acre feet per year is expected to have a less than significant effect on groundwater and the flows in the down gradient Amargosa River. A document of Categorical Exemption should be filed prior to development of a fill station.

Both parcels are owned by the United States Bureau of Land Management (BLM) and it is anticipated that a water treatment project located on either parcel would be considered as a categorical exclusion from the National Environmental Policy Act (NEPA) in that they are for the public health and safety. Therefore an Environmental Impact Study (EIS) should not be required. However the BLM must process the categorical exclusion and in processing this it is expected that they will find that the withdrawal of the estimated annual use of 0.40 acre feet per year will not affect the Amargosa River, which is designated as a Wild and Scenic River. It is noted that prior to the lease of the 2.5 acre parcel to the SIFPD the BLM completed environmental assessment EA# CA-680-05-24 in 2008. This document found no environmental effects on critical elements including no effect on the Amargosa River. The EA consider the future use of the parcel as a district office with a well, septic system, water storage tank and other appurtenances.

4.1.9 Cost Analysis

Tables 4 and 5 below provide an estimated cost analysis for both of the potential water treatment systems described above. It is estimated that an adsorption system located in Tecopa Heights will be the least expensive option both on an initial cost (design, permitting, and construction) and annual cost (administration, operation and maintenance) basis.



Table 4. Cost Analysis for Adsorption System in Tecopa Heights

	DESCRIPTION	QU	ANTITY	UNIT COST	TOTAL
1	Electricity	1	Annually	\$600.00 /YR	\$600
2	Adsorption Cartridge Changes (1 per 94,000 gallons)	1.4	Annually	\$253.00 /EA	\$354
3	Pre-Filter Cartridges (1 per 45,000 gallons ~ 2.5 Months Ea.)	3	Annually	\$120.00 /EA	\$348
3	Operation, Maintenance and Repairs	1	Annually	\$6,200.00 /YR	\$6,200
4	Water Sampling (General)	1	Annually	\$3,000.00 /YR	\$3,000
5	Water Sampling (Bacteriological - Weekly)	52	Annually	\$40.00 /YR	\$2,080
6	Private Water Source License	1	Annually	\$473.00/YR	\$473
SUB TO DMINIS CONTIN Enginee	ITAL STRATION AT 10% IGENCY AT 15% er's Preliminary Estimate of Annual Administration and O&M Cos	its			\$13,055 \$1,306 <u>\$1,958</u> \$16,319
ITEM	DESCRIPTION	QU	ANTITY	UNIT COST	TOTAL
1	Capital Recovery (Savings for Eventual Replacement)	5%	Annually	\$1,447.25/YR	\$1,447
Design,	Permitting and Construction				
ITEM	r crimitting, and construction				
	DESCRIPTION	QU	ANTITY	UNIT COST	TOTAL
1	DESCRIPTION Mobilization, Demobilization, Bonds & Insurance	QU 1	ANTITY Lump Sum	UNIT COST \$3,000.00 /LS	TOTAL \$3,000
1 2	DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Isolux 10 GPM POE Arsenic Treatment System	QU 1 1	ANTITY Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$1,950.00 /LS	TOTAL \$3,000 \$1,950
1 2 3	DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Isolux 10 GPM POE Arsenic Treatment System Piping, BFP, Valves, and Appurtenances	QU 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$1,950.00 /LS \$4,500.00 /LS	TOTAL \$3,000 \$1,950 \$4,500
1 2 3 4	DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Isolux 10 GPM POE Arsenic Treatment System Piping, BFP, Valves, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine	QU 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$1,950.00 /LS \$4,500.00 /LS \$3,995.00 /LS	TOTAL \$3,000 \$1,950 \$4,500 \$3,995
1 2 3 4 5	DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Isolux 10 GPM POE Arsenic Treatment System Piping, BFP, Valves, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building	QU 1 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$1,950.00 /LS \$4,500.00 /LS \$3,995.00 /LS \$10,000.00 /LS	TOTAL \$3,000 \$1,950 \$4,500 \$3,995 \$10,000
1 2 3 4 5 6	DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Isolux 10 GPM POE Arsenic Treatment System Piping, BFP, Valves, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building Inyo County Building Permit	QU 1 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$1,950.00 /LS \$4,500.00 /LS \$3,995.00 /LS \$10,000.00 /LS \$1,000.00 /EA	TOTAL \$3,000 \$1,950 \$4,500 \$3,995 \$10,000 \$1,000
1 2 3 4 5 6 7	DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Isolux 10 GPM POE Arsenic Treatment System Piping, BFP, Valves, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building Inyo County Building Permit CDPH FDB Licensing	QU 1 1 1 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$1,950.00 /LS \$4,500.00 /LS \$3,995.00 /LS \$10,000.00 /LS \$1,000.00 /LS	TOTAL \$3,000 \$1,950 \$4,500 \$3,995 \$10,000 \$1,000 \$2,500
1 2 3 4 5 6 7 10	DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Isolux 10 GPM POE Arsenic Treatment System Piping, BFP, Valves, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building Inyo County Building Permit CDPH FDB Licensing Electrical Components (Pressure Switch, Lights, Heat, Outlets)	QU 1 1 1 1 1 1 1 1 1 1	Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$1,950.00 /LS \$4,500.00 /LS \$3,995.00 /LS \$10,000.00 /LS \$1,000.00 /LS \$2,500.00 /LS	TOTAL \$3,000 \$1,950 \$4,500 \$3,995 \$10,000 \$1,000 \$2,500 \$2,000
1 2 3 4 5 6 7 10 CONST	DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Isolux 10 GPM POE Arsenic Treatment System Piping, BFP, Valves, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building Inyo County Building Permit CDPH FDB Licensing Electrical Components (Pressure Switch, Lights, Heat, Outlets) RUCTION SUB TOTAL	QU 1 1 1 1 1 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$1,950.00 /LS \$3,995.00 /LS \$10,000.00 /LS \$1,000.00 /EA \$2,500.00 /LS \$2,000.00 /LS	TOTAL \$3,000 \$1,950 \$4,500 \$3,995 \$10,000 \$1,000 \$2,500 \$22,500 \$28,945
1 2 3 4 5 6 7 10 CONSTI DESIGN	DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Isolux 10 GPM POE Arsenic Treatment System Piping, BFP, Valves, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building Inyo County Building Permit CDPH FDB Licensing Electrical Components (Pressure Switch, Lights, Heat, Outlets) RUCTION SUB TOTAL AND CONSTRUCTION ADMINISTRATION AT 20%	QU 1 1 1 1 1 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$1,950.00 /LS \$3,995.00 /LS \$10,000.00 /LS \$1,000.00 /EA \$2,500.00 /LS \$2,000.00 /LS	TOTAL \$3,000 \$1,950 \$4,500 \$3,995 \$10,000 \$1,000 \$2,500 \$22,500 \$22,900 \$28,945 \$5,789
1 2 3 4 5 6 7 10 CONSTI DESIGN CONTIN	DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Isolux 10 GPM POE Arsenic Treatment System Piping, BFP, Valves, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building Inyo County Building Permit CDPH FDB Licensing Electrical Components (Pressure Switch, Lights, Heat, Outlets) RUCTION SUB TOTAL AND CONSTRUCTION ADMINISTRATION AT 20% IGENCY AT 15%	QU 1 1 1 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$1,950.00 /LS \$4,500.00 /LS \$10,000.00 /LS \$1,000.00 /LS \$2,500.00 /LS \$2,000.00 /LS	TOTAL \$3,000 \$1,950 \$4,500 \$3,995 \$10,000 \$1,000 \$2,500 \$2,000 \$2,000 \$2,8945 \$5,789 \$4,342

Engineer's Preliminary Estimate of Design, Permitting, and Construction Costs

¹5% of construction costs; assumes inflation equals interest and 20 year life of system.



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Table 5. Cost Analysis for Brackish Water RO in Tecopa Hot Springs

COSIS ASSociated with Administration and Odiw of Neverse Osmosis at an Annual Flow of 555 Ganons Fer Day
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ITEM	DESCRIPTION	QU	ANTITY	UNIT COST	TOTAL
1	Electricity	1	Annually	\$1,000.00 /YR	\$1,000
2	Antiscalant	1	Annually	\$200.00 /EA	\$200
3	Chlorine	1	Annually	\$200.00 /EA	\$200
4	5 Micron Filter Cartridge	1	Annually	\$600.00 /YR	\$600
5	Activated Carbon Media	1	Annually	\$600.00 /YR	\$600
6	Operation, Maintenance and Repairs	1	Annually	\$8,000.00 /YR	\$8,000
7	Water Sampling (General)	1	Annually	\$3,000.00 /YR	\$3,000
8	Water Sampling (Bacteriological - Weekly)	52	Annually	\$40.00 /YR	\$2,080
9	Private Water Source License	1	Annually	\$473.00/YR	\$473
10	Sewer Use Fees	1	Annually	\$2,000.00 /YR	\$2,000
ADMINIS CONTIN Enginee	STRATION AT 10% IGENCY AT 15% r's Preliminary Estimate of Annual Administration and O&M Costs				\$1,815 <u>\$2,723</u> \$22,691
ITEM	DESCRIPTION	QU	ANTITY	UNIT COST	TOTAL
1	Capital Recovery	5%	Annually	\$3.999.75 /YR	\$4,000
	Capital Neovicity	0,0		+ - /	
Enginee	r's Preliminary Estimate of Annual O&M Costs with Capital Recovery	070		1 +-)	\$26,691
Enginee Design,	r's Preliminary Estimate of Annual O&M Costs with Capital Recovery Permitting, and Construction	0,0			\$26,691
Enginee Design, ITEM	Permitting, and Construction DESCRIPTION	QU	ANTITY	UNIT COST	\$26,691
Enginee Design, ITEM	Permitting, and Construction DESCRIPTION Mobilization, Demobilization, Bonds & Insurance	QU/	ANTITY	UNIT COST \$3,000.00/LS	\$26,691 TOTAL \$3,000
Enginee Design, ITEM 1 2	r's Preliminary Estimate of Annual O&M Costs with Capital Recovery Permitting, and Construction DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Pure Aqua MF-400 Skid Mounted Reverse Osmosis Treatment System	QU/ 1 1	ANTITY Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$12,500.00 /LS	\$26,691 TOTAL \$3,000 \$12,500
Enginee Design, ITEM 1 2 3	r's Preliminary Estimate of Annual O&M Costs with Capital Recovery Permitting, and Construction DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Pure Aqua MF-400 Skid Mounted Reverse Osmosis Treatment System Piping, BFP, Valves, Metering Pumps, Cooler, and Appurtenances	QU/ 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$12,500.00 /LS \$15,000.00 /LS	\$26,691 TOTAL \$3,000 \$12,500 \$15,000
Enginee Design, ITEM 1 2 3 4	r's Preliminary Estimate of Annual O&M Costs with Capital Recovery Permitting, and Construction DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Pure Aqua MF-400 Skid Mounted Reverse Osmosis Treatment System Piping, BFP, Valves, Metering Pumps, Cooler, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine	QU/ 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$12,500.00 /LS \$15,000.00 /LS \$3,995.00 /LS	\$26,691 TOTAL \$3,000 \$12,500 \$15,000 \$3,995
Enginee Design, ITEM 1 2 3 4 5	r's Preliminary Estimate of Annual O&M Costs with Capital Recovery Permitting, and Construction DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Pure Aqua MF-400 Skid Mounted Reverse Osmosis Treatment System Piping, BFP, Valves, Metering Pumps, Cooler, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building	QU/ 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$12,500.00 /LS \$15,000.00 /LS \$3,995.00 /LS \$10,000.00 /LS	\$26,691 TOTAL \$3,000 \$12,500 \$15,000 \$3,995 \$10,000
Enginee Design, ITEM 1 2 3 4 5 6	r's Preliminary Estimate of Annual O&M Costs with Capital Recovery Permitting, and Construction DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Pure Aqua MF-400 Skid Mounted Reverse Osmosis Treatment System Piping, BFP, Valves, Metering Pumps, Cooler, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building Inyo County Building Permit	QU/ 1 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$12,500.00 /LS \$15,000.00 /LS \$3,995.00 /LS \$10,000.00 /LS \$2,000.00 /EA	\$26,691 TOTAL \$3,000 \$12,500 \$15,000 \$3,995 \$10,000 \$2,000
Image: Figure 2 Design, ITEM 1 2 3 4 5 6 7	r's Preliminary Estimate of Annual O&M Costs with Capital Recovery Permitting, and Construction DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Pure Aqua MF-400 Skid Mounted Reverse Osmosis Treatment System Piping, BFP, Valves, Metering Pumps, Cooler, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building Inyo County Building Permit CDPH FDB Licensing	QU/ 1 1 1 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$12,500.00 /LS \$15,000.00 /LS \$3,995.00 /LS \$10,000.00 /LS \$2,000.00 /EA \$2,500.00 /LS	\$26,691 TOTAL \$3,000 \$12,500 \$15,000 \$3,995 \$10,000 \$2,000 \$2,500
Image: Tengineer Design, ITEM 1 2 3 4 5 6 7 10	r's Preliminary Estimate of Annual O&M Costs with Capital Recovery Permitting, and Construction DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Pure Aqua MF-400 Skid Mounted Reverse Osmosis Treatment System Piping, BFP, Valves, Metering Pumps, Cooler, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building Inyo County Building Permit CDPH FDB Licensing Electrical Components (Pressure Switch, Vent, Heat, Lights, Outlets)	QU/ 1 1 1 1 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$12,500.00 /LS \$3,995.00 /LS \$10,000.00 /LS \$2,000.00 /LS \$2,500.00 /LS \$3,000.00 /LS	\$26,691 TOTAL \$3,000 \$12,500 \$15,000 \$3,995 \$10,000 \$2,000 \$2,500 \$3,000
Image: Tengineer Design, ITEM 1 2 3 4 5 6 7 10 11	Permitting, and Construction Permitting, and Construction DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Pure Aqua MF-400 Skid Mounted Reverse Osmosis Treatment System Piping, BFP, Valves, Metering Pumps, Cooler, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building Inyo County Building Permit CDPH FDB Licensing Electrical Components (Pressure Switch, Vent, Heat, Lights, Outlets) Concentrate Drain to Sewer System	QU/ 1 1 1 1 1 1 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$12,500.00 /LS \$15,000.00 /LS \$3,995.00 /LS \$2,000.00 /LS \$2,500.00 /LS \$3,000.00 /LS \$3,000.00 /LS	\$26,691 TOTAL \$3,000 \$12,500 \$15,000 \$3,995 \$10,000 \$2,000 \$2,000 \$2,500 \$3,000 \$3,000
Enginee Design, 1 1 2 3 4 5 6 7 10 11 11 12	r's Preliminary Estimate of Annual O&M Costs with Capital Recovery Permitting, and Construction DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Pure Aqua MF-400 Skid Mounted Reverse Osmosis Treatment System Piping, BFP, Valves, Metering Pumps, Cooler, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building Inyo County Building Permit CDPH FDB Licensing Electrical Components (Pressure Switch, Vent, Heat, Lights, Outlets) Concentrate Drain to Sewer System Modification of LRWQCB Waste Discharge Requirements	QU, 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$12,500.00 /LS \$15,000.00 /LS \$10,000.00 /LS \$2,000.00 /LS \$3,000.00 /LS \$3,000.00 /LS \$3,000.00 /LS	\$26,691 TOTAL \$3,000 \$12,500 \$15,000 \$3,995 \$10,000 \$2,500 \$2,500 \$3,000 \$3,000 \$25,000
Image: regime Design, ITEM 1 2 3 4 5 6 7 10 11 12 CONSTI	Permitting, and Construction Permitting, and Construction DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Pure Aqua MF-400 Skid Mounted Reverse Osmosis Treatment System Piping, BFP, Valves, Metering Pumps, Cooler, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building Inyo County Building Permit CDPH FDB Licensing Electrical Components (Pressure Switch, Vent, Heat, Lights, Outlets) Concentrate Drain to Sewer System Modification of LRWQCB Waste Discharge Requirements RUCTION SUB TOTAL	QU, 1 1 1 1 1 1 1 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$12,500.00 /LS \$15,000.00 /LS \$3,995.00 /LS \$2,000.00 /LS \$2,500.00 /LS \$3,000.00 /LS \$3,000.00 /LS \$25,000.00 /LS	\$26,691 TOTAL \$3,000 \$12,500 \$15,000 \$3,995 \$10,000 \$2,500 \$2,500 \$3,000 \$25,000 \$25,000 \$79,995
Image: regime Design, ITEM 1 2 3 4 5 6 7 10 11 12 CONSTI DESIGN	Permitting, and Construction Permitting, and Construction DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Pure Aqua MF-400 Skid Mounted Reverse Osmosis Treatment System Piping, BFP, Valves, Metering Pumps, Cooler, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building Inyo County Building Permit CDPH FDB Licensing Electrical Components (Pressure Switch, Vent, Heat, Lights, Outlets) Concentrate Drain to Sewer System Modification of LRWQCB Waste Discharge Requirements RUCTION SUB TOTAL AND CONSTRUCTION ADMINISTRATION AT 20%	QU, 1 1 1 1 1 1 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$12,500.00 /LS \$15,000.00 /LS \$3,995.00 /LS \$2,000.00 /LS \$2,500.00 /LS \$3,000.00 /LS \$3,000.00 /LS \$25,000.00 /LS	\$26,691 TOTAL \$3,000 \$12,500 \$15,000 \$3,995 \$10,000 \$2,000 \$2,500 \$3,000 \$3,000 \$25,000 \$3,000 \$25,000 \$15,999
Image: regime Design, ITEM 1 2 3 4 5 6 7 10 11 12 CONSTI DESIGN CONTIN	r's Preliminary Estimate of Annual O&M Costs with Capital Recovery Permitting, and Construction DESCRIPTION Mobilization, Demobilization, Bonds & Insurance Pure Aqua MF-400 Skid Mounted Reverse Osmosis Treatment System Piping, BFP, Valves, Metering Pumps, Cooler, and Appurtenances Arizona Water Vendors AWV-300SS Vending Machine CMU Treatment/Vending Building Inyo County Building Permit CDPH FDB Licensing Electrical Components (Pressure Switch, Vent, Heat, Lights, Outlets) Concentrate Drain to Sewer System Modification of LRWQCB Waste Discharge Requirements RUCTION SUB TOTAL AND CONSTRUCTION ADMINISTRATION AT 20% IGENCY AT 15%	QU/ 1 1 1 1 1 1 1 1 1 1 1	ANTITY Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum Lump Sum	UNIT COST \$3,000.00 /LS \$12,500.00 /LS \$15,000.00 /LS \$10,000.00 /LS \$2,000.00 /LS \$3,000.00 /LS \$3,000.00 /LS \$25,000.00 /LS	\$26,691 TOTAL \$3,000 \$12,500 \$15,000 \$2,000 \$2,000 \$2,000 \$3,000 \$3,000 \$25,000 \$79,995 \$15,999 \$11,999

15% of construction costs; assumes inflation equals interest and 20 year life of system.

As can be seen in both Tables 4 and 5, one of the most significant annual costs associated with either system is the water sampling cost. Since water sampling is required by the State of California, these samples must also be sent to a certified laboratory for processing. Because there are no labs in the immediate area these samples will have to be shipped by overnight delivery service.

Vended water is presently available in Pahrump, Nevada, at a cost of \$0.20 per gallon. The proposed water treatment systems discussed in this feasibility study would need to provide water at a cost competitive with the water available in Pahrump. Assuming that the capital improvement costs associated with the installation of a water treatment system could be reasonably covered through grant funds, the cost per gallon of water required to cover the annual administration, operation and maintenance at an annual demand of 355 GPD would be \$0.13 for the adsorption system and \$0.18 for the brackish water RO system. If capital recovery costs are



also considered, the cost per gallon increases to \$0.14 and \$0.21 for the adsorption and RO systems, respectively.

Since there is uncertainty that the estimated annual demand of 355 GPD would be realized, a better approach would be to determine how many gallons need to be sold at the same price as the water available in Pahrump needed to cover the annual O&M costs. This approach indicates that at \$0.20 per gallon, approximately 82,000 gallons (223 GPD) would need to be vended for the adsorption system and 133,000 gallons (311 GPD) for the brackish water RO system. If the costs of capital recovery are also considered, the required volume to be vended becomes approximately 89,000 gallons (243 GPD) for the adsorption system and the RO system cannot be operated at a price per gallon of \$0.20 or less. The water demands for the adsorption system in Tecopa Heights are less than the estimated annual water use for the Tecopa area, and therefore it is reasonable to assume that the O&M costs for this treatment system could be covered at a water vending rate that is competitive with the water available elsewhere. In order for the RO system in Tecopa Hot springs to be financially viable the rate charged would have to be approximately \$0.21 per gallon and average annual use would have to be 355 gallons per day or more.

Prior to proceeding with a fill station it is critical that a responsible agency be found that is willing to operate the fill station. It has been suggested that the SIFPD might operate the fill station at Tecopa Heights and either Inyo County or the RV Park Concessionaire operate the fill station at Tecopa Hot Springs.

4.2 Fire Water Supply

4.2.1 Fire Water Demand

The major necessity of an accessible and adequate supply of water for firefighting in the Tecopa area has been affirmed by the Southern Inyo Fire Protection District (SIFPD). The lack of such a supply is presently a major hindrance to firefighting efforts. The Amagosa Conservancy has echoed this need, stating that "Recent fires have brought to light the difficulty of controlling fires in the area…" without a sufficient supply of firefighting water (Amargosa Conservancy, 2012). The firefighting equipment currently available to the Tecopa area is comprised of fire engines with little water storage capacity; a 2,000 gallon water tender that can deliver water to fire engines or a 2,000 gallon portable tank. In a larger fire the water tender will fill the portable tank then travel to the nearest water source to refill. A local private pond is available, though due to the pond's algal content and sediment which can clog the firefighting equipment thus impairing firefighting efforts, this is not a preferred fire water supply source. Water is also available at the CalTrans yard in Shoshone, which is approximately 10 miles away from downtown Tecopa. The time required to resupply from the CalTrans yard makes this location ineffective for firefighting



supply water. Therefore, given these considerations, it is in the best interest of public safety for the residents and visitors of the Tecopa area to have an adequate fire water supply in Tecopa.

4.2.2 Fire Water Storage

Presently water must be hauled to the site of a fire using the existing water tender, which has a capacity of 2,000 gallons. Conversations with SIFPD have indicated that an auxiliary storage capacity of 10,000 to 15,000 gallons in the Tecopa area would greatly enhance the effectiveness of firefighting efforts. Additionally, a method of recirculating water through a large capacity reservoir in order to test fire-fighting equipment is desirable.

The environmental conditions in Tecopa range from quite warm (in excess of 100° F) to occasionally below freezing. Therefore, any storage tank will need to be equipped with flexible connections and all exposed pipes and valves should be insulated as well. Since this region of California is prone to seismic activity given the presence of several active faults, any water storage tank should be equipped with seismic restraints designed by a California registered Structural Engineer and fastened to an appropriately designed concrete pad. To help protect the tanks from vandalism a chain link fence to surround tank and pad is recommended. Ease of access and appropriate fire department fittings must be provided for firefighting personnel and an auxiliary port on the tank can easily accommodate testing of equipment.

4.2.2.1 Existing Storage Tank

SIFPD currently owns a used, welded steel tank with an estimated storage capacity of 10,000 gallons. The tank is not presently in use and is stored on site at the Fire District leased parcel in Tecopa Heights. The tank appears to be in reasonably good condition and of sufficient volume to adequately serve for fire water storage. An estimate of remaining tank life of 15 years is assumed for this feasibility study. However, a detailed investigation is required to better estimate the remaining useful life of this tank.

4.2.2.2 New Storage Tank

For the purposes of this study, polyethylene storage tanks were considered. Polyethylene is a popular material for water storage as it offers several advantages over metal and concrete tanks such as cost, weight, and corrosion resistance. There are several suppliers of polyethylene water storage tanks that can provide tanks in capacities of 10,000 gallons (or more). Typically lead times are anywhere from three (3) to five (5) weeks, though this varies from one supplier to the next. A polyethylene tank would need to be supplied in a dark color to retard the growth of algae within the tank, as well as provide for UV resistance. As the weather in Tecopa can often exceed 100° F, it is recommended that any potential tank supplier include ambient temperatures of this magnitude within the tank warranty. Since polyethylene tanks are not designed to be



pressurized, the appropriate vents must be included to prevent the tanks from becoming pressurized during filling or the formation of a vacuum during Fire District use.

4.2.3 Location and Permitting

The same locations proposed for water treatment facilities have also been considered for fire water storage. SIFPD has recommended that access to fire water storage be provided in both locations as the majority of residences in the Tecopa area are located near one of these two parcels. Similar to the water treatment project described above, it is anticipated that the construction and implementation of fire water storage at either parcel would be considered Categorically Exempt under the CEQA.

4.2.3.1 Tecopa Heights – A Portion of APN 046-310-02

The two and one-half acre parcel presently leased by the Fire District in Tecopa Heights is served by a domestic well and has convenient access from both Furnace Creek Road and Bob White Way. A mobile structure owned by the Fire District is also located on this parcel. This parcel has a general use designation of open space according to the ICPD. While a change to the general plan designation would not be required to utilize this parcel for fire water storage, a special use permit would be required through ICPD, in addition to building permit and plan review through the same entity. ICPD does not anticipate any aesthetic requirements for the fire water storage supply. The conceptual plans for the Tecopa Heights fire water tank are included as Figure 9.

The existing lease from the BLM was granted in anticipation of the SIFPD developing the site with a 5,000 gallon water storage tank and the environmental assessment completed prior to the lease included this tank. It is expected that the change from a 5,000 gallon to a 10,000 gallon tank is insignificant and no NEPA actions would be required.

4.2.3.2 Tecopa Hot Springs – APN 046-220-22

This parcel is presently has a general use designation of public facilities, and there are existing structures including a community center already located on the parcel. The parcel is served by a spring with a spring box². Access to the parcel is provided primarily by Tecopa Hot Springs Road. Since this parcel is already used for public facilities and is developed, ICPD does not anticipate that a special use permit will be required and subsequently the only permitting necessary will be a building permit and plan review.

 $^{^{2}}$ It is worth mentioning here that this particular spring (and its associated appurtenances) is considered by Inyo County Environmental Health to be a groundwater source not under the influence of surface water.

It is also anticipated that a fire water storage project located on this parcel would be considered as a Categorical Exclusion from NEPA in it is for the public health and safety. Therefore an Environmental Impact Study (EIS) should not be required. However the BLM must process the categorical exclusion and in processing this it is expected that they will find that infrequent water use for firefighting will not affect the Amargosa River that is designated as a Wild and Scenic River. The conceptual plans for the Tecopa Hot Springs site water tank are included as Figure 10.

4.2.4 Cost Analysis

The following cost analyses include providing one new polyethylene storage tank at one of the two potential locations. Assuming the existing welded steel tank is salvageable there will be a significant savings in material and freight over the purchase of a new tank. However, the useful life of the existing tank is assumed to be less than a new tank. Additionally, annual maintenance on the welded steel tank, which may include corrosion and leak repairs, will need to be considered. Table 6 below consists of a cost estimate for installing the existing welded steel tank at the Tecopa Heights location, while Table 7 includes a cost estimate for providing a new tank in the Tecopa Hot Springs location.

If found to be desirable and with available funding, a new tank could be provided at both the Tecopa Heights and Tecopa Hot Springs locations. A new tank at Tecopa heights would have the same cost as the new tank at Tecopa Hot Springs.



Table 6. Cost Analysis for Fire Water Storage Tank in Tecopa Heights

Costs Associated with F	ire Water Stora	de Operation a	nd Maintenance a	t Tecopa Heights
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ITEM	DESCRIPTION	QUANTITY		UNIT COST		TOTAL
1	Capital Recovery	6.6%	Annually	\$808.50	/YR	\$809
2	Tank Filling Electricity Demand	1	Annually	\$50.00	/YR	\$50
3	Repairs and Maintenance	1	Annually	\$600.00	/YR	\$600
SUB TOTAL CONTINGENCY AT 15%						
Engineer's Preliminary Estimate of Annual O&M Costs with Capital Recovery						\$1,677

Design, Permitting, and Construction

ITEM	DESCRIPTION	QU	ANTITY	UNIT COST		TOTAL
1	Mobilization and Demobilization	1	Lump Sum	\$2,000.00	/LS	\$2,000
2	Concrete Pad	1	Lump Sum	\$2,000.00	/LS	\$2,000
3	PE Structural Calcs	1	Lump Sum	\$2,000.00	/LS	\$2,000
4	Fencing	1	Lump Sum	\$2,000.00	/LS	\$2,000
5	Inspect, Clean, Modify, and Paint Existing Tank	1	Lump Sum	\$2,000.00	/LS	\$2,000
6	Fire Department Fittings, Valves, Vents, Appurtenances	1	Lump Sum	\$3,000.00	/LS	\$3,000
7	Restraint System	1	Lump Sum	\$1,000.00	/LS	\$1,000
8	Permitting	1	Lump Sum	\$250.00	/LS	\$250
CONSTRUCTION SUB TOTAL						
DESIGN AND CONSTRUCTION ADMINISTRATION AT 20%						\$2,850
CONTINGENCY AT 15%						\$2,138
Engineer's Preliminary Estimate of Design, Permitting, and Construction Costs						\$19,238

1 6.6% of construction costs; assumes inflation equals interest and 15 year life of system.

Table 7. Cost Analysis for New Fire Water Storage Tank in Tecopa Hot Springs

Costs Associated with Fire Water Storage Operation and Maintenance at Tecopa Hot Springs

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ITEM	DESCRIPTION	QUANTITY		UNIT COST		TOTAL	
1	Capital Recovery	3.3%	Annually	\$618.75	/LS	\$619	
2	Tank Filling Electricity Demand	1	Annually	\$50.00	/YR	\$50	
3	Repairs and Maintenance	1	Annually	\$300.00	/YR	\$300	
SUB TOTAL						\$969	
CONTINGENCY AT 15%						\$145	
Engineer's Preliminary Estimate of Annual O&M Costs with Capital Recovery					\$1,114		

Design, Permitting, and Construction

ITEM	DESCRIPTION	QUA	NTITY	UNIT COST		TOTAL
1	Mobilization and Demobilization	1	Lump Sum	\$2,000.00	/LS	\$2,000
2	Concrete Pad	1	Lump Sum	\$2,000.00	/LS	\$2,000
3	PE Structural Calcs	1	Lump Sum	\$500.00	/LS	\$500
4	Fencing	1	Lump Sum	\$2,000.00	/LS	\$2,000
5	10,000 Gallon Polyethylene Water Storage Tank W/ Freight	1	Lump Sum	\$10,000.00	/LS	\$10,000
6	Fire Department Fittings, Valves, Vents, Appurtenances	1	Lump Sum	\$3,000.00	/LS	\$3,000
7	Restraint System	1	Lump Sum	\$1,000.00	/LS	\$1,000
8	Permitting	1	Lump Sum	\$250.00	/LS	\$250
CONSTRUCTION SUB TOTAL						
DESIGN	AND CONSTRUCTION ADMINISTRATION AT 20%					\$4,150
CONTINGENCY AT 15%						\$3,113
Engineer's Preliminary Estimate of Design, Permitting, and Construction Costs						

1 3.3% of construction costs; assumes inflation equals interest and 30 year life of system.



The operational cost of these tanks is limited to refilling with water as it is used for fighting fires. Repairs and maintenance of the polyethylene tanks will be minimal and limited to periodic inspection, exercising valves, and repair of any vandalism such as bullet holes. It is estimated that the annual repairs and maintenance are \$300 per year. Repairs and maintenance of the welded steel tank will require occasional repainting and changing of the corrosion protection anode in addition to the inspection, exercising valves and repair of vandalism. For the welded steel tank this is estimated to be \$600 per year.

A new polyethylene tank is estimated to have a 30 year life with a capital recovery (savings for replacement after 30 years) of \$619. The welded steel tank is estimated to have a remaining useful life of 15 years with a capital recovery of \$809 per year.

It is assumed that the Fire Department will be responsible for operation, repairs and maintenance of the fire storage tanks and will include these amounts in their budget. They may as appropriate also include capital recovery.

4.3 Conclusions

Fire water storage is considered to be the most urgent need of the residents of Tecopa as drinking water is currently available in Pahrump, even though this is not a convenient option given the travel time required. Therefore, it is recommended to provide fire water storage immediately. If funds are not available for two fire water storage tanks one tank would provide significant benefit over the current conditions.

If only one fire water storage facility can be funded the input of the Fire District is critical to determine the preferred location because they will be using the tank and best know the advantages and disadvantages of each location as it relates to their needs. Further, investigation of the existing welded steel storage tank is warranted before proceeding with its use. If the tank is found to be in reasonably good condition then it should be used for fire water storage to reduce the cost of equipment, otherwise, a new polyethylene storage tank is recommended.

The supply of a source of safe drinking water in the area is also a high priority. Fill stations at both proposed locations would be beneficial to the area. However, if both fill stations are constructed it is expected that the use of each fill station would be approximately one half of the use if only one were to be constructed and the revenues would not be sufficient to cover the operation and maintenance costs. For economic reasons the fill station at in Tecopa Heights is recommended. The water quality in Tecopa Heights is generally better than that found in the Tecopa Hot Springs area and subsequently safe drinking water may be achieved more efficiently and economically at this location utilizing adsorptive technologies. Signage at the Community center in Tecopa Hot Springs could direct people to the fill station in Tecopa Heights.



Prior to proceeding with a fill station it is critical that a responsible entity be found that is willing to operate the fill station. This feasibility study should be presented to possible operators to help them make an informed decision.





5.0 **REFERENCES**

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FIGURES





Figure 2. Safe Drinking and Fire Water Supply Study Area Map, Tecopa, California









Figure 5. Precipitation-Elevation Correlation used in the Maxey-Eakin Analysis



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Figure 6. Southern Inyo Fire District Well Log, Tecopa, California



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Figure 7. Tecopa Heights Conceptual Fill Station, Tecopa, California

JOHNSON WRIGHT, INC.

Environmental Engineering and Regulatory Expertise







<u>TECOPA WATER VENDING MACHINE PROJECT</u> <u>FINAL REPORT</u>

<u>PROJECT TYPE</u>: Water Vending Machine <u>FUNDING SOURCE</u>: State Water Pollution Cleanup and Abatement Account <u>COST OF PROJECT</u>: \$173,512.84

October 2017

Timo Dune

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I. EXECUTIVE SUMMARY

The Tecopa Water Vending Machine Project began with a grant from the State Water Resources Control Board through the Cleanup and Abatement Account (CAA) on June 12, 2015 in the amount of \$80,221. The Grant was amended on January 6, 2016 to increase the amount of funding to \$169,970. Inyo County (Grantee) received the funding on behalf of approximately one hundred fifty (150) permanent residents and an additional two hundred (200) residents during the winter months. These residents relied on domestic wells located on individual properties for their household water supply and a public water system did not exist in Tecopa. Naturally accruing arsenic and fluoride in the groundwater exceed their respective primary drinking water standards and local residents either consumed contaminated well water or drove forty (40) miles each way to purchase water from a vending machine located in Pahrump, Nevada.

The Grant also allowed the purchase and distribution of bottled water in the interim until the vending machine was fully operational. A previous State Water Board Grant Agreement (No 13-453-550) allocated forty thousand one hundred dollars (\$40,100) from the approved grant funds to provide interim drinking water at each residence for up to twelve (12) months or until the vending machine was fully operational.

On February 13, 2015, the Grantee was awarded an additional eleven thousand four hundred ninety-nine dollars (\$11,499) from the CAA to cover additional costs associated with the formation of the public water system, additional water testing and licensing requirements and increase in the design and construction costs.

This Grant Agreement allowed the Grantee to form a public water system; purchase and install a drinking water vending machine and associated infrastructure and connections; perform one (1) year of operation and maintenance (O&M). The State Water Board also provided the Grantee with one (1) of funding to support a long-term capital improvement fund (CIF). Residents of Tecopa and tourists will purchase water for approximately \$0.30 per gallon. Revenues generated from the water vending machine will provide necessary longer-term funding to adequately cover O&M as well as CIF expenses for the duration of the project.

The Construction Contract was awarded to Spiess Construction on Tuesday, January 26, 2016. After three (3) Contract Change Orders, the construction was completed on May 12, 2017. Final water quality tests on the dispensed water were completed on June 26th, 2017, and water began to be sold to the public on July 25th, 2017. The total cost of construction was \$173,512.84.

II. DESCRIPTION OF ISSUES PROJECT ADDRESSESS

The ground water in the Tecopa Heights area contains harmful amounts of arsenic (8.5 ug/L), fluoride (2.6 mg/L) and Total Dissolved Solids (TDS) (507 mg/L). There is no public water system to provide clean drinking water to the community. The residents of the community get their water from their wells and travel to Pahrump to get clean drinking water. Inyo County has been providing bottled water service, at the County's expense, so the residents have clean drinking water. The objective of this project is to provide a source of clean drinking water to the Tecopa community and to tourists traveling through the Death Valley area.

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III. SUMMARY OF DELIVERABLES AND COMPLETION STATUS

- 1. Inform and coordinate with the Division of Drinking Water's San Bernardino District Office (District Office) and Inyo County EHS prior to conducting work pertaining to this agreement and receive approval, when necessary. STATUS: Completed
- Conduct water quality sampling on the intended water supply well. Submit water quality sampling results to the Grant Manager. STATUS: Completed (See Attachment A)
- 3. Form a Public Water System and obtain a water supply permit from the Inyo County EHS. Submit a copy of the water supply permit to the Grant Manager. STATUS: In Process
- 4. Submit an application to the CDPH Food and Drug Branch to obtain the initial water vending machine operator license for the vending machine. A water vending machine operator license from the CDPH Food and Drug Branch is required prior to distributing water from the vending machines. Grantee shall obtain the water vending machine operator license and shall submit a copy to the Grant Manager and the District Office. The water vending operator license must be renewed annually. Therefore, in subsequent years, Grantee shall timely obtain renewal of its water vending machine operator license and shall submit a copy to the Grant Manager and the District Office. Startus: Completed (See Attachment B)
- 5. Complete Plans and Specifications for the wellhead treatment, water vending machine and housing structure. Submit final Plans and Specifications to the Grant Manager. STATUS: Completed
- 6. Complete all permitting requirements for the wellhead treatment, water vending machine and housing structure. Submit copies of the permits to Grant Manager. STATUS: Completed
- Purchase and install well pump on existing well located on the property in Tecopa Heights leased to the Southern Inyo Fire Protection District (Project Site). Submit photodocumentation to Grant Manager. STATUS: Completed
- Purchase and install the wellhead treatment on existing well located on the Project Site. Submit photo-documentation to Grant Manager. STATUS: Completed
- 9. Purchase a water vending machine that meets the licensing standards specified by CDPH Food and Drug Branch, and submit the purchase agreement to the Grant Manager. STATUS: Completed

- On the Project Site, install the water vending machine, associated infrastructure, water supply connections, sewer system connections (if needed), and electrical power connections. Submit photo-documentation of all work to the Grant Manager and the District Office.
 STATUS: Completed
- Construct a structure that will house the water vending machine. Submit photodocumentation to the Grant Manager. STATUS: Completed
- 12. Complete As-Built drawings for the wellhead treatment, water vending machine and housing structure. Submit final As-Built drawings to the Grant Manager. STATUS: Completed (See Attachment D)
- 13. Perform the water quality testing necessary to obtain a CDPH operator license prior to dispensing water to the public. Water treatment and testing is required to ensure water quality meets Maximum Contaminant Levels (MCLs). The required testing must be performed at a laboratory certified for the particular analysis by the State Water Board's Environmental Accreditation Program (ELAP). Submit a copy of the water quality test results and the testing laboratory's ELAP certification to the Grant Manager, Inyo County EHS, and the District Office. STATUS: Completed (See Attachment C)
- 14. Perform O&M requirements in accordance with the manufacturer's guidance and the requirements of the CDPH Food and Drug Branch. Grantee will operate and maintain the water vending machine and submit O&M records/documentation on a quarterly basis to the Grant Manager. STATUS: On-Going
- 15. Perform treated water quality monitoring testing in accordance with the Inyo County EHS water quality monitoring plan. Grantee shall submit copies of all laboratory reports for treated water quality monitoring to the Inyo County EHS, Grant Manager and the District Office according to the monitoring schedule. If any treated water sample is at or above the arsenic MCL, the Grantee shall collect a confirmation sample and notify the Grant Manager, Inyo County EHS and the District Office within twenty-four (24) hours. STATUS: On-Going
- 16. Conduct regular water vending machine water quality testing as specified by the CDPH Food and Drug Branch. Submit copies of the laboratory reports to the Grant Manager, Inyo County EHS and District Office. STATUS: On-Going
- 17. Inform the Grant Manager within twenty-four (24) hours of any significant problems with operation of the vending machine. In the event that the machine is found to be not operating correctly, Grantee shall take immediate corrective action and/or remove the

machine from service until the problem is resolved. Grantee shall provide a contact number to the community to report potential problems observed by community members. STATUS: On-Going

- Submit a copy of any signed contracts between Grantee and any providers of Project services to the Grant Manager.
 STATUS: Completed
- Notify the Grant Manager and the District Office not later than ten (10) days prior to commencing the initial water service from the vending machines.
 STATUS: Completed

5

IV. PROJECT DESCRIPTION/SCOPE OF WORK

As described in the Bid Package;

Furnish and install a pre-cast 10.5' x 12' insulated concrete building containing the following items: a) 4" fiberglass faced poly-iso insulation board (R-22 min.) on interior walls and roof of building; b) A credit card, coin, and dollar bill actuated Water Vending Machine rated at 3.3 gpm, installed through wall opening of pre-cast concrete building; c) Hydro Pneumatic Water Pressure tank (250 gallon min.) with pressure switch; d) Design, procure, and install a pre-packaged water treatment filtration system (adsorption type) complying with Inyo County Environmental Health Department public drinking water standards; e) Installation of electrical service to new building from existing 200 Amp service meter panel; f) Wall mounted 60 Amp electrical breaker panel with five (5) 20A breakers; g) Commercial grade photocell operated exterior light g) Interior building light; h) Two (2) duplex interior electrical outlets; and, i) Installation of a ³/₄ HP submersible water pump into existing domestic well and associated electrical control systems, all submersible pump system appurtenances (pump extraction system, bleeder and check valves, tee, pitless adapter) and all associated outlet pipe installation including trenching and backfill from the well to the pre-cast concrete building.

Note: Item d. was determined to be unable to provide drinking water to the water quality specifications of the FDA. The type of filtration system was changed to a Reverse Osmosis system after a failed pilot study of an adsorption type filtration system.

6
V. PROJECT BUDGET/EXPENDITURES

Item #	Item Description	Unit	Quantity	Unit Price	Amount Paid
1	Mobilization	LS	1	\$10,650.00	\$10,650.00
2	Grading and Site Preparation	LS	1	\$6,640.00	\$6,640.00
3	Pre-Cast Concrete Building, Insulated w/PolyIso fiberglass backed R-22 (incl. site preparation)	LS	1	\$51,350.00	\$51,350.00
4	1-1/2" Electrical conduit and conductor wires to energize Pre-Cast Concrete Building (incl. installation of underground conduit and wiring from power source	LS	1	\$14,400.00	\$14,400.00
5	3-Wire - 3/4 HP Submersible Pump installed in Existing Well (incl. 1-1/4" outlet piping, connections, valves, pitless adapter, controls, elec. connections and switches	LS	1	\$6,545.00	\$6,545.00
6	1-1/4" PE Water Pipe from pitless adapter to Pre-Cast Concrete Building Pressure Tank (incl. all trenching, backfill, compaction, and pipe appurtenances)	LS	1	\$9,650.00	\$9,650.00
7	Hydro-Pneumatic Water Pressure Tank. Min. 250 gallon capacity (incl. all connections to filtration water treatment system and vending machine)	LS	1	\$8,025.00	\$8,025.00
8	Filtration Water Treatment System (Inyo County Env. Health Dept. approved, adsorptive type, incl. all connections, guages, etc.)	LS	1	\$12,700.00	\$0
9	60 Amp Electrical Breaker Panel, with 5 20 Amp breakers, mounted to interior wall of new building (incl. all connections	LS	1	\$1.00	\$1.00
10	Cred Card, Coin and Dollar Boll Operated Water Vending Machine (3.3 gpm)	LS	1	\$8,825.00	\$8,825.00
11	12,000 BTU Wall Mounted Air Conditioning Unit in Pre-Cast Concrete Building	LS	1	\$4,975.00	\$4,975.00

Item #	Item Description	Unit	Quantity	Unit Price	Amount Paid
CCO No. 1	Isolux Pilot Study	LS	1	\$8,289.73	\$8,289.73
CCO No. 2	Force Account Memo	DNE	1	\$35,000	\$35,000
CCO No. 3	Final Installation of RO System	LS	1	\$9,162.11	\$9,162.11
Contract Amo	\$173,512.84				

VI. DESCRIPTION OF ALL FUNDING SOURCES AND AMOUNTS

The State Water Resources Control Board through the Cleanup and Abatement account provided \$169,970 in grant funding for the Tecopa Water Vending Machine Project. Into the project it was anticipated that it would exceed the grant funding and the State Water Resources Control Board stated there were no additional funds available. To bring this project to completion, Inyo County provided \$39,525 in funding.

VII. PROBLEMS/CHALLENGES ENCOUNTERED

When trying to find an adsorption filtration system manufacturer, we could not find a manufacturer that said that they could provide drinking water that would meet the FDA drinking water requirements with our specific well. After extensive searching, Pure Aqua, Inc. said that they could manufacture a system that would clean the raw water to the FDA drinking water requirements. We purchased a pilot study to prove that their system could do the job, but after testing the treated water after the pilot study, it was proven that their system could not meet FDA requirements for drinking water.

After doing research about our well water and the different types of filtration systems that would clean our water, we decided that we needed a reverse osmosis system. We received two (2) quotes for Reverse Osmosis Systems, and they were as follows;

Pure Aqua Reverse Osmosis Unit - \$22,674.00 Culligan Model G1-2L Reverse Osmosis Unit - \$9,981.06

We decided the Culligan Model was the most economical, and directed the contractor to purchase and install the G1-2L unit. The County and the Contractor agreed on a Force Account Memo to do this with a do not exceed amount of \$35,000. After installing the first phase of the Reverse Osmosis system, Spiess Construction requested additional money to complete the project. The remaining work was completed for \$9,162.11.

VIII. MAP OF PROJECT AREA





IX. PHOTO-DOCUMENTATION OF WORK PERFORMED

Wellhead



Electric Pedestal



Water Vending Machine / Pre-Fabricated Concrete Building / Exterior Light



Back of Vending Machine / Reverse Osmosis System / Treated Water Tank Antiscalant Injection System



Pressurized Pre-Treated Water Tank / Carbon Multimedia / Duplex Softener



Treated Water Tank / Electric Box / Sink



Drain Line from Septic Tank to Leach Field



Connection from Drain Line to Infiltrator Leach Field



Backfill Over Drain Line and Leach Field

X. LIST OF CONTRACTORS AND WORK PERFORMED BY EACH

Spiess Construction, Inc. – Prime Contractor St. Denis, Inc. – Bid Items 4 and 5. Electrical Work

XI. CONCLUSION

The Tecopa Water Vending Machine Project began with a grant from the State Water Resources Control Board through the Cleanup and Abatement Account (CAA) on June 12, 2015 in the amount of \$80,221. The Grant was amended on January 6, 2016 to increase the amount of funding to \$169,970. Inyo County (Grantee) received the funding on behalf of approximately one hundred fifty (150) permanent residents and an additional two hundred (200) residents during the winter months. These residents relied on domestic wells located on individual properties for their household water supply and a public water system did not exist in Tecopa. Naturally accruing arsenic and fluoride in the groundwater exceed their respective primary drinking water standards and local residents either consumed contaminated well water or drove forty (40) miles each way to purchase water from a vending machine located in Pahrump, Nevada.

The Grant also allowed the purchase and distribution of bottled water in the interim until the vending machine was fully operational. A previous State Water Board Grant Agreement (No 13-453-550) allocated forty thousand one hundred dollars (\$40,100) from the approved grant funds to provide interim drinking water at each residence for up to twelve (12) months or until the vending machine was fully operational.

On February 13, 2015, the Grantee was awarded an additional eleven thousand four hundred ninety-nine dollars (\$11,499) from the CAA to cover additional costs associated with the formation of the public water system, additional water testing and licensing requirements and increase in the design and construction costs.

This Grant Agreement allowed the Grantee to form a public water system; purchase and install a drinking water vending machine and associated infrastructure and connections; perform one (1) year of operation and maintenance (O&M). The State Water Board also provided the Grantee with one (1) of funding to support a long-term capital improvement fund (CIF). Residents of Tecopa and tourists will purchase water for approximately \$0.30 per gallon. Revenues generated from the water vending machine will provide necessary longer-term funding to adequately cover O&M as well as CIF expenses for the duration of the project.

The Construction Contract was awarded to Spiess Construction on Tuesday, January 26, 2016. After three (3) Contract Change Orders, the construction was completed on May 12, 2017. Final water quality tests on the dispensed water were completed on June 26th, 2017, and water began to be sold to the public on July 25th, 2017. The total cost of construction was \$173,512.84.

The Tecopa Water Vending Machine now provides clean drinking water to the approximately 200 residents Tecopa and Shoshone, CA, as well as tourists traveling through the Death Valley National Park.



P.O. Box 1265, Bishop, California 93515-1265 760-872-1033 fax 760-872-2131

December 4, 2014

Dr. Bob Harrington Inyo County Water Department 135 South Jackson Street Independence, CA 93526

RE: Summary of Groundwater Sample Collection and Analysis for Tecopa Vending Machine Project Tecopa, Inyo County, California (Public Water System ID# 1400534)

Dear Dr. Harrington:

This letter summarizes the groundwater sampling activities conducted in October 2014 by TEAM Engineering & Management, Inc. (TEAM), related to the Tecopa Vending Machine Project.

Background

At the request of Inyo County, TEAM assisted the county in characterizing groundwater quality from a well located in Tecopa, California. This well is proposed to be used for the Tecopa Vending Machine Project. Working with Dr. Robert Harrington of Inyo County Water Department and Kathe Barton of Inyo County Environmental Health Department, TEAM developed a groundwater sampling and analytical plan to meet the county's needs. In conjunction with a planned water monitoring event at Inyo County landfills in the Tecopa and Shoshone vicinities; TEAM conducted field activities at the Tecopa Vending Machine Well 01 (TVMW), a six-inch diameter well drilled to approximately 140 feet below ground surface, located at the intersection of Bob White Way and Furnace Creek roads. Southern Inyo Fire Protection District Fire Chief, Larry Levy, met TEAM samplers Naomi Garcia and Greg Foote at the TVMW on October 28 to identify and unlock the well. TEAM conducted field activities on October 28 and 29, measuring depth-to-water, purging, and collecting groundwater from TVMW. The field event is summarized below and attached are field notes and laboratory analytical results.

Field Activities and Groundwater Sampling

Field activities and groundwater sampling procedures at the Tecopa Vending Machine Well were consistent with EPA groundwater sampling guidance (Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures, by R.W. Puls and M.J. Barcelona, April 1996; revised January 2010). A summary of these field and sampling activities is provided below.

Static and dynamic depth-to-water (DTW) measurements were recorded at TVMW using a Solinst Water Level Meter prior to and during groundwater pumping. A battery-powered groundwater pump was installed in the well and groundwater was purged using EPA approved low-flow methodology. A Horiba U52 multi-parameter unit was used to measure groundwater

parameters in the field. This device was calibrated on October 28. Purging occurred on October 28 and 29. Field parameters including temperature, pH, electrical conductivity, total dissolved solids, and dissolved oxygen were recorded. After parameters stabilized on October 29, the groundwater sample was collected from the well into the 26 sample containers (both preserved and unpreserved) provided by BC Laboratories, Inc., a California-certified laboratory. The total amount of purged groundwater was recorded. Sample bottles were placed on ice in an insulated cooler, sealed with a custody/security seal and transported via courier to BC Labs under standard chain-of-custody procedures.

At TVMW, the 6" diameter well was found in good condition with a locked cap on October 28, 2014. The top of casing was approximately one to two feet above ground surface. The static DTW measured at 17:12 hours, before groundwater purging occurred, was 42.91 feet below top of casing. Then, approximately 100 gallons of groundwater were purged from the well from 17:24 to 18:07. During the purging process, dynamic DTW was measured at approximately 44.4 feet below top of casing. On the morning of October 29, 2014 static DTW was 42.95 feet at 6:55 and an additional 12 gallons were purged prior to sample collection. Dynamic DTW was approximately 44.0 feet during purging. The groundwater sample, labeled "TVMP Well", was collected at 7:12 and consisted of 26 separate bottles per laboratory specifications. The physical parameters of the groundwater from TVMW immediately preceding sampling (7:10 hours) were as follows: temperature 25.6° C; pH 7.4; oxidation-reduction potential 168 mV; electrical conductivity 793 μ S/cm; TDS 507 mg/L; and dissolved oxygen 9.25 mg/L.

As a part of the QA/QC for this field event, an equipment blank was collected by pumping Arrowhead Distilled Natural Spring water through the pump and tubing that would be used for the TVMW sample. This equipment blank sample was labeled "QCEB" and was collected at 17:00 hours on October 28. The results of analysis of QCEB were non-detect for drinking water standard VOCs. Additional QA/QC review included completeness of chain-of-custody forms and analysis of samples within prescribed holding times. All samples were listed on chain-of-custody forms. The groundwater samples collected during this sampling event were analyzed within prescribed holding times with the exception of pH.

Field data sheets are included as Attachment A, and laboratory analytical results are included as Attachment B.

Results

The TVMW water samples were analyzed for constituents listed in California Code of Regulations Title 22 Chapter 15 Water Quality Standards, and also for additional constituents requested by Inyo County related to potential water treatment. Laboratory analysis was conducted as requested by Inyo County in emails dated September 26 and October 24, 2014, which were forwarded to the analytical laboratory. Attachment B contains the complete analytical results.

In the groundwater sample collected from the TVMW on October 29, 2014, only one constituent exceeded its drinking water quality standard maximum contaminant level (DW-MCL). Fluoride concentrations of 2.6 mg/L were measured exceeding the DW-MCL of 2.0 mg/L. Total arsenic was identified at a concentration of 8.5 ug/L (below the DW-MCL of 10 ug/L), with Arsenic III non-detect (<0.4 ug/L) and Arsenic V identified at a concentration of 7.1 ug/L.

A partial summary of other lab detections, as requested for proposed water treatment or detected above laboratory detection limits, is provided in the table below:

Parameters for Proposed Treatment	Value	Units
	ND (c0.4)	
	(<0.4)	mg/L
	44	mg/L
Magnesium	25	mg/L
Silica (SiO2)	38	mg/L
Total Hardness (As CaCO3)	210	mg/L
Alkalinity, Total (As CaCO3)	180	mg/L
Suspended Solids (Residue, Non-Filterable)	0.59	mg/L
Temperature	26	deg. C (field)
Phosphorus, Dissolved Orthophosphate (As P)	0.0071	mg/L
Other Detected Parameters		
Sodium	91	mg/L
Potassium	19	mg/L
Bicarbonate	220	mg/L
Chloride	45	mg/L
Fluoride	2.6	mg/L
Nitrate as NO3	0.85	mg/L
Nitrate/Nitrite as N	200	mg/L
Sulfate	160	mg/L
Hexavalent Chromium	1.4	ug/L
Total Chromium	1.2	ug/L
Total Arsenic	8.5	ug/L
Total Barium	31	ug/L
Total Iron	72	ug/L
Total Mercury	0.16	ug/L
Total Selenium	0.42	ug/L
* * * * *	*	*

If you have any questions or require additional information, please contact TEAM at your convenience.

Sincerely,

TEAM Engineering & Management, Inc.

Maom Careia

Naomi Garcia Project Manager

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ATTACHMENT A

WELL SAMPLING FIELD DATA SHEET

TEAM

ENGINEERING & MANAGEMENT, INC.

P.O. Box 1265, Bishop CA 93514 760-872-1033 fax 760-872-2131

	Project Name Tecopa Vending Machi	e Projec Date: /1/28/14
WELLID: TIMAD WING	Location: Tecopa Heights	Time:
TYPAP Way	Sampler(s): G. Foote /N. Garcia	Page: / of 📿
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	Pump used: (7	0 SUD		1/2 water colu	imn (ft.)		0Å	5			
Ī	Note: 2" = 0.16 gal	/ft, 3° ≂0.37 gal	/ft, 4* = 0.65 g	al/ft, 5" = 1.02;	gal/ít, 6* = 1.4	17 gal/ft	<i><i><i>vii</i></i></i>		(/	
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Ľ	Well Purging Metho	od: GeoSi	16	Volume purge	ed: 1004	4+				K	
ſ	Time	DTW	Purge rate	Volume	Temp.	рH	0.R.P.	Conductivity	Turbidity	D.O.	TDS
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TEAM

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ENGINEERING & MANAGEMENT, INC.

P.O. Box 1265, Bishop CA 93514 760-872-1033 fax 760-872-2131

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100	1801			90	26.51	7.32	145	.796	16.0	9.04	.510
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ATTACHMENT B

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORMS



Date of Report: 11/17/2014

Naomi Garcia

TEAM Engineering & Management, Inc. P O Box 1265 Bishop, CA 93515

Client Project:	Tecopa Vending Machine Project - Well Sample
BCL Project:	Tecopa Vending Machine Project
BCL Work Order:	1425647
Invoice ID:	B188826

Enclosed are the results of analyses for samples received by the laboratory on 10/29/2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Misty Orton Client Service Rep

Authorized Signature

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101





Sample Information	
Executive Summary - Detections	3
Chain of Custody and Cooler Receipt form	4
Laboratory / Client Sample Cross Reference	6
Sample Results	
1425647-01 - TVMP Well	7
1425647-02 - QCEB	13
Subcontract Reports	
WO_1425647_SUB_BSKSA.pdf	15
WO_1425647_SUB_FRNTL.pdf	25
WO_1425647_SUB_WECKL.PDF	33
Notes	
Notes and Definitions	36





Executive Summary - MCL Exceedances

Constituent	Result	PQL	MCL	Units	Method	Lab Quals
Fluoride	2.6	0.050	2.0	mg/L	EPA-300.0	

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All trikit Turnaround # of working days: 5 soil S1 = Studge DW = Drinking Water WW = Wastewater GW = Groundwater L = Liquid M = Miscellaneous 0 = Other Turnaround # of working days: 24 Hr Rush 3 -5 Day Rush Normal (10 - Days) 0 = Other 0 = Other Lab TAT Approval: * Additional Charges May Apply * Additional Charges May Apply 0 = Other 0 = Other 0 = Other Comments: * Additional Charges May Apply * Additional Charges May Apply Normal (10 - Days) 0 = Other 0 = Other Comments: * Additional Charges May Apply * Additional Charges May Apply Normal (10 - Days) 0 = Other 0 = Other Comments: * Additional Charges May Apply . Normal (10 - Days) . * Miscellaneous 0 = Other 0 = Other Comments: . * Reserved By . * Reserved By					CHK DISTRIBUTION
Matrix Types: 5 = Soil SL = Sludge DW = Drinking Water WW = Wastewater GW = Groundwater Liquid M = Miscellaneous O = Other Turnaround # of working days: 2 H rR rush 48 Hr Rush 3 - 5 Day Rush Normal (10 - Days) Lab TAT Approval: * Additional charges May Apply 3 - 5 Day Rush Normal (10 - Days) Lab TAT Approval: * Additional charges May Apply 1 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -					NI SUB-OUT IN
Matrix Types: 5 = Soil SL = Sludge DW = Drinking Water WW = Wastewater GR = Groundwater L = Liquid M = Miscellaneous O = Other Turnaround # of working days:* 24 Hr Rush 48 Hr Rush 3 = 5 Day Rush Normal (10 - Days) Lab TAT Approval: * Additional Charges May Apply * Additional Charges May Apply O = Other Image: Comments: * Additional Charges May Apply Comments: * Moustie Cost Center: * Additional Charges May Apply Image: Cost Center:					
Turnaround # of working days:* 24 Hr Rush 48 Hr Rush 3:5 Day Rush Vormal (10 – Days) Lab TAT Approval: * Additional Charges May Apply * Additional Charges May Apply Image: Control of the control o	Matrix 1	ypes: S = Soil SL = Sludge DW =	= Drinking Water WW	= Wastewatei	GW = Groundwater L = Liquid M = Miscellaneous O = Other
Lab TaT Approval: *Additional Charges May Apply Comments: *Additional Charges May Apply Comments: Neu site Cost Center: Global (P) See attached for detailed laboratory analysis Neu site Cost Center: Base Time Date Time See attached for detailed laboratory analysis Neu Site Laboratory analysis Neu Site Laboratory analysis Date Time	Turnarou	ind # of working days:* 🔲 24 Hr Ru	ush 🗌 48 Hr Rus	Ц Ч	3-5 Day Rush 🏼 Vormal (10 – Days)
Comments: MBU Site Lost Center: Cost Center: Global/DF See attached for detailed laboratory analysis CNX CDA EXERTING TO THE TIME TO TH	Lab TAT	Approval:	*Additic	onal Charges I	Aay Apply
BC Laboratories, Inc. 4100 Atlas Court – Bakersfield CA 93308 (561) 327 – 4911 Fax: (561) 327 – 1918 www.bclabs.com	Commer See attach	nts:	MBU Site	Cost Ce 1. Relind	ished By: Date Lattine I.Recently Date U. I. International Date (1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
BC Laboratories, Inc. 4100 Atlas Court Bakersfield CA 93308 (661) 327 4911 Fax: (661) 327 1918 www.bclabs.com	9		Geotracker 5 File (CA Default) Geotracker 2 File Other (Specify)	2. Reling	The second of th
BC Laboratores, Inc. 4100 Attas Court - Bakerstield CA 95505 (DOL) 22/ - 4211 Fax: (DOL) 22/ - 1210 www.uclaus.com					
		BC Laboratories, Inc. 4100			HIDTERSTORMAN OTET - 176 (TOO) VEL TTER - 176 (TOO) O

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Chain of Custody and Cooler Receipt Form for 1425647 Page 2 of 2

SHIPPING INFC Federal Express	RMATION Hand Del r 🗆 (Specify	very 🗆		S Ice Che Othe	HIPPING st.kD ur 🗆 (Spe	CONTAI None 🗆 clfy)	NER Box 🗆	FR YE:	EE LIQU S 🗆 NO	
Refrigerant: Ice >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	Non	e 🗅	Other 🗆	Comn	nents:					
Custody Seals Ice Chest	Contair	iers 🖸	None	Com	ments:					
	All sample	container	a intact7 Y	inde No		Descript	tion(s) mate	h COC? Yes	No D	
	Emlashday /	.98	Conteiner	PIS	Thermon	neter ID: 1	07	Date/Time	10.74.19	
COC Received	Temperatur	e: (A) (0.7	•c /	1010	,3	"C	Analyst Init	. 17	1725
	I				SAMPLE	NUMBERS		- (;	.,	
SAMPLE CONTAINERS		2	3	4	5	6	7	B	9	10
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OT INORGANIC CHEMICAL METALS	N									
PT INORGANIC CHEMICAL METALS	0									
PT CYANIDE	P									_
PT NITROGEN FORMS										_
PT TOTAL SULFIDE										
202 NITRATE / NITRITE ATG	1M									
PT TOTAL ORGANIC CARBON										
PT TOX									10	
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40m) VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	ADC DCP	MBC.								
QT EPA 413.1, 413.2, 418.1										_
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RADIOLOGICAL										
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40 ml VOA VIAL- 504	GHE									
QT EPA 509/608/8080	R									
QT EPA 515.18150	S									
QT EPA 525	T									
QT EPA 525 TRAVEL BLANK										
40ml KPA 547	IT									- 6-
40ml RPA 531.1	K									
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QT EPA 632	<u></u>									
QT EPA 8015M	Int const									
OT AMBER	WXY									
OZ JAR 402 Poly Amber	Z									
COZ JAR GOZ Amber	At	X								
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON	-							na n		-
ENCORE										
SMART KIT	-	-								
Summa Canister	1									



TEAM Engineering & Management, Inc.	Reported:	11/17/2014 15:07
P O Box 1265	Project:	Tecopa Vending Machine Project
Bishop, CA 93515	Project Number:	Tecopa Vending Machine Project - Well Sample
	Project Manager:	Naomi Garcia

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Informati	Dn		
1425647-01	COC Number:		Receive Date:	10/29/2014 17:25
	Project Number:		Sampling Date:	10/29/2014 07:12
	Sampling Location:	9 	Sample Depth:	
	Sampling Point:	TVMP Well	Lab Matrix:	Water
	Sampled By:	GF/NG	Sample Type:	Drinking Water
1425647-02	COC Number:		Receive Date:	10/29/2014 17:25
	Project Number:		Sampling Date:	10/28/2014 17:00
	Sampling Location:	0 <u>110</u>	Sample Depth:	
	Sampling Point:	QCEB	Lab Matrix:	Water
	Sampled By:	7.9440a	Sample Type:	Drinking Water

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Laboratories, Inc.

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TEAM Engineering & Management, Inc.	Reported: 11/17/2014 15:07	
P O Box 1265	Project: Tecopa Vending Machine Project	
Bishop, CA 93515	Project Number: Tecopa Vending Machine Project - Well Sample	
	Project Manager: Naomi Garcia	
		_

BCL Sample ID:	1425647-01	Client Sam	ple Name:	TVMP Well,	10/29/2014	7:12:00/	AM, GF/NG			
Constituent		Method	Result	Units	Dilution	PQL	DW-MCL	Prep Date	Run Date/Time	Lab Quals
Inorganics										
Chloride		EPA-300.0	45	mg/L	1	0.50		10/30/14	10/30/14 12:43	
Fluoride		EPA-300.0	2.6	mg/L	1	0.050	2.0	10/30/14	10/30/14 12:43	
Nitrate as NO3		EPA-300.0	0.85	mg/L	1	0.44	45	10/30/14	10/30/14 12:43	
Sulfate		EPA-300.0	160	mg/L	1	1.0		10/30/14	10/30/14 12:43	
Nitrate + Nitrite as N		Calc	200	ug/L	1	100	10000	10/31/14	11/17/14 11:50	
Color		SM-2120B	1.0	Color Units	1	1.0		10/30/14	10/30/14 14:00	
Odor		SM-2150B	No Obs Odor	Odor Units	1	1.0		10/30/14	10/30/14 14:00	
Turbidity		EPA-180.1	0.50	NT Units	1	0.10		10/30/14	10/30/14 14:00	
Total Cyanide		EPA-335.4	ND	ug/L	1	5.0	150	11/05/14	11/05/14 12:18	
Nitrite as N		EPA-353.2	ND	ug/L	1	50	1000	10/30/14	10/30/14 08:55	
Perchlorate		EPA-314.0	ND	ug/L	1	4.0		11/13/14	11/14/14 10:26	
Metals										
Total Recoverable Alum	inum	EPA-200.7	ND	ug/L	1	50	1000	11/04/14	11/05/14 16:40	
Total Recoverable Antim	iony	EPA-200.8	ND	ug/L	1	2.0	6	11/05/14	11/06/14 00:35	
Total Recoverable Arser	nic	EPA-200.8	8.5	ug/L	1	2.0	10	11/05/14	11/06/14 00:35	
Total Recoverable Bariu	m	EPA-200.7	31	ug/L	1	10	1000	11/04/14	11/05/14 16:40	
Total Recoverable Beryl	lium	EPA-200.8	ND	ug/L	1	1.0	4	11/05/14	11/06/14 00:35	
Total Recoverable Cadm	nium	EPA-200.8	ND	ug/L	1	1.0	5	11/05/14	11/06/14 00:35	
Total Recoverable Chron	mium	EPA-200.7	ND	ug/L	1	10	50	11/04/14	11/05/14 16:40	
Total Recoverable Copp	er	EPA-200.7	ND	ug/L	đ	10	1300	11/04/14	11/05/14 16:40	
Total Recoverable Iron		EPA-200.7	72	ug/L	1	50		11/04/14	11/05/14 16:40	
Total Recoverable Lead		EPA-200.8	ND	ug/L	1	1.0	15	11/05/14	11/06/14 00:35	
Total Recoverable Mang	anese	EPA-200.7	ND	ug/L	1	10		11/04/14	11/05/14 16:40	
Total Recoverable Merce	ury	EPA-200.8	ND	ug/L	ï	0.20	2	11/05/14	11/06/14 11:36	
Total Recoverable Nicke	1	EPA-200.7	ND	ug/L	1	10	100	11/04/14	11/05/14 16:40	
Total Recoverable Selen	lium	EPA-200.8	ND	ug/L	1	2.0	50	11/05/14	11/06/14 00:35	
Total Recoverable Silver	-	EPA-200.7	ND	ug/L	1	10		11/04/14	11/05/14 16:40	
Total Recoverable Thalli	um	EPA-200.8	ND	ug/L	1	1.0	2	11/05/14	11/06/14 00:35	
Total Recoverable Zinc		EPA-200.7	ND	ug/L	1	50		11/04/14	11/05/14 16:40	
Organics										
1,2-Dibromo-3-chloropro	pane	EPA-504.1	ND	ug/L	0.938	0.010	0.2	11/03/14	11/03/14 23:24	
Ethylene dibromide		EPA-504.1	ND	ug/L	0.938	0.010	0.05	11/03/14	11/03/14 23:24	
Chlordane (Technical)		EPA-508	ND	ug/L	1	0.10	0.1	10/31/14	11/04/14 15:26	

BC Laboratories, Inc.

TEAM Engineering & Management, Inc.	Reported:	11/17/2014 15:07
P O Box 1265	Project:	Tecopa Vending Machine Project
Bishop, CA 93515	Project Number:	Tecopa Vending Machine Project - Well Sample
	Project Manager:	Naomi Garcia

BCL Sample ID: 1	425647-01	Client Sam	ple Name:	TVMP Well,	10/29/2014	7:12:00A	M, GF/NG			
Constituent		Method	Result	Units	Dilution	PQL	DW-MCL	Prep Date	Run Date/Time	Lab Quals
Organics										
Endrin		EPA-508	ND	ug/L	1	0.0050	2	10/31/14	11/04/14 15:26	
Heptachlor		EPA-508	ND	ug/L	1	0.0050	0.01	10/31/14	11/04/14 15:26	
Heptachlor epoxide		EPA-508	ND	ug/L	1	0.0050	0.01	10/31/14	11/04/14 15:26	
Methoxychlor		EPA-508	ND	ug/L	1	0.0050	30	10/31/14	11/04/14 15:26	
Toxaphene		EPA-508	ND	ug/L	1	1.0	3	10/31/14	11/04/14 15:26	
PCB-1016		EPA-508	ND	ug/L	1	0.20		10/31/14	11/04/14 15:26	
PCB-1221		EPA-508	ND	ug/L	1	0.20		10/31/14	11/04/14 15:26	
PCB-1232		EPA-508	ND	ug/L	1	0.20		10/31/14	11/04/14 15:26	
PCB-1242		EPA-508	ND	ug/L	1	0.20		10/31/14	11/04/14 15:26	
PCB-1248		EPA-508	ND	ug/L	1	0.20		10/31/14	11/04/14 15:26	
PCB-1254		EPA-508	ND	ug/L	1	0.20		10/31/14	11/04/14 15:26	
PCB-1260		EPA-508	ND	ug/L	1	0.20		10/31/14	11/04/14 15:26	
Total PCB's (Summation)		EPA~508	ND	ug/L	1	0.20	0.5	10/31/14	11/04/14 15:26	
Bentazon		EPA-515.1	ND	ug/L	1	0.80	18	11/03/14	11/05/14 08:54	
2,4-D		EPA-515.1	ND	ug/L	1	0.40	70	11/03/14	11/05/14 08:54	
Dalapon		EPA-515.1	ND	ug/L	1	5.0	200	11/03/14	11/05/14 08:54	
Dicamba		EPA-515.1	ND	ug/L	1	0.080		11/03/14	11/05/14 08:54	
Dinoseb		EPA-515.1	ND	ug/L	1	0.20	7	11/03/14	11/05/14 08:54	
2,4,5-TP (Silvex)		EPA-515.1	ND	ug/L	1	0.070	50	11/03/14	11/05/14 08:54	
2,4-Dichlorophenylacetic acid	d (Surrogate)	EPA-515.1	83,5	%	1	30 - 140 (LC	CL - UCL)	11/03/14	11/05/14 08:54	
Benzene		EPA-524.2	ND	ug/L	1	0.50	1	10/30/14	10/30/14 13:00	
Bromobenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
Bromochloromethane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
Bromodichloromethane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
Bromoform		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
Bromomethane		EPA-524.2	ND	ug/L	1	1.0		10/30/14	10/30/14 13:00	V11
n-Butylbenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
sec-Butylbenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
tert-Butylbenzene		EPA-524.2	ND	ug/L	1	0,50		10/30/14	10/30/14 13:00	
Carbon tetrachloride		EPA-524.2	ND	ug/L	1	0.50	0.5	10/30/14	10/30/14 13:00	
Chlorobenzene		EPA-524.2	ND	ug/L	1	0.50	70	10/30/14	10/30/14 13:00	
Chloroethane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
Chloroform		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
Chloromethane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
2-Chlorotoluene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	

Laboratories, Inc.

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TEAM Engineering & Management, Inc.	Reported: 11/17/2014 15:07
P O Box 1265	Project: Tecopa Vending Machine Project
Bishop, CA 93515	Project Number: Tecopa Vending Machine Project - Well Sample
	Project Manager: Naomi Garcia

BCL Sample ID:	1425647-01	Client Sam	ple Name:	TVMP Well	, 10/29/2014	7:12:00	AM, GF/NG			
								Prep	Run	Lab
Constituent		Method	Result	Units	Dilution	PQL	DW-MCL	Date	Date/Time	Quals
Organics										
4-Chlorotoluene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
Dibromochloromethane		EPA-524.2	ND	ug/L	21	0,50		10/30/14	10/30/14 13:00	
Dibromomethane		EPA-524.2	ND	ug/L	×1.	0.50		10/30/14	10/30/14 13:00	
1,2-Dichlorobenzene		EPA-524.2	ND	ug/L	1	0.50	600	10/30/14	10/30/14 13:00	
1,3-Dichlorobenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
1,4-Dichlorobenzene		EPA-524.2	ND	ug/L	1	0.50	5	10/30/14	10/30/14 13:00	
Dichlorodifluoromethane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
1,1-Dichloroethane		EPA-524.2	ND	ug/L	1	0.50	5	10/30/14	10/30/14 13:00	
1,2-Dichloroethane		EPA-524.2	ND	ug/L	1	0.50	0.5	10/30/14	10/30/14 13:00	
1,1-Dichloroethene		EPA-524.2	ND	ug/L	Ť	0.50	6	10/30/14	10/30/14 13:00	
cis-1,2-Dichloroethene		EPA-524.2	ND	ug/L	1	0.50	6	10/30/14	10/30/14 13:00	
trans-1,2-Dichloroethene		EPA-524.2	ND	ug/L	1	0.50	10	10/30/14	10/30/14 13:00	
1,2-Dichloropropane		EPA-524.2	ND	ug/L	1	0.50	5	10/30/14	10/30/14 13:00	
1,3-Dichloropropane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
2,2-Dichloropropane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
1,1-Dichloropropene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
Total 1,3-Dichloropropene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
Ethylbenzene		EPA-524,2	ND	ug/L	1	0.50	300	10/30/14	10/30/14 13:00	
Hexachlorobutadiene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
Isopropylbenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
p-Isopropyltoluene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
Methylene chloride		EPA-524.2	ND	ug/L	1	0.50	5	10/30/14	10/30/14 13:00	
Methyl t-butyl ether		EPA-524.2	ND	ug/L	Ť	0.50	13	10/30/14	10/30/14 13:00	
Naphthalene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
n-Propylbenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
Styrene		EPA-524.2	ND	ug/L	1	0.50	100	10/30/14	10/30/14 13:00	
1,1,1,2-Tetrachloroethane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
1,1,2,2-Tetrachloroethane		EPA-524.2	ND	ug/L	1	0.50	1	10/30/14	10/30/14 13:00	
Tetrachloroethene		EPA-524.2	ND	ug/L	1	0.50	5	10/30/14	10/30/14 13:00	
Toluene		EPA-524.2	ND	ug/L	1	0.50	150	10/30/14	10/30/14 13:00	
1,2,3-Trichlorobenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
1,2,4-Trichlorobenzene	12	EPA-524.2	ND	ug/L	Ť	0.50	5	10/30/14	10/30/14 13:00	
1,1,1-Trichloroethane		EPA-524.2	ND	ug/L	1	0.50	200	10/30/14	10/30/14 13:00	
1,1,2-Trichloroethane		EPA-524.2	ND	ug/L	1	0,50	5	10/30/14	10/30/14 13:00	
Trichloroethene		EPA-524.2	ND	ug/L	1	0.50	5	10/30/14	10/30/14 13:00	

Laboratories, Inc.

BC

TEAM Engineering & Management, Inc.	Reported: 11/17/2014 15:07
P O Box 1265	Project: Tecopa Vending Machine Project
Bishop, CA 93515	Project Number: Tecopa Vending Machine Project - Well Sample
	Project Manager: Naomi Garcia

BCL Sample ID:	1425647-01	Client Samp	le Name:	TVMP Well	10/29/201	4 7:12:00	AM, GF/NG			
Constituent		Method	Result	Units	Dilution	PQL	DW-MCL	Prep Date	Run Date/Time	Lab Quals
Organics										
Trichlorofluoromethane		EPA-524.2	ND	ug/L	1	0.50	150	10/30/14	10/30/14 13:00	
1,2,3-Trichloropropane		EPA-524.2	ND	ug/L	1	1.0		10/30/14	10/30/14 13:00	
1,1,2-Trichloro-1,2,2-triflu	uoroethane	EPA-524.2	ND	ug/L	1	0.50	1200	10/30/14	10/30/14 13:00	
1,2,4-Trimethylbenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
1,3,5-Trimethylbenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
Vinyl chloride		EPA-524.2	ND	ug/L	1	0.50	0.5	10/30/14	10/30/14 13:00	
Total Xylenes		EPA-524.2	ND	ug/L	1	1.0	1750	10/30/14	10/30/14 13:00	
Total Trihalomethanes		EPA-524.2	ND	ug/L	1	2.0		10/30/14	10/30/14 13:00	
t-Amyl Methyl ether		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
t-Butyl alcohol		EPA-524.2	ND	ug/L	1	10		10/30/14	10/30/14 13:00	
Ethyl t-butyl ether		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:00	
1,2-Dichloroethane-d4 (S	Surrogate)	EPA-524.2	102	%	1	75 - 125 (l	LCL - UCL)	10/30/14	10/30/14 13:00	
Toluene-d8 (Surrogate)		EPA-524.2	98.0	%	1	80 - 120 (l	LCL - UCL)	10/30/14	10/30/14 13:00	
4-Bromofluorobenzene (Surrogate)	EPA-524.2	93.3	%	1	80 - 120 (l	LCL - UCL)	10/30/14	10/30/14 13:00	
Acenaphthylene		EPA-525.2	ND	ug/L	1	0.10		10/31/14	11/11/14 10:20	
Alachlor		EPA-525.2	ND	ug/L	1	0.20	2	10/31/14	11/11/14 10:20	
Anthracene		EPA-525.2	ND	ug/L	1	0.10		10/31/14	11/11/14 10:20	
Atraton		EPA-525.2	ND	ug/L	1	0.50		10/31/14	11/11/14 10:20	
Atrazine		EPA-525.2	ND	ug/L	1	0.30	1	10/31/14	11/11/14 10:20	
Benzo[a]anthracene		EPA-525.2	ND	ug/L	1	0.20		10/31/14	11/11/14 10:20	
Benzo[b]fluoranthene		EPA-525.2	ND	ug/L	1	0.30		10/31/14	11/11/14 10:20	
Benzo[k]fluoranthene		EPA-525.2	ND	ug/L	Ĩ	0.30		10/31/14	11/11/14 10:20	
Benzo[a]pyrene		EPA-525.2	ND	ug/L	1	0.10	0.2	10/31/14	11/11/14 10:20	
Benzo[g,h,i]perylene		EPA-525.2	ND	ug/L	1	0.30		10/31/14	11/11/14 10:20	
Benzyl butyl phthalate		EPA-525.2	ND	ug/L	1	4.0		10/31/14	11/11/14 10:20	
delta-BHC		EPA-525.2	ND	ug/L	1	0.20		10/31/14	11/11/14 10:20	
gamma-BHC (Lindane)		EPA-525.2	ND	ug/L	1	0.10	0.2	10/31/14	11/11/14 10:20	
Bromacil		EPA-525.2	ND	ug/L	1	0.50		10/31/14	11/11/14 10:20	
Chrysene		EPA-525.2	ND	ug/L	1	0.30		10/31/14	11/11/14 10:20	
Diazinon		EPA-525.2	ND	ug/L	1	0.20		10/31/14	11/11/14 10:20	
Dibenzo[a,h]anthracene		EPA-525.2	ND	ug/L	1	0.30		10/31/14	11/11/14 10:20	
Di(2-ethylhexyl)adipate		EPA-525.2	ND	ug/L	1	1.0	400	10/31/14	11/11/14 10:20	
Dimethoate		EPA-525.2	ND	ug/L	1	2.0		10/31/14	11/11/14 10:20	
Dimethyl phthalate		EPA-525.2	ND	ug/L	1	1.0		10/31/14	11/11/14 10:20	
Di-n-butyl phthalate		EPA-525.2	ND	ug/L	1	1.0		10/31/14	11/11/14 10:20	

BC Laboratories, Inc.

TEAM Engineering & P O Box 1265	& Management, Inc	Reported: Project:	11/17/2014 15:07 Tecopa Vending Machine Project
Bishop, CA 93515		Project Number:	Tecopa Vending Machine Project - Well Sample
		Project Manager:	Naomi Garcia
	4 4050 47 04	TV/MD Well 10/20/2014 7:12:00/	

BCL Sample ID:	1425647-01	Client Sam	ole Name:	I VMP Well,	10/29/2014	17:12:00/	AM, GF/NG			
Constituent		Method	Result	Units	Dilution	PQL	DW-MCL	Prep Date	Run Date/Time	Lab Quals
Organics										
Fluorene		EPA-525.2	ND	ug/L	1	0.20		10/31/14	11/11/14 10:20	
Hexachlorobenzene		EPA-525.2	ND	ug/L	1	0.10	1	10/31/14	11/11/14 10:20	
Hexachlorocyclopentadie	ne	EPA-525.2	ND	ug/L	1	1.0	50	10/31/14	11/11/14 10:20	
Indeno[1,2,3-cd]pyrene		EPA-525.2	ND	ug/L	1	0.30		10/31/14	11/11/14 10:20	
Methoxychlor		EPA-525.2	ND	ug/L	1	0.30	30	10/31/14	11/11/14 10:20	
Metolachlor		EPA-525.2	ND	ug/L	1	0.50		10/31/14	11/11/14 10:20	
Metribuzin		EPA-525.2	ND	ug/L	1	0.50		10/31/14	11/11/14 10:20	
Molinate		EPA-525.2	ND	ug/L	1	0.50	20	10/31/14	11/11/14 10:20	
Phenanthrene		EPA-525.2	ND	ug/L	1	0.10		10/31/14	11/11/14 10:20	
Prometon		EPA-525,2	ND	ug/L	1	0,50		10/31/14	11/11/14 10:20	
Prometryn		EPA-525.2	ND	ug/L	1	0.50		10/31/14	11/11/14 10:20	
Pyrene		EPA-525.2	ND	ug/L	1	0.10		10/31/14	11/11/14 10:20	
Secbumeton		EPA-525.2	ND	ug/L	1	0.50		10/31/14	11/11/14 10:20	
Simazine		EPA-525.2	ND	ug/L	1	0.30	4	10/31/14	11/11/14 10:20	
Terbutryn		EPA-525.2	ND	ug/L	1	0.50		10/31/14	11/11/14 10:20	
Thiobencarb		EPA-525.2	NĎ	ug/L	1	0.50	70	10/31/14	11/11/14 10:20	
Perylene-d12 (Surrogate))	EPA-525.2	106	%	1	60-140 (L	CL - UCL)	10/31/14	11/11/14 10:20	
Endothal		EPA-548.1	ND	ug/L	1	20	100	11/04/14	11/05/14 18:14	
Diquat		EPA-549.2	ND	ug/L	1	4.0	20	10/31/14	11/04/14 14:37	
Uncategorized										
PCB-1262		EPA-508	ND	ug/L	1	0.20		10/31/14	11/04/14 15:26	
PCB-1268		EPA-508	ND	ug/L	1	0.20		10/31/14	11/04/14 15:26	
Pentachlorophenol		EPA-515.1	ND	ug/L	1	0,050		11/03/14	11/05/14 08:54	
Picloram		EPA-515.1	ND	ug/L	1	0.050		11/03/14	11/05/14 08:54	
2-Chloroethyl vinyl ether		EPA-524.2	ND	ug/L	đ	10		10/30/14	10/30/14 13:00	
bis(2-Ethylhexyl)phthalate	3	EPA-525.2	ND	ug/L	1	3.0		10/31/14	11/11/14 10:20	
Total Recoverable Calciu	m	EPA-200.7	44	mg/L	1	0.10		11/04/14	11/05/14 16:40	
Total Recoverable Magne	sium	EPA-200.7	25	mg/L	1	0.050		11/04/14	11/05/14 16:40	
Total Recoverable Sodiur	n	EPA-200.7	91	mg/L	1	0.50		11/04/14	11/05/14 16:40	
Total Recoverable Potass	sium	EPA-200.7	19	mg/L	1	1.0		11/04/14	11/05/14 16:40	
Bicarbonate		SM-2320B	220	mg/L	1	5.0		10/31/14	10/31/14 14:13	
Carbonate		SM-2320B	ND	mg/L	1	2.5		10/31/14	10/31/14 14:13	
Hydroxide		SM-2320B	ND	mg/L	1	1.4		10/31/14	10/31/14 14:13	
Alkalinity as CaCO3		Calc	180	mg/L	1	4.1		10/31/14	11/17/14 11:34	

Laboratories, Inc.

TEAM Engineering & Management, Inc.	Reported:	11/17/2014 15:07
P O Box 1265	Project:	Tecopa Vending Machine Project
Bishop, CA 93515	Project Number:	Tecopa Vending Machine Project - Well Sample
	Project Manager:	Naomi Garcia

BCL Sample ID: 142	425647-01	Client Sample Name:		TVMP Well, 10/29/2014		7:12:00AM, GF/NG				
Constituent		Method	Result	Units	Dilution	PQL	DW-MCL	Prep Date	Run Date/Time	Lab Quals
Uncategorized										
Total Cations		Calc	8.7	meq/L	1	0.10		10/31/14	11/17/14 11:34	
Total Anions		Calc	8.4	meq/L	1	0.10		10/31/14	11/17/14 11:34	
Hardness as CaCO3		Calc	210	mg/L	1	0.50		10/31/14	11/17/14 11:34	
Aggressive Index		Calc	12.3	NA	1	0		10/31/14	11/17/14 11:57	Z2
Langlier Index		Calc	0.29	NA	1	-2.00		10/31/14	11/17/14 11:34	Z1a
рН		EPA-150.1	7.96	pH Units	1	0.05		10/31/14	10/31/14 14:13	S05
Electrical Conductivity @ 25 C		SM-2510B	828	umhos/cm	1	1.00		10/31/14	10/31/14 14:13	
Total Dissolved Solids @ 180 C	;	SM-2540C	570	mg/L	1	10		10/31/14	10/31/14 13:00	
Total Suspended Solids (Glass	Fiber)	SM-2540D	0.59	mg/L	1.176	0.59		11/03/14	11/03/14 14:45	
MBAS		SM-5540C	ND	mg/L	1	0.10		10/30/14	10/30/14 08:00	
ortho-Phosphate as P		EPA-365.1	ND	mg/L	1	0.020		10/30/14	10/30/14 10:50	
Hexavalent Chromium		EPA-218.6	1.4	ug/L	1	0.20		10/29/14	10/29/14 23:47	
Total Recoverable Silica		EPA-200.7	38000	ug/L	1	200		11/04/14	11/05/14 16:40	
Total Recoverable Uranium		EPA-200.8	0.93	pCi/L	1	0.67		11/05/14	11/06/14 00:35	

Laboratories, Inc.

TEAM Engineering & Management, Inc.	Reported:	11/17/2014 15:07
P O Box 1265	Project:	Tecopa Vending Machine Project
Bishop, CA 93515	Project Number:	Tecopa Vending Machine Project - Well Sample
	Project Manager:	Naomi Garcia

BCL Sample ID:	1425647-02	Client Sample Name:		QCEB, 10/28/2014 5:00:00PM						
Constituent		Method	Result	Units	Dilution	PQL	DW-MCL	Prep Date	Run Date/Time	Lab Quals
Organics										
Benzene		EPA-524.2	ND	ug/L	1	0.50	1	10/30/14	10/30/14 13:23	
Bromobenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
Bromochloromethane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
Bromodichloromethane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
Bromoform		EPA-524.2	ND	ug/L	đ	0.50		10/30/14	10/30/14 13:23	
Bromomethane		EPA-524.2	ND	ug/L	1	1.0		10/30/14	10/30/14 13:23	V11
n-Butylbenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
sec-Butylbenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
tert-Butylbenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
Carbon tetrachloride		EPA-524.2	ND	ug/L	1	0.50	0.5	10/30/14	10/30/14 13:23	
Chlorobenzene		EPA-524.2	ND	ug/L	1	0.50	70	10/30/14	10/30/14 13:23	
Chloroethane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
Chloroform		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
Chloromethane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
2-Chlorotoluene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
4-Chlorotoluene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
Dibromochloromethane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
Dibromomethane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
1,2-Dichlorobenzene		EPA-524.2	ND	ug/L	1	0.50	600	10/30/14	10/30/14 13:23	
1,3-Dichlorobenzene		EPA-524.2	ND	ug/L	1	0,50		10/30/14	10/30/14 13:23	
1,4-Dichlorobenzene		EPA-524.2	ND	ug/L	1	0.50	5	10/30/14	10/30/14 13:23	
Dichlorodifluoromethane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
1,1-Dichloroethane		EPA-524.2	ND	ug/L	Ť	0.50	5	10/30/14	10/30/14 13:23	
1,2-Dichloroethane		EPA-524.2	ND	ug/L	1	0.50	0.5	10/30/14	10/30/14 13:23	
1,1-Dichloroethene		EPA-524.2	ND	ug/L	1	0.50	6	10/30/14	10/30/14 13:23	
cis-1,2-Dichloroethene		EPA-524.2	ND	ug/L	Ť.	0.50	6	10/30/14	10/30/14 13:23	
trans-1,2-Dichloroethene		EPA-524.2	ND	ug/L	1	0.50	10	10/30/14	10/30/14 13:23	
1,2-Dichloropropane		EPA-524.2	ND	ug/L	1	0.50	5	10/30/14	10/30/14 13:23	
1,3-Dichloropropane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
2,2-Dichloropropane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
1,1-Dichloropropene		EPA-524.2	ND	ug/L	Ť	0.50		10/30/14	10/30/14 13:23	
Total 1,3-Dichloropropene	9	EPA-524.2	ND	ug/L	1	0,50		10/30/14	10/30/14 13:23	
Ethylbenzene		EPA-524.2	ND	ug/L	1	0.50	300	10/30/14	10/30/14 13:23	
Hexachlorobutadiene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
Isopropylbenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party_ BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation. 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

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TEAM Engineering & Management, Inc. P O Box 1265 Bishop, CA 93515 Reported:11/17/2014 15:07Project:Tecopa Vending Machine ProjectProject Number:Tecopa Vending Machine Project - Well SampleProject Manager:Naomi Garcia

BCL Sample ID:	1425647-02	Client Sam	ple Name:	QCEB, 10/2	28/2014 5	:00:00PM				
Constituent		Method	Result	Units	Dilution	PQL	DW-MCL	Prep Date	Run Date/Time	Lab Quals
Organics										
p-Isopropyltoluene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
Methylene chloride		EPA-524.2	ND	ug/L	1	0.50	5	10/30/14	10/30/14 13:23	
Methyl t-butyl ether		EPA-524.2	ND	ug/L	1	0.50	13	10/30/14	10/30/14 13:23	
Naphthalene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
n-Propylbenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
Styrene		EPA-524.2	ND	ug/L	1	0.50	100	10/30/14	10/30/14 13:23	
1,1,1,2-Tetrachloroethane		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
1,1,2,2-Tetrachloroethane		EPA-524.2	ND	ug/L	1	0.50	1	10/30/14	10/30/14 13:23	
Tetrachloroethene		EPA-524.2	ND	ug/L	1	0,50	5	10/30/14	10/30/14 13:23	
Toluene		EPA-524.2	ND	ug/L	1	0.50	150	10/30/14	10/30/14 13:23	
1,2,3-Trichlorobenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
1,2,4-Trichlorobenzene		EPA-524.2	ND	ug/L	1	0.50	5	10/30/14	10/30/14 13:23	
1,1,1-Trichloroethane		EPA-524.2	ND	ug/L	1	0.50	200	10/30/14	10/30/14 13:23	
1,1,2-Trichloroethane		EPA-524.2	ND	ug/L	1	0.50	5	10/30/14	10/30/14 13:23	
Trichloroethene		EPA-524.2	ND	ug/L	1	0.50	5	10/30/14	10/30/14 13:23	
Trichlorofluoromethane		EPA-524.2	ND	ug/L	1	0.50	150	10/30/14	10/30/14 13:23	
1,2,3-Trichloropropane		EPA-524.2	ND	ug/L	1	1.0		10/30/14	10/30/14 13:23	
1,1,2-Trichloro-1,2,2-trifluc	proethane	EPA-524.2	ND	ug/L	1	0.50	1200	10/30/14	10/30/14 13:23	
1,2,4-Trimethylbenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
1,3,5-Trimethylbenzene		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
Vinyl chloride		EPA-524.2	ND	ug/L	1	0.50	0.5	10/30/14	10/30/14 13:23	
Total Xylenes		EPA-524.2	ND	ug/L	1	1.0	1750	10/30/14	10/30/14 13:23	
Total Trihalomethanes		EPA-524.2	ND	ug/L	1	2.0		10/30/14	10/30/14 13:23	
t-Amyl Methyl ether		EPA-524.2	ND	ug/L	1	0,50		10/30/14	10/30/14 13:23	
t-Butyl alcohol		EPA-524.2	ND	ug/L	đ	10		10/30/14	10/30/14 13:23	
Ethyl t-butyl ether		EPA-524.2	ND	ug/L	1	0.50		10/30/14	10/30/14 13:23	
1,2-Dichloroethane-d4 (Su	rrogate)	EPA-524.2	102	%	1	75 - 125 (L	CL - UCL)	10/30/14	10/30/14 13:23	
Toluene-d8 (Surrogate)		EPA-524.2	98.6	%	1	80 - 120 (L	CL - UCL)	10/30/14	10/30/14 13:23	
4-Bromofluorobenzene (Su	urrogate)	EPA-524.2	92.8	%	1	80 - 120 (L	CL - UCL)	10/30/14	10/30/14 13:23	
Uncategorized										
2-Chloroethyl vinyl ether		EPA-524.2	ND	ug/L	1	10		10/30/14	10/30/14 13:23	



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BSK Associates Fresno 1414 Stanislaus St Fresno, CA93706 559-497-2888 (Main) 559-485-6935 (FAX)

A4J2965 11/12/2014 Invoice: A425052

Misty Orton BC Laboratories 4100 Atlas Court Bakersfield, CA 93308

RE: Report for A4J2965 General: Project Manager-Misty Orton

Dear Misty Orton,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 10/31/2014. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Stephane Maupas, Project Manager

If additional clarification of any information is required, please contact your Project Manager, Stephane Maupas, at (800) 877-8310 or (559) 497-2888 x212.



Accredited in Accordance with NELAP ORELAP #4021

A4J2965 FINAL 11122014	1532
Printed: 11/12/2014	
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ntract Report for 1425647	PDF File Name: WO_1425647_SUB_BSKSA.pdf Page 2 of 10
BSK Associates	A4J296 General: Project Manager-Misty Orto
Engineerscaboratorics	Case Narrative
Project and Report Details	Invoice Details
Client: BC Laboratories Report To: Misty Orton Project #: 1425647 Received: 10/31/2014 - 15:23 Report Due: 11/14/2014	Invoice To: BC Laboratories Invoice Attn: Misty Orton Project PO#: -
Sample Receipt Conditions	
Cooler: Default Cooler Temperature on Receipt °C: 4.9	Containers Intact COC/Labels Agree Received On Wet Ice Packing Material - Bubble Wrap Sample(s) were received in temperature range. Initial receipt at BSK-FAL
Data Qualifiers	
The following qualifiers have be	en applied to one or more analytical results:
None applied	
Report Distribution	
Recipient(s) Misty Orton	Report Format CC:
·	

Laboratories, Inc.

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BC

A4J2965

General: Project Manager-Misty Orton

BSK Associates Fresno Organics Quality Control Report

				Spike	Source		HREC		RPD	Date	
Analyte	Result	RL	Units	Level	Result	WREC	Limits	RPD	Limit	Analyzed	Qual
		EPA 5	31.1 - Qi	uality Co	ntrol						
Batch: A414209										Prepared	: 11/06/201
Prep Method: EPA 531.1										A	nalyst: AA
Blank (A414209-BLK1)											
I-Hydroxycarbofuran	ND	3.0	ua/L							11/07/14	
Aldicarb	ND	3.0	ug/L							11/07/14	
Adlcarb Sulfone	ND	2.0	ug/L							11/07/14	
Aldicarb Sulfoxide	ND	3.0	ug/L							11/07/14	
Carbaryl	ND	5.0	ug/L							11/07/14	
Carbofuran	ND	5.0	ug/L							11/07/14	
Methomyl	ND	2.0	ug/L							11/07/14	
Dxamyl	ND	20	ug/L							11/07/14	
3lank Spike (A414209-BS1)											
-Hydroxycarbofuran	4.1	3.0	ug/L	4.0		102	80-120			11/07/14	
Aldicarb	3.9	3.0	ug/L	4.0		97	80-120			11/07/14	
Aldicarb Sulfone	3.9	2.0	ug/L	4.0		99	80-120			11/07/14	
Aldicarb Sulfoxide	4.0	3.0	ug/L	4.0		99	80-120			11/07/14	
Carbaryl	3.8	5.0	ug/L	4,0		96	80-120			11/07/14	
Carbofuran	4.0	5.0	ug/L	4.0		99	80-120			11/07/14	
/lethomyl	3.8	2.0	ug/L	4.0		96	80-120			11/07/14	
Dxamyl	4.0	20	ug/L	4.0		99	80-120			11/07/14	
Blank Spike Dup (A414209-BSD1)											
3-Hydroxycarbofuran	4.2	3.0	ug/L	4.0		104	80-120	2	20	11/07/14	
Aldicarb	3.6	3.0	ug/L	4.0		91	80-120	6	20	11/07/14	
dicarb Sulfone	4.0	2.0	ug/L	4.0		100	80-120	1	20	11/07/14	
Aldicarb Sulfoxide	3.9	3.0	ug/L	4.0		97	80-120	2	20	11/07/14	
Carbarył	3.9	5.0	ug/L	4.0		98	80-120	2	20	11/07/14	
Carbofuran	3.8	5.0	ug/L	4.0		96	80-120	3	20	11/07/14	
Nethomyl	3.8	2.0	ug/L	4.0		96	80-120	0	20	11/07/14	
Dxamyl	3.9	20	ug/L	4.0		98	80-120	0	20	11/07/14	
latrix Spike (A414209-MS1), Source:	A4J2724-01										
-Hydroxycarbofuran	4.1	3.0	ug/L	4.0	ND	103	65-135			11/07/14	
ldicarb	3.9	3.0	ug/L	4.0	ND	98	65-135			11/07/14	
Idicarb Sulfone	4.0	2.0	ug/L	4.0	ND	100	65-135			11/07/14	
Idicarb Sulfoxide	4_1	3.0	ug/L	4.0	ND	102	65-135			11/07/14	
arbaryl	4.0	5.0	ug/L	4.0	ND	101	65-135			11/07/14	
Carboluran	4.1	5.0	ug/L	4.0	ND	102	65-135			11/07/14	
lethomyl	4.0	2.0	ug/L	4.0	ND	100	65-135			11/07/14	
xamyl	4.0	20	ug/L	4.0	ND	99	65-135			11/07/14	
		EPA 6	547 - Qu	ality Con	trol						
Batch: A414124										Prepared	: 11/05/201
-rep metriod: EPA 54/										Ai	haiyst: WP
Slank (A414124-BLK1)		95								44/0=/4 4	
лурпозате	ND	25	ug/L							11/05/14	
A4J2965 FINAL 11122014 1532											
Printed: 11/12/2014										Pa	10 4 of 1
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A4J2965

General: Project Manager-Misty Orton

BSK Associates Fresno Organics Quality Control Report

Analyte	Result	RL Units	Spike Lovel	Source Result	WREC	REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 547 - Qu	ality Cor	itrol						
Batch: A414124									Prepared	: 11/05/2014
Prep Method: EPA 547								_	A	nalyst: WPR
Blank (A414124-BLK1)										
Surrogate: AMPA	90		100		90	70-130			11/05/14	
Blank Spike (A414124-BS1)										
Glyphosate	110	25 ug/L	100		113	70-130			11/05/14	
Surrogate: AMPA	99	_	100		69	70-130			11/05/14	
Biank Spike Dup (A414124-BSD1)										
Glyphosate	100	25 ug/L	100		100	70-130	13	30	11/05/14	
Surrogate: AMPA	85		100		85	70-130			11/05/14	
Matrix Spike (A414124-MS1), Sour	ce: A4J2965-01									
Glyphosale	100	25 ug/L	100	ND	99	70-130			11/05/14	
Surrogete: AMPA	99		100		98	70-130			11/05/14	
Matrix Spike Dup (A414124-MSD1)	, Source: A4J2965-01									
Glyphosate	110	25 ug/L	100	ND	112	70-130	13	30	11/05/14	
Surrogate: AMPA	110		100		114	70-130			11/05/14	

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A4J2965

General: Project Manager-Misty Orton

BSK Associates Fresno Radiological Quality Control Report

Analyte	Result		Units	Spike Level	Source Result	REC	REC Lunits	RPD	RPD Limit	Date Analyzed Qual
		EPA 0	0-02 - Q	uality Co	ntrol					
Batch: A414185										Prepared: 11/06/2014
Prep Method: EPA 00-02										Analyst: SAI
Blank (A414185-BLK1)										
1.65 Sigma Uncertainty	ND		±							11/07/14
Gross Alpha	ND	3	pCi/L							11/07/14
MDA95	ND	0.00	pCI/L							11/07/14
Blank Spike (A414185-BS1)										
Gross Alpha	30.4	3	pCI/L	30		101	80-120			11/07/14
Blank Spike Dup (A414185-BSD1)										
Gross Alpha	34.5	3	pCi/L	30		115	80-120	13	50	11/07/14
Matrix Spike (A414185-MS1), Source	: A4J2930-01									
Gross Alpha	100	3	pCI/L	120	ND	81	70-130			11/07/14
Matrix Spike (A414185-MS2), Source	: A4J2925-01									
Gross Alpha	99.3	Э	pCI/L	120	ND	82	70-130			11/07/14
Matrix Spike Dup (A414185-MSD1), S	ource: A4J2930-01									
Gross Alpha	93.8	3	pCi/L	120	ND	76	70-130	7	50	11/07/14
Matrix Spike Dup (A414185-MSD2), S	ource: A4J2925-01									
Gross Alpha	98.2	3	pCi/L	120	ND	81	70-130	1	50	11/07/14

A4J2965 FINAL 11122014 1532 Printed: 11/12/2014

QA-RP-0001-10 Final rpt

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D					G	eneral:	Project Manager-N	listy Orton
Engineer	Schaboratories		Ce	rtificate of Analy	reie			
N			•••	initial of the second sec	010			
The Cl	hain of Custody docume	ant and Sample Integr	ity Shee	are part of the analytical repo	ort.			
Any re advan	maining sample(s) for le ce.	bede 504 1 and 524		ording to BSK's sample relation	on policy un	RB) to cool	firm that the results are not	
a conti not be	amination error from fiel en performed.	d sampling steps, If F	ield Rea	igent Blanks were not submitte	ad with the s	samples, th	is method requirement has	
s Sampl Proces	es collected by BSK An dures	alytical Laboratories v	vere coll	ected in accordance with the E	3SK Sampli	ng and Coil	lection Standard Operating	
J-value labora	e is equivalent to DNQ (tory reporting limit. This	Detected, not quantifi result is of an unknow	ed) whic vn data (h is a trace value. A trace value quality and is only qualitative (ue is an ana estimated).	alyte detecte Baseline n	ed between the MDL and the pise, calibration curve	
extrap contrib	olation below the lowest pute to the un-reliability of	t calibrator, method bl of these values.	ank dete	actions, and integration artifact	ls can all pro	oduce appa	Irent DNQ values, which	
(1) - R 40 CFI	esidual chlorine and pH R 136. Waste waler and	analysis have a 15 n I ground water (monit	oring we	biding time for both drinking an ill) samples must be field filtere	ed to meel t	he 15 minu	te holding time for dissolved	
Summ occum	ations of analytes (i.e.] Ing before or after the to	fotal Trihalomethanes otal value is calculated) may aj 1. as wel	ppear to add individual amoun I as rounding of the total value	ts incorrectl	y, due lo ra	ounding of analyte values	
RL Mu matrix	itiplier is the factor used interferences.	l to adjust the reportin	g limit (1	RL) due to variations in sample	e preparatio	in procedur	es and dilullons required for	
Due to analys	the subjective nature o its. The characterization	f the Threshold Odor ns can be found in Sta	Melhod, andard N	, all characterizations of the de lethods 2170B Figure 2170:1	etected odor	r are the op	inion of the panel of	
The M Definit	CLs provided in this rep ions	ort (if applicable) repr	esenl ih	e primary MCLs for that analy	te.			
mg/L: mg/Kg:	Milligrams/Liter (ppm) Milligrams/Kilogram (j) א סpm) F	ADL: RL:	Method Detection Limit Reporting Limit: DL x Dilutio	on	MDA95: MPN:	Min. Detected Activity Most Probable Number	
µg/L: µg/Kg: %·	Micrograms/Liter (ppt Micrograms/Kilogram Percent Recovered (s	o) N (ppb) p www.coustes) F	ND: ICi/L:	None Detected at RL Picocurles per Liter RL Multiplier		CFU: Absent: Present:	Colony Forming Unit Less than 1 CFU/100mLs 1 or more CFU/100mLs	
NR:	Non-Reportable	han ogalooy i	ACL:	Maximum Contaminant Lim	it			
BSK is	not accredited	under the NEL	AC pro	ogram for the followi	ng paran	neters:	**NA**	
Certific	cations: Please refe	or to our website for	в сору с	of our Accredited Fields of Te	sting unde	r each cert	fication.	
Fresi Slate d	no of California - ELAP	1180		State of Hawali	4021			
State o	of Nevada UCMR3	CA000792014-1 CA00079	:	State of Oregon - ORELAP State of Washington	4021 C997-14			
Sacra State of	amento of California - ELAP	2435						
Vanc State o	ouver of Oregon - ORELAP	WA100008	:	State of Washington	C824-13			

Laboratories, Inc. Environmental Testing Laboratory Since 1949 Subcontract Report for 1425647 PDF File Name: WO_1425647_SUB_BSKSA.pdf Page 8 of 10 A4J2965 **BC** Laboratories

BCLab4911

10312014

Turnaround: Standard Due Date: 11/14/2014

Printed: 10/31/2014 5:04:52PM Page 1 of 1 Page 8 of 10

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×.

	SUBCON BC La 1	TRACT ORDER aboratories 425647	A4J2965 10/31/2014 BCLab4911 10
SENDING LABORATORY: BC Laboratories 4100 Atlas Court Bakersfield, CA 93308 Phone: 661-327-4911 FAX: 661-327-1918 Project Manager: Misty Orton	RE BS 14 Fra Ph FA	CEIVING LABORATC SK Analytical Labs 14 Stanislaus Street esno, CA 93706 one: (800) 877-8310 X: (559) 485-6935	
Analysis	Due	Expires	Comments
Sample ID: 1425647-01WaterEPA 531.1 - Carbamate & Urea PesticidesEPA 547 - GlyphosateEPA 900.0 Gross AlphaContainers supplied:	Sampled: 11/12/14 17:00 11/12/14 17:00 11/12/14 17:00	10/29/14 07:12 11/26/14 07:12 11/12/14 07:12 04/28/15 07:12	DRINKING WATER SAMPLE
2 voas 1 red Qtpe			
Carl	and the second s	and an and a second	

Environmental Testing Laboratory Since 1949

Laboratories, Inc.

Subcontract Report for 1425647 PDF File Name: WO_1425647_SUB_BSKSA.pdf Page 10 of 10

BS	K Bottles: Ne	S/NO) P	age /	of _/		V				
	Was temperature within Chemistry 5 6°C Mi	n range?	Yes M	NO NA	Were corr	ect containe	rs and pres	ervatives	Yes N	No NA
fo	If samples were taken t	today, is there evident		In (NA)	Were ther	e bubbles in	the VOA vi	als?	Yes (
5	that chilling has begun?	? broken and intact?	(Ves)	No	(Volatiles (Only) ficient amou	nt of sampl	e received?	Nes	No
ē	Did all bottle labels agr	ee with COC?	Yes	No	Do sample	es have a ho	old time <72	hours?	Yes	No)
-	Was sodium thiosulfate	added to CN sample	(s) Yes M	NO (NA)	Was PM	notified of dis	crepancies	9	Yes N	NO(NA)
	250ml(A) 500ml(B) 1L	iter(C) 40ml VOA(V)	Checks	Passed?						T
	Bacti Na ₂ S ₂ O ₃	2014年天日中 時度	MERCEN II	-	West-this	e Laterstill	(Constant)		1. 19 mm	to Mirts
	None (P) ^{White Cap}		-	-						
	Cr6 (P) Blue Cap / Bright G	reen Label	pH ≥ 8	Y N	a and a second	11 23	2.2.1	Sanational (197	1	E King
٩	Cr6 (P) Blue Cap / Pink Lab	ei WW	pH 9.3-9.7	YN				CONTRACT STOCKED	/	
e lat	HNO ₃ (P) Red Cap	A CARLES THE ACCOUNT OF A		none <u>n d</u> e	10*	É.				
in th	H ₂ SO ₄ (P) or (A	G) Yellow Cap/Label	pH < 2	YN				anne a ls	accentration of	
hed	NaOH (P) Grean cap	· 응가였다는 아프 등 드나이겠	CI, pH >10	YN			1.86363		1871341	말고 "것
гоп	NaOH + ZnAc (P)		pH > 9	Y N				CHE THE	12000	1.200
e De	Dissolved Oxygen 30	Jomi (g)				_				1. 1
or are	8151, 8270	082, 625, 632/8321	-							INV
I/A c	HCI (AG) ^{LL Blue Label} C	D&G, Diesel	Shu g i	$\omega = z$			1.5	1.1.1.1	13	1
ved Ver	Na ₂ O ₃ S+HCI (AG) ^{LL F}	Pink Label 525							W	-
cei eith	Na ₂ S ₂ O ₃ 1 Liter (Brow	ŵn P) 549	이 문화 문화	입니다		J.C.		全國國	1428	LAN
Re ^s are	Na2S2O3 (AG) Blue Laber	547, 515, 548	-	399					M	VVC_
eč Š	Na ₂ S ₂ O ₃ (AG) ^{Bioa Labar}	THMs 524.2	arate II Stored	3.5	1	1.1.2367	1 80	nes sider	南非法的	640.580.1
e dt	Na ₂ S ₂ O ₃ (CG) Blue Labe	504, 505		-	N	Control Vool 15	Tar is the	कारकारणानाराष्ट्र	e ocumentation and	19:240-
	Na ₂ S ₂ O ₃ + MCAA (C	G) ^{Creange Lahel} 531	pH < 3	(Y) N	IV	5 - 14	14723		TRANSFER SUP	l lan
n/ch	NH4CI (AG) ^{Purple Label}	552	-	-				1811 09/20/012	1	
atio	EDA (AG) ^{Brown Label}	OBPs			All Car	1.5. V. S.		inst a stat	T messel .	Eles S.
serv	HCL (CG) 524.2, BTEX,	Gas, MTBE, 8260/624	-	-				Ship rate date	Wiener	
; pre	Buffer pH 4 (CG)	的人名德利福利 化的		18 (J . 1 9)		1 31 A 302	Sugar &	Set a Sta		6. Soo
Sues	None (CG)	THE REPORT OF		-				1.77 10 110	A STATE	
Ĕ	H ₃ PO ₄ (CG) ^{context} Cito	A STATES	명이 있는 것이 있는 것이 있다. 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이		Constant of the second	1 1 A T A	a turci	Sinthete nuti	istar Vilaina	i a that is
ļ	Asbestos 1Liter Pl	astic w/ Foil	816 / £616	2.32	5 H [*] , 8 1	1. 4.14		加利的	Grif Vas	
	Low Level Hg / Metal	ls Double Baggie	-	-						
	Bottled Water	0 / 500 / 1100	e Salette	1.7	1.1			11	$\alpha = \alpha \lambda$	E
	Soil Tube Brass /	Steel / Plastic		-	6			12 22	5125	1
	Tedlar Bag / Pla	istic Bag	-							
Ħ	Container	Preservative	Date/Time/In	itials	0	ontainer	Preser	vative	Date/Time	/Initials
Spl	S P S D			5						_
omments	VOA for	547 test in	n crysta	el el	ars Vie	rt				



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November 12, 2014

FAL Project: 8780

Ms. Misty Orton BC Laboratories 4100 Atlas Court Bakersfield, CA 93308

Dear Ms. Orton,

Attached are the results for Frontier Analytical Laboratory project **8780**. This corresponds to your subcontract order number **1425647**. One drinking water sample was received on 10/31/2014 in good condition. This sample was extracted and analyzed by EPA Method 1613 for 2,3,7,8-TCDD only. BC Laboratories requested a turnaround time of fifteen business days for project **8780**.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains our project-sample tracking log and the analytical results. The Sample Receipt section contains your chain of custody, our sample login form and sample photo. The attached results are specifically for the sample referenced in this report only. These results meet all National Environmental Laboratory Accreditation Program (NELAP) requirements and shall not be reproduced except in full. Frontier Analytical Laboratory's State of Oregon NELAP certificate number is **4041** and our State of California ELAP certificate number is **2934**. This report has been emailed to you as a PDF file. A hardcopy will not be sent to you unless specifically requested.

If you have any questions regarding project **8780**, please contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Bradley B. Silverbush Director of Operations

FRONTIER ANALYTICAL LABORATORY 5172 Hillsdale Circle * El Dorado Hills, CA 95762 Tel (916) 934-0900 * Fax (916) 934-0999 www.frontieranalytical com

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ontract Report for 142564	7 PDF	File Nam	e: WO_	1425647_SUB_FRNTL.p	df Page 3 of 8
			EPA N	/lethod 1613 TCDD	ANALYTICAL LABORAT
FAL ID: 8780-001-MB Client ID: Method Blank Matrix: Drinking Water Batch No: X3214	Date E Date R Arnour	Extracted: 11-1 Received: NA ht: 1.000 L	0-2014	ICal: PCDDFAL3-9-16-14 GC Column: DB5 Units: pg/L	Acquired: 11-11-2014 WHO TEQ: NA
0	0	DI	Qual	MOL	
2,3,7,8-TCDD	ND	0 778	GUB	0.151	
Internal Standards	% Rec	QC Limits	Qual		
13C-2,3,7,8-TCDD	86.8	31.0 - 137			
Cleanup Surrogate					
37CI-2,3,7,8-TCDD	74 5	42.0 - 164			
				AIsotopic Lai signal to noBAnalyte is pCChemical IrDPresence oDNQAnalyte corEAnalyte corFAnalyte corJAnalyte corMMaximum pNDAnalyte NoNPNot ProvidePPre-filteredSSample accXMatrix inter*Result take	beled Standard outside QC range but ise ratio is >10:1 present in Method Blank interference if Diphenyl Ethers contration is below calibration range incentration is below calibration range filmation on secondary column contration is below calibration range possible concentration t Detected at Detection Limit Level ad through a Whatman 0.7um GF/F filter peptance criteria not met ferences in from dilution or reinjection
Analyst Date:11/12/2014				Re Da	eviewed By: ate: 000003 of 0

ontract Report for 1425647	PDF File Name: WO	_1425647_SUB_FRNTL.p	df Page 4 of 8
	EPA	Method 1613 TCDD	
FAL ID: 8780-001-OPR Client ID: OPR Matrix: Drinking Water Batch No: X3214	Date Extracted: 11-10-2014 Date Received: NA Amount: 1.000 L	ICal: PCDDFAL3-9-16-14 GC Column: DB5 Units: ng/ml	Acquired: 11-11-2014 WHO TEQ: NA
Compound	Conc. QC Umits		
2,3,7,8-TCDD	10.0 7.30 - 14.6		
Internal Standards	% Rec QC Limits		
13C-2,3,7,8-TCDD	83.9 25.0 - 141		
Cleanup Surrogate			
37CI-2,3,7,8-TCDD	75.8 37.0 - 158		
		AIsotopic Lab signal to noiBAnalyte is piCChemical InDPresence ofDNQAnelyte comEAnalyte comFAnalyte comJAnalyte comJAnalyte comMMaximum piNDAnalyte NotNPNot ProvidePPre-filteredSSample accXMatrix interfi*Result taker	eled Standard outside QC range but se ratio is >10:1 sent in Method Blank erference Diphenyl Ethers sentration is below calibration range irmation on secondary column sentration is below calibration range ossible concentration Detected at Detection Limit Level hrough a Whatman 0.7 um GF/F filter aptance criteria not met arences from dilution or reinjection
Analyst Date: <u>11/12/2014</u>		Re Dat	viewed By: 8:11/12/2014

			EPA N	/lethod 1613 TCDD	ANALYTICAL LABOR
FAL ID: 8780-001-SA Client ID: 1425647-01 Matrix: Drinking Water Batch No: X3214	Date Date Amo	Extracted: 11-1 Received: 10-3 unt: 0,960 L	0-2014 1-2014	ICal: PCDDFAL3-9-16-14 GC Column: DB5 Units: pg/L	Acquired: 11-11-2014 WHO TEQ: NA
Compound	Con		Quel	MDI	
2,3,7,8-TCDD	N	D 1.02		0.151	
Internal Standards	% Rec	OC Limite	Qual		
13C-2,3,7,8-TCDD	92.0	31.0 - 137	Quai		
Cleanup Surrogate 37Cl-2,3,7,8-TCDD	77.5	42.0 - 164			
				A isotopic Lat. Signal to nois B Analyte is p C Chemical In D Presence of DNQ Analyte con E Analyte con J Analyte con M Maximum p ND Analyte Not NP Not Provide P Pre-filtered S Sample acc X Matrix interf • Result taken	service is > 10:1 resent in Method Blank terference Diphenyl Ethers centration is below calibration range firmation on secondary column centration is below calibration range firmation on secondary column centration is below calibration range passible concentration Detected at Detection Limit Level d through a Whatman 0,7um GF/F filter eptance criteria not met erences n from dilution or reinjection
Analyst: Date: <u>11/12/2014</u>				Re Da	viewed By:

Laboratories, Inc.	JULI
Environmental Testing Laboratory Since 194	9

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	SUBC B(ONTRACT ORDER C Laboratories 1425647				
SENDING LABORATORY: RECEIVING LABORATORY: 3C Laboratories Frontier Analytical Laboratory 1100 Atlas Court Frontier Analytical Laboratory 3akersfield, CA 93308 Frontier Analytical Laboratory Phone: 661-327-4911 Frontier Analytical Laboratory FAX: 661-327-1918 Frontier Analytical Laboratory Project Manager: Misty Orton FAX: (916) 934-0999						
Analysis	Due	Expires	Comments			
Sample ID: 1425647-01	Water Samp	led: 10/29/14 07:12	DRINKING WATER SAMPLE			
EPA 1613B - 2,3,7,8-TCDD Containers supplied:	11/12/14 17:00	10/28/15 07:12				
1 Amber						
Released By	Date	Received By	BAP 10/3/14 Date	102		
Released By	Date	Received By	Date	Page 4 (

	B ⁱ	
	ANALYTIC	AL LABORATOR
Frontier Analytical I	aboratory	
Sample Login I	Form	
	700	
FAL Project ID: a	<u>780</u>	
Client: BC Laborato	ries, Inc	
Client Project ID: 1425647		
Date Received 10/31/2014		
Time Received:10:25 am		
Received By:KZ		
Logged In By:KZ		
# of Samples Received:1		
Duplicates:0		
Storage Location: R2		
Method of Delivery:	California Overnight	
Tracking Number:	C11235900111490	
Shipping Container Received Intact	Yes	
Custody seals(s) present?	No	
Custody seals(s) intact?	No	
Sample Arrival Temperature (C)	0	
Chain Of Custody Procent?		
Return Shipping Container To Client	Vec	
Test aqueous sample for residual Chlorine	Yes	
Sodium Thiosulfate Added	No	
Adequate Sample Volume	Yes	
Appropriate Sample Container	Yes	
pH Range of Aqueous Sample	Between 4 and 9	
Anomalies or additional comments:		

1

5172 Hillsdale Circle ' El Dorado Hills. CA 95762 ' Tel (916) 934-0900 ' Fax (916) 934-0999 ' www.frontieranalytical.com



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				_				MECK LA	BORATORI aratury Service	ES, I Since
			Certifi	cate of	Analy	sis				
							Re Turna	Report Date: eceived Date: around Time:	11/05/14 17: 10/31/14 08 Normal	32 10
Project: 1425647								Phones: Fax:	(661) 327-49 (661) 327-19	911 918
								P.O. #:		
Attn: Misty Orton										
Client: BC Laboratories 4100 Atlas Court Bakersfield, CA 93308										
Dear Misty Orton										
Linclosed are one results of analyse received in good condition, at 4.5 ° with data qualifiers. Lab Sample ID: 4J31015-01 Sampled by: Client	C and on i Sample II	D: 1/	425647-01	the me	thod crit	teria except	t as noted b	elow or in the	report	atrix:
sampled by: Client	Sampled.	10/20/1	407.12							
Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	QL
Analyte Arsonic III	Result ND 7.1	MDL	MRL 0.40 2.0	Units ug/I ug/I	Dil 1 5	Method IC-ICP/MS IC-ICP/MS	Prepared 11/5/14 11/5/14	Analyzed 11/5/14 13:52 11/5/14 13:52	Batch W4K0216 W4K0216	Qı
Analyte Arsonic III Arsenic V	Result	MDL	MRL 0.40 2.0	Units ug/l ug/l	Dil 1 5	Method IC-ICP/MS IC-ICP/MS	Prepared 11/5/14 11/5/14	Analyzed 11/5/14 13:52 11/5/14 13:52	Batch W4K0216 W4K0218	Qu

BC	Laboratories, Inc.	MU	
	Environmental Testing Laboratory Since 1949	5	

Subcontract Report for 1425647 PDF File Name: WO_1425647_SUB_WECKL.PDF Page 2 of 3

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		Quality	y Control Se	ction					
	Metais by	/ EPA 200 S	Series Method	s - Quall	ty Control				
tch W4K0216 - IC-ICP/MS									
Blank (W4K0216-BLK1)					Prepared: 11/	05/14 /	alyzed: 11/05	6/14 13:52	
Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limils	RPD	RPD Limit
Arsenic III		ND		ug/l					
Arsenic V		ND		ug/I					
LCS (W4K0216-BS1)					Prepared: 11/	05/14 /	Analyzed: 11/05	/14 13:52	
Analyle	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC	RPD	RPD Limil
Arsenic III		9,93		ug/l	10.0	99	85-115		
Arsenic V		9,10		ug/l	10,0	91	85-115		
Matrix Spike (W4K0216-MS1)	So	urce: 4J2401!	5-02		Prepared: 11/	05/14 /	Analyzed: 11/0	6/14 13:52	
Analyle	Sample Result	QC Result	Qualifler	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Arsenic III		62.0		ug/l	50.0	96	70-130		
Arsenic V		46.8		ug/l	50.0	87	70-130		
Matrix Spike Dup (W4K0216-MSD1)	50	urce: 4J2401	5-02		Prepared: 11/	05/14 /	Analyzed: 11/0	5/14 13:52	
Analyle	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC	RPD	RPD Limit
Arsenic III		61.8		ug/l	50.0	96	70-130	0.3	200
Arsenic V		46.7		ug/l	50.0	87	70-130	0_1	200

4J31015

Weck Laboratories. Inc.: 14859 East Clark Avenue. City of Industry. California 91745-1596 (626) 336-2139 FAX. (626) 336-2634 www.wecklabs.com

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation. 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Page 2 of 3

V	
	Analytical Laboratory Service Since Certificate of Analysis
Notes: The Chain of Any remainin advance. All results are	Custody document is part of the analytical report. g sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in expressed on wet weight basis unless otherwise specified.
An Absence (The Reportin For Potable v	of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services. g Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL), vater analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.
If sample coll	ected by Weck Laboratories, sampled in accordance to lab SOP MIS002
Contact: Ki (Project Mai	m G Tu nager) ELAP # 1132 LACSD # 10143
The results in that the test r entirety. Flags for Data ND Sub DL RL MDA NR	a this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies esuits meet all requirements of NELAC unless noted in the Case Nerrative. This enalytical report must be reproduced in its a Qualifiers: NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL). Subcontracted analysis, original report enclosed. Method Detection Limit Method Reporting Limit Minimum Detectable Activity Not Reportable
The results in that the test r entirety. Flags for Data ND Sub DL RL MDA NR	a this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies esuits meet all requirements of NELAC unless noted in the Case Nerrative. This enalytical report must be reproduced in its a Qualifiers: NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL). Subcontracted analysis, original report enclosed. Method Detection Limit Method Reporting Limit Minimum Detectable Activity Not Reportable
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Laboratories, Inc. Environmental Testing Laboratory Since 1949

TEAM Engineering & Management, Inc. P O Box 1265	Reported: Project:	11/17/2014 15:07 Tecopa Vending Machine Project
Bishop, CA 93515	Project Number:	Tecopa Vending Machine Project - Well Sample
	Project Manager:	Naomi Garcia

Notes And Definitions

MDL	Method Detection Limit						
ND	Analyte Not Detected at or above the reporting limit						
PQL	Practical Quantitation Limit						
S05	The sample holding time was exceeded.						
V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.						
Z1a	The Langlier Index result indicates a tendency to deposit CaCO3.						
Z2	The Aggressive Index result indicates that the sample is non-aggressive.						
DW-MCL = MC	DW-MCL = MCLs for Title 22 Drinking Water						

ATTACHMENT B

STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC HEALTH FOOD AND DRUG BRANCH

WATER VENDING MACHINE LICENSE

SOUTHERN INVO FIRE PROTECTION DISTRICT 501 OLD FURNACE CREEK ROAD TECOPA, CA 92389

LICENSE NUMBER: 97235 EXPIRATION DATE: 12/31/2017

VENDING MACHINES:

CALIFORNIA HEALTH AND SAFETY CODE AND IS NOT TRANSFERABLE TO ANY OTHER PERSON OR ACCORDANCE WITH THE PROVISIONS OF DIVISION 104, PART 5, CHAPTER 5, ARTICLE 12 OF THE PLACE. THE LICENSEE IS REQUIRED BY LAW TO IMMEDIATELY NOTIFY THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH OF ANY CHANGE IN THE INFORMATION REPORTED IN THE THE PERSON NAMED HEREIN IS LICENSED TO OPERATE THE NUMBER OF WATER VENDING MACHINES INDICATED THROUGH THE EXPIRATION DATE. THIS LICENSE IS ISSUED IN **APPLICATION**

Food and Drug Branch, 1500 Capitol Avanue, MS 7802, PO Box 997435, Secremento, CA 95899-7435 (916) 650-6500

Printed: 7/20/2017

ATTACHMENT C



CALIFORNIA STATE

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL ACCREDITATION

Is hereby granted to

Silver State Analytical Laboratories, Inc.

3626 3638 E. Sunset Rd

Las Vegas, NV 89120

Scope of the certificate is limited to the "Fields of Testing" which accompany this Certificate.

Continued accredited status depends on successful completion of on-site inspection, proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of Section 100825, et seq. of the Health and Safety Code.

Certificate No.: 2885

Expiration Date: 7/31/2017

Effective Date: 4/1/2017

Christine Sotelo, Chlef Environmental Laboratory Accreditation Program

Sacramento, California subject to forfeiture or revocation





EnviroTech

June 14, 2017

Larry Levy Southern Inyo Fire Protection District 410 Tecopa Hot Springs Road Tecopa, CA 92389 Lab ID: Las Vegas, NV (NV930, CA2885) Reno, NV (NV015, CA2526)

Project: CA-1400534

Workorder No.: 17060546

Dear Larry Levy:

Silver State Labs-Las Vegas received 1 sample(s) on 6/12/2017 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative. Analytical results reported as non-detect (ND) in the result field are below the Practical Quantification Limit (PQL). Analytical results above the PQL are reported as the measured value in the results field.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

John Slean

John Sloan Laboratory Director 3626 E. Sunset Road, Suite 100 Las Vegas, NV 89120

> 3626 East Sunset Road, Suite 100, Las Vegas, NV 89120 - Tel: 702-873-4478 1135 Financial Blvd, Reno, NV 89502 - Tel: 775-857-2400 1250 Lamoille Hwy, Suite 629, Elko, NV 89801 - Tel: 775-778-9828 <u>ssalabs.com * sem-analytical.com * envirotechonline.com</u>

> > Original

Page 1 of 3

A Si	Silver State Labs-Las Vegas Silver State 23626 E. Sunset Road, Suite 100					1	Analytical Repor			
And Si	lyfical Laboratories erra Environmental Monitoring	Las Vegas, NV 891 (702) 873-4478 FA www.ssalabs.com	20 X: (702)	873-796	7		WO#: Date Reported:	17060546 6/14/2017		
CLIENT:	Southern Inyo Fire Pr	otection District			Collection I)ate:	6/12/2017 1:50:0	00 PM		
Project:	CA-1400534									
Lab ID:	17060546-01				Matrix:		DRINKING WA	TER		
Client Sample II	Post Treatment									
Analyses		Result	PQL	Qual	Units	DF	Date Ana	lyzed		

COLIFORMS - P/A (DRINKI	NG WATER)	COLILER	T-18	Analyst: RB
Coliform, Total	Absent	P/A	1	6/12/2017 4:05:00 PM
Escherichia Coli	Absent	P/A	1	6/12/2017 4:05:00 PM

Qualifiers:	÷	Value exceeds Maximum Contaminant Level.	С	Value is below Minimum Compound Limit.
(Qual)	DF	Dilution Factor.	н	Holding times for preparation or analysis exceeded.
	MCL	Maximum Contaminant Level.	ND	Not Detected at the PQL.
	PQL	Practical Quantitation Limit.		0

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Preservative** 1=H2SO4, 2=HNO3, 3=HCI, 4=NaOH, 5=Na2S2O3, 6=None, 7=Other

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EnviroTech.

June 26, 2017

Larry Levy Southern Inyo Fire Protection District 410 Tecopa Hot Springs Road Tecopa, CA 92389 Lab ID: Las Vegas, NV (NV930, CA2885) Reno, NV (NV015, CA2526)

Project: CA - 1400534

Workorder No.: 17060548

Dear Larry Levy:

Silver State Labs-Las Vegas received 1 sample(s) on 6/12/2017 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative. Analytical results reported as non-detect (ND) in the result field are below the Practical Quantification Limit (PQL). Analytical results above the PQL are reported as the measured value in the results field.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

John Sloan

John Sloan Laboratory Director 3626 E. Sunset Road, Suite 100 Las Vegas, NV 89120

> 3626 East Sunset Road, Suite 100, Las Vegas, NV 89120 - Tel: 702-873-4478 1135 Financial Blvd, Reno, NV 89502 - Tel: 775-857-2400 1250 Lamoille Hwy, Suite 629, Elko, NV 89801 - Tel: 775-778-9828 <u>ssalabs.com * sem-analytical.com * envirotechonline.com</u>

> > Revision v1

Page 1 of 3 137

WO#: 17060548 Date Reported: 6/26/2017

CLIENT:	Southern Inyo Fire Prot	ection District			Collection Da	te: 6/12/201	7 1:50:00 PM
Project:	CA - 1400534						
Lab ID:	17060548-01				Matr	ix: DRINKI	NG WATER
Client Sample ID	Post Treatment						
Analyses		Result	PQL	Qual	Units	MCL DF	Date Analyzed
ANIONS-SDWA (CL, F, NO2, NO3, SO4)				EPA 30	0.0	Analyst: CL
Fluoride		ND	0.100		mg/L	2.00 1	6/13/2017 12:09:00 PM
TOTAL DISSOLV	ED SOLIDS - SDWA				SM 254	0C	Analyst: RB
Total Dissolved So	lids	75.0	5.00		mg/L	1000 1	6/15/2017 1:00:00 PM
ARSENIC-SDWA					EPA 20	0.8	Analyst: ET
Arsenic		ND	1.00		µg/L	10.0 1	6/13/2017 1:44:11 PM

Silver State Labs-Las Vegas

10 3626 E. Sunset Road, Suite 100

www.ssalabs.com

SilverState Analytical Laboratories (702) 873-4478 FAX: (

Sierra Environmental Monitoring (702) 873-4478 FAX: (702) 873-7967

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	С	Value is below Minimum Compound Limit	
(Qual)	DF	Dilution Factor.	Н	Holding times for preparation or analysis ex	ceeded.
	MCL	Maximum Contaminant Level.	ND	Not Detected at the PQL.	Devision of
	PQL	Practical Quantitation Limit			Revision vi

Preservative** 1=H₂SO₄, 2=HNO₃, 3=HCl, 4=NaOH, 5=Na₂S₂O₃, 6=None, 7=Other

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Tor served test, SSAL Startuard to C S or other onsible for all fees and costs in addition to service to Water, SW-Surface Water, SS-Soil, S-S	for source face CCAL Standard T.B. C's or the	LARR					Kyle Avide		IARA	- T					17000548-	SSAL - SEM Lab					me tests vary Other Pertinent I	g with or intentionally matabaling the sample	aure: Janny Juy	Email / Fax: levy2717@access4less.net		đ	on District	Project Number: CA-1400534	chonline.com	EnviroTech.
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EnviroTech

June 26, 2017

Larry Levy Southern Inyo Fire Protection District 410 Tecopa Hot Springs Road Tecopa, CA 92389 Lab ID: Las Vegas, NV (NV930, CA2885) Reno, NV (NV015, CA2526)

Project:

Workorder No.: 17060549

Dear Larry Levy:

Silver State Labs-Las Vegas received 1 sample(s) on 6/12/2017 for the analyses presented in the following report.

An MCL exceedance has occured on one of the tested parameters. The parameter containing the MCL exceedance is marked with a star on the analytical report. Analytical results reported as non-detect (ND) in the result field are below the Practical Quantification Limit (PQL). Analytical results above the PQL are reported as the measured value in the results field.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

John Slean

John Sloan Laboratory Director 3626 E. Sunset Road, Suite 100 Las Vegas, NV 89120

> 3626 East Sunset Road, Suite 100, Las Vegas, NV 89120 - Tel: 702-873-4478 1135 Financial Blvd, Reno, NV 89502 - Tel: 775-857-2400 1250 Lamoille Hwy, Suite 629, Elko, NV 89801 - Tel: 775-778-9828 <u>ssalabs.com * sem-analytical.com * envirotechonline.com</u>

> > Revision v2

Page 1 of 3 140

1	Silver Stat	Silver State Labs-L 3626 E. Sunset Ros	.as Vega 1d, Suite	s 100			A	nalytical	Report
V V	Analytical Laborator	ring (702) 873-4478 FA www.ssalabs.com	20 X: (702)	873-796	57			WO#: Date Reported:	17060549 6/26/2017
CLIENT:	Southern Inyo Fire	Protection District			Collect	ion Date:	6/12/	2017 2:20:00 P	M
Project:									
Lab ID:	17060549-01					Matrix:	DRIN	KING WATE	R
Client Sam	ple ID Barnes Well								
Analyses		Result	PQL	Qual	Units]	MCL	DF Date Ana	lyzed

ANIONS-SDWA (CL, F, NO2, NO3, SO4)				EPA 300.0			Analyst: CL
Fluoride	2.06	0.100	*	mg/L	2.00	1	6/13/2017 12:24:00 PM
ARSENIC-SDWA				EPA 200.8			Analyst: ET
Arsenic	10.3	1.00	*	µg/L	10.0	1	6/13/2017 1:40:20 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	С	Value is below Minimum Compoun	d Limit.
(Qual)	DF	Dilution Factor.	Н	Holding times for preparation or ana	alysis exceeded.
	MCL	Maximum Contaminant Level.	ND	Not Detected at the PQL.	Desister 0
	PQL	Practical Quantitation Limit.			Revision v2

Container
P-F
lastic,
G-Glass,
V-Voa
Vial,
OT-Oth

Preservative** 1=H₂SO₄, 2=HNO₃, 3=HCl, 4=NaOH, 5=Na₂S₂O₃, 6=None, 7=Other

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pled Sample | NOTE: A Rush

 | 2 Day: | Same Day | Rush

 | Standard: | to the validity and
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 | Mailing Address | Company: | Report Attention | abs.com |
 | 7 |
| to process samples. The objective voir or analytico for service | Parry Shin | | Kyl O And O | Jany Thing |) Signature | | | | | D Barnes Welt | d Sample Identification | Surcharge is applied for rush samples

 | | 4 Day: |

 | Standard TAT 7-10 Business Days. Note that some tests | authenticity of the sample. I am aware that tampering with or
onsidered fraud and may be grounds for legal action. | L. LEVY Signature: | 760-852-4542 En | Tecopa, CA 92389
 | 410 Tecopa Hot Springs Rd. | Southern Inyo Fire Protection D | ^г Larry Levy Ртоје | sem-analytical.com envirotechonli | alytical Laboratories
 | Sierra E |
| as fines SSAI Standard T.J. C's or other write | (12120 U | | Kyle Anders | LARCH | Print | | | | - 1R | 17060549-1A | SSAL - SEM Lab No. |

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 | vary Other Pertinent Info | Internionally matagoing the sample | Your Thing | rail / Fax
717@access4less.net |
 | | istrict | ct Number: | ne.com |
 | nvironmental Monitoring |
| in annement applie | Levi | | | Levy | t Name | | | | אנו
אנו | G
DW | Comp.
Grab Mistria p |

 | 1 Nequilement | Doguiromor |

 | rmation / Special In: | | | Phone: | Send
City, State, Zip
 | Mailing Addres | ce To:
Company: | Invoice Attentic | | 135 FINANCIAL E
 | hone (702) 873-4 |
| If milections or Samples are disc. | CO I | | SS | ~ | | | | | n 1p X | 2 1P X | Ars
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 | ners | ••• | | 760-852-4542 | ^c Tecopa, CA 9238
 | s PO Box 51 | Southern Inyo Fire | »: Lany Levy | | 30ULEVARD, RENO, NV 895
 | ATR Fay (702) 873-7967 (F |
| arded 30 days after results are report | , FPD | | 44 | IFPD | Company | | | | | | |

 | | |

 | | | ANALYSES REQUESTED | Email / Fax:
levy2717@access | 9
 | | e Protection District | PO# | | 02
FPA# NV00015 (CA2526)
 | FPA# NV00930 CA2885) |
| ed unless other arrangements are | 6.12.1 | | 6/12/17 | 1-21.7 | Date | | COMME | | | Metals | 200 | Tempera

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 | CHAIN-OF-CU |
| made and storage fees may apply | 7 1603 | | 1603 | 7 1603 | Time | | NTS | | | | C 460 | ture: Other TDS

 | 5H: Chlorine | Field Measurements | Email: Fax:

 | Send Invoice Via: | 🗌 Email: 🔳 Fax: | Send Results Via: | QC Level Report | Other
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CWA CRCRA | Results | ITORING? NEW ADDRESS | of 3 | ⁵ age <u>1</u> of <u>1</u>
 | |
| | Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply | ceived By:
thorized By: CARA LEVY Samples are discarded 30 days after results are reported unless other anagements are made and storage fees may apply. | ceived By:
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Charles other arrangements are insufts are reported unless other arrangements are made and storage fees may apply.
Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. | Inquished By: 41 A.A.D. Kyle Anders 1 SSAL SIFPD SIFPD (-12.17 1603)
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EnviroTech

June 26, 2017

Larry Levy Southern Inyo Fire Protection District 410 Tecopa Hot Springs Road Tecopa, CA 92389 Lab ID: Las Vegas, NV (NV930, CA2885) Reno, NV (NV015, CA2526)

Project:

Workorder No.: 17060550

Dear Larry Levy:

Silver State Labs-Las Vegas received 1 sample(s) on 6/12/2017 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative. Analytical results reported as non-detect (ND) in the result field are below the Practical Quantification Limit (PQL). Analytical results above the PQL are reported as the measured value in the results field.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

John Slean

John Sloan Laboratory Director 3626 E. Sunset Road, Suite 100 Las Vegas, NV 89120

> 3626 East Sunset Road, Suite 100, Las Vegas, NV 89120 - Tel: 702-873-4478 1135 Financial Blvd, Reno, NV 89502 - Tel: 775-857-2400 1250 Lamoille Hwy, Suite 629, Elko, NV 89801 - Tel: 775-778-9828 <u>ssalabs.com * sem-analytical.com * envirotechonline.com</u>

> > Revision v1

Page 1 of 3 143

CilverClarks	Silver State Labs-Las Vegas
Silversidie	3626 E. Sunset Road, Suite 100
Analytical Laboratories	Las Vegas, NV 89120
Sierra Environmental Monitoring	(702) 873-4478 FAX: (702) 873-7967
v	www.ssalabs.com

Analytical Report

 WO#:
 17060550

 Date Reported:
 6/26/2017

CLIENT:	Southern Inyo Fire Pro	stection District	Collection Date: 6/12/2017 2:35:00 PM			
Project:						
Lab ID:	17060550-01				Matrix: DRINKI	NG WATER
Client Sample ID	Cynthia's Well					
Analyses		Result	PQL Qu	al Units	MCL DF	Date Analyzed
ANIONS-SDWA (CL, F, NO2, NO3, SO4)			EP	Analyst: CL		
Fluoride		1.99	0.100	mg/L	2.00 1	6/13/2017 1:08:00 PM
ARSENIC-SDWA				EF	A 200.8	Analyst: ET
Arsenic		10.2	1.00	* μg/L	10.0 1	6/13/2017 11:20:00 AM

Qualifiers:	+	Value exceeds Maximum Contaminant Level.	С	Value is below Minimum Compound Limit.	
(Qual)	DF	Dilution Factor.	Н	Holding times for preparation or analysis e	xceeded.
	MCL	Maximum Contaminant Level.	ND	Not Detected at the PQL.	
PQL	Practical Quantitation Limit				

144
Preserv	
rative**	
1=H2SO4.	•
2=HNO ₃ ,	
3=HCI	
4=NaOH	
5=Na2S	
2O3, 6=1	
lone, 7:	
=Other	

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to recover said fees, your ongatization will Water, WW-Waste Water, GW-(process sapples. This obligates your org	arry Vily	N N				Prover a day	111111	Jarry Dury	/ Signature /					Cynthia's	Sample Ident	urcharge is applied for rush sampl	50ay - KA	4 Day: Rush resu	3 Day: 📄 Other (s	Standard TAT 7-10 Business Days Not	isidered fraud and may be grounds for lega	utherriticity of the sample I am aware that	- Levy	760-852-4542	Tecopa, CA 92389	410 Tecopa Hot Sprir	Southern Inyo Fire Pr	Larry Levy	sent-analytical.com	alytical Laboratories	Iver State
Ground Water, SW-Surface	partization for service fees SSAL St	6							6						Well	tification	es	412/17	hts will be issued after 4:00 p.m.	specify):	te that some tests vary	al action	tampering with or intentionally mista	sionature:	Email / Fax: levy2717@acces		ngs Rd.	otection District	Project Number.		Adamire Tech.	Sierra Environmenta
Water, SS-Soil, S-Soli	andard T & C's or other write	Laizay L					AIC MINIS	L. And	ARRY L	Prin			,		7060550-1A	SSAL - SEM Lab No			California		Other Pertnett Into		bying the sample		s4less.net /						·	4 Monitoring 📕 3
d, OT-Other	in agreement applies	ery							FUA	Name				G DW	G DW	Comp. Grab Wattor			a Requireme		rmation / Special In				Phone:	Send City, State, Zip	Invoi Mailing Addres	Company:			135 FINANCIAL hone (775) 857-2	626 E. SUNSET hone (702) 873-4
11	If collections or Th													6 1P	2 1P	Presorvative*	Numb	er / T	ype o	f Cor	structions	r6 ***			760-852-	" Tecopa, (PO Box 5	Southern	" Larry Lev		BOULEVARD, RE 2400 Fax: (888) 39	RD., STE 100, LA 1478 Fax: (702) 8
e liability of the labora	imples are discarded (15						SSA	s					×	×	Flu	Joric	de						ANAL	4542	CA 92389	54	Inyo Fire Pr	Y		NO, NV 89502 98-7002 (EPA#	S VEGAS, NV 89 73-7967 (EPA#
tory is limited to the amou	30 days after results are re sociated with this COC ap	FPD							FPD	Company														YSES REQUEST	Email / Fax: levy2717@acc			otection Distri	PQ#		t NV00015, CA2526	120 NV00930, CA288:
nt paid for the report.	sported unless other arra	6					e/1	61	6															Ü	ess4less.net			ि द	Quote #	j	5)	
P-Plastic. G-Glass	ingements are made and t as they are received by	12.17					4/11	1	12 17	Date			COMMENTS:		Metals:	27.7 0	Temperature:	On-Site pH:	Field		Mail: 📰 Ei)	Mail:	NOTE Surchargen	<u></u>	Mining 0	SDWA C	No	MONITORING		Page _	-OF-CUSTO
V-Voa Vial OT-Other	I storage fees may apply	1603					1905	14.02	1603	Time						423	other: TDS	Chionne:	Measurements	ŧ	mail: Fax:		mait: 📕 Fax: 🗌	Results Via:	II III N		VA CRA	Invoice:	NEW ADDRES	of	 3	DY-RECORD





EnviroTech

June 26, 2017

Larry Levy Southern Inyo Fire Protection District 410 Tecopa Hot Springs Road Tecopa, CA 92389 Lab ID: Las Vegas, NV (NV930, CA2885) Reno, NV (NV015, CA2526)

Project: CA - 1400534

Workorder No.: 17060551

Dear Larry Levy:

Silver State Labs-Las Vegas received 1 sample(s) on 6/12/2017 for the analyses presented in the following report.

An MCL exceedance has occured on one of the tested parameters. The parameter containing the MCL exceedance is marked with a star on the analytical report. Analytical results reported as non-detect (ND) in the result field are below the Practical Quantification Limit (PQL). Analytical results above the PQL are reported as the measured value in the results field.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

John Sloan

John Sloan Laboratory Director 3626 E. Sunset Road, Suite 100 Las Vegas, NV 89120

> 3626 East Sunset Road, Suite 100, Las Vegas, NV 89120 - Tel: 702-873-4478 1135 Financial Blvd, Reno, NV 89502 - Tel: 775-857-2400 1250 Lamoille Hwy, Suite 629, Elko, NV 89801 - Tel: 775-778-9828 <u>ssalabs.com * sem-analytical.com * envirotechonline.com</u>

> > Revision v2

Page 1 of 3

Sile Sile	verState ylical Laboratories rra Environmental Monitoring	Silver State Labs-I 3626 E. Sunset Roy Las Vegas, NV 891 (702) 873-4478 FA www.ssalabs.com	Las Vegas ad, Suite 20 X: (702)	s 100 873-796	7		na WO Date	#: #: e Reported:	Report 17060551 6/26/2017
CLIENT:	Southern Inyo Fire Pro	tection District			Collection I	Date: 6/12/2	201	7 2:00:00 PI	M
Project:	CA - 1400534								
Lab ID:	17060551-01				Ma	trix: DRIN	KIN	NG WATER	2
Client Sample ID	Well 1								
Analyses		Result	PQL	Qual	Units	MCL I	OF	Date Analy	/zed
ANIONS-SDWA (CL, F, NO2, NO3, SO4))			EPA 3	800.0		Anal	lyst: CL
Fluoride		2.33	0.100	*	mg/L	2.00	1	6/13/2017	1:23:00 PM
Nitrate as N		0.131	0.100		mg/L	10.0	1	6/13/2017	1:23:00 PM
Nitrite as N		ND	0.100		mg/L	1.00	1	6/13/2017	1:23:00 PM
ARSENIC-SDWA					EPA 2	200.8		Ana	lyst: ET
Arsenic		9.66	1.00		µg/L	10.0	1	6/13/2017	' 1:28:52 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	С	Value is below Minimum Compou	nd Limit.
(Qual)	DF	Dilution Factor.	Н	Holding times for preparation or a	nalysis exceeded.
	MCL	Maximum Contaminant Level.	ND	Not Detected at the PQL.	D 11 0
	PQL	Practical Quantitation Limit.			Revision v2

Preservative** 1=H₂SO₄, 2=HNO₃, 3=HCl, 4=NaOH, 5=Na₂S₂O₃, 6=None, 7=Other

ba Vial, OT-Other	lastic, G-Glass, V-Vi	tainer*** P_PI	Cont		1000)T-Other	Solid, O	Water, SS-Soil, S-9	W-Ground Water, SW-Surface	Nater, WW-Waste Water, G	rix" DW-Drinking V	Mat
oratory	ey are received by the lab	ve samples as the report	associated with this COC apply only to these poratory is limited to the amount paid for the re-	analytical result liability of the lai	9 3 3 4	If collections of	reement applies.	written ag	Standard T & C's or other sts in addition to service fr	in organization for service fees SSAL :	process sample, this obligates we	orization is required to p services are required to	Autho
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Informents	Field Measu >n-Site pH: C	0		e, Nit	r / Type o	5	equirement	nia R	Califor	results will be issued after 4:00 p.m.	4 Day: Rush 5 Day: Rush	1 Day:	
Fax:	Mail: Email:			rate, I	of Contain					er (specify)	3 Day: Oth	Same Day:	
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Its Via:	NOTE Surcharges apply to L Send Resu		IALYSES REQUESTED	AN					N Very	Signature: 4000	LAY	bied by	Sanı
Report N		let	Email / Fax: levy2717@access4less.ne	542	852-4	760-8	Phone:		ss4less.net	Email / Fax levy2717@doce	760-852-4542	Phone:	F
	Mining Other	-		A 92389	pa, C	Teco	City, State, Zip:	Send			Tecopa, CA 92389	City, State, Zip:	leport
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NEW ADDRES	COMPLIANCE MONITORING?	*	PO# Quote:		Levy	" Lапу	Invoice Attention			Project Number: CA-1400534	Lany Levy	Report Attention:	:
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RECORD	-CUSTODY-	HAIN-OF	89120 A#: NV00930, CA2885) CH	3-7967 (EP	00, LAS 702) 87	D STE 10	E. SUNSET R e (702) 873-44	3626 Phon	al Monitoring	Sierra Environment		2	





Drawn by: Date T. DBAN 10/17 Date: Che J

FROM PRE-CAST CONCRETE BUILDING TO EXISTING WELL, UTILIZING COMMON TRENCH.

INSTALL 10.5' X 12' PRE-CAST INSULATED CONCRETE BUILDING WITH WATER TREATMENT SYSTEM AND WATER VENDING MACHINE. (SEE PLAN VIEWS AND ELEVATIONS, SHEET 3)

INSTALL APPROXIMATELY 22 LF OF UNDERGROUND 1.5" ELECTRICAL CONDUIT AND WIRING

ALL WATER CONTACT MATERIALS AND PRODUCTS SHALL BE NSF/ANSI STANDARD 61

AS-BUILTS

BLIC WORKS O. Drawer Q A 93526		HEIGHTS MACHINE	WATER PROJECT
cked By: Date:	Dote:	Drawing Name:	SHEET 2 OF 7
Ahlstrom 9/15	OCTOBER 2015	TecopaWater.dwg	









_						DIM	ENSIONS (INCH	ES)					L	JNIT DATA (PER	TANK)					
	MODEL		HEIGHT B(6)	DEPTH C	TANK DIA. D	SIDE SHELL E	INLET/OUTLET PIPE SIZES F	DRAIN SIZE G	FLOOR TO INLET H	INLET TO OUTLET J	BRINE TANK DIA. L(7)	BRINE TANK HEIGHT M(7)	DOWNFLOW REGEN. MAX. CAPACITY GR © SALT DOSAGE	UPFLOW REGEN. MAX. CAPACITY GR @ SALT DOSAGE	RESIN VOLUME ft ³	AUXILIARY FLOW gpm © 15 psi drop	MAX. DRAIN FLOW gpm	MIN. DRAIN PIPE SIZE IN.	DUPLEX OPER. WT. Ibs.	DUPLEX SHIP. WT. Ibs.
	9	57	56		10	48			51	2.35	18	43	31,736 @ 12	31,736 @ 12	1	10.8	2.5		803	237
	10	58	62	16	11	54	1.25	0.5	57	2.35	18	43	47.604 @ 18	47,604 © 18	1.5	11	2.5	0.5	935	305
	12	59	60		13.5	52	1.20	0.0	55	2.35	18	43	59,267 @ 24	N/A	2	12.6	3.0	0.5	1159	401
	14	65	73		14	65			68	2.35	24	42	88,549 © 36	N/A	3	12.8	5.3		1778	607





- NOTES: (1) ITEMS SHOWN IN BROKEN LINES TO BE FURNISHED BY OTHERS.
- (2) ALL DIMENSIONS ARE ±1" (25mm) AND SUBJECT TO TO CHANGE WITHOUT NOTICE.
- (3) THE USE OF DISSIMILAR METALS IN A PIPING SYSTEM IS NOT RECOMMENDED. WHERE DISSIMILAR METALS MUST BE CONNECTED IN A WATER SYSTEM. THE USE OF NONCONDUCTIVE (DIELECTRIC) FITTINGS MAY REDUCE GALVANIC CORROSION.
- (4) A TEN FOOT POWER CORD (LONGER LENGTHS AVAILABLE) AND WALL MOUNT TRANSFORMER ARE PROVIDED. THE CUSTOMER SHOULD PROVIDE A RECEPTACLE, PREFERABLE ONE NOT CONTROLLED BY A SWITCH THAT CAN BE TURNED OFF ACCIDENTALLY, OBSERVE THE LOCAL ELECTRICAL CODES.
- (5) ALLOW 6-12 INCHES BEHIND THE UNIT FOR PLUMBING AND DRAIN LINES AND 4 FEET ABOVE FOR SERVICE ACCESS AND FILLING THE SALT CONTAINER.
- (6) TO PERMIT THE OBSERVATION OF THE DRAIN FLOW DO NOT MAKE A DIRECT CONNECTION TO THE DRAIN. PROVIDE AN AIR GAP OF AT LEAST TWO TIMES THE DIAMETER OF THE DRAIN PIPE OR CONFORM TO LOCAL SANITATION CODES.
- (7) BRINE TANK DIMENSIONS SHOWN ARE FOR THE BRINE TANK MOST COMMONLY SELECTED FOR USE WITH THIS SIZE SYSTEM.
- (8) BYPASS VALVE IS INCLUDED WITH SOFTENER, PLUMBING OF 3-VALVE BYPASS IS OPTIONAL.

	DO NOT SCALE E TOLERANCES: ±1/8" UNLES	DRAWING S OTHER	MSE N	NOTED	Culligan.®	NAME HIGH	EFFICIENCY	ENER
Let.	Change	By	App	Date	ENGINEERED	TECHNIC	AL DATA SHE	ET
+		_			ROSEMONT, ILLINOIS	DETAILED BY: BBV 08/21/12	APP. BY:	SHEET
-					PRINT AND BILL OF MATERIAL ARE NOT TO BE USED WITHOUT THE WRITTEN CONSENT OF CULLIGAN INTERNATIONAL CO.	REF. NO.	PART NO. HE1_DF_UF_A	T_TWIN_SOFT

Drawing Prepared INYO COUNT 168 N. Edward Independend (760) 8	by: F PUBLI Is, P.O. ce, CA 378-02(
Drawn by: Date: T. DEAN 10/17	Checked J. Ahls



NOTES:

- (1) ITEMS SHOWN IN BROKEN LINES TO BE FURNISHED BY OTHERS.
- (2) ALL DIMENSIONS ARE ± 1 INCH (25mm) AND SUBJECT TO CHANGE WITHOUT NOTICE.
- (3) UNIONS SHOULD BE LOCATED ON INLET AND OUTLET CONNECTIONS OF CONTROL VALVE TO FACILITATE SERVICING.
- (4) THE USE OF DISSIMILAR METALS IN A PIPING SYSTEM IS NOT RECOMMENDED. WHERE DISSIMILAR METALS MUST BE CONNECTED IN A WATER SYSTEM. THE USE OF NONCONDUCTIVE (DIELECTRIC) FITTINGS MAY REDUCE GALVANIC CORROSION.
- (5) AN ELECTRICAL OUTLET SHOULD BE PROVIDED WITHIN FIVE FEET OF THE EQUIPMENT LOCATION.
- (6) ALLOW A MINIMUM OF 24 INCHES ABOVE FILTER FOR FILLING.
- (7) TO PERMIT THE OBSERVATION OF THE DRAIN FLOW DO NOT MAKE A DIRECT CONNECTION TO THE DRAIN, PROVIDE AN AIR GAP OF AT LEAST FOUR TIMES THE DIAMETER OF THE DRAIN PIPE OR CONFORM TO LOCAL SANITATION CODES.
- (B) SYSTEM USES FRP TANKS WHICH MUST NOT BE SUBJECTED TO VACUUM. INSTALL SIPHON BREAK ON DRAIN LINE. INSTALL VACUUM BREAKER ON INLET
- (9) FOR MAXIMUM PROTECTION OF THE CONTROLLER, IT IS RECOMMENDED THAT A DEDICATED 120 VOLT CIRCUIT IS PROVIDED.

				DIM	ENSIONS	(INCHES)			ŲN	IT DATA PER	TANK				
MODEL	WIDTH A	HEIGHT B(6)	рејација С	TANK DIA. D	TANK HEIGHT E	INLET/OUTLET PIPE SIZES F	DRAIN SIZE G	FLOOR TO INLET H	RESIN VOLUME ft ³	NORMAL FLOW gpm © psi drop	PEAK FLOW gpm O pa psi drop	BACKWASH DRAIN FLOW gpm	NIN. DRAIN PIPE SIZE IN.	SIMPLEX OPER. WT. Ibs.	SIMPLEX SHIP. WT. Ibs.
HE DF-12	15.5	60	14	12	53	1.5	0.75	57	2.2	8 0 3	12 🗢 5	10	0.75	335	275
ME DF-14	16.5	53	15	14	46	1.5	0.75	50	2.4	11 0 3	16 0 6	15	0.75	515	315
HE DF-16	17.5	60	: 16	16	53	1.5	0.75	57	3.6	14 0 4	21 🛛 6	20	0.75	605	410
HE DF-21	21	74	21	21	67	1.5	0.75	71	7.3	24 • 8	36 @ 13	30	0.75	910	765







Drawing Prepared INYO COUNTY 168 N. Edward Independenc (760) 8	by: PUBLIC WORKS s, P.O. Drawer Q ce, CA 93526 378-0201	TECOPA VENDING TECC	HEIGHTS MACHINE	WATER PROJECT
Drawn by: Date: T. DEAN 10/17	Checked By: Date: J. Ahlstrom 9/15	Date: OCTOBER 2015	Drawing Name: TecopaWater.dwg	SHEET 7 OF 7

AS-BUILTS













Form 2912-1 (May 2001)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

Serial Number

CALA0165129

RECREATION OR PUBLIC PURPOSES LEASE Act of June 14,1926, as amended (43 U.S.C. 869 et. seq.)

This lease entered into on this 18 day of December authorized officer of the Bureau of Land Management, and

, 20¹³, by the United States of America, the lessor, through the

County of Inyo County Parks 163 May Street

Bishop, CA 94514 called the lessee, pursuant and subject to the terms and provisions of the Recreation and Public Purposes Act and to all reasonable regulations of the Secretary of the Interior now or hereafter in force when not inconsistent with any express and specific provisions herein, which are made a part hereof,

WITNESSETH:

Sec. 1. The lessor, in consideration of the rents to be paid and the conditions to be observed as hereinafter set forth, does hereby grant and lease to the lessee the right and privilege of using for the purposes hereinafter set forth in the following-described lands:

SBBM, Inyo County, California Township 21 North, Range 7 East Section 33: SE1/4 SW1/4

and Exhibit A and A-1

containing 40 acres, together with the right to construct and maintain thereon all buildings or other improvements necessary for such use for a period of 20 years, the rental to be \$ 80.00 per annum. If, at the expiration date of the lease the authorized officer shall determine that the lease may be renewed, the lessee herein will be accorded the privilege of renewal upon such terms as may be fixed by the lessor. The lessee may use the premises for

a campground, community center, public bath houses and related facilities. In addition the plan of operations for this park includes continued upkeep and maintenance of a bathing facility, community center, playground, entrance roads, parking lots, numeroud outbuildings and electrical hookups, as well as water piping for the park and at least one active sewage settling pond. The approved plan of development dated August 2008 for this park includes a variety of upgrades to be added including remodeling of the existing bathhouses and replacement of four existing restrooms, installation of additional lighting, picnictabies/fire rings, and additional campsites designed specifically for recreation vehicles.

Sec. 2. There are reserved to the United States all mineral deposits in Sec. 4. In consideration of the foregoing, the lessee hereby agrees: said lands, together with the right to mine and remove the same under applicable laws and regulations to be established by the Secretary of (a) To improve and manage the leased area in accordance with the the Interior. plan of development and management designated as Tecopa Hot Springs Park Capital Sec. 3. The lessor reserves the right of entry, or use, by Improvement Plan dated August 2008 (a) any authorized person, upon the leased area and into the and approved by an authorized officer on buildings constructed thereon for the purpose of inspection; or any modification thereof hereinafter approved by an authorized (b) Federal agents and game wardens upon the leased area on officer, and to maintain all improvements, during the term of this lease, official business; in a reasonably good state of repair. (c) the United States, its permittees and licensees, to mine and (b) To pay the lessor the annual rental above set forth in advance remove the mineral deposits referred to in Sec. 2, above. during the continuance of this lease.

(Continued on page 2)

(c) Not to allow the use of the lands for unlawful purposes or for any purpose not specified in this lease unless consented to under its terms: not to prohibit or restrict, directly or indirectly, or permit its agents, employees, contractors (including, without limitation, lessees, sublessees, and permittees), to prohibit or restrict the use of any part of the leased premises or any of the facilities thereon by any person because of such person's race, creed, color, sex, or national origin.

(d) Not to assign this lease or to change the use of the land without first receiving the consent of the authorized officer of the Bureau of Land Management.

(e) That this lease may be terminated after due notice to the lessee upon a finding by the authorized officer that the lessee had failed to comply with the terms of the lease; or has failed to use the leased fands for the purposes specified in this lease for a period of 20 consecutive years; or that all or part of the lands is being devoted to some other use not consented to by the authorized officer; or that the lessee has not complied with his development and management plans referred to in subsection 4(a).

(f) That upon the termination of this lease by expiration, surrender, or cancellation thereof, the lessee, shall surrender possession of the premises to the United States in good condition and shall comply with such provisions and conditions respecting the removal of the improvements of and equipment on the property as may be made by an authorized officer.

(g) To take such reasonable steps as may be needed to protect the surface of the leased area and the natural resources and improvements thereon.

(h) Not to cut timber on the leased area without prior permission of, or in violation of the provisions and conditions made by an authorized officer.

(i) That nothing contained in this lease shall restrict the acquisition, granting, or use of permits or rights-of-way under existing laws by an authorized Federal officer.

Sec. 5. Equal Opportunity Clause. Lessee will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and the rules, regulations, and relevant orders of the Secretary of Labor. Neither lessee nor lessee's subcontractors shall maintain segregated facilities. Sec. 6. Equal Access Clause. Lessee shall comply with all provisions of the American Disabilities Act of July 26,1990 the Architectural Barriers Act of 1968 and Section 504 of the Rehabilitation Act of 1973, as amended. These Acts require that programs and public facilities constructed or renovated be accessible to and usable by persons with disabilities,

Sec. 7. The lesseemay surrender this lease or any part thereof by filing a written relinquishment in the appropriate BLM office. The relinquishment shall be subject to the payment of all accrued rentals and to the continued obligation of the lessee to place the lands in condition for relinquishment in accordance with the applicable lease terms in subsections 4(f) and 4(g) and the appropriate regulations.

Sec. 8. The lessee further agrees to comply with and be bound by those additional terms and conditions identified as

Exhibit B

and which are made a part hereof.

Sec. 9. No Member of, or Delegate to, the Congress, or Resident Commissioner, after his election or appointment, and either before or after he has qualified, and during his continuance in office, and no officer, agent, or employee of the Department of the Interior, except as otherwise provided in 43 CFR, Part 7, shall be admitted to any share or part of this lease, or derive any benefit that may arise there from, and the provisions of Title 18 U.S.C. Sections 431—433, relating to contracts, enter into and form a part of this lease, so far as the same may be applicable.

For Execution by Lessee	THE UNITED STATES OF AMERICA
IN WITNESS WHEREOF:	
Linda arealarius	By
(Signature of Lessee's Authorized Officer)	(Authorized Officer)
Patricio Gensellan Casist Clesh	Bargon Field Manad
(Signature of Witness) of Board	/ (Tifle)
11-26-13	12/18/13
(Date)	(Date)

This form does not constitute an information collection as defined by 44 U.S.C. 3502 and therefore does not require OMB approval.

UNITED STATES DEPARTMENT OF THE INTERIOR Bureau of Land Management E-2841 Federal Office Building 2800 Cottage Way Sacramento, California 95825

RENEWAL

LEASE OF HOT MINERAL SPRINGS

THIS LEASE, entered into this ______ day of ______ 19 , between THE UNITED STATES OF AMERICA, hereinafter called the Lessor, acting by and through the duly authorized officer of the Bureau of Land Management, and the COUNTY OF INYO, CALIFORNIA, hereinafter called the Lessee, acting by and through its Board of Supervisors, WITNESSETH:

1. Pursuant and subject to the terms and provisions of the Act of Congress approved March 3, 1925 (43 Stat. 1133; 43 U.S.C. 971), entitled "An Act to Authorize the Secretary of the Interior to Lease Certain Lands," and subject to all regulations of the Secretary of the Interior now in force that pertain to the said act, which are made a part hereof, the Lessor does hereby lease to the Lessee that certain piece and parcel of land located in Inyo County, California, known as Tecopa Hot Springs, more particularly described as follows: the SE¹/₂SW¹/₂ sec. 33, T. 21 N., R. 7 E., San Bernardino Meridian, containing 40 acres, for a campground, community center; and public bath houses and related facilities. In addition, a medical clinic will be constructed, operated, and maintained on the leased premises by the Death Valley Service Area, Inc., a nonprofit corporation, under a sublease from the Lessee. The Lessee shall inform the Lessor of the estimated cost of construction of the medical facility and of subsequent maintenance; also the time when construction work will begin and when it will be completed.

2. The terms and conditions of this lease are as follows:

- a. Lessee shall pay to the Lessor the sum of ten dollars (\$10.00) each year, in advance, during the term of this lease. The first annual payment shall be due when this lease has been executed on behalf of the Lessor and all subsequent payments shall be due on or before the successive anniversary dates hereof. All remittances shall be made payable to the Bureau of Land Management and submitted to the Chief, Lands Section, Branch of Lands and Minerals Operations, at the above address.
- b. This lease shall be for a term of twenty (20) years from the date hereof. If, at the expiration date of this lease it is determined by the authorized officer of the Bureau of Land Management that the lease should be renewed, the Lessee shall have a preference right to a renewal lease which will be issued in the form of a new lease, upon such terms and conditions as may be mutually agreed upon and as provided by law and regulations then in force and effect.
- c. At the end of each full year, for the first five years of this lease and thereafter as may be requested by the Lessor, the Lessee shall furnish the authorized officer of the Bureau of Land Management with a record and statement of accomplishments and money expended, to date, in improving the leased premises and providing accommodations for the public thereon.
- d. The Lessee shall, at all times, maintain the leased premises in a neat, orderly, and sanitary condition.

The Lessee shall as soon as the same are established, submit to the authorized officer of the Bureau of Land Management, for his written approval, its initial schedule of rates, fees, and charges to be made for use of accommodations on the leased premises, before the same are placed in force and effect. Also, all amendments or changes in approved rates shall be reviewed and approved by such authorized officer, in writing, before the same are placed in force and effect.

e.

f. The Lessee shall not allow use of the leased premises for unlawful purposes, or for any purpose not specified in this lease unless consented to under its terms. Also, the Lessee shall observe all Federal, State, and local laws and regulations pertaining to use of the leased premises.

- g. The Lessee shall take all reasonable precautions to prevent and suppress forest, brush, and grass fires, and to prevent the pollution of waters on the leased premises and lands adjacent thereto.
- h. The Lessee shall establish rules and regulations pertaining to use by the public of the leased premises and within six (6) months from the date of this lease, furnish proposed or final rules and regulations to the Chief, Lands Section, Branch of Lands and Minerals Operations, for his consideration and review. Also, the Lessee shall furnish such Chief with information as he may request, concerning use of the premises.
- i. The Lessee shall enforce rules and regulations relating to use of the leased premises, as may be approved and required by the Secretary of the Interior or Director, Bureau of Land Management.
- j. The Lessee shall, at all times, permit any authorized officer of the Bureau of Land Management to enter the leased premises and buildings constructed thereon, for purposes of Inspection; and to permit Federal agents and game wardens to enter upon the premises on official business.
- k. The Lessee shall not assign this lease or change use of the land without first receiving the consent of the authorized officer of the Bureau of Land Management.
- 1. This lease may be terminated after due notice to the Lessee upon a finding by the authorized officer of the Bureau of Land Management that the Lessee has failed to use the leased land for the purposes specified in this lease for a period of one year; or, that all or part of the land is being devoted to some other use not consented to by the authorized officer; or, whenever the Lessee shall fail to pay the annual rental in advance, or otherwise fail to comply with the provisions hereof.
- m. Upon the termination of this lease by expiration, surrender or cancellation, the Lessee shall surrender possession of the premises to the United States in good condition, and shall comply with such conditions and provisions respecting the removal of improvements on the land as may be made by the authorized officer of the Bureau of Land Management. In the event improvements are not removed from the premises as requested by the authorized officer, the same shall then become property of the United States of America.

3. In the performance of work under this lease, the Lessee agrees not to employ persons undergoing sentence of imprisonment at hard labor, imposed by State courts.

4. Equal Opportunity Clause. During the performance of this contract, the lessee agrees as follows:

The Lessee will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The lessee will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The lessee agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

a.

- b. The lessee will, in all solicitations or advertisements for employees placed by or on behalf of the lessee, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- c. The lessee will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency, contracting officer, advising the labor union or workers' representative of the lessee's commitments under Section 202 of Executive Order 11246 of September 24, 1965, as amended, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- d. The lessee will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- e. The lessee will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, as amended, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- f. In the event of the lessee's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this permit may be cancelled, terminated or suspended in whole or in part and the lessee may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, as amended, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, as amended, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- g. The Lessee will include the provisions of Paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, as amended, so that such provisions will be binding upon each subcontractor or vendor. The lessee will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, That in the event the lessee becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the lessee may request the United States to enter into such litigation to protect the interests of the United States.

-3-

5. The Lessee may surrender this lease or any part thereof by filing with the authorized officer of the Bureau of Land Management a written relinquishment, in duplicate, which shall be effective as of the date of acceptance by that officer, subject to the payment of all accrued rentals and to compliance with the provisions of section 2(m) hereof, and subject to the continued obligation of the Lessee to full compliance with applicable lease terms and regulations as to any unrelinquished portion of the leasehold.

6. The lessee further agrees to comply with and be bound by those additional terms and conditions identified as Appendices A and B and which are made a part hereof.

7. No Member of, or Delegate to, the Congress, or Resident Commissioner, after his election or appointment, and either before or after he has qualified, and during his continuance in office, and no officer, agent, or employee of the Department of the Interior, except as otherwise provided in 43 CFR, Part 7, shall be admitted to any share or part of this lease, or derive any benefit that may arise therefrom, and the provisions of Title 18 U.S.C. Sections 431-433, relating to contracts, enter into and form a part of this lease, so far as the same may be applicable.

8. The Lessee warrants that no person or selling agency has been employed or retained to solicit or secure this lease upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Lessee for the purpose of securing business. For breach or violation of this warranty, the United States shall have the right to cancel this lease without liability or in its discretion to require the Lessee to pay, in addition to the consideration, the full amount of such commission, percentage, brokerage or contingent fee.

IN TESTIMONY WHEREOF, the parties hereto have executed this instrument through their duly authorized officers, as of the day and year first above written.

THE UNITED STATES OF AMERICA

By

Chief, Lands Section Branch of Lands and Minerals Operations

Witness to Signature

Viginia K.V

By Jam R. Anailo

COUNTY OF INYO, STATE OF CALIFORNIA

Appendix A

(1) The lessee _ covenants and agrees that it will comply with provisions of Title VI of the Civil Rights Act of 1964, and that it will not, for the period during which the property conveyed by this instrument is used for <u>a campground</u>, <u>community center</u>, <u>and</u> <u>public bath houses and related facilities</u>, <u>puppeses</u>,x or for another purpose involving the provision of similar services or benefits, engage in any discriminatory actions prohibited by 43 CFR 17.3, to the end that no person in the United States shall, on grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under the program for which the lessee received Federal financial assistance by this lease This assurance shall obligate the lessee , or in the case of transfer of the property leased herein, any transferee, for the period of this lease

- (2) The lessee further agrees that it will not transfer the property conveyed by this instrument for the purpose designated in paragraph (1) hereof or for another purpose involving the provision of similar services or benefits, unless and until the transferee gives similar written assurance to the authorized officer, Bureau of Land Management, that it will comply with provisions of paragraph (1) hereof.
- (3) The lessee agrees that the right is reserved to the Department of the Interior to declare the terms of this lease terminated in whole or in part and to revest in the United States title to the property conveyed herein, in the event of a breach of the nondiscrimination provisions contained in paragraph (1) hereof during the term of this lease
- (4) The Lessee agrees that as long as property conveyed hereby is used for the purpose designated in paragraph (1) hereof, or for another purpose involving the same or similar services or benefits, the obligation to comply with the provisions of Title VI of the Civil Rights Act of 1964 shall constitute a covenant running with the land for the term of this lease
- (5) The <u>lessee</u> agrees that in the event of a violation or failure to comply with the requirements imposed by paragraph (1), the United States may seek judicial enforcement of such requirements.
- (6) The assurances and covenant required by paragraphs (1) through (5) above shall not apply to ultimate beneficiaries under the program for which this grant is made. "Ultimate beneficiaries" are identified in 43 CFR 17.12(h) (1980 edition).
- (7) The <u>lessee</u> agrees, upon request of the Secretary of the Interior or his delegate, that it will post and maintain on the property conveyed by this document signs and posters bearing a legend concerning the applicability of Title VI of the Civil Rights Act of 1964 to the area or facility leased

Appendix B

Stipulations

Y 17 19

The lessee shall comply with the applicable Federal and State laws and regulations concerning the use of pesticides (i.e., insecticides, herbicides, fungicides, rodenticides, and other similar substances) in all activities/operations under this lease. The lessee shall obtain from the Authorized Officer approval of a written plan prior to the use of such substances. The plan must provide the type and quantity of material to be used; the pest, insect, fungus, etc., to be controlled; the method of application; the location for storage and disposal of containers; and other information that the Authorized Officer may require. The plan should be submitted no later than December 1 of any calendar year that covers the proposed activities for the next fiscal year (i.e., December 1, 1982, deadline for a fiscal year 1983 action). Emergency use of pesticides may occur. The use of substances on or near the lease area shall be in accordance with the approved plan. A pesticide shall not be used if the Secretary of the Interior has prohibited its use. A pesticide shall be used only in accordance with its registered uses and within other limitations if the Secretary has imposed limitations. Pesticides shall not be permanently stored on public lands authorized for use under this lease.

The lessee agrees not to exclude any person from participating in employment or procurement activity connected with this grant on the grounds of race, creed, color, national origin and sex, and to ensure against such exclusions, the lessee further agrees to develop and submit to the proper reviewing official specific goals and timetables with respect to minority and female participation in employment and procurement activity connected with this grant. The lessee will take affirmative action to utilize business enterprises owned and controlled by minorities or women in its procurement practices connected with this grant. Affirmative action will be taken by the lessee to assure all minorities or women applicants full consideration of all employment opportunities connected with this grant. The lessee also agrees to post in conspicuous places on its premises which are available to contractors, subcontractors, employees and other interested individuals, notices which set forth equal opportunity terms; and to notify interested individuals, such as bidders, contractors, purchasers and labor unions or representatives of workers with whom it has collective bargaining agreements, of the County's equal opportunity obligations.

Date: 3/12/82

1.

2.

COUNTY OF INYO, STATE OF CALIFORNIA

		OMPLIANC	E REPORT	S e	rial No.	Los Ange	les 016512
				1304			
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Name and add	ress of recipier	nt	· .	2. Name; addr	ess, and title d	of person resp	onsible for
County of Parks and P.O. Box 22 Independence	Inyo Recreation D 37 Se, Calif.	epartmen 93526	t	carrying ou Jim R. An Parks and P.O. Box Independe	t program gelo, Direc Recreation 237 nce, Calif.	tor 93526	
Brief statemer	t of nurnose of			1			•
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6. Have you received any complaints regarding Title VI? Yes X No (1/ "yes." explain the nature of the complaint and action you are taking.)

- 7. Do you utilize advisory committees in your program? Yes No (1/ "yes," list total number of members
- and number of members who are Negro, Spanish-American, American-Indian, or Oriental.)

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1 Climber Jugato		March 12, 1982)** · · · ·	•
(Signature of Authorized Official)			Date)	<u></u> .

Tim R Angelo		Direc	Director of Parks and Recreation				
	(Type Name)		(Ту	pe Title)			
Title 18 U.S.C. Sec United States any f	tion 1001, makes it a crime for any perso alse, fictitious, or fraudulent statements	n knowingly and or representatio	I willfully to make to on as to any matter wi	any department or ager thin its jurisdiction.	icy of the		
Compliance report	is Approved Disapproved						
			Pericle No.	Pos 70%6108			
}(Sia	insture of Authorized Officer)		· · · · ·	(Date)			

RESOLUTION NO. 80-92

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF INYO REQUESTING THAT THE LEASE AGREEMENT FOR TECOPA HOT SPRINGS PARKS BE RENEWED

WHEREAS, the County of Inyo Parks and Recreation Department has leased Tecopa Hot Springs Park from the Bureau of Land Management since June 1, 1961; and

WHEREAS, during the term of the lease the Inyo County has operated the facility as a public recreational area; and

WHEREAS, the County of Inyo would like to renew the lease for an additional 20 year period, or, if possible, for a 40 year period; and

WHEREAS, the County would like to add to the term and conditions of the lease, that a Medical Clinic be authorized to be constructed at the park;

THEREFORE be it resolved that the Board of Supervisors of the County of Inyo authorized the Director of Parks and Recreation to carry on all negotiations and to execute all necessary documents pretaining to the Tecopa Hot Springs Park on behalf of the County.

PASSED AND APPROVED THIS ______ 26th DAY OF _____ August ____, 1980

ATTEST: MARGARET BROMLEY County Clerk

lasquet Vaugue BY:

Bresittien	80-92 was duly passes
"The foregoing Resolution	ounty Board of Supervisors at a
regular meeting thereof held	on august 26
19.80_, by the following v	Eng Muth
AYES: Juperiparto	Donald and Johnson
Johnson, Met	0
NOES: none	
ABSENT: VE "J	OHNNY JOHNSON
Chairman	
Margaret 6	langree Dep. CP

BOARD OF SUPERVISORS Referred Copies CAO DA DA Other Quid, Parks, DUSA, file Date: 8/29/80



EXHIBIT A 170



PLOT SITE PLAN

EXHIBIT C

Form 2800-14 (August 1985)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

lssuing Office Barstow Field Office

Serial Number CACA-59558

RIGHT-OF-WAY GRANT/TEMPORARY USE PERMIT

1. A (right-of-way) (permit) is hereby granted pursuant to:

 a. Title V of the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776; 43 U.S.C. 1761);

b. Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185);

c. Other (describe)

2. Nature of Interest:

a. By this instrument, the holder <u>County of Inyo</u>	receives a
right to construct, operate, maintain, and terminate a 15 roads totaling 1,138.54 linear acres (more or less)	
on public lands (or Federal land for MLA Rights-of-Way) described as follows:	

See Exhibit A and C

b. The right-of-way or permit area granted herein is <u>20</u> feet wide, <u>501336</u> feet long and contains <u>22967.64</u> acres, more or less. If a site type facility, the facility contains <u>acres</u>.

c. This instrument shall terminate on <u>01/01/9999</u>, <u>Perpetual</u> years from its effective date unless, prior thereto, it is relinquished, abandoned, terminated, or modified pursuant to the terms and conditions of this instrument or of any applicable Federal law or regulation.

d. This instrument may request the renewed. If renewed, the right-of-way or permit shall be subject to the regulations existing at the time of renewal and any other terms and conditions that the authorized officer deems necessary to protect the public interest.

e. Notwithstanding the expiration of this instrument or any renewal thereof, early relinquishment, abandoment, or termination, the provisions of this instrument, to the extent applicable, shall continue in effect and shall be binding on the holder, its successors, or assigns, until they have fully satisfied the obligations and/or liabilities accruing herein before or on account of the expiration, or prior termination, of the grant.

(Continued on page 2)

IN WITNESS WHEREOF, The undersigned agrees to the terms and conditions of this right-of-way grant or permit.

(Signature of Holder)

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For and in consideration of the rights granted, the holder agrees to pay the Bureau of Land Management fair market value rental as determined by the authorized officer unless specifically exempted from such payment by regulation. Provided, however, that the rental may be adjusted by the authorized officer, whenever necessary, to reflect changes in the fair market rental value as determined by the application of sound business management principles, and so far as practicable and feasible, in accordance with comparable commercial practices.

4. Terms and Conditions:

3. Rental:

- a. This grant or permit is issued subject to the holder's compliance with all applicable regulations contained in Title 43 Code of Federal Regulations parts 2800 and 2880.
- b. Upon grant termination by the authorized officer, all improvements shall be removed from the public lands within <u>90</u> days, or otherwise disposed of as provided in paragraph (4)(d) or as directed by the authorized officer.
- c. Each grant issued pursuant to the authority of paragraph (1)(a) for a term of 20 years or more shall, at a minimum, be reviewed by the authorized officer at the end of the 20th year and at regular intervals thereafter not to exceed 10 years. Provided, however, that a right-of-way or permit granted herein may be reviewed at any time deemed necessary by the authorized officer.
- d. The stipulations, plans, maps, or designs set forth in Exhibit(s) A.B.C. , dated 03/08/2022 attached hereto, are incorporated into and made a part of this grant instrument as fully and effectively as if they were set forth herein in their entirety.
- e. Failure of the holder to comply with applicable law or any provision of this right-of-way grant or permit shall constitute grounds for suspension or termination thereof.
- f. The holder shall perform all operations in a good and workmanlike manner so as to ensure protection of the environment and the health and safety of the public.

(Signature of Authorized Officer)

(Title)

(Effective Date of Grant)

(Title)

(Date)

(Form 2800-14, page 2)

March 8, 2022

Land Surveyor Report

Final Determination by the Certified Department of Interior (DOI) Land Surveyor

Project NameInyo County RoadsProject NumberCACA 59558LSR NumberLSR CA 1291

A review of the above request has been completed and the following determination(s) has been made by the DOI Land Surveyor or Certified Federal Surveyor:

(Check one)

The land description is acceptable for the stated purpose, see comments below.



The land description has potential problems as noted below; however, the risk appears minor and the action within the stated purpose should not be affected.

The land description has potential problems and should not be used for the stated purpose. The following errors and/or concerns as noted below need to be corrected/addressed before this land description should be used.



A boundary survey is required.

Recommendations/Comments/Concerns/Corrections:

See attachment(s)

I certify that the parcel(s) described in the attached document(s) aggregate(s) 22,967.64 acres.

This report correctly represents the records and documents evaluated by me or under my direct supervision in conformance with the requirements of the Department of the Interior *Standards for Federal Lands Boundary Evidence*, of the parcel(s) of land identified.

Name: DOI Land Surveyor, or Certified Federal Surveyor	<i>Office, Title and Contact Information:</i>	Date:
Ashley Holshue Signature	Cadastral Land Surveyor 760-567-5066	8 Mar 2022

This report correctly represents the records and documents evaluated under my direction and control and in conformance with the requirements of the Department of the Interior *Standards for Federal Lands Boundary Evidence*, of the parcel(s) of land identified.

Name: Certified DOI Land Surveyor	Contact Information:	Date:
Joan H. Honda Signature	Office: (916) 978-4316 Cell: (916) 216-7609	

Authorized Officer:

I concur with the above recommendation(s) and:						
Additional funding is not required.						
Funding for the recommended action(s) is authorized in the amount of						
\$ Cost code:						
Funding for the recommended action(s) will be provided at a later date.						
I do not accept the above recommendation(s) for the following reason(s):						
Enter text here						
 \$ Cost code: Funding for the recommended action(s) will be provided at a later date. I do not accept the above recommendation(s) for the following reason(s): Enter text here 						

Comment:

Authorized Officer Name:	<i>Office, Title and Contact Information:</i>	Date:
Signature		

LAND SURVEYOR REPORT ATTACHMENT

March 8, 2022

Inyo County Roads

Barstow Field Office

The land description as re-written is acceptable for the stated purpose. Adjoining aliquot parts were combined and aliquot parts smaller than 2.5 acres were increased to an aliquot part to be at least 2.5 acres. For rights-of-way the smallest aliquot part to be described should be no longer than a 5-part component or less than 2.5 acres unless an official survey has been conducted. The subject land is located as shown in the map files at the end of report.

Linear acreage for the roads was calculated by the length and width using a combination of GIS software and the land description provided with this review.

The following chart will show that the linear acreage of all roads total 1,138.54(+/-) acres within a total BLM acreage of 22,967.64 acres per official government survey records.

Name	Aliquot Acres	Length (miles)	Linear Acres
Anderson Road	2.50	0.07	0.42
Bob White Way	55.00	0.54	3.27
China Ranch Road	230.00	1.69	20.48
Downey Road	5.00	0.13	1.58
Noonday Street	40.00	0.16	0.97
Tecopa Hot Springs Road	220.00	3.64	44.12
Clay Road	311.43	1.27	7.70
Furnace Creek Road	2186.62	10.02	121.45
Furnace Creek Wash Road	1471.98	7.54	91.39
Mesquite Valley Road	9776.67	23.82	288.73
Old Spanish Trail Highway	4651.04	29.78	360.97
Petro Road	2365.33	6.3	76.36
Smith Talc Road	40.00	1.04	12.61
State Line Road	1132.07	7.15	86.67
Western Talc Road	480.00	1.8	21.82

22,967.64

Total Acres

1,138.54 (+/-)

CACA 59558

Land description evaluation:

Land Description Workshee	t						
P	Date	01 Mar	2022				
Project Name Project Number Original description by Reviewed/revised by		Inyo Co	unty Roads				
		CACA 59558 Michael Marks Ashley Holshue					
	ST & Mer		Original Description	Original	Revised Description	Final	
Category	Twp & Rng	Sec	Original Exceptions	Acres	Revised Exceptions	Acres	Note
D (D 1	CA SBM						
Petro Road	I 24N R4E	sec 1			% all: excepting MS 4856 &	619.00	
Datua Daad					Misz440, unsurveyed	640.00	
Petro Road		sec z	lot 2		% all: unsurveyed	75.20	
Petro Road	T24N R5E	seco	101.2		% lot 1 of \$\\/1/4\\\\/1/4	25 51	
State Line Boad		sec 0	0000	_	*	55.51	10
State Line Road		Sec 12		40.00	CE1 / AC\\\//	40.00	10
State Line Road		Sec 12	SE/4SVV/4	40.00	SE1/4SVV% *	40.00	
State Line Road		Sec 12		40.00	S E1/	160.00	
State Line Road		sec 12	SVV /4SE/4	40.00	SE/4 *	160.00	10
State Line Road		Sec 13	nwnw		N1/ N1/A/1/	80.00	10
State Line Road		sec 14	nono		*	80.00	10
State Line Road		Sec 14		40.00		40.00	10
State Line Road		Sec 14	5 VV 74 INE 74	40.00	E1/NE1/	40.00	
State Line Road		Sec 14	Serie	40.00	E/2INE/4	80.00	
State Line Road	T25N R5E	sec 14	NW/45E/4	40.00		40.00	
Petro Road	T25N R5E	sec 22	SVV /4SE /4	40.00	*	40.00	10
Petro Road	T25N R5E	sec 27		40.00		40.00	10
Petro Road	T25N R5E	sec 27		40.00		40.00	
Petro Road	T25N R5E	sec 27	NE%INW%	40.00		40.00	
Petro Road	125N R5E	sec 27	swnw		VV /2 IN VV /4	80.00	
Petro Road	T25N R5E	sec 28	nesw		T C1/N/51/	00.00	10
Petro Road	T25N R5E	sec 28	sene	40.00	5½NE%	80.00	
Petro Road	125N R5E	sec 28	SW 1/4 SW 1/4	40.00	54/03-14/	40.00	
Petro Road	T25N R5E	sec 28	sesw		E1/2SW1/4	80.00	
Petro Road	125N R5E	sec 28	NW/4SE/4	40.00		40.00	
Petro Road	125N R5E	sec 29	SE%SE%	40.00		40.00	
Petro Road	T25N R5E	sec 31	lot 1		% lot 1 of SW1/4	80.00	
Petro Road	T25N R5E	sec 31			% lot 2 of SW1/4SW1/4	35.53	
Petro Road	T25N R5E	sec 31	NE%SE%	40.00	*	40.00	
Petro Road	T25N R5E	sec 31	NW4SE4	40.00	*		
Petro Road	T25N R5E	sec 31	SW¼SE¼	40.00	W ¹ / ₂ SE ¹ / ₄	80.00	
Petro Road	T25N R5E	sec 32	nene		*		10
Petro Road	T25N R5E	sec 32	nenw		*		10
Petro Road	T25N R5E	sec 32	nwne		N½NE¼	80.00	
Petro Road	T25N R5E	sec 32			SW%NE%	40.00	
Petro Road	T25N R5E	sec 32	SW¼NW¼	40.00		40.00	
Petro Road	T25N R5E	sec 32	senw		E½NW¼	80.00	
Petro Road	T25N R5E	sec 32	NW¼SW¼	40.00		40.00	
Clay Road	T26N R5E	sec 10			lot 4	12.12	
Clay Road	T26N R5E	sec 10	lot 6	19.31		19.31	
Clay Road	T26N R5E	sec 10	SW¼SE¼	40.00		40.00	
Clay Road	T26N R5E	sec 15	senw		*		10
Clay Road	T26N R5E	sec 15	NW¼NE¼	40.00		40.00	
Clay Road	T26N R5E	sec 15	NE¼NW¼	40.00		40.00	
Clay Road	T26N R5E	sec 15	swnw		S½NW¼	80.00	
Clay Road	T26N R5E	sec 15	NW¼SW¼	40.00		40.00	
Clay Road	T26N R5E	sec 21	NW¼NE¼	40.00		40.00	
Old Spanish Trail Highway	T20N R6E	sec 1	nene		% N1/2NE1/4, unsurveyed	80.00	
Furnace Creek Wash Road	T21N R6E	sec 5	swnwsw		NW¼SW¼	40.00	
Furnace Creek Wash Road	T21N R6E	sec 5	neswsw		*		
Furnace Creek Wash Road	T21N R6E	sec 5	swsesw		S½SW¼	80.00	

Furnace Creek Wash Road	T21N R6E	sec 6	lot 2		% W1/2 of lot 2 NE1/4	40.12	
Furnace Creek Wash Road	T21N R6E	sec 6	lot 1	80.00	lot 1 of NE¼	80.00	
Furnace Creek Wash Road	T21N R6E	sec 6			E½ lot 2 of NW¼	40.08	
Furnace Creek Wash Road	T21N R6E	sec 6	NE¼SE¼	40.00		40.00	
Furnace Creek Wash Road	T21N R6F	sec.8	swnwne		NW%NF%	40.00	
Furnace Creek Wash Road	T21N R6F	sec 8	SW%NF%	40.00		40.00	
Furnace Creek Wash Road	T21N R6E	sec 8	SW1/4SE1/ANE1/4	10.00	SE¼NE¼	40.00	
Furnace Creek Wash Road	T21N R6E	5008	NF12NW12	40.00	SE/411E/4	40.00	
Furnace Creek Wash Road	T21N R6E	5008	NE1/2F1/	40.00		40.00	
Furnace Creek Wash Road	T21N R6E	5000	S\\\/\% N\\\/\% S\\\/\%	10.00		10.00	
Furnace Creek Wash Road	T21N R6E	5009	S\N/1// S\N/1/	40.00		40.00	
Furnace Creek Wash Road	T21N ROL	soc	SVV/4SVV/4	10.00		40.00	
Furnace Creek Wash Road		sec 9	3VV/43L/43VV/4	10.00	*	10.00	10
Furnace Creek Wash Road	T21N ROL	sec 15	SWGWDW		S14/1/ N114/1/	40.00	10
Furnace Creek Wash Road		Sec 15	SWSWIIW	40.00	S VV /4 IN VV /4	40.00	
Furnace Creek wash Road	TZIN KOE	Sec 15	IN VV /4 5 VV /4	40.00		80.00	
Furnace Creek wash Road	TZIN KOE	Sec 15	nesesw	40.00	SE/45VV/4	40.00	
Furnace Creek wash Road	TZIN R6E	Sec 15	SVV/4SE/4	40.00		40.00	
Furnace Creek Wash Road	T21N R6E	sec 15	SW/4SE/4SE/4	10.00		10.00	
Furnace Creek wash Road	TZIN R6E	sec 22		40.00		40.00	
Furnace Creek Wash Road	T21N R6E	sec 23	SW/4NE/4	40.00		40.00	
Furnace Creek Wash Road	TZIN R6E	sec 23			SW/4SE/4NE/4	10.00	
Furnace Creek Wash Road	T21N R6E	sec 23			SW/4NE/4NW/4	10.00	
Furnace Creek Wash Road	T21N R6E	sec 23	NW¼NW¼	40.00		40.00	
Furnace Creek Wash Road	T21N R6E	sec 23	NE¼SW¼NW¼	10.00		10.00	
Furnace Creek Wash Road	T21N R6E	sec 23	SE¼NW¼	40.00		40.00	
Furnace Creek Wash Road	T21N R6E	sec 23	NE¼SE¼	40.00		40.00	
Furnace Creek Wash Road	T21N R6E	sec 23	NE¼NW¼SE¼	10.00		10.00	
Furnace Creek Wash Road	T21N R6E	sec 24	sese		*		10
Furnace Creek Wash Road	T21N R6E	sec 24	sesw		*		10
Furnace Creek Wash Road	T21N R6E	sec 24	NW¼SW¼	40.00		40.00	
Furnace Creek Wash Road	T21N R6E	sec 24	SWSW		S1/2SW1/4	80.00	
Furnace Creek Wash Road	T21N R6E	sec 24	swse		S1/2SE1/4	80.00	
Old Spanish Trail Highway	T21N R6E	sec 36	SE¼SW¼	40.00		40.00	
Old Spanish Trail Highway	T21N R6E	sec 36	SW¼SE¼	40.00		40.00	
Furnace Creek Wash Road	T22N R6E	sec 31	lot 2		% lots 2 of SW1/4	77.78	
Furnace Creek Wash Road	T22N R6E	sec 31	lot 1		lot 1 of SW¼	80.00	
State Line Road	T25N R6E	sec 4	lot 2		% lots 2 of NW1/4	79.84	
State Line Road	T25N R6E	sec 4	lot 1		% lot 1 of NW1/4	80.00	
State Line Road	T25N R6E	sec 4	lot 4			0.00	
State Line Road	T25N R6E	sec 5	lot 1		% lot 1 of NE1/4	0.00	
State Line Road	T25N R6E	sec 5	nesw		*		10
State Line Road	T25N R6E	sec 5	SW¼SW¼	40.00		40.00	
State Line Road	T25N R6E	sec 5	Sesw		E½SW¼	80.00	
State Line Road	T25N R6E	sec 5	nwse		N½SE¼	80.00	
State Line Road	T25N R6E	sec 6	SE¼SE¼	40.00		40.00	
State Line Road	T25N R6E	sec 7	nene		*		10
State Line Road	T25N R6E	sec7	lot 1		% lot 1 of NW1/4	80.00	
State Line Road	T25N R6E	sec7	lot 2		% lot 2 of SW1/4NW1/4	35.13	
State Line Road	T25N R6E	sec7			% lot 2 of NW1/4SW1/4	35.15	
State Line Road	T25N R6E	sec7	nwne		N½NE¼	80.00	
State Line Road	T25N R6E	sec7	SW¼NE¼	40.00		40.00	
State Line Road	T26N R6E	sec 33	lot 3	21.95		21.95	
Old Spanish Trail Highway	T20N R7E	sec 1	SE¼SW¼	40.00		40.00	
Old Spanish Trail Highway	T20N R7E	sec 1	SW¼SE¼	40.00		40.00	
Furnace Creek Road	T20N R7E	sec 3	swse		*		10
Furnace Creek Road	T20N R7E	sec 3	lot 3	39.84		39.84	
Furnace Creek Road	T20N R7E	sec 3	lot 4	40.05		40.05	
Furnace Creek Road	T20N R7E	sec 3	SE¼NW¼	40.00		40.00	
Furnace Creek Road	T20N R7E	sec 3			NE¼NE¼SW¼	10.00	
Furnace Creek Road	T20N R7E	sec 3	nwse		W½SE¼	80.00	

Tecopa Hot Springs Road	T20N R7E	sec 4			SE¼NW¼	40.00	
Tecopa Hot Springs Road	T20N R7E	sec 4			E½SW¼	80.00	
Tecopa Hot Springs Road	T20N R7E	sec 4			SW¼SE¼	40.00	
Old Spanish Trail Highway	T20N R7E	sec 5	SW¼SW¼	40.00		40.00	
Old Spanish Trail Highway	T20N R7E	sec 6	sese		*		10
Old Spanish Trail Highway	T20N R7E	sec 6	lot 4	36.81		36.81	
Old Spanish Trail Highway	T20N R7E	sec 6	lot 5	36.95		36.95	
Old Spanish Trail Highway	T20N R7E	sec 6	SE¼NW¼	40.00		40.00	
Old Spanish Trail Highway	T20N R7E	sec 6	NE¼SW¼	40.00		40.00	
Old Spanish Trail Highway	T20N R7E	sec 6	NW¼SE¼	40.00		40.00	
Old Spanish Trail Highway	T20N R7E	sec 6	swse		S½SE¼	80.00	
Old Spanish Trail Highway	T20N R7E	sec 8	nenw		*		10
Old Spanish Trail Highway	T20N R7E	sec 8	SW¼NE¼	40.00		40.00	
Old Spanish Trail Highway	T20N R7E	sec 8	sene		S½SE¼NE¼	20.00	9
Old Spanish Trail Highway	T20N R7E	sec 8	nwnw		N1/2NW1/4	80.00	
Old Spanish Trail Highway	T20N R7E	sec 8	SE¼NW¼	40.00		40.00	
Tecopa Hot Springs Road	T20N R7E	sec 9			NW¼NE¼	40.00	
Tecopa Hot Springs Road	T20N R7E	sec 9			N½SW¼NE¼	20.00	
Old Spanish Trail Highway	T20N R7E	sec 9	swnw		S½NW¼	80.00	
Old Spanish Trail Highway	T20N R7E	sec 9	SE¼NW¼	40.00	*		-
Old Spanish Trail Highway	T20N R7E	sec 10	sene		*	10.00	8
Furnace Creek Road	T20N R7E	sec 10	NE¼NE¼	40.00		40.00	
Furnace Creek Road	T20N R7E	sec 10			NE¼NW¼NE¼	10.00	
Old Spanish Trail Highway	T20N R7E	sec 10	SW%NE%	40.00	*		_
Furnace Creek Road	T20N R7E	sec 10	SE%NE%	40.00	S½NE¼	80.00	6
Anderson Road	T20N R7E	sec 10	e2NE¼NW¼SE¼SW¼	1.25	NE4SE4NE4SW4	2.50	1
Bob White Way	T20N R7E	sec 10	S ¹ / ₂ SW ¹ / ₄ NE ¹ / ₄ SW ¹ / ₄ SE ¹ / ₄	1.25	*		1*
Downey Road	T20N R7E	sec 10	E½SE¼NE¼SW¼	5.00	SE%SE%NE%SW%	2.50	
Downey Road	T20N R7E	sec 10	W1/2SW1/4SW1/4NW1/4SE1/4	1.25	N W ¹ /4N W ¹ /4SE ¹ /4SW ¹ /4	2.50	
Bob White Way	T20N R7E	sec 10	SV2SEV4NEV4SWV4SEV4	1.25	S½NE4SW4SE4	5.00	1
Bob White Way	T20N R7E	sec 10	S ¹ / ₂ NE ¹ / ₄ SE ¹ / ₄ SE ¹ / ₄ SE ¹ / ₄	5.00		5.00	
Bob White Way	T20N R7E	sec 10	S1/2NW/4SE/4SE/4	5.00	*	5.00	*
Bob White Way	T20N R7E	sec 11	5½NW¼SW¼SW¼	5.00	*		*
Furnace Creek Road	T20N R7E	sec 11	swswse		₩ ₩		10
Old Spanish Trail Highway	T20N R7E	sec 11	nene		*		10
Old Spanish Trail Highway	T20N R7E	sec 11		40.00		40.00	ð
Old Spanish Trail Highway	T20N R7E	sec 11	SVV/4INE/4	40.00	E1/NE1/	40.00	
Old Spanish Trail Highway	T20N R7E	Sec 11	SET ANA/1/	40.00	E72INE74	80.00	
Old Spanish Trail Highway		Sec 11	SE/4IN VV /4	40.00		40.00	
Furnace Creek Bood	T20N R7L	soc 11	S20WSW	40.00	N1\\\/1/ \$\\\/1/	40.00	6
Roh White Way		Sec 11	5211W5W \$1/NF1/\$\N/1/\$\N/1/	5.00	S\N/1/ S\N/1/	40.00	2
Eurnace Creek Road	T20N R7E	soc 11	SW/% SF% SW/%	10.00	500/4500/4	10.00	2
Old Spanish Trail Highway	T20N R7E	sec 12	nenw	10.00	*	10.00	10
Old Spanish Trail Highway	T20N R7F	sec 12	nwnw		N½NW¼	80.00	10
Furnace Creek Road	T20N R7F	sec 13	SW¼SW¼SW¼	10.00		10.00	
Furnace Creek Road	T20N R7F	sec 14	SW%NF%	40.00		40.00	
Furnace Creek Road	T20N R7E	sec 14	NE¼NW¼	40.00		40.00	
Furnace Creek Road	T20N R7E	sec 14			NE¼NW¼NW¼	10.00	***
Furnace Creek Road	T20N R7E	sec 14	SE¼NW¼	40.00		40.00	
Furnace Creek Road	T20N R7E	sec 14	SW¼NE¼SE¼	10.00		10.00	
Furnace Creek Road	T20N R7E	sec 14	NW¼SE¼	40.00		40.00	
Furnace Creek Road	T20N R7E	sec 14	SE¼SE¼	40.00		40.00	
China Ranch Road	T20N R7E	sec 23	SE¼SE¼SE¼	10.00		10.00	
Furnace Creek Road	T20N R7E	sec 24	nene		*		10
Furnace Creek Road	T20N R7E	sec 24	nwnw		*		10
Furnace Creek Road	T20N R7E	sec 24	nwne		N½NE¼	80.00	
Furnace Creek Road	T20N R7E	sec 24			NE¼SE¼NE¼	10.00	
Furnace Creek Road	T20N R7E	sec 24	SW¼NW¼	40.00		40.00	
China Ranch Road	T20N R7E	sec 24	W1/2NW1/4	80.00	N½NW¼	80.00	3

China Ranch Road	T20N R7E	sec 24	W1/2SW1/4	80.00		80.00	3
China Ranch Road	T20N R7E	sec 26			N½NE¼NE¼	20.00	
China Ranch Road	T20N R7E	sec 26			SW¼NE¼NE¼	10.00	
China Ranch Road	T20N R7F	sec 26			SF%SW%NF%	10.00	
China Ranch Road	T20N R7F	sec 26			W%SF%NF%	20.00	
Furnace Creek Road	T21N R7F	sec 19	565656		% nor tract 37	0.00	
Furnace Creek Wash Road	T21N R7F	sec 19	s2sese		% por tract 37	0.00	
Furnace Creek Wash Road	T21N R7E	sec 19	lot 7	40 74		40 74	
Furnace Creek Wash Road	T21N R7E	sec 19	lot 8	3.26		3.26	
Furnace Creek Wash Road	T21N R7F	sec 19	SF%SW%	40.00		40.00	
Furnace Creek Road	T21N R7F	sec 28	SW1/2SW1/2	40.00		40.00	
Furnace Creek Road	T21N R7F	sec 28	011/4011/4	10100	SW%SF%SW%	10.00	***
Furnace Creek Road	T21N R7F	sec 29	senw		*	20100	10
Furnace Creek Road	T21N R7F	sec 29	swnw		% por of tract 37	80.00	
Furnace Creek Road	T21N R7F	sec 29	nwnwnw		*		10
Furnace Creek Road	T21N R7E	sec 29	lot 1	36.90		36.90	10
Furnace Creek Road	T21N R7E	Sec 29	lot 3	37.09		37.09	
Furnace Creek Road	T21N R7E	sec 29	101.5	57.05	lot 2	37.03	
Furnace Creek Road	T21N R7E	sec 29	SF%SF%	40.00	F1/2SF%	80.00	10
Furnace Creek Road	T21N R7F	sec 30	02/402/4		% por tract 37	160.00	
Noonday Street	T21N R7F	Sec 32	n2sesw		*	100.00	
Tecona Hot Springs Road		Sec 33	CACW/		*		10
Furnace Creek Road		Sec 33	SW1/2NE1/2	40.00		40.00	10
Furnace Creek Pood		500 22	J VV /41 NL/4	40.00	S\M/1/ SE1/ NIE1/	40.00	
Furmace Creek Road		500.33		40.00	3VV/43E/4INE/4	10.00	
Furnace Creek Road		500.33		40.00	NIE1/ NI\A/1/ NI\A/1/	40.00	***
Noonday Street		580.33	c)cociu		IN E/4IN VV /4IN VV /4	10.00	E
Furmana Crank Bood		Sec 34	SZSESW	40.00	3E/43VV/4	40.00	5
Furnace Creek Road	T21N R7E	Sec 34	11 10 /4 3 10 /4	40.00	C1/ C1/1/A	40.00	
Old Spanish Trail Hisbyroy		SEC 34	lot 2	40.00	3/23 VV 1/4	40.14	
Old Spanish Trail Highway	T20N ROL	Sec 0	lot 4	40.14		40.14	
Old Spanish Trail Highway	TZUN ROE	seco	IOL 4	45.43		45.43	
Furnação Create Decid	TZUN ROE	sec b	lot 3	45.33		45.33	
Furnace Creek Road	T20N R8E	sec 19		45.67		45.67	
Furnace Creek Road	T20N R8E	sec 19	SVV /4SE/4IN VV /4	10.00		10.00	
Furnace Creek Road	T20N R8E	sec 19	NE/45VV/4	40.00		40.00	
Furnace Creek Road	T20N R8E	sec 19	SVV/4NE/4SE/4	10.00		10.00	
Furnace Creek Road	T20N R8E	sec 19	N VV /4 SE /4	40.00		40.00	
Furnace Creek Road	T20N R8E	sec 19	SE/4SE/4	40.00		40.00	
Furnace Creek Road	T20N R8E	Sec 20	SVV /4 SVV /4	40.00		40.00	
Furnace Creek Road	T20N R8E	sec 20	SE/4SVV/4	40.00	C1/C1/0/CE1/	40.00	
Furnace Creek Road	T20N R8E	sec 20	swswse		5/25W/45E/4	20.00	
Furnace Creek Road	T20N R8E	sec 21	nese	40.00	5/2NE/4SE/4	20.00	
Furnace Creek Road	T20N R8E	sec 21	SW/4SE/4	40.00		00.00	
Furnace Creek Koad	T20N R8E	sec 21	SE/4SE/4	40.00	5/25E/4	80.00	
Furnace Creek Koad	I ZUN R8E	sec 22	TIWSW	40.00	572INW745W74	20.00	
Furnace Creek Koad	I ZUN R8E	sec 22	SVV /4 SVV /4	40.00	C1/C1/1/	00.00	
Furnace Creek Koad	I ZUN R8E	sec 22	3E%3VV%	40.00	5725VV74	80.00	10
Mesquite Valley Road	T20N R8E	sec 25	nene		*		10
Mesquite Valley Road	T20N R8E	sec 25	nesw			10.00	0
Mesquite Valley Road	T20N R8E	sec 25			SE/4SW/4NE/4	10.00	
Iviesquite Valley Road	I ZUN R8E	sec 25	sene	10.00	E/2INE/4	80.00	
Iviesquite Valley Road	T20N R8E	sec 25	SVV/4SVV/4	40.00	*	40.00	
Smith Taic Koad	T20N R8E	sec 25	5E%5VV%	40.00		00.05	
Mesquite Valley Road	T20N R8E	sec 25	sesw		E/25W/4	80.00	
Mesquite Valley Road	T20N R8E	sec 25	nwse		N1/2SE1/4	80.00	
Mesquite Valley Road	T20N R8E	sec 26	sese		* *		10
Mesquite Valley Road	T20N R8E	sec 26	sesw		*		11
Mesquite Valley Road	T20N R8E	sec 26	SWSW		т Ф		11
Smith Talc Road	120N R8E	sec 26	SW14SW14	40.00	T		11
Mesquite Valley Road	T20N R8E	sec 26	swse		S1/2SE1/4	80.00	
Western Talc Road	T20N R8E	sec 27	sesw		*		10
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Furnace Creek Road	T20N R8E	sec 27	nwne		W½E½NW¼NE¼	10.00	**
Furnace Creek Road	T20N R8E	sec 27	swne		E½SW¼NE¼	20.00	
Furnace Creek Road	T20N R8E	sec 27	NE¼NW¼	40.00		40.00	
Western Talc Road	T20N R8E	sec 27	SWSW		S½SW¼	80.00	10
Furnace Creek Road	T20N R8E	sec 27	SW¼NE¼SE¼	10.00		10.00	
Furnace Creek Road	T20N R8E	sec 27	nwse		E½NW¼SE¼	20.00	
Furnace Creek Road	T20N R8E	sec 28	NE¼NW¼	40.00	*		
Furnace Creek Road	T20N R8E	sec 28	nwne		N½NW¼NE¼	20.00	
Furnace Creek Road	T20N R8E	sec 28	NW¼NW¼	40.00	N½NW¼	80.00	
Furnace Creek Road	T20N R8E	sec 29	NE¼NE¼	40.00		40.00	
Furnace Creek Road	T20N R8E	sec 29	NE¼NW¼NE¼	10.00		10.00	
Western Talc Road	T20N R8E	sec 33	sene		*		10
Western Talc Road	T20N R8E	sec 33	senw		*		10
Western Talc Road	T20N R8E	sec 33	nwse		NW¼NE¼	40.00	10
Western Talc Road	T20N R8E	sec 33	swne		S½NE¼	80.00	
Western Talc Road	T20N R8E	sec 33	NE¼NW¼	40.00		40.00	
Western Talc Road	T20N R8E	sec 33	swnw		S½NW¼	80.00	
Western Talc Road	T20N R8E	sec 34	nenw		*		10
Western Talc Road	T20N R8E	sec 34	nwnw		*		10
Western Talc Road	T20N R8E	sec 34	senw		*		10
Western Talc Road	T20N R8E	sec 34	swnw		NW¼	160.00	10
Old Spanish Trail Highway	T21N R8E	sec 25	sese		*		10
Old Spanish Trail Highway	T21N R8E	sec 25	sesw		*		10
Old Spanish Trail Highway	T21N R8E	sec 25	NW¼SW¼	40.00		40.00	
Old Spanish Trail Highway	T21N R8E	sec 25	nesw		E½SW¼	80.00	
Old Spanish Trail Highway	T21N R8E	sec 25	swse		S½SE¼	80.00	
Old Spanish Trail Highway	T21N R8E	sec 26	nese		*		10
Old Spanish Trail Highway	T21N R8E	sec 26	nesw		*		10
Old Spanish Trail Highway	T21N R8E	sec 26	nwsw		N1⁄2SW1⁄4	80.00	
Old Spanish Trail Highway	T21N R8E	sec 26	nwse		N½SE¼	80.00	
Old Spanish Trail Highway	T21N R8E	sec 27	nese		*		10
Old Spanish Trail Highway	T21N R8E	sec 27	sesw		*		10
Old Spanish Trail Highway	T21N R8E	sec 27	NE¼SW¼	40.00		40.00	
Old Spanish Trail Highway	T21N R8E	sec 27	SWSW		S½SW¼	80.00	
Old Spanish Trail Highway	T21N R8E	sec 27	nwse		N1⁄2SE1⁄4	80.00	
Old Spanish Trail Highway	T21N R8E	sec 28	SE¼SE¼	40.00		40.00	
Old Spanish Trail Highway	T21N R8E	sec 31	SE¼SW¼	40.00		40.00	
Old Spanish Trail Highway	T21N R8E	sec 32	sene		*		10
Old Spanish Trail Highway	T21N R8E	sec 32	nwse		*		10
Old Spanish Trail Highway	T21N R8E	sec 32	nwsw		*		11
Old Spanish Trail Highway	T21N R8E	sec 32	swne			80.00	
Old Spanish Trail Highway	T21N R8E	sec 32	NE¼SW¼	40.00		40.00	
Old Spanish Trail Highway	T21N R8E	sec 32	SW1/4SW1/4	40.00	S½SW¼	80.00	
Old Spanish Trail Highway	T21N R8E	sec 32			N1/2SE1/4	80.00	
Old Spanish Trail Highway	T21N R8E	sec 33	nene		*		10
Old Spanish Trail Highway	T21N R8E	sec 33	nenw		*		10
Old Spanish Trail Highway	T21N R8E	sec 33	nwne		N1/2NE1/4	80.00	
Old Spanish Trail Highway	T21N R8E	sec 33	SW¼NW¼	40.00		40.00	
Old Spanish Trail Highway	T21N R8E	sec 33	senw		E½NW¼	80.00	
Mesquite Valley Road	T20N R9E	sec 1	s2		% S 1/2 unsurveyed	320.50	7
Mesquite Valley Road	T20N R9E	sec 2	s2		% S 1/2 unsurveyed	320.50	7
Mesquite Valley Road	T20N R9E	sec 3	sesese		% S 1/2 unsurveyed	320.50	7
Mesquite Valley Road	T20N R9E	sec 6	n2		*		
Mesquite Valley Road	T20N R9E	sec 6	s2		% all unsurveyed	860.00	
Mesquite Valley Road	T20N R9E	sec 7	n2		*		10
Mesquite Valley Road	T20N R9E	sec 7	s2		% all unsurveyed	861.00	
Mesquite Valley Road	T20N R9E	sec 9	se		% all unsurveyed	640.00	
Mesquite Valley Road	T20N R9E	sec 10	nwnw		% N1/2 unsurveyed	320.00	
Mesquite Valley Road	T20N R9E	sec 17	nene		*		10

Mesquite Valley Road	T20N R9E	sec 17	swne		*		10
Mesquite Valley Road	T20N R9E	sec 17	nesw		*		10
Mesquite Valley Road	T20N R9E	sec 17	SWSW		% all unsurveyed	640.00	
Mesquite Valley Road	T20N R9E	sec 18	w2		% all unsurveyed	862.00	
Mesquite Valley Road	T20N R9E	sec 19	se		% all unsurveyed	863.00	
Smith Talc Road	T20N R9E	sec 30	SW¼SW¼	40.00		40.00	
Mesquite Valley Road	T201/2N R9E	sec 31	e2		% all unsurveyed	467.00	
Old Spanish Trail Highway	T21N R9E	sec 3	nesw		*		10
Old Spanish Trail Highway	T21N R9E	sec 3	lot 5			0.00	
Old Spanish Trail Highway	T21N R9E	sec 3	SE¼NW¼	40.00		40.00	
Old Spanish Trail Highway	T21N R9E	sec 3	SW¼SW¼	40.00		40.00	
Old Spanish Trail Highway	T21N R9E	sec 3	sesw		E½SW¼	80.00	
Old Spanish Trail Highway	T21N R9E	sec 9	sese		E½SE¼	80.00	
Old Spanish Trail Highway	T21N R9E	sec 10	nwnw		*		10
Old Spanish Trail Highway	T21N R9F	sec 10	nwsw		*		10
Old Spanish Trail Highway	T21N R9F	sec 10	swnw		W1/2NW1/4	80.00	10
Old Spanish Trail Highway	T21N R9F	sec 10	SWSW		W1/2SW1/2	80.00	
Old Spanish Trail Highway	T21N R9F	sec 16	lot 6		% remove	0.00	
Old Spanish Trail Highway	T21N R9F	sec 16	lot 7		% remove	0.00	
Old Spanish Trail Highway	T21N R9F	sec 16	1007		% nor of tract 37 being the E1/2	340.00	
Old Spanish Trail Highway	T21N R9F	sec 16	lot 1	21.12	, por or trace of being the E1/2	21.12	
Old Spanish Trail Highway	T21N R9F	sec 16	lot 5	19 19		19 18	
Old Spanish Trail Highway	T21N R9F	sec 21	nesw	15.10	*	13.10	10
Old Spanish Trail Highway	T21N R9F	sec 21	lot 2	36.43		36.43	10
Old Spanish Trail Highway	T21N R9F	Sec 21	SW/%NF%	40.00		40.00	
Old Spanish Trail Highway	T21N R9E	Sec 21			F½SW/½	90.00 80.00	
Old Spanish Trail Highway	T21N R9E	Sec 21	NW/%SE%	40.00		40.00	
Mesquite Valley Road	T21N R9E	sec 27	SASA	40.00	*	40.00	11
Mesquite Valley Road	T21N R9E	sec 27	swepw		*		10
Old Spanish Trail Highway	T21N R9E	Sec 28	nenw/		*		10
Mesquite Valley Road	T21N R9E	Sec 28	nwsw		*		10
Old Spanish Trail Highway	T21N R9E	Sec 28	nwpw		N1/NW//	80.00	10
Mesquite Valley Road	T21N R9E	Sec 28	11001100		*	00.00	
Old Spanish Trail Highway	T21N R9E	Sec 28	S\M/1/ NI\M/1/	40.00		40.00	
Mesquite Valley Road	T21N R9E	Sec 28		40.00	\A/1/\S\A/1/	40.00 80.00	
Old Spanish Trail Highway	T21N R9E	sec 20	5W5W		*	80.00	10
Old Spanish Trail Highway	T21N R9E	500 20	SW/1/NF1/	40.00		40.00	10
Old Spanish Trail Highway	T21N R9E	sec 20	Sene	40.00	F1//NF1/	40.00 80.00	
Old Spanish Trail Highway	T21N R9E	sec 20	SE1/ NIM/1/	40.00	L/2INL/4	40.00	
Old Spanish Trail Highway	T21N RQF	Sec 29	nwsw	40.00	N1/3SW1/4	-0.00 80 00	
Mesquite Valley Road	T21N RQF	Sec 20	Sesese		SE%SE%	40.00	
Old Spanish Trail Highway	T21N RQF	sec 20	nese		*	-0.00	10
Old Spanish Trail Highway	T21N R9F	sec 30	SE¼SW¼	40.00		40.00	10
Old Spanish Trail Highway	T21N R9F	sec 30	SW%SF%	40.00		40.00	
Old Spanish Trail Highway	T21N RQF	Sec 30	Sese	40.00	F%SF%	-0.00 80 00	
Old Spanish Trail Highway	T21N R9F	sec 31	lot 1	40.00		40.00	
Old Spanish Trail Highway	T21N R9F	Sec 31	lot 2	11 40		11 40	
Old Spanish Trail Highway	T21N RQF	Sec 31	NF%NW%	40.00		40.00	
Mesquite Valley Road	T21N R9E	sec 32	nene	-0.00	*	40.00	10
Mesquite Valley Road	T21N R9F	sec 32	senw		*		10
Mesquite Valley Road	T21N R9F	sec 32	nesw		*		10
Mesquite Valley Road	T21N R9F	sec 32	nwne		N%NF%	80.00	10
Mesquite Valley Road	T21N R9F	sec 32	SW%NF%	40.00		40.00	
Mesquite Valley Road	T21N R9F	Sec 32	J ¥¥/414L/4	40.00	SE%NW%	40.00	
Mesquite Valley Road	T21N R9F	Sec 32	\$\\\/\$\\/		SW1/4	160.00	
Mesquite Valley Road	T21%N R9F	sec 22	lot 1	15 17	5 •••/+	15 17	
Old Spanish Trail Highway	T21%N R9F	Sec 25	SASA	13.17	*	13.17	10
Old Spanish Trail Highway	T21%N R9F	Sec 25	Sesw		*		10
Old Spanish Trail Highway	T21%N R9F	Sec 25	SW/SW/		5%SW%	20 02	10
Old Spanish Trail Highway	T21%N R9F	Sec 25	SWSP		5%5F%	20.00 20 00	
on opanion man men menyay	144/21111JL	50023	51150		0,101/4	00.00	

					Total acreage =	22,967.64	
Old Spanish Trail Highway	T22N R10E	sec 30	swse		S½SE¼	80.00	
Old Spanish Trail Highway	T22N R10E	sec 30	SE¼SW¼	40.00		40.00	
Old Spanish Trail Highway	T22N R10E	sec 30	lot 6	38.25		38.25	
Old Spanish Trail Highway	T22N R10E	sec 30	sese		*		10
Mesquite Valley Road	T20N R10E	sec 28			% E 1/2 unsurveyed	640.00	
Mesquite Valley Road	T20N R10E	sec 21			% E 1/2 unsurveyed	320.00	
Mesquite Valley Road	T20N R10E	sec 9			% SW1/4 unsurveyed	160.00	
Mesquite Valley Road	T20N R10E	sec 8			% E1/2 unsurveyed	320.00	
Mesquite Valley Road	T20N R10E	sec 6			% S1/2 unsurveyed	316.50	7
Mesquite Valley Road	T20N R10E	sec 5			% S1/2 unsurveyed	320.50	7
Mesquite Valley Road	T22N R9E	sec 34	sese		E½SE¼	80.00	
Mesquite Valley Road	T22N R9E	sec 34	sene		E½NE¼	80.00	
Mesquite Valley Road	T22N R9E	sec 34	nese		*		10
Mesquite Valley Road	T22N R9E	sec 34	nene		*		10
Mesquite Valley Road	T22N R9E	sec 27	SE¼SE¼	40.00	E½SE¼	80.00	
Mesquite Valley Road	T22N R9E	sec 27	NE¼SE¼	40.00	*		
Old Spanish Trail Highway	T21½N R9E	sec 34	swse		W½SE¼	80.00	
Old Spanish Trail Highway	T21½N R9E	sec 34	SE¼SW¼	40.00		40.00	
Old Spanish Trail Highway	T21½N R9E	sec 34	SW¼NE¼	40.00		40.00	
Old Spanish Trail Highway	T21½N R9E	sec 34	nwne		N½NE¼	80.00	
Old Spanish Trail Highway	T21½N R9E	sec 34	nwse		*		10
Old Spanish Trail Highway	T21½N R9E	sec 34	nene		*	20.00	10
Mesquite Valley Road	T21%N R9F	sec 27	Sese	-10.00	F%SF%	80.00	
Old Spanish Trail Highway	T21%N R9F	sec 27	SE%SE%	40.00	*	00.00	
Mesquite Valley Road	T21/2IN R9E	Sec 27	sene		F%NF%	80.00	10
Mesquite Valley Road	T211/N R0E	Sec 27	nese		*		10
Mesquite Volley Dood	T211/N D05	sec 20	SWSE		\$	80.00	10
Old Spanish Trail Highway	T211/N D05	Sec 26	SWSW		5/25VV/4	80.00	
Old Spanish Trail Highway	T21/2N R9E	sec 26	sesw		C1/C1/0//	00.00	10
Old Spanish Trail Highway	T21/2N R9E	sec 26	sese		- *		10
Old Security Teal Highway	T211/NLDOF	000.20			*		10

Notes:

* Denotes rows removed/combined from the description

1	As Policy (Survey Manual Sections 3-33 and 9-90), land descriptions by
	aliquot part must not go beyond a four component description. When
	subdivision of lands into aliquot parts of less than 2 1/2 acres is
	anticipated, an official survey will be prepared and lot numbers assigned.
	In an effort to minimize or eliminate the unnecessary need for survey, the
	land description has been modified to adhere to the standards in the
	Specifications for Descriptions of Land.
2	Aliquot part description combined with Furnace Creek Road
3	Reduced the aliquot part description to better fit with the location of
	China Ranch Road
4	Aliquot part added because the road is locatable here
5	Tecopa Road is included in this aliquot part description
**	also being a portion of M.S. No. 6495
6	Aliquot part description combined with Old Spanish Trail Hwy
7	Per the Specifications for Descriptions of Land, if the lands have not
	been surveyed, the description should conform to the subdivisions
	shown on the approved protraction diagram.
8	Aliquot part description captured in Furnace Creek Road
9	SE1/4NE1/4 contains lands of both federal and private ownership.
	Cannot authorize the entire aliquot
10	Adjoining aliquot parts consolidated.
11	Removed- Private Lands

The following documents were examined for this review:

Description	Location	Approval Date	Source
Original Survey	T20.5N R9E SBM	7/1/1958	BLM
Master Title Plat	T20.5N R9E SBM	5/11/2017	BLM
Original Survey	T20N R6E SBM	3/19/1858	BLM
Original survey and dependent resurvey	T20N R6E SBM	5/12/1880	BLM
Resurvey	T20N R6E SBM	5/15/1935	BLM
Master Title Plat	T20N R6E SBM	3/18/2018	BLM
Original Survey	T20N R7E SBM	3/23/1920	BLM
Master Title Plat	T20N R7E SBM	8/25/2020	BLM
Sec 10 Supplemental Master Title Plat	T20N R7E SBM	5/23/2017	BLM
Original Survey	T20N R8E SBM	12/13/1929	BLM
MS. No. 6495	T20N R8E SBM	6/21/1955	BLM
Master Title Plat	T20N R8E SBM	9/30/2013	BLM
Original Survey	T20N R9E SBM	7/1/1958	BLM
Protraction Diagram No. 19	T20N R9E SBM	6/10/1969	BLM
Master Title Plat	T20N R9E SBM	5/10/2017	BLM
Original Survey	T20N R10E SBM	7/1/1958	BLM
Protraction Diagram No. 19	T20N R10E SBM	6/10/1969	BLM
Master Title Plat	T20N R10E SBM	10/14/2021	BLM
Original Survey	T21.5N R9E SBM	3/18/1940	BLM
Master Title Plat	T21.5N R9E SBM	12/4/2017	BLM
Original Survey	T21N R6E SBM	3/19/1858	BLM
South Boundary Dependent resurvey	T21N R6E SBM	11/30/1942	BLM
Master Title Plat	T21N R6E SBM	6/19/20014	BLM
Original Survey	T21N R7E SBM	3/19/1858	BLM
Amendments of section 18 & 19	T21N R7E SBM	4/20/1883	BLM
Survey, Dependent resurvey, survey of			
tract 37	T21N R7E SBM	3/23/1920	BLM
Master Title Plat	T21N R7E SBM	9/20/2018	BLM
Original Survey	T21N R8E SBM	3/19/1858	BLM
Original survey and dependent resurvey	T21N R8E SBM	3/23/1920	BLM
Master Title Plat	T21N R8E SBM	11/17/2017	BLM
Original Survey	T21N R9E SBM	3/19/1858	BLM
Independent resurvey and survey	T21N R9E SBM	3/18/1940	BLM
Master Title Plat	T21N R9E SBM	5/11/2017	BLM
Original Survey	T22N R6E SBM	3/19/1858	BLM
Master Title Plat	T22N R6E SBM	12/7/2017	BLM
Original Survey	T22N R9E SBM	3/19/1858	BLM
Original Survey	T22N R9E SBM	5/12/1880	BLM
Fractional township survey	T22N R9E SBM	4/30/1935	BLM
Master Title Plat	T22N R9E SBM	illegible date	BLM
Original Survey	T22N R10E SBM	3/19/1858	BLM
Original Survey	T22N R10E SBM	5/12/1879	BLM
Independent resurvey and survey	T22N R10E SBM	4/26/1935	BLM

Master Title Plat	T22N R10E SBM	illegible date	BLM
Original Survey (Cancelled)	T24N R4E SBM	3/19/1858	BLM
Protraction Diagram No. 27	T24N R4E SBM	3/16/1970	BLM
Master Title Plat	T24N R4E SBM	8/22/2019	BLM
Original Survey	T24N R5E SBM	3/19/1858	BLM
Master Title Plat	T24N R5E SBM	7/7/2008	BLM
Original Survey	T25N R5E SBM	3/19/1858	BLM
Dependent resurvey and subdivision	T25N R5E SBM	7/31/2002	BLM
Master Title Plat	T25N R5E SBM	7/20/2016	BLM
Original Survey	T25N R6E SBM	3/19/1858	BLM
Original Survey	T25N R6E SBM	5/12/1880	BLM
Resurvey	T25N R6E SBM	5/15/1935	BLM
Master Title Plat	T25N R6E SBM	7/27/1995	BLM
Original Survey	T26N R5E SBM	3/19/1858	BLM
Original Survey	T26N R5E SBM	5/12/1879	BLM
Resurvey	T26N R5E SBM	5/17/1935	BLM
Dependent resurvey	T26N R5E SBM	11/30/1942	BLM
Master Title Plat	T26N R5E SBM	9/16/2016	BLM
Original Survey	T26N R6E SBM	3/19/1858	BLM
Resurvey	T26N R6E SBM	5/13/1935	BLM
Master Title Plat	T26N R6E SBM	illegible date	BLM

The following description is formatted for the Federal Register:

LAND DESCRIPTION

San Bernardino Meridian, California

- T. 24 N., R. 4 E., sec. 1, unsurveyed, excepting M.S. No. 4856 & M.S. No. 2440; sec. 2, unsurveyed.
- T. 24 N., R. 5 E.,
 - sec. 6, lot 1 of SW1/4NW1/4 and lots 2 of N1/2NW1/4.
- T. 25 N., R. 5 E.,
 - sec. 12, SE¹/₄SW¹/₄ and SE¹/₄;
 - sec. 13, N¹/₂NW¹/₄;
 - sec. 14, SW¹/₄NE¹/₄, E¹/₂NE¹/₄, and NW¹/₄SE¹/₄;
 - sec. 22, SW¹/₄SE¹/₄;
 - sec. 27, NW¹/₄NE¹/₄, NE¹/₄NW¹/₄, and W¹/₂NW¹/₄;
 - sec. 28, $S^{1/2}NE^{1/4}$, $SW^{1/4}SW^{1/4}$, $E^{1/2}SW^{1/4}$, and $NW^{1/4}SE^{1/4}$;
 - sec. 29, SE¹/₄SE¹/₄;
 - sec. 31, lot 1 of SW1/4, lot 2 of SW1/4SW1/4, NE1/4SE1/4, and W1/2SE1/4;
 - sec. 32, N¹/₂NE¹/₄, SW¹/₄NE¹/₄, SW¹/₄NW¹/₄, E¹/₂NW¹/₄, and NW¹/₄SW¹/₄.

T. 26 N., R. 5 E.,

- sec. 10, lots 4 and 6 and SW¹/₄SE¹/₄;
- sec. 15, NW¹/₄NE¹/₄, NE¹/₄NW¹/₄, S¹/₂NW¹/₄, and NW¹/₄SW¹/₄; sec. 21, NW¹/₄NE¹/₄.
- T. 20 N., R. 6 E., sec. 1, N¹/₂NE¹/₄, unsurveyed.
- T. 21 N., R. 6 E.,
 - sec. 5, NW¹/₄SW¹/₄ and S¹/₂SW¹/₄;
 - sec. 6, lot 1 of NE^{1/4}, lot 2 of NW^{1/4}NE^{1/4}, lot 2 of NE^{1/4}NW^{1/4}, and NE^{1/4}SE^{1/4};
 - sec. 8, NW1/4NE1/4, SW1/4NE1/4, SE1/4NE1/4, NE1/4NW1/4, and NE1/4SE1/4;
 - sec. 9, SW1/4NW1/4SW1/4, SW1/4SW1/4, and SW1/4SE1/4SW1/4;
 - sec. 15, SW1/4NW1/4, N1/2SW1/4, SE1/4SW1/4, SW1/4SE1/4, and SW1/4SE1/4SE1/4;
 - sec. 22, NE¹/₄NE¹/₄;
 - sec. 23, SW¹/₄NE¹/₄, SW¹/₄SE¹/₄NE¹/₄, SW¹/₄NW¹/₄, NW¹/₄NW¹/₄, NE¹/₄SW¹/₄NW¹/₄, SE¹/₄NW¹/₄, NE¹/₄SE¹/₄NW¹/₄, NE¹/₄SE¹/₄NW¹/₄, NE¹/₄SE¹/₄NW¹/₄, NE¹/₄SE¹/₄NW¹/₄, SE¹/₄NW¹/₄, NE¹/₄SE¹/₄NW¹/₄, NE¹/₄SE¹/₄NW¹/₄, NE¹/₄SE¹/₄NW¹/₄, NE¹/₄SW¹/₄NW¹/₄, SE¹/₄NW¹/₄, NE¹/₄SE¹/₄NW¹/₄, NE¹/₄SW¹/₄NW¹/₄, NE¹/₄SW¹/₄, NE¹/₄SW¹/₄NW¹/₄, NE¹/₄SW¹/₄NW¹/₄, N¹/₄NW¹/₄, N¹/₄NW¹/₄, N¹/₄NW¹/₄, N¹/₄NW¹/₄, N¹/₄NW¹/₄, N¹/₄NW¹/₄, N¹/₄NW¹/₄, N¹/₄, N¹/₄NW¹/₄, N¹/₄, N¹/₄NW¹/₄, N¹/₄, N¹/₄,
 - sec. 24, NW¹/₄SW¹/₄, S¹/₂SW¹/₄, and S¹/₂SE¹/₄;
 - sec. 36, SE¹/₄SW¹/₄ and SW¹/₄SE¹/₄.
- T. 22 N., R. 6 E.,
 - sec. 31, lot 1 of SW1/4 and lots 2 of SW1/4;
- T. 25 N., R. 6 E.,
 - sec. 4, lot 1 of NW1/4, lots 2 of NW1/4, and lot 4.
 - sec. 5, lot 1 of NE1/4, SW1/4SW1/4, E1/2SW1/4, and N1/2SE1/4;
 - sec. 6, SE¹/₄SE¹/₄;
 - sec. 7, lot 1 of NW1/4, lot 2 of SW1/4NW1/4, lot 2 of NW1/4SW1/4, N½NE¼, and SW¼NE¼.
- T. 26 N., R. 6 E.,
 - sec. 33, lot 3.

- T. 20 N., R. 7 E.,
 - sec. 1, SE¹/₄SW¹/₄ and SW¹/₄SE¹/₄;
 - sec. 3, lots 3 and 4, SE¹/₄NW¹/₄, NE¹/₄NE¹/₄SW¹/₄, and W¹/₂SE¹/₄;
 - sec. 4, SE¹/₄NW¹/₄, E¹/₂SW¹/₄, and SW¹/₄SE¹/₄;
 - sec. 5, SW¹/₄SW¹/₄;
 - sec. 6, lots 4 and 5, SE¹/₄NW¹/₄, NE¹/₄SW¹/₄, NW¹/₄SE¹/₄, and S¹/₂SE¹/₄;
 - sec. 8, N¹/₂NW¹/₄, SW¹/₄NE¹/₄, S¹/₂SE¹/₄NE¹/₄, and SE¹/₄NW¹/₄;
 - sec. 9, NW¹/₄NE¹/₄, N¹/₂SW¹/₄NE¹/₄, and S¹/₂NW¹/₄;
 - sec. 10, NE¹/₄NE¹/₄, NE¹/₄NW¹/₄NE¹/₄, S¹/₂NE¹/₄, SE¹/₄SE¹/₄NE¹/₄SW¹/₄,

NE¹/₄SE¹/₄NE¹/₄SW¹/₄, NW¹/₄NW¹/₄SE¹/₄SW¹/₄, S¹/₂NE¹/₄SE¹/₄, S¹/₂NE¹/₄SE¹/₄SE¹/₄, and S¹/₂NW¹/₄SE¹/₄SE¹/₄;

- sec. 11, SW¹/₄NE¹/₄, E¹/₂NE¹/₄, SE¹/₄NW¹/₄, NE¹/₄SW¹/₄, NW¹/₄SW¹/₄, SW¹/₄SW¹/₄, and SW¹/₄SE¹/₄SW¹/₄;
- sec. 12, $N^{1/2}NW^{1/4}$;
- sec. 13, $SW^{1/4}SW^{1/4}SW^{1/4}$;
- sec. 14, SW1/4NE1/4, NE1/4NW1/4, NE1/4NW1/4NW1/4, SE1/4NW1/4, SW1/4NE1/4SE1/4,
- NW¹/₄SE¹/₄, and SE¹/₄SE¹/₄;
- sec. 23, SE¹/₄SE¹/₄SE¹/₄;
- sec. 24, N¹/₂NE¹/₄, NE¹/₄SE¹/₄NE¹/₄, N¹/₂NW¹/₄, SW¹/₄NW¹/₄, and W¹/₂SW¹/₄,
- sec. 26, N¹/₂NE¹/₄NE¹/₄, SW¹/₄NE¹/₄, SE¹/₄SW¹/₄NE¹/₄, and W¹/₂SE¹/₄NE¹/₄.
- T. 21 N., R. 7 E.,
 - sec. 19, lots 7 and 8, SE¹/₄SW¹/₄, and portions of tract 37;
 - sec. 28, SW¹/₄SW¹/₄ and SW¹/₄SE¹/₄SW¹/₄;
 - sec. 29, lots 1 thru 3, E¹/₂SE¹/₄, and portions of tract 37;
 - sec. 30, portions of tract 37;
 - sec. 33, SW¹/₄NE¹/₄, SW¹/₄SE¹/₄NE¹/₄, NE¹/₄NW¹/₄, NE¹/₄NW¹/₄, and SE¹/₄SW¹/₄;
 - sec. 34, NW¹/₄SW¹/₄ and S¹/₂SW¹/₄.
- T. 20 N., R. 8 E.,
 - sec. 6, lots 3, 4, and 5;
 - sec. 19, lot 2, SW¹/₄SE¹/₄NW¹/₄, NE¹/₄SW¹/₄, SW¹/₄NE¹/₄SE¹/₄, NW¹/₄SE¹/₄, and SE¹/₄SE¹/₄;
 - sec. 20, SW¹/₄SW¹/₄, SE¹/₄SW¹/₄, and S¹/₂SW¹/₄SE¹/₄;
 - sec. 21, S¹/₂NE¹/₄SE¹/₄ and S¹/₂SE¹/₄;
 - sec. 22, S¹/₂NW¹/₄SW¹/₄ and S¹/₂SW¹/₄;
 - sec. 25, SE¹/₄SW¹/₄NE¹/₄, E¹/₂NE¹/₄, SW¹/₄SW¹/₄, E¹/₂SW¹/₄, and N¹/₂SE¹/₄;
 - sec. 26, S¹/₂SE¹/₄;
 - sec. 27, W¹/₂E¹/₂NW¹/₄NE¹/₄, E¹/₂SW¹/₄NE¹/₄, NE¹/₄NW¹/₄, S¹/₂SW¹/₄, SW¹/₄NE¹/₄SE¹/₄,
 - and E¹/₂NW¹/₄SE¹/₄;
 - sec. 28, N¹/₂NW¹/₄NE¹/₄, and N¹/₂NW¹/₄;
 - sec. 29, NE¹/₄NE¹/₄ and NE¹/₄NW¹/₄NE¹/₄;
 - sec. 33, NW¹/₄NE¹/₄, S¹/₂NE¹/₄, NE¹/₄NW¹/₄, and S¹/₂NW¹/₄;
 - sec. 34, NW¹/₄.
- T. 21 N., R. 8 E.,
 - sec. 25, NW¹/₄SW¹/₄, E¹/₂SW¹/₄, and S¹/₂SE¹/₄;
 - sec. 26, N¹/₂SW¹/₄ and N¹/₂SE¹/₄;
 - sec. 27, NE¹/₄SW¹/₄, S¹/₂SW¹/₄, and N¹/₂SE¹/₄;
 - sec. 28, SE¹/₄SE¹/₄;
 - sec. 31, SE¹/₄SW¹/₄;

sec. 32, S¹/₂NE¹/₄, NE¹/₄SW¹/₄, S¹/₂SW¹/₄, and N¹/₂SE¹/₄; sec. 33, N¹/₂NE¹/₄, SW¹/₄NW¹/₄, and E¹/₂NW¹/₄.

- T. 20 N., R. 9 E.,
 - sec. 1, S¹/₂, unsurveyed;
 - sec. 2, S¹/₂, unsurveyed;
 - sec. 3, S¹/₂, unsurveyed;
 - sec. 6, unsurveyed;
 - sec. 7, unsurveyed;
 - sec. 9, unsurveyed;
 - sec. 10, N¹/₂, unsurveyed;
 - sec. 17, unsurveyed;
 - sec. 18, unsurveyed;
 - sec. 19, unsurveyed;
 - sec. 30, SW¹/₄SW¹/₄, unsurveyed.
- T. 20¹/₂ N., R. 9 E.,

sec. 31, unsurveyed.

- T. 21 N., R. 9 E.,
 - sec. 3, lot 5, SE¹/₄NW¹/₄, SW¹/₄SW¹/₄, and E¹/₂SW¹/₄;
 - sec. 9, E¹/₂SE¹/₄;
 - sec. 10, W¹/₂NW¹/₄ and W¹/₂SW¹/₄;
 - sec. 16, lots 1 and 5 and a portion of tract 37;
 - sec. 21, lot 2, SW1/4NE1/4, E1/2SW1/4, and NW1/4SE1/4;
 - sec. 28, N¹/₂NW¹/₄, SW¹/₄NW¹/₄, and W¹/₂SW¹/₄;
 - sec. 29, SW¹/₄NE¹/₄, E¹/₂NE¹/₄, SE¹/₄NW¹/₄, N¹/₂SW¹/₄, and SE¹/₄SE¹/₄;
 - sec. 30, SE¹/₄SW¹/₄, SW¹/₄SE¹/₄, and E¹/₂SE¹/₄;
 - sec. 31, lots 1 and 2 and NE¹/₄NW¹/₄;
 - sec. 32, N¹/₂NE¹/₄, SW¹/₄NE¹/₄, SE¹/₄NW¹/₄, and SW¹/₄.

T. 21¹/₂ N., R. 9 E.,

- sec. 22, lot 1;
- sec. 25, S¹/₂SW¹/₄ and S¹/₂SE¹/₄;
- sec. 26, S¹/₂SW¹/₄ and S¹/₂SE¹/₄;
- sec. 27, E¹/₂NE¹/₄ and E¹/₂SE¹/₄;
- sec. 34, N¹/₂NE¹/₄, SW¹/₄NE¹/₄, SE¹/₄SW¹/₄, and W¹/₂SE¹/₄.
- T. 22 N., R. 9 E.,
 - sec. 27, $E^{1/2}SE^{1/4}$;
 - sec. 34, $E^{1/2}NE^{1/4}$ and $E^{1/2}SE^{1/4}$.
- T. 20 N., R. 10 E.,
 - sec. 5, S¹/₂, unsurveyed;
 - sec. 6, S¹/₂, unsurveyed;
 - sec. 8, $E^{1/2}$, unsurveyed;
 - sec. 9, SW¹/₄, unsurveyed;
 - sec. 21, E¹/₂, unsurveyed;
 - sec. 28, E¹/₂, unsurveyed;
- T. 22 N., R. 10 E.,

sec. 30, lot 6, SE¹/₄SW¹/₄, and S¹/₂SE¹/₄.

The areas described aggregate 22,967.64 acres.

END OF LAND DESCRIPTION

Respectfully, Ashley Holshue Cadastral Land Surveyor 760-567-5066







05

24N 5E SRM 03 02 192 01 24N 01 USDA, USGS, AeroGRID, IGN, and the GIS User Community



UTM GRID AND 2022 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

T 20 N Rs 6 & 7E









UTM GRID AND 2022 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Tps 25 & 26 N R 6 E

Ν	IESW	NWSE	NESE	L2		NWSE	L7	L1					1000		Sec.
	SESW	SWSE	SESE	L2	L1 3	0 _{SWSE}	SESE	29 L2	L3						
٢	JENW	NWNE	NENE	L2	L1	NWNE	NENE	NWNW	L2	L1	6)			
	SENW	SWNE	SENE	L2	2	SWNE 2	6N 6E sene	SBM swnw	SENW	L3	L4	J	E.		
٢	NESW	NWSE	NESE	L2	0	NWSE	NESE	NWSW	NESW	NWSE	L5	L1	Ca)		1
	SESW	SWSE	SESE	L2	60	SWSE	SESE	swsw	SESW	SWSE	SESE	33 L2	13	/	
Լ 2	L2	L2	L2	L2	L2	L2	L2	L2	L2	L2	L2	Ľ2	L4	L3	
Լ 1		L1	L1	L1	06	L1		L1	05	L1		L1	SWNE	L.5	L3
	NWSE	NESE	L2	1.4	NWSE	NESE	NWSW	NESW	25N 6		NWSV	0 V NESW	4 NWSE	NESE	L5 03
	SWSE	SESE	L2		SWSE	SESE	STP	V SESW	SWSE	SESE	SWSW	SESW	SWSE	SESE	L6
	NWNE	NENE	L2		NWNE	NENE		N NENW	/ NWNE	NENE	NWNW	NENW	NWNE	NENE	NWNW
	SWN	E SEN	E L2		SWNE	SENE	SWN	W SENW	SWNE	SENE	SWNW	SENW	SWNE	SENE	SWNW
	NWSE	NESE	L2		NWSE	NESE	NWS	W NESW	/ NWSE	NESE	NWSW	NESW	NWSE	NESE	NWSW
	swse 25N 5	sese	L2		SWSE	SESE	SWS	W SESW	SWSE	SESE	swsw	SESW	SWSE	SESE	SWSW
	NWNE	NENE	L2	1.1	NWNE	NENE		V NENW	NWNE	NENE	NWNW	/ NENW	NWNE	NENE	NWNW
	SWNE	sene 13	L2		swne 18	SENE	SWNV	V SENW	swne 17	SENE	SWNW	senw	SWNE	SENE	swnw 15
	NWSE	NESE	L2	L1	NWSE	NESE	NWSW	V NESW	NWSE	NESE	NWSW	NESW	NWSE	NESE	NWSW
	SWSE	SESE	L2		SWSE	SESE	swsv	v sest	irce: Ęsri _z DA. USGS	Maxa <u>r</u> ,Geo AeroGRID	Eye, Ea	rthstar Geog	raphics, C Jser Comr	NES/Airbo	us <u>DS</u> .w



T 21 N R 7 E

Noonday Street

Townships

Sections

Lots

Aliquot Parts

Special Surveys selection

UTM GRID AND 2022 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET









UTM GRID AND 2022 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET





Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community







Old Spanish Trail Highway

- Mesquite Valley Road
 - Townships
 - Sections

Lots

Aliquot Parts

T21.5N R9E **T22N R9E T22N R10E**

21	SESE	swsw 8	22	SWSE	SESE	SWSW	SESW	SWSE	SESE	SWSW	SESW	SWSE	SESE	L 10	NESW 0	NWSE	NESE	NWSW
			SESW				(23		24			L11	SESW	SWSE	SESE	swsw
	NENE	NWNW	NENW	NWNE	NENE	NWNW	NENW	NWNE	NENE	NWNW	NENW	NWNE	NENE				000	
				-		1			10000		-		4	L1	NENW	NWNE	NENE	NWNW
	SENE	SWNW	SENW	SWNE	SENE	SWNW	SENW	SWNE	SENE	SWNW	SENW	SWNE	SENE					1980
	28		2	7			2	6	1	5.000	2	25		L2	SENW	SWNE	SENE	SWNW
	NESE	NWSW	NESW	NWSE	NESE	NWSW	NESW	NWSE	NESE	NWSW	NESW	NWSE	NESE		1	8		17
						SWSW	SESW	SWSE	Sec.	1			<u></u>	L3	NESW	NWSE	NESE	NWSW
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										3500 CO		1 2 2 2 2 2 2	All and a second	L3	NENW	NWNE	NENE	NWNW
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	33		(34	Щ.		8	35			3	36 — —		L4	SENW	SWNE	SENE	SVINV
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					LIN					376		C. Marco	No.	LJ	22N.1	OF SE	SM	NNOW
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k	NESE	NWSW	NESW	NWSE	NESE	NWSW	NESW	NWSE	NESE	NWSW	NESW	NWSE	NESE	L5	NESW	NWSE	NESE	NWSW
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	1	2000					10			Real Property in				and and				1
wN	E SENE	SWNW	SENW	SWNE	SENE	SWNW	SENW	SWNE	SENE	SWNW	SENW	SWNE	SENE	L4	SENW	SWNE	SENE	SWNW
	33			34			-	35	12200		ę	36			ę	31		32
ws	E NESE	NWSW	/ NESW	NWSE	NESE	NWSW	NESW	NWSE	NESE	NWSW	NESW	NWSE	NESE	L5	NESW	NWSE	NESE	NWSW
				/		25m		1		134 P				and the second		1 - 20)		27
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			11000000	4			2	12000										1202
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UTM GRID AND 2022 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SWSF



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, 00 USDA, USGS, AeroGRID, IGN, and the GIS User Community

HANGER EFH24 EASI FILE CORP IRVINE CA



SHEET I OF 4. PARCEL MAP NO. 269 DOCUMENT NO. 89-4560_ FILED THIS 30 DAY OF BEING A DIVISION OF THE NORTHEAST 14 OF SECTION 9, THE <u>______, 1989, AT</u> WEST VE OF THE NORTHWEST V4, THE SOUTHEAST V4 OF THE 10:19 A.M. IN BOOK P.M.4 OF NORTHWEST 14 AND THE NORTHWEST 14 OF THE GOUTHWEST PARCEL MAPS AT PAGE 14 OF SECTION 10, TOWNSHIP 20 NORTH, RANGE 7 EAST, 1-4 , AT THE REQUEST GAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED OF THE OWNERS. TERRITORY OF THE COUNTY OF INYO, STATE OF CALIFORNIA. BEVERLY J. HARRY INYO COUNTY RECORDER SIGNATURE OMISSIONS OWNER'S STATEMENT THE SIGNATURE OF SOUTHERN CALIFORNIA WE HEREBY STATE THAT WE ARE THE OWNERS OF THE LANDS EDISON COMPANY OWNERS OF EASEMENTS FOR INCLUDED WITHIN THE COLORED BORDERLINE, AND WE CONSENT POLES, POLE LINES, ABOVE GROUND ENCLOSURES, TO THE PREPARATION AND FILING OF THE ANNEXED MAP AND MARKERS AND CONCRETE PADS AS DISCLOSED BY SUBDIVISION WE HEREBY DEDICATE FOR PUBLIC USE, ALL STREETS, O.R. 156 / 571, O.R. 193 / 524 AND INSTRUMENT NO. HIGHWAYG OR OTHER PUBLIC WAYS AS SHOWN ON THIS MAP. 87-4247 HAVE BEEN OMITTED UNDER SECTION ARC-LAS FLORES LIMITED PARTNERSHIP, A GEORGIA LIMITED PARTNERSHIP 66436 OF THE SUBDIVISION MAP ACT. IT'S INTEREST CANNOT RIPEN INTO FEE. CERK JOHN R. PLUNKETT, JR. VICE PRESIDENT

STATE OF CALIFORNIA 6.6. COUNTY OF Orange June 7, 1989 BEFORE ME, THE UNDERSIGNED, a

A NOTARY PUBLIC IN AND FOR GAID STATE, PERSONALLY APPEARED John R. Plunkett Jr. PERGONALLY KNOWN TO ME OR PROVED TO ME ON THE BASIS OF SATISFACTORY EVIDENCE TO BE THE PERSON WHO EXECUTED THE WITHIN INSTRUMENT AS THE VICE PRESIDENT, PERSONALLY KNOW TO ME AND _____ OR PROVED TO ME ON THE BASIS OF GATISFACTORY EVIDENCE TO BE THE PERSON WHO EXECUTED THE WITHIN INSTRUMENT AS THE - SECRETARY OF THE CORPORATION THAT EXECUTED THE WITHIN INSTRUMENT AND ACKNOWLEDGED TO ME THAT

THE SIGNATURES OF PACIFIC TELEPHONE AND TELEGRAPH COMPANY OWNERS OF AN EASE-MENT FOR POLE LINES AS DISCLOSED BY O.R. 83/401 HAVE BEEN OMITTED UNDER SECTION 66436 OF THE SUBDIVISION MAP ACT. IT'S INTEREST CANNOT RIPEN INTO FEE.

SUCH CORPORATION EXECUTED THE WITHIN INSTRU-MENT PURGUANT TO ITS BY-LAWS OR A REGOLUTION OF ITS BOARD OF DIRECTORS.

WITNESS MY HAND AND OFFICAL SEAL.

SIGNATURE anne R. Downs



SURVEYOR'S STATEMENT

THIS MAP WAS PREPARED BY ME OR UNDER MY DIRECTION AND IS BASED UPON A FIELD SURVEY IN CONFORMANCE WITH THE REQUIREMENTS OF THE SUBDIVISION MAP ACT AND LOCAL ORDINANCE AT THE REQUEST OF ARC LAS FLORES GROUP IN FEBRUARY 1989. I HEREBY STATE THAT THIS PARCEL MAP SUBSTANTIALLY CONFORMS TO THE APPROVED OR CONDITIONALLY APPROVED TENTATIVE MAP AND THAT ALL MONUMENTS ARE OF THE CHARACTER AND OCCUPY THE POSITIONS INDICATED, AND THAT THE MONUMENTS ARE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRACED.

prasan

HAROLD / E. ROBINSON P.L.S. 3069 EXPIRES: 6-30-92



THIS MAP CONFORMS WITH THE REQUIREMENTS OF THE SUBPIVISION MAP ACT AND LOCAL ORDINANCE.

DATED: 6-30-89 SIGNED: Jame 94. Gooch.



SURVEYORS NOTES

- I.BASIS OF BEARINGS: THE EAST LINE OF THE NORTHWEST 1/4 OF SECTION 10 AS SHOWN ON COUNTY GURVEYOR'S MAP #2 BEARING, "NOº 02'23"E"
- 2. --- INDICATES MONUMENTS FOUND AS NOTED HEREON.
- 3. O- INDICATES GET I''I.P. W/PLASTIC CAP STAMPED P.L.S. 3069, UNLESS OTHER-WIGE NOTEO.
- 4. () INDICATES RECORD DATA PER COUNTY SURVEYOR'S MAP # 2.
- 5. SET I" I.P. W/PLASTIC CAP STAMPED P.L.G. 3069 AT ALL & AND R/W LINE B.C.'S & E.C.'S AS SHOWN HEREON.
- 6. THE LOCATION OF THE 20 ACRE PARCEL FOR STATION GROUNDS IN THE SEVA OF THE NW 14 OF SEC. 10 AS NOTED IN ITEM #4, TITLE REPORT NO. 36/79 15 INDETERMINATE.

DULY SECONDED ON THE MOTION OF SUPERVISOR IRWIN AND CARRIED, IT IS ORDERED THAT PARCEL MAP 260 BE AND THE GAME IS HEREBY APPROVED, AND THAT ALL STREETS, HIGH-WAYS, AND OTHER PUBLIC WAYS SHOWN ON SAID MAP AND THEREIN OFFERED FOR DEDICATION ARE HEREBY ACCEPTED ON BEHALF

HANGER EFH24 EASI FILE CORP INVINE CA





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EASI FILE CORP IRVINE CA HANGER EFH24

PArcel	MA	0 Z6	9	4 of 4
Boat	4.	Pask	પ	A





	ORP. IRMINE, CA	CPH 24
RS		07-005
Book	16Page	ЧЧ

a harrow



RECORD OF SURVEY MAP: BOOK 16, P,

PAGE 44, IN



	EASI FILE CORP IRVINE. CA	HANGER EFH24	
	30219	50	
	BK-2 Pg. 19		
N. 16 (1996) - 1996 - 1997 - 1997 - 1997	۲ ۲		
			293s
	UNINCORPORATED TERRITOR	٤Y	Filed at the request of Bloss Flins
	I INS ACDES		Sept. 18. 1961 at 11:33 A.M in Subdivision
		2	MAPS, Book 2, Page 19.
NE 1/4 S	W 4 SECTION 33, T2IN, R7E,	SB BEM	
	961 SCALE	1" = 100'	Donald L. Bell, Recorder
	GALE O. KENYON CIVIL ENGINEER		by Vernon & Mide
			Deputy
		M	
		FOUND N 1/4 COR	USGLO IF & B.C. 1916 SEC. 33, T2IN, R7E
FOUND PIPE PLUGGED WITH CO \$ BRASS CAP OBVIOUSLY CORR ACCEPTED AS USGLO. W'4 CON	NCRETE ODED OFF . SEC 33,		
T2IN, R7E			FOUND US.G.L.O. I.P & B.C. 1916
	N 89° 58'E 2698.68'	SET 2" I.	ETAGGED ETA COR SEC 33, TEIN, RTE
K	335.06'	83.67	
	S'RUE.		
			UNTY SURVEYOR'S CERTIFICATE: I HEREBY CERTIFY THAT I HAVE EXAMINED THE ANNEXED
			P, THAT THE SUBDIVISION SHOWN THEREON IS SUBSTANTIALLY SAME AS IT APPEARED ON THE TENTATIVE MAP AND ANY PROVED ALTERATIONS THEREOF AND THAT ALL THE
		PR	UNISIONS OF THE SUBDIVISION MAP ACT AND INYO
	303.36' 8 86° 50' 30"W		RECT.
			a.a. Brinly
	LOT 2		COUNTY SURVEYOR
			CINEED'S CEPTIEICATE
	311.54		I, GALE O KENYON, HEREBY CERTIFY THAT I AM A
			D THAT THIS MAP, CONSISTING OF I SHEET IS A TRUE AND MPLETE REPRESENTATION OF A SURVEY MADE UNDER
	LOT 3	SHO	DWN HEREON ARE OF THE CHARACTER AND OCCUPY THE
	N 1.088		TH TIME AS IS AGREED UPON UNDER SECTION HEAGE OF THE INESS AND PROFESSIONS CODE AND ARE OR WILL BE FICIENT TO ENABLE THE SURVEY TO BE RETRACED.
		DAT	ED July 24,1961 Q 0
	0 319.73	12,	REGISTERED CIVIL ENGINEER NO. 200
	N I	SH B	
	LOT 4	F V O	VNER'S CERTIFICATE:
	v 1.134 v		WE HEREBY CERTIFY THAT WE ARE ALL AND THE ONLY PARTIES
	25'BSL R 15' 4F		SHOWN ON THE ANNEXED MAP AND WE CONSENT TO THE EPARATION AND RECORDATION OF THIS FINAL MAP AND WE REAV DEDICATE TO THE COUNTY OF INVO FOR PUBLIC
			ALL PUBLIC THOROUGHFARES SHOWN ON SAID MAP

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