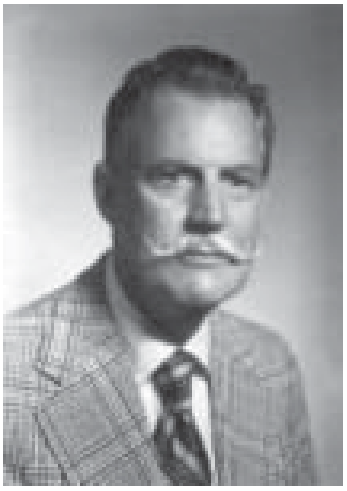
*Father time caught up with Francis A. "Fritz" Riddell on Friday, 8 March 2002. An obituary will appear in 36(3). In recognition of his contributions to the discipline, the SCA plans a scholarship in his name and will hold a symposium in his honor at the 2003 meetings.*

*Before he passed away, Fritz completed this, the third installment of "As It Was," taking us through 1951. The contribution includes a new report on the important excavations he conducted in 1951 with James Bennyhoff and Richard Shutler at Amadee Cave, Ca-Las-90, in eastern Lassen County, California. - editor*

# As It Was

*Francis A. Riddell*



## Part III

During the summer of 1950 a graduate student from the University of Oregon, Lloyd Collins, and I were invited by Frederica de Laguna to join her and Catherine McClellan at Angoon on Admiralty Island, Territory of Alaska, to assist in studies of the Tlingit Indians. De Laguna was a professor at Bryn Mawr and McClellan a fellow graduate student with me at Berkeley. The two women worked with the Indians on ethnographic matters while Lloyd and I made test excavations on archaeological sites in the vicinity (De Laguna 1960; DeLaguna and McClellan 1981). This was a wonderful experience for me and my enthusiasm prompted Dr. de Laguna to invite me to return and assist in a similar program at Yakutat in the summers of 1952 and 1953. On June 1st of 1952 I married an attractive fellow graduate student, Dorothy Menzel. She was in the process of receiving her Ph.D. in Peruvian archaeology at Berkeley and we had been dating for several years.

My crew at Yakutat in 1952 was Donald McGeein, Kenneth Lane and J. Arthur Freed: in the surnmer of 1953 the crew was McGeein, Freed, and two new men, Robert Anderson and Albert Olson. Digging in Southeastern Alaska had its own challenges. We had to be on constant lookout for brown bears (known at grizzlies in the Lower Forty-eight). I carried a .45 cal. Remington semiautomatic rifle, and we also had a .30/.40 Krag left over from the Spanish-American War. McGeein carried his trusty "thutty-thutty," a small but popular hunting rifle of those days. Just to brag for a moment I want to record that I was a fair shot and had fired as "Expert" on the range when I was passing through boot training in the Marine Corps in 1942. I got the highest score in our platoon, unfortunately my high score was made on the day prior to the record-firing day, so I only received a "Marksman's" rating. In spite of my being convinced that I was a good shot I am, in retrospect, very happy that we never had a serious encounter with any of the big bears. I later fired my Remington and found that it malfunctioned and would probably have made some bear very angry with a poorly placed shot.

A second challenge for us were the black flies and mosquitoes! They were worst late in the day, but were on duty all the time. The flies look like tiny bees and love to bite you anywhere but prefer sensitive, exposed areas such as between the fingers. They inject a toxin that causes the hands to swell and itch like mad. McGeein's solution was to scratch the bites until they bled. He used a metal rasp from a tire patch kit to macerate his skin. The rest of us borrowed his rasp on occasion. The wounds would bleed and presumably the toxins would dissipate and the bites scab over and cease itching. After about two weeks of this agony we became acclimated to the toxin and the bites were not too bothersome. The same thing with the mosquito bites. But until we got used to these pests our hands looked like we had mittens on.

The third challenge was the weather. It tended to rain for two weeks and then the sun would shine for two weeks. When it rained we had to go out and dig regardless because that is what we went there for. We had foul-weather gear which kept the rain out but we still got drenched from the sweat of digging. Taking notes in a driving rain was a real chore, but I had learned that by having specially treated notebooks one could write under water, if necessary. In passing through Seattle we picked up such note books at the Student Union of the University of Washington. However, by the end of two weeks we were about to go crazy with all the rain, and were praying for sunshine. Then, low and behold, the sun would come out and we would have glorious, bright days. And when I say days, I mean almost 24-hour days. The sun would go down around 11:00 P.M. and come up again several hours later. One could read a newspaper at midnight! The beautiful weather would go on for several weeks and then we would realize the creek from which we got our water was getting very low and brown. In addition, the forest and all its components were beginning to become stressed from the lack of rain. We then began to pray for rain! By alternately praying for rain and sunshine, we managed to seesaw our way through the summers excavating at Tlukwan (Old Town) on Knight Island in Yakutat Bay.

In speaking of rain I am reminded of the layout of our camp. We had a wall tent that accommodated a table that seated four, a small Yukon stove, and our four or five sleeping bags. We had a small wall tent in the rear where Art Freed kept our supplies organized and inventoried. In addition, we had a war surplus pyramidal squad tent that Sweet Old Bob had lent us out of the gear of the U.C. Archaeological Survey in Berkeley. What I did not realize was that a large portion of the roof of the tent looked like Swiss cheese! I never convinced myself that it wasjust a coincidence that we were so happily lent this tent by Heizer. But then we could always look at the bright side ... it only leaked when it rained!

Our fourth challenge was getting and maintaining supplies. There was a cannery store in Yakutat but that was 14 miles away, ten of which were over the open water of Yakutat Bay. Tom John, a local Tlingit, rented us his 14-foot, flat-bottomed skiff he wasn't using at the time. It had been beached and needed caulking but he gave us a good deal ... a good deal of headaches! We attached our 10-horsepower Evinrude outboard motor to the transom and used that small boat for all our visits to town for supplies and for exploration around the island where we were digging. By bailing out the water that seeped in we managed to keep afloat. Any boating in Alaskan coastal waters has to be done with a tide table and nautical chart in hand. We tried to time our trips to allow us to pass the difficult places at slack tide. If you got in channels during the peak of ebb or flow, you could go for a merry ride. The narrows became torrents (chucks) at that time and had best be avoided, especially with a small, waterlogged, overloaded, flat-bottomed, underpowered skiff pushed by an old Evinrude outboard motor. The water of the bay was so cold that survival in it would be but a few minutes.

Trips to town were events for us, but if we all went there was no one digging and that was not a good use of manpower. As captain of the team I wanted to get as much mileage out of the crew as possible. In that case I either went into town alone or with just one other person. As it was daylight for almost 24 hours, one could cross the bay any time. We found that close to sundown, that is, 10:00 P.M., the bay was like glass and the 10-mile crossing was no challenge. At that time of day, and with the setting sun on the St. Elias range, with Mt. St. Elias and Mt. Fairweather bathed in the golden rays, a clear blue sky overhead, the scene was indescribably beautiful. The only dissonance was the putt-putt of our faithful Evinrude.

It was not always possible to return to the island when the bay was smooth as glass, and it was those time that reality would set in. One time two of us went in and picked up a 55-gal drum of gasoline and other supplies. When fully loaded Tom John's skiff presented about three inches of freeboard. The bay was choppy and with some swells and the boys back on the island stood on the beach anxiously watching us come in. They reported that at times we would disappear from sight, only to come back into view on the next swell. Also there were times we voluntarily marooned ourselves on the island because a pod of killer whales was active just off our beach for several days. We did not have sufficient nerve to get in among them with Tom John's skiff. Just having the porpoises playfully coming up from under us and bumping the stem of our little boat was enough excitement for us. The Orcas would at times come right up to the beach while going through their antics, and one of the antics clearly was breeding.

During the third week of July of 1951 Jim Bennyhoff, Dick Shutler and I excavated Amedee Cave (CA- LAS-90) which was located at the base of the Amedee Mountains several miles east of Honey Lake in Lassen County. I first met these two men on their initial archaeological field trip. That was in 1946, and they, too, were returning to college after the war. Heizer, Fenenga and I were going out to Tyler Island in the Sacramento/San Joaquin delta region to test a sand mound in which burials were imbedded in highly indurated soil. Although both Jim and Dick had gotten some exposure to anthropology classes they had not been in the field and Heizer invited them to go out with us and dig. This was fine with me as the sandy soil was so hard that the burials could only be exposed with extreme effort and patience. With this trip we became good friends so they were logical men to ask to help with the cave excavation.

Amedee was at one time the end of the NC&O Railroad and a hotel was built there as well as several stores and homes. Several hot springs bubbled forth nearby and a bath was set up to attract clients. Being at the end of the line the little town flourished until the railroad extended north to Ravendale and on to Alturas on its way to Oregon. After that Amedee went into a steep decline and the hotel was abandoned. Amedee was owned by a man by the name of Humphries who had extensive cattle grazing lands along the shore of Honey Lake and environs. Late one cold and snowy night just before the war Fenenga, Beardsley and I drove in to Amedee and asked Mr. Humphries if we could roll out our sleeping bags in the old hotel as we did not relish sleeping out on the snow alongside the road. Mr. Humphries was in a small cabin with his cowhands and wondered what planet we had just come off of, at that time of the year, at that time of the night, at that place. He looked the three of us over and said, "NO!" I started to argue with him but when the scene began to take on all the aspects of an old western, and with Fenenga tugging at my sleeve, I realized that this was one time that "No" meant just that. We went down the road until we found an old stable and holed up there for the time we were there. That was at the time we excavated Tommy Tucker cave in December of 1941, as I have noted earlier.

By the time Bennyhoff, Shutler and I returned to Amedee in 1951 the old hotel had been torn down so we found an old shed to call home for the few days we worked at the cave. It turned out that Mr. Humphries knew about the cave—and as he was a private collector of great renown for this region of the state—and had already dug a hole in the center of the cave deposit. Although I tried several times to interact with the man, I never was successful for one reason or another. One time when I was in the Honey Lake area, the time Bill Evans and I were making our 1949 surveys, we stopped in during the day to see if we could record his collection. We never got to the door because of the fierce dogs which would not let us get up to the door. It seemed obvious no one was home and the dogs reinforced that observation. However, in walking along the driveway and up the path toward the door Bill and I were amazed to see the ground literally covered with all kinds of projectile points! It was paved with them and it took me a few minutes to figure out what the man had done. It became clear that the collection he had in his house consisted of only perfect points. He had just cast out all the ones he chose not to exhibit! There must have been

## *As It Was*

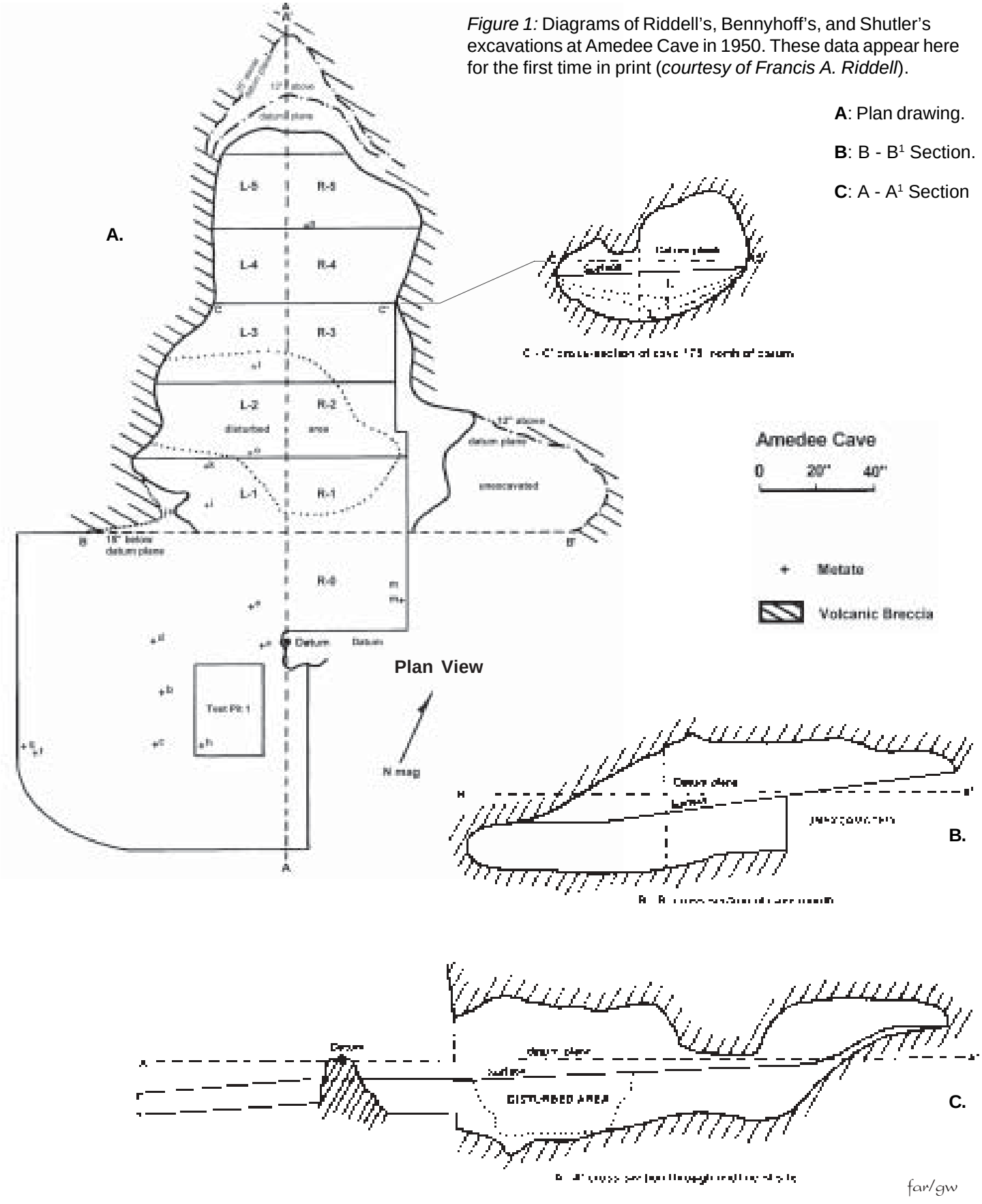
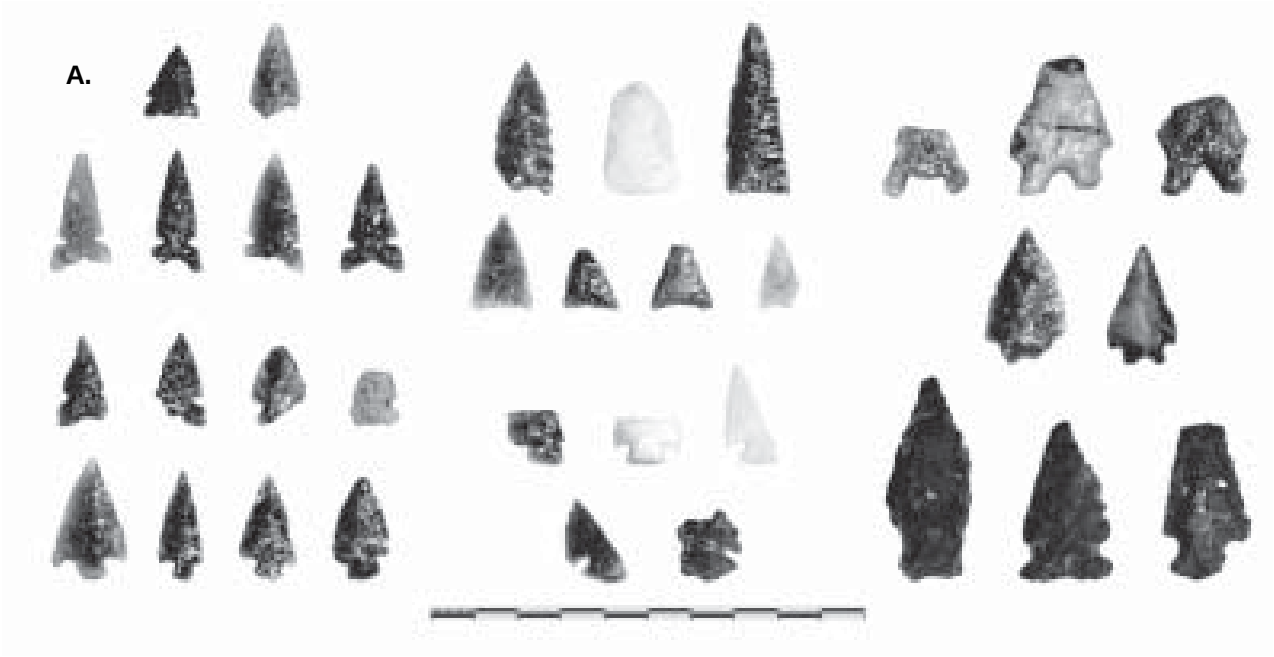



*Figure 1:* Diagrams of Riddell's, Bennyhoff's, and Shutler's excavations at Amedee Cave in 1950. These data appear here for the first time in print (*courtesy of Francis A. Riddell*).

**A**: Plan drawing.

**B**: B - B$^1$ Section.

**C**: A - A$^1$ Section



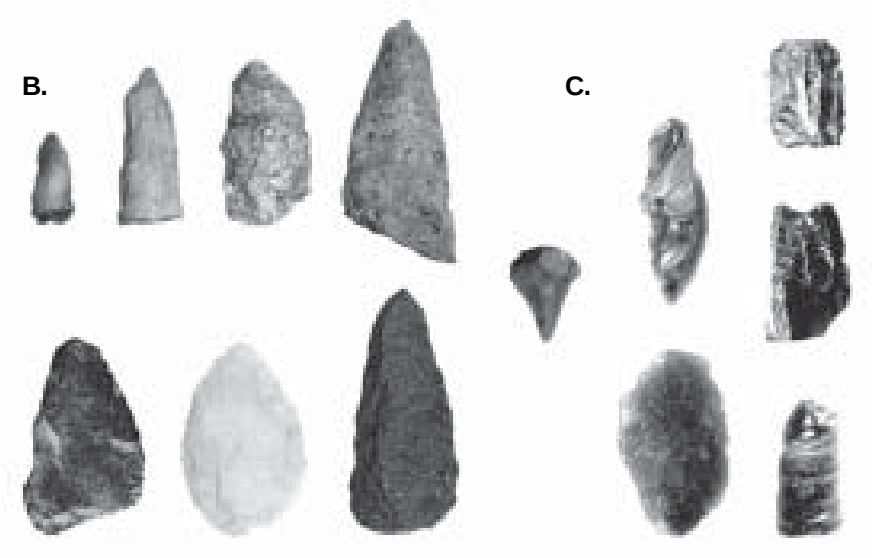




*Figure 2:* Artifact assemblage recovered by Riddell, Bennyhoff, and Shutler during their excavation at Amedee Cave in 1950 (continued) (*courtesy of Francis A. Riddell*).

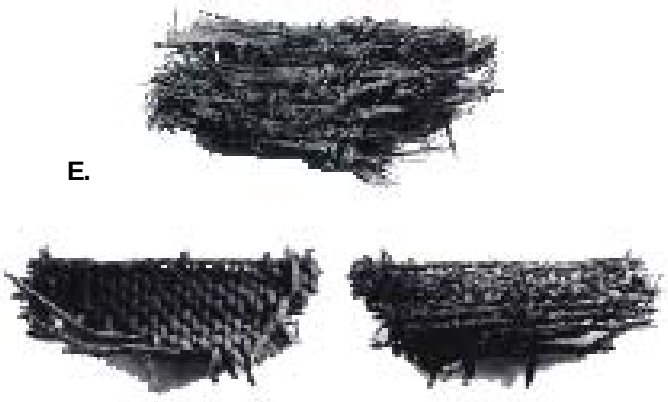
**A**: Projectile points.

**B**: Bifaces.

**C**: Flake tools.

**D**: Bone implements.

**E**: Textile fragments.

hundreds of points, many of which had a tip, stem or barb broken but were otherwise excellent archaeological specimens. What a gross waste of a finite resource!

Inasmuch as the work we did at Amedee Cave was never published it seems that now would be a good time to interject some descriptive data on the cave and the results of our excavation there. I had loaned our preliminary write-up and other data to Jerry Johnson for his use in the preparation of his Ph.D. dissertation. He only used our data on the ground stone artifacts, but in the process of getting our notes back to me a portion ofthem disappeared. Stuff happens! Following is a lightly edited transcript of a portion of my field notes on the work done at the cave in 1951.

> Generally speaking the cave deposit is composed of two strata: the lower stratum has been subjected to dampness with the consequent loss of nearly all perishable material. The upper stratum, to the contrary, contains a high percentage of organic material in a good state of preservation. The dry stratum extends from the back of the cave to about 75 inches from the cave mouth.
>
> The cave originally had been inundated by the upper levels of Pleistocene Lake Lahontan, possibly at the maximum level as exhibited by the fact that the calcareous tuffa deposit on the cave exterior extends but a few feet higher than the elevation of the cave

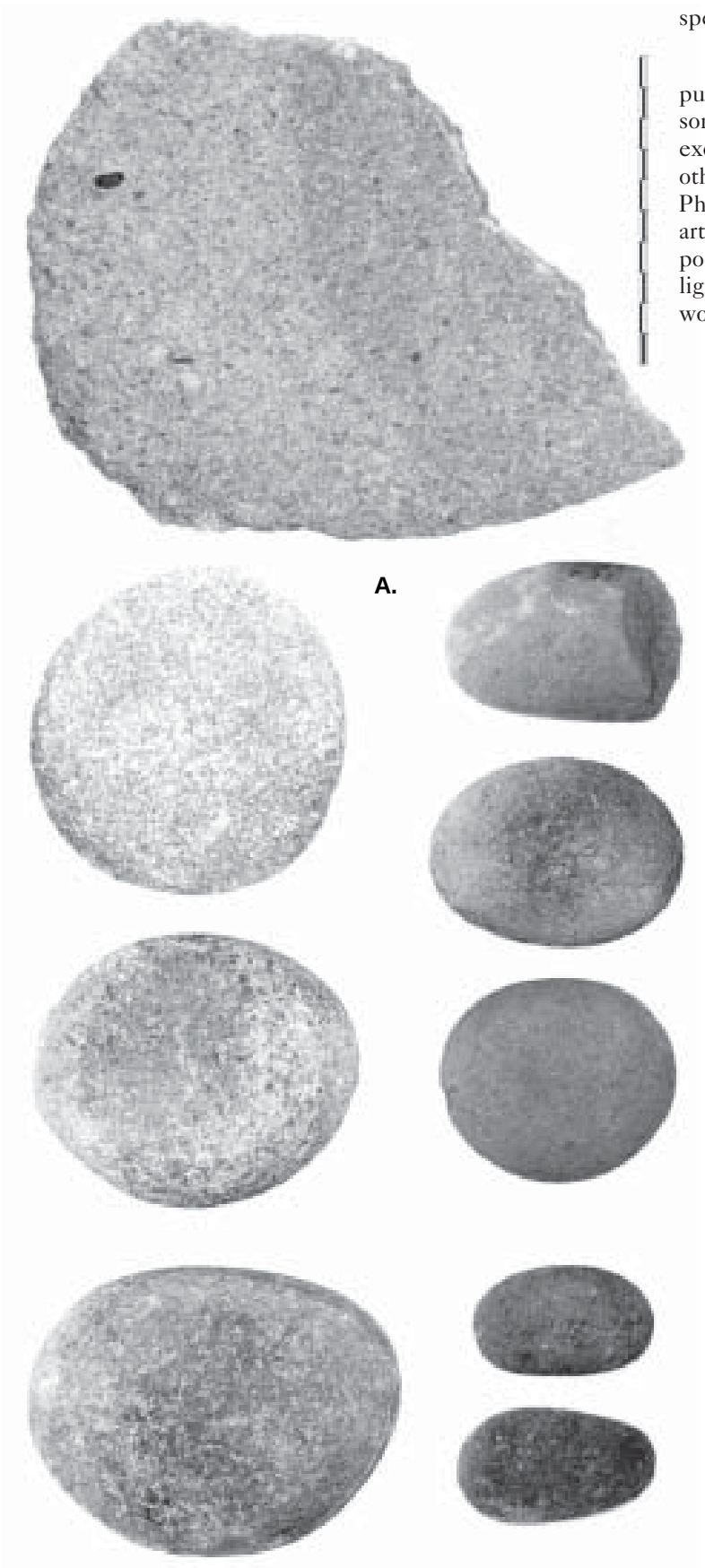
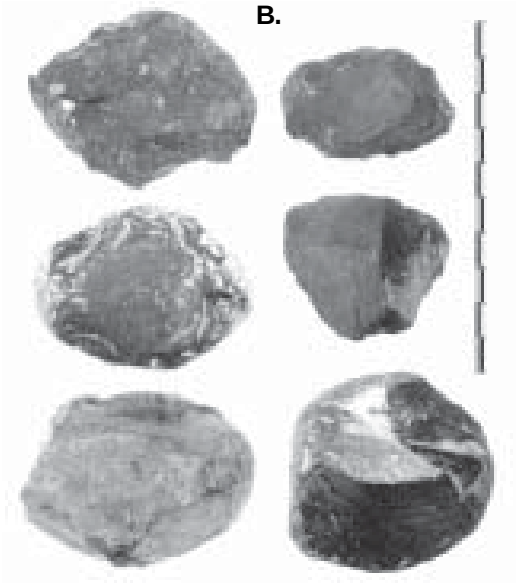



*Figure 3:* Artifact assemblage recovered by Riddell, Bennyhoff, and Shutler during their excavation at Amedee Cave in 1950 (continued) (*courtesy of Francis A. Riddell*).

**A**: Manos and metates.

**B**: Cores and core tools.



mouth. The cave had been coated with a layer of the tuffa in the same manner as at nearby Tommy Tucker cave. The cave floor is also partially coated with calcareous tuffa. Fragments of tuffa that have fallen from the ceiling and walls occur throughout the cultural deposit.

Metates appear to have been cached in front of the cave (Figure 1 A; Figure 3 A). The metates in the cave were located from a corner of the excavation unit, with depth taken from the cave surface to the base of each metate.

The excavation outside the cave was done in one-foot levels. All excavated material from both outside and inside the cave was done by shovel and passed through a screen. The deposit inside the cave was excavated in six-inch levels.

Except for Test Pit 1, the section to the west of the datum outside the cave was dug to a depth of one foot.

Section R-0 was dug to a maximum depth of 18 inches; bedrock was reached at this depth in a portion of this section.

Section R-1 was dug to a maximum depth of 24 inches. The remaining deposit was not dug at this time as it was virtually sterile.

Section L-1 was dug to a maximum depth of 36 inches where bedrock was reached over most of this section.

Section L-2 was dug to a maximum depth of 36 inches, however bedrock appeared about 20 inches in a portion of this section near the left wall of the cave.

Section L-3 was dug to a maximum depth of 30 inches, although a portion of this section near the center and left wall of the cave had a depth of about 20 inches due to the shallowness of the bedrock.

In looking at these sparse notes several thoughts come to mind: a) Complete your report of "work done" as soon as you get out of the field, and b) Don't loan your notes to anyone before you write your report. Hindsight is 20/20! And were we to dig the cave now we would be using the metric system and would have dug in shallower depth increments with trowels, dustpans and buckets and would have passed the material through 1/8th inch screen, or smaller if necessary. We did, however, attempt to separate those items from the "wet" stratum (lower) from the "dry" stratum (upper). I suppose I can justify our methodology used here by pointing out that with the limited crew, limited time and limited funding, not to mention the possibility that Mr. Humphries might choose to return, we did the best we could with what we had. Just what Mr. Humphries got in his digging we shall never know, but when we screened his backdirt we recovered a number of projectile points that he had missed.

The location of the metates recorded can be seen on the plan of the cave (Figure 1 A). They were, for the most part, simple flat slabs exhibiting a minimum of wear (Figure 3 A). In keeping with the simplicity of the metates the manos were mainly of locally-collected ovoid stones (Figure 3 B). They, too, showed little or no shaping.

The occurrence of both manos and metates at Amedee Cave is in stark contrast to the situation at Tommy Tucker Cave where no grinding tools were encountered. No graves or grave goods were found in either cave, although a string of beads was recorded for Tommy Tucker Cave (Fenenga and Riddell 1949; Bennyhoff and Hughes 1987). Kitty Joaquin (a Paiute elder at that time [1951]) was told by her father, Joaquin, that Amedee Cave was inhabited by the Honey Lake band of Paiutes into historic times, but that Tommy Tucker Cave was to be avoided (Riddell 1960). Kitty said that her family utilized Amedee Cave when she was a girl when the group went there annually to harvest *wada* (*Sueda depressa*) seeds. The local Paiute called the caves *Tuhuta*, "wildcat hole". The fact that Joaquin told his daughter Kitty to stay away from Tommy Tucker Cave suggests the cave may have served as place for initiates to receive power. The lack of food preparation tools at Tommy Tucker Cave supports such a consideration. The occurrence of a pictograph panel (in red pigment) at the mouth of that cave, too, suggests a special use of the cave.

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## Tribute

# F. Lee Motz, June 14, 1934 - April 17, 2002


DPR photo

*Glenn Farris*

Lee Motz, an Associate State Archaeologist with the Cultural Resource Division, California Department of Parks and Recreation, died on April 17, 2002. He had been suffering from terminal cancer, but maintained his typical bravura right to the end, inquiring about a favored project at Angel Island that he still wanted to do.

Lee was originally from Ohio and came to California with the U.S. Air Force. He joined the Department of Parks and Recreation following an early medical retirement from the Air Force resulting from a back injury. He often joked about having hurt himself by falling out of a plane. The fact that the plane was on the ground didn't lessen the hardness of the tarmac when he slipped from a large military aircraft while performing maintenance work. The Air Force's loss was our gain when, after getting his B.A. in Anthropology from Sacramento State University, he came to work for State Parks in 1981. Lee was a hard worker and meticulous in his field work and report writing. Organization and neatness were important to Lee and put many of us to shame. Due to a particular interest in historical trade beads, Lee developed a reputation as an expert in this type of artifact and published several articles in professional journals. He also developed considerable expertise in analyzing and stabilizing historic structures. He showed a wonderful practical knowledge of construction and was endlessly fascinated by his discoveries of the archaeological evidence of how things went together.

Though he worked in many parts of the state over the course of his career, he became a specialist in the Santa Cruz-Monterey area. One of his early projects was at the Cooper-Molera Adobe in Monterey where he did extensive excavation resulting in the discovery of a number of trash pits from the early to late 19th century that produced the Cooper-Molera collection. In the later 1980s and 1990s Lee worked on numerous historic structures including the First Brick House, the Whaling Station and the Pacific House in Monterey; the John Rogers Cooper cabin at Andrew Molera State Park and the Bolcoff Adobe at Wilder Ranch State Park. He also directed many other projects, particularly at Año Nuevo State Park and Wilder Ranch State Park.

Lee generally preferred to work alone or with a small team, but he will be especially fondly remembered for his work with various docent groups and other volunteers as well as CCC, NCCC and Conservation Corps crews. He often sported hats or t-shirts given him by appreciative convict crews that proclaimed him an honorary prisoner. A big part of his appeal was his unflagging sense of humor, often wry with himself as the butt of many of his jokes. When working simultaneously on the First Brick House and the Whaling Station in Monterey, he would refer to them in combination as "the First Brick Whale." After retiring from the department he came back as a Retired Annuitant but referred to himself as a "Retarded Irritant."

Although he often seemed a workaholic on the job, he found time for his family of which he was very proud. Lee's wife, Kathleen Whalen, and their three sons, Rob and Eric Motz and Pat Whalen were always very much on his mind and he frequently mentioned the many accomplishments of each of them as they occurred.

Lee will be sorely missed by his colleagues and friends throughout the Department and the archaeological community. Our only consolation is that he is now out of pain.

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# From the President

*Continued from page 3*

works. First, in June the business office will be moving to Chico, where it will be co-located with the *Newsletter* under the direction of Greg White. Greg has been busy for the last year upgrading the layout and the content of the *Newsletter*, and now that it is positively gorgeous, he has time to turn his attention to the business office. Kristina Roper, our current business office manager, has been working with Greg to ensure a smooth transition. The Board wishes to thank Kristina for her incredible dedication the SCA during her tenure as Business Office Manager. Not being one to let dedicated individuals get away, the Board has asked Kristina to continue on as the SCA's Webmaster. Look for a new and improved website now that Kristina has some free time. Finally, I am pleased to report that Mike McGuirt has agreed to fill the long vacant position of OHP liaison.

One other change you will be seeing soon is ballot asking for your vote to change our code of ethics regarding the consideration of Native American traditional values and beliefs. The need for this change was presented to the Board by Lynn Gamble, chair of the SCA's Professional Standards and Guidelines Committee, who had been contacted by a Native American representative regarding some insensitive treatment during the course of an archaeological project. Upon review of our exiting ethics statement, the Board felt that a stronger statement regarding the need to respect Native American traditional values could help prevent similar instances from occurring.

In terms of the annual meetings, beginning last year the Board decided to change how the meetings are designed and organized. We decided that we wanted to provide program chairs and local arrangement chairs with a general theme for the meetings, and that this theme would then be carried forward in the archaeology month events and in the poster. The theme of the 2003 Annual Meeting, to be held in Sacramento, will be "Remembering Our Roots." With the passing of Fritz Riddell this year, one of the SCA's founders, the Board felt that a program that reflected on our history would be appropriate. Also, continuing on in the tradition of

the SCA trying to be all things to all people, the meeting will also provide a venue to opine on the future of archaeology in the State.

In the absence of an annual meeting survey for this year's meeting, the Board circulated at San Diego meetings and asked the membership what types of sessions, workshops, and tours they were interested in. These ideas were captured and forwarded on to John Holson, from Pacific Legacy's Albany office, who has graciously agreed to be program chair for the Sacramento meetings. As we go to press the meetings are still without a local arrangements chair. If you want a lot of recognition, poor compensation, and a few headaches, see me as I have just the job for you.

This year's annual meeting illustrated just how popular the workshops are as numerous hopeful attendees had to be turned away when the classes filled early. For the upcoming 2003 meeting, the Board is considering increasing the number of workshops and broadening the topics based on input from the membership. So as not to burden the already busy program chair, a new position of workshop coordinator has been initiated and filled by Amy Ramsay.

I look forward to the year ahead. Your next *Newsletter* will include more information regarding these exciting changes and more information on the 2003 annual meetings.

- Dana McGowan

# Heritage Program Pacific Southwest Region USDA Forest Service

*Judy Rose, Regional Archaeologist*
*Heritage Program Leader, Pacific Southwest Region*
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*This begins a series of articles covering the USDA Forest Service, Pacific Southwest Region's active and diverse Heritage Program in California. Regional Archaeologist Judy Rose introduces the series here with a discussion of Programmatic Agreements and guiding principles. Articles to follow include: Pacific Ranger District, Eldorado National Forest District Archaeologist Krista Deal on Fire Effects and Archaeology; PAR, Inc. Principal Mary Maniery on the Six Rivers National Forest Altaville PIT project; Tahoe National Forest Forest Archaeologist Donna Day on basalt distribution studies, and; Mendocino National Forest Forest Archaeologist Greg Greenway on the Nomlaki Research Project. Thanks to Greg Greenway and Judy Rose for organizing these contributions!*

The USDA Forest Service's Heritage Program opens windows on the past to see both people and the land more clearly. Guided by the national strategy, ***Heritage—It's About Time***, the Pacific Southwest Region's Heritage Program implements a threefold mission: to effectively provide quality stewardship, public service, and historic contexts for resource management. It carries out this mission with highly skilled specialists and qualified professionals on every forest.

The Pacific Southwest Region, or Region 5, consists of 18 National Forests in the state of California. The forests cover over 20,000,000 acres, roughly one-fifth of the state. From survey of roughly 35 percent, or more than 7,000,000 acres, of its administered lands, the region has recorded 52,000 cultural resources.

## Regional Programmatic Agreements

The Pacific Southwest Region's key tools for managing its cultural resources are the Regional and Sierra Programmatic Agreements that have been executed with the California State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP). The two are very similar, but the Sierra agreement is specifically tailored to accommodate existing research and management frameworks for some of the Sierran forests (i.e., The Framework for Archaeological Research and Management for Forests of the North-Central Sierra Nevada, or FARM).

The two agreements expedite management of routine projects that do not affect sites or that protect sites with specifically identified standard treatment measures. For all such projects, the agreements allow project decisions and subsequent implementation, without case-by-case consultation, immediately following project reporting and certification of completion by the forest's Heritage Program manager. These account for 98 percent of the projects generated by the region each year. The forests submit summary annual reports to the SHPO and the regional office; and the regional office submits a state-wide summary report to the SHPO and the ACHP.

## Section 110 Program

As a result of the time and savings afforded by the expedited National Historic Preservation Act Section 106 responsibilities, the regional programmatic agreements require a Section 110 program to implement the national heritage strategy. The Section 110 program provides for stewardship, public service, and ecosystems research to enhance cultural resources and provide opportunities for public outreach. Each forest, in consultation with the SHPO and the ACHP, sets long-term goals and objectives for heritage management activities, e.g., broad scale inventory, National Register of Historic Places nominations, evaluations of eligibility, site monitoring, resource protection and

*Lake Tahoe Basin Management Unit: Nevada Air National Guard, one of many site preservation partners, rehabilitating one of the buildings at Tallac Historic Site.*

stabilization, interpretation, public volunteer opportunities, research, and professional contributions.

Each forest has a Section 110 plan and generates accomplishments directly related to its plan. The program has been very successful. Since the agreements were executed, in late 1996, the region has:

* Evaluated 1,474 sites for National Register eligibility;
* Monitored 3,551 sites for impacts from vandalism, recreation use, project impacts, erosion, and decay;
* Preserved 647 sites, either indirectly through such means as fencing or placement of barriers, or directly through stabilization or rehabilitation;
* Provided 3,656 public outreach opportunities, such as guided tours of sites, Passport in Time (PIT) public volunteer projects, and California Archaeology Month programs;
* Benefitted from 618,734 heritage public volunteer hours through stewardship and enhancement projects; and
* Made nearly 400 professional contributions, such as publications, and symposia or papers at professional conferences.

The other Forest Service articles in this issue provide some examples of archaeological research being completed under Section 110 plans. Following are additional examples from this past year's accomplishments that illustrate the diversity of the Pacific Southwest Region's Section 110 program:

* At the 72-acre Tallac Historic Site, the Lake Tahoe Basin Management Unit provided more than 300 regularly guided tours, an on-site museum and self-guided interpretation, annual living history programs, and opportunities for permitted special use public events, such as theater and arts shows. Forest personnel, technical specialists, and scores of volunteers also completed major structural rehabilitation projects, reproduction and restoration of historic fabrics, and historic landscape maintenance. Tallac is a set of three National Register listed recreational estates from the early 1900s, with over 30 buildings and historic landscaping, plus the archaeological remains of a turn-of-the-19th-century casino. Its setting is spectacular, in one of the few remaining old-growth Ponderosa pine forests along the south shore of Lake Tahoe.
* The Los Padres National Forest's Partners in Preservation site steward program monitored 231 sites, and provided training to other forests and agencies in public volunteer site steward monitoring.
* The Six Rivers National Forest offered the most popular PIT volunteer program in the Forest Service. *Following the Smoke* is a cooperative effort with California Indian tribes and basket weavers to enhance management of basketry resources for traditional cultural use.
* In cooperation with Columbia State Historic Park, the Stanislaus National Forest conducted a PIT volunteer project to archive historic references linked to specific sites located on the forest and in the park. The volunteers digitized, encoded, and scanned historic newspaper and journal articles, diaries, photographs, and other documents related to Mother Lode gold rush resources, and tied them to a georeferenced electronic database for public use and access.

## Database

The Pacific Southwest Region is a primary contributor to development of the Forest Service's national cultural resource database, the Heritage Module of Infrastructure (Oracle). Infrastructure is a relational database that tracts and integrates data about the built environment of the National Forests, from boundaries and land line locations to roads and trails, from Special Use Permits to campgrounds, and from administrative facilities to archaeological sites. In addition, Region 5 has a supplemental Access database, called Baxter, to meet the day-to-day field needs of Heritage Program specialists.

Populating the Forest Service corporate database will continue over the next few years until basic management needs are met. All 52,000 Region 5 cultural resource site locations are digitized in the Forest Service's Geographic Information System (GIS). Forests are now working on digitizing cultural resource survey areas into GIS and encoding tabular site record information into Infrastructure. Coordination with the California Office of Historic Preservation regarding data migration and integration into the California Historical Resources Information System is ongoing.

# USFS California

## Management Issues

The complexity of the Pacific Southwest Region's Heritage Program is reflected in more than its numerous sites and diverse Section 110 activities. Many heritage resource and management issues have surfaced over the years. With California's diverse and involved public, several have been elevated to regional, state-wide, or national debates. Virtually all have been challenging; many have been highly controversial; and some have been very political.

*Lake Tahoe Basin Management Unit: Visitors observing Washoe ceremonial, Wahsheshu Edeh Festival annual living history program, Tallac Historic Site.*

The old Gasquet to Orleans (G-O) road controversy on the Six Rivers National Forest went all the way to the Supreme Court. The Helkau traditional cultural property, which was at the center of that case, later ended up being protected from development by the Smith River National Recreation Area legislation. A few years ago, Mt. Shasta traditional cultural property on the Shasta-Trinity National Forest was protected from development when the Forest Service revoked a Special Use Permit for proposed ski area development.

Current controversies include adverse effects from rock climbing at Cave Rock traditional cultural property on the Lake Tahoe Basin Management Unit, and proposed geothermal energy development at the Medicine Lake Highlands traditional cultural property on the Modoc National Forest. Both of these issues are now undergoing environmental analyses and are unresolved.

In addition to dealing with such controversial issues, the Pacific Southwest Region is taking steps to provide efficient regional guidance for heritage management. The regional programmatic agreements are the most all-encompassing tools for doing this. Now, the region is developing management tools for certain property types with large numbers of resources and constant management activities.

*Shasta-Trinity National Forest: Mt. Shasta traditional cultural property. (photo courtesy of Ken DeCamp, Shasta-Trinity NF).*

Recreation residences are unique to the Forest Service and require constant management. Region 5 has 267 recreation residence tracts that are treated as historic districts. There are more than 6,300 recreation residences in those tracts. The region has completed a Recreation Residence Strategy that defines the multiple property type, provides a historic context for evaluation, identifies the property type's significance criteria, and establishes guidelines for identification and evaluation. The region also executed a programmatic agreement for management of its recreation residence tracts. The agreement identifies exempt and screened undertakings for routine maintenance, in-kind repairs and replacements, minor modifications, accessibility, and health and safety upgrades. The screened undertakings are reported, and consulted upon with the SHPO, as part of Regional Programmatic Agreement annual reporting.

The Forest Service is currently revising its facilities master plans. The agency anticipates decommissioning facilities that do not meet its administrative needs. Other facilities are being remodeled to meet current needs, e.g., to fit larger, contemporary, fire engines into small, narrow-doored, historic garages. Some 6,800 Region 5 administrative facilities are old enough to require evaluation of historic

significance and effects. These include fire lookouts, ranger stations, guard stations, visitor information centers, and other facilities. The region just completed two Section 106 training sessions that focused on administrative facilities. It already has a historic context and a programmatic agreement for the property type. It will negotiate an amendment to an existing agreement, to account for the facilities master planning process and manage this property type.

The Pacific Southwest Region has a complex, active, and effective Heritage Program, managed by qualified professionals. It includes:

* Project compliance work in recreation, timber, forest health, wildlife, fire, minerals, range, engineering, and special uses;
* Stewardship projects to protect, stabilize, and rehabilitate heritage resources;
* Public outreach interpretation, environmental education, and volunteer projects;
* Research in the human dimensions of ecosystems and historic ecology;
* Coordination with other agencies, tribes, and the public; and
* Controversial and sensitive issues.

Ways to manage more efficiently and effectively are being explored to preserve the nation's cultural heritage for generations to come.

# Fire Effects Studies on the Eldorado National Forest

*Krista Deal, Pacific Ranger District*

The Eldorado National Forest began investigating the effects of fire on cultural resources in the aftermath of the 1992 Cleveland Fire (Rood 1994; Deal 1995; Tremaine and Jackson 1995). Although many different types of effects were noted to artifacts and features within the fire, we understood little at the time about the parameters of the fire environment causing those effects and made few attempts to make detailed observations on the nature of the impacts we observed. Later analysis led to the development of a field guide for recording fire effects and a form for making observations about fuel loads, fire behavior, fire intensity and severity, fire effects, suppression impacts, and short and long-term threats to cultural resources (Deal 2001).

In order to increase our understanding of fire-induced impacts, in the fall of 1999 we initiated studies on the effects of fire to obsidian hydration. We selected 54 samples of artifact obsidian from 23 sites with hydration bands ranging from 0.9 to 7.7 microns. For the experiment, we divided the obsidian equally between two prescribed burns, and placed the obsidian in three areas based on ground fuels condition. "Light fuels" were those composed of pine needles and leaf litter (or, in firefighters' terms, 1-hour fuels), "woody fuels" consisted of twigs and branches ¼ to 1-inch in diameter (i.e., 10-hour fuels), and "log fuels," branches and small logs up to 8-inches in diameter (100-hour fuels). Within each fuel type, 6 obsidian samples were placed at the ground surface below the duff and atop mineral soil, and 3 samples were placed at depths of 5 to 8cm. Thermocouples were inserted into the soil next to the obsidian and connected by a cable to a datalogger outside the fireline set to record temperatures at designated time intervals (Figure 1). The obsidian was retrieved following the burns and resubmitted for hydration readings.

The first of the two prescribed burns occurred in an area where there was no history of any wildland or prescribed fires since at least 1910, when the Forest Service began keeping records. The lack of fires in the area had resulted in fairly heavy fuel loads estimated at 40 tons per acre. At our obsidian study area, the forest floor inventory of "light" fuels measured 20 tons per acre of fuel, primarily in the form of deep duff; "woody" fuels measured 31 tons per acre of fuel in the form of duff and 1/4-inch to 1-inch diameter twigs and branches; and "log" fuels measured 16 tons per acre of deep duff, twigs and an 8-inch diameter log.

On the day of ignition, relative humidities were between 27 and 40%, winds were calm, soil moistures ranged around 26% between the surface and 8cm, and the woody fuel moistures were fairly low, at 7 to 8%. Flame lengths varied from 1 to 3 feet and scorch heights were from 10 to 15 feet. The flaming front crossed the obsidian study area in about 10 minutes. The temperatures at the ground surface (where 6 of the samples were located) rose continuously over the next 2.5 hours as the ground fire smoldered through the fuels above the samples, reaching a maximum of 522ºC under the log fuels. Maximum surface temperatures under the woody fuels were recorded at 310ºC, and under the light fuels at 306ºC. Temperatures at the mineral soil surface then dropped off steadily during the next 6 hours. Subsurface temperatures peaked 6.5 hours after the flaming front crossed the obsidian study plot, reaching a maximum of only 72ºC, also under the log fuels. Due to the long-term smoldering of the fire in the heavy ground fuels, temperatures at all the instrumented study spots remained elevated over ambient temperatures for the next 44 hours.

Two-thirds of the obsidian from this prescribed burn returned from the lab with no visible hydration bands; the prescribed burn had essentially reset the obsidian hydration "clock" to zero. Of these, 78% of the samples on the mineral soil surface had "erased" hydration bands, contrasted with 22% of the samples placed below the soil surface. The majority of effects occurred under the log fuels, where 78% of the samples were altered, compared to 67% under woody


*Figure 1. Fuels conditions in the first prescribed burn experiment. Obsidian samples were placed in light fuels under the duff on the left side of the frame, under the log in the center of the photo, and under the small twigs and branches to the right. Thermocouples were placed into the soil next to the obsidian and connected with a cable to a datalogger set to record temperatures at designated time intervals. Arrows mark pin flags*

fuels, and 56% under light fuels.

Our second prescribed burn was conducted in an area where the fuels had been previously managed with prescribed fire in 1978, 1979 and 1985, resulting in fuel loads on the forest floor averaging 21 tons per acre, with fuels at the burn site consisting of less than a half inch of pine needles mixed with a few pine cones, twigs and a few small logs. A well-developed duff layer was not present. As in the first burn, soil moistures were high and fuel moistures were fairly low on the day of ignition. The reduced fuel loads in the second burn resulted in flame lengths of only 3 to 12 inches, and scorch heights of 2 feet. As in the first burn, the flaming front crossed the obsidian study area in 10 minutes (Figure 2). The temperatures at the soil surface peaked in only minutes, and dropped off rapidly, also in a matter of minutes. Temperatures under the log fuels were similar to those achieved in the first burn, at 473ºC. Subsurface temperatures began to rise after 15 minutes, reaching a maximum of only 35ºC, also under the log fuels. Temperatures remained elevated for only 4 hours, with only 1/3 of the obsidian exhibiting altered hydration. This contrasts with the earlier burn where 2/3 of the hydration was altered; none of the subsurface samples were affected, compared to 44% in the first burn. The reduced number of obsidian samples altered in this second burn may be due to the reduced smoldering time. In both burns, surface materials suffered most, with 64% of the combined obsidian yielding post-burn erased hydration readings. The obsidian hydration was most altered in log fuels, where 61% of the total log fuel samples were affected.

Detailed results from both burns were presented at the 1999 annual SCA meetings, during a symposium on the effects of fire and heat on obsidian. Papers from this symposium will be available in a forthcoming publication edited by symposium organizers Tom Origer and Dave Fredrickson.

We also looked at the implications of using obsidian hydration data for landscape level reconstructions of fire histories and past fuel loads, based on the premise that high temperatures (hot wildfires) and long duration smoldering fires (resulting from heavy fuel loads) destroy hydration bands. Obsidian hydration bands were still present on 90% of the obsidian retrieved from surface contexts on the Pacific District of the Eldorado National Forest. We believe this may be due to past reduced fuel loads resulting from deliberate landscape level burning by California Indians. Fire histories derived from cores from fire-scarred trees, covering the last 300 years on the Pacific District, indicate that frequent, low intensity fires burned through the forest (without replacing the timbered stands) on an average of every 6 to 7 years in the yellow pine / black oak belt, and nearly 13 years in the red fir zone. This frequency is much higher than that anticipated from lightning ignition alone; lightning ignitions only match the number of fires expected in the area once fire suppression policies were enacted. Complicating our hypothesis is the possibility that obsidian might rehydrate after a fire, and might do so rather rapidly (Origer and Anderson 1994). We are currently conducting an experiment to determine if fire-altered obsidian rehydrates under natural conditions.

In another prescribed burn experiment conducted on the Pacific District, we observed the effects of heavy fuels around a granite boulder used as a surrogate for a boulder/bedrock mortar. This boulder was 50cm high by 120cm long, with 3.5 foot tall manzanita on one side and 6.0 foot tall manzanita on the other. Half of the boulder was covered with limbs varying from ¼ to 3 inches in diameter, pine cone bracts, a few dried oak leaves, small clumps of 4-inch high bear clover, pine needles varying from ¼ to 1 inch deep, moss, lichen and several small green annuals. The base of the boulder had branches varying from 4 to 7 inches in diameter, with pine and oak leaf litter, duff to 1.5 inches thick, grasses and sparse bear clover. Fuel loads in the grasses were estimated at 1 ton per acre, the 10 hour fuels were 2.3 tons per acre, and the 100 hour fuels were 3.0 tons per acre. On the day of ignition, the temperature was 80ºF, 10-hour fuel moistures were measured at 10%, wind speeds were calm and the relative humidity was at 38%. Flame lengths varied from a few inches to 4 feet. Overall, this was a "cool" burn, and the green grasses in the burn area were not consumed. The vegetation on top of the boulder was mostly consumed, and large pockets of ash were atop the boulder. Despite the cool burn, most of the heavy

fuels at the base of the boulder were consumed, resulting in a 15 x 12 x 6cm chunk of the rock face spalling off (Figure 3). This spall was found 2 feet downhill of the boulder.

We also conducted extensive literature reviews on the effects of heat and fires on flaked stone, ground stone and other stone artifacts made from a variety of material types, such as chert, petrified wood, slate, quartz, obsidian, basalt, tuff, granite, rhyolite, steatite, and sandstone, among other types of rock. Reported effects to these materials include breaking, spalling, crenulating, crazing, potlidding, microfracturing, pitting, bubbling, bloating, smudging, discoloring, adhesions, altered hydration, altered protein residue, and weight and density loss (Deal 2002). Further details regarding fire effects to artifacts made of stone will be included in a publication by the USDA (Jones and Ryan 2002). This publication will also include information on the effects of fire to ceramics, rock art, subsurface materials, and materials of the historic period, and will include discussions of fire behavior and the fire environment, risk management, and data gaps (available later this year at http://www.fs.fed.us/rm).


*Figure 2. Fire burning across obsidian study samples in the second prescribed burn experiment. Light fuels obsidian samples are under the pine needles to the left, woody fuels samples are in the center between the pin flags, and log fuels samples are under the small logs to the right.*

The reported results of laboratory and prescribed burn experiments, and observations made after wildland fires, point to several conclusions regarding fire effects: the higher the temperature, the greater the effect; effects increase as exposure time increases; effects similar to those occurring at elevated temperatures can also occur at reduced temperatures if the exposure to heat is long enough; and protection can be afforded to materials by even a few centimeters of soil. This kind of information will increase our understanding of what happens to cultural resources in fires and will lead to more effective management decisions regarding cultural resources threatened by fires. The Eldorado National Forest is actively using management directions for prescribed fires included as a module to the Programmatic Agreement (PA) for treating historic properties in the National Forests of the Sierra Nevadas. Work is underway this summer to develop a "user's guide" to the application of protective measures and treatment protocols under this prescribed burn module. The guidelines provided by our prescribed burn module are less extensive, but similar to the national interagency PA being developed for managing cultural resources under the new Federal Fire Policy. This work is being completed by Rob Jackson of Pacific Legacy, Inc., under the auspices of the National Park Service. Several treatment protocols will be proposed under the national PA which may be used to aid in managing cultural resource values in wildland and prescribed fires, such as the use of minimal impact suppression techniques, non-staining retardant, buffer zones, heat resistant fabric to wrap cultural resources, and post-fire monitoring, among other things.

*Figure 3. "BRM" boulder used in fire effects study following prescribed burn. All fuels in the immediate vicinity of the boulder were consumed. A large spall broke off the face of the boulder where the dip can be seen along the top left edge.*


As a profession, there is still much that we do not understand about how fire alters different types of cultural resources. As California continues to experience large, intense wildfires each year, and as we move forward with prescribed burning more areas in an effort to reduce the scope of those wildfires, our need for more research into fire effects, as well as the

effectiveness of various treatment measures in protecting cultural resources, will become even more apparent.

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*Volunteer excavators at Altaville, June 2000.*

# Altaville: The Story of a Successful PIT Project

*Mary Maniery*

> *"A filthier, dirtier, nastier, noisier place I have not struck in the state." - Wm. Brewer 1863*

When land surveyor William Brewer wrote those words in December of 1863 he was sitting outside Altaville, a "little town on a sharp ridge" situated a few miles south of the Oregon/California border in the northwest corner of the state. In Brewer's day Altaville was the center of a copper mining district that boomed in interior Del Norte County in the early 1860s. The little town, located at Low Divide on the Pioneer Road (a major route into the mines), was laid out in 1862 in a rather arid ecotone about 11 miles southeast of Brookings, Oregon and 20 miles northeast of Crescent City, California.

Altaville not only was the center of a civil War-era copper mining district, it was the major town on the road between the harbor at Crescent City and the gold mining community at Jacksonville, Oregon. As such, it served as a stage stop and rest station for the teamsters, freight wagons and stage coaches that traveled over the route. At its peak between 1863 and 1865 the town prospered with several saloons, hotels, a butcher shop, blacksmith shop, general stores, and mining offices and housing. Altaville dwindled quickly after 1865 as the cycle of boom and bust played its course. Its demise was aided by the end of the civil war (reducing the need for copper) and the migration of the Jacksonville miners to new gold fields. By the turn of the century the site was a ramshackle collection of stone foundations, fallen houses, dust and one cabin, occupied by Frank Zaar, the self-appointed "caretaker." Several attempts were made to open the copper and chromite mines in the 20th century, using Altaville as a base, but these ventures were short-lived and

the town site remained abandoned and isolated, but never forgotten.

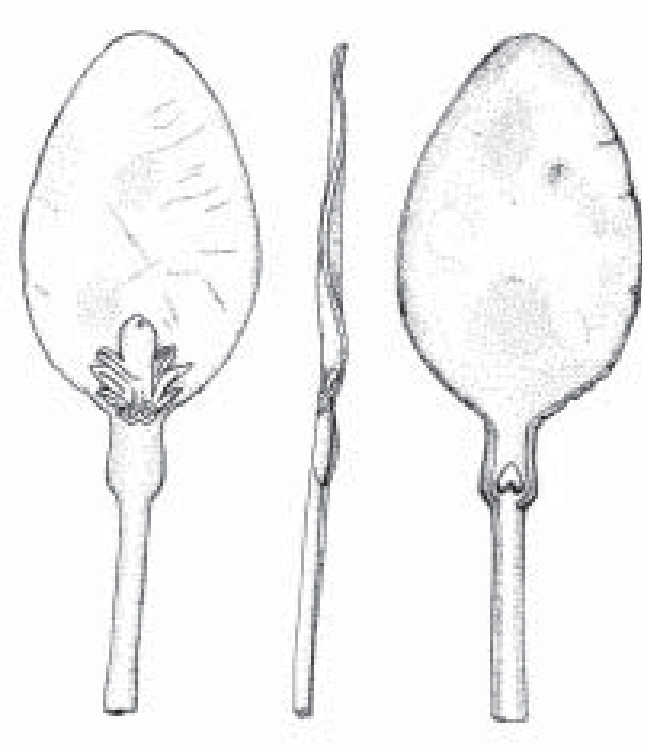
In 1997 Six River National Forest, searching for an historic site to excavate as part of the United States Forest Service's national Passport in Time (PIT) program, remembered Altaville. The town, located on both private and public lands, was the focus of several inventory projects in the late 1970s and early 1980s during a short mining venture in the county. No excavation had taken place, although the stone building foundations, trash scatters, and wells were recorded. Six Rivers partnered with the landowner and planned one week of excavation in 1998. The forest also partnered with PAR Environmental Services for the duration of the project. While Six Rivers ran the program, PAR provided the historical archaeological expertise in the field and lab and was responsible for cataloging, data base, artifact analysis, and reporting.

The first year at Altaville was an unqualified success, generating positive local and regional publicity. There was such a public demand to "do" archaeology and requests for more excavation that Six Rivers was inspired to try it another year. The interest generated during that week resulted in two more years of excavation, culminating in a final field session in June of 2000. In the three seasons of digging 381 volunteers put in 9,704 hours of their time excavating the Civil War town site.

The three years of excavation afforded us and opportunity to explore most of the lots that once lined the main street of Altaville. Through the years volunteers uncovered a blacksmith forge, found the living quarters for the late 1850s stage stop residence, expose the hotel built and owned by Nicholas Tack and the mercantile store next door to Tack's Hotel. The final session concentrated on answering questions raised during the previous two years and finally discovered the garbage refuse from the Tack Hotel. Research

*Working in the Lab at Altaville, June 2000.*

Tom Keter



*Flattened. spoon from Altaville.*

in 2000 also identified the water source for the town (hand dug cisterns), tent platforms, and the probable site of a miner's cabin, the main town plaza.

As archaeologists, it was extremely satisfying to have the time and opportunity to reconstruct the 1860s town. The archaeological evidence allowed us to interpret living and working areas in town, to estimate the size and mass of the Tack Hotel (66 feet long, 20 feet wide and two or more stories high), identify forges and domestic cooking areas, and verify the water source, layout, and design of the town as a whole and of individual lots.

For many of the volunteers the highlight of the season was finally hitting the archaeological "jackpot": whole or nearly whole bottles and dishes last touched by Altaville residents during the Civil War. A soup bowl with an English company mark, several medicine bottles, a piano hammer, a condiment bottle, and pieces of a door chime joined the 1000s of nails, bits of tin cans, and fragments of dishes that filled our on-site lab. These items were discussed around campfires at night, were carefully handled, and gave volunteers a hands-on sense of Altaville's history, much more than the stained and hardened soil in the outdoor kitchen or the traces of the interior post hole in Tack's Hotel treasured by the archaeological staff.

Historical archaeologists handle old bottles and ceramics regularly and it is easy to forget the real connection to the past that these artifacts can provide. It was a delight to view our profession through the eyes of volunteers, who treat these

old objects with such respect and delight in examining even the simplest nail. It was exciting to watch as these volunteers uncovered porcelain buttons, corset stays and other objects that likely were used by Eleanor Tack or one of her female hotel guests so many years ago. The awed look on the face of Nicholas Tack's great-great-great granddaughter when she found a pewter serving spoon within the walls of his hotel spoke clearer than words ever could about the feel for the past inspired by the PIT project.

Recovering these simple objects of day-to-day life allowed the PIT participants to explore the lives of people living in an isolated area of California during the Civil War. Camping on the site for a week, enduring high winds that blew tents over in the dead of night, days of over 100 degree weather, and even cold, clammy fog one morning gave everyone a true sense of what it was like to live at Altaville so long ago.

Although the fieldwork is finished, the enthusiasm and dedication of the volunteers is still evident in the collection. The artifact labels within each bag, carefully written by the "lab rats" and sometimes illustrated with detailed drawings of maker's marks or decorative designs, provide silent and eloquent testimony of the care that each individual volunteer put into their assigned task during a few hot summer weeks spread over three years.

Note: Popular and technical reports on the Altaville excavations will be completed in fall/winter of 2002. Please contact Ken Wilson, Six Rivers National Forest, for information.

Tom Keter

*Ms. Altaville, 2000 (Alexandra Bush, 3 years old, our youngest volunteer).*

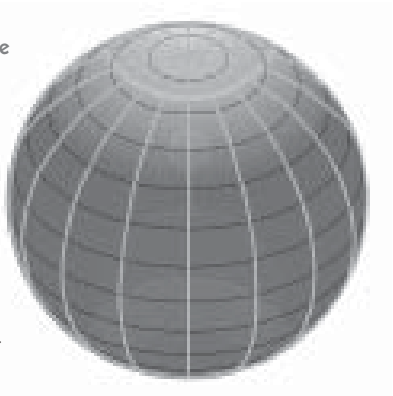
# Topo Maps:

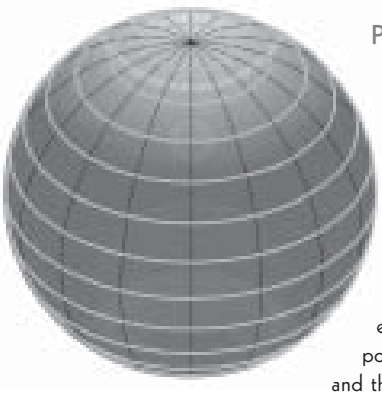
## Latitude/Longitude, History & Basics

Latitude and longitude represent the oldest and most widespread comprehensive geographical coordinate system. Latitude and longitude coordinates are rarely required in today's archaeological records but there are still several reasons to learn the system. First, the more common Public Land Survey and Universal Transverse Mercator coordinate systems described below are based on a latitude and longitude organizing principle. Second, latitude and longitude are often the only position listed on older site records. Third, latitude and longitude is a common reference system in historical land records and documents such as trail logs.

### Meridians of Longitude

Lines of longitude are also called meridians. Longitude measures distance west or east of a prime meridian. There are 180° of longitude in each hemisphere, Eastern and Western. Longitude ranges from 0° at the prime meridian to 180° east and west, on the opposite side of the globe.



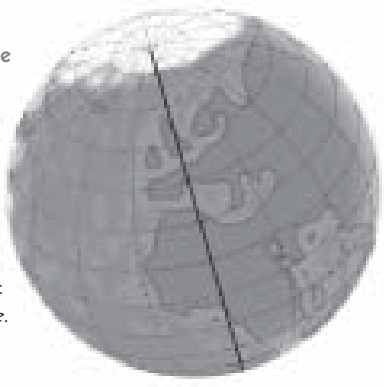


### Parallels of Latitude

The equator is a line of equadistance between the poles. Latitude measures distance north or south of the equator. Lines of latitude are also called parallels. There are 90° of latitude in each hemisphere, Northern and Southern. Latitude is 0° at the equator and 90° at each of the poles. The North Pole is 90°N and the South Pole is 90°S.

### The Measure of Space and Time

The 0° prime meridian passes through the site of the original Royal Observatory in Greenwich, outside London, also the locus of *Greenwich Mean Time*. On the opposite side of Earth, 180° corresponds to the mid-Pacific *International Date Line*.



## Degrees, Minutes, Seconds

Each degree (°) of latitude or longitude is subdivided into 60 minutes (′). Each minute is subdivided into 60 seconds (″). Degrees, minutes, and seconds are progressively more precise measures of space. Specific points, such as site locations, are measured down to the nearest second.

In the mid-latitudes of the continental United States, one degree of latitude equals approximately 69 miles (111 km), one minute is just over one mile, and one second is around 100 feet. Note that these distances would vary from the equator (where all lines of latitude and longitude diverge to the maximum extent) to the poles (where all lines of longitude and latitude converge).

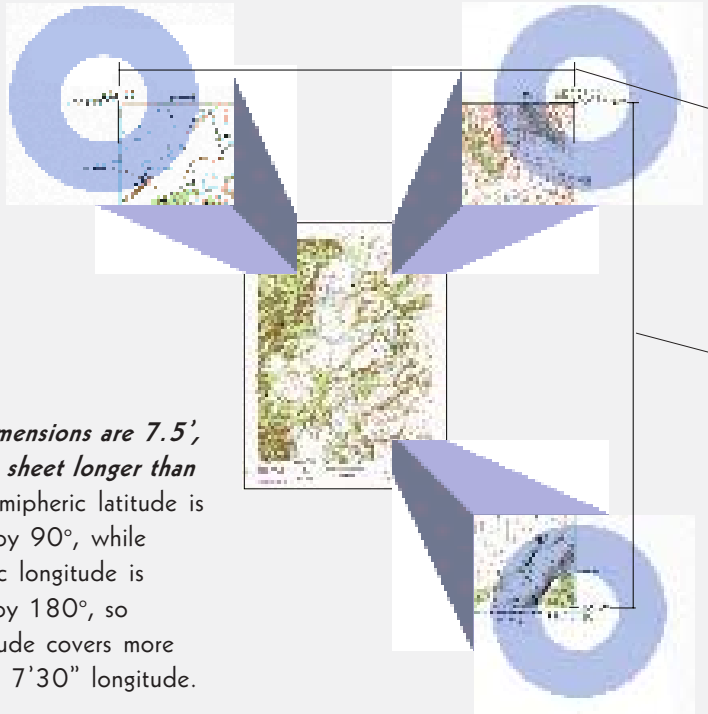
***Precise points are logged using the full phrase:***

122°07′30″W
40°22′30″N

Degrees Minutes Seconds Hemispheric Position

***Why are Quad sheets are also called "seven-and-a-half minute sheets"?***

Quad sheets are 7′30″ (7.5 minutes) of longitude and 7′30″ (7.5 minutes) of latitude.



This sheet spans
122°07′30″W
to
122°15′W
Longitude,

and

40°15′N
to
40°22′30″N
Latitude

***If both dimensions are 7.5′, why is the sheet longer than wide?*** Hemipheric latitude is measured by 90°, while hemispheric longitude is measured by 180°, so 7′30″latitude covers more space than 7′30″ longitude.

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