GEODE ENVIRONMENTAL

PHASE I CULTURAL RESOURCES ASSESSMENT

1555 WILD ROSE ROAD, TRONA, INYO COUNTY, CALIFORNIA
15-ACRE± SITE APN 038-300-07-00

APRIL 2021

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U.S. GEOLOGICAL SURVEY 7.5' TRONA EAST QUADRANGLE, TOWNSHIP 24 SOUTH, RANGE 43 EAST, A PORTION OF SECTION 28, S.B.B.&M

TYPE OF STUDY: PHASE 1 CULTURAL RESOURCES ASSESSMENT, INYO COUNTY, KAWAIISU AND OWENS VALLEY PAIUTE

PREPARED BY:

GEŌDE ENVIRONMENTAL INC.
ESSRA MOSTAFAVI, MA
DR. ALAN G. GOLD, RPA # 989105
SHANE DAVIS, RPA # 17250

684 AUTUMN LEAVES CIRCLE
BISHOP, CALIFORNIA 93514
760.428.8068
EMAIL: INFO@GEODEENVIRONMENTAL.COM

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EXECUTIVE SUMMARY

This Phase 1 Cultural Resources Assessment has been prepared to support Inyo County's California Environmental Quality Act (CEQA) environmental document findings related to cultural resources for the Pinnacle Growth Inc., cannabis cultivation project. The Pinnacle Growth Inc. project is located on a 15-acre± segment of 80-acre Inyo County APN 038-300-07, located at 1555 Trona Wildrose Road, Trona, CA. The project area is located east of Trona Wildrose Rd. and north of Trona Airport Rd. The legal description for the subject property is Township 24 South, Range 43 East, a portion of Section 28, S.B.B.&M. (Figures 1-7). Cultural resource specialists, Dr. Alan Garfinkel Gold RPA No. 989105, and Shane Davis M.A, RPA No. 17250, conducted investigations in preparation of this Phase 1 Cultural Resources Assessment. This document was drafted by Geōde Environmental's CEO, Essra Mostafavi, MA; Alan Garfinkel Gold, Ph.D., RPA No. 989105; and Shane Davis M.A., RPA No. 17250.

The California Bureau of Cannabis Control (BCC), the agency regulating commercial cannabis licenses, has issued Pinnacle Growth Inc. a Type 12 Microbusiness license (License Number 5E-001) allowing for Indoor Cultivation greater than 5,000 sqft, distribution, Manufacturing Level 1 (type 6 non-volatile), and Manufacturing Level 2 (Type 7 volatile extraction).

The project will be developed in 4 phases:

- Phase 1- Development of 2,300 sq ft small buildings for the nursery and a larger 2,300 sq ft greenhouse for the mother plants.
- Phase 2- Will consist of a large 10,000 sq ft greenhouse for cultivation. Wholesale distribution and non-storefront delivery will also begin in Phase 2.
- Phase 3- The addition of five 10,000 sq ft greenhouses increasing cultivation output.
- Phase 4- The addition of manufacturing level 1(type 6 non-volatile) and manufacturing level 2 (type 7 volatile) labs for infusing products and for concentrate production.

This Phase 1 Cultural Resources Assessment in compliance with CEQA and Public Resources Code § 21080.3.1 requirements, entails a cultural resources records search, pedestrian field survey, and Native American consultation and coordination per AB 52 (Gatto, 2014). Native American individuals and Tribes were contacted for their comments on potential impacts to Tribal Cultural Resources (cultural resources) under

AB 52 (Gatto, 2014). These communications and the results of the outreach program are provided in Appendix B. Field survey investigations were initially conducted on March 6, 2021 by Shane Davis, M.A., RPA No. 17250, and were supervised by Alan Garfinkel Gold, Ph.D., RPA No. 989105. No shovel test pits were excavated within the proposed project footprint.

A cultural resource record search was conducted by the Eastern Information Center (EIC), housed at the University of California Riverside, Department of Anthropology, and received on February 26, 2021. The archival records search included the project area and a one-mile buffer. Within this search area, there were four prior cultural resources reports that had been completed. Also, a total of four cultural resources sites had been previously documented within the project and its one-mile buffer.

The Native American Heritage Commission (NAHC) was contacted regarding the project and a Sacred Lands File Search was completed. The NAHC research yielded negative results for Sacred Sites, and provided a list of potentially interested and affiliated Native American individuals and groups. All of these parties, identified by the NAHC, were contacted for further information and potential concerns regarding cultural resources within the project area (Appendix B).

No cultural resources were identified during the pedestrian survey. Therefore, we recommend cultural resources compliance approval under the provisions of CEQA be provided. To ensure there are no potential project impacts, the following avoidance measures are recommended for project activities:

If previously undocumented cultural resources are identified during construction activities, a qualified archaeologist must be contacted to assess the nature and significance of the find. Construction activities shall be diverted until the significance of the find is assessed. If human remains are encountered during the undertaking, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of the origin and disposition of the remains pursuant to Public Resources Code Section 5097.98.

The Inyo County Coroner must be notified immediately when human remains are discovered. If the remains are determined to be prehistoric or protohistoric human remains of Native American origin, the Coroner will notify the NAHC. The NAHC shall determine and identify a Most Likely Descendant (MLD) and this individual or group will consult with the project Cultural Resources Manager and recommend the manner of treatment and disposition for any human remains and associated offerings.

1.0 INTRODUCTION

This Phase 1 Cultural Resources Assessment has been prepared to support Inyo County's California Environmental Quality Act (CEQA) environmental document findings related to cultural resources for the Pinnacle Growth Inc., cannabis cultivation project. The Pinnacle Growth Inc. project is located on a 15-acre± segment of 80-acre Inyo County APN 038-300-07, located at 1555 Trona Wildrose Road, Trona, CA. The project area is located east of Trona Wildrose Rd. and north of Trona Airport Rd. The project when mapped appears within Township 24 South, Range 43 East, Section 28 under the San Bernardino Principal Meridian, and is depicted on the Trona East, California, 2018 USGS Topographic Map (Figures 1-7). Cultural resource specialists, Dr. Alan Garfinkel Gold RPA No. 989105, and Shane Davis M.A, RPA No. 17250, conducted investigations in preparation of this Phase 1 Cultural Resources Assessment.

1.1 Regulatory Context

The California Environmental Quality Act (CEQA) requires consideration of project impacts on archaeological or historical sites deemed to be "historical resources." Under CEQA, a substantial adverse change in the significant qualities of a historical resource is considered a significant effect on the environment. For the purposes of CEQA, a "historical resource" is a resource listed, or determined to be eligible for listing, in the California Register of Historical Resources [Title 14 CCR §15064.5(a)(1)-(3)]. Historical resources may include, but are not limited to, "any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" [PRC §5020.1(j)].

The eligibility criteria for the California Register are the definitive characteristics for assessing the significance of historical resources for purposes of CEQA (California State Office of Historic Preservation). Generally, a resource is considered "historically significant" if it meets one or more of the following criteria for listing on the California Register:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
(2) Is associated with the lives of persons important in our past.
(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

(4) Has yielded, or may be likely to yield, information important in prehistory or history (PRC §5024.1(c)).

2.0 NATURAL SETTING

The Mojave Desert incorporates a vast area of eastern California covering 31,000 square miles. This northern desert interfaces with the Sonoran Desert to the south and the Yuma Desert to the southeast. It is separated from the Great Basin along the Garlock Fault that traverses the base of the El Paso Mountains. Throughout the Mojave Desert there exists numerous broad playas or dry lake beds that drain internally. With seasonal rains, these playas can become shallow ephemeral lakes. However, in general, the Mojave Desert is a water impoverished region with only 4-13 inches of rain annually. In Death Valley, virtually no measurable rainfall appears (less than one inch of precipitation annually). Temperatures vary greatly in the Mojave Desert, but summers can be exceedingly hot - with the highest ground temperature ever recorded on earth posted for Death Valley at 134 degrees Fahrenheit on July 10, 1913. However, night-time temperatures drop dramatically, and snowfall occurs regularly at higher elevations.

The project area is located within the Searles Valley, an arid closed basin that lies 70 kilometers east of the south end of the Sierra Nevada Mountains. Searles Lake is a dry lake bed that is located at the northern and central portion of the valley (Smith 2009:1). Seismic studies provide evidence of a valley bedrock floor that runs north to south and is shaped like a syncline trough which is overlain by Cenozoic sediments (Smith 2009:4). The soils in the project area are lacustrine sediments from the late Pleistocene to the Early Holocene Periods (Smith 2009:8) It is estimated that Searles Valley has been filled in five different hydraulic episodes by massive lakes (Gale 1914).

The Mojave Desert characteristically exhibits large land areas containing the grey-green shrubs of the creosote bush (*Larrea tridentata*). Other areas exhibiting alkaline soils contain expressions of saltbush (*Atriplex sp.*). Plant species present in the general vicinity of the project site include juniper (*Juniperus californica*), annual bursage (*Ambrosia acanthicarpa*), Nevada joint fir (*Ephedra nevadensis*), bladder sage (*Scutellaria mexicana*), rabbitbrush (*Ericameria nauseosa*), and Joshua tree (*Yucca brevifolia*). Other plants noted in the general area include schismus (*Schismus barbatus*), cholla (*Cylindropuntia echinocarpa*), bunchgrass (*Phleum pratense*), white bursage (*Ambrosia dumosa*), California buckwheat (*Ambrosia dumosa*), Great Basin sagebrush (Artemisia tridentata), willow (*Salix sp.*), California poppy (Eschscholzia californica), mariposa lily (*Calachortus sp.*), Scotch broom (Cistus scoparius), brome

grasses (*Bromus sp.*), and Fremont's cottonwood (*Populus fremontii*).

Typical Mojave Desert fauna includes bighorn sheep (Ovis canadensis), mule deer (Odocoileus hemionus), jackrabbit (Lepus californicus), cottontail, coyote, pronghorn (locally extinct), various reptiles (including the venomous Mojave rattlesnake and the notable chuckwalla) and rodents. Other animals include various species of waterfowl and numerous birds.

3.0 CULTURAL SETTING

3.1 Prehistory

Synthetic treatments of the prehistory of the Mojave Desert are found in a number of academic references. The latter sources include topical treatments in Basgall (1993), Basgall and Hall (1994), Basgall et al. (1988), Bettinger and Taylor (1974), Garfinkel (2007), Garfinkel and Williams (2011, 2015), Garfinkel et al. (2010), Gilreath and Hildebrandt (1997), Grayson (2011), Lengner (2013), Schneider et al. (2000), Sutton et al. (2007), Ugan and Rosenthal (2015), Van Tilburg et al. (2012), Warren (1984), Warren and Crabtree (1986), Whitley (1998) and Yohe (1992).

Research into the prehistory of the Mojave Desert has a lengthy pedigree. Perhaps some of the earliest scientific investigations were those conducted by the husband-wife team of William and Elizabeth Campbell working out of the Southwest Museum (Campbell 1931; Campbell and Campbell 1935; Campbell et al. 1935). During this same general time period Malcolm Rogers conducted studies through his association with the San Diego Museum of Man. His research emphasized the identification of the flaked stone artifacts and prehistoric cultures found in the Colorado Desert but overlapping into the Mojave Desert as well (Rogers 1939). Another early researcher was Mark Raymond Harrington. Harrington conducted archaeological studies at the Stahl Site, Stahl Site Cave, and Fossil Falls sites in the Coso Range while engaged by the Southwest Museum (1948a, 1948b, 1949, 1950, 1951, 1952, 1953, 1957).

In the 1960's Edward Lanning, working with the University of California, Berkeley, wrote up the previous research completed at Rose Spring (CA-INY-372) in the Coso Range and this work serves as a critical benchmark and anchor to develop the regional chronology for the Great Basin. Robert Yohe returned to the site much later and provided an even more detailed and well-supported chronology bolstered by a suite of precise radiocarbon dates for this physically and culturally stratified site (Yohe 1992).

Early studies at China Lake were completed by Emma Lou Davis. Her work continued from the 1960s into the mid to late 1970s and included extensive surface explorations and pioneering geo-archaeological research (Davis 1978). Although her assertions of very early pre-Clovis occupations have been widely rejected, her multidisciplinary methods have provided well-grounded insights on late Pleistocene and early Holocene aboriginal land use. Excavations at China Lake also uncovered fluted points in putative association with burned, extinct megafaunal remains (Davis 1978). However, recent reassessments (Basgall 2007a, 2007b; Garfinkel et al. 2008) of Davis' findings failed to support the idea that artifacts and megafauna bones were related or that aboriginal activity was contemporaneous with extinct megafauna.

Much of the scholarly research in the Mojave Desert has been completed under the umbrella of cultural resources management studies. Many federal and state agencies (Bureau of Land Management, California Department of Transportation, California Department of Parks and Recreation, National Park Service, and United States Forest Service) and private developers (relating to the construction of renewable energy initiatives employing both solar and wind) have been the major proponents and financial underwriters for these investigations.

The Mojave Desert has seen more archaeological study than perhaps many other areas of California. It has also spawned some of the more contentious debates in professional archaeology with respect to competing models attempting to illuminate the nature and antiquity of various prehistoric cultural manifestations. The focus of these discussions relates to the nature and timing of various cultural transformations. Such discussions hinge on the age and character of technological shifts, settlement-subsistence changes, economic developments, artistic and ideological transitions, prehistoric population movements, and reconstructions of linguistic prehistory (cf. Garfinkel 2006, 2007; Garfinkel and Austin 2011; Garfinkel et al. 2007, 2009, 2010; Grant et al. 1968; Goldsmith and Garfinkel 2013; Gilreath 2007; Gilreath and Hildebrandt 2008, 2011; Hedges 2001; Hildebrandt and McGuire 2002; McGuire and Hildebrandt 2005; Stewart et al. 2005; Van Tilburg et al. 2012; Whitley 1987, 1998, 2003; Whitley and Dorn 1987, 2011). Given the central importance of chronological controls, the prehistoric cultural sequence and related temporal periods remain a salient topic for continuing research.

3.2 Cultural Sequence

Late Pleistocene: Paleo-Indian / Western Clovis Period

Basally fluted, projectile points of the Clovis (also known as Western Clovis) cultural complex are generally considered to be the most dominant, hallmark of prehistoric occupation during the Late Pleistocene era. These Clovis points and their associated cultural materials have been the focus of intensive study and the general consensus is that they date from about 13,500 to 12,500 calibrated radiocarbon years (cal) before present (BP). Some researchers have tried to pinpoint the duration of the Clovis tradition to an even more exacting and narrower time span (12,800 to 13,200 cal BP) but recent critiques of that perspective support the notion that at least a millennium of time was necessary for the wide-ranging Clovis tradition to have developed and spread within the continental United States (cf. Goebel et al. 2008; Waters and Stafford 2007).

Until recently, the Clovis complex was considered the basement cultural expression in the Americas. However, reports from sites like Monte Verde (Chile), Paisley Cave (Oregon), the Schaefer and Hebior sites (Wisconsin), Meadowcroft Shelter (Pennsylvania), Page-Ladson (Florida), and the Debra L. Friedkin Site (Texas), have now provided substantial and persuasive evidence for pre-Clovis occupations dating to a period from about 16,000 to 14,000 cal BP. The latter archaeological complex appears to have occurred some two to three thousand years before Clovis (Gilbert et al. 2008; Goebel et al. 2008; Waters et al. 2011).

Unfortunately, there is no substantive, tangible, and compelling evidence within California or the Great Basin for such early pre-Clovis discoveries. Yet, there have been a number of claims (Davis 1978; Leakey et al. 1968) based on heavily weathered and crude cobble and core tools as part of a pre-projectile point tradition (cf. Moratto 1984:29-73).

Nevertheless, although the Mojave Desert has posted early claims of great human antiquity, Clovis-like fluted point discoveries themselves are fairly rare (cf. Rondeau et al. 2007). When such finds are identified, they most frequently occur as isolates and are typically found in association with now dry Pleistocene lake beds. Besides the discovery of fluted points, we have little in the way of related diagnostic elements of Clovis technology that would provide a more complete picture of the entire archaeological assemblage. Complementary artifacts, such as prismatic blades, cores, and bone tools are commonly described from the Clovis heartland in the American Southwest and Plains (however cf. Fenenga 2015). Yet those artifact classes are rarely described or noted in California.

Further, there is long-standing ambiguity in the age and sequence of terminal Pleistocene cultural complexes in eastern California and the Great Basin generally (Beck and Jones 2009). Some researchers have expressed doubts as to whether the Clovis Complex per se has a temporally or geographically extensive presence in California and the Great Basin. Further, researchers question the true antiquity of these putative earliest California and Great Basin projectile point forms. Finally, other confounding issues remain with respect to the chronological relationship of one point type to another (e.g. Western Fluted vs. Concave Base vs. Western Stemmed).

China Lake Basin and the adjacent Rose Valley are home to some of the largest concentrations of fluted and concave base points in California. The sites in Rose Valley are located on relict terraces of the Lower Pleistocene Owens River. The Rose Valley sites were initially recognized and studied by Ferris Borden and the Archaeological Survey Association (Borden 1971; Moratto et al. 2018). Some China Lake sites were researched by Emma Lou Davis (Davis 1978). A number of fluted and unfluted concave base points have been discovered in the Coso Basin and have yielded putatively ancient obsidian hydration dates that would provide a tentative late Pleistocene age determination (cf. Garfinkel et al. 2008; Moratto et al. 2018). Yet, no direct associated radiocarbon determinations exist that demonstrate the age of these early points and there are only a handful (n = 4) of radiocarbon determinations dating to the Clovis age for any archaeological expressions in all of prehistoric California.

Nevertheless, recent obsidian hydration data provides a growing number of very large hydration rim measurements (greater than 16.0 microns) from several sites in the China Lake Basin and vicinity. These hydration measurements do support an age for both Western Fluted and Basally Thinned Concave Base points dating to a time from about 12,000 to 13,500 cal BP. (Giambastiani and Bullard 2010; Moratto et al. 2018). If those ages were further substantiated, that would imply a prehistoric California Paleoindian complex of equivalent age to the Clovis Tradition of the American Southwest and Plains. Significantly, the technological and typological elements for these early California projectile points appear slightly different and may represent a somewhat distinctive tradition—a bit different from their kindred artifacts in other areas of the United States. Further, it appears that these early fluted and unfluted Clovis era points may have continued in time post-dating the terminus of the Clovis expression in the American Southwest and on the Plains.

In contradistinction to the above discussion, Beck and Jones (2009, 2010; see also Bryan 1988) argue that Western Stemmed Points are characteristic of the terminal Pleistocene and would be contemporaneous with the Clovis Complex in the Desert West. While it is widely assumed that fluted and unfluted concave-base points date to

the terminal Pleistocene in the Mojave Desert, this has rarely been demonstrated radiometrically or chrono-stratigraphically. Nevertheless, recent finds at China Lake have noted that Fluted and Concave Base points have a different overall spatial distribution than Western Stemmed points. Finally, all three projectile point styles (Western Stemmed, Fluted, and Concave Base) do often occur in the same microenvironments, in closely similar depositional contexts, and frequently at the very same sites (Basgall 1988, 2007a, 2007b; Basgall and Hall 1991; Giambastiani 2008, 2010; Giambastiani and Bullard 2010).

Early Holocene: Mojave or Lake Mojave Period

Significant environmental changes, correlating with broad shifts in regional temperature, occurred in the post-Pleistocene with only minor changes in rainfall. Increased runoff from glacial melting resulted in the infilling of valleys and basins by streams, marshes, and lakes. Initially these large bodies of water supported great amounts of biota—including big game animals (e.g., deer, antelope, and bighorn). During this time there exists an ancient, well-established, and wide-ranging prehistoric tradition in the Mojave Desert dating from ca. 12,000 to 8,000 cal BP. This archaeological complex received its geographic referent from the landmark studies of the Campbells and their research associates (Campbell et al. 1937).

The Campbells and their collaborators worked along the relict shorelines of Pleistocene Soda Lake and Silver Lake in the eastern Mojave Desert near Baker, California. These early Holocene assemblages were recognized for their distinctive formalized flaked stone tool kits. The Lake Mojave flaked stone tools include large stemmed points (identified as either larger Lake Mojave or smaller Silver Lake forms) that are considered as chronological diagnostics. Associated with these temporally sensitive point/tool forms are other stone tools including bifacial crescents, heavily worked domed (steep-sided) unifaces (end scrapers and side scrapers), knives, bifaces, gravers, plano-convex limaces, and large core-cobble tools (cf. Beck and Jones 1997).

Throughout southern California, and especially in eastern California, Lake Mojave era sites have been recognized with a variety of other identifiers. In the Colorado Desert, Malcolm Rogers calls similar traditions as his Playa Complex (Rogers 1939, 1966). In the San Diego area, the related assemblages have been designated as San Dieguito (Warren 1967). William Wallace (1962) employs the Lake Mojave moniker for all such expressions throughout southern California and into Death Valley.

Significantly, the majority of the Lake Mojave sites are exclusively surface expressions making them difficult to date, and only infrequently are they dated directly by

employing radiocarbon assays. Nonetheless, Beck and Jones (1997, 2010; Willig et al. 1988) have assembled a series of radiocarbon dates for the Lake Mojave stemmed points. Their research indicates that the Lake Mojave-related materials are older than 9,500 cal BP and are possibly as ancient as 13,200 cal BP. If such dates were to apply in California, they would be contemporaneous with the ages applied to the Clovis Tradition in the American Southwest and on the Plains. Yet, perhaps contrary to expectations, dates for the Lake Mojave materials at Fort Irwin in the Mojave Desert cluster from 9,500 to 11,000 cal BP (Basgall 1993; Sutton et al. 2007). Source-specific, temperature-adjusted obsidian hydration dates on Western Stemmed points from China Lake are overall more recent than the older Clovis materials.

Claude Warren and his colleagues (Warren 1967, 1984, 1986, 2008; Warren and Crabtree 1986; Warren and Schneider 2003) and other researchers (cf. Bedwell 1970) recognize that Western Stemmed point sites of the Lake Mojave Tradition were most often associated with extinct lakes. Since these materials were clustered around ancient shorelines the logical conclusion was that this early lifeway was lacustrine based and that artifacts would best be interpreted as representing a hunting emphasis associated with lakeshore resources. Further, since few artifacts were discovered that could be interpreted as milling equipment, only a very minor expression of plant food exploitation was indicated.

However, more recent research in the central and western Mojave Desert attests to a different perspective with a wider range of habitats for sites outside of lakeshore settings (Basgall 1993; Basgall and Hall 1994; Basgall et al. 1988; Sutton et al. 2007). Further, the faunal remains recovered from such sites attest to a dominant expression of small mammals (especially lagomorphs [rabbits]) and reptile exploitation rather than large game such as deer, pronghorn, and bighorn sheep. Additionally, milling equipment, although evidently only a minor element in the Lake Mojave archaeological assemblages, are indeed a regular part of the documented cultural materials at such sites. The latter perhaps indicates that plant food was of some importance in the diet of these early Holocene peoples. Nevertheless, use-wear studies suggest that corms and bulbs, especially marshland taxa rather than small seeds, were the predominant plant foods processed during this time period (Basgall 1993, 2000).

Most researchers agree that high diversity of toolstone material and extensive curation and maintenance of Lake Mojave-age tools supports the conclusion that very large foraging areas and frequent residential moves were typical (Basgall 1989; Basgall and Hall 1994; Basgall and McGuire 1988; Delacorte 1999; Delacorte and McGuire 1993). It is posited that at this early time foraging groups were limited to a small number of family units and the aggregate groups themselves were still quite small. The food

resources that were extracted would have been exhausted quickly causing people to move about the landscape often. Considering these frequent moves, the stone tool assemblages were modest in size and relatively homogenous (Kelly 1983, 1985, 1988; Shott 1986, 1989; Thomas 1983a, 1983b).

Middle Holocene: Pinto or Little Lake Period

In the Middle Holocene during the time from ca. 8,000 to 4,000 cal BP temperatures and aridity peaked. Lowland bodies of water shrank in size and associated plant communities dwindled—reaching a point that was incapable of supporting the former abundance of large game (Sutton et al. 2007). With the exception of certain rare refuge areas, human land use shifted to upland areas where only a few relict streams and lakes remained. Correlating with these changes was the inception of a cultural expression known as the Pinto Complex.

Researchers have recognized that it has been challenging to clearly articulate the Middle Holocene cultural-historical traditions and settlement systems since few prehistoric sites date within this specific time frame. The latter circumstance may owe to a lack of geological visibility (Basgall 2009; Meyer and Rosenthal 2010) or alternatively may reflect that this heightened aridity led to a corollary demographic collapse (Elston 1982; Grayson 2011; Sutton et al. 2007; Warren 1986). From any perspective, researchers agree that there is a paucity of radiocarbon assays that fall within the Middle Holocene time and that these expressions are especially absent during the waning years of this period - ca. 5,000 to 4,000 cal BP (Sutton et al. 2007).

The Pinto Complex, rather than representing a different cultural group, is posited as an outgrowth of the preceding tradition of the Lake Mojave Complex of the Early Holocene. Such a model was based on similarities in the two traditions. Spatial and temporal overlap in projectile point forms, the continued use of difficult-to-reduce toolstone (basalt and igneous fine-grained lithic materials) for bifacial tools - distinctly different from the use of cryptocrystalline and obsidian materials so common to later periods, continuity in the character of flaked stone production emphasizing percussion flaking in contrast with a later emphasis on pressure flaking, and the continued popularity of specialized tool forms (biface knives, ovate domed and keeled scrapers, and engravers) - all suggest a pattern of continuity.

Pinto Complex sites decline in number during the driest portion of the Middle Holocene era from 6,500 to 4,000 cal BP and are largely restricted to spring-side localities. Besides the differing land use patterns, the stone tool assemblage changes at this time from the formalized stone tool forms of the Early Holocene being replaced

by more perfunctory flake scrapers, handstones, and milling slabs. Ground stone implements signal an important distinction and are thought to represent a growing emphasis on small seed use. Since hunting equipment persists, Claude Warren and others (Warren 1967, 1984, 1986) have suggested that large game procurement continued despite deteriorating climatic conditions and declining big game populations.

However, archaeofaunal assemblages from Pinto sites may attest that artiodactyls by this time are almost completely absent with small game, including tortoise, becoming the norm. Pinto populations, originally geared towards hunting, would have been hard-pressed to accommodate the changing environmental conditions and their adaptation may have ultimately failed. Populations may have either suffered extinction or perhaps migrated to more well-watered areas, abandoning their desert homes.

A few Middle Holocene sites in the southern Owens Valley and Rose Valley on the northwestern edge of the Mojave Desert have produced assemblages similar to those in the Mojave Desert and appear to be consistent with generalized adaptations of highly mobile foragers with wide-ranging settlement patterns. However, substantial house floors discovered at Lubkin Creek (CA-INY-30) and the diverse array of occupational debris at the Stahl Site (CA-INY-182) at Little Lake (in the Coso Range) has led some to posit much greater residential stability and a degree of permanence in settlement patterns in some exceptional instances.

The hallmark and defining diagnostics for this period are large, heavy, bifurcate-stemmed dart points known as the Little Lake Series (Basgall and Hall 1992, 1994, 2000; Bettinger and Taylor 1974; Fitzgerald et al. 2005; Harrington 1957; Lanning 1963; Vaughan and Warren 1987). Researchers have recognized that these Pinto-like points were most frequent at the Stahl site near Little Lake (Harrington 1957).

The Pinto-like points that were discovered at Little Lake were originally thought to be morphologically distinct from Pinto points identified at the type site in the Pinto Basin in Riverside County in the southern Mojave Desert (Amsden 1937; Campbell and Amsden 1934; Campbell and Campbell 1935; Schroth 1994). In-depth research (Basgall and Hall 2000) relating to the questions of chronology and point classification suggests that the Little Lake points are largely indistinguishable from Mojave Desert examples typically identified as Pinto points.

The Basgall-Hall research redefined the Pinto Series indicating that there existed a larger, heavier, and more robust variant of this point style that has an age from 7,500-4,000 radiocarbon years before present (rcybp). A smaller, lighter, and more

gracile form, more characteristic of the northern Great Basin, is equivalent with the Gatecliff Split-stem type previously identified by David Hurst Thomas (1981). Those latter artifacts are argued to date to a more recent vintage, consistent with a temporal range from ca. 5,000-3,200 rcybp. A further result of the Basgall-Hall Study was the discovery that there is considerable spatial overlap between both the robust and gracile variants with both forms having substantial representation in eastern California.

Other researchers disagree with the Basgall and Hall Pinto point chronology. Haynes (2004) argues that Pinto points range in age from 9,500 to 5,500 rcybp. Perhaps an age range of 11,000 to 3,500 cal BP is a more accurate representation for the full span of use of this rather enigmatic point form. Recent studies have led many researchers to conclude that Pinto points have a much longer duration than has been typically applied. Pinto points, based on their most recent re-evaluation, are sometimes considered contemporaneous with Western Stemmed points (as above). However, Pinto points were infrequent during the earliest years of their introduction but flourished and endured for a much longer time period after Western Stemmed points ceased.

Heavily worn stone tools crafted from exotic toolstone suggests that prehistoric Middle Holocene Natives were still highly mobile. These patterns led Basgall and Hall (1992, 1994) to conclude that both early and middle Holocene adaptations in the Mojave Desert represent a more generalized subsistence orientation than conventionally portrayed by Warren (1967, 1984, 1986) and others.

Late Holocene: Newberry Period or Gypsum Complex

In the Late Holocene, beginning ca. 4,000 / 3,500 cal BP and continuing to about 2,000 cal BP, significant interregional variability in aboriginal land use can be recognized. With respect to the local environmental conditions, Mehringer and Sheppard (1978), based on lake-core sampling at Little Lake, identify that available water increased about 3,000 cal BP, with a subsequent dry period at about 2,000 cal BP. Hence, cool winters and relatively wet intervals were characteristic of what is known as the Neo-Pluvial Period that occurred between 4,000 and 2,000 rcybp (Wigand and Rhode 2002).

In the Mojave Desert, Basgall and Hall (1992, 1994) identified cultural deposits from Fort Irwin that include a full complement of milling equipment, flaked stone tools, and the replacement of basalt and rhyolite by cryptocrystalline silicate toolstone. The frequency of bifaces rises dramatically during this time. Nonetheless, prehistoric sites are often small, and it has been argued that these settlements represent wide-ranging

mobility oriented to short-term occupations rather than targeted procurement of specialized resources.

Many radiocarbon assays from houses and features are documented from the southern Owens Valley (Basgall and Delacorte 2012; Basgall and McGuire 1988; Byrd and Hale 2003). These well-built houses and associated remains provide robust data for chronological controls. These remains indicate an emphasis on cached and curated articles (including bifaces, bone tools, and milling equipment) and lend credence to the premise that these particular sites were seasonally re-occupied. Obsidian tool/debitage sources appear to indicate a wide-ranging and extremely expansive yet regularized annual settlement round. From food remains (faunal material and plant macrofossils) one may infer that forays were made to long-distance upland settings to procure specialized resources (pinyon nuts, bighorn sheep, and marmots) that were brought back to the base camp.

Warren (2008) provides a contrasting view for this period and argues for the prominence of large game hunting due in part to their natural abundance based on ameliorating climatic conditions. Additional intensification in the use of plant foods is represented by increased numbers of milling artifacts. Warren and others identify a change in social organization from the smaller family-band units in earlier eras to multi-family groups. William Hildebrandt and Kelly McGuire (2002) similarly argue that settlements during the Late Holocene (Middle Archaic also known as the Newberry Period) were less mobile than originally implied and may be best interpreted as year-round occupations. They also argue that the characteristic settlement pattern appears to have incorporated sedentary occupations of ecological sweet spots where women remained at hamlets while men ranged to distant outlying areas for artiodactyl hunting.

One implication of this emphasis on artiodactyl exploitation was the necessity of serviceable hunting equipment. Stone tool reduction and particularly obsidian biface manufacture became critically important from about 2,500 to 1,500 cal BP. Amy Gilreath and William Hildebrandt (1997, 2011) argue that in the Coso Basin, obsidian stone tool reduction reached a peak level of task specialization where early stoneworkers produced stone bifaces in enormous numbers both for domestic use but mostly as surplus - exports intended for trans-Sierran trade. During this same time span, an enormous number of rock drawings (petroglyphs) are recognized and appear to be associated with increase rites, revealing a level of socio-ceremonial complexity exceeding that of earlier and later periods (Garfinkel 2006; Garfinkel et al. 2009).

Prehistoric settlements dating to the Late Holocene are marked by the occurrence of medium-sized to large, stemmed and notched points. The most frequent forms are variants of the Elko, Humboldt (Concave Base and Basal-notched), and Gypsum Series. Heizer and Baumhoff (1961) were the first to define Elko points. This series is composed of large, heavy, notched points with variable stem characteristics (Heizer et al. 1968; O'Connell 1967). These include eared, corner-, and side-notched specimens. Elko Contracting stem forms are often assigned to the Gypsum type having the same general chronological frame. In the western Great Basin, Elko points have often been found in contexts dating from 3,750-1,290 cal years B.P. (Basgall and McGuire 1988; Bettinger and Taylor 1974; Gilreath and Hildebrandt 1997; Heizer and Hester 1978; Justice 2002; Thomas 1981). Such a chronological position is supported by a plethora of radiocarbon, stratigraphic, and obsidian hydration data. However, it is becoming increasingly apparent that large, corner-notched, and side-notched variants of this Elko form sometimes occur in earlier contexts.

Gilreath and Hildebrandt (1997) observed that more robust Elko points, especially those thicker than 6.5 mm, regularly produce obsidian hydration dates that are more ancient than the Newberry Period. One explanation for this problem is the difficulty in identifying between earlier Pinto and the more recent look-alike Elko forms (Basgall and Hall 2000; Vaughan and Warren 1987). Finally, the Rose Spring site (CA-INY-372) on the western edge of the Coso Range is a culturally and naturally stratified deposit. Five separate successive units provided cultural material amenable to dating. The lower three strata range in age from ca. 4,000 to 1,700 cal BP and as such fall within the Newberry Period (Clewlow et al. 1970; Yohe 1992).

Late Holocene: Haiwee, Rose Spring, Saratoga Springs Period

The Mojave Desert witnessed a significant series of adaptation shifts beginning in this time period (ca. 2,000 to 700 cal BP). During the onset of the period, a dramatic set of subsistence-settlement changes were documented. These changes include: the introduction of the bow and arrow replacing the dart and atlatl, a dramatic decrease in large game hunting, increased reliance on dryland hard seeds, the beginning of intensive green-cone piñon pine nut exploitation, and the development of sites emphasizing the acquisition of easily procured and abundant small game animals (especially with respect to large numbers of lagomorphs [rabbits] and grebes). These cultural changes may reflect a Numic (Great Basin Paiute-Shoshone) in-migration. Certain technological innovations and labor-intensive adaptive strategies are also broadly consistent with those of intrusive Numic groups (Bettinger and Baumhoff 1982; Delacorte 1994, 1995).

In the western Mojave Desert, specialized sites first occur that are single component (time restricted) loci targeting small, easily harvested, game animals obtained through communal hunts and mass capture that focus on jack rabbits, brush rabbits, and grebes (Garfinkel 2006; Gold 2005). These sites often contain abundant portable milling equipment, rock ring structures, bedrock milling, and plant food threshing features. These data reflect a shift to more intensive use of small game and local plants (dryland hard seeds) perhaps as a means of mitigating increasing human population pressure – consistent with the model presented by Bettinger and Baumhoff for Numic adaptations (1982).

Such an adaptation would have provided Numic peoples with a competitive advantage over existing pre-Numic populations since it would have enabled them to exploit a wider range of resources that were more costly to collect and process. Hence, resources with high extractive and processing costs would have been exploited only after the arrival of Numic groups in the area (cf. Bettinger and Baumhoff 1982; Delacorte and McGuire 1993; Garfinkel 2007).

From a careful study of the archaeological record, a pattern of lowland, intensive small-game hunting camps appears to have occurred simultaneously with the development of large-scale, intensive, upland green-cone piñon pine nut exploitation. This pattern is also contemporaneous with an initial focus on the acquisition, mass processing, and storage of dryland seeds (Basgall and Delacorte 2003; Basgall and Giambastiani 1995). These seed camps routinely include rock rings, thought to be the foundations of brush structures. Many of these rock structures contain doorways facing east toward the rising sun and are associated with numerous handstones, milling slabs, and bedrock grinding features.

Single-component Haiwee-age hunting camps are frequently located in "geographically isolated areas" (Delacorte 1994). Such localities provided access to a limited range of biotic communities and appear to have a rather specialized focus on a narrow array of subsistence resources. Hence, these settlements are a distinctly different group of sites from earlier or later occupations that tend to overlap at the same locations and therefore evince a lack of continuity from earlier settlements.

Gilreath and Hildebrandt (1997) note that Coso obsidian lithic production shifts to major obsidian outcrops in Late Newberry times (500 B.C. to A.D. 600) and this pattern continues into the Haiwee interval (A.D. 600 to 1,300). Obsidian quarrying during this time is confined to a few massive exposures rather than the less plentiful but more widespread secondary deposits. In the Haiwee Period, exclusive use of the massive Sugarloaf Mountain Coso obsidian exposure occurs with other deposits.

On the margins of Koehn Lake in Fremont Valley, south of the Indian Wells Valley and the Coso Range, Mark Sutton reports on a village site (CA-KER-875) dating to this period. House structures with juniper center posts (*Juniperus sp.*) were documented. The site is well-dated with radiocarbon assays and Coso obsidian hydration dates and appears to have been associated with a standing lake. The site was abandoned during the drying up of the area correlating with the initiation of a series of epic droughts known as the Medieval Climatic Anomaly (ca. AD 970 to 1,350).

Rose Spring arrow points are one of the key hallmarks of the Haiwee Period. These points were originally recognized and described from the type-site of that same name, located in southern Owens Valley (also known as Rose Valley) on the western edge of the Coso Range (Lanning 1963: Yohe 1992, 1999, 2000). The Rose Spring point is a small, narrow, triangular arrow point with a variety of stem forms. Rose Spring points are time markers and date primarily to the interval from ca. 2,000-650 cal B.P. in the western Great Basin (Basgall and McGuire 1988; Bettinger and Taylor 1974; Garfinkel 2007; Gilreath and Hildebrandt 1997; Thomas 1981; Yohe 1992, 1999, 2000).

Recent Holocene: Marana, Late Prehistoric

This final cultural period (700 cal BP to the historic) represents the ethnographically described occupation in the Mojave Desert by the Kawaiisu, Panamint Shoshone, Serrano, Cahuilla, Chemehuevi, and Mohave Native Americans. Desert Side-notched and Cottonwood arrow points are characteristic of this chronological frame. Also, brownware ceramics, imported soapstone beads, and pictographs date to this time frame. Many archaeological sites dating to this period are associated with systematic and intensive upland piñon exploitation (Bettinger 1978; Garfinkel and McGuire 1980; McGuire and Garfinkel 1976, 1980).

Resource intensification that began in the prior period continues and strengthens with settlements tied to seasonal differences in resource availability. The most spatially confined seasonal movement and the smallest foraging ranges occur during this time period. Region-wide expansion of diet breadth and intensification of small seed resources involved a change in the technology used in the collection and processing of these resources. It is argued that mass collecting of green, dryland, hard seeds provided a considerably higher return than was possible using the former method of seed-beating. This pattern begins about 1,300 cal BP but increases substantially throughout the Late Prehistoric (650 cal BP – Contact) and into the Protohistoric era. Direct flotation evidence from archaeological sites dating to the Marana Period indicate mass harvesting and threshing of Indian rice grass (*Achnatherum hymenoides*), cattail (*Typha sp.*), goosefoot (*Chenopodium sp.*), and blazing star (*Mentzelia sp.*).

Table 1. Prehistoric Cultural Sequence for the Mojave Desert Region

Cultural Complex	Approximate Time Period in Calibrated Radiocarbon Years Before Present (cal B.P.) and Calendar Years Approximated as AD/BC	Artifact Characteristics
Late Pleistocene Period (Paleoindian)	13,500 – 12,000 cal B.P.; 10,000 BC to 11,500 BC	Fluted and Concave Base points (Western Clovis)
Lake Mojave Period	12,000 – 8,000 cal B.P.; 10,000 BC to 6,000 BC	Western Stemmed points (Lake Mojave and Silver Lake points)
Little Lake (Pinto) Period	8,000 – 4,000 cal B.P.; 6,000 BC to 2,000 BC	Pinto and Leaf-shaped points
Newberry (Gypsum) Period	4,000 – 2,000 cal B.P.; 2,000 BC to AD 1	Gypsum, Elko, and Humboldt points
Haiwee (Saratoga Spring) Period	2,000 – 700 cal B.P.; A.D. 1 – 1300	Rose Spring, Eastgate, and Saratoga Springs points
Marana (Late Prehistoric) Period	700 cal B.P. – Historic; AD 1,300 – Historic with European explorers ca. AD 1,770	Desert Series (Cottonwood and Desert Side-notched) points and ceramics

Based on discussions in Bettinger and Taylor (1974), Garfinkel (2007), and Warren (1980, 1984).

This time period also sees the final collapse of trans-Sierran trade in Coso obsidian. The early emphasis (ca. 8,000-1,000 cal B.P.) on biface preform and flake blank technology gives way to flake-based reduction. Large bifaces decrease in abundance and also diminish in size and formality ultimately being replaced by more numerous flake-based tools. Artiodactyl exploitation is dramatically reduced and replaced by procurement of small game including a tremendous increase in Mojave Desert tortoise (*Gopherus agassizii*) and reptile use. Evidence of increased contact with outside populations (e.g., the American Southwest) and the expansion of Numic-affiliated populations out of eastern California into most areas of the Great Basin and much of the Mojave Desert is recognized during the last 1000 years of prehistory (Bettinger and Baumhoff 1982; Fowler 1972; Lamb 1958).

3.3 Ethnography

The Project area falls within the traditional territory of the Kawaiisu and on the margins of the Owens Valley Paiute.

Kawaiisu (Nüwa)

Anthropologists agree that an aboriginal group they identify as the Kawaiisu (kah-wai-ee-sooh) occupied the Tehachapi Valley and also inhabited portions of the western Mojave Desert and into the southernmost expanse of eastern California including the Searles Valley. The name Tehachapi is a Native term (in the Kawaiisu language) thought to mean something like "hard climbing" and was the name for a prominent Indian village situated near the city of the same name.

The Kawaiisu spoke an Uto-Aztecan language classified as a member of the Numic branch of Great Basin Paiute-Shoshone languages. The Kawaiisu had a distinctive language different from the remaining southern Numic dialects of Shoshoneans. Their neighbors to the north were the Tubatulabal, to the west were the Southern Valley Yokuts, and in the desert areas to the east lived the Western Shoshone (Panamint or Koso) and the related Desert Kawaiisu (Underwood 2005).

Information on the Kawaiisu is scattered in many fragmentary accounts. The earliest facts appear in the scant details provided by Powers (1877). Local historian Judy Barras has added important embellishments (Barras 1973, 1976, 1984). Precontact lifeways are treated in Cappannari (1950, 1960), Kroeber (1925), and Steward (1938). Yet the most detailed and thorough studies are the various works by Zigmond (1938, 1941, 1971, 1972, 1977, 1978, 1980, 1981, 1986) and a recent synthetic overview of the Kawaiisu has been crafted by Garfinkel and Williams (2011).

Zigmond (1986) mentions that Kawaiisu territory was not richly endowed with subsistence resources. He also states that at times the Kawaiisu verged on starvation or suffered from lack of provisions. Groups living in the Tehachapis had both acorns and pinyon nuts to gather during the fall. In the spring a variety of seed-producing plants were procured. Among the most important were rice grass (*Achnetherum sp.*), tick seed (*Coreopsis sp.*), blazing star (*Mentzelia sp.*), and chia (*Salvia sp.*). Some fishing was conducted but few good fishing streams were available. Rabbits were hunted communally.

Social organization centered on the family group. Chiefs were known but no single individual united the Kawaiisu as a whole. Leaders were simply individuals who possessed sufficient personal wealth but no real coercive authority (Zigmond 1986). Group ceremonies among the Kawaiisu included an annual mourning ceremony where images and possessions of the deceased were burned and a ritual when boys and girls, a few years after puberty, used jimsonweed (*Datura sp.*) to obtain visions and spiritual guardians. The religious world of the Kawaiisu was similar to that of their neighbors, the Panamint Shoshone, in having guardian-spirit beliefs, elaborate mythology, and shamanism.

Owens Valley Paiute

Two linguistically and ethnically distinct groups, the Paiute and the Shoshone, formed the native population of the nearby Owens Valley. Hunting excursions occurred when groups of men traveled into the Sierra Nevada and White Mountains. Further, areas east of Owens River were also targeted for hunting parties. Julian Steward (1933) in his ethnography of the Owens Valley Paiute, consulted with Native informants to record place names. He did so for camps and villages, irrigated fields, gathering locations, hunting territories, trails, springs, and other resource locations. He also included geographic landmarks, and places where oral traditions document that a number of mythological events occurred (Steward 1933).

The Owens Valley Paiute lived to the west of the project area (Liljeblad and Fowler 1986; Steward 1933, 1938). These Native people primarily occupied the Owens Valley and adjacent flanks of the nearby Sierra Nevada, the White-Inyo Mountain Ranges. They also frequented the areas near Mono Lake to the north. The Owens Valley Paiute lived in stable, permanent settlements with logistical foraging to access other seasonal resources.

Seeds and pinyon nuts played a significant role in the Paiute diet, as the two resources were useful for storage (Liljeblad and Fowler 1986; Steward 1938). Villages were primarily located on alluvial fans upstream from the mouths of major creeks. The shores of Owens Lake were known for larger sedentary communities, prior to the forced removal of the Owens Valley Paiute through Euroamerican incursions.

The Owens Valley Paiute had some of the highest population densities in the entire Great Basin and there are estimates that they numbered over 1,000 persons. They also held particular resource territories in specific group and familial ownerships. Further, they were incipient cultivators and did irrigate native crops to increase their yields.

After Euro-American contacts, in the valley lowlands, efforts were made to drive out Native American settlements, including destruction of seed caches, and there was a period of Euro-American-Native American wars that occurred. Native American peoples were eventually forcibly removed and marched south in 1873, resulting in many Native American deaths. The Owens Valley Paiute were one of a number of groups relocated and transported to the Sebastian Indian Reservation.

Today, the Owens Valley Paiute, are a federally recognized Indian nation. Specifically, the Bishop Paiute Tribe is the fifth largest Native group in California with around 2,000 enrolled members.

3.4 History

The historic era of California is divided into the Mission or Spanish Period (1769 to 1831), Mexican or Rancho Period (1831 to 1848), and American Period (1848 to present).

Spanish Period (1769-1831)

The first known European explorers to pass through the Mojave Desert and travel into the San Bernardino Mountains were Lieutenant Pedro Fages and a party of soldiers in 1769. This group of explorers were led by a Spanish priest, Francisco Garces, who guided Juan Bautista de Anza through the high desert region. In 1771, De Anza led a group from Arizona to create headquarters at Mission San Gabriel near Pasadena. Mission San Gabriel Archangel was formally established in 1771 and proved to be the most economically successful of all the California missions. Its outlying ranch lands, grain fields, orchards, and vineyards constituted a vast pastoral empire, eventually extending many miles inland into the San Bernardino Valley. From the time of the Anza expedition until the Mexican Rancho Period (see below), the land surrounding Ontario in San Bernardino County was employed as grazing land by the Mission. Cattle ranching during this time became a thriving industry. Cattle bred rapidly in the favorable Mediterranean climate and soon herds composed of hundreds of thousands of animals were ranging across the verdant pasture lands.

In 1772, Pedro Fages, a military commander, tracked "deserters" from the Mission system throughout San Bernardino County. In 1774, Juan Bautista de Anza led another expedition from Mexico and set up camp along San Antonio Creek. The Anza camp site was near present day Ontario. Anza named that place Arroyo de los Osos, or "Bear Gulch." The Spanish explorer and missionary Father Jose Maria Zalvidea

followed the Mojave River Indian Trail and explored the general area for mission sites (while accompanying the Ruiz expedition) in 1806.

Mexican or Rancho Period (1831-1848)

The notable Old Spanish Trail was established between southern California and Santa Fe, New Mexico in the 1830s (Beck and Haase 1974). Traders from New Mexico traveled for two months to cross the rugged terrain bringing woolen goods on mules and pack horses. These merchants traded their wares for horses, mules, silks, and Chinese goods from California.

Spanish rule was overthrown by Mexico in 1791 and eventually the missions lost their land holdings as the Mexican government passed the Secularization Act in 1833 (Beattie and Beattie 1974). Following mission secularization, large land grants were provided to the most prestigious and well-connected citizens. This change in land tenure ultimately led to European settlement of the ranchos for raising cattle in the San Bernardino Valley.

The Rancho Period lasted from 1834 until the Mexican War of 1846. Colonists were encouraged to settle in the San Bernardino Valley to help protect the region from local Indian raids. Recipients of the land grants included Spanish gentlemen (dons) from many of what came to be known as the first families of California, such as the Lugos, Sepulvedas, Yorbas, Bandinis, Tapias, Palomares, and Picos.

American Period (1848- Present)

After the Mexican American War in 1848 and the discovery of gold in California, the Old Spanish Road was an even more widely used trade route for the shipment of goods, Mexican mules, and horses. The Road allowed travelers from Salt Lake City to Las Vegas to travel through the Cajon Pass to reach the cities of San Bernardino and Los Angeles.

Inyo County was formed in 1866 from Coso County, which had been created from parts of Mono and Tulare County in 1864 (Hittell 1865:190). The history of the Searles Valley revolves around the chemical-mining industries. Although the chemical-rich soil in and around Trona was noted in the 1860s, it wasn't until John Wemple Searles, the valley's namesake, built the San Bernardino Borax company that intensive mining began (Belden and Walker 1962:3-4). The discovery and mining of the chemical created a minor rush to the mines (McKenna and Hathaway 1989:26-27). By 1898, the San

Bernardino Borax Mining Company had completely ceased operations (Belden and Walker 1962:6-8).

In 1908, mining picked up again when the California Trona Company (CTC) bought the Borax mining operations. The focus of this round of mining was on potash instead of borax (Belden and Walker 1962:17). That same year, the Los Angeles Aqueduct Project began, drawing laborers from all over the world to participate in the massive public works initiative to divert the water from the Owens River west towards Los Angeles (Standiford 2015). This boom led to the construction of the Trona Railway in 1914, along which sprung several communities (Cole 1984:9-10). During this period, the CTC constructed many town-like amenities in the towns along the line (McKenna and Hathaway 1989:31-33), and the towns of Borosolvay, Westend and South Trona were officially incorporated (Knight 1949:18). By the 1930s, Trona was a small yet thriving company town. Argus, a nearby town, began to supply the needs of the towns built by the CTC, providing housing, entertainment and commercial services to the workers from Trona and the surrounding towns (Knight 1949:4).

4.0 PERSONNEL

Geōde Environmental's CEO, Essra Mostafavi assigned Alan Garfinkel Gold, Ph.D., RPA No. 989105, as the cultural resources specialist for this project. Alan requested an archival research from the Eastern Information Center which provided the results of their cultural resource records search on February 26, 2021. Following receipt of this information, a systematic pedestrian field survey was conducted within the project area (Figure 1). Upon completion of the field survey, this report was prepared based on the results of the data search and field investigations. Shane Davis M.A., RPA No. 17250 completed the initial pedestrian survey, and jointly Geōde Environmental's CEO, Essra Mostafavi, Alan Gold and Shane Davis drafted the report. Hannah Gold facilitated the Native American consultation and coordination for the project and performed additional outreach to local and regional specialists on the heritage values noted for the project.

5.0 METHODS

5.1 Research

A cultural resources records search was provided on February 26, 2021. The results of this archival records search are summarized in this report. The records search details the previously documented cultural resources in the Project area and employs a one-mile buffer surrounding it. A Sacred Lands File Search was also conducted through the Native American Heritage Commission (NAHC). This search offers valuable contextual information regarding Native American traditional land use in the high desert region. The search indicated a negative response for the presence of sensitive properties in the Project and vicinity. NAHC provided a list of eight interested parties representing three Native American groups that were identified as being associated with the area and all were contacted for consultation. A copy of the transmittal letters and full and complete documentation of the character of the Native American outreach are provided in Appendix B.

5.2 Field Survey

An archaeological field survey was conducted by Shane Davis, M.A., RPA No. 17250, on March 6, 2021. The survey was conducted by examining the area within the Project boundaries. The entire area of the Project was surveyed employing 5-10 meter transects within a mixed survey strategy. No subsurface testing was carried out within the Project area.

6.0 RESULTS

6.1 Native American Consultation

The NAHC conducted a Sacred Lands File Search and returned negative results for Sacred Lands near the proposed Project area. All potentially interested tribes identified by the NAHC were contacted for information regarding their knowledge of cultural resources that were within or near the Project area. The results of the outreach effort and the responses and input are reported in Appendix B.

6.2 Cultural Resources Records Search

The EIC conducted a records search of previously documented cultural resources sites and cultural resources reports archived for the Project area and within a one-mile radius (buffer) surrounding the subject property. The search included a review of all historic and prehistoric archaeological resources and any built-environment resources as well. Additionally, this review includes an archival search of the existing cultural resources reports on file with the Information Center. The California Points of Historical Interest (CPHI), California Historical Landmarks (CHL), California Register of Historical Resources (CALREG), National Register of Historic Places (NRHP), and California State Historic Properties Directory (CHPD) were all reviewed for the project site.

According to the Information Center results, four cultural resources reports have been previously completed within the Project area and its one mile-buffer. Four cultural resources surveys have also been identified within that same area – all of these resources are mapped outside of the Project boundaries. Table 2 lists the known cultural resources sites documented within the Project area's one- mile buffer. Table 3 lists the previous cultural resources survey reports filed with the Information Center that have been completed within the Project area and the buffer.

Table 2. Known Cultural Resources Within Project Area and a One Mile Buffer

Primary Number	Trinomial/Resource Name	Age	Type	Evaluations and Records*
P-14-001380	CA-INY-001380	Historic	Can and bottle scatter	1976 (Clough, BLM)
P-14-002147	CA-INY-002147	Historic	Rock Reinforcement with associated historic camps and can scatter	1988 (Joan Oxendine, BLM)
P-14-005222	N/A	Historic	State Registered Landmark No. 443, Golden Bear Plaque-Resource Name-Valley Wells	1989 (Tibbetts, n/a)
P-36-013615	CA-INY-10216	Historic	Debris scatter with associated rock features, dated to 1910s-1950s.	2015 (Monica Dollison, Taylor Sink, Brandon Foster, Bureau of Land Management Ridgecrest Field Office)

Site P-14-001380 (CA-INY-2147)

This site was identified and recorded by the Bureau of Land Management (BLM) in 1976. The site is located between two dirt roads approximately 0.75 miles away from Trona Wildrose Road. It consists of a historic can and bottle scatter approximately 30 meters in length. This scatter includes lead bead cans and cans with old metal stoppers, as well as dark green, brown, clear and purple glass and intact coke bottles. The BLM determined that the scatter dated between 1900s -1950s.

Site P-14-002147 (CA-INY-002147)

This historic road was recorded by Joan Oxendine with the BLM in 1988. The site ran parallel to Highway 178 from Pioneer Point to the approximate midpoint across the dry Southern Panamint lake, then east to the Stage Station Ruins. This site is a section of the Los Angeles Panamint Road that was built in 1874 by the Los Angeles Chamber of Commerce. This linear feature extends 32.3 miles, and is 6.5 feet wide and 4 inches deep. It is noted that there is rock reinforcement at Slate Range Crossing, as well as historic camps and can scatters located along this road.

P-14-005222

This site is located next to Highway 178, approximately 6 miles north of Trona. The site consists of a California Golden Bear Plaque dedicated in 1949 by the California Centennial Commission that commemorates several groups of midwestern emigrants who sought to get water from Searles Lake, but upon realizing it was salinized, headed north and west to populate southern and central California. This is State Registered Landmark No. 443.

P-36-013615 (CA-INY-10216)

This site was recorded by Brandon Sink, Monica Dollison and Brandon Foster of the BLM. The site is located on an alluvial fan extending south from the Argus Range, north of Pioneer Point. The site consists of a historic debris scatter with two associated rock features. The scatter included cans, tobacco tins, sanitary/vegetable cans, and a laxative bottle. Temporally diagnostic artifacts date the site from 1910-1954. Because the recordation of this site exhausted the data potential, the BLM determined that it was ineligible for inclusion into the National Register of Historic Places.

Table 3. provides a list of the cultural resources' reports identified by the Information Center within the Project area and within its one-mile buffer.

Table 3. Cultural Resources Reports in the Project and within the One-mile Buffer

InfoCenter Number	Authors	Title	Year
IN-00158	Irwin, Charles N.	The Slater Range Radar Site Archaeological Reconnaissance Report	1978
IN-00246	Underwood, Jackson	Summary of Archaeological Survey for the Argus Cogeneration Expansion	1986
IN-00695	Pollock, Katherine H. and Michael K. Lerch, Statistical Research, Inc.	Deteriorated Pole Replacement Project: Archaeological Survey of One Pole Location on the Hackman 33 kV Transmission Line, Inyo County, California	2005
IN-01139	Bureau of Land Management	Geothermal Lease Applications CA-1065 through CA-1069: Cultural Resources Inventory - Methodology	1976

6.3 Field Survey

During the pedestrian survey, transects were walked at 5-10 meter spacing throughout the entire Project survey area. The ground surface visibility at the time of survey was 80-100%, due to occasional shrubs, bushes and modern debris. All areas were examined for the potential for cultural remains. Special attention was given to rodent holes, animal burrows, and exposed subsurface ground such as might be exposed in drainage channels.

No pre-contact or historic cultural resources were encountered during the archaeological field survey. There was evidence of modern ground-disturbing activities and associated occupational debris, however none of this was determined to be of historic significance. Soils within the project area consisted of fine-grained, light brown-beige aeolian sands. The matrix was comprised of 90% sand, 10% gravel, ranging from pea-sized pebbles to melon sized cobbles that are characterized as rounded and sub-angular. Ground surface visibility was 80 – 100% throughout the survey area due to bushes, shrubs and modern debris. No subsurface testing was carried out within the Project area.

7.0 CONCLUSION & CULTURAL RESOURCES RECOMMENDATIONS

This cultural study was completed pursuant to CEQA. Field survey investigations were conducted on March 6, 2021 which resulted in negative findings with no historic or pre-contact cultural resources within the Project area.

Native American Consultation

The NAHC was contacted to complete a Sacred Lands File Search of the property, which returned negative results. The NAHC provided a list of potentially interested parties and affiliated Native American individuals and groups. These individuals were all contacted for further outreach and to identify if there are any concerns related to cultural values and resources for the proposed project area (Appendix B).

Archival Records Search

A request to the Eastern Information Center was executed and an archival records search for the Project was conducted. The search included a one-mile buffer surrounding the Project. Four cultural resources survey reports were identified as having been completed within the Project area and buffer and four cultural resource sites were previously documented. None of these sites were located within the Project area.

Cultural Resources Recommendations

If previously undocumented cultural resources are identified during earthmoving activities, a qualified archaeologist should be contacted to assess the nature and significance of the find. Project construction activities shall be diverted from the location of the discovery until the finding's significance is established.

If human remains are encountered during the undertaking, State Health and Safety Code Section 70.50.2 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her representative, the MLD may inspect the site of discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD shall make recommendations as the manner in which to treat the human remains and any associated offerings.

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APPENDIX A

FIGURES AND PHOTOGRAPHS

FIGURE 1.

SITE LOCATION MAP

1555 WILD ROSE ROAD, TRONA, INYO COUNTY, CA
APN 038-300-07-00

FIGURE 1 - SITE LOCATION MAP

GEODE ENVIRONMENTAL

FIGURE 2.

SATELLITE IMAGE OF THE TRONA PROJECT AREA SHOWN SHADED AND OUTLINED IN BLUE. THIS WAS THE AREA COVERED FOR THE PEDESTRIAN SURVEY.

FIGURE 3.

OVERVIEW OF THE TRONA PROJECT AREA, VIEW FROM THE SOUTHWEST CORNER TO NORTHEAST.
469123 ME X 3963829 MN

FIGURE 4.

OVERVIEW OF THE TRONA PROJECT AREA, VIEW FROM THE SOUTHEAST CORNER TOWARDS THE NORTHWEST.
4693315 ME X 3963746 MN

FIGURE 5.

OVERVIEW OF THE TRONA PROJECT AREA, VIEW FROM THE NORTHWEST CORNER FACING SOUTHEAST.

469201 ME X 3964120 MN

FIGURE 6.

OVERVIEW OF THE TRONA PROJECT AREA, VIEW FROM THE NORTHEAST CORNER TOWARDS THE SOUTHWEST.
469314 ME X 3964113 MN

FIGURE 7.

OVERVIEW OF THE TRONA PROJECT AREA, VIEW FROM THE FENCE TOWARDS THE EAST.
469170 ME X 3962944 MN

FIGURE 8.

CLOSEUP VIEW OF SOIL TYPICAL TO THE PROJECT AREA.
469170 ME X 3962944 MN

FIGURE 9.

VIEW OF MODERN MINING PIT WITH DEBRIS, VIEW FACING NORTHEAST.
469259 ME X 3963905 MN.

FIGURE 10.

VIEW OF MODERN STRUCTURE AND ASSOCIATED DEBRIS.
469181 ME X 3963912 MN

APPENDIX B

NATIVE AMERICAN CONSULTATION

Sacred Lands File & Native American Contacts List Request

To

Native American Heritage Commission
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 (Facsimile)
nahc@nahc.ca.gov

Current Date: March 5, 2020

Project: Trona

County: San Bernardino

USGS Quadrangle Name: Trona East Quadrangle

Location: Township 24 South, Range 43 East, Section 28

Company/Firm/Agency: Dr. Alan Garfinkel Gold, RPA No. 989105, Cultural Resources Consultant

Street Address: 2800 San Pablo Avenue

City: Bakersfield, California **Zip:** 93306

Phone: 805.312.2261

Fax: none

Email: avram1952@yahoo.com

Project Description:

STATE OF CALIFORNIA Gavin Newsom, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION

March 16, 2021

Alan Garfinkel Gold
Cultural Resources Consultant

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

Via Email to: avram1952@yahoo.com

Re: Trona Project, San Bernardino County

Dear Dr. Gold:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Bernardino County
3/16/2021

Kern Valley Indian Community
Robert Robinson, Chairperson
P.O. Box 1010 — Kawaiisu
Lake Isabella, CA, 93283 — Tubatulabal
Phone: (760) 378 - 2915 — Koso
bbutterbredt@gmail.com

Kern Valley Indian Community
Brandy Kendricks,
30741 Foxridge Court — Kawaiisu
Tehachapi, CA, 93561 — Tubatulabal
Phone: (661) 821 - 1733 — Koso
krazykendricks@hotmail.com

Kern Valley Indian Community
Julie Turner, Secretary
P.O. Box 1010 — Kawaiisu
Lake Isabella, CA, 93240 — Tubatulabal
Phone: (661) 340 - 0032 — Koso

Tule River Indian Tribe
Kerri Vera, Environmental Department
P. O. Box 589 — Yokut
Porterville, CA, 93258
Phone: (559) 783 - 8892
Fax: (559) 783-8932
kerri.vera@tulerivertribe-nsn.gov

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589 — Yokut
Porterville, CA, 93258
Phone: (559) 781 - 4271
Fax: (559) 781-4610
neil.peyron@tulerivertribe-nsn.gov

Tule River Indian Tribe
Joey Garfield, Tribal Archaeologist
P. O. Box 589 — Yokut
Porterville, CA, 93258
Phone: (559) 783 - 8892
Fax: (559) 783-8932
joey.garfield@tulerivertribe-nsn.gov

Twenty-Nine Palms Band of Mission Indians
Darrell Mike, Chairperson
46-200 Harrison Place — Chemehuevi
Coachella, CA, 92236
Phone: (760) 863 - 2444
Fax: (760) 863-2449
29chairman@29palmsbomi-nsn.gov

Twenty-Nine Palms Band of Mission Indians
Anthony Madrigal, Tribal Historic Preservation Officer
46-200 Harrison Place — Chemehuevi
Coachella, CA, 92236
Phone: (760) 775 - 3259
amadrigal@29palmsbomi-nsn.gov

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

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Trona Project, San Bernardino County.

PROJ-2021-001448 — 03/16/2021 03:18 PM — 1 of 1

Dr. Alan Garfinkel Gold RPA No. 989105
Cultural Resources Management Consultant

Dr. Alan Garfinkel Gold
Ms. Hannah Gold
2800 San Pablo Avenue
Bakersfield, CA 93306

March 10, 2021

Subject: Trona Project Native American Consultation and Coordination

Dear Sir:

We are contacting you regarding the Pinnacle Growth Project. Our client is in the process of developing a 12 acre parcel located at 1555 Trona Wildrose Road in Trona, California. The Project is located in Inyo County with an APN; 038-300-07. The specific project location is east of Trona Wildrose Road and north of Trona Airport Rd.

Pinnacle Growth has been issued a Type 12 Microbusiness license (License Number 5E-001) allowing for Cultivation(indoor) of greater than 5,000 square feet – this includes a Distribution, Manufacturing Level 1(type 6 non-volatile), and Manufacturing Level 2(type 7 volatile extraction) Permit.

There will be 4 phases to the Project's development:

- Phase 1 - Development of 2,300 square feet of small buildings for the nursery and a larger 2-3000 square foot greenhouse for the mother plants.
- Phase 2 - Will consist of a large 10,000 square foot greenhouse for cultivation. Wholesale distribution and non-storefront delivery.
- Phase 3 - The addition of 5 10,000 sq ft greenhouses increasing cultivation output.
- Phase 4 - The addition of manufacturing level 1(type 6 non-volatile) and manufacturing level 2 (type 7 volatile) labs for infusing products and for concentrate production.

This letter is intended to inform you of the Project and to help ensure compliance with the California Environmental Quality Act (CEQA). Please see the attached Project location map.

As part of the cultural resources study for the project, we are requesting your insights on potential Native American cultural properties and resources in or near the Project. Please respond at your earliest convenience if you have any information to consider for this study.

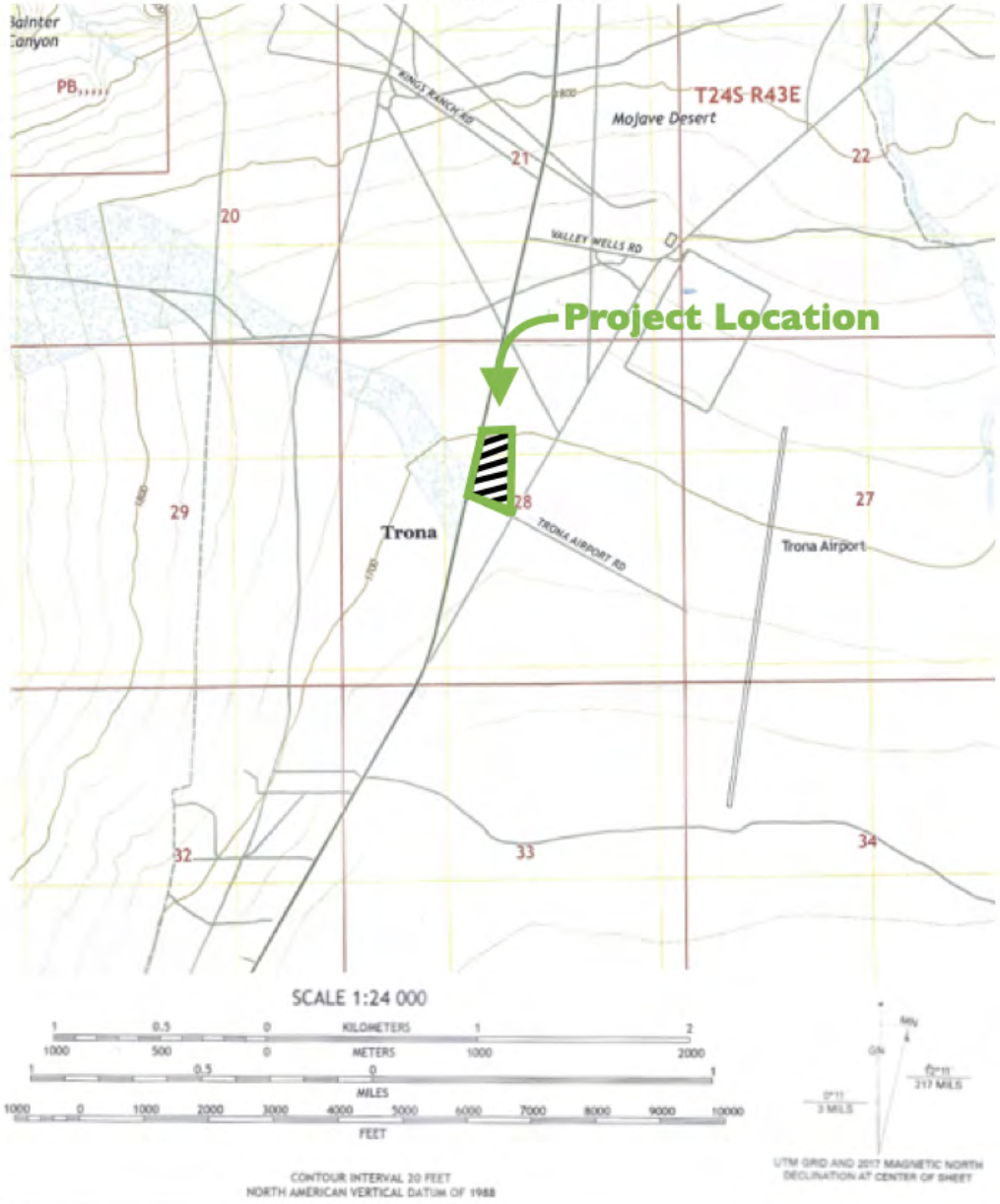
We would greatly appreciate it, if you could review the attached map and indicate to us if there are any concerns or input with regard to potentially sensitive cultural values in the Project area and vicinity.

Thank you. Feel free to contact us by email (avram1952@yahoo.com) or phone (805.312.2261).

Sincerely,

Dr. Alan Garfinkel Gold, RPA No. 989105
Cultural Resources Consultant

TRONA EAST QUADRANGLE
CALIFORNIA
7.5-MINUTE SERIES



- Area to be Surveyed

Wednesday, March 17, 2021

Trona Project

Contacting Results

- **Kern Valley Indian Community**
  Robert Robinson, Chairperson:
- Emailed Letter and Map: March 17, 2021
- Mailed Letter and Map: March 19, 2021
- Called: March 18, 2021

- **Kern Valley Indian Community**
  Brandy Kendricks:
- Emailed Letter and Map: March 17. 2021
- Mailed Letter and Map: March 19, 2021
- Called: March 18, 2021

- **Kern Valley Indian Community**
  Julie Turner, Secretary:
- Emailed Letter and Map: March 17, 2021
- Mailed Letter and Map: March 19, 2021
- Called: March 18, 2021

- **Tule River Indian Tribe**
  Kerri Vera, Environmental Department:

1

Wednesday, March 17, 2021

- Emailed Letter and Map: March 17, 2021
- Called:

- **Tule River Indian Tribe**
  Neil Peyron, Chairperson:
- Emailed Letter and Map: March 17, 2021
- Mailed Letter and Map: March 19, 2021
- Called: March 18, 2021

- **Tule River Indian Tribe**
  Joey Garfield, Tribal Archaeologist:
- Emailed Letter and Map: March17, 2021
- Mailed Letter and Map: March 19, 2021
- Called: March 18, 2021

- **Twenty-Nine Palms Band of Mission Indians**
  Darrell Mike, Chairperson:
- Emailed Letter and Map: March 17, 2021
- Mailed Letter and Map: March 19, 2021
- Called: March 18, 2021

Wednesday, March 17, 2021

- **Twenty-Nine Palms Band of Mission Indians**
  Anthony Madrigal, Tribal Historic Preservation Office:
- Emailed Letter and Map: March 17, 2021
- Mailed Letter and Map: March 19, 2021
- Called: March 18, 2021

APPENDIX C

RESUMES

ALAN G. GOLD, PH.D

WWW.GEODEENVIRONMENTAL.COM

KEY QUALIFICATIONS

CEQA/NEPA | Cultural Resources | National Historic Preservation Act | SHPO | CHRIS | Anthropology | California Great Basin Native Religion, Ritual & Cosmology | Eastern Sierra Specialist

EDUCATION

PhD- Prehistoric Forager Ecology
University of California, Davis

Master of Arts- Anthropology
University of California, Davis

Bachelor of Arts- Anthropology
California State University, Northridge (magna cum laude)

SKILLS

Conducted over 354 anthropological studies with accompanying reports totalling $12.6 million dollars. Studies completed to comply with State and Federal historic preservation laws CEQA, NHPA, and NEPA and include:

- Pedestrian archaeological inventories
- Phase I surveys to identify significant historic properties,
- Phase II testing site excavations for of historic properties that are potentially eligible for the National Register of Historic Places
- Phase III excavations for data recovery projects including late discovery and systematic site destruction to mitigate the adverse effects to historic properties eligible for listing on the National Register of Historic Places
- Native American consultations and recognition of Traditional Cultural Properties, areas important for their cultural significance, as well as sacred sites.
- Work with the following Native American Indian Groups: Apache, Cahuilla, Calaveras (Miwok), Chemehuevi, Cherokee, Chimariko, Chukchansi (Yokuts), Chumash, Desert Kawaiisu, Diegueno, Eastern Mono, Foothill Yokuts, Gabrielino, Hualapai, Havasupai, Hopi, Ione Band of the (Miwok), Kitanemuk, Kizh, Kumeyaay, Kuzedika (Paiute), Luiseno, Maidu, Modoc, Mountain Kawaiisu (Newah), Mohave (Quitsan), Navajo (Dine), Northern Valley Yokuts, North Fork Mono, Ohlone, Ootam, Owens Valley (Paiute), Panamint (Coso, Koso, Timbesha) Shoshone, Pomo, Pueblo, Quechuan, Serrano, Southern Valley Yokuts, Tatavium, Tarahumara, Tongva, Tubatulabal, Tuolumne (Me-Wuk), Washoe, Western Mono, Yaqui, and Yowlumne (Yokuts).

SELECT PROJECTS & FIELDWORK

- Construction monitoring, data collection, and data recovery for 65 archaeological sites in the Southern Kelso Valley, Kern County, California.
- Archival Research for 90 Water Features throughout the Mojave and Great Basin California deserts for bighorn sheep wildlife habitat improvements. Contracted by the Society for the Conservation of Bighorn Sheep. Project totaled $25,000 in 2018.

- Phase 1 Cultural Resource Surveys throughout the western Mojave Desert including Victorville, Phelan, Upland, Apple Valley, Moreno Valley, Hesperia, and Adelanto. Projects totaling $100,000. 2018.

- Updates and revisions of the Integrated Cultural Resource Management Plans for the following Naval Installations: Point Loma, Ventura, San Nicolas, Seal Beach, Norco, Fallbrook, Monterey, and Coronado. Projects total $350,000 in cultural resource consulting income. 2015-2018

- Section 110 cultural resources surveys for Naval Air Weapons Station, China Lake and Naval Air Facility, El Centro totally 45,000 acres. Phase 1 inventory, site recordation, data analysis, chronological diagnostic review, and presentation, cultural resource management recommendations. Projects total $750,000 in cultural resource consulting income. 2015-2016.

SHANE DAVIS | ARCHAEOLOGIST

WWW.GEODEENVIRONMENTAL.COM

CERTIFICATIONS	Register of Professional Archaeologist (#17250)
MEMBERSHIPS	Society for California Archaeology Archaeological Institute of America
AWARDS	Kiana Dressendorfer Scholarship for Archaeology San Francisco State Graduate Grant
EDUCATION	Masters of Arts in Anthropology, San Francisco State University Bachelors of Arts in Anthropology, San Francisco State University

Associate Archeologist | MOUNTAIN G ENTERPRISES 2019 – Present

ARCHIE CREEK FIRE RESPONSE, PACIFICORP (2020-PRESENT). Field Director
Shane was responsible for managing archaeological surveys and monitoring within the footprint of the Archie Creek near Roseburg, Oregon. Shane was a primary author of the report for two large and complex archaeological districts.

ECHO MOUNTAIN COMPLEX RESPONSE, PACIFICORP (2020). Field Director
Shane was responsible for managing archaeological surveys and monitoring within the footprint of the Echo Mountain Complex Fire near Lincoln City, Oregon. Shane co-authored the Archaeological Survey Report and developed site records for historic resources discovered during pedestrian surveys.

CAMPFIRE TREE ASSESSMENT PROJECT, CALRECYCLE/ARCADIS (2020). Lead Field Archaeologist / Principal Investigator. Shane was responsible for managing archaeological surveys within the footprint of the Campfire event. Shane managed staff, reviewed survey data, and was responsible for preparing site records and completing cultural resource reporting. He was also responsible for coordination between CalRecycle, FEMA and the SHPOs office on methodology and coordination of the field work. Additionally, he worked with the project Incident Planning Team to develop and implement a digital platform for recording archaeological data.

PLACER COUNTY TREE MORTALITY REMOVAL PROJECT, PLACER COUNTY, (2019-2020) Shane is the Principal Investigator responsible for performing archaeological reviews for hazard tree removals adjacent to County owned or maintained infrastructure. Shane supervises field surveys and monitoring activities. Areas surveyed included US Forest Service and Bureau of Land Management properties.

Field Archaeologist| JACOBS ENGINEERING 2019

RANCHO SAN ANTONIO BURIAL RECOVERY PROJECT, Responsible for coordinating the exhumation of human remains from a pre-contact Native American cemetery. This included excavating features by context, recording detailed osteological information on standardized forms, excavation of test units, creating detailed profile and plan drawings, and construction monitoring efforts.

Lead Archaeological Surveyor | HELIX ENVIRONMENTAL PLANNING 2017 – 2019

VERIZON AND AT&T SMALL CELL SITE SURVEY PROJECT, Responsible for performing individual surveys of small parcels of land (< 10 acres) that are scheduled for cell tower construction. His duties included navigating to the proposed location of a construction site, assessing the potential direct and indirect impact of telecommunications facilities on the pre-contact and historic resources through pedestrian survey. After the survey, he provided written and photographic documentation of the area of potential effect. He then drafted and submitted CEQA and Section 106 compliance letters to the

State Historic Preservation Office on behalf of the environmental consulting firms hired by AT&T and Verizon. Occasionally this position required monitoring of ground disturbance and other construction activities, accompanied by one or more tribal representatives.

Archaeological Surveyor | NATIVE-X ARCHAEOLOGICAL SERVICES 2018-2019
MAPES CULTURAL RESOURCE SURVEY PROJECT, 8-10 hours of survey per day in Plumas National Forest. His responsibilities included back-country navigation with topographic map, Garmin and compass, as well as using a Trimble to document pre-contact and historic sites, features and isolates to USFS standards for 106 compliance.

MINOR PROJECTS | VARIOUS

- Humbug Farms Vegetation Management Program – June 2020 - Archaeological Surveyor
- Matelot Ditch Infrastructure Initiative – March 2018 – Archaeological Surveyor and Monitor
- Hoopa Tribal Forestry 2018 Timber Sale – Archaeological Surveyor
- Ocean Ranch Restoration Project – October 2017 – Archaeological Surveyor
- Oroville Dam Emergency Spillway Recovery Project – May 2017 – Archaeological Monitor
- Mid-Peninsula Open Space Cultural Resource Survey – March 2016 - Archaeological Surveyor and Excavation
- Foothill College Anthropology Lab – January – May 2016 – Laboratory Technician
- Presidio of San Francisco Archaeological Investigations – September to December 2015 – Archaeologist/Excavation and Laboratory Assistant

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MOBILE 626.626.6186
OFFICE 760.428.8068

INFO@GEŌDEENVIRONMENTAL.COM
WWW.GEŌDEENVIRONMENTAL.COM