

**THE PERSONAL HISTORY
OF THE EARLY YEARS OF THE
CALICO MOUNTAINS ARCHAEOLOGICAL SITE**

BY

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I. HOW IT ALL BEGAN

The Calico Project began to take form in 1956 when I took a series of surface specimens from the eastern Calico Mountains with me to the Fifth Congress of the International Union of Anthropological and Ethnological Sciences in Philadelphia, Pennsylvania. There, Dr. Marie Wormington, Father Gormes, and others urged me to take a series of specimens for examination by European Paleolithic specialists.



Figure 1. Dee Simpson and her mother on the ship.

Two years later these recommendations were activated as my mother and I boarded the French ship, *Liberté* (Figure 1). We spent three months in Europe, visiting museums and universities. Specimens were shown and collections compared. Countries visited included England, France, Spain, Switzerland, and Denmark. The schedule, prepared by Dr. Kenneth Oakley, was tight, but allowed time for visits to classic and definitive sites.

Sites were mostly in old and active gravel and sand pits. In one active English gravel pit, hand axes were being dumped along with discarded, over-sized cobbles. In Spain, armed guards took the scientist and me to visit active sites along the

Manzanares River. In Norwich, England, I spent the day in a castle's historic underground prison. There historic implements of torture shared space in drawers with drawers of magnificent Paleolithic tools. Probably the most important active site I visited was Swanscombe. There I was permitted to assist in the excavation work and to uncover my first true hand axe. Scientists in each country and institution were most helpful, but most generous with his time was an American archaeologist, Harper "Pat" Kelley, at the Musée de l'Homme (Museum of Man) in Paris.

The major opportunity of my trip came at my first stop actually while still in London, England. There, Dr. Oakley arranged for me to meet Dr. Louis S.B. Leakey, and to show him the Calico surface material which, even then, was being designated as the Lake Manix Lithic Industry.

The secretary told me for Dr. Oakley and Dr. Leakey, told me Dr. Leakey's schedule was full and that I should proceed with my planned schedule for the day. I decided to wait. Ultimately, she came in and said that I could have five minutes with him at one o'clock. She asked if I could show him the materials and state my case in that amount of time. I said "YES!"

At five minutes before one, I was called into his office. At ten minutes before 5, the janitor came in and told us that the building was closing. The Calico materials packed, I turned to leave. Dr. Leakey called me back and said he would try to break a dinner engagement and join my mother and me for dinner. He wanted to further discuss the specimens. We waited for his call, but after an hour, decided he could not get away. As Mother and I left for dinner, the phone rang. Dr. Leakey had been in the lobby for an hour but could not remember my name. Finally, the desk clerk told him there was only one American archaeologist in the hotel.

At dinner, Dr. Leakey used torn rolls to explain flaking details about which I knew nothing. After dinner we returned to our room and discussed the future of the Calico Project until two a.m. The discussion was interrupted only once so Dr. Leakey could hear a taped radio broadcast he had prepared on present-day conditions in Africa. When it was over, he smiled broadly and said "That is the first time I have heard my voice."

At two a.m., he left. At the door he turned back and said "Find specimens like those in

deposit and we shall have a really important excavation -- and you will not find what you are expecting!" Even an informal lecture of the digging at Swanscombe for students of prehistory at Cambridge could not equal that evening!

A major search for sub-surface evidence was started later in 1958, and John Kettl found that sub-surface in the Glenn Gunn commercial excavation. Frequent trips were made to that excavation during the next four years and erosion of the excavation walls continued to exposed artifacts. Invitations were sent to many scientists, especially in California, to come and examine the excavation and see artifacts *en situ*. Only Dr. Thomas Clements (University of Southern California geologist) and Dr. Carl Hubbs (Scripps La Jolla, oceanographer) came. The only archaeologists to come were Dr. Elias Sellards (University of Texas) and Dr. Jose M Cruxent of Caracas, Venezuela.

By 1961, I had decided that there was little hope of the project Dr. Leakey had mentioned. There was no further word from him and no interest in a major excavation of the part of American scientists -- least of all among the staff of the Southwest Museum where I was then employed. There were specimens which I felt were the best were called "Simpson's cracked rocks". Ultimately I was ordered to remove the material from the Museum storage. Only intervention by Dr. Alex Krieger who had come to the museum to see the material prevented the loss of the collection. Indeed the Southwest Museum missed the strong research interest and leadership which had been supplied by Drs. Frederick Webb Hodge and Mark R. Harrington who had supported the work in the Calico Mountains, but who were no longer with the institution.

The Archaeological Survey Association which had called Southwest Museum "home base" would soon (1964) be move to new headquarters at the San Bernardino County Museum then situated in Bloomington west of San Bernardino. Since most of the Calico material had been collected as an ASA project, it would be transported to San Bernardino County Museum.

Director Dr. Gerald A. Smith was deeply concerned with evidence from the Calico Mountains District, not only because of his interest in early archaeological evidence, but also because of his deep concern for evidence from the Mojave River drainage. In 1963, Dr. Smith arranged with the Southwest Museum for me to work part-time at each institution.

In April that same year, Dr. Leakey came to the University of California in Riverside. The day of his first lecture, my team from the Calico project was in line for tickets by three in the afternoon. I did not expect Dr. Leakey to recognize me. However, when he came out to arrange his notes and slides, he saw me with the group, waved and told me to see him after the lecture.

At that meeting, he asked about progress in the Calico area. John Kettl and I told him what we had found and we were told to bring him the specimens two days later. Evidence from a very few potential early sites was there for him to see. He selected the Calico material as the most likely to indicate a major archaeological and geological discovery, and arrangements were made to take Dr. Leakey to the area..

I shall always remember the generosity of one of the other researchers whose material had been there for him to see. When Dr. Leakey chose my material, the other research worker came to me, congratulated me and offered to help on my project.

A few days before Dr. Leakey's projected visit, my mother and I visited the site. There, ready to work was a bull-dozer belonging to Mr. Gunn. It was poised, ready to do the required annual assessment work. When Mr. Gunn arrived the next morning and we explained the urgent need for Dr. Leakey to see the commercial excavations in its existing condition with specimens showing in the walls, Mr. Gunn agreed and proceeded to work in other areas.

On May 3, 1963, John Kettl, armed with his camera, and I took Dr. Leakey to the area (Figure 2). He told us to wait while he examined the excavation and specimens by himself. After a half-hour, he came out of the trench and called me. As I walked up, he said crisply "That is a secondary deposit. You are stupid! You should have known that!" Then he looked around the landscape and added "But don't fret, we shall find the spot from which this material came – come along!"

Several hours later as he strode over the hills and I trotted to keep up, he stopped, smiled the great warm smile we were to come to know well, and said "Dee, this is it, send for the young man with the cameras." John came straight up the hillside to use and began historic coverage of Dr. Leakey as he examined soils, pointed to fine-grain siliceous material in the wall of the cut Glenn Gunn made across the side of the alluvial fan, and studied the topography. Finally, standing on the steep slope immediately above that commercial cut, Dr. Leakey turned to me and said "Dee, dig here." Then he set four cairns defining the pit site.

I protested that the slope was too steep and that we should dig further back on the flatter part of the hill. Dr. Leakey's reply would be recalled often in the days and months ahead. "If you dig here, you will have no problem of overburden. You shall dig over there too, but not yet and when you do, you will have ten feet of overburden." Later he added, "You must get results rather quickly for the grant I shall have to request will be small."

John Kettl and I walked over the alluvial fan for several miles, while Dr. Leakey chose other areas for outlying test pits. One site he selected later became known as SBCM-1508 and was excavated by Ritner Sayles who had brought Dr. Smith and me into the area originally.

John Kettl and I had been concerned over taking Dr. Leakey into the heat when he was in the midst of a lecture series. Driving back to Riverside we saw that he looked very worried. John asked what was wrong. Was there something we did not show him? The answer was quick "My no! Nothing like that! I am planning to prepare an African dinner for you, and I just can't decide what sort of dinner it should be." A few hours later we shared a sumptuous feast prepared "from scratch" by Dr. Leakey who was a superb cook as well as archaeologist.

During the months that followed, preparation for the proposed Calico Project moved ahead. However, there were times when Dr. Smith and I doubted there would be a project. Leakey requested an initial grant from the National Geographic Society. Dr. Vance Haynes was sent to evaluate the geology and Dr. Emil Haury was sent to see the archaeological potential. Both advised against the project.

Dr. Leakey phoned me to say that the National Geographic Society wanted Dr. Haynes to be the geologist in charge. I responded by telling him that Dr. Thomas Clements had been on this and many other desert sites with me and I considered him to be the best desert geologist and there be no project without him. Dr. Leakey was delighted in my choice and went back to the



Figure 2. Dr. Leakey first visit to Calico in 1963

Society with my reply.

Several months were to pass before the grant and necessary permits were finally assured. Meanwhile, Dr. Smith arranged for me to work part-time at the San Bernardino County Museum. It was during this time that the ASA moved their headquarters to the County Museum, and their headquarters became the Early Man Research Center.

In the spring of 1964, Dr. Leakey was in the United States again and final plans were made for work to start on SBCM-1500, the Calico Mountains Archaeological Site. There would be \$7,000 for the work. If important finds were made, the Project might be continued. There would be seven people on the paid crew. I would be in charge of the archaeology, Dr. Clements of the geology, and Dr. Smith would be the administrator.

One pit (Master Pit I) would be opened. The future of the project would depend upon the results of that excavation. The pit would be divided into 5-foot by 5-foot sections and dug in three-inch levels, unless soil changes interfered. It was decided by Dr. Leakey that, since the American workers were not used to working with metric measurements, all field measurements would be in inches and feet but, when laboratory analysis began, the specimen measurements would be in centimeters. All digging would be done with small hand tools — nothing larger than a trowel. All soil removed would be screened through ¼-inch and ⅛-inch screen. All specimens would be numbered and noted completely in the field laboratory.

During the weeks of Dr. Leakey's visit, there were numerous logistics meetings and I was given rigorous instruction in how to handle the forthcoming project. No effort was made in those meetings to prepare me or my staff for the obstinate, determined stand taken by many of our American colleagues in opposition to acceptance of evidence of Pleistocene Man in America, and no amount of instruction would have made this negative attitude any easier to accept. Most of us had seen the treatment accorded Phil Orr, George Carter and others, but I felt that, when evidence was recovered under controlled conditions and analyzed objectively, the evidence would be accepted.

In some instances, that acceptance did come in scholarly fashion. Yet, even as this is written, there are professionals in America who still deny the evidence. After six years of trying determinedly to present the evidence, we decided such efforts are a waste of time and effort. It is far more profitable to spend time, manpower and what funds we have available working with the evidence, letting our colleagues and public accept it or not as they wish. We are indeed admirers of those many professionals now stating publicly the significance of Early Man materials, not only from Calico but Texas Street and many other major localities.

Those of us privileged to sit through those early learning sessions will long remember the last meeting, held at a private home in West Los Angeles. There, Dr. Leakey sat by the swimming pool and demonstrated, among other things, how bones are split to expose the marrow. Our hostess provided a cow's leg. Dr. Leakey and the pool side bench were liberally splattered with blood. Suddenly, someone realized it was nearly departure time for his plane and he dashed off to the airport and boarding his plane still splattered in blood.

I left a few minutes later (having washed my hands and face, and wearing a clean shirt) for Crowley Lake near Bishop where part of my future crew was working on another site. There we gathered around the campfire and I passed along the data I had acquired during the past days.

Ritner Sayles, Rollin and Grace Enfield, Norm Weller, Betty Moore, Grace Kingman, Harold and Leona Barnes and Cliff and Sally Clouse were among the future Calico Crew digging at Crowley Lake Cave. The laboratory chairman, Leona Barnes, joined that nucleus of the Calico crew when her work was done at Crowley Lake.

During the pre-excavation discussion, Dr. Leakey outlined the initial procedures he wished to have followed and the type of equipment we would use. In all phases of preparation, there was complete staff agreement. Although Dr. Leakey had indicated that he thought some evidence would be found in the months ahead and that we would be working at the Calico "for a

long time.” I thought that if evidence was found, that would be the end of the excavation or that it would be taken over by the National Geographic Society and continued on a large scale. How wrong I was! And, as usual, how right Dr. Leakey was.

Believing it would be a short-term project, I took a six month leave of absence from the Southwest Museum to head the work. I sent out a now famous bulletin to my friends and fellow-workers on other projects. In this epistle, I told the people to expect “warm days and cool evenings”, and that the project would probably last two months. My loyal supporters planned their vacations so they would overlap and I would have a full crew of seven all through those two months.

Once funding was assured, Dr. Smith applied for a permit. This was granted by the U.S. Department of the Interior. Glenn Gunn permitted us to use his miner's shack as a headquarters for \$30.00 per month. A beginning date was set for November 1, 1964.

From the start it was agreed that, while the full-time crew would be small (seven), part-time volunteers would be welcome. It was also agreed that Ritner Sayles would wear two hats: project foreman and cook. Full-time workers would be paid \$10 per day, plus meals.

Never having been in charge of such a large project with the awesome potential of this one, I spent a good amount of time weighing the skills of my various associates while trying to decide on a logistics director and a Project Assistant. The logistics responsibility went to John Kettl, president of the ASA and the discoverer of specific site. The responsibilities of Project Assistant went to Cliff Clouse, who had recently shed the responsibilities of the U.S. Customs Office in Los Angeles.

Early in October, Ritner Sayles, Cliff Clouse and I held a planning session at the site, defining camp, park and cooking areas and thrashed out such problems as water, outhouses, trails, equipment lists, etc. Probably the most crucial of these questions was water.

On the Museum Association Board was a representative from Barstow, Art Robbins. He made the first of many vital contributions to the Project when he brought us Mr. Karl McGowen, Southern California Edison Company. He offered to keep us supplied with water if we had a tank. A tank was furnished first by the County, then by the U.S. Marine Depot, Yermo.

We all got a shock when we opened the door to the building slated to be our headquarters and found it to be totally untenable. It was decided that we come out a week early to clean and repair this, our one building. Rollin and Grace Enfield, Norm Weller and Doris Bowers were among those who came early to help. Meanwhile, prospective crew members were busy seeking out campers, vans and other types of equipment.

The last two weekends of October and the first weekend of November played a major role in the development of the tight controls for which the Calico excavation has been famous. Those days saw the placement of the framework, tracks and a horizontally-placed radar tower which made up the rolling bridge which has been and is the measuring device used in Master Pit 1. This was developed and installed by John Kettl, aided by Harold Barnes, Jim Corbett and others early arrivals. As we lifted the framework as a unit and set the bridge, we were accomplishing an archaeological "first" and we had not yet broken ground! (Figure 3)

Two other major accomplishments marked in the last two days of October: the establishment of a benchmark for the site and the establishment of the nucleus of Camp Leakey. John Kettl left his work on the overhead measuring device to work on the establishment of the benchmark. He was joined by Gale Kenyon, a surveyor from Barstow obtained by Art Robbins.



Figure 3. John Kettle photographing from the photo ladder, 1965

Kettl and Kenyon walked the survey in from the known benchmark in the northwest quarter of Section 26. Our benchmark, known as Witness Point 1, was established on the high ridge north of the excavation area. From this point, Kettl and Kenyon shot in Witness Points 2 through 6. These have been, and continue to be, the control points for the entire project. Ultimately, much detailed mapping would be done and sub-datum points established in the excavations by Jerry Jerauld, Roland Wissler, Dan Griffin and others but the basics were accomplished those last hot October days (Figure 4).

While I was helping John Kettl and Kenyon, I saw a camper bus bounding along the then little known dirt tracks. It was Cliff Clouse trying to reach camp. We pointed him in the right direction and watched as he pulled up in front of the building we would lovingly call “commissary”. He took a long look, grabbed a rake and shovel, and went inside. Later he was joined by the Anthony family. Margaret and Lester repaired and painted the walls while John Kettl repaired the roof (at least partially repaired it!). When this repair work was just starting, it is reported that I suggested the use of a match. That would have been the “easy way”, but nothing about this Project had been easy. By October 31, the building was habitable.

As the days of preparation wore on, more workers arrived: Ritner Sayles, Garfield Quimby, Thelma Crain and Harold and Leona Barnes. There were volunteers too. One was David Bailey, geography professor, who spent the weekend building a safe trail with stone steps up the front of the hill behind camp (Figure 5). The trail led to the digging area. Ritner worked on the trail in his “time off” lettering maxims we learned to chant in unison as Ritner led us up the hill to work each day, maxims such as, “I shot an arrow into the air. It fell to earth, I know not where”; “Never trouble trouble ‘til trouble troubles you”; and “Something lost behind the ranges, go and find it!”

In the evenings, during that week of preparation, campfires began to glow in the sheltered coves of the hills. Evening forays were made into Yermo in search of ice, propane, kerosene, scrap wood and other items which now loomed large in our lives. Ritner opened accounts at markets, hardware stores and lumber yards.

The pit area had been raked. All surface material had been collected. The 5' x 5' units were strung and numbered. Ritner was joined by a museum associate, Garfield Quimby. They shared a large army tent by the “commissary”. It was also used for storage and quickly became “home” for mice and pack rats. Ritner and Garfield set up a “kitchen” in one end of the Commissary. His equipment included the workers’ camp stoves and ice chests. Water loomed as a major problem.

And there were other problems too. Illness forced Rollin and Grace Enfield to leave before the work began. Rollin was to have been pit foreman. Cliff Clouse agreed to double his work and take on that job in addition to being my project assistant. Happily the Enfields would



Figure 4. John Kettl carrying transit and tripod used for mapping the site



Figure 5. Steps leading up to the Calico site

be back to make major contributions later in the Project.

The last afternoon before work began sped past, friends were dropped in to wish us well and to plan for participation. One friend, Grace Kingman, showed up ready to stay awhile.

As evening settled in, I looked at my workers' schedule. Thinking the Project would last two months, perhaps a little longer (!), I had established a work with teams of seven paid workers each (the number budgeted for based on the grant). Assignments were made. As I looked at the work planned, I knew I was counting on volunteers.

I have often wondered how the other members of that first Calico crew slept that night of October 31st. I lay awake a long time, staring at the Miocene clay of the hillside and wondering if, in fact, there was any depth to the alluvial fan. Would we dig a few inches and hit the clay? If that were to happen, funding and hopes would crash in a day or two, ironical concerns in light of our knowledge now of a fan is 30 feet thick!

It was still dark when Ritner rang the triangle and summoned us to breakfast. We came from our trucks, tents and campers to begin one of the great adventures of our lives.

II. THE LONG FIRST SEASON

It was an exceptionally quiet breakfast, that pre-dawn of November first. Ritner Sayles' blessing that morning was for his friends seated around him and for the task at hand — the search for truth. A check of equipment, and we were off up the hill, with Ritner and Cliff Clouse leading the way.

Arriving at the Master Pit "to be," we were greeted by a sight that would soon become only too routine; pack rats had removed two east-west strings from the pit grid. While Cliff and I repaired the damage, Ritner and the other workers determined unit assignments. I was given the northwest corner (P-19); however, it soon became apparent that, in contrast to the others, I would work in whatever unit or with whichever worker needed attention (Figure 6).

As Dr. Leakey had requested, all workers were in perimetrical in order to obtain east-west and north-south stratigraphic profiles. Garfield, Cliff and Ritner began construction of a "collar" around the pit of one by twelve inch boards. This would help control the early digging, and protect the pit edges.

Within minutes, Margaret Anthony became aware of our first problem. Five feet measured along the strings paralleling the ground surface would never agree with five feet measured from the horizontal overhead device. I decided to measure from the ground level at the north edge. John Kettl marked the overhead track to agree, and these measurements have been used throughout the history of excavation in that pit.

Grace Kingman then noticed our second problem. From what point along the north edge of the unit would the depth measurement be taken for digging and for measuring artifact location? The pronounced slope of the hill made this another significant and lasting problem. Not knowing Dr. Leakey's wishes, I decided to measure levels and triangulate artifacts using the depth at both the northwest and northeast corners; a decision was adequate in the field, but which would cause problems in the laboratory through the years ahead.

When Dr. Leakey came back to the site five months later, he decided to record depths at the shallowest corner (northeast); however, he would have preferred that all measurements be from the datum-established horizontal rather than from ground level. We agreed to continue the ground level determination in this Master Pit, but use horizontal measurements in all subsequent pits.

When Ritner walked down the hill to prepare lunch, he would not return to the Master Pit as a regular worker. He would continue in the pit he had started on Ritner's Ridge, dig other necessary test pits, and start work at SBCM-1508, east of our site. He had requested permission to do these pits when Dr. Leakey was planning the project with us. All this would be in addition to serving as purchaser, cook and camp master.

During the first week, digging was with trowels and soil was loose. By the end of the week, the soil was beginning to be compact. The few specimens we found obviously belonged to the Lake Manix Lithic Industry surface assemblage.

On the weekend, John Kettl returned and made operational the "overhead device," as our measuring structure would be called affectionately. When all the details were complete, Kettl and Norm Weller rode the bridge to the east end of the track, 20 feet above our heads. The stops



Figure 6. Crew starting excavation of test pits P-19, Q-19, R-19 and S-19. Dee Simpson is the photographer. Diggers include Margaret Anthony, Norm Weller, Thelma Crain, and Cliff Clouse.

at the end of the track worked!

That weekend also brought us Allan Sanborn from Porterville and volunteers Remi Stone (Bishop), Marge and Patty Gearhart (San Bernardino) and Winifred and Evert Stewart (Bolinás). Art Robbins who, until now had been involved with logistics, came as a digger.

Our next problem was one of administration. The National Geographic Society had requested that photographs of the project be taken only by their designated person. Within days of the arrival in the camp of that order, Bureau of Land Management (BLM) staff members came to see the site. Since this is BLM land, they were well within their rights to want to photograph the work, but I had to refuse their request and was instantly trouble. I decided it was time to have resolution of the question, so went to Dr. Smith. He called the National Geographic Society and it was agreed that BLM staff could photograph our work, but not for publication. It was also agreed that crew members designated by me could record scientific data, but that such pictures could not be used in any way as long as the National Geographic Society was involved with the Project.

The end of the second week brought tragedy. The Stewarts returned to work with Ritner. At noon on Sunday, while examining a new rock cutting blade Remi had made, Evert Stewart suffered a heart attack. Art Robbins who was applying mouth-to-mouth resuscitation in Remi's car. Then in the ambulance which we met en route, he was given professional care. Ev died later that afternoon. Cliff and Sally Clouse drove Winifred to Bolinas. Later, Winifred would return to render on-going invaluable service to the Project and to the SBCM as well as to become one of my special friends. Sally Clouse had only recently joined Cliff on site. She, like Cliff, would now become a prime worker on the Project through the years.

As Cliff, Sally and Winifred drove away from the site, Jack Maddock arrived. As I watched this young giant unwind himself from his car, I knew he would have a long and important (and varied) role!

When Cliff and Sally Clouse returned, they found another problem, unexpected snow (Figure 7) Thence, Cliff spoke feelingly of my early comment, "warm days and cool nights". Digging had stopped. All vehicles were mired in the lake clay on which the camp is located. We were huddled in the commissary which, just then, seemed much like its original purpose: a miner's shack. The roof was leaking. Our only heat came from Coleman lanterns by our feet. Food was low. Ritner had prepared a huge stew, but now we were down to gnawing the bones. To "help" my crew pass the time, I "invited" them to help me correct examinations I had given at an evening class. As the storm passed, Ritner managed to obtain some chickens and prepared another stew. How he got the chickens we never did find out. We often accused him of snaring some of the ravens which flew over the camp each morning.

As work got underway again, Art Robbins performed the first of several miracles in our behalf. He arranged through Dr. Smith to have a small county water tank hauled in. Then he brought a friend to the site. He was Mr. Karl McGowen, who worked for Southern California Edison. During the next two years, Karl hauled water into Calico by tank truck every two weeks, or as needed. He also furnished machinery to dig pits for outhouses, scrape the road, pack the parking area surface, etc. But for the help of Mr. McGowen, camp life would have been even more "primitive" than it was!

Meanwhile, back on the hill, digging progressed slowly. Thanksgiving was approaching.



Figure 7. First snowfall at Calico

Almost a month had passed and we really had nothing to show for our efforts. Cliff Clouse came to me at the end of three weeks and we discussed the increasing hardness of the soil. He wondered if, perhaps, we were nearing the Barstow (Miocene) Formation.

As we headed into the latter part of the month, a new wave of workers arrived. Those that left promised to return. The new workers included student Duke Snyder and my long-time friend and digger, Betty Moore from New Mexico. Those leaving and those working complained about the hard digging.

Trowels just could not function. Again, it was Art Robbins to the rescue. He came at work early on his next day off and asked me to go with him to the pit. There he unwrapped a strange looking piece of metal. He knelt and gently pulled it through the soil. This S-shaped, double-pointed object was fashioned from a discarded intake valve stem from the Southern California Gas Company, where he worked. Art looked up and asked, "Can you use it?" It would take careful use, moved the soil very slowly. Could the diggers learn to use it properly? Jack Maddock and Cliff Clouse were coming into the pit and I handed Cliff the object and asked if he could dig with it. In a few seconds, Jack grabbed it. Each worked it slowly, carefully through tough spots left the day before. I looked at Art and nodded.

When he could find additional material, Art made S-shaped tools for all of us. Not surprisingly, they became known as "Robbins' Hooks". Soon, even the weekend workers wanted them, and we all wanted to keep ours. As long as Art worked on the Calico Project, he was making Robbins' Hooks.

Two days before Thanksgiving, Ritner asked an interesting question. "How many will be here for Thanksgiving?" I had not thought about such things as holidays. I started to say that everyone would be working, it was Thursday, but I stopped short and answered, "Gosh, I don't know." We asked the next questions, "What's for dinner?" Ritner answered, "Raven stew." We would get the real answer on The Day. Cap Yoder, Museum Commissioner, and his wife were arranging to have our complete dinner prepared at Safeway Market. All Ritner had to do was go and get it! For the next two years, these wonderful people brightened our Thanksgivings and Christmases, but never was it more welcome than that first time when we still had our ill-equipped kitchen.

When the Day came, our little group was more than doubled by volunteers. Volunteer were not all that arrived that day. Our first roaring windstorm came the night before. By mid-morning, dust blotted out the world. The work platform on the overhead came loose. Norm climbed onto the rigging and removed the boards before they could damage the pit walls below. While the wind howled, digging went on and Duke found our first obvious tool that day. Much photographed, it lay on the table beside the turkey at dinner time.

While we worked in the Master Pit, Ritner worked, usually alone, on Ritner's Ridge, just east of camp. We told him that, if he made a find or needed advice to fly a white flag. If he were in trouble, fly a red one. On the Saturday after Thanksgiving we heard Betty cry out, "Ritner's red flag!" With the Evert Stewart's tragedy fresh in our minds, we dashed off the hill, across the camp and up the ridge. John Kettl led the way. He looked into the pit and shouted, "He's OK!"

Ritner was sitting quietly by a fine specimen he had uncovered. He told us he had flown the white flag for an hour, but no one came, so he flew the red one. As he saw the crew exhausted but happy looking down at him, he had tears in his eyes for he knew a lot of people cared a very great deal for him.

As November ended, the Site was visited by the soils men who were the first to distinguish an A, B, C soil profile contouring with the eroded slope of the hill and to point out that a very different slope was beginning to be evident in the strata just being exposed. They also confirmed my feeling that the deeper deposits were different in color, quality and compactness. Soon that deeper deposit would be identified as the Yermo Fanglomerate, the formation which would become known also as the artifact-bearing formation. It would be in this

formation that Project activity would be concentrated for years to come. It was also this formation of Pleistocene age which was beginning to make the digging increasingly difficult.

December 1964 was a month of clear weather and eager digging. We had a full crew, even more than the seven I had expected. Charley Howe, Cliff and Sally Clouse, Grace Kingman, Margaret Anthony, Ritner Sayles and Leona and Harold Barnes were regulars. Norm Weller, Betty Moore, Remi Stone, Duke Snyder and Thelma Crain were gone for now, but all would return later. Already a pattern was forming. The Project would not be finished in “two or three months”. Crew members, both paid and volunteer, would keep coming back.

There was another less pleasing facet of the pattern. The National Geographic Society grant would be exhausted by the end of January. Would there be additional funds? If not—? I had thought the Museum Association would actively seek additional funds, a field in which they had been highly successful on other projects.

We were to learn very quickly, however, that the County of San Bernardino and the Museum Association budget planners cared very little about the Calico Project. The publicity the project would bring the County and the Museum would be welcome. Individual association members would be most supportive; awards to participants would be made. As this manuscript is written, fifteen years after the Project, it can be stated that less than 50% of County Supervisors, commissioners or museum association board members have visited the site or became involved. Conspicuous exceptions to that statement are commissioners Yoder, Robbins, Fessenden, Palhegyi, Mann, Allen, Dickey, Robinson and Schuiling along with museum board members Robinson, Schuiling, Griffin, Muffley, Headley, Sayles, Robbins and Wissler. Except for a “captive tour” of the Supervisors the first year, only Nancy Smith has demonstrated personal interest. James Mayfield did visit us to have campaign photographs taken.

On many occasions the crew waited hopefully but vainly for a visit from county or museum officials when we knew they were in Barstow, en route to Needles or working in the field near us. Some crew members never did see an official of the sponsoring organization at the site. Official involvement would have done much to boost morale when weather was bad, finances in jeopardy and scientific importance still to be determined. This problem and the recurring problem of finances would plague the Project to this date.

December brought us our only visit by the County Supervisors as a group. They made a brief but thorough, tour of the area. I assigned a crew member to each supervisor. Jack Maddock got the prize question, “Where did these people get the metal with which to fashion their stone tools?”

December also brought us our first scientists. Our geologist, Dr. Tom Clements and his wife, Lydia, made the first visit since work began, the first of many working visits during 1964 to 1970 (Figure 8). As we worked through December, the soil profile became more evident. The “A-B-C soil profile contoured with the erosional slope of the hill; the underlying fan deposits sloped more gently. Large cobbles and occasional boulders defined the break between the old fan material and the overlying material. As Dr. Clements said, “If there is anything consistent about alluvial fan deposits, it is lack of consistency.” As we dug, short lenses of diverse soils began to appear.

December brought us a high school lad who shall designated only as Little John. His instructors arranged with Dr. Smith for the lad to spend an early Christmas vacation with us. He was one of the very few disappointing crew members ever to worked with us. He would not



Figure 8. Dr. Thomas Clement and wife, Lydia, in front of the National Geographic sign

help in camp or in the lab. In the pit he lay on his side and scraped slowly at the soil. We could only hope that Grace Kingman's talk with him on his last day would stand him in good stead in the years ahead.

Long before Little John came, Ritner had told us about the Tommy Knockers; little elves who came to the Calico Mountains with miners from Wales. The Tommy Knockers were and are well known for good deeds and pranks. We wondered what Little John thought about the attention paid him by the Tommy Knockers during his last night in camp — attention aided by Charley Howe's serenade on his Tarahumare violin!

The Tommy Knockers seemed to stay close at hand. Their nighttime activities were and are often apparent. Ritner and Jack Maddock seem especially popular with them and can get them to make their presence known almost at will. Ultimately, Ritner would find on his cot certain accoutrements which would designate him "King of the Tommy Knockers."

Christmas once again found the regular crew members helped by numerous volunteers, some of them veteran crew members (Figure 9). By then, numerous specimens had been collected which looked important to us. The various units being dug were at an average depth of five to six feet. Not sure of what the future held, John Kettl arranged with a friend to be flown over the site and acquire vital aerial views.

The New Year saw Ritner's role change somewhat. While he would help with cooking and buying, his main role would be as a digger. He and Norm Weller went east to the toe of the alluvial fan and began digging in an area Dr. Leakey had liked when he first visited the region in 1963. This area was recorded as SBCM-1508.

Earlier in the winter, Ritner had dug a deep test pit on a hill above SBCM-1508. One day, in the midst of a howling sandstorm, he crawled out of the pit hoping to see someone coming for him. Wrapped in a blanket, he stood by the hole. Tourists stopped to see near the hill and when they saw this strange "thing" rising out of the ground and walking toward them, they ran to their car and quickly departed.

As work progressed in the main pit at SBCM-1500, visiting students and scientists began to come. Now there was a new concern. Scientists, looking at the decomposing volcanics, proclaimed an age far too great to permit archaeological association. I sent for Dr. Thomas Clements and he allayed our concern by identifying the decomposing material as volcanic tuff which disintegrates relatively rapidly. Hence, its Miocene origin was not a problem.

In January, 1965, with funds running low and the hopes of achieving a preliminary evaluation of the site and the project resting on me, I made a major mistake. Before the Project started, Dr. Desmond Clark and Dr. Alex Krieger offered to come and check the results, and advise us in any way they could. Because he was nearer and familiar with Dr. Leakey's work in Africa, I selected Dr. Clarke. Dr. Smith phoned him and he agreed to come.

We awaited his arrival with eager anticipation. He walked in with Dr. Smith and Cliff and, after a polite examination, said we were doing a fine job but we had no artifacts. As he left, he told my crew they could come and work for him. What we did not know was that, while Dr. Clark was climbing the hill, Mrs. Clark told those in camp that we would not be pleased with what her husband would tell us.

Dr. Clark's statement was a crushing blow, especially to Dr. Smith. However, the workers had taken time to study the soils and the specimens as they dug, and they had come to believe. Now their dedication grew stronger. Feeling certain that most of the workers would continue,



Figure 9. Christmas in the Calico Cook House. 1966

but not of the attitude or continued support, of the National Geographic Society or San Bernardino County. I phoned Dr. Krieger, told him what had happened, and asked him to come. In four days he arrived.

However, before Dr. Krieger arrived, Dr. Smith came back to camp and told the workers that funds were nearly exhausted and their next paychecks would be their last. It was time to pack and leave. Work stopped and the little group sat holding their tools and brushes. After a silence of a few seconds that seemed like an eternity, Cliff turned back to digging with a comment that became the hallmark of the project, "No use wasting time, we came to dig." And work they did, as volunteers until Dr. Leakey obtained additional funding from the Wenner-Gren Foundation for April and May.

I spent a sleepless night before Dr. Krieger's arrival. Walking over the hill among the test pits and looking into the valley, my thoughts were grim. If Dr. Krieger agreed with Dr. Clark, we could be closed down and gone before Dr. Leakey's visit in March! How long could my people last as volunteers? If we shut down now without full sampling of the deposit or a large sample of specimens, if we stop with what we have, what are we missing?

Dr. Krieger's visit started on an uncomfortable note. He was immediately worried because we were digging "high on a hill." Once in the Pit, I started to explain the work. He ended that by stating flatly that he would look for himself. As he looked, he lit a cigarette. This was strictly against posted regulations. None of us felt like asking him not to smoke. Crew member Kathy Klepl stood by him with brush and dustpan to catch any falling ashes (Figure 10).

After Dr. Krieger had examined the excavation, he turned to the specimens. One after another he viewed them without comment. Then he came to what we believed was a well-fashioned multifunction tool. Finder Art Robbins sat close by and he saw the smile spread slowly across Dr. Krieger's face. Dr. Krieger looked at me and said, "Keep this one."

This was the Project's real breakthrough! It was a happy little group that sat for more than an hour on a rather cold February day and listened to Alex Krieger as he discussed the value of our work and of the study of Early Man in the New World. At that time, Dr. Krieger was one of the very few prime American archaeologists who believed in Early Man in the New World.

In camp, after lunch, we showed Dr. Krieger more excavated materials. In all, he selected a dozen specimens (four from the ones seen in the Pit and eight of those seen in Camp) as being "really tools." Work would go forward now. The crew was in good spirits.

Dr. Krieger was still in camp when an unexpected crisis developed. A young man, posing as a graduate student from the University of California, walked into the Master Pit. At this early time in the Project, visitors were few and were welcome to mingle with the workers. No "guided tour" policy had been established. I was with Dr. Krieger, so Cliff told the visitor what we were doing. Very soon, Cliff saw him take a piece of pottery from his pocket and push it into soil that had been loosened. I was told that Cliff acted promptly, snatching the pottery shard with one hand and the boy with the other. Together they left the Pit. Cliff confirmed this but we never have discussed what happened after that.

That evening we had a staff meeting and worked out a policy for handling visitors. It was very simple, being geared for only occasional visitors, but it was the first step in what would



Figure 10. Kathy Klepl excavating in unit T-19

ultimately become a rather formidable and major aspect of the project's operation. In the spring of 1965, however, it meant only a walkway to the southwest corner of the Pit. The viewing area and walkway were outlined with ropes. Visitors were directed to that area by Leona at the lab.

Dr. Leakey directed Dick Hay, University of California, to visit the Site prior to Dr. Leakey's scheduled March visit. Dr. Hay had working with the Leakeys in Africa, and knew what Dr. Leakey would want to see. Dr. Hay seemed well pleased with what he saw, but urged us to start two trenches leading east and west away from the main Pit. These would assist in viewing the geological context and also define the dimensions of the site. Volunteers were put to work on these trenches and have proved to be good investments in time and effort. The east trench would soon become an entrance trench. The much longer west trench would become known as the "T Trench." and would be a vital part of our excavation training program.

February, a prime month on the desert, brought us numerous visitors. Dr. and Mrs. Clements came out to formulate preliminary geological interpretations. Dr. Robert Sharp, glaciologist from Cal-Tech in Pasadena, and Jack Reveal, ecologist with the U.S. Forest Service, spent brief but helpful periods with us.

It was my hope in the early days of the Project, that volunteers would come who would work in outlying test pits under Ritner's supervision. Unfortunately, manpower was never large enough to permit this part of the program to progress. Ritner worked alone much of the time. When we could, we sent Norm Weller and Charley Howe to work with him. Short-term volunteers worked primarily in Trench One, west of the main pit (Figure 11). This trench was opened with pick-mattocks rather than small tools, but from the start, all soil was carefully screened.

Ritner divided his time between SBCM-1508, the pits on Ritner's Ridge and test pits near the main Pit. Dr. Sharp was especially interested in Test Pit D south of the main Pit because of its geological values. There is sand and gravel deposited above the artifact-bearing strata. At 60 inches, excavation penetrated the upper deposit and exposed the fan. The two deposits are separated by a boulder level.

As we worked, we were looking ahead. Dr. Leakey would come in March. He would bring Dr. Matthew Stirling of the National Geographic Society. The desert was coming into bloom. It should be a good time of the year. Our crew was augmented by full-time volunteer Lou Bell from Barstow, a man who would become a mainstay of the Project.

When Dr. Smith sent us the dates of March 10 and 11 for Drs. Leakey's and Stirling's visit, we felt deeply concerned about potential crowds that would gather if the public found out he was there. Lou Bell offered to erect a man and arranged for three marines from the Yermo-Nebo Marine Base to come with radios and jeeps. They would patrol the area and drive Drs. Leakey and Stirling. I prepared a full guest list and gave it to Lou. No one else would be admitted.

Cliff and Sally Clouse, Ritner, Lou, John Kettl, Margaret Anthony and Leona Barnes formed a committee to make all the arrangements for The Day. Charley Howe and John would be the photographers; Ritner would prepare the meals; and Margaret and Leona would plan seating. Our guests would use John's large trailer and could examine specimens there. Cliff, Sally and John planned the program and schedule. All workers would get a chance to eat with Drs. Leakey and Stirling, but in shifts.

Two days before the visit, Dr. Leakey's first since work began, we set about preparing

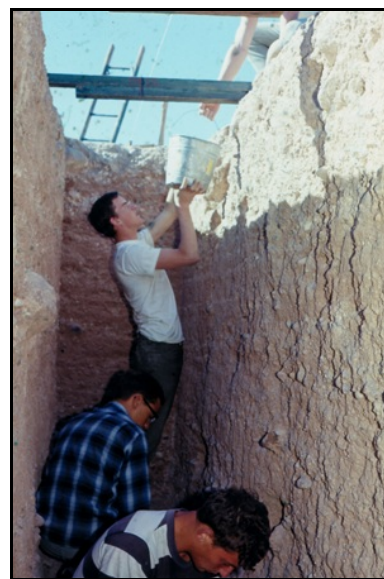


Figure 11. Randy Risser and others excavating in Trench 1

the camp, trails, pits, etc. The orderly conditions we established have remained part of our life-way through the years. Rollin and Grace Enfield, whom illness had kept from the Project, returned. Rollin came to the edge of the Pit, looked with amazement at what had been accomplished, and climbed in to help with preparation. Tears in his eyes told us how much he had wanted to help. His chance would come!

March 9 was a hot day. Charley Howe stopped building trail and came to the edge of the Pit for a drink. He leaned in too far and fell, hit a rock, bouncing and landing heavily. As we gathered around him, he said, "It was the second time that hurt!" He got up and soon was back at work. We suspected that he had broken ribs, but, knowing Charley, it would do no good to suggest he stop work. Final clean-up was accomplished mostly by Coleman lantern, with two marine volunteers doing yeoman service.

Dawn on March 10 found us all at work. Charley, broken ribs and all, was ready, camera in hand. Former crew members were arriving. The marines were at the gate. My mother, who had been helping, did not want to be "in the way," but wanted to see this "Big Day" in my career. She would sit in the trailer I was using and watch through the windows.

For March, the temperature was hot. Lou Bell drove in, grim faced, and handed me a copy of the day's *San Bernardino Sun*. Big headline told how we were searching for "million-year old man" by Lake Manix, beneath trees filled with aquatic birds. This, after the National Geographic Society had required NO publicity! And soon their representative would be arriving.

Now came word from the Marines: Dr. Leakey's plane had been delayed and his arrival in Camp would be an hour late. Ritner, John and I wandered aimlessly. Perhaps that was the longest hour of my life.

The next problem was the arrival of a busload of friends of the San Bernardino County Museum. They had come from Needles to meet Dr. Leakey. We had to turn them away. Soon after that came Dr. Smith with two representatives of the press. We could not tell them to leave since they had come with Dr. Smith, but I did assign two crew members who successfully kept both the writer and the photographer away from the specimens we had laid out for examination for Drs. Leakey and Stirling. Later, Dr. Leakey would send them off "with dispatch."

At long last, dust far down the road announced the arrival of our guests. A radio message was sent to the pits. After a short welcome and coffee, they went to the trailer to change into field clothes.

A bright sun was shining as we climbed the hill with Dr. Smith and Ritner leading the way. Dr. Leakey took hold of the framework at the southwest corner of the Pit and stood quietly looking at our work. Then he leaned out over the Pit and greeted the workers with a warm, "Hello Team!" The entire day was spent discussing excavation technique, policies and specimens. Later, we would move to John's trailer for the main examination of specimens.

Once in the Main Pit, Drs. Leakey and Stirling began examining specimens still in place. The crew was quiet, listening as Leakey, in a quiet, excited voice, explained the importance of those he liked. Slowly, I became aware of what was happening. Dr. Leakey was accepting specimens! They were being accepted as manmade! We were opened a whole new era in American archaeology.

During lunch break, after the pit examination, Lou Bell called from the gate to report that two guests not on his list insisted they were expected: Dr. and Mrs. Tom Clements! I had forgotten Lou would not know them and had not put them on the guest list.

When we were done eating, I had to tell Dr. Leakey that the *Sun* had published the stupid article Lou had brought. Dr. Leakey put his hand to his head as he read the column and said, "If they must do the wrong thing, why couldn't they do it right?"

When we moved to John's trailer, Dr. Leakey's glasses were so dirty I asked him to wash them before judging the specimens. He did so, laughing, and saying he was used to looking around spots. By the end of the day, Dr. Leakey had accepted 25 specimens as man-made tools.

March darkness came early and found all the crew packed into the "Commissary". By then, a cold wind was blowing and clouds were moving in. Cars were lined up in front of the Commissary and, after dinner, we all moved cars to watch John Kettl's slides of Project activities. In the middle of the presentation, car lights appeared and Betty Moore arrived, dog-tired, having driven non-stop from Crown Point, New Mexico. Dr. Leakey saw her arrive and he stopped the show, put her in his car and helped Leona fix her a dinner.

Later, as sleep came, so did rain. Remembering other storms that had bogged down all our vehicles, and knowing Dr. Leakey had a lecture in Riverside the next evening, I looked for volunteers Orlin and Laura Steele, who had a large vehicle. Happily, they had already seen the storm coming and had moved their car out of camp to a sandy area from which departure was assured.



Figure 12. Jack Maddock measuring depth of an artifact in Master Pit 1, 1965

The next day was one of rain and mud, but we visited SBCM-1508 with Ritner and climbed back to the main Pit to see Jack Maddock working in the rain to uncover our first hand axe (Figure 12). As Dr. Stirling watched Jack work he commented, "If you folks will just find three or four more like that!"

After lunch, and with the weather clearing, we held an open forum with many, many questions and photographs. Dr. Leakey demonstrated making tools and gave them to the volunteers. Then we put both guests on tape. Dr. Stirling went first and commented that finding evidence of Early Man in America was like putting a man on the moon. "In the old days that implied something impossible, but I think we shall put a man on the moon and I think you will find evidence of early man here." Later he said he was 85% convinced by what had found already. Dr. Leakey added that, "What you are doing here and finding here should convince any open-minded scientist."

Both men agreed that there must be a second season. Dr. Leakey promised us funds to keep the commissary open until mid-May and pay a guard to protect the site through summer.

Dr. Leakey and I would have to meet with the National Geographic Finance Committee regarding funds for a second season.

By mid-afternoon, we climbed into all the cars that could move out of camp and went to Riverside to hear Dr. Leakey's lecture. In the question and answer period, he stated to the audience that indeed we were finding evidence of early man at Calico

In April, Dr. Leakey gave another lecture in Bishop for the Eastern California Museum Association. I was there to introduce him to an audience made up mostly of my friends, Owens Valley residents. John Kettl and I went, carrying specimens recovered since the March visit. After we had left the Site, Art Robbins found another excellent piece. He gave it and a gas credit card to Doris Hoover and sent her in hot pursuit. She arrived in Bishop at dinner time. John saw her come into the hall with "a rock". He brought her to Dr. Leakey at the head table. He was delighted with the tool and her enthusiasm, and called for a dinner for her as his guest. All the dinners had been served so John gave her his. Later, Doris Hoover stood by the path leading to the packed high school auditorium. As Dr. Leakey passed, he asked her if she were not coming in. She answered glumly, "No tickets left." He handed her his. "Take it. If I don't get in, there is no program!"

After the lecture, John Kettl, Doris Hoover and I sat at Dr. Leakey's feet in his motel room and discussed the new specimens and the Project's future. Digging methods and recording would be modified only slightly. We would leave a "witness column" or undisturbed unit in all

major pits. We would designate the major pits as "Master Pits." No untrained workers would excavate in Master Pit I. It would remain as the standard for the Project. I would go to Washington to join in asking for funds. The significance of the site and material is such that the area must be protected at all times.

Upon returning to camp, I was shocked to find our seven prime specimens missing! There followed 24 hours of frantic searching, many phone calls to John and to the motels we had used in Bishop. In some manner not yet explained, the specimens had been placed in the inoperative oven in the trailer I was using. This was one of the most hair-raising incidents of the Project, but it had an important result, one which would become part of Project policy for ten years. I rented a safe deposit box for the prime tools.

The Spring of 1965 saw the arrival of several people who would have important impacts upon the Calico Project. We have already mentioned Lou Bell, who would become more and more involved with the work, and who also would involve his wife, Eula, who would become our laboratory technician, keep the books and make many other contributions.

George and Ruth Manly heard of our Project and came to visit us, became intrigued and joined us as long-term volunteers. Dr. and Mrs. Manly had been missionaries in India for many years and had worked extensively with Paleolithic material and sites there.

As I drove into camp one day, I passed a station wagon going out. Leona met me with the comment, "That man is an artist! He is interested and will be back." Austin Dennison did come back. He came to learn to dig. This he did well, finding one of tools liked best by Dr. Leakey. Soon, however, Denny and his wife, Dot, would become main-stays of the Project as artists and statisticians. Dot took on the task of checking field notebooks and keeping site records; Denny began making drawings of tools.

One Sunday morning, Denny came to work. As he climbed over the edge of the Pit, the wind caught him and sent him tumbling down the hill. He got up shaken, but uninjured. Soon the wind was blowing so hard we all were forced to quit. Denny went to his daughter's home in Yermo and with the family went for a drive. Engulfed in sand, their car was caught in a five-car crash. Denny and Dot were both badly hurt and soon flew to their home in Rhode Island, leaving their dog still missing. A massive hunt was launched for their missing dog. Five days later, the dog came back to the scene of the crash. Denny and Dot with another car drove back as soon as they were able. They have been dynamic members of the Project ever since.



Figure 13. Don Crabtree flintknapping, 1965

The last professional visitor of the first season was Don Crabtree, one of America's premier flintknappers. A friendly and interested specialist, he promised to return during our second season (Figure 13).

Late spring was a time of crisis: the need for funds; the misplaced specimens; and the question of a permit renewal. A guard was desperately needed to protect the Site all summer. In May, I was sent out of San Bernardino County for six weeks for treatment of suspected TB.

Most easily resolved was the question of a permit. Don Miller was sent by the Department of the Interior to see if digging was well done, if sub-surface specimens were actually being found, and if proper recording was in progress. In contrast to contents of a report sent to Dr. Paul Schumacher of the regional office, which had given him negative comments to all three queries, Don found all three elements impressively favorable. We passed, and our permit was renewed.

Funding was more difficult. I flew to Washington, carrying specimens and slides. Dr. Leakey and I showed our

material to staff members of the National Museum and to the National Geographic Finance Committee, and explained why further work was necessary. We waited for the decision in an adjoining room. While we waited, I was pacing and Dr. Leakey ordered me to, "Sit down, appear confident!" Later, at lunch, we were told that work would go ahead. I was able to bring back assurance that there would be funding for a second season, and that we would fly the National Geographic flag.

Upon my return, I was met at the Barstow railroad station by several of the crew. I walked by them twice before they recognized me in "city clothes!" The green and brown flag answered their questions and it was a happy trip back to camp.

As we discussed the second season, Jack Maddock suggested that we call our camp "Camp Leakey." The suggestion was unanimously approved. I returned just in time for a birthday party. Six of the crew and people closely related to the Project had birthdays between May 5 and 8 and one more in the 20ths. It would become a camp tradition to have a "mammoth party" each year.

For a few days we also expected Dr. Leakey to return accompanied by Dr. Desmond Clark. At the last minute, Dr. Clark found he could not come.

Now it was time to close camp and transport the season's artifactual material to the San Bernardino County Museum. It was during this period that I was ordered out of the County for a minimum of six weeks. It was through the efforts of Dr. Smith and my family physician that I was permitted to stay at our family home instead of being hospitalized. I used the time to prepare full comments on the season just ended, arrange for a crew for the second season, plan for camp policies, etc. There would be 12 in the new crew, most of them veterans from the first season.

Just as we began moving specimens out of Camp Leakey, Art Robbins once more made a major contribution to the Project. He arranged with a resident of Hinkley (near Barstow), George Winklepleck to be our summer guard. Even though he seldom had a visitor except Lou Bell, he enjoyed the job so much that he stayed on for five years and left only because of failing health (Figure 14).

When we did our shut down in May, we were, essentially, closing the pioneer aspect of the Project. What had been accomplished?

1. We knew that the alluvial fan was at least 20' thick.
2. We knew that specimens had been and could be found at depth.
3. While controversy raged, Dr. Leakey, Dr. Krieger and others accepted the specimens as man-made tools.
4. We had developed a team, procedures and equipment that would work.
5. Of the 22 sections created in the main pit, each 5x5-feet in size, only 14 had reached significant depth, but they expose both geological and archaeological data of importance.
6. Three sections of the Master Pit have been designated as a "Witness Column" and will not be excavated. They will be reference units.
7. The test pits on Ritner's Ridge were joined to form one large pit which reached a depth of 120 inches. The last tool was recovered at 108 inches and work here has been suspended due to extremely hard materials encountered.
8. Test Pit D has been excavated to a depth of 60 inches.



Figure 14. George Winklepleck and Dee Simpson by George's truck, used to hauling supplies for Calico, 1966

9. The trench east of the Master Pit has demonstrated that the artifact-bearing deposit extended into the adjoining eroded canyon.

10. While specimens have been recovered in the east and west trenches and on Ritner's Ridge, test pits away from the main site area have been sterile so far.

11. SBCM-1508 trenches exposed provocative deposits of tabular chalcedony, abundant flakes and some artifacts.

We felt that, thus far, we had been successful. Geologically, the deposit is old. The Project participants believe it is an artifact-bearing deposit. Summer would be a time of planning. We would be looking forward to our Second Season.

III. THE PRIME YEARS OF EXCAVATION

November 1965 -- June 1971

As our Second Season began, a major objective was to accumulate a sizeable assemblage of definitive artifacts from the ever-deepening Master Pit I. Now that the pit had reached a depth which permitted study of the strata exposed in the walls, Dr. Clements began an active geological program.

The Master Pit seemed like home now: the boulder line; cracks defining ancient earth movement; the guy-wires from the overhead that hummed when the wind velocity reached above 35 mph; the chuckwallas sunning themselves; and the ripping sound of masking tape being stripped from its roll. Without realizing it until we returned, the thing we missed the most was that sound of ripping masking tape. It represented a simple, yet vital aspect of field labeling of our specimens, a small detail that symbolized the hopes, the way of life of us all.



Figure 15. Jack Boram using the hoist in Control Pit 1, 1971

One thing was missing, the old cry of “Bucket Boy!” Now we were too deep to lift our buckets. Norm Weller constructed a hoist (Figure 15), but that meant climbing over fellow workers with full buckets to reach it. We hoped that Dr. Leakey and Dr. Clements, who would be coming in mid-November, would permit us to cut out the east (lowest) wall of the Pit, and use the eastern strata trench as an entrance trench.

As in 1964, mid-November brought us a major storm, but no snow at the site. In fact, November 18th dawned clear and cold, with the snow-capped Newberry Mountains across the Mojave River. This was the day of Dr. Leakey's visit. He came with John Kettl. I met them in Victorville for breakfast. As we drove into camp, he saw the handsome wooden sign on the commissary proclaiming this to be “Camp Leakey.”

Waiting there to greet him was Dr. Mark Harrington, the “elder statesman” of American archaeology. While Drs. Leakey and Harrington were discussing the excavation, Grace Kingman was exposing a beautiful biface tool. The visitors watched as the tool was exposed, and Grace beamed proudly when Dr. Leakey

called it the best specimen yet recovered.

Later, the two guests went to John Kettl's trailer and examined specimens. Dr. Harrington agreed with Dr. Leakey, accepting as man-made all of the specimens Dr. Leakey already approved. This was a happy day for me as I had worked and studied with Dr. Harrington for 19 year, primarily while working at the Southwest Museum.

Dr. Leakey had come to the Site primarily to discuss certain procedural questions. Paramount among these was the question of an entrance trench. Dr. Clements had given his approval, and now Dr. Leakey agreed. Margaret Anthony was assigned the task of removing the wall three inches at a time and searching as diligently as usual for tools and flakes.

This was one of Dr. Leakey's more leisurely visits. He spent the afternoon visiting with the workers, answering their questions, helping them dig and teaching them. In the evening, there was a campfire and he talked at length about our Project, his work in Africa and the future of the study of Early Man around the world. When all the rest of us had retired, Dr. Leakey could be seen writing in John's trailer and, even later, walking over the hills. Next morning, he and Ritner Sayles baked bread, the famous “Leakey Bread” (Figure 16).

As he prepared to leave the site with John Kettl, Dr. Leakey told us once again, “What you are finding here should convince any open-minded scientist.”

Winter was kind to us this Second Season. Temperatures were lower than during the first



Figure 16. Ritner Sayles holding the first loaf of “Leakey” bread, 1966

winter, but the endless days of raging winds and hissing, biting sand were replaced by scattered gusty days and periods of calm that lasted a week or more each time. Christmas Eve was warm and sunny. In the evening, Lou and Eula Bell came with a truckload of children from their church. The group walked through camp singing Christmas carols. Soon they were joined by the workers even though most of us could not sing.

New Year's Eve, a light snow stopped work early in the afternoon. Standing in the shelter of the Master Pit Entrance Trench, we could look southward to the cloud-banked Ord and Newberry Mountains and visualized the landscape as it may have looked 50,000 years ago — perhaps longer ago than that.

As we watched the snow, Tom Clements talked about the layers of sand and grit, and the thousands of cobbles and boulders carried by the meandering stream from the Calico

Mountains out onto a youthful, developing alluvial fan. Among the cobbles and boulders was an abundance of chalcedony and much jasper, ideal tool-making materials. From time to time, wandering hunters came to gather and flake the fine-grained lithic material, and perhaps to camp awhile. The well-drained fan topography would have offered a welcome change from the grassy banks and, perhaps, lake shores of the valley below. It would appear that the life-way of the people would have been orientated to the movements of animals which grazed in the valley. Soon, the people and the animals would move on, the evidence of their coming held mute beneath the later outwash deposits from the mountains.

Tom told us that his work was indicating that earth movement and modest uplift of the fan had cut the fan off from the Calicos and made further building impossible. Subsequently, the fan began to erode, to assume the topography of hills and valleys that we see today. Parts of the old fan surface would have been re-exposed and carried away, destroying their portion of the record of human occupation. Other remnants of the old fan surface still remained, buried beneath varied amounts of overburden.

As our Master Pit had deepened, and trenches had been opened, the stratigraphy of artifact-bearing deposits, superimposed later sands and gravels, disconformities were becoming increasingly apparent. Now, it was easy to see that the upper deposits sloped with the existing hill whereas the older artifact-bearing materials lay at a much flatter angle.

From mid-November until mid-March, the work went forward. It seemed that, with ever increasing frequency, I was summoned to look at new discoveries. The process of exposure and recovery of specimens had become routine since Dr. Leakey's last visit. The ever-increasingly compact soil is loosened with a Robbin's Hook, harrow-tooth, hammer and chisel, or other sturdy tool over an area of three to six inches. The loosened material is picked apart with awls dental picks, etc. Rocks are left in place until an entire square had been completed over a three-inch deep level. When a piece of fine-grained material began to appear, a portion is exposed to see if it shows a thin edge, flake scars or other significant characteristics. Digging is shifted away from the specimen. Gradually, the area is brought down, exposing most of the potential artifact. Now notes are taken regarding soil, position of rocks, and position of the specimen in question. Photographs are taken and crew members are summoned. A decision must be made. If the specimen is obviously important, it is left on a pedestal for visiting scientists to see. If the significance cannot yet be determined, the piece is lifted out gently so as not to disturb the underlying cast. If the piece does not appear to be an artifact, it is recorded as amorphous, and retained for later study. In any event, it is triangulated.

If the piece is nothing, perhaps the effort and care seem wasted. Better that happens a dozen times if it helps assure that an important specimen gets proper care.

If a specimen is retained, masking tape is marked with all necessary data and wrapped around the specimen before it is placed in the level bag. In the field lab, Leona Barnes, and those who worked with and after her, replaced the masking tape with a permanent label.

If I believed a specimen was exceptionally good, Dr. Leakey would see it, either on its pedestal or in a “special box” in camp.

It is easy to review the processing of an artifact. What of the worker who found it? He or she would pick up a harrow-tooth or Robbin’s Hook and go back to work. For that person, this might have been the only “goodie” of the season. No matter, this person has found a man-made tool that has lain buried for 50,000 or more years. This worker has put a page back on the calendar and a new dimension has been added to his life.

To give Dr. Leakey a picture of the distribution of tools and workshop materials, he asked us to prepare distribution chart for him. David Wilson, Lou Bell and I began working on this in my trailer at night. In January, disaster struck.

Many specimens and charts accumulated in my trailer. One day, as we were working in the pit, the field telephone connecting the pit and the lab (Figure 17) brought word that my trailer was on fire. Shoveled dirt and fire extinguishers did no good. Only a flying tackle from Denny Dennison kept me from going into the back window and probably saved my life. The trailer was totally destroyed with everything in it. Only my quick action saved my power wagon, which stood with it back doors by the trailer. As I drove away, gasoline was dripping and the tail lights had melted. Fortunately, the prime specimens and my slides were stored in the vehicle.



Figure 17. Art Robbins talking on the field phone that connected the excavations to the field office, 1964

For three days, we combed the ashes and recovered what specimens we could. Sadly, virtually all provenience was lost for those we did recover. I lost every personal item. The Bells took me to Barstow and re-outfitted me.

While the trailer was still smoking, new workers arrived: Jerry and Dorothy Jerauld. For more than three years, Jerry would do our mapping, help Denny Dennison with soil profiles, and keep us supplied with ever-deeper sub-datum points.

While excavation continued full-time in Master Pit I, Ritner continued to work in the trenches at SBCM-1508 and the test pits surrounding the main site. He also instructed and supervised the volunteers. Larger numbers of volunteers made it possible to work the test pits more consistently than we had done the previous season.

While digging in the Master Pit and test pits was done with small tools, one section of the Master Pit (T-19) was dug with a pick. It was sacrificed to learn about the stratigraphy of the fan, to ascertain the thickness of the deposits and to gain at least a general idea of the structure of the fan. Lester Anthony spent many weekends swinging a pick in T-19 during the first season. As it ended, a young welder, Wade Sellards, joined the team. During the summer, he experimented with tools and returned to Camp with equipment which he believed would break through the exceedingly tough deposits in the lower levels of the fan. With large chisels and sledge hammers, he did reach the underlying Miocene formation at 16 feet. Dr. Clements identified the change in deposits based in part upon the presence of ostracods, small fresh-water fossils. Now we knew the challenge that faced the diggers in all the other sections. As they went deeper, they too would continue to encounter tougher and tougher deposits cemented with calcium carbonates. Dr. Clements called the deposit a “fanglomerate” (actually a class of rock) and we

agreed.

Week after week, ten to twelve workers, seven days a week, pitted determination and assorted tools against 50,000 or more years of cementation that had welded the fan into a compact mass. Workers' visits home usually involved trips to the hardware store. More and more tools involved chucks and replaceable points. Harrow-teeth were in strong demand.

It sounds easy when we say that from mid-November to mid-March, the work went forward. Actually, each week had its own special crises, its own achievements, tragedy or good news, and often its own VIP visitor.

Crewmen Al Canby and Lou Bell remember trying to protect a pedestalled artifact for Dr. Leakey during a driving rain. Al's bucket had a hole as big as a dime near the bottom, and Lou and I never did bail it full (Figure 18).

John Kettl and Denny and Dot Dennison remember the times when letters from Dr. Leakey requesting casts to use at European meetings were delayed. Work went on all night so that the casts could be made and mailed by the times designated.

For Jerry Jerauld, his first year with the Calico Project was a continual crisis. He made maps for me, for Dr. Clements, for Dr. Leakey, for the National Geographic Society and for its photographer, Jonathon Blair.

Lou Bell and I would not soon forget a January day when Bob Anderson arrived from the museum to tell us that Admiral Leo O. Colbert from the National Geographic Society would arrive in less than an hour. I put on my last clean shirt, and Lou and I went up the hill. The Master Pit floor was under an inch of water from rain the previous day. Water was two feet deep in the "speed pit". Lou and I started bailing. Lifting buckets up with the hoist was fine for my clean shirt! Things were in surprisingly good shape when Dr. Smith and the Admiral arrived. Most of the Crew missed the visit as they were working at SBCM-1508 where the sandy soil presented fewer problems after storms.

Through those months of hard, productive work we had an ever-increasing number of visitors. All the Crew will long remember that November day when Dr. Clements identified the Miocene Barstow Formation at 18 feet in T-19. Visitors included Pete Mehringer (palynologist), a second visit by Don Crabtree, Dr. Paul Ezell (archaeologist), Dr. Hans Muller-Beck (archaeologist from Switzerland), Dr. Charles Rozaire (archaeologist), Dr. George Carter (a second visit), Dr. M.R. Harrington (a second visit), and Allen Bassett (geologist), who had been part of the Lake Manix Survey team (Figure 19).



Figure 18. Doris Bowers and others working in Master Pit I after a heavy rain, 1968



Figure 19. Above Master Pit I, standing left to right: Charles Rozaire, Margaret Anthony, Ritner Sayles, Lou Bell. Setting left to right: Dee Simpson, Mark Harrington, John Kettl, Karl McGiven, 1965.

Most of the memories of those busy months are of major incidents and important visitors, but the memories that count the most were of newly exposed specimens and concentrated evidence of knappings.

There are other memories too. While work in the pits was couched in tight restrictions and there was a rule of “no levity in the pits,” in camp the “no levity” rule was forgotten. Workers relaxed with slide shows, campfires, special speakers, music, mud fights, and, occasionally, the “planned reconstruction” of a trailer’s interior when the owner left his key “with a friend” while away from Camp. Norm Weller will remember returning to find all objects glued, wine and whiskey bottles containing reversed contents, and the trailer filled with a spider web-like mass of strings.

As we worked in the latter part of February, we heard rumors of an evaluation meeting to be held in mid-March. This became official in a letter from Dr. Leakey. He would be bringing Dr. Marie Wormington, Dr. T. Dale Stewart, Dr. Desmond Clark, Dr. Emil Haury, Dr. Vance Haynes and Dr. Stirling. He was asking Dr. Hay to come from Berkeley and Dr. Krieger from Washington University and he wanted me to be joined by Dr. Smith and Dr. Clements. This idea of such a meeting was not new. Dr. Leakey had talked about it when he visited the Site in November (Figures 20 and 21).

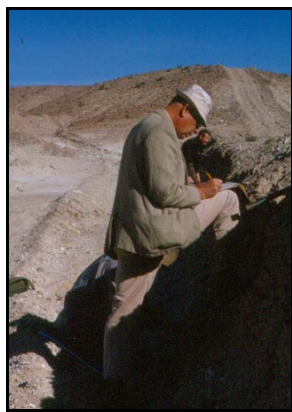


Figure 21. Emil Haury in Gunn's Pit, 1964

While we worked and planned for the meeting, we were joined by Jonathon Blair, photographer for the National Geographic Society. He was with us for a month and we watched with envy and longing as he spent money freely, had a huge scaffold built over the pit so he could take pictures from unusual angles, and took photographs by the hundreds. All this while our funds were so low that we were asking the workers to feed themselves. We could not afford roofing material for the commissary.

Indeed, we had some interesting photographic experiences while Jonathon was with us. We all trooped up to pits to dig at night by Coleman lanterns so he could obtain “mood shots”. He buried his camera, equipped with a “fish-eye” lens, in the ground for wide-angle shots. He took pictures of us working – shots taken through a hole cut in the wall of the entrance trench. These would show how we looked to the artifacts.

When Dr. Leakey had been with us in November, he had examined a large anvil stone in place in P-23. He asked us to protect it and keep it in place for him to show colleagues on later visits. All through the winter we protected the specimen. Cliff built a dog house over it and great effort was spent to protect it from visitors, diggers, and weather. Now it was March 17th, the day before the evaluation meeting. Dr. Leakey was in camp. He showed the specimen to some of the early arrivals. Among those working in the Pit was an official National Geographic photographic crew. As they were erecting lights, one of the men stumbled over the anvil, kicking it loose. Our thoughts and Dr. Leakey's comments need only to be imagined. They should not be repeated.

March 17th was not all bad! Before the guests arrived, the most Irish among us had a noon-time celebration. Lou Bell, Leona Barnes, Dot and Denny Dennison, all properly garbed in



Figure 20. Desmond Clark, Dr. Leakey, and Marie Wormington at a test pit, 1966

green, came to the commissary to find that, not only had Ritner Sayles prepared a splendid lunch, he had also found a piece of red carpet for the Irish to walk upon. Later in the day it was rolled out again — for Dr. Leakey.

Those who had come early met at dusk in front of the commissary for a “happy hour” hosted by Dr. and Mrs. Clements. Later, there was a dinner meeting at Olie’s Restaurant. This was the first large-scale meeting at Olie’s, the restaurant at the freeway off-ramp leading to the Site. Through the years, Olie’s would be our prime meeting place away from Camp. On this evening, Dr. Clements gave his first major statement regarding the geology of the site.

And so another “plateau” was reached in the progression of events at the Calico Site. On March 18th, the symposium convened. Extended inspections were made of the site and SBCM-1508. After a catered luncheon, the group held lengthy discussions.

It was agreed by all present that more answers were needed. Of the symposium guests, Dr. Krieger concurred with Dr. Leakey and stated that the “prime” specimens were tools. Dr. Desmond Clark said they were not. The other guests were scattered along the scale in between. Dr. Stirling was strong in his support and noted that we now had four primitive hand axes (the reader will remember he wished for these when he saw the first one recovered in 1965). In light of his comments in later years, it is interesting to note here that Dr. Vance Haynes did not want to examine artifacts. He said he was a geologist, and would leave the specimens to the experts.

Symposium members, led by Dr. Haynes, asked that another pit be opened elsewhere, but at the same relative position on the alluvial fan, so that its evidence might be checked against that of Master Pit I. Once again, Dr. Leakey and his team were denied total acceptance of their evidence.

For me, the symposium offered a significant demonstration of the Project’s growing strength and of the crew’s confidence and certainty. Thirteen months earlier, one of these same visiting scientists dismissed the Calico evidence and crew morale had been shattered. Now, these same workers were perplexed and philosophical. A year ago, before Dr. Leakey’s arrival, tension crackled through Camp and the Pit. Now, those same workers celebrating St. Patrick’s Day were relaxed, eager, and interested.

Why the change? No matter how much experience we may have had in previous excavations, in handling stone tools, the Calico Project was a pioneer effort. Long field and laboratory sessions with the Lake Manix Lithic materials helped little. We started from scratch. Through the visits and communications of experts, especially Dr. Leakey, we had learned. Like a first walk in space, we had stepped into a new era of archaeology.

Once again, Dr. Louis Leakey stayed after the other visitors had gone. Once again, he and Ritner Sayles baked Leakey Bread. This time they had a conventional gas stove in which to bake. Dr. Leakey met with the staff and indicated that, once again, I must come to Washington to request funds. He also promised that, if funds were forthcoming, he would return in late summer and help select the location for the comparative excavation (soon to be designated Control Pits I and II). During that visit, he would want to see all specimens collected, not just the prime material.

Digging went on through April and May. I went to Washington and again joined Dr. Leakey in requesting funding for the site. Also, I brought him a small set of specimens to show his Old World colleagues. For the proposed Third Season, he asked for approximately \$40,000 to permit the use of a regular crew of 20 and a full-time cook. No immediate decision was made regarding the Third Season, but small grants were awarded to permit preparation of casts for Dr. Leakey and for fencing off the main pits and trenches.

Shortly after the symposium, flu struck the camp and for two weeks the area was virtually deserted. Through the latter part of April and all of May, work progressed and numerous good specimens were recovered.

Summer heat came in early May, but we met with what Jack Maddock called a

“mammoth birthday party” since six of us had birthdays the first week in May. We found that ice cream made an excellent way to beat the heat. Ritner Sayles had his hand-cranked freezer, part of his archaeological equipment for more than 25 years.

In mid-May, we had five cool days. Dr. and Mrs. Harrington returned for a second visit. Again, careful examination of the specimens convinced him we had evidence of man’s tool making (Figure 22).

We closed down Memorial Day. As Jack Maddock saw the face of his wrist watch begin to melt, it seemed as though it was time to quit. Most of the crew left, but a few stayed to help me fence the pits. Jerry Jerauld obtained the professional crew and the fencing material. We fenced the main pits, trenches and SBCM-1508 and covered all the outlying test pits.

Just before Memorial Day, we began packing and moving the specimens to the San Bernardino County Museum where, in the weeks immediately ahead, Winifred Stewart, Helen Lozano and the Clouses would help clean and prepare the entire collection for Dr. Leakey to examine in August.

An interim summer grant enabled the staff to rewire the commissary and laboratory. John Kettl brought his portable generator to the site, thus increasing the usefulness of evenings, both in the buildings and trailers. A food-storage building was erected, largely by Fred Kobs. The commissary was extensively repaired and blacksmithing facilities were established using an historic forge from the San Bernardino County Museum. The grant enabled the museum to meet project expenses for May and June.

With the approach of the Third Season and a larger crew, the Calico Project remained a prime factor of our lives all summer in spite of the fact that many of the crew joined me on weekends to begin an on-going summer excavation near Lake Arrowhead in the San Bernardino Mountains. Suddenly, it was August and on the 11th, Dr. Leakey arrived. We went first to the Site and he selected the location for the Control Pit requested by the National Geographic Society (Figure 23). Frank and Mary Tubbs had been digging a test pit on the top of the ridge north of the main excavation. Its location was near the prescribed location for the new test pit, approximately at the same position on the long axis of the fan as the Master Pit. Dr. Leakey examined the soil profile of Tubbs' pit, and selected a nearby location for the new excavation. John Kettl photographed the location and Jerry Jerauld laid out the pit and established two new datum points to facilitate work on the ridge.

Subsequently, Vance Haynes visited the site and approved the location of the new pit. He also instructed us to keep all rocks of “pea-gravel” size. This directive was destined to slow the pace of the work almost by half. The crew would not have felt so badly if Dr. Haynes had made use of the stock-piled pea-gravel. However, when he returned, he casually glanced at the piles but never touching the material or asking any questions about it although the workers stood by with notes



Figure 22. From left to right, Charles Rozaire, Mark Harrington, Dee Simpson, and Ritner Sayles, 1966



Figure 23. Remi Stone securing the edge of Control Pit 1

in hand.

After selecting the location for Control Pit on August 11th, Dr. Leakey came to the San Bernardino County Museum and began the examination of the materials. Betty Moore, Grace Kingman, the Clouses, Lou Bell and Winifred Stewart worked steadily and many more helped as they could. From the assembled material, he selected 400 specimens which were either tools in specific categories of primary concern to him, or significant debitage with important technical characteristics.

In September, after Dr. Hayne's visit, the National Geographic Society approved a major grant of \$42,000 and ordered work to begin on the Control Pit. Late in October, as Camp Leakey was being re-occupied, the site was visited by Mr. Newman Bumstead of the National Geographic Society's editorial staff. His arrival was marked by an interesting incident. We were excited and somewhat on edge as we all hoped this would mean a National Geographic article. The tension was broken as his car door opened. Our visitor, as he was greeted by the resident guard, introduced himself by saying "Hi! I'm Bumstead." Our guard responded with, "Hi! I'm Winklepleck." Mr. Bumstead wore a narrow-rimmed black hat and George Winklepleck liked it so well he bought one like it and wore it as long as he was with us.

In addition to visiting the excavations, Mr. Bumstead shared a series of flights over the region with us. For most of the crew, this was a project first. The appearance of the Site, its relationship to the surrounding topography, the general topography of the Calico Mountains, Lake Manix Basin and Afton Canyon were so impressive, and the pilot so interested and competent, that the workers made frequent flights with Chuck Monds during the following months and years.

Crew members arrived slowly. Most of them brought trailers or campers. Most of them had had sad experiences with tents during our wind storms. The crew had assembled by October 30 1966. We gathered for a meeting carrying an assortment of ripping and ground-breaking tools evolved during the summer. Small sledge hammers, hammers with plastic heads, hammers with rawhide heads and ball-peen hammers protruded from digging kits. Broad smiles greeted a large box of harrow teeth which Lou Bell had acquired. Smiles broadened even more when I introduced Daisy Mae Harris, our new "camp cook supreme," obtained with the good offices of Dr. Charles Rozaire of the Los Angeles County Museum. In the evening, the crew heard a tape prepared by Dr. Leakey in which he reported acceptance of our prime tools by colleagues in Africa, France and Denmark.

Once more, Ritner Sayles rang the breakfast call, but this time it was answered by a full-time crew of 20. Sunrise picked up the outline of Control Pit I high on the northern skyline. As we climbed the hill, one supervisory veteran crew member, Margaret Anthony, stayed to work in the Master Pit. She would be joined by veteran crew members and volunteers as work in the Control Pit permitted.

Six people dug six squares in the Control Pit, and each kept a minimum of two screeners busy. The pit measured 10 x 15 feet. Workers were supplied with hand mattocks and urged to dig with appropriate speed. If specimens were to be found, we were willing to recover them on the screens.

Work had scarcely begun when a communication from the National Geographic Society indicated that Dr. Haynes wanted "several" control pits dug. We responded that, if we were to continue gathering all the pea-gravel, we could not hope to dig more than two pits. The Society agreed, and our 10 x 15 foot pit became known as Control Pit I.

As the Control Pit I deepened, the ground became more compact, slowing the excavation and freeing screeners to occasionally work in the Master Pit. The yield of specimens there increased sharply. Doris Hoover, on one of her many short-term work periods, recovered a fine specimen in mid-December. She found the tip of a biface in the morning and the remainder in the afternoon, approximately one foot from the tip. There had been no significant movement of

the fan material after the tool was broken.

In mid-December, the Project was visited by Andrew Brown of the National Geographic's staff. During Christmas vacation, three more outstanding Master Pit specimens were recovered. One of these, a small cutting tool fashioned on a corner-struck flake, remains one of the most refined implements recovered.

In Control Pit I, no significant specimens were being recovered. Dr. Leakey urged me to rotate the workers so none would get bored with the hard, unproductive work. The workers there would not switch. They wanted to see the job done.

Several members of the crew, especially Cliff Clouse, Rollin Enfield, Denny Dennison, Harold Barnes, Glen Wilson, and Jack Maddock, became increasingly interested in the problem of man vs. nature as a creator of flakes. During the winter of 1967-1968, these men conducted numerous varied experiments: tumbling, crushing in a mill, crushing under a steam-roller, smashing rocks dropped from extreme height, etc. Since these were in, fact, all percussion experiments, the results were interesting but have never really proved conclusive. Certainly, no "artifacts" were created, although some interesting debitage did result.

We had been told that Dr. Haynes or the National Geographic Society would furnish us with a professional archaeo-statistician to guide specimen analysis. This help did not materialize. Therefore, with data and specimens accumulating rapidly, I decided to develop a preliminary program of our own with Denny and Dot Dennison, Jerry Jerauld, Lou Bell and John Kettl. We began work on statistics, soil profiles, soils analysis (based on Munsell and Wentworth scales), matrix profiles and distribution charts. Data supplied by country rock and siliceous rock counts were utilized in several ways, both on charts and in graphs.

Work progressed rapidly in Control I. Especially helpful was an Iroquois Indian, Pete Williams, who had worked with me at Tule Springs, Nevada. He, Charley Howe, Tony Kwapinski, Walter Arends, Rollin Enfield, Lou Bell, Dave Wilson, Diana Finch, Frank and Mary Tubbs, Jack Maddock, Karen Lundquist, Remi Stone, Mary Stone, Lila Sweet, Janice Witt, Al and Hazel Canby and Ritner Sayles were among the stalwarts who carried the pit down.

While all of those workers will remember the December afternoon when Dr. Clements decided there should be a five-foot set-back, or shelf, around Control I as a safety factor, Lou Bell, Rollin Enfield and I will remember it best. After work on a windless afternoon, Lou drove his jeep to the pit area. While Rollin stood, Lou and I, lowered ourselves over the edge of the 18 foot-deep pit and dug the five-foot collar at a level of three to six feet. Much of the soil in the pit walls had been loosened while working on the sections. Now, however, it was our job to finish the digging and shove all dirt into the pit.

As we would shove the dirt over the edge, we were often suspended, depending on the ropes and Lou's jeep. It was not a choice task! The debris was later taken from Control Pit I and carefully screened. No artifactual material was recovered.

In January, Control Pit I reached the specified depth of 20 feet, however, there was no indication that we had reached the base of the alluvial fan. I decided to extend the digging. When Control I reached a depth of 25 feet, a deposit unique to our excavations was exposed: a steeply tilted, tightly cemented gravel-and-pebble structure with a heavily rippled surface. As this report was written in 1979-1980, the portion of that surface *in situ* retains its characteristics after 12 years of weather and wear.

By the end of January, Control Pit I had reached 28 feet. There was still no sign of artifacts; however, we had accumulated more than 11,000 pieces of chalcedony, chert and jasper. Dr. Clements stopped work in the pit at 28 feet, believing it was unsafe until the walls were properly shored.

Dr. Haynes visited the site and agreed with Dr. Clements. Dr. Haynes' visit was several weeks earlier than expected and Denny and Dot Dennison and I work for 36 hours straight to prepare distribution charts and graphs for him, as requested. He spent very little time on these. It

was on this visit that he virtually ignoring of the “pea gravel” after our months of arduous work — work which had no purpose except to meet Dr. Haynes’ requirements (Figure 24).

After Dr. Haynes' visit, Dr. Clements directed us to begin work on Control Pit II. While we began Control II, a smaller 10 x 10-foot pit, several workers were freed to return to the Master Pit. Work in Control II was directed by Cliff Clouse, Fred Kobs, and Walter Arends. Dr. Clements began a geological study of Control Pit I. It was his belief that the deposits in Control I reflected a younger, perhaps the youngest extant phase of the building of the Yermo Fan.

On February 11, Dr. Harold Barnes and Mary Ellen Conaway were working in Q-19 of Master Pit I. It had been a long, cold morning, and Dr. Barnes left the pit. In doing so, he left Mary Ellen with a specific job to finish for him. As she worked ahead, less than two inches from where Dr. Barnes had finished, she exposed a white material and called me. I took a quick look, and phoned the lab asking Harold to return and bring his camera. We had our first piece of tusk (mammoth or mastodon). Soon the entire crew was on hand. We believed that this would date the excavation.

Through the weeks that followed, Harold, Cliff, Denny and others exposed other splinters of tusk in the same area — Q and R-19 at, and below, 151 inches. Dr. Clements arrived the next day and confirmed my designation. Two pieces were removed for safe-keeping. The remaining pieces were covered to protect them from the elements and workers’ feet, and left in place for Dr. and Mary Leakey, who would be coming in a few days (Figure 25) .

When work stopped in Control I, Ritner returned to SBCM-1508. There, his excavation was exposing the cross-section of an ancient river channel. When Dr. Haynes visited the Project, he said he thought SBCM-1508 was the most significant aspect of the Project, and urged Ritner to drive his main north-south trench entirely though the hill north of where he was working. Ritner and Norm labored at this task until the Leakeys’ visit. Cathy Klept also worked with Ritner at this time and prepared an excellent soil profile on one trench. Unfortunately, when Dr. and Mary Leakey visited SBCM-1508, they urged Ritner to return to the main excavation. They told him SBCM-1508 would not add significantly to the main story. Ritner returned to the main site and subsequently did little work at SBCM-1508. Much work still needs to be done here and I believe that both the geological and archaeological data will be relevant.

Dr. Leakey's visit in March was short and under extreme pressure for he was on a lecture tour with Mary Leakey. My staff and I made contact with him at various points around Southern California, discussing problems and resolving logistical questions. At one of the meeting (the first), I went with Mary Stone and Karen Lundquist to Pasadena City College. The small box I carried contained a representative piece of the tusk. After the lecture, we went to a classroom to examine the specimen. Mary and Karen waited outside. While Dr. Leakey studied the object, I looked up and saw Mary and Karen watching through the transom. Dr. Leakey was



Figure 24. Rock piles from Master Pit II



Figure 25. Mary Leakey examining a possible bone fragment, 1967

delighted and said he would contact Dr. Rainer Berger at the geochronology laboratory at UCLA. However, Dr. Leakey told me not to have high hopes of a date. This was the first time I had realized Dr. Leakey believed the site was older than 48,000 years, the maximum dating potential for C-14 at that time.

The Leakeys' visit was not one of our happier occasions. It was indeed the only visit he made under extreme pressure until the visits made after he was ill. The Leakeys were joined by Dick Hay and made a thorough examination of all the excavations. Unfortunately, no one warned us that Mary Leakey did not like to have her picture taken. We were giving her the same full coverage that we always gave Dr. Leakey, and it was noon before we realized we were making her very angry.

Lunch did not improve matters. While squeezing lemon in my ice tea, some of the juice hit Mary Leakey in the eye. Unfortunately, I laughed as I often do when embarrassed. Mary Leakey again became very angry, but Dr. Leakey kept the situation in hand by snatching up a small cardboard cream dispenser and saying, "Retaliate, love!"

The following day was spent at the San Bernardino County Museum where we had prepared for examination all of the tools and debitage Dr. Leakey had approved. Mary Leakey did not care for the tools. This was evident when she turned to Denny and asked him, "Where are the things you call anvils?" It was a different story when she examined the debitage. As she spoke approvingly about the flakes with technical characteristics, we began to be aware of a fact that would be increasingly evident as artifact analysis proceeded through the years: debitage, technical flakes and small flake tools have greater diagnostic value than most of the large tools. If Mary Leakey was something less than enthusiastic about the large tools, she was equally unenthusiastic about Denny Dennison's drawings, which Dr. Leakey had always thought were excellent.

The Leakeys were but the first of many important visitors during the spring of 1967. Dr. Leakey told us that he would be back in April, and that we would be visited by the Finance and Research Committees of the National Geographic Society.

First to come in early April was Dr. Thomas McKnew, Advisory Chairman of the Board of Trustees. The superb weather we had had for Dr. Haynes and the Leakeys continued for Dr. McKnew. His visit was one of the most enjoyable in the history of the Project. Interested and informed, he spared no effort, even hiking to Control Pit II. There he was the first visitor to see what proved to be the most unusual aspect of that pit. Most large boulders and many cobbles had been split by some post-depositional force. He urged us to leave the boulders in place for the committees to see later in the month.

What was originally scheduled as a four-day visit by the committees was ultimately reduced to one day, with arrival on the previous evening. As time for the visit neared, weather worsened. Two days before the target day, it began to snow (the only snow of that winter). We had packed as much as possible into the one-day program. To speed it up as much as possible, Marine Corps trucks were arranged to transport our guests over the hills.

John Kettl, Dorothy Dennison and I met the two planes at Los Angeles International Airport. All our guests were taken from there to Barstow by Trailways bus. I gave geological background of the Transverse Range and the Southern Great Basin en route while Dorothy registered our guests, assigned rooms at the Holiday Inn and John discussed details of the plan with Dr. Matt Stirling and Dr. Carmichael.

Arriving at the Holiday Inn, we were greeted by the Crew which had come in to serve as baggage handlers. It was midnight and still snowing, though very lightly. A telephone message from Chuck Monde was waiting. No flights would be possible in the morning.

We awakened to a cloudy day with freezing wind, and later, some sleet and rain. Dr. Clements presented an illustrated, in-depth geological overview while breakfast was served. Breakfast had been selected and orders taken while en route on the bus.

All went well until John began taking baggage outdoors. There was no bus. We searched the area without luck. Dr. Smith left in his car to search for the bus. Dr. Clements lengthened his geological presentation. I phoned Olie's Restaurant, nearest contact point, where Lou Bell waited with the trucks. He began the hectic job of obtaining permission for the Marine trucks to travel as far as Barstow. Ultimately, permission was obtained, and we moved out, an hour behind schedule.

While we were facing problems in Barstow, Cliff Clouse and Fred Kobs had their problems at the pit. We had discussed the mud and sloppy footing we would have on the tour and I had given the Crew the job of cleaning up the area, but not removing the muddy soil which, of course, had not yet been examined. Fortunately, the pit floor had been swept clean for the visitation. When Cliff Clouse and Fred Kobs climbed the hill at dawn, they found a sheet of frozen snow. They cracked it into large plate-like fragments and carried them out, placing them on tarps where any adhering dirt could be examined when the snow melted. Tarps were thrown in the pit to catch the light snow still falling.

Our visitors rode the bare board benches in the trucks to camp and did a quick but rather thorough examination of the excavations. Official photographs were taken of the group and of key persons removing specimens we had left in place for them. Only after the trucks had taken us to the Control Pits did the official photographer discover he had failed to load his camera. From Control II, the group, led by Dr. Grosvenor, tramped down the hill and back to the pit to be photographed again.

Once back at the Commissary, specimens were examined and Denny Dennison presented his preliminary distribution charts and other statistics that he and his wife, Dot, had prepared. Our cook, Daisy Mae Harris, tried to see Denny's charts while preparing to serve pumpkin pie. The end result — Denny was liberally sprayed with Reddi-Wip.

In the afternoon, the group was taken on a tour of the fan and Mule Canyon. Meanwhile, Dr. Smith found the bus and driver at a motel. After our guests left, the crew gathered in the Clements' room at the Holiday Inn. As dinnertime rolled around, most of the crew protested that they had eaten so much, they could not eat anymore. Finally, I asked why they had eaten more than Dr. Clements and I. The explanation was a final jolt. Dr. Smith had brought them the food from the bus. That meant our guests had no dinner on the return trip to Los Angeles. Indeed, this had not been one of our better days!

We were surprised and grateful that the committees had seen enough, and been favorably impressed enough to grant Dr. Leakey's request for a moderate grant for a fourth season and had approved opening a second Master Pit. A small summer grant was made to permit us to retain George Winklepleck as guard, to professionally fence the main pits, trenches and test pits, and to shore Control Pit I.

April was a special month for another reason. It brought us another exceptional worker, Barbara Kniffen (Figure 26). Barbara would play a major role during the more than three years that she worked for me. In addition, other members this remarkable family filled vital roles: father, Roy; mother, Jessie and brother, John. Even as this is written (1979-1980), Roy responds to urgent calls to repair or maintain the site. Barbara spent her early days on the Project working in the "T" Trench and in Control Pit II. Then she joined Lou Bell, John Kettl, Fred Kobs and others in shoring up Control Pit I under Dr. Clements' direction.

Summer heat came early in 1967, and most of the Crew had left by May 10th. Those who remained joined professional



Figure 26. Barbara Kniffen measuring the depth of an artifact

fencers in fencing SBCM-1500 pits and also the entire excavation at SBCM-1508.

While the Crew had been busy with the archaeological aspects of the Third Season, Tom and Lydia Clements had made progress with the geological aspect. They had begun seismic tests, recording the time needed for surface impact to reach various sub-surface deposits and rebound. Tom had foreseen a major soil and/or deposit change at 25 feet. This was not the Miocene Barstow Formation as we had hoped, but it was the remarkably cemented rippled formation noted above.

Dr. Clements had made much progress in studying the history of the building of the alluvial fan (Figure 27). Young elements of the fan exposed in Control Pit I. Indeed, our pits were beginning to afford him a cross-section of the fan. However, much remained to be done near the head of the fan where faulting had ended the growth. Of prime interest, however, was the history of the post-faulting period of erosion on the fan. Here might be found clues to the age of the Site. Work on this aspect was planned for the Fourth Season (October 1967 - June 1968).



Figure 27. Dr. Clements and wife, Lydia, map the geology of the Calico district, 1966

As we left for the summer, we felt that fragments of the puzzle were beginning to fit together. The three seasons completed had given evidence of surprising antiquity and of an impressive accumulation of artifacts and debitage. Control pits had been excavated, as requested. Preliminary statistical and analytical projects had begun. We looked forward to the Fourth Season and the opening of Master Pit II with great anticipation. It should augment the assemblage and tell us something of the extent of the Site, perhaps reflect the existence of loci.

Before we left, Dr. Leakey visited the site, saw the shoring of Control Pit 1 and selected the location for Master Pit II. It would be approximately 40 feet northwest of Master Pit I. The location was determined largely because the northwest portion of Master Pit I was proving to be the richest area. Jerry Jerauld surveyed the new pit area and set a datum point for it early in May so that the fencing would also enclose the projected Master Pit II area and its entrance trench.

George Winklepleck had numerous visitors during the summer; both staff and tourists. Before work began in the fall, Lou, George and Ritner Sayles had prepared a 2 x 6-inch frame, or collar, and placed it around the pit area and along a portion of the trench site. It was decided to make all depth measurements from the datum point near the northwest corner of the pit.

The crew had assembled and work began on October 15, 1967. Ritner was designated as pit foreman. As work went on, he shared this responsibility with Rollin Enfield, and, ultimately, with Barbara Kniffen. Our plan was to keep all sections, except the central witness section, active. Unfortunately, the second day Tony Kwapinski had to leave for an unspecified period. There were several new faces, mostly workers who had been trained in Control Pit I and II — Randy Risser, Lowell Morrison, Ethel Lovers and Rosemary Ritter.

Two major events occurred in those late October days. The National Geographic Society informed Dr. Smith that the grant would be only half of that requested, and that the Fourth Season would be the last under their financial sponsorship. The other news was that Dr. Francois Bordes would be visiting us in a few days.

Dr. Smith told me to go to Los Angeles and get Dr. Bordes. On the way to Calico I gave him the usual background overview of the site. One of his questions was “Have you any women working for you?” I told him “Yes, several.” His response was “Women, phooey!”

We climbed the hill, and as we approached the Master II area where excavation had reached a depth of about three feet, Barbara stepped up over the edge with a full bucket on each

arm and one in each hand. I looked at Dr. Hordes and said: "One of my Crew!" He made no further comment on the subject.



Figure 28. Francois Bordes flintknapping with Calico lithic material, 1967

Dr. Bordes made a study of the excavations (Figure 28). Then I took him to the San Bernardino County Museum where he examined the artifacts. Like Mary Leakey, he regarded the small tools and technical flakes as the most significant. As Dr. Bordes left, he turned to Cliff Clouse and said: "Unless you are prepared to accept 25 miracles in 25 feet, you must see this as archaeological material."

During the early weeks of work, it was necessary to curtail plans due to the cut in funds. The number of paid workers was cut. Work in outlying pits stopped. The paid crew would work on the geological program when urgently needed by Dr. Clements. Tom was told that there would

be very little money for his work. His reaction was that his clock would stop at midnight and he would work on as if it were the first day. It is that type of generous help by so many people that has kept the Calico Project strong throughout the years.

The "T" Trench had shown us that as much as 10 feet of overburden might be expected in the new pit, so work in the early stages was done with pick-mattocks. The stratified sands and gravels making up this overburden contained occasional artifacts which show evidence of varying degrees of rolling. The overburden rested on a well-defined boulder level. Once this had been penetrated, the workers found themselves in the same artifact-bearing deposit which characterized Master Pit I. Removal of the boulder level was time-consuming. Some of the boulders weighed 500-600 pounds. The boulders were carried out of the pit and the formation was reconstructed near the screening area where it remains to this day, except for the volcanic tuff which has disintegrated.

Ina and Jack Borum had heard Dr. Leakey's 1965 lecture in Bishop. This fall, they drove in for a visit and became a vital part of the team until Jack's death in the 1970s. Jack and Ina worked mostly as volunteers in shifts lasting one or two weeks. Their first assignments were in the entrance trench to Master Pit II.

By the end of year, the boulder level had been reached and the boulders removed. By January 1, 1968, we were in the familiar deposits we knew from Master Pit I. We were able to coordinate soils and anticipate specimens, using graphs and charts as in Master Pit I. Dr. Clements felt certain, based on exposures in the pit and "T" Trench, that the boulder level was a special old fan surface, one which reflected a significant building phase of the fan. This boulder level, now recognized in all our excavations, was designated as the Old Fan Surface and, in a sense, capped, or sealed, the artifact-bearing deposit.

We passed below the boulder level at an average depth of 13 feet in Master Pit II. The recovery of artifacts and debitage increased sharply and the quality improved markedly as we went below the boulder level.

Dr. Leakey visited us on January 24-25, 1968. It was a relaxed, informal visit. When I looked for a trailer he could use, Rollin Enfield said he could use theirs, and that it would please him so much he would give up smoking if Dr. Leakey did stay there. Rollin has kept his word.

Dr. Leakey visited Master Pit II at length, working with new members of the crew. In the evening, he gave a long, informative presentation on his work in Africa and on the status and value of the Calico Site. Some of the items mentioned were not to appear in print for several months. The crew sat with Dr. Leakey by our campfire and chatted until well past midnight.

At the request of Dr. Desmond Clark and Dr. Vance Haynes, we had been counting and identifying all pebble material in the various pits. Dr. Clements felt this was a waste of time and valueless since many workers cannot identify the various materials. Dr. Leakey cut the pebble count to one unit in each pit during this visit, and shortly thereafter telephoned me to discontinue the count entirely. This was welcome news to the crew. However, we did continue the comparative ratio of volcanic and miscellaneous rock ("country rock") to siliceous material (chalcedony, jasper, chert, petrified wood, siliceous limestone). Hence, all materials one inch or more in diameter have been measured and recorded since our second digging season and continue to be so recorded. Denny's statistics and graphics reflected a marked change in the ratio once we passed the boulder level.

On February 1st, Dr. Leakey wrote that funding would now be a serious problem, that he was not at all certain we would have a fifth season at Calico, and that we should speed up the work as much as possible. Ina and Jack were moved into Master Pit II, as were John Kelly and other experienced volunteers. Rollin Enfield was placed in charge. Kelly had joined us just before Dr. Leakey's visit. He would prove to be a most valuable addition to the volunteer element of the Crew, coming nearly every weekend for the next three years. When funds ran low, he came with carloads of food.

During the latter part of February and the early part of March, several excellent specimens were recovered in Master Pit II. One of these was a superb hand axe found by Rollin Enfield at a depth of 159 inches. In March, Denny Dennison, Jerry Jerauld and Barbara Kniffen began plotting soil profiles in Master Pits I and II. This would be a tedious job, restricted to hours of useable light, and extended as the pits grew deeper. As their work began, the average depth in Master Pit II was circa 190 inches. In association with this project, Jerry gave us a new series of sub-datum points in both pits as it was no longer possible to measure from surface markers in Master Pit II. In addition, the walls were straightened and cleaned for better definition (Figure 29). Rollin Enfield obtained a series of large plumb bobs which he hung at the northeast corner of each section that year. These kept our walls straight until 1977 when they were stolen. From the beginning, Dr. Clements and I have insisted upon straight walls. They are essential both in controlled digging and in the interpretation of the strata.



Figure 29. Jerry Jerauld straightening walls with the plumb bob, 1968

March was a month with many facets: progress in stratigraphic studies, good tools, dwindling funds, the possibility of permanent protection for the site, and numerous visiting scientists. One of the most tension-filled two days since Dr. Leakey's very first visit occurred early in March. Dr. Clark Howell and Dr. Karl Butzer, then both from the University of Chicago, visited the site. Dr. Clements and I were told by Dr. Leakey not to try to influence, but just to answer their questions. After examining the site and generally surveying the fan, Drs. Clark and Howell agreed that the deposits were old. They outlined a series of geological projects for Dr. Clements, projects which would add to our knowledge of the history of the fan and possibly assist in determining its age.

From the site, our two guests were taken to SBCM. There they closeted themselves with a large assemblage of artifacts which Dr. Leakey and I had prepared. Dr. Leakey, Walter Schuiling, Dr. Smith and I waited and worried outside. Lydia Clements and Dot Dennison prepared a beautiful luncheon.

In mid-afternoon, Dr. Howell and Dr. Butzer sent for us. Dr. Howell's first comment was,

"Well, Louis (Leakey), these are man-made tools, not like you find, but by sapiens sapiens. What is it that you want to know?" A happy smile spread over Dr. Leakey's face (and our faces too), and he said, "Clark, you have answered our main question." Dr. Howell then went on, spelling out the evidence for accepting these tools as man-made.

It is unfortunate that pressure was brought to bear on Dr. Howell causing him to remain quiet at subsequent meetings, including our 1970 International Conference when positive statements made by him would have made a significant difference.

The next day, I drove Dr. Leakey back to camp. He had me stop a few miles from the camp so he could take pain-killing medicine. Then, he was able to ride into camp holding a broom high in the air. We had a happy day-long meeting for it appeared our case had been won. There was much talk about the future and of plans for an on-site museum similar to his at Olduvai. Only Dr. Leakey's use of medicine kept this from being the best day of the project. This was the first time we knew of his painful hip and pending surgery.

March 22nd gave promise of being a great day. Mr. Terry Blunt, representing the Nature Conservancy, came to examine the site. Also present were Dr. Don Miller, National Park Service representative, Dr. Smith, Dr. Clements, representatives from the Bureau of Land Management and Mr. Glenn Gunn, the claim-holder. The Bureau of Land Management was willing to arrange the transfer, but Mr. Gunn destroyed our dreams when he demanded \$25,000,000. He further shocked us by stating that if we were to even planning to continue working at the Site, we would have to pay him that much.

The whole complexion of the Project changed at this point. I telephoned Dr. Leakey in Nairobi and he said to roof the pits so that they could take care of themselves if we were locked out. While my crew went to work on that project, Dr. Smith, Dr. Clements and the Bureau of Land Management began work on what quickly became known as "The Gunn Case."

Probably we never had a more stunning blow followed immediately by having to be at our best for public relations. On March 23-24th we were visited by 1,500 Friends of the Los Angeles County Museum. Fortunately, our plans for this day had been made well in advance. Guided tours were scheduled for every 20 minutes, even the approach to and exit from the pit areas were controlled. Lou Bell's friend, Chris Christensen had become involved with the logistical problems of our Project, had guarded the site when all the crew needed to be gone, etc. Now he came with ice and soft drinks for our museum visitors, radios and jeeps to help with the crowd. There was only one detail for which we had not planned. Some of the visitors came on horseback. Denny Dennison rose to the occasion and tended the horses while their riders went on tour.



Figure 30. Roy Kniffen and others working on the roof for Master Pit II

April began with visits by Margaret Mead (after dark) and Don Miller. The Gunn Case was growing more serious. We now had been told that we must be off the property by May 15. The estimated cost for the roofing of Master Pits I and II was \$45,000. No such funds were available. At Crew meeting the Crew declared they had conferred among themselves and decided they could do the work if I could find money for the materials. Barbara's father, Roy Kniffen and Lou Bell began rounding up materials. Roy obtained a large flat-bed truck and on April 18th, roofing materials arrived. John Kettl and Jerry Jerauld surveyed the overhead in Master I and lowered in to permit roofing. The survey showed that, since it was erected, the overhead had not changed position 1/8 inch.

On the 19th roofing began. Barbara Kniffen and Fred Kobs did most of the work in Master Pit II (Figure 30). A large force including John Kelly, John Kettl, Tony Kwapinski, Lowell

Morrison, John Kniffen, Jerry Jerauld, Charley Howe, Nancy Spenser, and Jessie Kniffen worked with Roy and me on Master Pit I. Roy obtained telephone poles and cross-arms which constituted the basis for the roof. These were lifted into place with a bucket equipped skiploader during one of the worst windstorms we have experienced at the site.

On one of the work days, the crew left for lunch. I was astride one of the framing telephone poles, totally alone 20 feet above the pit. The walk the length of the pit on that pole, which was lying horizontally, was one of the most frightening things I have ever done during my professional career. Without the wind it would have been difficult enough; with the wind it was awesome for me.

Fortunately, the wind had stopped when we laid the aluminum sheets and nailed them in place. That day it was the heat and glare of the sun on the aluminum that made it an unusual experience.

By May 1st the roof was done. On May 4th Dr. Travis of the L.S.B. Leakey Foundation, Dr. Clements and Mr. Gunn were at the site. Mr. Gunn looked startled when he saw the roof! He maintained his unbending position that we must be out by May 15th.

On May 14th Tom Loomis and BLM District Manager Jack Wilson visited the Site. They told us that they had applied for a ruling by the Solicitor General that, until a final ruling could be made, we must be permitted to continue our work. Late that night, Mr. Travis phoned that the ruling had come through. However, we could not be sure that it would be honored, so all student workers were sent off the Site. This was no great problem as May 15th had been set as our closing day for the season.

The night of May 14th was very quiet. Lou Bell, Barbara Kniffen, George Winklepleck and I stood watch. May 15th was equally quiet. Mr. Gunn did not appear. No bulldozer rumbled into camp or the pits. Rosemary Ritter, who had camped outside the Project area, came back and worked a few more days. By May 20th only George Winklepleck and George Spots, the camp cat, remained.

As noted in the comments regarding the opening of the Fourth Season, the National Geographic grant was only for half of the amount anticipated. Therefore, the project was out of funds in the spring. At this time, Dr. Leakey introduced me to Robert Wilkie of the Wilkie Brothers Do All Foundation. This Foundation has a special interest in the history of tools. The Wilkie Foundation supported the work and roofing operation during the last months of the Fourth Season and then presented funding which enabled us to begin the Fifth Season. Robert Wilkie has evinced continued interest in the Project through the subsequent years, and has supplied funding to meet special needs.

While some work would continue in Master Pit I, it was anticipated that the 1968-1969 season would focus on two major thrusts: deepening Master Pit II and intensifying the geological investigations. The Gunn Case remained unresolved. The Fifth Season began November 1, 1968, but staff members came October 20th. This was partly to prepare the pits and camp, and partly to facilitate large tours that had been scheduled. On October 26th we were visited by more than 100 members of the U.S. Army Corp of Engineers. On the 29th Airstream Trailer Tours visited us. I lectured to their camp the night before, and the tour of the Site brought us approximately 200 tourists.

When work began November 1st, H-11 was at the greatest depth, 258 inches. The average depth in Master Pit II was 245 inches. Barbara Kniffen was pit supervisor. The pit floor was strewn with cobbles and some boulders of chalcedony. There were also two large jasper boulders. Several of these objects showed large flake scars.

Dave Wilson, Diana Finch, Bob Ashton and Lowell Morrison, who had been volunteers, were now regular members of the Crew. Other regular crew members included John Kniffen, Dave Dailey, Ethel Lovers, and Hazel and Al Canby. Unfortunately Ethel had to leave us after three weeks, being too ill to continue. Regular weekenders included John Kelly, Dorothy Wood,

Randy Risser and Grace Fink. Jack and Ina Borum came for extended periods of volunteer works, both in the pits and with maintenance.

Of all the “late-comers” to the Project, Bob Ashton and Barbara Kniffen were proving to be the best workers, both as diggers and as record keepers. However, the person, above all others who joined the Project after its inception, who has been the most important in a variety of ways is Maryella Greene, a friend of Dr. and Mrs. Clements. Maryella joined us in November and is still with us, spearheading the laboratory analysis we shall be discussing in later chapters.

Maryella was not always regarded with such favor. When she first came into Master Pit I, Lou Bell and I were at work. We looked at her, dressed in immaculate white, and asked how much experience she had had. Her answer was, “None”. From that beginning, Maryella became one of our best diggers, ultimately carrying her section of Master Pit II to a depth of 309 inches.

December, 1968, was a month of exciting discoveries. John Kniffen found a beautiful “S-twist” hand axe at a depth of 256 inches. John worked for more than a week excavating one three-inch level, finding a massive chipping station or workshop. Among the objects recovered was a portion of animal tooth.

At 260 inches, Master Pit II showed a level of angular and sub-angular cobbles and boulders. At one time in the excavation of Master Pit II, Rosemary Ritter was well behind the other diggers. Dr. Smith thought that, with very limited funds, we should replace her with one of the volunteers. Barbara and I believed (and rightly so) that Rosemary would learn, so Barbara switched sections with her. Next time Dr. Smith came to see how we were doing, Rosemary was working a few inches deeper than Barbara. Dr. Smith was impressed with her improvement. Rosemary kept her job (Figure 31). Now, in December, 1968, Rosemary was a careful, competent digger. On December 18th she rewarded our faith in her by exposing the first rocks of what, in about a week, would be recognized as a hearth feature (Feature #1) at a depth of 279 inches in section H-11.

Rosemary worked very carefully and slowly, with me watching, during the next four days. By that time, tops of the rocks making up the hearth were exposed. They formed a pattern: 3 large, 2 small, 3 large, 2 small, 3 large. They lay in a semi-circle approximately 17 inches by 13 inches, interior measurements. A small pile of rocks lay in the open side; one of these appears to be a pick or chopper.

Both Bob Ashton and I took great numbers of photographs throughout the exposure period. On December 12th a generator was brought from the museum and attached to long cords dropped through the roof and attached to light fixtures in Master Pit II. Thus, in spite of winter and a roof, work could go forward in daytime and, occasionally, in the evenings too.

Christmas this year saw very few workers on hand. There were four volunteers, Ritter and me. Most of the Crew returned the next day, and we had a visit from Dr. Matheny from Brigham Young University. By December 30th Rosemary had totally exposed the hearth. John Kniffen's hand axe was removed after Dr. Matheny saw it. It was a superb piece and I did not want to leave it exposed in the pit any longer.

Protection of the hearth was now a problem also. A low frame and platform were constructed and covered with a thick piece of carpet. Barbara's dog, Cindy, lay here which delighted her and Barbara — and kept visitors from knowing about the hearth, which was a closely guarded secret and would remain so until Dr. Leakey's next visit.

Dr. Clements came January 2, 1969, and was excited to see the hearth. He ordered work stopped in that portion of the



Figure 31. Rosemary Ritter, 1971

pit, wanting Dr. Leakey to see the hearth in its true context. Throughout the pit, an abundance of small tools and technical flakes were recovered at and immediately below the 260 inch mark.

January ended with rain, sleet and snow. It was still very wet and cold when Dr. Leakey arrived February 2nd. Before his arrival, Lou Bell and I had a session with Rosemary Ritter in which we tried to make her see that the world would not end if Dr. Leakey did not like the feature we were calling a hearth. It was a shock to her that we thought he might not like it. For a while she thought she might leave for the day, but rallied her courage. Then we talked with her about the questions that might be asked. Rosemary was prepared. She had her notes and her sketches ready to show.

Dr. Leakey stayed with us two days. He removed several excellent specimens we had kept on pedestals for him. He agreed fully with my designation of John Kniffen's tool as an S-twist hand axe. Then he turned to the hearth. Leakey was extremely excited by it, examining the flakes recovered from all around it, read the notes and looked at the photographs. Then he sent us all out of the pit and sat studying it for many minutes. He did that again the second day, after he had had time to think, as he put it.

Dr. Leakey believed the arrangement of rocks was definitely man-made, the question as to whether it was a fire circle or not must await laboratory tests. Meanwhile, we were instructed not to talk about the hearth or show it to visitors. In writing to him, or talking on the phone to him, I was instructed to refer to the hearth as "Twiggy" (flat in front and round behind). During the afternoon of that first day, much time was spent with Denny Dennison on specimen drawings. In the evening, the Crew gathered for one of the "Leakey Lectures" we had come to anticipate when he visited us.

February was an exceedingly wet month. A two-day stretch of continuous rain saw us all on the hill for 48 hours without rest. When the sun finally came out, we took a day off for needed rest. A visitor that day looked at us and said, "So this is the way you spend county money." He was not a popular person.

Dr. Leakey returned in March to see "Twiggy" again. He agreed with Dr. Clements — no further work for the present around the fire circle.

A student waiting for his call to the Army came into camp in February. He liked what he saw, and stayed with us to work until called. This was Dan McCarthy, one the best workers we had. He was a regular member of the crew by the end of February.

By the end of February, Maryella Greene was working as a volunteer at least twice a month. She took over J-13 in Master Pit II and worked there as long as she was able to dig (1973). She also helped in the field lab, with visitors, and became increasingly active in morphological analysis at the San Bernardino County Museum. She was the first of our diggers to use a bayonet as a prime excavation instrument.

When Dr. Leakey came March 5 and 6th, he was accompanied by Dr. Berger. He took soil samples from the hearth. Also in the party were members of the L. S. B. Leakey Foundation. One of the specimens Dr. Leakey approved while on this visit was a large jasper core which had been left in place at 207 inches in the Master II entrance trench. When Dr. Leakey and Lowell Morrison removed it and turned it over, it has a beautiful long blade scar. This is a superb key specimen.

March 1969 also featured a snowstorm and a lengthy visit by staff photographers and artists from the Encyclopedia Britannica. This led to preparation of a lengthy article by Dr. Leakey, Dr. Clements, Dr. Berger and me; an article which also included negative comments by Dr. Haynes and answers to his remarks by Dr. Leakey. This was the first in-depth publication on the Site. We felt it came out exceptionally well.

Eula Bell typed the lengthy Encyclopedia article and also an article we wrote for the National Geographic Society. Each year a volume is prepared which reports on all National Geographic Society funded projects. The 1964 volume was in preparation at this time. In

subsequent years, we would prepare similar article for the 1965, 1966 and 1967 volumes.

Recurring storms isolated many travelers in the Barstow-Yermo area, among them Mira and Curly Thomas from Tecopa. They learned about us, came out and decided to stay. They returned frequently to work as long as they were able, until 1974. Like Maryella, they still return to the Site when health permits, but not to work.

At the end of March, the Crew was divided into two units and these were taken in turns for a tour of Death Valley by Dr. and Mrs. Clements. While these tours were for general enjoyment of the Valley, the emphasis was on the study of the growth and evolution of alluvial fans. This was an extremely valuable learning experience.

This spring, visitors were becoming so numerous that a new policy was formulated. Crew members well versed in the history and significance of the project would take turns guiding visitors. When possible, the person in the field lab would hold visitors until a small group had gathered. Then they would be sent up the hill. This helped with the problem of untrained volunteers working in the trenches being the first to see the visitors and taking charge of the tours.

Curly Thomas was now a regular volunteer, as were two others who had been spending much time with us — John Weiss from Berkeley and Vera Liebel, a retired bush pilot from Alaska. All three learned quickly and were among those certified to work in Master Pit II. Vera, however, preferred the trench and so returned to it.

In answer to questions from me, Dr. Leakey wrote that Lowell could take I-11 (next to the hearth) on down. After rather sterile levels, Lowell began finding numerous specimens at 315 inches. In the summer, he reached the Miocene at 346 inches.

During a long, wet period in the spring of 1969, Lou Bell brought word to camp that I was to bring specimens into Los Angeles, to the California Club, for examination by Richard Leakey. Austin Dennison and I took photographs, distribution charts and specimens. We arrived at the Club in a driving rain. Having parked in the garage, we walked to the main entrance, climbed the stairs and opened the door. There we were met by a horrified doorman. No women were permitted in this part of the building. We were sent back through the rain to the garage and told to use a service entrance. Denny went in, talked to several personages and returned to tell me that there was a small lobby where women were permitted and which could be reached via a service elevator. Up we went, and there we were ushered quickly into the little lobby. For reasons we never learned, we waited two hours for Richard Leakey who, we were assured, was in his room and who had been notified of our arrival for our appointment.

Richard Leakey said he thought the artifacts could be tools, but he did not wish to become involved in this American controversy. He said he would urge his father to hold an interdisciplinary conference at the Site, and he suggested several scientists who should be invited. Among those he suggested was Prof. Tom Lee from Canada. Our visit completed, we departed down the service elevator.

In April, the San Bernardino County Museum Association held an Open House at the dig. This was the first time the Association had made such a trip. Walter and Erna Schuiling, Emily Knight, Arda Haenszel and Lois Headley, who had come frequently, were helpful all day. Maryella helped, even buying cold pop with Lou and John Weiss and selling it to our visitors. She and the Dennisons were marvelous hosts.

All spring, Ritner had concentrated on Test Pit B northwest of Master Pit II. When we were preparing for the Museum visit, I realized that the pit, instead of being straight-walled, tended to spiral downward! No problem, just an interesting detail.

In May 1969, general site maintenance became a major activity. Master Pit II entrance trench was reroofed. Dr. Clements and I worked extensively in Mule Canyon, East, and on the surrounding slopes. Our work was focused on tracking the fault at the head of the fan. Amazingly, we had a day of rain and hail! Dr. Clements felt that he had enough background data

now to begin mapping the fan. Geologist Alan Bassett took the Crew on a tour of Afton Canyon. This served as a farewell for Dan McCarthy as he left for Army service.

The Fifth Season ended June 1st. Our last activity was a sweep of the surface of the fan immediately west of the Site. Mr. Gunn announced that he would be putting through a bulldozer cut. He did just that, going far beyond his claim boundary.

The Fifth Season was thus finished. It had been a good year with many specimens and a probable hearth being recorded. There had been problems, including less than desirable camp posture by some of the younger volunteers, but work had gone well. Our logistics offered no major problems. In short, five year's work had resulted in a smooth-flowing operation. It is a tribute to all of us that work had gone smoothly considering the fact that the "Gunn Case" still was hanging heavily upon us. New workers were advised to keep belongings in condition to remove immediately if Mr. Gunn were to move against us. Arnold Travis of the Leakey Foundation and Dr. Clements had spent long hours of negotiation with Mr. Gunn and his attorney, Mr. George Nilsson. Through the winter, efforts were focused on a lease on the property, while the Federal Government reviewed the Bureau of Land Management's efforts to remove Mr. Gunn's claim on the Site area.

On May 29, 1969, a full year after the "deadline" declared by Mr. Gunn, and fourteen months after the Gunn Case began, Hearing Officer Graydon Holt and the Regional Solicitor's Office, U.S. Department of the Interior, declared void those claims which affect the immediate Site area. No protection was given the camp area and the county museum continued to pay rent to Mr. Gunn until 1974. Through the years, Mr. Gunn continued to do his assessment work and any major improvement of visitor or crew facilities was deterred by uncertainty regarding our continued use of the camp. However, the Site is the vital factor, and its protection will always be credited to the determination and perseverance of Dr. Clements and Mr. Arnold Travis.

Also, as the season ended without any promise of funding for another year, the Project itself was threatened with termination. Dr. Leakey ultimately made arrangements with the University of Pennsylvania to assist, primarily with geological work. There would be few, often no, paid workers in the pits. Effort would be concentrated on mapping and sub-surface geological testing on the fan.

During the summer, Dr. Leakey decided to hold an International Calico Conference in October, 1970. The L.S.B. Leakey Foundation and University of Pennsylvania would fund the conference and the San Bernardino County Museum would sponsor the event.

The Sixth Season came gradually — a person coming in to work for a few days, then leaving. Jack and Ina Borum and Cliff and Sally Clouse now worked as regular volunteers. Curly Thomas, Maryella Greene, Vera Liebel, and Ritner Sayles were in camp much of the time. Eula Bell continued working in the Lab every weekend while Lou Bell spent as much time as health permitted (Figure 32). Barbara Kniffen spent the entire Sixth Season mapping the alluvial fan for Dr. Clements. This was the season of Dr. and Mrs. Clements maximum participation. It was also a time of maximum involvement for the entire Kniffen family. Barbara and John Weiss were full-time crew members. John helped with the mapping and worked in the excavations. He was an excellent worker, but left us after one year to work at the La Brea Tar Pits.

It did not take Barbara long to detect unexpected evidence on the fan— a previously unreported bench or shoreline was being plotted at 1880 feet around the fan and further afield in Lake Manix Basin. Barbara and I checked the



Figure 32. Eula Bell doing lab work in the old shack at Calico

circumference of the basin after Dr. Clements confirmed what Barbara reported, based on mapping of the fan and of an "island" in the basin of Coyote Lake, the northern lobe of Lake Manix. We found additional evidence of the 1880 foot shoreline in the northern, central and eastern sectors of the basin.

While the mapping was in progress, members of the Kniffen family, Clay Panlaqui, John Weiss and Jack Borum continued to carry Control Pit I down. It was dug to a depth of 500 inches before the close of 1969. The portion being excavated was only feet by five feet. Jack Borum installed a winch with which to lift buckets. He also obtained the loan of a small generator and hose with which air was pumped down to the workers. Entry was by a vertical wall ladder.

The extremely hard calcium-carbonate layer previously encountered remained intact except where we intentionally broke through it. As this report is written (1980), the calcium-carbonate layer is still present in spite of flooding, snow, and much wear. Excavation continued to expose the same stratified sand and gravel as in upper levels. The Miocene contact was not yet in evidence.

Knowing that the Conference would bring Dr. Haynes, and other geologists, deeply concerned with the relationship of the Miocene contact to the Site, and to the distribution of specimens being declared "artifacts," Jack Borum volunteered to deepen Test Pit A at the west end of Trench 1 (the "T" Trench), and try to reach the contact before the summer heat. John Weiss helped him.

In March 1970, digging reached and passed the 330" level. Soil had become extremely hard circa 275". Below the 300" level, and especially below 330", the soil became darker, more compact and tended to have a greenish tint. Basically, however, the soil was a chocolate brown. As chunks of this material were broken out, surfaces showed parallel grooves (slickenside) resulting from friction along a fault plane. While cobbles of chalcedony were removed, pieces suggesting human modification became rare below 300". One good specimen, a cutting tool on a bipolar flake at 334" is the best (and only good) deep find.

In January 1970, Dr. Clements began a series of backhoe trenches both in the outlying sectors of the site and on the 1880 foot shoreline at the east end of the fan. Many long days were spent monitoring the backhoe work, watching for archaeological or paleontological evidence, but nothing was recovered. Geologically, the most interesting lithic material was an abundance of smooth, rounded, caliche-coated cobbles unearthed in trench five. However, the prime concern in these trenches was the soil profiles exposed. Arrival of Rollin and Grace Enfield augmented our monitoring force and helped our tired "troops" morale.

While the trenching was in progress, Dr. Leakey visited the Site and was so impressed by the work being done that he asked for trenches to be dug just ahead of the International Conference planned for October. Lydia and Tom Clements and Barbara Kniffen spent long hours counting rocks, preparing a ratio of rounded to angular rocks, drawing soil profiles and gathering all available data since each trench had to be backfilled before the next trench was opened. This was a permit requirement.

While the trenching showed good profiles approximately 13 feet deep, the material was all alluvium in the trenches except for one opened near SBCM 1508. There the trench did expose lake bed deposits. It was apparent that Dr. Clements needed deeper exposures. It was decided to bring in a drilling outfit and recover cores.

The drilling operation lasted into early summer. It was a difficult and, at least from my point of view, a frustrating and expensive process. Drills became jammed or broken, the water supply needed to be continually supplemented, the soils did not lend themselves to removal as long and definitive cores.

Coring was continued to a depth of approximately 200 feet. Very few of the core segments were removed intact (in usable form). Instead, the material from the drill holes and the mud used in drilling came up together as sludge.

Dr. Clements has not studied the recovered cores in any detail. They remain in the field laboratory at the Site. No use has been made by Dr. Clements of data he may have obtained during the drilling,

While mapping and mechanized testing of the fan was in progress, the San Bernardino County Museum, L.S.B. Leakey Foundation and the University of Pennsylvania were laying plans for the International Conference now firmly scheduled for October 22-25, 1970. Funds were made available to bring noted scientists from various parts of the world. Only those invited from Russia and China refused to come. Superb support was given the Conference by County Museum Association members, especially by those serving as the Museum Commissioners and Board members. Teams of workers handled transportation, bus trips, typing, reservations, etc. Lois Headley, Museum Association Treasurer did a superb job of keeping the entire project "on track". In like manner, I had teams working for me on each phase of the meetings in the field. Dr. Clements arranged for the audio system, which serves him during Death Valley Days field trips, to travel with us on the Calico Mountains tour and during his examination of the Site, 1508 and the mechanized testing area of the fan.

In May Dr. Leakey decided that, in order to have all possible data on hand during the forthcoming conference, a rock should be removed from the fire circle and tested to determine if it had, in fact, been subjected to heat. Dr. Berger removed the rock and control rocks from the same deposit away from the feature. Acting under direction from Dr. Vaslav Bucha of the Czechoslovak Academy of Science, Dr. Berger removed chalcedonic rocks as they had had cool origins compared to the volcanic rocks.

The samples were sent to Dr. Bucha who would examine them both for orientation of iron particles within the rocks and for evidence of heating.

I was very sorry to see the rock taken out prior to the Conference. It was my feeling that the fire circle was more meaningful complete. However, Dr. Leakey said to take the rock out and out it came. Actually, Dr. Leakey was right. The circle did not impress the delegates a fraction as much as Dr. Berger's discussion of the tests.

As the summer moved along, the reservation list grew. Tough decisions had to be made in selecting the 100 crew members who could be invited. Three Museum Commissioners and Association Board members became my prime workers: Walter Schuiling, Bernard Huffley and Bob Walline. Crew members and Board members offered housing for some of the distant visitors who came early and wanted to see something of the region.

Dr. Leakey came early to select the artifacts which would be laid out for examination. His hip was causing him a great deal of pain, and he showed the effects of his heart attack. It was easy to see that this meeting would mean a great deal to him. He was anticipating an enthusiastic acceptance by the delegates.

Early visitors included Dr. Bordes and Don Dragoo. Dr. Bordes could not stay for the Conference, but wanted to see what had been accomplished since his last visit. His comment upon entering Master Pit II was, "My God, you are digging a cathedral?"

At the request of Mrs. Joan Travis, L.S.B. Leakey Foundation, Bordes prepared a tape and a short manuscript commenting on the Site and the project. It was a favorable comment, but was not as strong as it would have been if Don Dragoo (totally opposed to this and similar truly early evidences of Man in America) had not influenced him. Unfortunately, Don Dragoo was one of those invited to the Conference by the L.S.B. Leakey Foundation. Hindsight is easy to acquire, but it is readily apparent that the Conference would have been far more useful in furthering the Calico Project and our work if the delegates invited had been basically favorable to the concept of Early Man in America.

Other delegates who came early because they really wanted to study the material were Dr. George Carter and Prof. Jose Cruxent from Venezuela. Fortunately, crew members Maryella Greene, Betty Moore and Rollin and Grace Enfield also came early, so our visitors could have

full-time assistance in examining the material.

As the Conference date neared, Dr. Smith decided that geologist Dr. Clements and artist Austin Dennison would set up their displays in the Archaeological Survey Association building of the County Museum while the artifacts would take over the Mammal Hall. Since all lighting in the latter room was directed to the case displays of mammals, it was necessary to buy special lights for the tables of artifact displays. The set-up was not really satisfactory I felt then, and still feel, that the artifacts would have been shown to better advantage in the lecture hall.

A major factor in the success of the Conference planning was the independent action by Jerry Jerauld, Maryella Greene and Bernard Muffley in taking large rooms at the San Bernardino Holiday Inn (Conference headquarters) where we could hold suddenly needed meetings, check slides, send guests for orientation, show maps or specimens, etc.

On October 21, 1970 Bob Walline put his transportation team into action and we had no further concerns over meeting guests. This aspect of the Conference had given us a few days of deep concern because, without warning, the commuter airline serving San Bernardino stopped service. All visitors had to be met in Los Angeles or Ontario. With all the other pressures of the time, I think I am grateful above all others to Bob for handling this aspect. I made only one trip to the airport at Ontario. We were not sure of the arrival time of two guests. I went and waited two hours. That was all the time I had in which to prepare the final draft of my paper delivered on the 24th.

By evening on the 21st, all specimens had been selected and arranged. The Enfields and Betty Moore were camped just outside the building entrance to guard the area.

Many exciting incidents added to the pressure on the 21st and 22nd. Probably the prime incident was the arrival of Denny and Dorothy Dennison on the 21st without the case containing all Denny's distribution charts and graphs. Happily, by the morning of the 22nd, Bob Walline had tracked the case down (in San Jose) and it had been returned to Ontario.

On the evening of the 21st Winifred Stewart, John Kelly, Jerry Jerauld, John Kettl and others were circulating through the rooms at the Holiday Inn and nearby (less expensive) motels. While there were numerous foreign visitors by then, we were mostly greeting and visiting with crew members we had not seen in some time.

The morning of October 22nd brought resolution of our last major problem: Dr. Berger had gone to Czechoslovakia to learn the results of Dr. Bucka's tests. Then Br. Berger telegraphed that he had the information, but was ill and in a hospital. Now we received word that he was en route and would arrive on the 23rd.

By evening the guest lists were complete and the cocktail party and dinner were fully attended, happy occasions. The only disappointment to me was that Barbara Kniffen, who had done so much for both the archaeological and geological facets of the project, refused to dress other than in field clothes and, feeling out of place, would not come to the dinner. This was offset by many good and important developments. One of these was an announcement by Dr. Paul Schumacher, U.S. Department of the Interior regional archaeologist, that the Calico Project's continuation was approved (Figure 33). For me, the evening's highlight was Dr. Leakey's statement that, "I say without hesitation, knowing what nature can do,



Figure 33. Dr. Leakey and Paul Schumacher at the Calico Conferenc, 1970

that we are digging in an archaeological site... I believe that from this weekend on, a new chapter will be written in the prehistory of America.”

Dr. Leakey's comments were especially meaningful to me first because they were made in public, and second, because while we were sorting specimens he had indicated that he believed the Site was “...considerably more than 100,000 years old”. It was with a happy heart that I drove off to a motel that evening to rest where no one would find me.

Rain greeted us at breakfast. This was unexpected, but except for thick clouds in Cajon Pass, did little to hamper the field trip. Attendance was officially limited to the invited scientists. However, crew members could follow in their own transportation. Scientists filled two buses. Dr. Clements and I hosted one. Dr. Gordon Clopine (San Bernardino Valley College geologist) and Walter Schuiling hosted the second bus. The trip got off to a rather sour start when each participant found on his or her seat an article written by Dr. Karl Butzer. This paper outlined geological projects that are needed and indicated that Dr. Clements was remiss in not having completed these undertakings.



Figure 34. Calico Conference site tour, 1970

The field trip began on time, proceeded on schedule to Yermo and on through Mule Canyon with numerous lecture and examination stops. Special attention was paid to the chalcedony outcrops and evidence of the fault zone. While in this sector, several crew members were encountered. They were rebuilding segments of the road torn out by flooding a week earlier (Figure 34).

Lunch found the group filling Olie's Restaurant. Occupants of one bus ate at a time. This permitted easier handling of the large crowd in the pits. Denny Dennison Dr. Clements, Walter Schuiling, Cliff Clouse and I handled most of the presentation. Lou and Eula Bell met the buses at Camp Leakey and discussed the lab work done there.

Ritner Sayles handled most of the presentation at SBCM 1508. From there we visited the most recent machine-cut trenches Dr. Clements had prepared for the tour.

Tour buses returned to the Holiday Inn on schedule. Crew members Cliff and Sally Clouse, John Kettl and I had a quiet dinner. Thus ended a busy, successful day.

The next day (October 24) found all the delegates and invited crew members gathered at San Bernardino Valley College for the formal papers. When I arrived there, Dr. Leakey was waiting for me. He smiled broadly and whispered that Dr. Berger had arrived and that his report was “good news”.

Dr. William Moore, San Bernardino Valley College welcomed the group, thought to be the largest scientific group ever to gather to consider a single American archaeological site. Then the audience heard four major papers:

- 1) Dr. Leakey discussed the Site in detail and explained why he was convinced that Calico was in fact an archaeological site.
- 2) I presented the history of the Project and its relationship to the prehistory of Lake Manix. I also discussed briefly some of the artifact types being recovered.
- 3) Dr. Clements presented an overview of Pleistocene geology as it related to the Calico Site and then examined some of the specific data. He finished by stating that he believes the Site was occupied during the Third Interglacial Period (Sangamon) more than 75,000 years ago.
- 4) Dr. Rainer Berger presented the final paper. He discussed the various efforts which had

been made to date the Site. Since material recovered was too old for C-14 dating, this implied an age greater than circa 50,000 years, Dr. Berger then discussed the tests which had been conducted on the rock from the hearth and closed with the comment which swept like a wave across the auditorium and was, indeed, the climax of the Conference: "It would appear that, at some time in the past, in that circular arrangement of rocks there must have burned a fire."

The buses returned the delegates to the Holiday Inn for lunch, then transported them to the County Museum where examination of artifacts, graphics, maps, and air photos lasted well into the evening.

The last day October 25, found us back at San Bernardino Valley College for what must have been a bitter day for Dr. Clements and for Dr. Leakey. The official sessions were devoted to questions and answers (Figure 35). Dr. Clements took a viciously critical grilling. It was focused on work not done rather than being a search for more detail on what was done. To many of the questions, Dr. Clements answered that he agreed the work should be done. Unfortunately, Dr. Clements has not worked on the Project since the Conference. While he believes in the Site, it is apparent that his desire to contribute was broken by the antagonists.



Figure 35. Calico Conference question and answer session, 1970

During the weeks immediately after the Conference, I hoped and expected that he would accept the challenge and work to answer the questions. As this report is prepared a decade later, the same major geological questions remain to be answered.

To some extent, Dr. Berger has been remiss. During the question period, he was asked if he planned to test another rock. He answered affirmatively. A year and a half later he did remove a chalcedony cobble from the opposite side of the hearth, but, to this date, has not had it tested.

Failure of Dr. Clements and Dr. Berger to carry out tasks outlined by the delegates has seriously crippled the Project. Also, the image of the Project has been damaged since the visitors were urged to suggest useful tasks which would strengthen the Project in the opinion of the archaeological profession in general.

Numerous visitors did urge that greater emphasis be placed on analysis of the artifacts. As shall be shown in the pages ahead, this has been done—not to the extent we would have liked to see, but significant progress has been made.

Dr. Leakey was bitterly disappointed by the failure of the delegates to fully support acceptance of the Calico Site as a significant American Early Man Site. He and I felt that the evidence was too strong to justify skepticism. Perhaps the Conference was held too soon. Perhaps the invited delegates should have been limited to those who accepted the basic concept of Early Man in America.

If we had met with a group basically accepting Early Man in America, then the focus would have been on the Calico material as a specific site. We would not have been trying to establish Early Man in America as well as at Calico. It seemed to us that we had adequate material. Perhaps we did not. Some of those delegates revisiting us within the past years (1977-1979) have indicated that the tools they saw on this visit were far superior to anything shown at the Conference. In 1970, there was no talk about use-wear patterns. That was four years in the future.

The working season of 1970-1971 brought other problems. Barbara Kniffen, who had been the mainstay of the Project through several seasons, now quit. She had left the excavation to work on geology and on the mapping of the fan largely because she felt she was working against her religious beliefs. Now she felt that the geological work was doing the same thing. She also felt that I was asking too much of her when I asked that she come to work November 1.

One person who should have been invited as a delegate, but was unknown at that time to Dr. Leakey and to me, was Mr. Merlin Childers. Merlin was, and is, Curator of the Imperial Valley Museum at El Centro. Learning of the plans for the Conference, he contacted the San Bernardino County Museum, asking for an invitation. He was refused. His request did not reach me, but he probably would not have fared better with me, unfortunately! Not being able to come as a delegate, Merlin joined the press corps and thus was able to attend. His car transported a sizeable collection of specimens from the Yuha Desert. Dr. Leakey and I were only able to glance briefly at the material, but saw its obvious significance. During the past decade, Merlin's research has made remarkable progress, and he would be in the first round of selection to any future Early Man Conference.

Another problem was the worsening of Lou Bell's health. He was now unable to spend time at the Site. Eula continued to work in the Laboratory on Saturdays and she took soil samples home for Lou to study and record.

George Winklepleck had left us, going to Arizona to live with his daughter and her family. His eyesight was virtually gone when he left. His departure resulted in the onset of a problem which would plague us through the years ahead — security of the Site and Camp Leakey. Conan LaMotte, volunteer worker during the winter of 1969-1970, served as guard during the summer of 1970.

Conan will be remembered for many hard days' work and for his fine spirit and interest in the Project. However, some of us will long remember best his happiness in the days before the Conference. He was not one of the 100 workers chosen to attend the Conference, but I arranged to have him meet Dr. Leakey. During the meeting he brought Dr. Leakey a cup of coffee. The boy's radiant face will long be remembered by those of us nearby.

During the 1970-1971 Season we who were working took turns meeting the public and handling security. Lou Bell, who had long stood in when guards became ill, needed time off. Now, his illness and Barbara's departure gave us a very serious problem. Jack Borum carried much of the load. As the 1970-1971 Season began, Mr. and Mrs. Stephen Studebaker arrived. They were to dig and serve as guards. They were among the few disappointing workers on the Project and ultimately were asked to leave. Jack Borum took over and kept the Project intact through many weeks. Ultimately, we contacted Bill Green who, with his wife, Vi Green, lived in Yermo. Bill would serve as guard through long periods until 1974.

Workers were few in number most of the winter. Maryella Greene, Cliff and Sally Clouse continued to make progress in the Master Pits. Ina Borum worked with numerous volunteers in the Master II Entrance Trench. She was helped also by veteran workers Dan McCarthy, Vera Liebel, Ritner Sayles and Curley Thomas. Some of the volunteers who helped them came only once, others returned many times.

As well as working in Master II entrance trench, Curly Thomas also excavated in H-13, Master Pit II. Curly and I had a special interest in this section. At a depth slightly in excess of 300 inches, in soil virtually devoid of rocks, we could see the tops of cobbles suggesting an artificial arrangement of these rocks. Excavation exposed a serpentine-like alignment curving from the central sector of the south wall of I-13 to the south wall of H-11. No flakes, tools or small rocks were found in association.

It is my feeling that this alignment was man-made and should be considered as a lithic feature. One of only two exposed in Master Pit II thus far, this alignment is three feet deeper

than the hearth in H-11.

A series of short machine-cut trenches were opened during the 1970-1971 season. Cliff Clouse, Lowell Morrison and I directed this operation, Dr. Clements viewing the work on one day. These trenches were cut in the slopes between the Control Pits and the main site area. One was opened up-canyon from camp. This last trench was cut in the hope of tracing the Miocene Contact across the topography west of the Site. The trench did not expose this evidence but it did afford an opportunity for Jack Borum to dig a deep test pit in a previously unprobed area. Jack continued work here until a heart attack in 1974 stopped his strenuous excavation.

Thus we see that progress continued to be made during the 1970-1971 season. However, the days of continuous activity by a paid crew had ended. There were funds in the Museum's Calico account for further geological work (contributed, by the University of Pennsylvania), but Dr. Clements felt it was more essential to keep the Site open, keep security implemented and meet the requirements of our excavation permit. Hence, a full-time guard was essential. As mentioned earlier, Bill Green served lengthy periods in this role. So, too, did Dan, McCarthy and John Petheo from California State College, Fullerton. John served during part of the summer of 1971. He was preparing to excavate SBCM 1803 at the east end of the Yermo Fan, a project he would begin in 1972 and carry forward successfully to ultimate publication in 1975 and 1978.

Although Dr. Clements had felt existing funds should be set aside for ongoing project work, Dr. Smith disagreed. He felt that if Dr. Clements was not going to use the funds remaining, they should be set aside for publications regarding the Calico Site and Project.

This left the Project virtually without funds. Just when our future seemed darkest, the Project was given an unsolicited gift of \$3,000 by the Wilkie Foundation. Indeed, the Foundation and Mr. Robert Wilkie in particular, are among the Project's finest friends.

While Jack Borum did maintenance work and excavated in the deep outlying trenches and pits, Ina Borum and her volunteers made an unusual discovery: a series of rock features in the Master Pit II entrance trench. One of these suggested another fire circle, four small circles of small rocks suggested post holes, one large heap of rocks was also exposed (use as a cairn was suggested). As we exposed these features, we were forced to wonder if they might be part of an actual campsite. All of this set of possible features lay within a few inches of the same depth as the hearth in H-11 (275-285 inches below datum).

During the 1970-1971 digging season, many new faces and names became part of the Calico Project. One of these new workers was a student from California State College, San Bernardino. Little did we realize when he came to work in the "T" Trench, what a significant role he would play in the second decade of the Project. His name was Fred Budinger. As the next chapter unfolds, readers who do not know Fred already will see something of the role he has played and now plays.

Another newcomer, one who came to work with the Studebakers, but who proved to be a far more stable worker, was Mike Vedebeocoeur. Unfortunately, there were many days when we lacked veteran crew members to serve as supervisors. Hence, virtually no work was done in Master Pit II except when Maryella or Curly came.

Late in the year, Rosemary Ritter returned to work alternately in Master Pit I and Master Pit II. Unfortunately, much of her time was spent meeting the public and serving as guide. In March, Dan McCarthy returned. Painfully crippled from his military service in Vietnam, he was determined to make a worthwhile contribution, and this he did as guide, guard and digger. He worked in both the main pits and in Control Pit I. There he was joined by Mike Vedebeocoeur.

By early summer, Dan had removed all soil and small rocks around Feature 1 so that it lay as it had when used more than 50,000 years ago.

At the season's end, the deepest active excavation was H-13 in Master Pit II. It was at 312 inches. I-11 was at 346 inches and exposed the Miocene deposit.

It is easy to write of progress for the 1970-1971 Season, because there was progress. However, in our hearts we knew that the Project was in trouble. We needed funding. The archaeological profession was teaching the students to work only for good pay. Hence, we were getting few new workers. Many of the veteran workers were growing old in the service, others were ill, some had returned to the fields in which they earned their living.

Dr. Leakey visited us in March. He was suffering from numerous ailments and was using one or two canes. Nevertheless, he examined the excavations, removed a tool that Sally Clouse had found and commented, "The opposition will be unhappy with that one!"

Dr. Leakey's visit was short. He was brought by his gracious hostess, Joan Travis of the L.S.B. Leakey Foundation. Most of our business discussions and artifact examinations were held at the Travis home. Dr. Leakey had hopes of funding for the Project through Mr. Dart but none was forthcoming.

It was indeed a frustrating and discouraging feeling to see a project in which so much had been accomplished, and from which such valuable evidence had been recovered, yet for which San Bernardino County, the Leakey Foundation or major funding organizations were not willing to contribute funds to permit even limited work to continue. Only the Wilkie Foundation remained interested and helpful,

As Dan McCarthy and Jack Borum settled down to a summer of alternate guard duty periods, we wondered if there would be any form of Eighth Season. As Maryella came down the trail carrying her prize digging tool, her bayonet, I felt that we would return.

As we sat in Maryella's trailer that last evening, I said that the inception of intensive morphological studies was long past due. I had hoped that some of that work would be done by Mary Leakey, or at least by people working with her. Obviously that was not to be. I commented that I had been refused by Lydia Clements who, after the 1970 Conference, said she never wanted to see Calico again. In the silence of that summer evening, a new chapter of the Calico Project began. Maryella said quietly: "I'll help if you will point the way."

IV. THE GROWING ROLL OF LABORATORY ANALYSIS

November 1971 – 1981

As the fall of 1971 approached, the Calico Project was dealt another blow. Since there was not funding for paid workers and since security of the Site was being handled, it was decided that I should work primarily at the County Museum, going to the Site on Fridays for weekends when workers and visitors would be expected in largest numbers.

Funds from the University of Pennsylvania grant enabled the Museum to publish *Pleistocene Man at Calico*, edited by Dr. Walter Schuiling. After several difficulties such as covers being affixed upside down, the publication was issued in early in 1972.

During the Summer of 1971, the majority of outlying test pits and trenches were back-filled and those remaining open were fenced. The crew paid for the materials and did much of the work. Twelve hundred dollars of the November, 1970, Wilkie Foundation grant assured us that the resident guard would be paid and have food through 1971.

One of the few bright spots of the fall (and indeed of the year) was Dr. Leakey's visit in October. He was very favorably impressed by the possible rock features in the Master Pit II entrance trench, and stated that a new trench or large pit should be opened between the entrance trench and Master Pit I. This would indicate more certainly if a campsite did exist. As we looked, at the empty, silent pits, we knew that such a major undertaking was needed but was not feasible.

Failure of the Leakey Foundation and San Bernardino County to accept responsibility for continuation of the Project was a bitter disappointment to Dr. Leakey. Also, he was becoming too ill to fight for financial support for us and for his African projects. Even the Centre at Nairobi was struggling to stay active. We had a long talk at the Site and later at Jean Travis' home. It was decided that I should lead a project to get the Site on the National Register of Historic Places and that I should try to get the Site protected through State Park status.

Dr. Leakey knew that I was working at the Museum much of the time and he thought this would expedite both undertakings. My main help on the National Register effort came from the Museum's Landmarks Chairman and my good friend, Mrs. Arda Haenszel, and from Mr. Allen Welts in the office of California's Department of Parks and Recreation. By June, 1972, the application for National Register inclusion was approved in California and was sent on to Washington for final acceptance. The Site became the first archaeological site in San, Bernardino County to be included.

The project to get the Site into the State Park System did not fare so well. Maryella Greene was my associate on this undertaking. We both made numerous trips to Sacramento, she many more than I. Senator William Coombs introduced the bill which could save the Site. Slowly it made it way through Committee hearings. The only serious opposition raised, was by Senator Richardson (ironically, the senator from my home district). Senator Coombs worked with us through the winter of 1971-1972 and the Spring of 1972. Finally, in the heat of early summer, legislation passed both the Senate and Assembly. We were told that no piece of legislation this session had brought such a flood of supportive mail.

Ultimately, the bill reached Governor Reagan's desk. The Governor signed the bill and there was great joy in Camp Leakey. It would be several months before we would learn that Mr. William Penn Mott, California State Parks and Recreation, ordered a feasibility study and stated that the Site was better suited to County management, rather than State. We never did understand how or why this appointed office-holder was able to overrule the Legislature and the Governor. Fortunately, Dr. Leakey did not live to learn of Mr. Mott's action.

Insofar as work at the Site was concerned, this Eighth Season was truly a holding operation. Limited excavation was done by the Borums, the Clouses, Rosemary, Maryella and a

few other veterans, and by a few school groups whose teachers had come with groups at better times.

In December, the future was only too apparent. All useable funds would be spent by March including a month of volunteer service by Bill Green as guard. I wrote Mr. Robert Wilkie telling him of our problem and indicating that March, 1972, might terminate the Project insofar as fieldwork was concerned. He responded by asking if funding for six months would provide us the opportunity to date the Site. I wrote back telling him honestly that it would not, but it would give us time to try to get the Site protected at the State level. Robert Wilkie responded with six months funding for our guard.

In January, 1972, a project began which would supply valuable data to the Calico Site Project and which would bring into deep involvement in the study of Pleistocene archaeology John Alsoszatai-Petheo. At that time, John was a graduate student at California State College, Fullerton, and would soon transfer to Eastern New Mexico University where he obtained his Master of Arts Degree. His thesis was on the East Rim Site, as he called the site designated as SBCM-1803. John had planned the project the previous summer when he assisted with the security of the Calico Site.

The material John and his crew recovered answered some questions and opened new avenues for research. It also served as a basis for comparative reviews of other Pleistocene and Paleo-Indian sites. John's methodology, discoveries and observations will be of value not only to the Calico Project, but as guides for other researchers in this still young field of American Pleistocene prehistory.

Along with our efforts to help Senator Coombs move the Calico legislation, Maryella and I were spending long days and evenings at the San Bernardino County Museum doing preliminary morphology studies. Little did we know that this would become our task, that Dr. Leakey would not live to correct and improve our method.

In May, 1972, I attended the Society for American Archaeology annual meeting and there heard sessions on the value of use-wear patterns in distinguishing man-made tools from nature-made "geofacts". At these meetings I met Mr. Clay Singer, graduate student at U.C.L.A. and lithic specialist. I tried to interest him in the Calico material but was not successful. This was but my first attempt to get the assistance of the person whom I believe is presently our best specialist in lithic technology and paleolithic archaeometrics. It would be two years before Clay would become involved with the Calico assemblage.

Vacation, 1972, came in October and found me in Canyonlands National Park, Utah. While exploring a portion of that fantastic area, I was intercepted by a Park worker with a telegram. Dr. Louis Leakey had suffered a heart attack in London and was dead. Science, and indeed Mankind, had suffered an irreparable loss. At Camp Leakey, Jack and Ina Borum and Maryella Greene held a simple memorial service.

During the Ninth Season, crew veterans and some of the students who had worked in past seasons came back to dig and to help with maintenance. In a very real sense, this was their tribute to Dr. Leakey. Most active among the student volunteers was Rick Halsey (nick-named the "Admiral"). Maryella worked long and hard in J-13, Master Pit II. The Clouses exposed an unusual accumulation of chalcedony blocks and several exceptionally nice artifacts in Master Pit I. Rosemary Ritter, Dan McCarthy, Jack and Ina Borum, Jack Maddock all came as often as work permitted. Curly and Mira Thomas came when health permitted.

One of the superb services rendered by the veteran workers was their response to my many calls for help. Need varied from substitute guard to guiding special visitors and guiding trips through the geologically significant portions of Manix Basin.

The spring of 1973 was marked by events both good and bad. Dr. Bruce Murray, Chairmen of the Geology Department at Cal-Tech, began to take an interest in the area. This was

the fortunate event. Jack Borum died suddenly of a heart attack. This was the tragic event.

Dr. Murray came both to the Museum and to the dig. He brought numerous students and was concerned with the excavation site, SBCM-1508, and with the general geomorphological history of Manix Basin. In the course of his work in the basin, Dr. Murray discovered an exposure of mammoth bones which the museum's geologist, Bob Reynolds would ultimately recover.

Jack Borum, faithful through so many crises, had a history of heart problems. The fatal attack came in May, 1973. Ina never returned to the Site. She turned the Borum trailer over to Maryella Greene to be used discreetly for the Project. Through the years, it has housed diggers, visitors and conferences. Ina moved to Caldwell, Idaho to share a home and ranch with her sister.

Eula Bell continued to handle cataloging of material. As summer, 1973, approached, she found us a Summer guard. He was Tom Venner, Barstow resident and student. Tom became much interested in the Site and had a long and diverse association with it. More will be said of Tom's application of the Site to his academic needs. It was fortunate that we had Tom as guard. that summer as I was assigned to the Museum's project in Crowder Canyon near Cajon Pass and kept contact with Tom and the Project only by telephone and by working with Maryella on occasional evenings at the Museum.

In Bloomington, another major project was developing which would change the lives of the Museum Curators and, to a certain extent, the course of the Calico Project. The Bloomington Museum location would be turned over to the Southern Pacific Railroad and the Museum would have to relocate. A site was obtained in Redlands and, through many months, we would struggle with building a museum allocating space, packing collections and, ultimately moving. I was allocated one large room which, through the years, would serve as office, library, work area and storage. The move was accomplished in January, 1975.

It is indeed unfortunate that space was so short and, so much in demand. But for the kindness of Maryella, who has permitted morphological and use-wear studies to go on in her home, the Project would have been seriously handicapped by the move and space allocation. As it is, there has been no space for proper "laying out" of large assemblages, and there is no proper storage facilities for Calico or any other collection.

During the summer of 1973, Tom Venner had few visitors and used his time to good advantage, both in excavation and maintenance. During this time, he became a strong supporter of the project and served the visitors.



Figure 36. Dee Simpson and Phillip Tobias examining a specimen in Master Pit II, 1974

During this period, I took a representative collection of Calico tools to Chicago where I shared them with scientists from all parts of the world attending the IX International Congress of Anthropologists and Ethnologists. Delegates from Russia, India, Italy and France were especially interested and receptive.

Among the delegates whom I met at the Congress was Prof. Phillip Tobias, Chairman of the Department of Anatomy, University of Witwatersrand, Johannesburg, South Africa (Figure 36). Dr. Tobias is a world authority on evidence of Man's craftsmanship, and had worked closely with Dr. Louis Leakey. In many respects, he is carrying forward Dr. Leakey's far-flung work.

Dr. Tobias was well-impressed with the Calico specimens and, at a subsequent L.S.B. Leakey symposium at Cal-Tech, declared the specimens to be “unquestionably evidence of Man's craftsmanship”. Chicago was the first of a series of invaluable conferences with Dr. Tobias. His advice and observations are proving most helpful.

As summer turned to fall, Tom returned to school and the struggle to keep the Site open and the Project alive became even more difficult. Maryella continued to work long hours at the Museum, but came less often to the Site. Her strength was lessening. For several late winter and early spring months, we looked once more to Marge and Walter Wade for work and site security. Their departure was abrupt, but the void was filled by Bill Green who seemed happy to return to the quiet of Camp Leakey. Even in 1973, winter, the visitor load was light except on weekends.

As work went forward at the Bloomington Museum, a new concept was taking form. Maryella was discovering that debitage and some tools lay in “clusters” which we came to designate as “workshops” or “chipping stations”. Dr. Harold Barnes had exposed a huge workshop in 1970, but I had not become aware of the fact that virtually all units, at many depths, had yielded workshop debris in varying quantities. It was decided to treat the clusters separately, then, when all clusters as well as tools stored individually have been analyzed, the tools could be combined with appropriate workshop debitage where it exists. Without any effort to segregate tools or workshop clusters by unit, this initial overview of the assemblage focused on classification.

It was during the lean months of troubled maintenance of the Site that a new personage entered the Project: Mr. Dan Griffin. Dan is a photographer, engineer, and mapper. However, his early efforts were by necessity, concentrated on protecting and maintaining the Site and camp.

As the spring of 1974 moved along, our funds were depleted. Bill Green was being paid partly from funds set aside for publication, and partly by good friends who donated as they could to keep us going. San Bernardino County had a new Director of Regional Parks, Mr. Gary Patton, and we were working very hard to interest him in taking over the Site as a County Park. Mrs. Erna Schuiling carried this effort. Ultimately, we were successful in getting Mr. Patton, his lovely wife, Kata, and their two children to the Site. It did not take Mr. Patton long to see the importance of the Site and to set the political wheels turning. It would take some time, but he would take over the area, and make it part of Calico Ghost Town Regional Park.

In May I was once again assigned to the Crowder Canyon Project. I came to town for the Museum's annual Appreciation Dinner which was held at Redlands University since neither the Bloomington facility nor the new facility in Redlands was in condition to host the event. While helping prepare for the dinner, a call came from Cliff Clouse at Yermo. Bill Green was ill and had left the Site and camp unprotected and visitors without a guide. Cliff and Sally Clouse would stay at least for the weekend. When Dan Griffin arrived I told him the problem and he left immediately for camp.

One of the workers at Crowder Canyon was Fred Budinger who had dug at Calico as a volunteer during previous seasons. I had been talking with him about doing more work there and he had shown interest. Now I talked with him about serving as guard and guide the rest of the summer. I told him there would be no salary, but that one of the Team would contribute \$100 for food and travel. Fred agreed to go.

Meanwhile, knowing of the crisis, some well-intentioned friends sent a couple of students out to help. Their presence was anything but helpful. For example, when Fred arrived, he found them showering in our limited water supply, a tank which now we did not even have a way to fill. Fred called me to find out who was in charge. I told him he and I were. Dan and I drove out and resolved the problem.

When Mr. Patton learned of the situation, he put Fred on temporary payroll. The early months of Fred's temporary employment and subsequent full-time park ranger employment were

not easy for Fred. He had numerous physical problems and was under heavy medication but he worked his way through his problems and those of the Site and by the end of 1974 he had the duties and Site under control.

The Site came under formal control of County Regional Parks November 1, 1974. To mark this occasion Fred suggested that we hold a meeting of the Team the first November weekend. We hoped some old-timers would return and share the occasion with us and with Gary Patton. Indeed people did come! By good fortune, this marked the 10th anniversary of the inception of the Project. Maintenance jobs were undertaken both in the pit area and at the field laboratory. As we worked, it became apparent how much the facilities had fallen into disrepair during the past months of uncertain control. Roofs, trailers, trails, pit walls all shared our attention. The Khiffen family, John Ketti, Ritner Bayles, John Kelly, and Fred Kobs were leaders of the maintenance crew.

While Fred and I had many things to tell the group, the major presentation was that by Gary Patton. It came on Saturday evening following a potluck dinner which seemed to evolve spontaneously. On Sunday morning, Gary Patton sat with the Team and worked out the official agreement between the Museum and County Parks. Regional Parks would be responsible for security and the interpretive program. I, through the museum, would be responsible for the scientific aspect of the Project.

So successful was the weekend that Fred and I decided to make the meeting an annual event, an annual reunion marking the beginning of each new season. Maintenance, renewal of friendships, the potluck supper and evening speaker would be annual features.

Under the new arrangement, Fred Budinger was officially associated with the Calico Ghost Town Regional Park. Unfortunately, there was never good relationship between Fred and the other rangers associated with that park. Supplies, assistance, etc., were seldom forthcoming unless ordered by Mr. Patton.

Back in Bloomington, another important facet of the Calico Project began to take shape during the summer of 1974. Mr. Clay A. Singer then a graduate student and curator of the archaeological museum at UCLA, had made a preliminary random examination of Calico specimens and had observed evidence of use-wear patterns on several of the tools. Because of this, Clay agreed to begin a full-fledged study of the Calico collection.

The fall of 1974 marked the return to southern California of Dr. Phillip Tobias. He spent a day with Clay Singer examining use-wear patterns. Later he visited the Calico Site with Joan Travis of the Leakey Foundation. Dr. Tobias was the first of many distinguished visitors for whom Fred would serve as guide and interpreter.

It was most fortunate for the Project and for me that Regional Parks and Fred Budinger took over the operation of the Site in November. San Bernardino County-Museum was in the throes of packing and moving all collections and equipment from the Bloomington facility to the new building in Redlands. This move was completed in January, 1975 and the new facility opened in November, 1975. A representative Calico exhibit was installed in the Hall of History.

Maryella Greene and I packed the entire Calico collection. It was moved as a unit to my new quarters. The large boxes were stacked along walls and beneath work tables. Now was the ideal time to begin the long-awaited project of sorting by pit and tool type. Long-time colleagues Maryella Greene, Helen Lozano and Erna Schuiling became the basis of a small, dedicated team which would guide the morphological analysis. Progress was slow, usually limited to two or three days once or twice a month. This preliminary sorting was completed in 1980.

Early in the analysis, Clay Singer decided that he was ready to undertake a serious wear-pattern study leading to preliminary publications. In the laboratory we unpacked every box and removed all specimens recovered from sections H-13 and I-13 in Master Pit II. These being the

deepest sections yet excavated. Clay felt they would present the most representative data. His study was completed in 1978 and his report is contained in *Pleistocene Man at Calico* (1979).