

The Table Mountain Archaeology Project: 1975–1985

Ronald V. May

Abstract

The Table Mountain Archaeology Project provided an opportunity to train members of the general public with widely varied backgrounds in the methodology and importance of archaeology in San Diego County, California. This article is a history of that project and is based largely on my reminiscences of consultations with Jay von Werlhof at Imperial Valley College, which helped shape the 10-year-long project that resulted in the recordation of 208 prehistoric archaeology sites and the creation of the Table Mountain Archaeology District.

Ten-Year Training Project

What started out as a one-weekend campout and exploration of the high desert country north of Interstate 8 and the town of Jacumba developed into three or four annual survey and campout weekends every year between 1975 and 1985 (Figures 1 and 2). Working through the San Diego County Archaeological Society and under federal Antiquities Act permits issued through the El Centro Bureau of Land Management (BLM) office, I supervised field crews that systematically walked the rugged Gray Mountain and Table Mountain areas in search of prehistoric and historic artifacts. The crews consisted of volunteers from the San Diego County Archaeological Society, Imperial Valley College, Pacific Coast Archaeological Society, Sierra Club, Botany Club, Mountain Defense League, and San Diego State University, as well as a variety of urban planners, biologists, geologists, and others, all wanting to experience exciting new discoveries in the field.

Jeep Club

Discovery of a very large Late Prehistoric base camp north of Table Mountain by a local jeep club in 1969 prompted concerns by local archaeologists that members of the club were breaking down the delicate soil mantle by repeatedly driving their four-wheel-drive vehicles up and down steep slopes, causing erosion of buried archaeology sites. Jeep club members had also been reported as stealing pottery, projectile points, and ceremonial clay pipe fragments from federal land. One corrugated steel mining building on a remote dirt road had been stripped of even its timbers by 1975, and word traveled of illegal digging in search of buried pottery and human remains. The BLM issued the 1975 antiquities permit to begin recordation of the surviving archaeology sites with the long-term goal of managing those resources.

Previous Research

Record searches at the San Diego Museum of Man and San Diego State University revealed that Malcolm J. Rogers had recorded an immense gravel terrace south of Gray and Table mountains as a widely scattered stone quarry that dated back to the early San Dieguito culture. Jay von Werlhof reexamined many of these sites with Rogers' opinion in mind, and he advised my survey crews that they should expect to find diagnostic San Dieguito III artifacts that dated back

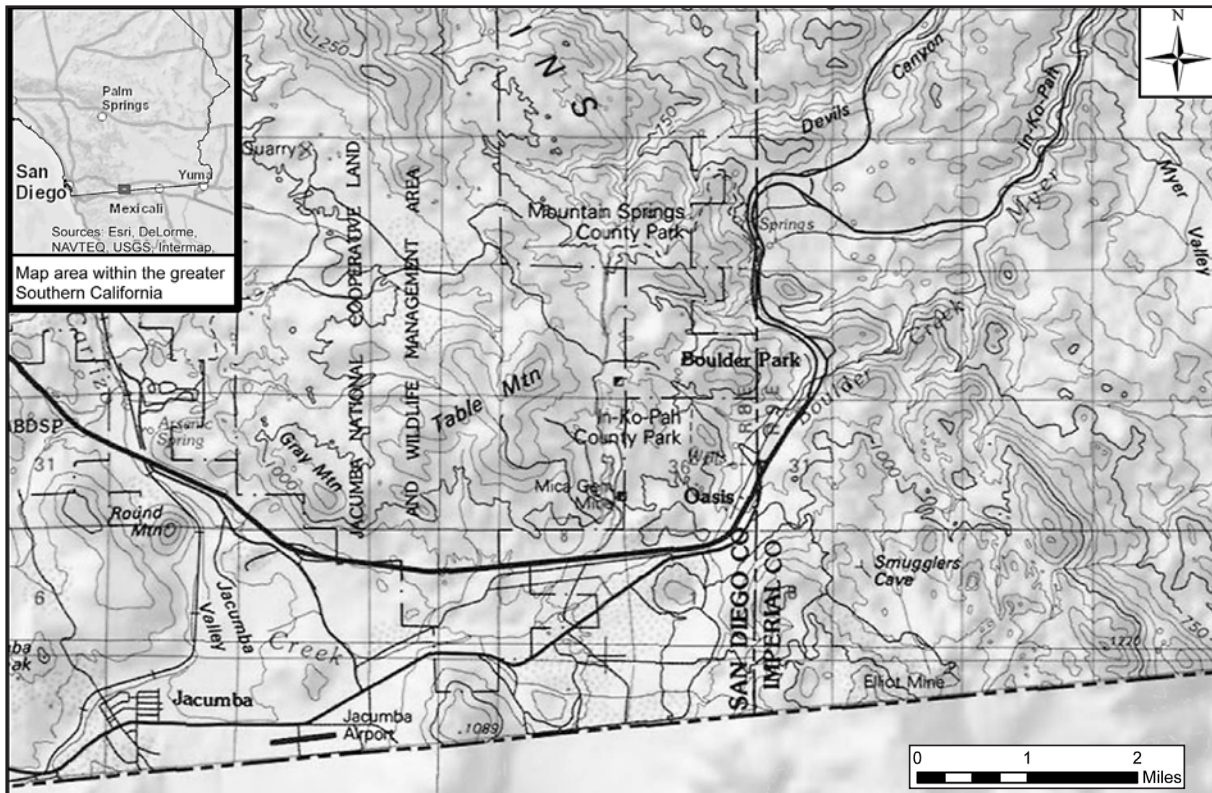


Figure 1. Location of Table Mountain, San Diego County, California. Based on USGS maps.

8,000 to 10,000 years. Historic records indicated gypsum, soapstone, and feldspar mines operated east and north of the mountains. The corrugated steel mining building was located near the ruins of a large mining establishment, and a cobble-covered human grave east of Table Mountain was known to have washed away during Hurricane Kathleen in 1979. Modern hunters' camps were also found along dirt roads in the area.

Geology

Geologist Pat Abbott and his students from San Diego State University mapped the geological units around Jacumba. They distinguished three basic formations that comprise the Table Mountain area. The oldest is the southern California batholith, which is decomposing gray granitic material that once cooled slowly deep in the earth's crust and has since been uplifted and

eroded to form the Peninsular Ranges. These rocks are particularly prominent along the east side of the Laguna Mountains and still more so in the Jacumba area. Northeast of the town of Jacumba is Gray Mountain, an exposure of the Southern California Batholith.

After the batholith protruded and began to erode away about 80 million years ago, rivers deposited layers of sand and hydraulically tumbled metavolcanic rock cobbles that formed level plains around the granite. Those in turn slowly eroded, leaving the Table Mountain Gravel terraces around the base of the granite. The upper soils were stripped away, leaving a pavement of gravel and cobbles.

About 18 million years ago active volcanism caused pyroclastic cinder cones and lava flows to extrude through the Table Mountain Gravels and lay up



Figure 2. View of Table Mountain, looking eastward. Photograph by Ronald V. May.

against Gray Mountain on the east side, forming the dark basaltic mass of Table Mountain. Artesian water seeps from both Gray Mountain and Table Mountain provide water sources in the valley to the north of these mountains.

Historic Land Uses

Mining prospectors ruled out both Gray and Table mountains as sources of gold or silver, but commercial-grade feldspar and soapstone were quarried during the twentieth century. Soapstone served as kitchen sink surfaces during the 1920s, but both mines closed during the Great Depression of the 1930s.

The road into the east side has been maintained by a government agency to access a radio station northeast of Table Mountain. The Bureau of Land Management regularly patrols this area.

Deer hunters frequently use the area. Romaldo LaChap-pa reported that his Kumeyaay family hunted both mule deer (*Odocoileus hemionus*) and peninsular bighorn sheep (*Ovis canadensis nelsoni*) in the area and identified the large base camp north of Table Mountain as “Hwi-Nyip-Shish.” On one occasion during the archaeological project, a peninsular bighorn sheep was encountered just to the north of Table Mountain.

Table Mountain Campouts

Von Werlhof joined my crew on at least one occasion, but he elected to camp about a quarter of a mile south of the main field crew camp. For some reason he felt the need for distance, perhaps to avoid the wild antics of the field crew, who were known to party loudly and late into the night. On one occasion a belly dancer spread a huge carpet and enthralled the crew with a “Dance of the Seven Veils.” On many occasions professional land surveyor Butch Hancock wandered the desert playing a trumpet. Loud debates around the campfire over the meaning of rock art, flaked stone tool shapes, and the changing desert environment disturbed the quiet of the desert, but these events served equally well to cement the bonds of lifelong friendship and a sense of purpose as well as shared discoveries. On many of those occasions, BLM rangers and archaeologists came to the site from El Centro to share a beverage and talk about the meaning of the densely concentrated archaeology sites in the valley north of Table Mountain. When von Werlhof did not come to us, we drove down to Imperial Valley to see him.

A Funny Anecdote

On one particular night our campers brought all sorts of urban junk to burn on the campfire. This included

a toilet seat and lid that prompted jokes about burning lids. I knew von Werlhof objected to marijuana at desert camps, so I decided to make a joke of it when I arrived at his camp and went inside the RV camper to chat. I loudly announced that my crew was burning an entire lid up at our camp and everyone was invited to join in! Suddenly, not a sound could be heard in the silence. At that point, I slipped out of the camper chuckling to myself.

Planning Meetings and Field Strategies

Following the first Table Mountain campout, I held a meeting of a dozen or so people at my house in San Diego to discuss how to design a better field survey. We came up with schemes to communicate by CB radios, to use tall white poles for plotting discoveries with land surveying equipment, and to initiate training programs to improve the effectiveness of the people who would return time and again to carefully and systematically document what eventually became 208 distinct prehistoric archaeology sites. We “named” gullies and washes in order to make meaningful records. Names like Arsenic Wash, Foot Wash, Hand Wash, Hog Wash, and Mouth Wash were written on the field maps assigned to crew chiefs. The commercial environmental company, RECON, copied field forms and provided film cans and glue sticks for taking soil samples. I paid for all the official film and took all the field sheets back to my home to type them and mail the records to the San Diego Museum of Man and the South Coastal Information Center.

Testing Improved Field Techniques

Many of our innovative ideas failed in the field (Figure 3). In the steep, rugged, boulder-pile hills, it proved impossible for our tall white poles to be sighted-in by the land surveyors. Although the CB radios worked at some locations, local ham operators constantly came online speaking nonsense to “ratfink”

our messages, and on more than one occasion a false message caused someone to get lost to the point of necessitating search parties for hours. In those days GPS did not exist.

Challenges Controlling Volunteer Crews

Although I repeatedly explained to the crew chiefs that we needed to send the field crews over difficult terrain to access boulders and steep, rugged terrain, very few people went to those places. Inevitably, the crews walked easy-to-traverse drainages and satisfied their curiosity by recording ashy gray midden soil, trails, pottery drops, flaked stone, milling stations, and rock shelters that were often associated with small grinding stations (Figure 4).

Over the years I went back with better-trained crews to resurvey the same locations in order to improve the site records. In the resurveys we discovered the more subtle, hidden features, such as rock art and prayer sticks in very difficult-to-access locations. No matter how many times we went back over an area, new things would be noted that had been missed before. That just seems to be the nature of trained eyes, practiced field techniques, and taking the time to look around. We learned that ancient people left rocks on top of boulders to mark trails through rugged terrain, often arriving at a spring or shelter area. My crew called those rocks “ducks,” and I recorded them with that name, though I am certain there is no ethnographic use of the term.

Monarch Butterflies

There were many fascinating experiences out there that I carry with me to this day. For example, while walking down the steep ridges along the east side of Table Mountain one day, tens of thousands of monarch butterflies swarmed up to meet us, then suddenly parted and flew around us like rushing water in a stream.



Figure 3. Terrain at Table Mountain.
Photograph by Ronald V. May.



Figure 4. Rock Shelter at Table Mountain.
Photograph by Ronald V. May.

Native Plant Foods

On occasion I found my field crew bending down and pulling wild onions (*Allium bisceptrum*) to pop in their mouths as snacks. On yet other occasions we scooped up thousands of chia (*Salvia columbariae*) seeds that we washed down with canteen water. I read the literature on the use of native plants for food and medicine to better understand these resources and to make sure we did not poison ourselves.

Rock Shelter and Agave Roasting Pits

We all shared in the discoveries when sites were encountered. I recall taking a field crew over a mile west of our campsite and on the south side of Gray Mountain, when Ginger McPeck and Butch Hancock discovered a rock shelter with stacked rock walls. We were all very exhausted, but we found a burst of energy and climbed up to photograph the walls and record the painted rock art. We sketched the entire complex.

Then we all walked to find the boundaries of the scatter of broken pottery, flaked stone, fire-broken ground stone, and the ashy gray soil. Only then did we realize that the soil stain came from disturbed agave (*Agave deserti*) roasting pits. Everyone pitched in to measure and record the discoveries.

Feature Recording

Some of the investigations defied scientific description. One large base camp north of Table Mountain is scattered around an enormous mound of house-sized boulders that completely lack soil between the granite. My crew slipped in between the boulders and vanished for hours. Fearful someone would get lost, I stood outside and listened to their shouts of discoveries. Peter Ainsworth encountered a broken Tusayan corrugated pottery jar and brought out a small sherd for identification, but we could never relocate the jar to return the sherd. Butch Hancock and Ginger McPeck climbed to the top of the pile and discovered a white clay rock art display, which they photographed, but we could never locate that again. All I could do was record the site as a whole and let future archaeologists deal with fully documenting such very difficult sites.

Botanical Studies

Conversations with Florence Shipek about Native American agriculture caused me to rethink ideas about the various kinds of occupational camps recorded around Table and Gray mountains. Short of extensive subsurface testing, there are not many ways I could look for evidence of corn, squash, and bean agriculture. Shipek (personal communication ca. 1978) explained that the Natives had hoed small trenches at angles down alluvial fans to capture rainwater for irrigating their crops. She also said they cached containers of medicine plants, dried food plants, and dried marine fish and kelp, and they also planted cactus and herb gardens.

I predicted that vestigial remnants of those gardens would be found at the occupational sites and that all I had to do was take plant samples, press them, and get a botanist to identify the specimens. After obtaining a collecting permit from the BLM, I took my crews back to dozens of small camps to collect plant samples. We also took plant samples from rock shelters, including some associated with stacked rock walls. Botanist Tom Oberbauer identified all my pressed plant samples. The only plant that did not naturally grow in these locations was a variety of nightshade, and that particular specimen came from a rock shelter adjacent to a stacked rock wall. Nightshade can be used as a poison or a powerful medicine.

Pottery

Although not directly related to the Table Mountain work, I devoted years researching the question of when pottery came into the Laguna Mountain region of the Peninsular Ranges and its origins. Examination of pottery on the surface at Table Mountain sites contributed to the body of knowledge that led to a publication by the Archaeological Survey Association of Southern California (May 1978) and to the publication of results from the Lake Le Conte Survey (May 2001).

The two ware variations found at Table Mountain are Tizon Brown Ware and Lower Colorado River Buff Ware. Malcolm J. Rogers (May 1978; Van Camp 1979; Waters 1982), Henry Dobyns and Robert Euler (1958), and Albert Schroeder (1958) defined the wares. Rogers did not publish his notes on typology, and I included the material in the 1978 publication. I then applied that typology to a large sample of potsherds recovered from 134 sites around an ancient dry lake in Imperial County that scientists today call Lake Cahuilla. I found that most of the pottery at Table Mountain is Tizon Brown Ware and only a small fraction is Lower Colorado River Buff Ware. Of the latter sherds none were painted, and only a few were white-slipped. Until excavation is conducted on those

sites, the true distribution of these wares and types will remain unknown.

Table Mountain Gravel Quarries

Examination of the vast area marked off by Rogers as a San Dieguito site revealed varying densities of test-flaking and reduction of metavolcanic cobbles laid down in the Table Mountain Gravel formation. These ancient terraces were created millions of years ago as enormous river deposits and have since been deflated to concentrate the cobbles on a harder sandstone, which has been slowly eroded to create gullies that flow south, west, and east to the lower Jacumba Valley. Ancient people knocked off flakes to test the rocks for knapping properties. Cores, hammer stones, and reduction waste flake material can be found over acres of these gravels. Based on a lack of diagnostic artifacts and varying degrees of natural oxidation, I do not think most of the flaked stone is more than 5,000 years old. In fact, most of the artifact surfaces are identical to those found in the Late Prehistoric sites north of Table Mountain in association with pottery, which I believe dates to the last 1,000 years.

Concealment Shrines

Natural erosion of the southern California batholith granite created voids or bubbles, which prehistoric people used for a variety of purposes. I often stopped to look in the high ones, because I would often find a flaked stone tool, marine shell, potsherd, or piece of quartz crystal, which I always left in place. Unfortunately, I could never figure out how to elevate my camera to shoot those concealment shrines for the field record.

Charcoal Scratch Sites

Sometimes you have to look twice to see things that are staring you in the face. On more than one occasion I took shelter from the heat in a hollowed-out

granite boulder along a prehistoric trail. One day, I realized someone had scratched a charcoal stick across the surface. The scratches were little more than bits of charcoal clinging to the rock, with gaps between them in many locations. Try as I did to photograph the charcoal scratches, nothing came out that made any sense. Part of the problem was that my camera lens could only capture a part of the pattern in the cramped quarters. For this reason I never recorded those sites. Someone else will have to devise a system for recording them in the future.

Bell Rock

On yet another occasion one of my crew took shelter from the heat in another hollowed-out granite boulder and happened to bang a rock into the wall. Everyone within 100 yards heard the echoing sound. Experiments demonstrated the granite to be harder and less decomposed than other boulders in the area, and rock-on-rock hits produced a bell-like sound that carried a considerable distance. There was absolutely no evidence of prehistoric use of the “bell rock,” yet the acoustical properties had undeniable impact. I never recorded the site, but I mention it now in the hopes someone will go back and study it.

Prayer Sticks

Long before undertaking the Table Mountain surveys, I had read of archaeologists finding natural, weathered, cut-branch sticks that were propped up in natural rock shelters. Although there is no ethnographical explanation for these features, I recorded them as “prayer sticks” and identified at least 10 different locations (Figure 5). Most of the prayer sticks exhibit man-made cut ends that qualify them as artifacts. They were either propped on bare granite or fallen to one side. In a few instances large flaked stone tools were nearby. No rock art paintings were in the same shelters as the prayer sticks. Their cultural function remains a mystery to this day.



Figure 5. "Prayer stick" in rock shelter at Table Mountain. Photograph by Ronald V. May.

Rock Art

Although painted rock art can be found in shelters far away from the primary base camps north of Table Mountain, the greatest concentration is along a seismic fault between Table Mountain and Gray Mountain. I recorded as many of these rock art displays as possible, although other people have reported finding new displays since 1985. They are invariably found in granitic boulder voids or blowout holes where the surface is somewhat sheltered from the elements. The first panel I found included a number of small, reddish-orange digitate anthropomorphs with rays running away from their heads. Also with them were white-and-yellow clay or ochre horizontal ladders (Figure 6). In other locations, we found small, red-

dish-orange animals with long tails or yellow fish-like designs. Black designs included spirals and circle patterns, and a white pigment pictograph was also found, the only one known from San Diego County (Figure 7). These sites were always within residential camps, not far from ashy gray soil and a mix of pottery and flaked stone.

Seismic "Sparks"

On nearly every field trip to Table Mountain, someone brought up ideas about how to improve recordation of rock art sites. Various types of film, lighting devices, and various sizes of cameras were proposed for experimentation. Lack of funding and knowledge caused all those techniques to remain untested. Then a young couple returned to a remote site south of Gray and Table mountains around 1980 to try long-exposure photography. I examined the negatives and prints of one long-exposure shot and observed what seemed to be a "spark" rolling up and away from the granite rock shelter that contained the black spiral pictograph. One speculation was there might have been a seismic movement that spun off the energy spark that the film recorded. When author Harry Lawton heard the description, he suggested it was "Chaup," a Native American spiritual figure. Whatever the case, a future archaeologist will need to conduct more experimentation at sites along that seismic fault.

Native American Involvement

After the first year at Table Mountain, I invited Kumeyaay elders Romaldo LaChappa, Tony Pinto, and Rosalie Robertson to visit a rock shelter and consider my proposal to test excavate in search of evidence of corn, squash or beans at "Diamond Chain Rockshelter" and an agave-roasting pit. Darcy Ike, Stan Berryman, and Judy Berryman joined us. While we chatted about archaeology in general, LaChappa walked around picking up and dropping quartz flakes, cores, and crystals. He replied in Kumeyaay



Figure 6. Typical pictographs found in the study area. Pictographs are red, black, yellow, and white. Photograph by Ronald V. May.



Figure 7. White pigment pictograph on a boulder in the study area. Photograph by Ronald V. May.

and Robertson translated that the quartz was “turned off” and it was safe to test the site. The elders gave their approval to excavate one test pit each at “Diamond Chain Rockshelter” and an agave-roasting pit. Although they examined the petroglyph of a chain of diamond shapes hammered into the granite, they did not recognize it as Kumeyaay or a concern for the testing. They did express interest in helping to roast agaves during the spring. They did not see the need to be present during the test excavations.

Diamond Chain Rockshelter

The BLM issued an antiquities permit to conduct testing at Diamond Chain Rockshelter and an agave pit. Darcy Ike and two helpers set up the test unit at one entrance to the shelter. Although a dozen broken arrow-point fragments and flaked stone objects were found in the shallow, soft alluvial deposit, we hit bedrock at 15 cm, and no corn cobs, squash seeds, or any other evidence of agriculture were recovered in this test unit.

Test of an Agave Roasting Pit

The BLM issued an antiquities permit to test excavate an agave-roasting pit. Darcy Ike took charge of recording the excavation of half of one of those pits. We screened out all the charcoal and rocks but found no stone tools, corncobs, squash seeds, or agricultural remains, and we reburied our recoveries along with U.S. copper pennies minted in the year of our test. I filled out a site record form for the location and sent it off to the South Coastal Information Center to document our effort. We did not run a radiocarbon date on the charcoal. I learned years later that an environmental company sent crews into the Jacumba area and obtained charcoal from agave roasting pits that dated between 1,000 and 600 years ago, though I never obtained a copy of their report.

Agave Roasting

The BLM issued a collecting permit to harvest several agave plants for the purpose of experimenting with roasting techniques. I invited Kumeyaay elders LaChappa, Robertson, and Pinto as well as Cahuilla elder Katherine Saubel to advise us on how to harvest, prepare, and cook the agave plants. Unfortunately, LaChappa could not make the field trip. Pinto explained that agave harvests were men's work and that a group went out for a week at a time, returning with sacks of dried agave and a few bundles of cooked agave hearts. He requested that we bring him one cooked agave on our way back to San Diego.

Robertson, Pinto, and Saubel discussed various techniques of the process, and we set about to dig out four agaves, remove their leaves, and clean the heart. Meanwhile, a group of people dug a pit about 2 m across and .5 m deep, lined it with rocks, and built up a hot bed of coals. Once back in camp, we pulled the rocks and coals back with our shovels, lay down the leaves and then the agave hearts, topped them with more leaves, and heaped dirt on top of the entire pit.

Pinto explained that any smoke meant the heat was escaping, so you needed to watch over it and keep dirt on the pit for at least 12 hours. Then he, Robertson, and Saubel departed. The next day we carefully opened the pit, pulled back the leaves, and used shovels to bring up the four baked hearts. In keeping with Pinto's wish, we packaged one for delivery to him later in the day and set the others out on a table to slice samples for everyone present. General consensus held that the agave hearts were stringy, sweet, sugary, and had a pineapple tinge to the flavor. Some parts were not as well cooked as others, and the best parts were closest to the cut leaves. Later that afternoon I delivered the agave heart to Pinto at his El Cajon home.

Publications

Although I delivered many slide shows on the Table Mountain surveys, test excavations, and field results, I produced only three publications. My initial manuscript published in 1987 attempted to make sense out of the field data after meeting with LaChappa, Pinto, and Robertson. Each of them received a copy, and others went to the San Diego Museum of Man and the South Coastal Information Center. I published a paper in the *Pacific Coast Archaeological Society Quarterly* that correlated the geology and biology with the functional site types (May 1980). This resulted in a map that could be used to predict future locations of site types throughout the Jacumba region. The other article went into the *Occasional Archaeology Papers* at San Diego State University and addressed my interpretation of how these sites formed following the desiccation of ancient Lake Cahuilla, which was about 25 mi east and at the bottom of the Laguna Mountains (May 1983). Von Werlhof and I disagreed as to the age of the Table Mountain archaeology, as he never lost faith that the Table Mountain Gravel quarries were Archaic and San Dieguito. I conceded that might be possible, but the majority of the prehistoric sites north of Table Mountain and along the seismic fault line were created in

the past 1,500 years and probably provided a retreat when the lake began drying up.

Conclusion

The Table Mountain Archaeology Project achieved all the goals set out in 1975 and in subsequent years. The project taught me that long-term projects enable researchers to study, think about, and reconsider their data in a more meaningful way than a single survey. The project allowed me to conduct a series of consultations with my colleague Jay von Werlhof and his students, as well as to meet and work with Native American elders Rosalie Robertson, Tony Pinto, Romaldo LaChappa, and Katherine Saubel. I had time to research background literature, study the geology and biology, and rethink what we had been seeing to refine the next field trip. The friendships created from the 1975 to 1985 Table Mountain field trips were life-long. One couple, Gil and Toy Boggs, wrote into their last will and testament that their cremated remains were to be dropped from an airplane over Table Mountain. Hundreds of avocational archaeologists, students of archaeology, biologists, geologists, botanists, and members of the Sierra Club learned how to do archaeology on those projects. We were able to develop a strong commitment to the preservation ethic among those who came out there, and von Werlhof and I got to kick around ideas that eventually changed much of our thinking on what it all meant. Finally, we have 208 recorded archaeological sites in the Table Mountain area. It was listed in the National Register of Historic Places in 1983 and has been appropriately managed as an important archaeological district by the BLM for the past 30 years.

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