CHAPTER 1

INTRODUCTION

Seven years of Lost Valley archaeological field school excavation activities concluded in the midsummer months of 2003. This ambitious project amassed a wealth of artifactual, ecofactual, and biological data. Up to this point in time, little has been published on these data, thus it has now become compulsory to subject the torpid information to the aggressive categorical analysis that modern archaeological ethics demands. Whenever archaeologists excavate, it is imperative that the work immediately continues into the laboratory to accurately catalog, curate, and additionally research, and publish in a timely manner. It is regrettable if even one collection sits in stasis in an incomplete phase of processing after the excavation is complete. It is a sad fact that many excavation collections rest in some stagnate phase of incompleteness. Too many times a project is left without an advocate due to retirement, transfer, accident, or some other tragedy. This unfortunate situation could, however, possess an upside. As graduate students are commonly searching for "ripe" material and data on which to construct their master's theses, these dormant collections represent the omnipresent orphans longing for a doting adoptive parent. This thesis will incorporate a focus on only a few concepts of the vast informational potential of this collection. It is my sincere hope that others will continue the research on this collection, with diverse foci, to publish and thereby record into the archaeological record the huge capacity that this collection has to offer.

Lost Valley is a high mountain valley located in far northeastern San Diego County (Figures 1 & 2). This particular locale is wholly within the northernmost reaches of the peninsular range mountains, near the transitional environmental zones to the interior valleys to the west, and the low desert of Imperial County to the east.

The Lost Valley project began as a cooperation between the landowners, The Orange County Council of Boy Scouts, and San Diego State University anthropology Department under the auspices of Anna Noah and Larry L. Leach, with the primary objective of

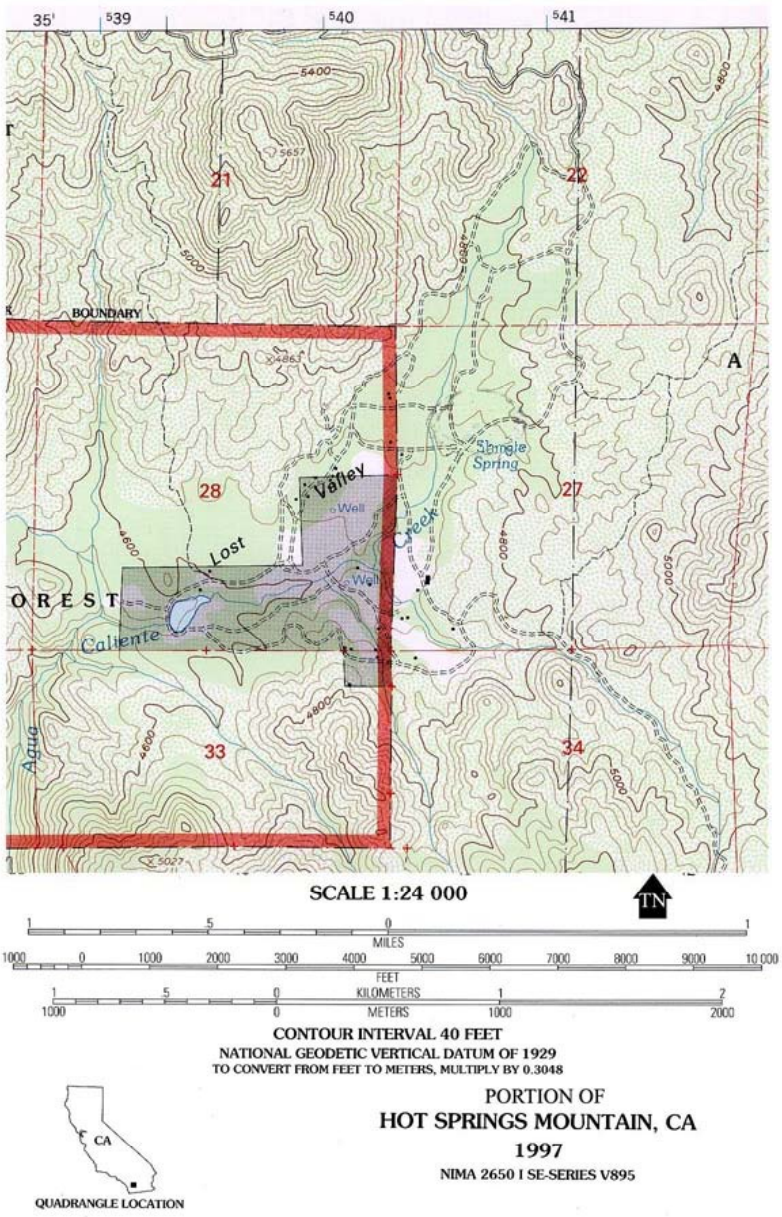

Figure 1. The map shows the relative location and topography of Lost Valley.

identifying the prehistory of this valley for the mutual education benefits of visiting Boy Scouts earning their archaeology merit badge, and anthropology students, both undergraduate and graduates, exercising and proving their expertise under the trowel and brush.

My participation in this project began in the field season of 2002. From that time to the writing of this thesis, Victoria Kline and myself have taken the collection into the laboratory and together have cleaned, catalogued, photographed, and curated the artifacts from the final two years excavation activities in totality along with the remaining "loose ends" that remained from the seven year academic project, and Boy Scout merit badge activities. The vast majority of the collection was found to be packed from the field with precise information, as only a few omissions or mistakes had to be verified or corrected through cross reference, field notes, or visual reassessment.

PRIOR THESES

Three master's theses have thus far propagated from the Lost Valley assemblage. Shasta Gaughen effectively presented "The Ethnobotany of the Cupeño" utilizing existing published ethnographic data, ambulatory surveys of the local vegetation communities, and cross referencing published accounts of Cupeño oral histories. This 2001 thesis incorporated the entire Cupeño ethnographic territory of which Lost Valley is only a part, and represents the uppermost elevation zones. Although much of the data for Gaughen's thesis originated within Lost Valley, the majority of information was gleaned from the canyons and trails interconnecting sites between Lost Valley and Warner Springs Ranch, and orally, from interviews with Cupeño descendants then living at the Pala Reservation. The completed product provided invaluable knowledge about the utilization of local vegetation for all research to follow, concerning the Cupeño people and the entire former Cupeño ethnographic territory (Gaughen 2001:81-84).

Kaylene P. Flemming presented her thorough 1999 work on a single Lost Valley site: CA-SDI-2508 (Leaning Pines). This site is among the cluster of sites within a meager distance of Shingle Spring, and is among the data inclusive to this work. Flemming's work provided a bounty of late prehistoric data covering all categories of the artifact assemblage, and furnished later researchers with a beneficial reference resource, and a valuable comparison on which this work will expand (Flemming 1999).

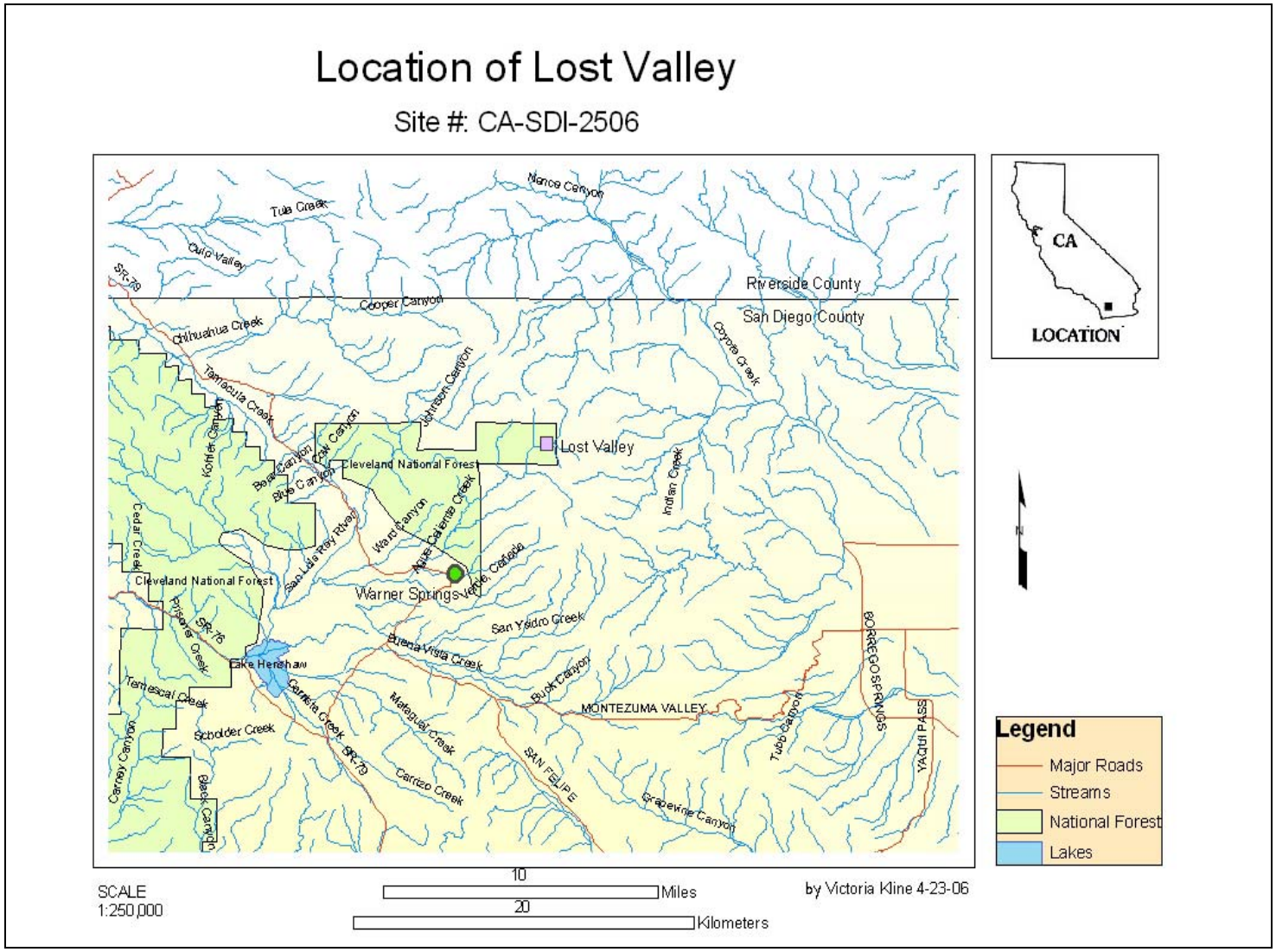

Figure 2. A general location map of areas described in the various prior works concerning the Cupeño culture.

More recently, John Simmons presented his 2005 thesis. He statistically compared the artifactual assemblages of eight sites near Shingle Spring in the northeast region of Lost Valley. His brief work compared the artifactual assemblages of four sites in the vicinity near Shingle Spring to four sites further up the northeastern slope and in the chaparral. His analysis concluded that all eight sites were residential in composition (Simmons 2005).

THE SETTING

Seven years of excavations have culminated in an abundance of artifacts. Along with the steadfast skills and collaborative hand of my wife, Victoria L. Kline, I have aspired to take this collection to the thesis level with a research design aimed to reveal the multi-categorical artifact particularities that I have observed concerning this collection with a specific concentration on the lithic and temporal-chronological components. This thesis will focus on an artifact assemblage that was collected from 21 archaeological sites in Lost Valley. Four of the 21 sites were excavated, resulting in the bulk of the collection; the remaining artifacts were collected from the surface of sites and from shovel test pits (Pigniolo 1998). The excavated sites were: CA-SDI-2506 (The Bog Site), CA-SDI-2508 (Leaning Pines), CA-SDI-2507 (The Pottery Site), and VS-766C (The Archery Site).

The goal of this thesis is to examine the artifact collections from Lost Valley in order to better understand the prehistory of the region. I questioned whether there appears to be a strong desert and/or mountain Cahuilla material cultural and trade influence to match the strong linguistic relationship that the Cupeño share with the Cahuilla throughout the analysis of this collection. I also introduce an additional theoretical understanding of the change in the local environment over the long span of time that this region has been occupied by humans.

My focus here is on the flaked stone content from the collection, in combination with the distinct and noteworthy components from the ground stone, ceramic, faunal, and other lithic and mineral artifacts, to cast a further glimpse into the lives of the prehistoric past residents of Lost Valley.

These archaeological excavations hold the potential to enhance knowledge considerably. The Cupeño cultural history is known primarily from historic ethnographical sources, a single site excavation (Flemming 1999), local excavations compared only categorically (Simmons 2005), and through comparisons to other excavations performed in

adjacent geo-environmental contexts and surface surveys (American 1981; Kidder and Leach 1982; Pigniolo 1998).

Early studies of California's aboriginal peoples provided a last-chance opportunity for the collection of data from linguistic, material culture, oral traditions, and a host of ritual-religious, kinship, and inter-group studies that remain available to compare with the excavated material that is continuously and/or opportunistically added to our bank of knowledge. The Lost Valley excavation data has produced new knowledge, and will continue to hold the potential to confirm, contradict, and/or add to these historical and protohistorical accounts. Linguistic studies have the capacity to provide additional lines of evidence that can support prehistoric archaeological data as well. Words borrowed from other cultures can suggest specific sources of material culture items, affinitive or sanguine relationships, or splintering, migration, and conquest. In this work, I have endeavored to link the four fields of anthropology wherever possible.

OTHER RESEARCHERS' RELATIVE CONTRIBUTIONS: (RESEARCH HISTORY)

Contrasting all of the diverse aboriginal culture areas of California, the Cupeño have been designated as having had the lowest population together with occupying the smallest geographic territory (Kroeber 1908; Strong 1929). The earliest anthropological investigations on the Cupeño were mainly ethnological or linguistic in nature and concentrated on the transplanted Cupeño population residing on the Pala Reservation among the Luiseño. These remaining Cupeño were former residents from the only two occupied villages near Warner Springs in the late 19th century and in the first two years of the twentieth century. Early western ethnographers realized that the indigenous peoples of California and elsewhere were rapidly losing their language and culture through acculturation, assimilation, and regrettably, expiration (Harrington 1933). Thus, they pressed on to accurately and completely record as much as possible before time eventually clouded or erased memories. Anthropologists recognized these problematic occurrences in the first decade of the twentieth century. Therefore, they actively endeavored to address data collection well into the mid 1900s. Tribal elders then still remembered their earliest days in the middle nineteenth century, but their lives were approaching their declining years. Around the year 1902, the Cupeño were forcibly removed from their ancestral home at Warner Hot Springs to the Pala Reservation in

Luiseño territory, forever changing the Cupeño tribal status and identity (P. Brigandi personal communication 2008; Hill and Nolasquez 1973; Strong 1929:189).

Shortly after their forced removal, A. L. Kroeber, E. W. Gifford, and William Duncan Strong descended on this area over the following years, to record ethnographic and linguistic data before time erased all its traces (Bean 1972; Gifford 1918; Kroeber 1908; and Strong 1929:83). These tireless individuals recorded the thoughts and memories of aboriginal elders, and from other native peoples sequestered on the reservations, as well as those widely dispersed neighboring peoples whom had not yet been forcibly removed. The desert dwelling peoples of the Serrano and Cahuilla cultures were at that time still transiting from the desert floors to the mountain passes in a seasonal pattern up until the late 1920s and early 1930s. A few Cupeño individuals remained separated for decades longer from the reservations, and lived among the Cahuilla in the low desert and along the adjacent mountain passes and canyons (Bean and Smith 1978).

MORE RECENT STUDIES

With the first archaeological surveys of the Lost Valley vicinity, certain areas of concentration in surface archaeological evidence were identified lending credence that these areas were likely locales that would produce subsurface data. Next, an array of perpendicular crossing patterns of shovel test pits further revealed concentrations of buried cultural resources at most sites (Pigniolo 1998). And finally, The San Diego State University Anthropology Department field school probed 137 full 2m2 excavation units narrowing the concentrations to an area where four separately recorded sites met, CA-SDI-2507 (the Pottery Site), VS-766c (the Archery Site), CA-SDI-2508 (Leaning Pines), and CA-SDI-2506 (The Bog Site). CA-SDI-2506 revealed exciting results in 2002 with the addition of a Paleoindian component represented by a complete, reworked, fluted point (Rondeau 2006) and some additional unique late prehistoric artifacts. This find prompted Dr. Leach to postpone his planned retirement and continue for one more year and hence the field season of 2003 was planned. The 2003 season revealed additional exciting results and an expanded late prehistoric projectile point assemblage. Several examples of carved bone implements and shaped stone pendants were added to the collection (see Chapter 11).

Until the 1980s, little or no subsurface archaeological work had been performed on these lands identified as the ethnographic territory of the Cupeño (Bean and Smith 1978: 591). The American Pacific Environmental Consultants, Inc. conducted surface survey investigations near Warner Hot Springs in the former village site of Kupa in 1981 under contract for the A. Cal Rossi Company (American 1981). Additionally, several Chihuahua Valley sites were located by surface survey and recorded under the auspices of the Sky Oaks Archaeological Reconnaissance Project, also performed in 1981 by Dr. Larry L. Leach and Fred Kidder of San Diego State University Cultural Resource Management Center (Kidder and Leach 1981). In 1995 the Lost Valley property owners, the Orange County Council of the Boy Scouts of America, were planning an expansion of their facilities and contracted Tierra Environmental Services to survey and identify 22 thus far unevaluated sites to comply with the Major Use Permit Application to the San Diego County Department of Planning and Land Use. Tierra Environmental Services (1998) produced a volume documenting the various historic uses of Lost Valley, and submitted the report entitled "Wiatava: An Evaluation of Cultural Resources within Lost Valley, County of San Diego, California."

To compound the confusing nature of prior Cupeño ethnographic studies, Joel L. Hyer (2001) reported on the oral histories of the Cupeño, and the neighboring Kumeyaay and Luiseño people. The oral historical origins of the Cupeño people state that they came from the north from a lineage of the Mountain Cahuilla (Hill and Nolasquez 1973). This concurs with the linguistic evidence presented by Hill (1972), Gifford (1951), Bright and Hill (1967), and Kroeber (1925). The puzzling aspect of this oral history stems from the story of Kisily Pewik and the reported near total annihilation of the Cupeño population. Kisily Pewik was the son of a Cupeño man and his Luiseño wife. Kisily and his mother were the sole survivors of an unspecified conflict, and after the carnage, relocated to the nearby Luiseño village of Saboba. The contradiction lies in the fact that Kisily, reportedly an infant, who probably spoke little or no Cupeño, was not likely to have been fluent in the Cupan language. His mother, being Luiseño and raising her son in a Luiseño village, probably spoke the Luiseño language, a significantly different dialect from Cupeño. Later, Kisily Pewik (by now an adult) reclaims Cupeño territory by defeating his enemies with the help of his spirit bear (Hyer 2001).

Kisily Pewik is then said to marry two Luiseño women and from this new genesis the Cupeño people reclaimed their land near Kupa, near today's Warner Springs (Hill and Nolasquez 1973). This is followed by numerous intermarriages with Cahuilla, Luiseño and Kumeyaay neighbors. How then does the Cupeño Language remain a closer link to the Cahuilla than to the Luiseño? Why is there no mention of linguistic influence? There seems to be some missing data in the equation. There remains a possibility that archaeological investigations can introduce evidence leading to that missing data. This thesis does not claim to produce a solution to the question, but I hope to introduce new information that may fuel continued vigor into the search for some of those answers.

THE SDSU LOST VALLEY EXCAVATIONS

The Lost Valley excavations began in 1997 as an archaeological field school for the Anthropology Department of San Diego State University under the direction of Anna Noah and Larry L. Leach. The final years of the excavations became focused on a localized area where three separately recorded sites joined, near two concentrations of exposed granitic bedrock that lie within 100 to 200 meters of the tenaciously productive Shingle Spring. Despite twelve years of previous drought, in the summer of 2003, we found that this water source continued to flow. The field school students of that final year collectively witnessed pine, cedar, and oak trees - some hundreds of years old with root systems just out of reach of the spring and its drainage, desiccating to brown, awaiting either the chainsaw or an eventual devastating wildfire. The entire month of June was characterized by the perpetual distant drone of the chainsaw, orchestrating a dirge of doom, heralding the demise of another stately dendroid. It came to be that both scenarios were to attain fruition as a devastating wildfire sacked the valley as it did in much of San Diego County in the autumn of 2003.

The resources that drew people to establish a residence here in the past were all tied directly or indirectly to this reliable source of water. Seven species of acorn producing oaks align the drainages of this spring up and down the canyon arroyos. Coulter and Pinyon Pines provided pine nuts to squirrels and birds as well as the human population. The spring also promoted the growth of browse, thereby attracting deer, rabbits, and other mammals. This environment provided local people with dependable and diverse sources of vegetable foods, cereal staples, and meats (Gaughen 2001).

Lithic Resources

The geologic rock units providing the local lithic raw materials originated from extrusive volcanic and intrusive plutonic rocks formed in the Mesozoic, which encompasses the Triassic, Jurassic, and Cretaceous, during periods of volcanic activity. The surface extrusion rock types have long since eroded into sediments, and the remaining geology represented in the landscape we see today has been uplifted to its current elevation by way of tectonic interactions between the American and Pacific plates (McCulloch 1984, Abbott 1999).

One resource that seemed to be lacking in Lost Valley was an adequate flaked stone raw material source. The nearest source of obsidian was located 60 miles (96 km) southeast at Obsidian Butte on the southeast shore of the Salton Sea (Hughes 1989). The Obsidian Butte obsidian erupted about 16 ka from a rhyolite dome, one of five domes fed from four vents along a near east-west line at the southern shore of the Salton Sea (USGS 2007).

James H. Cleland, Andrew York, and Angela Johnson of KEA Environmental, Inc. of San Diego, California, prepared a report for the 20th Annual ESRI User Conference, presenting the changing shorelines of the Salton Basin/Lake Cahuilla, using a GIS technological base to exhibit the shorelines visually in several formats. The chart (Figure 3) shows complete desiccation at 280 feet (85 meters) below sea level, and a maximum stand at 40 feet (12 meters) above mean sea level. When the lake level reached the maximum stand, where overflow into the Gulf of California (Sea of Cortez) occurred, the Colorado river would then eventually return its course back to the south and empty into the Gulf of California (Cleland et al. 2000). In the normal dry desert heat, the lake would probably take approximately 60 years to completely desiccate, at a rate of about 6 feet (1.8 meters) per year after the Colorado river became completely shut off (Waters 1981).

The Obsidian Butte rhyolite dome rises 98 feet (30 m) above the current dry lake shoreline and the obsidian flow reaches up only 65 to 82 feet (20 to 25 m) below the top of the dome. The surrounding alluvial sediments lie at about -230 feet (-70 m) below mean sea level so the obsidian would only be available at the surface of the lake when it reached a level of approximately –160 feet (-49m) feet below sea level. The current water level of the Salton Sea is approximately –231 feet (-70m) below mean sea level (Waters 1981).

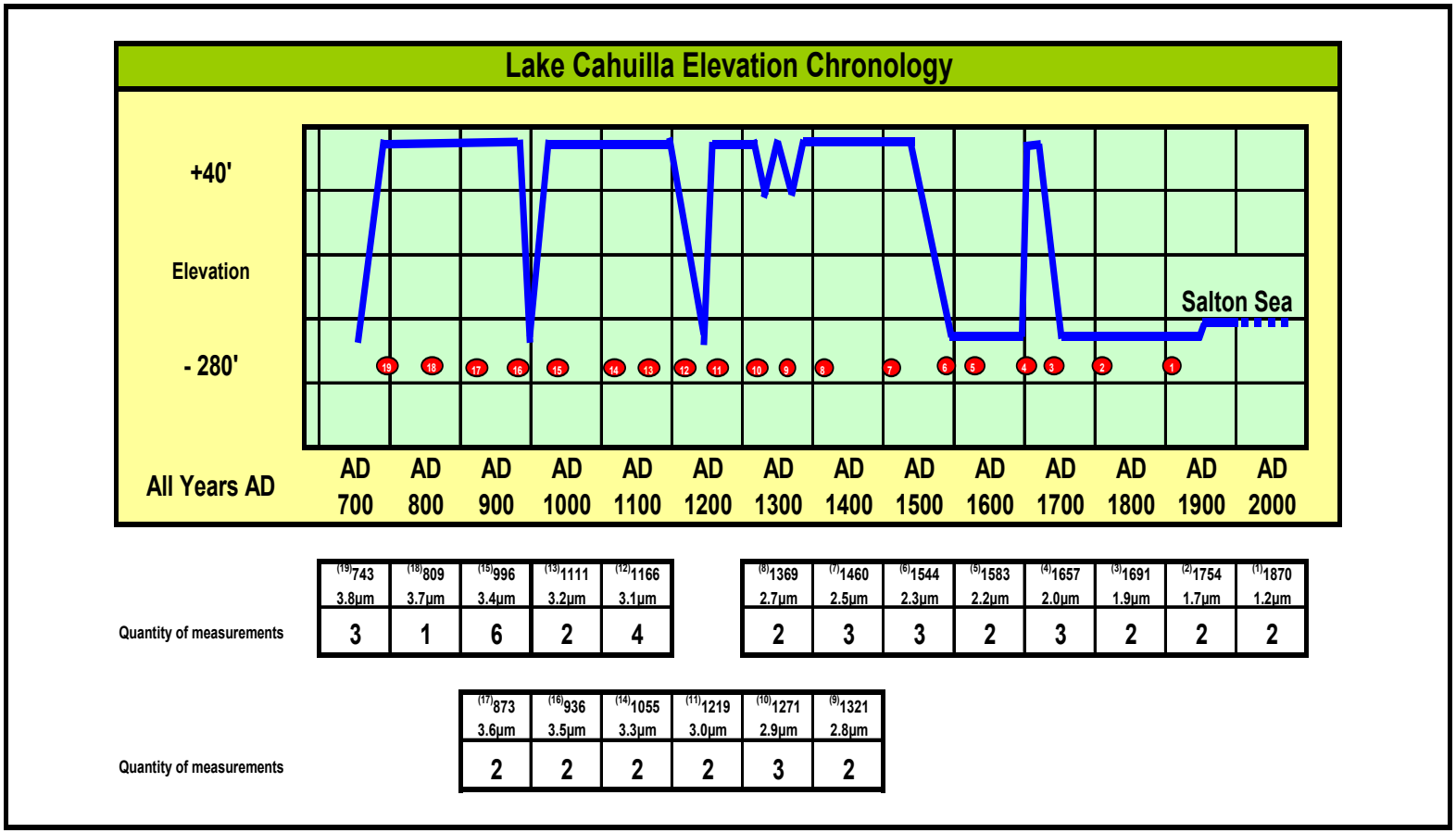

Figure 3. Lake Cahuilla chronology. (Chart data is derived from obsidian hydration research, James H. Cleland, Andrew York and Angela Johnson of KEA Environmental, Inc., and from Waters 1983; and Schaefer 1994).

Comparatively little lithic detritus of this source/material was evident in Lost Valley, and the quantities of completed functional or used/broken obsidian projectile points were few in number. However, the large quantity of excavated units from the various sites surrounding Shingle Spring yielded enough obsidian debitage overall to perform statistical, comparable, and chronological analyses using quantities and hydration measurements. Chalcedonous materials, represented by chert and similar cryptocrystalline silicates, were also relatively uncommon, demonstrating that sources were also equidistant. The limited number of artifacts made from clear crystal quartz paled in number relative to the other prime materials, reflecting the rarity of this material in contrast to its semi-local availability.

The vast majority of lithic material available locally was the ubiquitous white, milky quartz. This material is difficult to flake predictably, due both to its hardness and the omnipresent flaws, inclusions and natural crystalline facets, or the cleavage planes it commonly contains (Bisson 1990). A debitage analysis would not reveal as complete a picture as the more homogenous cryptocrystalline materials, due to its tendency to shatter along crystal facies, cracks, or inclusions, thereby severely limiting, or even eliminating, the classic flake scars in the debitage and attributes common to the more homogenous materials. Where these flake scar attributes are present on the debitage, the translucent clear-to white non-color renders much of the identifiable classic flake attributes nearly invisible to the unaided eye (Gramley 1981).

This white “sugary” form of quartz exhibits a cryptocrystalline structure, whereas many small crystals intersect and merge to lend predictive flaking a challenging to impossible task (Bisson 1990).

Occupational Components, Environments

The Paleoindian era represents the transformation of a climate from a time of glaciation in the more northern latitudes, pluvial lakes in the Great Basin/Mojave Desert to the east, significantly lower sea levels represented along the coast, and cooler climates locally, with a likely vegetation community now found in higher elevations and latitudes. This paleoclimate gradually and cyclically changed to what we see today, which appears now to be on a measurable warming trend. While climatologists firmly agree that the environment during the

last glacial maximum affected climates globally, there has been disagreement when focusing on local details pertaining to continentality, latitude, and elevation. If local paleoenvironmental data are essential to supporting an archaeological theory, reliable courses of research may include core sampling of lucastrine deposits, or soil samples taken from stratified profiles from excavations in an area adjacent to, or within the local ecological zone. When these samples are radiocarbon (^{14}C) dated and pollens and/or diatoms are identified to the particular species, a chronological representation of the climatic cycles is revealed.

One such study was performed by R. Scott Anderson et al. (2002) in Diamond Valley, near Hemet, California. Their research revealed that during the middle Wisconsin glaciation, ca 41,200 to 41,400 years before present (BP), vegetation communities that are currently present at elevations ranging from 3,500 to 4,500 feet were then flourishing in Diamond Valley at an elevation of approximately 1,500 feet. This study effectively expands on the still deficient knowledge of California's local paleoenvironments, although additional research remains requisite.

Anderson et al. (2002) identified a plethora of climate factors, including sea levels that were up to 100 meters lower than present, and shorelines that were up to two to four miles farther west to a point near to what is now the edge of the continental shelf. This factor strongly limited the inland oceanic influence on average temperatures and humidity cycles. The authors also specified other influences on the local environment based on dramatically increased precipitation rates (Anderson et al. 2002).

Considering the above study, Lost Valley would have likely harbored the floral and faunal ecology similar to that which we now observe in the higher elevations approximating those of the nearby upper extremes of the Laguna Mountains just to the south of this area.

From the previous archaeological survey activities within the Cupeño ethnographic area, most evidence pointed to a late prehistoric occupational presence. Pigniolo's *Wiatava* (1998) Report and the previous Bleitz and Porcasi (1991) reports presented limited evidence of a late archaic presence. This late archaic occupation was derived from the presence of large leaf-shaped projectile points and large bifacial preforms, suggesting their temporal nature. Until this study resulting from the SDSU field school excavations, no definite diagnostic artifacts had been positively identified. Pigniolo suggested the strong possibility that the large flaked biface artifacts were of archaic origin but no further specific testing was

reported. If indeed there was an archaic presence, we could expect to see Elko, notched projectile points that were commonly used on atlatl fore-shafts in the far western archaic context.

This study has widened the time frame of occupation of Lost Valley from the previously known late prehistoric period, to include additional supporting evidence for the late archaic period, and a newly discovered Paleoindian component evidenced by a large obsidian fluted point.

The Paleoindian Component

The Paleoindian era in California has not been fully documented, as most artifacts have been discovered on the surface where there is no stratigraphy, no associated artifacts, and many of the specimens are severely weathered or even sandblasted, masking technological details and inhibiting the success of an obsidian hydration analysis. The weathering can either remove measurable surface area or add a heavy surface patina making measurements of the hydration surface impossible to determine. Often this advanced form of age and weather related actions render obsidian hydration analyses or residue analyses difficult or impossible to interpret. Compound difficulties that inhibit the discovery of Paleoindian evidence include geologic processes, the rise in sea levels that have obscured many sites, and the fact that much of the curated collections had once been in the hands of private collectors, presenting provenance questions. There is also the problem of unpublished and scanty data from early accounts of non-professionals (Moratto 2004:38).

Prior to this study, no Paleoindian component had been known to exist in Lost Valley and the only fluted points previously discovered in San Diego County had been from surface finds.

Late Archaic

The Late Archaic temporal period in the southern California mountains and deserts is generally identified as a time from 3,000 B.C. to 500 B.C. and are identified by the presence of Elko eared, and corner notched projectile points used with the atlatl spear thrower. Additionally, leaf-shaped bifacial points with rounded or concave bases were also documented for this location and time period (Justice 2002:12, Moratto 2004:367).

Elko points commonly show remarkable variation in shape and are at times difficult to define into a typology. Projectile point typologies often exhibit a diverse array of variations on a single theme or typological designation. Several researchers have suggested that these variations in morphology resulted from either procedural artistic modes or conceptual artistic modes. Flenniken and Raymond (1986) tested a theory contrasting the Elko series nomenclature as it has been typologized into roughly two variations: the corner notched, and the eared varieties. Additionally these two subdivisions are marked by a distinct variation in length and concavity of blade edge. Flenniken and Raymond, believing a "last mode or activity" morphological determination, offered an explanation to address the variation in style within this typological designation. Lithic reduction technical analysts demonstrate that projectile points were continuously used, they were lost, found any number of years later and salvaged, then re-sharpened and reshaped throughout their effective use life (Rondeau 1997; Flenniken and Raymond 1986). Pigniolo et al. (1998) reported that an Early Archaic component is present in Lost Valley based on artifact styles and sizes, as well as extensive site depth in the Wiatava Report, and also with artifactual evidence from the prior Bleitz and Porcasi (1991) survey. Those previous finds were of bifacial leaf-shaped projectile points and preforms of sufficient size to warrant the designation of use with the throwing spear and atlatl.

Late Prehistoric

The Late prehistoric period is generally accepted by California archaeologists as spanning the time from about 500 A.D., up to the proto-historic. Cupeño occupation is believed to have moved into the area around 900 A.D. associated with a Shoshonean linguistic migration (Underwood 1954, Meighan 1954, Taylor 1961, Moratto 2002:158).

Late prehistoric assemblages for this area would be expected to include small triangular projectile points of the Cottonwood Triangular or the Desert Side Notched varieties (Justice 2002). Comparisons to other late prehistoric cultures such as the San Luis Rey Complex to the west and Cuyamaca complex sites farther south would suggest similar assemblages in Lost Valley. Groundstone milling artifacts and bedrock milling features would also be expected in large numbers.

Historically and through indigenous oral history, Lost Valley has been associated with use and occupation by the Cupeño people. Only archaeological evidence can reliably relate physical evidence to what may have occurred there in prehistory. It has been suggested by many authorities that similarities in language (Kroeber 1908; Bright 1967), and subtleties in origin myths and oral histories (Strong 1929: 37; Hill and Nolasquez 1973) point to the possibility that the Cupeño may have originated from a branching off from Cahuilla populations and/or a fusing of Cahuilla and intermarriage among neighboring populations of the Kumayaay to the south and the Luiseño from the northwest (Strong 1929; Kroeber 1908, 1925:689-90; Gifford 1918; Hill and Nolasquez 1973; Bean and Smith 1978). An oral history of the Desert Cahuilla tells of a mountain home many generations in the past, relating to the flooding of the Cahuilla basin (Strong 1929:37; Hill and Nolasquez 1973).

Cultural material evidence sometimes lends connections to neighboring cultures through comparative artifact associations. Examining the assemblage in this collection with an eye focused on other nearby assemblages of the same time periods, we may possibly suggest cultural associations that can be evidenced by documenting stylistic attributes of technology, lithic raw materials, and add to the archaeological record in multiple dimensions. The evidence gleaned from this project can support assumptions made during early ethnographic, linguistic, material cultural, technological, and ethnological analyses.

This thesis endeavors to address and hopefully answer questions that previous researchers have posed. As I have delved into this collection, I have observed evidence that may build onto or lead to some of these answers. I intended to associate information gleaned from this collection to literature in linguistics, ethnology, and archaeology, and present new knowledge to the archaeological record.

I focused my research on the lithic analysis and the identification of raw material sources through visual and geochemical analysis, obsidian hydration analysis, and comparing the materials numerically. I expect to determine that most or all of these sources derive from inland areas linking the site to desert and inland mountain cultures, as well as showing very little to non-existent coastal ties. Although the sources of San Diego County chert raw materials are widely distributed and not well documented, I only visually determined where the very few samples of chert in the Lost Valley collection may have originated. I have produced graphs comparing raw materials of tools to that of debitage to determine if only

local materials were flaked on site. I also examined the local milky quartz raw material to determine why it was rarely notched, as it is a difficult and tough material to work. I also researched possible cultural links to the nearby desert Cahuilla cultures on the basis of artifacts and through ethnographic data, historic photographs, linguistic similarities, and kinship data derived from the work of E. W. Gifford and Duncan Strong.

SUMMARY

This collection had such vast possibilities for analyses that I found it necessary to limit my work in a single direction. However, too narrow a focus might only reveal limited new knowledge or only answer a single question. Therefore I have felt compelled to widen the scope of work to include certain noteworthy aspects of other artifact categories that I have noticed while cataloging and processing the collection.

I feel the necessity to reveal the additional fact that this collection is only temporarily in the custody of SDSU. The landowners of the Lost Valley sites, the Boy Scouts, are the legal owners of the collection and are ultimately responsible for its curation. Hopefully, with the advise and input of the local Cupeño descendants, the local curation facilities, museums, academic institutions, and cultural resource management firms, a consensus with the Boy Scouts can be agreed upon to curate the collection in a secure and appropriate facility so it remains safe, intact, and available for museum displays and additional future research. Along with this analysis, the collection from Lost Valley warrants additional research. Future graduate students may find here ample fodder for further work with this collection as more questions arise.