

**ANNUAL REVIEW OF  
CULTURAL RESOURCE INVESTIGATIONS BY  
THE SAVANNAH RIVER ARCHAEOLOGICAL  
RESEARCH PROGRAM**

**FISCAL YEAR 2010**



**SAVANNAH RIVER ARCHAEOLOGICAL RESEARCH PROGRAM  
SOUTH CAROLINA INSTITUTE OF ARCHAEOLOGY AND ANTHROPOLOGY  
UNIVERSITY OF SOUTH CAROLINA**

**OCTOBER 2010**

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Prepared by  
the staff of the

SAVANNAH RIVER  
ARCHAEOLOGICAL RESEARCH PROGRAM

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Cover photo by Christopher Moore showing Clovis point base discovered at Flamingo Bay (38AK469) along with an actual-size drawing by Darby Erd. The Clovis fragment was recovered during excavations this fiscal year with the assistance of the Savannah River Archaeological Research Program field crew, including Warren Rich (pictured), Ben Johnson, and Katherine Tantillo, along with volunteer Bob Van Buren.

**SAVANNAH RIVER ARCHAEOLOGICAL RESEARCH PROGRAM PERSONNEL****Staff**

Mark J. Brooks	Director/Geoarchaeologist
Tammy F. Herron	Curator of Artifact Collections
J. Christopher Gillam	GIS Specialist/Archaeologist
Adam King	Special Projects Archaeologist
Robert Moon	Field Director of CRM Survey
Christopher R. Moore	Curator of Public Outreach
Keith Stephenson	Coordinator of CRM Survey
George L. Wingard	Administrative Manager
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**Volunteers**

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Kevin Eberhard	Field Assistant
Rooney Floyd	Laboratory/Field Assistant
Duvall Lawrence	Laboratory/Field Assistant
Jill Nazarete	Laboratory/Field Assistant
Robert Nazarete	Field Assistant
Bob Van Buren	Laboratory/Field Assistant
John Whatley	Laboratory/Field Assistant

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\*No longer employed by the SRARP.

## MANAGEMENT SUMMARY

The United States Department of Energy-Savannah River Operations Office (DOE) Policy 141.1, *DOE Management of Cultural Resources*, identifies 24 major laws, regulations, executive orders, and guidance that apply to cultural resources management (CRM). Cultural resources include archaeological sites and artifacts, historical structures, and natural resources and sacred objects of importance to American Indians. DOE management responsibilities include identification, evaluation, and protection of archaeological/historical sites, artifact curation, and other mitigation measures.

The Savannah River Archaeological Research Program (SRARP) continued through Fiscal Year 2010 (FY10) with DOE to fulfill a threefold mission of CRM, research, and public education at the Savannah River Site (SRS). This report covers the CRM compliance, research, and outreach activities conducted by the SRARP from August 2009 to August 2010. However, due to DOE security concerns, parts of this report do not contain material (exact project area size, map scales, etc.) typically contained in standard archaeological documents.

In FY10, 1,627 acres of land on the SRS were investigated with 3,866 Shovel Test Pits (STPs) for CRM. This activity entailed 41 field reconnaissance or testing surveys, along with the recording of 8 newly discovered sites. Additionally, 11 previously recorded sites were revisited during FY10, and the site file records were updated. Geographical Information System (GIS) and Global Positioning System (GPS) technology was incorporated into all compliance projects to aid in maintaining and processing survey and site location information. In addition, SRARP staff continued support to DOE Cold War Cultural Resources Management Plan (CRMP) efforts through participation on DOE's Artifact Selection Team and at Heritage Tourism Board meetings.

Research conducted by SRARP personnel was reported in 11 professional articles and reports published during FY10. The SRARP staff presented research results in 16 papers and posters at professional conferences. SRARP personnel peer reviewed eight articles, manuscripts, or monographs for publication in professional journals, books, or reports. SRARP archaeological research included six field survey and excavation or archival research programs. Three grants were acquired, two grant proposals were submitted to support both on- and off-site research. Employees served as consultants on 16 projects in off-site CRM and research activities. The SRARP staff held 35 offices and appointments to committees in various educational, avocational, and professional organizations.

In the area of heritage education, the SRARP continued its activities in FY10 with a full schedule of classroom education, public outreach, and on-site tours. Forty-eight presentations, displays, and tours were provided for schools, civic groups, and environmental and historical awareness day celebrations. And finally, the SRARP staff chaired or served on 8 thesis or dissertation committees, as well as taught 4 anthropology courses at the University of South Carolina (USC), Columbia, (online) Ashford University, and 1 field school at East Carolina University, Greenville, North Carolina.

## IN MEMORIAM



## Remembering the Contributions of Kevin H. Eberhard to the Field of Archaeology

Tammy F. Herron

(with contributions by SRARP personnel and friends)

On 21 July 2010, the field of archaeology lost a good man when Mr. Kevin Harold Eberhard, 48, passed away at his home in Aiken, South Carolina. I and my colleagues at the SRARP came to know Kevin through his love of archaeology and history. He worked for the SRARP in 1984-1986 as a Draftsman/Field Technician until he accepted a position as Maintenance Mechanic at the Savannah River Plant (SRP), known today as the SRS. Although, archaeology was his passion, the new job afforded benefits and better pay. Since that time, he served as a faithful volunteer donating countless hours of his time to our program, as well as other archaeological projects in the Central Savannah River Area (CSRA). Kevin's colleagues recognized the importance of his contributions to the field of archaeology in South Carolina and bestowed the title of "Distinguished Archaeologist of the Year" upon him in 1994.

Although Kevin did not hold a degree in archaeology, he had a knack for the job and was as good as or better than most trained archaeologists. He had a keen eye—some may say a sixth sense—for discovering archaeological sites. He conducted reconnaissance on many of the sites here on the SRS and reported his findings to archaeologists at the SRARP. His volunteer efforts on numerous special projects will long be remembered by those in charge of the work at sites such as Big Pine Tree, Bush Hill Plantation, Crosby Bay, Frierson Bay, Johns Bay, Lawton Mounds, Marshall, Midden Point, Mims Point, Pen Point, Silver Bluff, Stallings Island, and Tinker Creek.

Kevin's knowledge of the prehistoric and historic sites located in Hitchcock Woods in Aiken, South Carolina was vast. Kevin was always willing to share that knowledge and tromp an archaeologist over the hills and through the woods to show what he had discovered. The thrill of discovery did not stop in the field for Kevin however. As

with work on any site, the amount of time spent in the lab has been estimated to consume two-thirds more time than what was spent in the field. Aside from assisting with processing artifacts in the lab, Kevin spent an enormous amount of time in archives, libraries, and online “digging” for additional pieces of the puzzle to enable researchers to tell more about the history of a particular site and its inhabitants. He would always beam with pride when he brought in information that he had found and proceed to tell you all about his discovery and how it related to the site.

There are several things that one could usually expect of Kevin when you were working on a site with him: 1) he was usually the one who would end up finding the coolest artifact on the site; 2) if he ended up driving separately to a site, Kevin would arrive before everyone else, uncover the units, and begin working diligently on the task at hand; 3) he always disappeared for quite some time, especially during breaks and at lunch. Someone would always ask, “Where’s Kevin?” Of course, he was usually on a walkabout getting a feel for the lay of the land and figuring out where we really should be digging; 4) he was almost always the hardest working member of the crew; 5) his field notes and maps were detailed and usually in good order; and 6) you could always turn to him for advice and insight when in doubt.

Aside from field technician and researcher, Kevin was also an excellent handyman. He could repair and/or build just about anything he set his mind to. If he could not figure out how to proceed with a given project, then he would seek the wisdom of his father, Bruce Eberhard. Kevin crafted lighter-weight screens for the crew, engineered a pulley system at the Lawton mounds to hoist buckets of fill from the depths of a unit, repaired wheel-barrows, welded shovels, maintained small engines for the shaker screens, fashioned a diaphragm for the flotation machine, and unclogged the drain in the lab on numerous occasions (just to name a few). One of the finest additions to our field equipment was his invention of the aluminum tripod. From design, to manufacture, to revisions, to use—we will ever be indebted to him and think of him and smile as we sift away in the field. Kevin, you were too cool, and yes, you should have patented it!

## REMEMBRANCES

The following section contains remembrances from a number of Kevin’s friends and colleagues from the SRARP and the SCIAA.

Kevin was the draftsman for the SRARP when I joined the program in 1984. He helped with my dissertation fieldwork from 1984-1986, during which time we spent many weekends camping out on Rose Island in the Broad River estuary while coring in the marsh and testing shell middens. He was a great companion, always ready to help, and could be counted on for relevant observations and insights. Later, in the early 1990s, shortly after the light bulb went on in my mind that Carolina bays figured prominently in early hunter-gatherer adaptations on the Coastal Plain, Kevin brought Crosby Bay to the attention of Ken Sassaman and myself. Kevin had amassed a large surface collection of Paleoindian and Archaic artifacts from this bay located near New Ellenton, South Carolina. His efforts contributed to a growing body of evidence for the early, often

intensive use of Carolina bays, led to an article in *South Carolina Antiquities* co-authored by Eberhard, Sassaman, and Brooks in 1994 (Vol. 26[1-2]:33-46), and spurred continued research and publications. Kevin was a good colleague, and I will miss him greatly (Figure 1 and Figure 6 contributed by Mark Brooks and Chris Moore).

—Mark J. Brooks, Director, SRARP

Aside from being helpful with the excavation of the site, Kevin also assisted with other important jobs. The most memorable of these being his removal of the copperhead snakes that made their home in the brick mound at Bush Hill. Kevin did all sorts of other tasks that helped make the excavation of 38AK660 run smoothly, including sharpening tools, repairing screens, removing tarps from the excavation blocks, and ridding the site of obnoxious weeds. He often performed all these tasks before anyone else even showed up at the site in the morning, and he was not even on the payroll.

Off the site, Kevin was just as helpful. He studied historical records, maps, and genealogies related to Bush Hill Plantation in an effort to find any information that we might have missed. Regarding historical artifacts, Kevin knew them just as well as, if not better than, we did. All said—I know the SRARP staff will greatly miss Kevin’s generous spirit (Figure 2 contributed by Melanie Cabak and Tammy Herron).

—Melanie A. Cabak, Historical Archaeologist, former SRARP staff member

Kevin came down to the Big Pine Tree site (38AL143) in 1995 when we were doing test excavations with the SRARP crew. He helped excavate a 1 x 2-m test trench to explore the northern extent of the site, and, of course, he ended up finding probably the largest Clovis preform we have recovered from there. He was quiet but always had a twinkle in his eye indicating he loved being there and part of the excitement of digging a Clovis site. I wanted to photograph the eroding bank of the site when Smith Lake Creek was at full bank due to dam releases of the Savannah River. So, I asked Kevin to hold the stadia rod showing how high the water gets up on the profile. It was kind of cool that day, but he was a good sport about it. In my view, Kevin is typical of how the Institute has welcomed collectors and other interested members of the public to come along with the professionals, thus making the whole enterprise more effective and enjoyable (Figure 3 contributed by Al Goodyear).

—Albert C. Goodyear, III, Research Associate Professor, SCIAA-USC

I will always remember Kevin’s contributions to the work at the Galphin site located on the Silver Bluff Audubon Sanctuary in Aiken County. Just when the work would get monotonous or you might be a little discouraged, Kevin would jot down an entry in the notes or on a field card to lift your spirits. One day in the lab, another of my volunteers came across something unusual in one of the artifact bags and asked me to take a look at it. It was a small lump of self-hardening clay that Kevin had fashioned into a ball to which he engraved a smiley face on one side and “Hi Tammy!” on the other. He was just that kind of guy.

In 1998, Kevin had an opportunity to work with David G. Anderson on a number of sites on Water Island in the U.S. Virgin Islands. Kevin was so excited and beamed with such enthusiasm after his first stint down there, that he talked me into going to the islands to assist as well. During some of our spare time, Kevin insisted on taking me to

several of the sites that he had worked on prior to my arrival. He was like a kid in a candy store pointing out features around the sites and speaking of the interesting artifacts they had recovered (Figure 4 and Figure 5 contributed by Tammy Herron).

—Tammy F. Herron, Curator of Artifact Collections, SRARP

I first got in touch with Kevin soon after I joined the SRARP staff in May of 2008. I needed to recruit several volunteers for a new volunteer research program on Carolina bays, and I was informed that Kevin would be a great asset to the volunteer program. My first experience with Kevin was going with him into Hitchcock Woods to examine archaeological sites he had identified many years ago. I remember it was a very warm day as we drove to an access point within a residential neighborhood in Aiken. I parked the car, and soon we were headed out on what would become a very long and quite strenuous (for me) hike through the forest. It was all I could do to keep up with Kevin as we wandered up and down steep hills and along densely overgrown creeks to various prehistoric and historic archaeological sites. Kevin's enthusiasm for archaeology was obvious and his energy seemingly inexhaustible as we ventured far and wide through the woods. I knew after that day that the stories I had heard about Kevin were all true.

He had tremendous passion and knowledge of the archaeology of South Carolina and, as I would later come to appreciate, would always be more than ready to help on our volunteer digs in Allendale and Barnwell counties. Kevin was a hard worker, and although he rarely had much to say, when he did say something it was usually something very pertinent and helpful to our understanding of the archaeology of the site. In fact, during our volunteer excavations, Kevin never stopped working. You could always count on Kevin to wander off during lunch and come back with a handful of interesting artifacts from the surrounding fields. He was also the one you wanted to be doing the digging since he had such a knack for finding the most interesting artifacts in our excavation units. I am glad that I got to know Kevin, and I feel privileged that I had the chance to work with him and learn from him over the last couple of years (Figure 1 and Figure 6 contributed by Chris Moore and Mark Brooks).

—Christopher R. Moore, Public Outreach Coordinator, SRARP

A short anecdote from the Tinker Creek site, ca. 1993: Working at the Tinker Creek volunteer archaeological project one Saturday, Kevin excavated a diagnostic biface along with an intriguing cluster of debitage in his 1 x 1-m unit. Excited by the find, I said: "Kevin, where would we be without you!" He looked up with a sly grin and replied: "Over there!"—pointing to a nearby unit that would later prove to be nearly void of artifacts.

—J. Christopher Gillam, GIS Specialist/Archaeologist, SRARP

With a quick look around the SRARP, it might be easy to miss the impact that Kevin had on this place. Look a little closer, however, and his importance to this program becomes clear. While he did not dig every unit the SRARP ever excavated, most were done with a shovel that he sharpened or repaired. Though he did not find every artifact, many were found with a screen and tripod that he built. Though he did not record a lot of the sites we have found, many were located because of his efforts. This is very reflective of my experience with Kevin—I never worked directly with him, but often found myself working around him. What I recall most is not a specific event, but rather his good nature

and the quiet presence he brought to a task. Kevin was always willing to do what needed to be done and would often be working on it before the rest of us realized what it was that needed to be done in the first place. While the program will continue without Kevin, his presence will be missed, and there will be many days ahead when we will stop and say, “Wow, I really could have used Kevin’s help on this.”

—Robert Moon, Field Director of CRM Survey, SRARP

I don’t remember the precise moment I met Kevin, but it must have been around 1984, when I returned to South Carolina for a short while to conduct test excavations at the Pen Point site. That same year, Kevin was hired by Glen Hanson at the SRARP. By the time I took a permanent job at the SRARP in 1987, Kevin was working full-time for the operating contractor of the SRP, but he dropped by the lab regularly both during and after work to see what was going on and to make plans for the next weekend dig. For the longest time, the Saturday volunteer program at the Tinker Creek site was the place of social gathering for members of the Augusta Archaeological Society, headed up by the late, great George S. Lewis. Like George, Kevin was a mainstay of that project—just as he was for any SRARP dig that enabled public participation, which was just about all of them. I’ll never forget the first day we reopened Tinker Creek after a multiyear hiatus. As was usually the case, Kevin happened upon one of the more elaborate artifacts found that day. Announcing “number two” to the crew, Kevin proudly held up the second polished grooved axe from Tinker Creek. George would later recall how he thought Kevin was announcing his need for a trip to the woods.

In endurance, energy, and resourcefulness, Kevin was unsurpassed. When we had the chance to work with the U.S. Forest Service at Mims Point, I was so glad to have Kevin along. As he did repeatedly, Kevin took vacation from his day job to join us for a couple of weeks in the field. On this particular expedition, we were stripping by hand about 100 square meters to get to the features below the plowzone. The thick root mat of the Piedmont clay soil was not easy to strip, so no one really looked forward to opening another 2 x 2-m unit. Once Kevin saw the need, as well as the anguish others had stripping the clay, he arrived every day an hour or so ahead of the rest of us and single-handedly removed the plowzone from at least one and sometimes two units. We would arrive just in time for Kevin’s morning coffee break, well deserved after accomplishing alone what would have taken all day for the rest of us.

Kevin also had a knack for finding solutions to our most challenging tasks in the field. At Stallings Island, for example, we decided to remove a large column of shell midden from an exposure looters had made along a side slope of the site. After filling innumerable one-gallon bags with moist, heavy matrix, Kevin suggested we lay all the fill for a sample out on large sheets of plastic to air dry to reduce the weight, then bundle them up in the same sheets so they could be carried out on a litter. Even more gratifying were the collapsible, aluminum tripods Kevin designed. Not only did they reduce the load we had to carry in and out of sites, they also circumvented the need for cutting down healthy saplings.

I could add many more examples of Kevin’s physical and technical contributions to our work, but instead want to underscore his intellectual contribution, too. Kevin had a keen sense of pattern recognition and was also quite adept at synthesizing disparate

observations into coherent and compelling models. It was Kevin who first recognized the “evolution” of soapstone cooking stone technology from variation in these objects across three millennia. He saw in the soapstone lumps at Mims Point the rudiments of a technology that would evolve into the perforated, thin slabs of Stallings culture. Kevin not only recognized the pattern, he rightfully surmised that the trend was toward greater thermal efficiency and suggested it was ultimately driven by reduced availability of fuel, which was likely the case. I was happy to give attribution for these ideas to Kevin in my book on Stallings culture.

It actually took me a while to warm up to Kevin, and for no good reason other than academic arrogance. Seems silly now, but I suppose that I had a hard time admitting that a fellow with no formal education in archaeology could have such good archaeological acumen. In hindsight, and with Kevin’s early departure, I regret not having told him more directly how much I appreciate his generosity, dedication, and keen insight. South Carolina and Georgia archaeology and archaeologists benefited from Kevin’s efforts, and in the many ways he contributed to the material and documentary record of the past, Kevin will live on in histories yet to be written (Figure 7 contributed by Ken Sassaman).

—Kenneth E. Sassaman, Jr., Hyatt and Cici Brown Professor of Florida Archaeology,  
University of Florida

Kevin and I first met exactly twenty years ago shortly after my employment with the SRARP, and I was new to the Aiken locale. Ken Sassaman introduced us, and we immediately began to discuss prehistoric archaeology...a conversation that continued for the next two decades. Kevin and I developed a mutual friendship while he introduced me to the local history of Aiken, Hitchcock Woods, and the Horse Creek valley mill towns. But, archaeology was always Kevin’s greatest passion and interest.

Over the years, he and I worked together on various surveys and excavations in the CSRA at such remarkable prehistoric sites as Mims Point, Marshall, Tinker Creek, and Topper in South Carolina, and Mills in Georgia; however, the most memorable field-time spent with Kevin was at the Lawton site in Allendale County in the early summer of 2000. I had planned a test-unit excavation on the summit of the three-meter-high South Mound directly through to its base to document the mound’s construction history some 700 years ago. Kevin stepped-up immediately and volunteered for the project. Standing atop the pothole-scarred mound summit I muttered, “How are we going to excavate three meters to sub-mound soil and remove the lowest layers of mound fill at this depth?” Kevin’s reassuring reply, as always, restored my confidence. In short order, he engineered a tripod and pulley mechanism, which, with a rope and bucket allowed us to leverage all mound soil to the artifact screen, a height of some four meters above the mound base. We worked together in this manner for almost two weeks, and without Kevin’s unwavering enthusiasm for this project, we would never have gained a complete understanding of the mound’s construction.

Whenever I have visited the South Mound since, I am reminded of the social labor we shared, the fun we had, and the knowledge we gained, all due to Kevin, who

completely immersed himself both physically and intellectually into each archaeological project in which he participated. Kevin often appeared as a shy and retiring individual, but he actually had an appealingly wry sense of humor, which was most welcome on humid and dusty Dog Day summer afternoon excavations in the South. This trait, along with his “sixth” sense regarding archaeological remains, made him a welcome member of any and all SRARP excavations. When conversations turned to the topic of prehistory and history of the CSRA, Kevin became completely engaged, and his self-taught knowledge and understanding of the regional archaeology was both fascinating and amazing. I will always remember Kevin as the most zealous and dedicated of our local archaeological community. I will never forget my comrade in archaeology, as well as my friend at all times. And my conversation with Kevin about archaeology initiated two decades ago will continue without end (Figure 8 contributed by Keith Stephenson).

—Keith Stephenson, Coordinator of CRM Survey, SRARP

I first met Kevin nearly twenty years ago when I began volunteering on the Tinker Creek site on the SRS. Ken Sassaman paired Kevin and me together in a unit, and someone snapped a photo of the two of us working. Later, the photo was digitized as a line drawing and used on a poster for outreach purposes. When Kevin first saw the drawing, he did not recognize the characters. He thought it quite comical when I told him that it was the two of us.

The last time I saw Kevin was about a week prior to his passing. I was visiting a site where Kevin happened to be volunteering. He was as excited about history and archaeology as ever and talked to me non-stop regarding his research into old newspaper accounts about the history of the local area. We had actually discussed getting together soon to look over his records. I am happy to have had a chance to know Kevin and will cherish the image of us excavating together that is now sitting on my desk (Figure 9 contributed by Buddy Wingard).

—George Wingard, Administrative Manager, SRARP

## CONCLUDING THOUGHTS

Kevin touched many lives through his love of archaeology and history—only a handful of which are represented above. Although his resourcefulness and keen insight will be missed, he will long be remembered in spirit. I am almost positive that out there somewhere he and the late George Lewis, another treasured SRARP staff member that we lost too soon, are having lengthy discussions about lithic technology, ceramic chronology, the formation of Carolina bays, settlement patterning, and how to build and repair just about anything (if only we could hear their conversations). Kevin’s contributions to the field of archaeology will not be forgotten and neither will the man.

Kevin is survived by his parents, Bruce and Maxine Eberhard, his brother and sister-in-law, Brian and Elizabeth Eberhard, two nieces, Annalise and Christina Eberhard, and many friends and colleagues in the archaeological community.

Kevin, we all bid you an affectionate farewell.



Figure 1. Kevin Eberhard shovel-schutting at Frierson Bay.



Figure 2. (left) Chimney fall excavated by Kevin Eberhard. (right) Kevin weighing brick at the Bush Hill Plantation site.



Figure 3. Kevin Eberhard holding stadia rod in Smith Lake Creek during fieldwork at the Big Pine Tree site.



Figure 4. Kevin Eberhard (foreground) excavating a unit at the Galphin site.



Figure 5. Backfilling a test unit on Water Island, U.S. Virgin Islands. Kevin is pictured fourth from the left.



Figure 6. Kevin Eberhard excavating Feature 1 at Johns Bay in May 2010.



Figure 7. Kevin Eberhard surrounded by shell midden samples on Stallings Island during fieldwork in June 1999.



Figure 8. Kevin Eberhard hoisting out a bucket of fill during the excavation of the South Mound at the Lawton site.



Figure 9. (left to right) Kevin Eberhard, George Wingard, and Ken Sassaman conducting excavations at the Tinker Creek site in 1991, with line drawing digitized from that photo.

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## INTRODUCTION

Since 1990, CRM compliance on the SRS has been based on a programmatic memorandum of agreement (PMOA) among the DOE, the South Carolina State Historic Preservation Office (SCSHPO), and the Advisory Council on Historic Preservation (ACHP). Through this PMOA, the DOE commits to conduct an integrated CRM program at the SRS that features research, public outreach, and compliance components. In return, the SCSHPO waves most DOE project-by-project compliance requirements that fall under Section 106 of the National Historic Preservation Act (NHPA) in favor of one annual compliance report. The PMOA also serves to meet general DOE regulatory responsibilities under Section 110 of the NHPA, Archaeological Resources Protection Act (ARPA), Native American Graves Protection and Repatriation Act (NAGPRA), and various other CRM laws and regulations.

SRARP provides the DOE with the technical expertise that enables the DOE to meet its PMOA commitments. The specific elements of the SRARP compliance, research, and outreach efforts are identified within a cooperative agreement between the DOE and the SCIAA-USC. The cooperative agreement also allows for compliance work to be performed using an SRS-specific archaeological survey and testing model that reduces compliance costs. The result has been quicker, more cost efficient CRM reviews of individual SRS projects.

The following section (Part I) regarding CRM contains the results of FY10 surveys, in addition to updates on other compliance related activities. According to the PMOA (SRARP 1989:185), annual survey results are provided in summary and tabular form in this report. Detailed information regarding artifact assemblage and environmental data for new and previously recorded sites located during FY10 is available upon request from the SRARP.

Research activities of the SRARP are summarized in Part II and include prehistoric, historic, and geoarchaeologic studies conducted on the SRS and in the surrounding region. An extra-local perspective is necessary for understanding the effects of regional processes on local conditions and, hence, enables the more effective management of the cultural resources on the SRS.

Public education activities of the SRARP are summarized in Part III, which highlights the heritage education program, volunteer excavations, and involvement with avocational archaeological groups. An Appendix lists all professional and public service activities of the SRARP staff.

## **PART I. CULTURAL RESOURCES MANAGEMENT**

### **RESULTS OF FY10 SITE USE AND TIMBER COMPARTMENT SURVEYS**

Keith Stephenson, Robert Moon, and Tammy F. Herron

#### **Survey Coverage**

Archaeological survey of Site Use Permit Application and Timber Compartment Prescription projects by SRARP staff continued through FY10 according to procedures outlined in 1990 (SRARP 1990:7-17). During FY10, archaeological survey was conducted on 41 proposed projects<sup>1</sup> through the subsurface inspection of 1,627 acres with a total of 3,866 Shovel Test Pits (STPs) excavated. Altogether, 8 new sites were recorded and delineated, and 11 previously recorded sites were revisited during FY10. Based on the level of survey sampling conducted at all new and previously recorded sites, adequate information was not obtained for most sites to allow National Register of Historic Places (NRHP) eligibility determinations. As these sites are due to be impacted by future undertakings, the SRARP will conduct the appropriate level of archaeological investigation to resolve eligibility determinations. Finally, 15 isolated artifact occurrences were recorded during FY10 surveys. Summary information concerning specific aspects of all new and existing sites, as well as isolated artifact occurrences, is provided in Table 1 – Table 4. The location of all Site Use Application and Timber Compartment surveys are shown in Figure 10 and Figure 11, respectively.

Over the past 21 years, the SRARP has conducted compliance survey according to a predictive locational model for archaeological sites, as established in the Archaeological Resource Management Plan (SRARP 1989:39-54, 71-79). This Management Plan was developed in agreement with the DOE, the SCSHPO, and the ACHP. The predictive model, with refinements, has proven thus far to be a scientifically sound and efficient method with which to locate and manage archaeological resources on the SRS. Additionally, the predictive model is a cost-effective means of conducting survey—especially in times of federal government financial reductions.

For these reasons, the development of predictive models is encouraged by regulatory guidance to federal landholders who manage archaeological resources on a daily basis. In this way, the SRARP primarily functions according to the Section 110 Regulatory process. In using the predictive model, the SRARP surveys are meeting the inventory and management responsibilities outlined in Section 110. If the undertaking could potentially impact archaeological sites, the SRARP follows the 106 Regulatory process of intensive, systematic, shovel test survey to delineate and evaluate the significance of any sites present. Then, if an eligible site cannot be avoided, the SRARP mitigates the adverse effect by way of data recovery through the 106 process.

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<sup>1</sup> A field survey project is defined as subsurface inspection for a DOE Site Use Application or all subsurface investigations within a U.S. Forest Service-Savannah River Timber Compartment Prescription.

Table 1. Data on the Extent, Depth, and Content of New Sites Recorded, FY10.

STATE SITE NUMBER	SURVEY PROJECT	SURVEY METHOD	SITE SIZE (m)	SIZE	SURF. VIS. (%)	SITE DEPTH (cmbs)	# STPs	POS. STPs	COMPONENTS
38AK982	SU 1946	Intensive	40 x 40		1-25	30	6	0	20th cent.
38AK983	SU 1991	Intensive	60 x 30		0	30	22	4	20th cent.
38AK984	SU 1991	Intensive	30 x 30		76-100	50	16	2	Unk. Preh.
38AK985	SU 2017	Intensive	na x na		1-25	70	na	na	19th-20th cent.
38BR1184	TC 53	Predictive	135 x 105		26-50	80	106	35	EW, MW
38BR1198	SU 1946	Intensive	30 x 30		0	60	13	2	Unk. Preh., 20th cent.
38BR1260	TC 43	Predictive	130 x 50		26-50	60	21	4	Unk. Preh.
38BR1272	Purposive	na	na x na		1-26	100	8	3	19th cent.

Recon. – Reconnaissance  
 SU – Site Use  
 STPs – Shovel Test Pits  
 EA – Early Archaic

MA – Middle Archaic  
 LA – Late Archaic  
 EW – Early Woodland  
 MW – Middle Woodland

LW – Late Woodland  
 Miss. – Mississippian  
 Unk. Preh. – Unknown Prehistoric  
 na – not applicable

Table 2. Data on the Extent, Depth, and Content of Site Revisits, FY10.

STATE SITE NUMBER	SURVEY PROJECT	SURVEY METHOD	SITE SIZE (m)	SIZE	SURF. VIS. (%)	SITE DEPTH (cmbs)	# STPs	POS. STPs	COMPONENTS
38AK73	SU 1991	Intensive	110 x 100		76-100	30	57	17	19th-20th cent.
38AK698	SU 1946	Intensive	70 x 20		0	20	8	0	20th cent.
38AK700	SU 1946	Intensive	170 x 170		76-100	30	29	10	19th-20th cent.
38AK911	SU 1991	Intensive	300 x 170		26-50	90	69	14	LA, MW, 20th cent.
38BR361	TC 69	Predictive	45 x 25		51-75	50	15	1	LA-LW
38BR447	SU 1991	Intensive	30 x 30		0	40	14	3	LA, EW
38BR543	TC 43	Predictive	30 x 30		0	60	6	0	Unk. Prehist.
38BR782	TC 29	Intensive	60 x 55		51-75	60	23	3	20th cent.
38BR841	SU 1946	Intensive	65 x 25		26-50	40	6	0	EW
38BR846	SU 1946	Intensive	150 x 100		0	60	59	14	EW, 19th-20th cent.
38BR1037	SU 1946	Intensive	70 x 45		51-75	40	11	1	MW

Recon. – Reconnaissance  
 SU – Site Use  
 STPs – Shovel Test Pits  
 EA – Early Archaic

MA – Middle Archaic  
 LA – Late Archaic  
 EW – Early Woodland  
 MW – Middle Woodland

LW – Late Woodland  
 Miss. – Mississippian  
 Unk. Preh. – Unknown Prehistoric  
 Unk. – Unkown

Table 3. Evaluation of New and Previously Recorded Sites, FY10.

STATE SITE NUMBER	SURVEY PROJECT	SURVEY METHOD	SITE COMPONENTS	SITE INTEGRITY	NRHP ELIGIBILITY	FURTHER WORK
38AK73	SU 1991	Intensive	19th-20th cent.	Moderate	Indeterminate	Testing
38AK698	SU 1946	Intensive	20th cent.	Poor	Not Eligible	None
38AK700	SU 1946	Intensive	19th-20th cent.	Moderate	Indeterminate	Testing
38AK911	SU 1991	Intensive	LA, MW, 20th cent.	Moderate	Indeterminate	Testing
38AK982	SU 1946	Intensive	20th cent.	Poor	Not Eligible	None
38AK983	SU 1991	Intensive	20th cent.	Poor	Not Eligible	None
38AK984	SU 1991	Intensive	Unk. Preh.	Moderate	Not Eligible	None
38AK985	SU 2017	Intensive	19th-20th cent.	Moderate	Eligible	Excavation
38BR361	TC 69	Predictive	LA-LW	Good	Eligible	Testing

Table 3 (continued). Evaluation of New and Previously Recorded Sites, FY09.

STATE	SITE NUMBER	SURVEY PROJECT	SURVEY METHOD	SITE COMPONENTS	SITE INTEGRITY	NRHP ELIGIBILITY	FURTHER WORK
	38BR447	SU 1991	Intensive	LA, EW	Moderate	Indeterminate	Testing
	38BR543	TC 43	Predictive	Unk. Preh.	Moderate	Not Eligible	None
	38BR782	TC 29	Intensive	20th cent.	Poor	Not Eligible	None
	38BR841	SU 1946	Intensive	EW	Moderate	Indeterminate	None
	38BR846	SU 1946	Predictive	EW, 19th-20th cent.	Moderate	Indeterminate	Testing
	38BR1037	SU 1946	Intensive	MW	Moderate	Indeterminate	Testing
	38BR1184	TC 53	Predictive	EW, MW	Moderate	Indeterminate	None
	38BR1198	SU 1946	Intensive	Unk. Preh., 20th cent.	Moderate	Indeterminate	Testing
	38BR1260	TC 43	Predictive	MW	Moderate	Indeterminate	None
	38BR1272	Opp.	Purposive	19th cent.	Moderate	Indeterminate	Testing
TC - Timber Compartment				MA - Middle Archaic	LW - Late Woodland		
SU - Site Use				LA - Late Archaic	Miss. - Mississippian		
Opp - Opportunistic				EW - Early Woodland	Unk. Preh. - Unknown Prehistoric		
EA - Early Archaic				MW - Middle Woodland	Unk. Hist. - Unknown Historic		

Table 4. Isolated Artifact Occurrences, FY10.

ISOLATED FIND NO.	STPs	COMPONENT	SURVEY PROJECT
AKOCC-144	5	Historic	SU 1946
AKOCC-145	5	Historic	SU 1946
AKOCC-146	6	Prehistoric	SU 1946
AKOCC-147	6	Historic	SU 1991
AKOCC-148	4	Prehistoric	SU 1991
AKOCC-149	4	Historic	SU 1991
AKOCC-150	4	Historic	SU 1991
AKOCC-152	6	Prehistoric	SU 1991
AKOCC-154	6	Prehistoric	SU 1991
BROCC-277	6	Prehistoric	TC 61, Stand 53
BROCC-278	6	Prehistoric	TC 61, Stand 53
BROCC-279	4	Prehistoric	SU 1946
BROCC-280	4	Historic	SU 1946
BROCC-281	6	Prehistoric	TC 53, Stand 59
BROCC-282	6	Historic	TC 29, Stand 25
OCC - Artifact Occurrence		SU - Site Use	
TC - Timber Compartment		STD - Timber Stand	

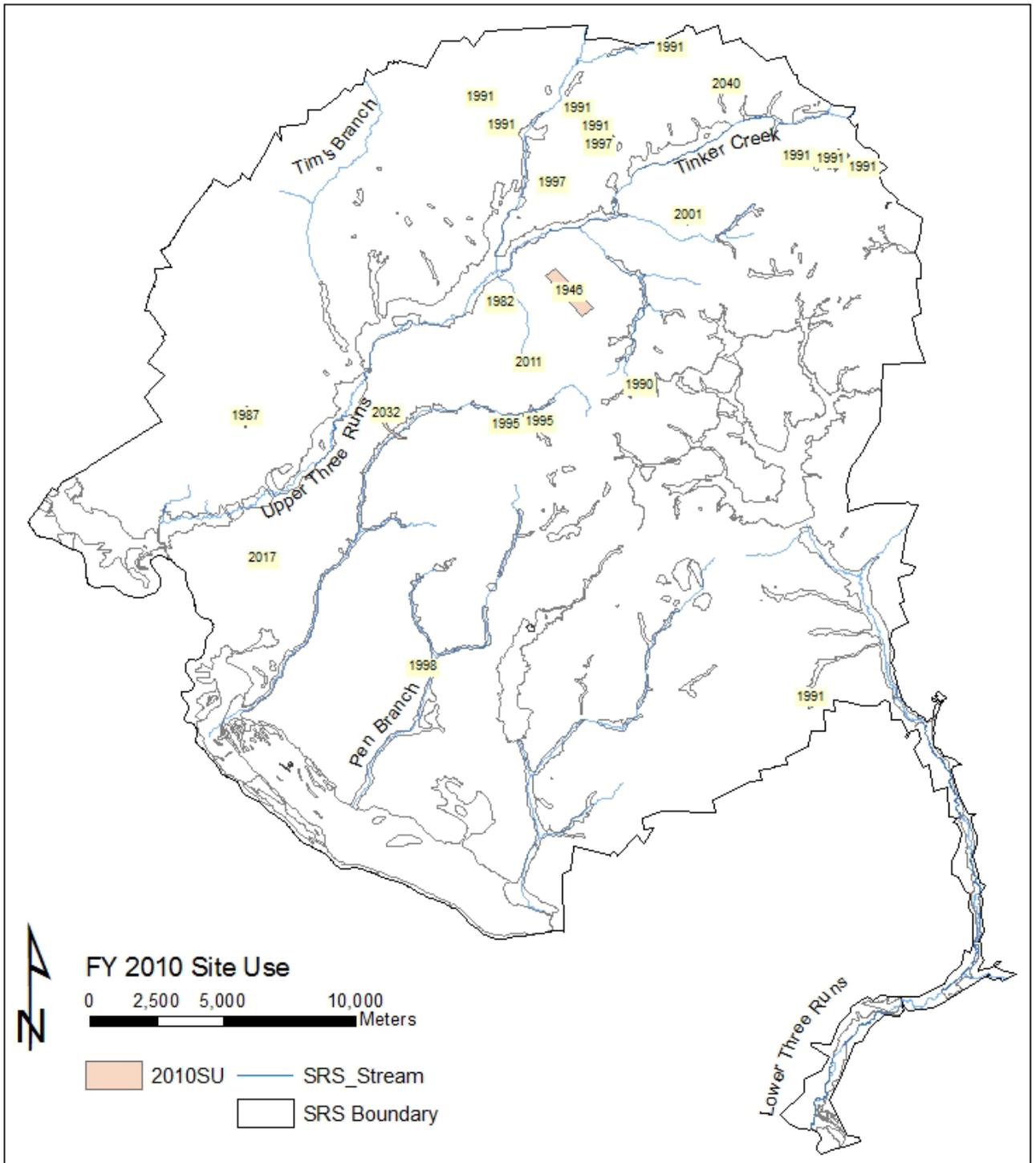


Figure 10. Location of FY10 Site Use project areas on the SRS.

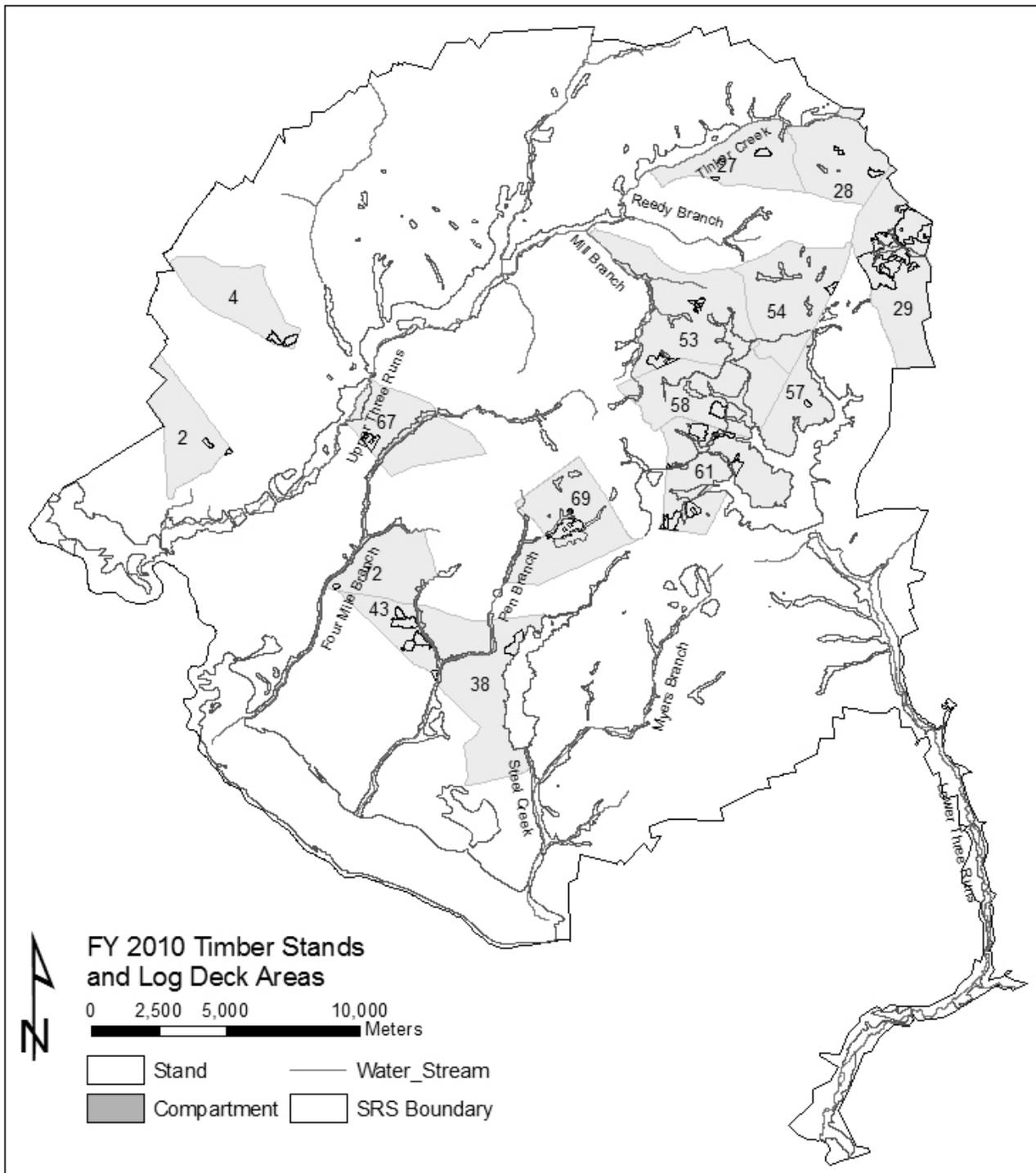


Figure 11. Location of FY10 Timber Compartment project areas on the SRS.

### SR-88 Site Use Permit Application Surveys

A total of 57 Site Use Permit Applications was received by the SRARP during FY10. Each permit application underwent review by SRARP management for proposed land modification. Of these, 26 Site Use projects required field reconnaissance or archaeological survey in addition to one ongoing field survey from the previous fiscal year (Table 5). These Site Use projects comprised 756 acres (46%) of the total survey coverage in FY10.

Table 5. SR-88 Site Use Application Projects, FY10.

PROJECT	TOTAL PROJECT STPs	PROJECT AREA SURVEYED (ac)	NEW SITES	SITE REVISITS
SU Log No. 1946	650	250	38AK982 38BR1198	38AK698 38AK700 38BR841 38BR846 38BR1037
SU Log No. 1982	37	6		
SU Log No. 1983	na	na		
SU Log No. 1984	na	na		
SU Log No. 1986	na	na		
SU Log No. 1987	26	2		
SU Log No. 1988	na	na		
SU Log No. 1990	7	1		
SU Log No. 1991	1,574	422	38AK983 38AK984	38AK73 38BR447 38AK911
SU Log No. 1992	na	na		
SU Log No. 1993	na	na		
SU Log No. 1995	24	2		
SU Log No. 1997	44	6		
SU Log No. 1998	32	8		
SU Log No. 2001	40	15		
SU Log No. 2007	na	na		
SU Log No. 2010	na	na		
SU Log No. 2011	13	2		
SU Log No. 2016	na	na		
SU Log No. 2017	40	3	38AK985	
SU Log No. 2018	na	na		
SU Log No. 2028	na	na		
SU Log No. 2031	na	na		
SU Log No. 2032	47	24		
SU Log No. 2038	na	na		
SU Log No. 2040	60	15		
<b>TOTAL</b>	<b>2,594</b>	<b>756</b>	<b>5</b>	<b>8</b>

na – not applicable

The following summaries describe Site Use projects and survey results during FY10. Certain aspects of archaeological work are standard for all projects. Upon completion of each survey project, point data for all STPs, as well as all new and previously recorded sites and isolated artifact occurrences, are recorded using GPS equipment. Prior to fieldwork, a review of 1951 aerial photographs is conducted to identify standing historic structures at the time of federal acquisition. The SRARP site files are consulted to identify previously recorded cultural resources. All STPs measure

35 x 35 cm and are excavated to a depth of at least 80 cmbs, unless a gravel or clay substratum is encountered. Exceptions to this fieldwork procedure include historic site locations identified from 1951 aerial photographs that are situated in low-probability areas for prehistoric sites (see discussion of Archaeological Sensitivity Zones in SRARP 1989). At these locations, STPs are excavated to just below the plowzone (usually between 20 - 40 cmbs). The reduced depth of STPs on historic sites is justified because late-period historic sites generally lack thick, stratified deposits (Cabak and Inkrot 1997:29-31). The soil from the STPs is sifted through 0.25-in. wire mesh, and artifacts are collected and bagged by provenience.

*SU Log No. 1946 – Geotechnical Investigation for Subsurface Soft Zone Determination*

The description of fieldwork results for SU Log No. 1946 in this report is a continuation of the project from FY09 (see SRARP 2009:18-19). This Site Use Permit, initiated on November 11, 2008 by the Savannah River Nuclear Solutions (SRNS) Geotechnical Engineering Department, requested an approximately 250-acre tract for proposed seismic-testing activities that would occur over a period of six years. The proposed action involves at least twenty soil borings and 10 Cone Penetrometer tests to a depth of 180 ft. with additional fieldwork consisting of down-hole seismic tests, surface seismic tests, and possibly a deep boring to bedrock. Given the large size of the project area and the long-term duration of the proposed action, the SRARP consulted with SRNS engineers to develop an archaeological survey schedule that would eventually result in an intensive survey on a 30-m grid of the entire project area so that SRNS seismic testing could occur at random without the potential of impact to cultural or archaeological resources.

Previous archaeological inspection in the current project area occurred in 1996 (SRARP 1997:12-13) for SU 96-63-O and the proposed Accelerator for the Production of Tritium project (APT). A total of 233 STPs were excavated during survey for the APT resulting in the relocation or discovery of 13 archaeological sites within or around the current Site Use project area.

A review of the SRARP database showed five previously recorded sites (38AK698, 38AK700, 38BR841, 38BR846, 38BR1037) in the current project area. Archaeological work during FY10 consisted of an intensive survey of the project area to relocate all previously recorded sites, as well as to locate additional sites that may have been missed during the 1996 survey. Fieldwork consisted of 650 STPs (16 positive) excavated on a 30-m grid across the entire project area (Figure 12). These survey efforts resulted in the relocation and delineation of 38AK698, 38AK700, 38BR841, 38BR846, 38BR1037, and the discovery and delineation of two new sites 38AK982 and 38BR1198. Additional artifact recovery consisted of five isolated finds (AK-OCC-144, AK-OCC-145, AK-OCC-146, BR-OCC-279, BR-OCC-280).

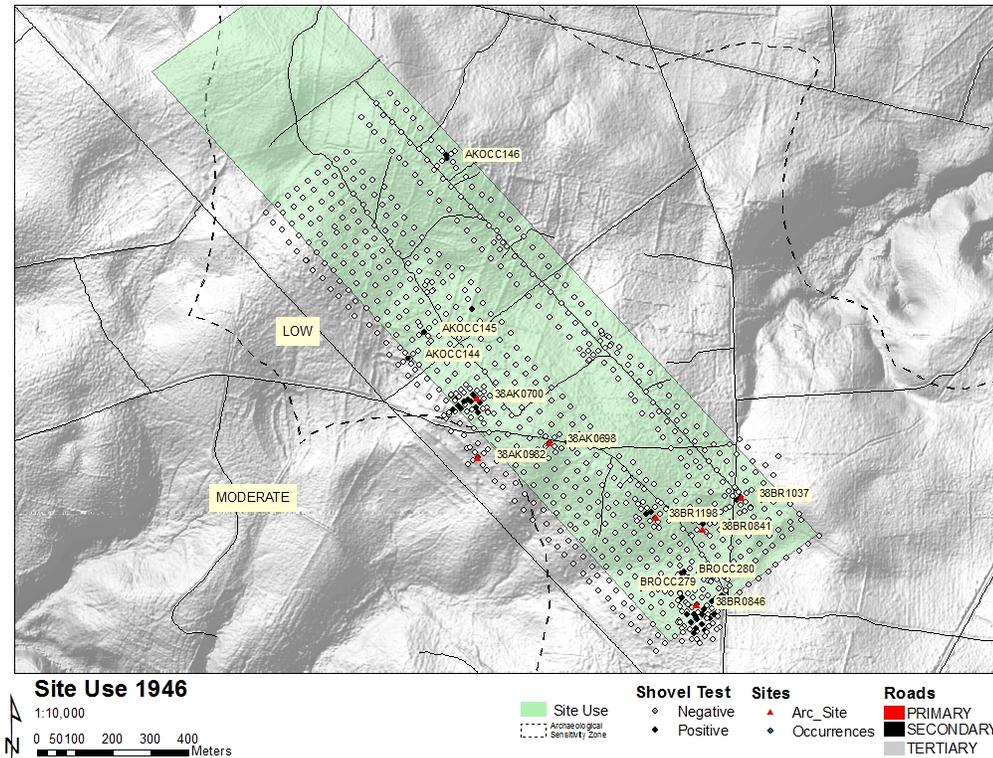


Figure 12. SU Log No. 1946 survey area.

Sites 38AK698 and 38AK982 are mid-twentieth-century homesites that were razed during initial SRS land use activities in the early 1950s. As such, these sites hold little research potential to advance our understanding of the history of the region. For these reasons, sites 38AK698 and 38AK982 are considered not eligible for nomination to the NRHP. Additionally, the five artifact occurrences hold no research potential to advance our understanding of the history of the region. Sites 38AK700, 38BR841, 38BR846, 38BR1037, and 38BR1198 are determined to be potentially eligible for nomination to the NRHP, but further survey and testing must be conducted at each site for a full eligibility determination. Recent SRARP consultation with SRNS resulted in the agreement that these sites will be completely avoided during any proposed seismic testing on the part of SRNS. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

#### *SU Log No. 1982 – Proposed Stockpile Area for Disposal Cells 3 and 5 in Z Area*

This Site Use Permit, issued July 22, 2009 by Ed Howard, Elester Patten, and Bernie Enevoldsen, proposed the use of approximately six acres outside of and adjacent to Z Area for a temporary laydown and stockpile yard during the construction of Disposal Cells 3 and 5. Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 37 STPs (0 positive) excavated along 8 transects on a

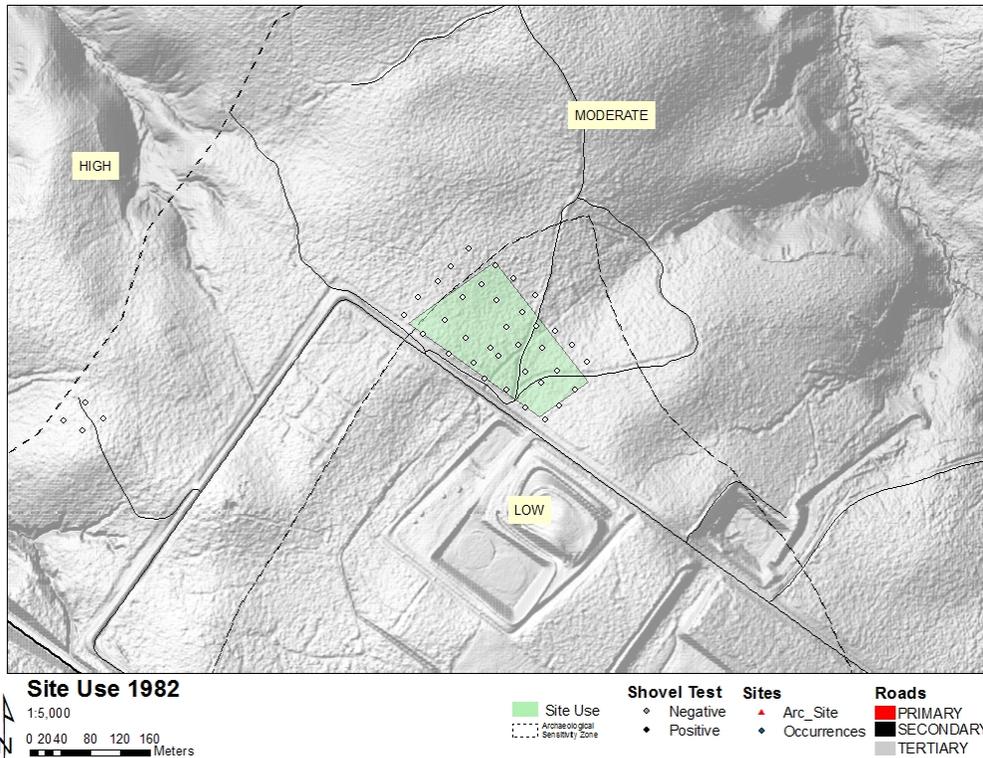


Figure 13. SU Log No. 1982 survey area.

30-m grid (Figure 13). As all STPs were negative, no further archaeological testing was required for this project. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

#### *SU Log No. 1983 – Additional Land for P Reactor Groundwater Characterization*

This Site Use Permit, initiated on August 4, 2009 by Larry Anderson and Ron Socha, proposed expanding the existing Site Use area (SU-02-19-O) to collect additional groundwater monitoring samples around P Reactor with CPT trucks and drill rigs in P Area. Review of the SRARP database showed no previously recorded sites in the project area. Field reconnaissance determined that the project area had been impacted through SRS land use activities and likely contaminated given its proximity to P Reactor. The potential for on-site contamination, as well as previous land disturbance, precluded further archaeological survey. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

#### *SU Log No. 1984 – Road C Deceleration Lane near B Area*

This Site Use Permit, initiated on August 4, 2009 by Site Infrastructure (SI), proposed paving an acceleration lane to Road C from Road 2 between the cloverleaf intersection and Bank Road. Review of the SRARP database showed no previously recorded sites in the project area. Field reconnaissance determined that the proposed

acceleration lane is in the disturbed right-of-way of Road C. This previous land disturbance of the project area precluded further archaeological survey. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

*SU Log No. 1986 – Modification to P-06 Storm Water Outfall*

This Site Use Permit, initiated on August 11, 2009 by SI-Maintenance Engineering, proposed the construction of a storm water detention basin at the P-06 Outfall. Review of the SRARP database showed no previously recorded sites in the project area. Field reconnaissance determined that the proposed project area is adjacent to P Reactor in an area impacted from past SRS activities and also likely contaminated given its proximity to P Reactor. The potential for on-site contamination, as well as previous land disturbance, precluded further archaeological survey. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

*SU Log No. 1987 – Modifications to Intersection at Road 2 and Hwy. 125*

This Site Use Permit, initiated on August 11, 2009 by SI, proposed the reconfiguration of the intersection at Road 2 and Hwy. 125. The project area encompasses about 2 acres. Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 26 STPs (0 positive) excavated along 2 transects on a 30-m grid (Figure 14). As all STPs were negative, no further archaeological testing was required for this project. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

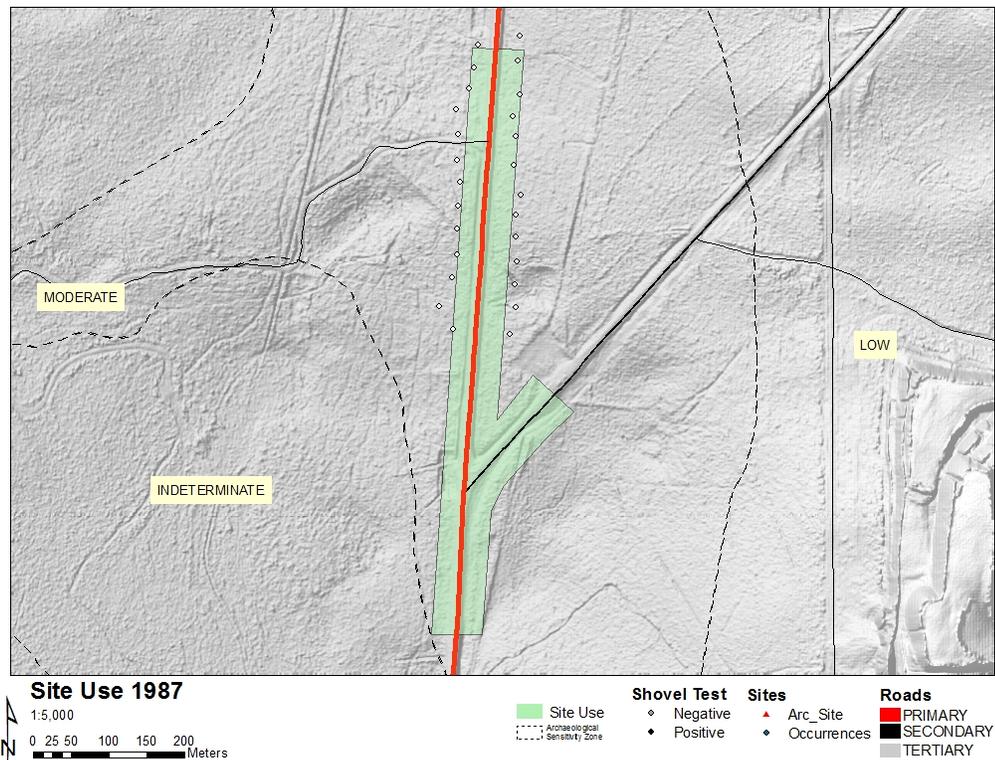


Figure 14. SU Log No. 1987 survey area.

*SU Log No. 1988 – Vehicle Inspection Canopy Installation at Barricade 6*

This Site Use Permit, initiated August 12, 2009 by SI, proposed the installation of a separate inspection canopy at Barricade 6. Review of the SRARP database showed no previously recorded sites in the project area. Field reconnaissance determined that the proposed canopy location is in the disturbed right-of-way of Road 6. This previous land disturbance of the project area precluded further archaeological survey. There will be no adverse effect to any historic properties by the proposed Site Use action.

*SU Log No. 1990 – Construct Secondary Road in R Area*

This Site Use Permit, initiated August 25, 2008 by Larry Anderson, Ron Socha, and Terry Killeen, proposed the construction of a secondary road comprising about 1 acre for access to locations in R Area where CPT groundwater monitoring wells will be installed. Fieldwork consisted of 7 STPs (0 positive) excavated at 30-m intervals along the proposed road corridor (Figure 15). As all STPs were negative, no further archaeological testing was required for this project. There will be no adverse effect to any historic properties by the proposed Site Use action.

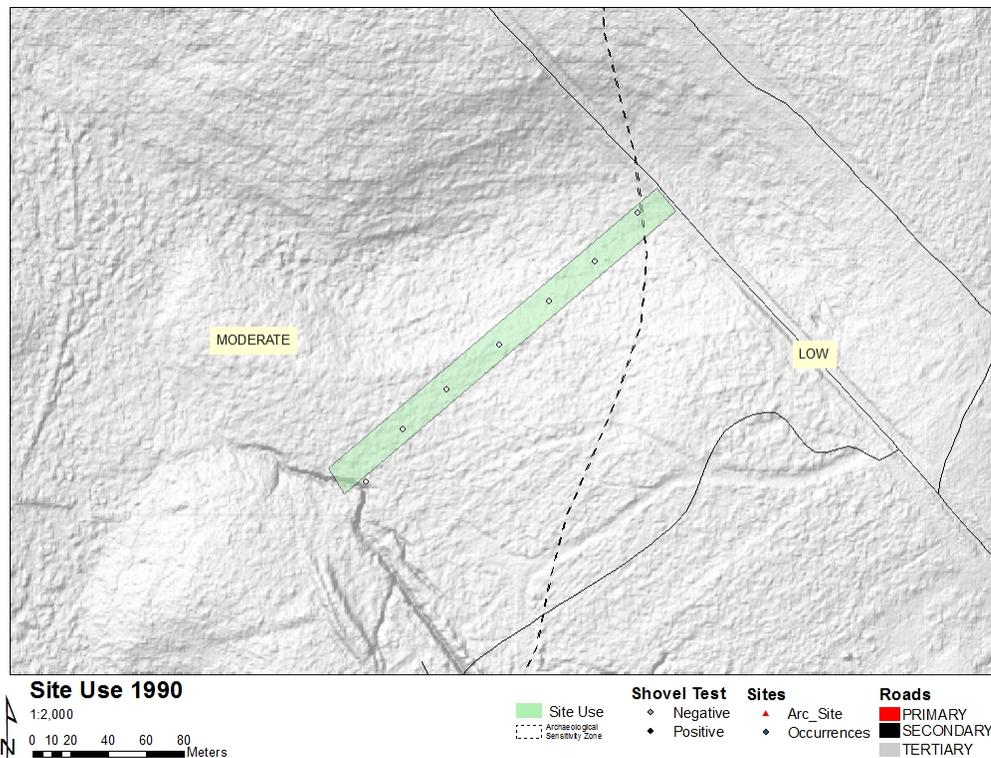


Figure 15. SU Log No. 1990 survey area.

*SU Log No. 1991 – Red Cockaded Woodpecker Stand Maintenance*

This Site Use Permit, initiated September 14, 2009 by the United States Forest Service-Savannah River (USFS-SR), proposed management treatment to designated Red-Cockaded woodpecker habitat (422 acres) by reducing the possibility of uncontrolled

woodland fire through the use of self-propelled mulching and shredding equipment to clear understory vegetation. A review of the SRARP database showed three previously recorded sites (38AK73, 38AK911, 38BR447) in the current project area. Fieldwork consisted of 1,574 STPs (7 positive) excavated on single transects or a 30-m grid within designated timber stands of the project area (Figure 16 – Figure 23). These survey efforts resulted in the relocation and delineation of 38AK73, 38AK911, and 38BR447 as well as the discovery and delineation of two new sites, 38AK983 and 38AK984. Additional artifact recovery consisted of six isolated finds (AK-OCC-147, AK-OCC-148, AK-OCC-149, AK-OCC-150, AK-OCC-152, AK-OCC-154).

Site 38AK983 consists of a mid-twentieth-century homesite that was razed during initial SRS land use activities in the early 1950s. Site 38AK984 is a small, ephemeral, undiagnostic lithic scatter with poor subsurface integrity. As such, these sites have little research potential to advance our understanding of the history of the region. For these reasons, sites 38AK983 and 38AK984 are considered not eligible for nomination to the NRHP. Additionally, the six artifact occurrences have no research potential to advance our understanding of the history of the region. Sites 38AK73, 38AK911, and 38BR447 are considered to have the research potential to advance our understanding of the history of the region. As such, these sites are recommended as potentially eligible for nomination to the NRHP, but further survey and testing must be conducted at each site for a full eligibility determination. Recent SRARP consultation with USFS-SR resulted in the agreement that these sites can and will be completely avoided during any proposed undertaking on the part of USFS-SR. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

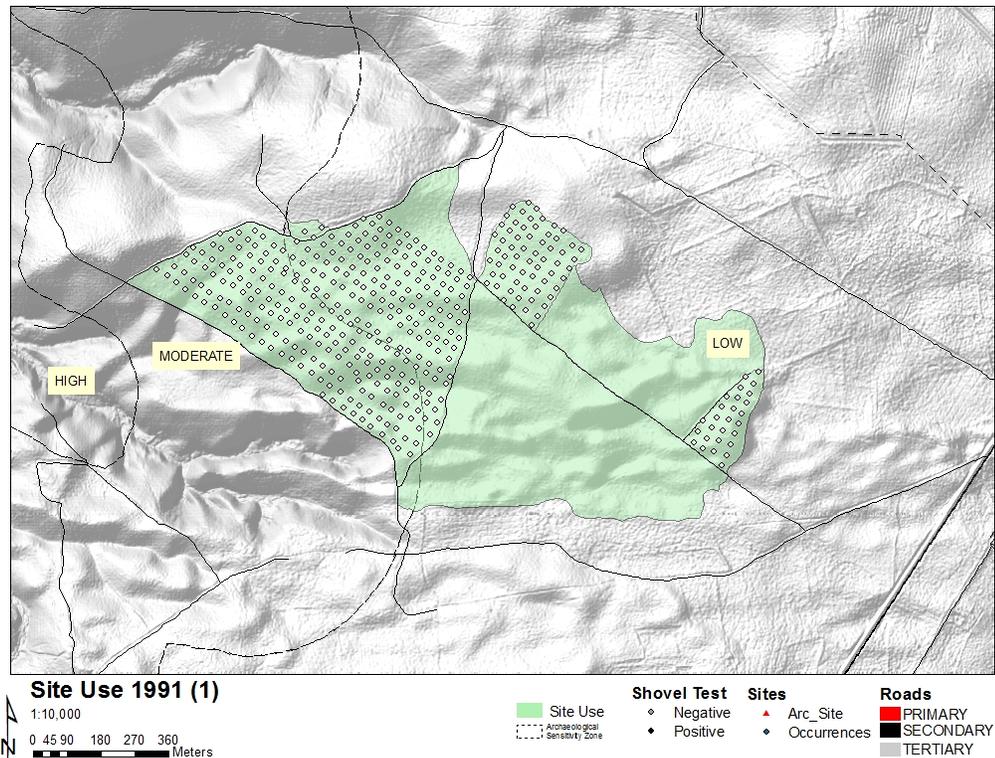


Figure 16. SU Log No. 1991(1) survey area.

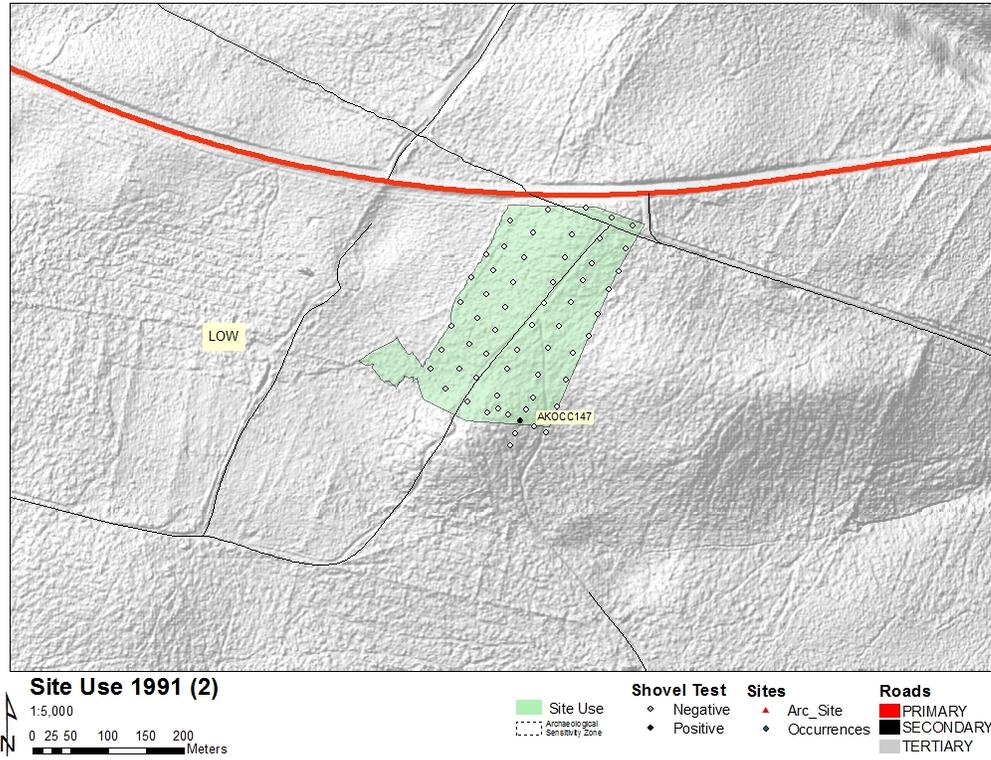


Figure 17. SU Log No. 1991(2) survey area.

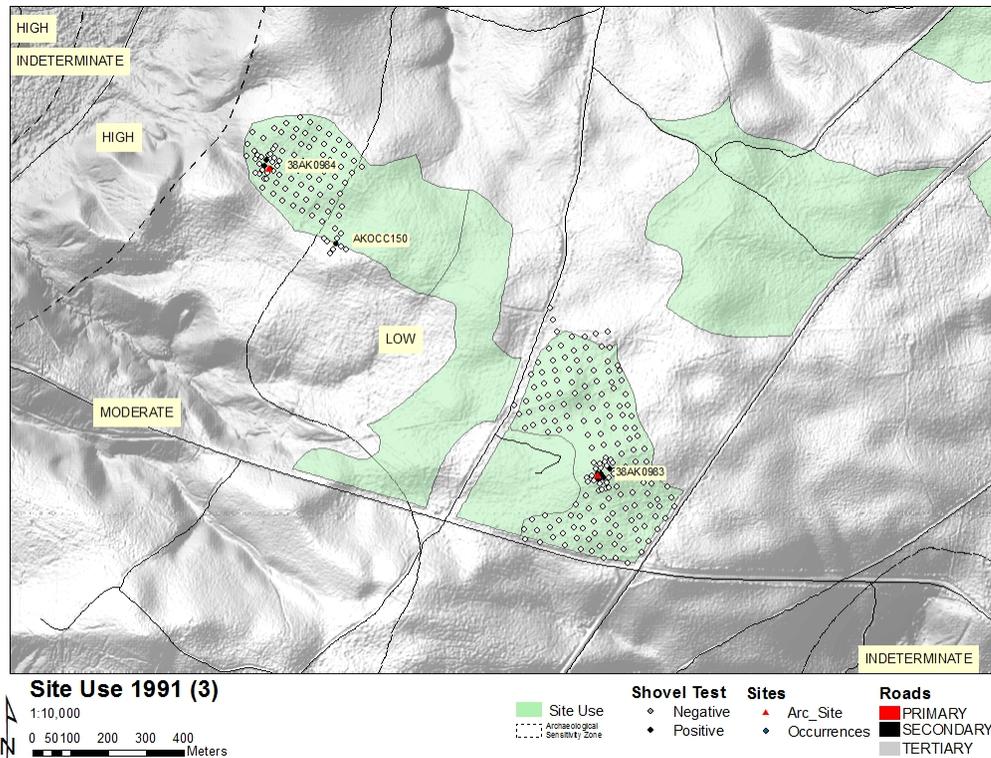


Figure 18. SU Log No. 1991(3) survey area.

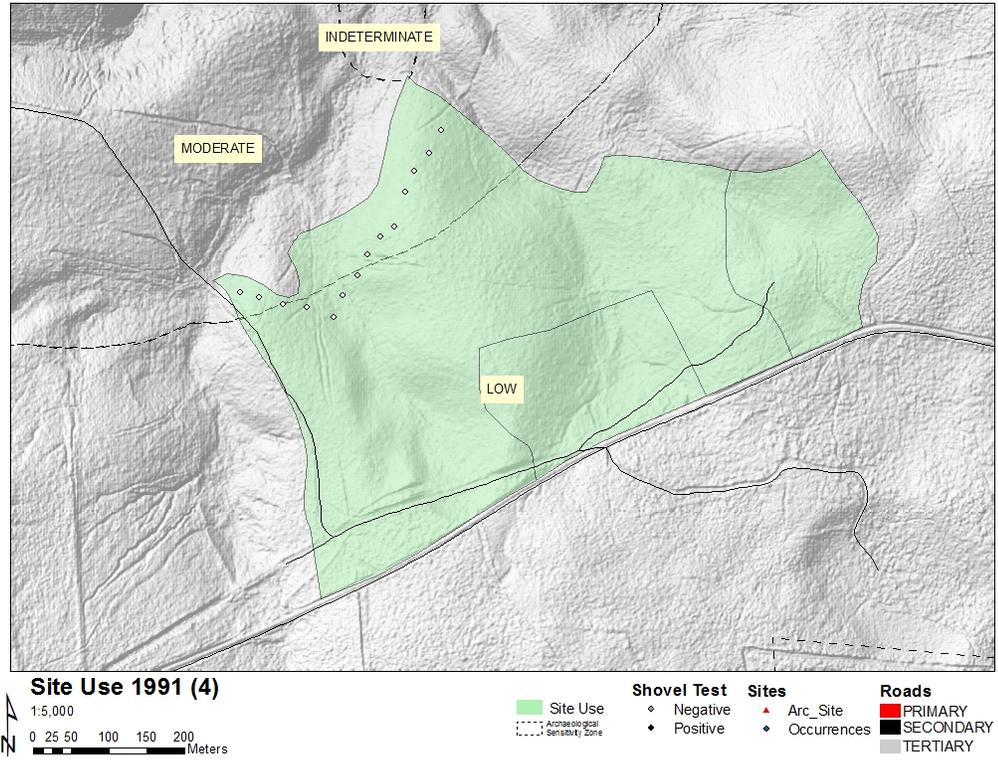


Figure 19. SU Log No. 1991(4) survey area.

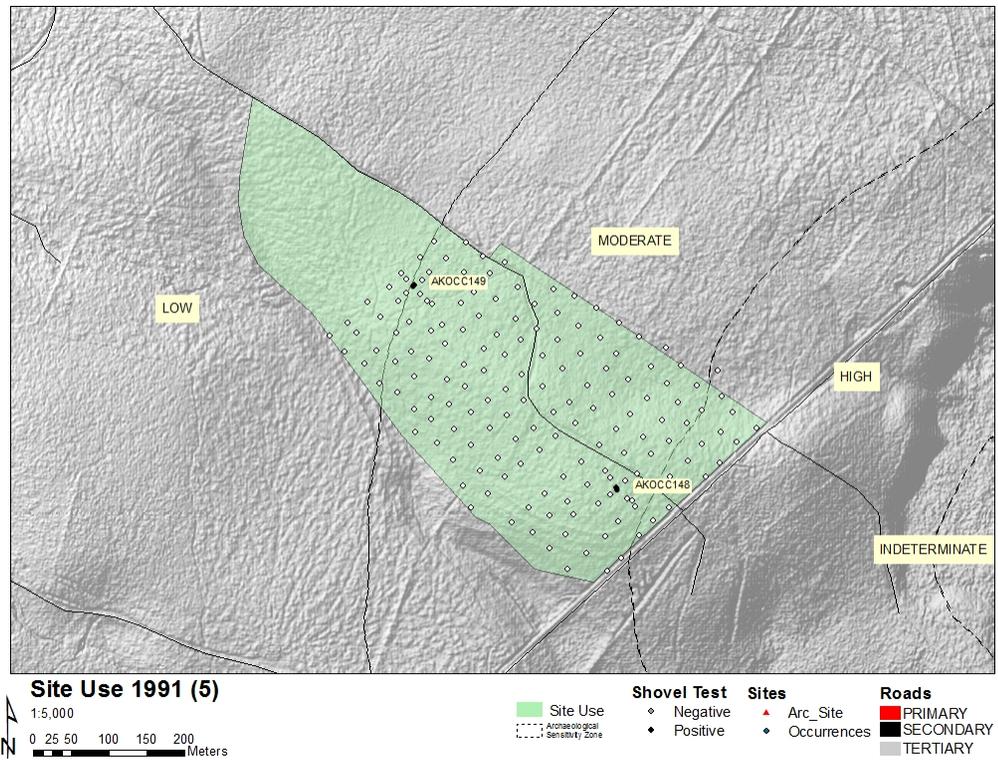


Figure 20. SU Log No. 1991(5) survey area.

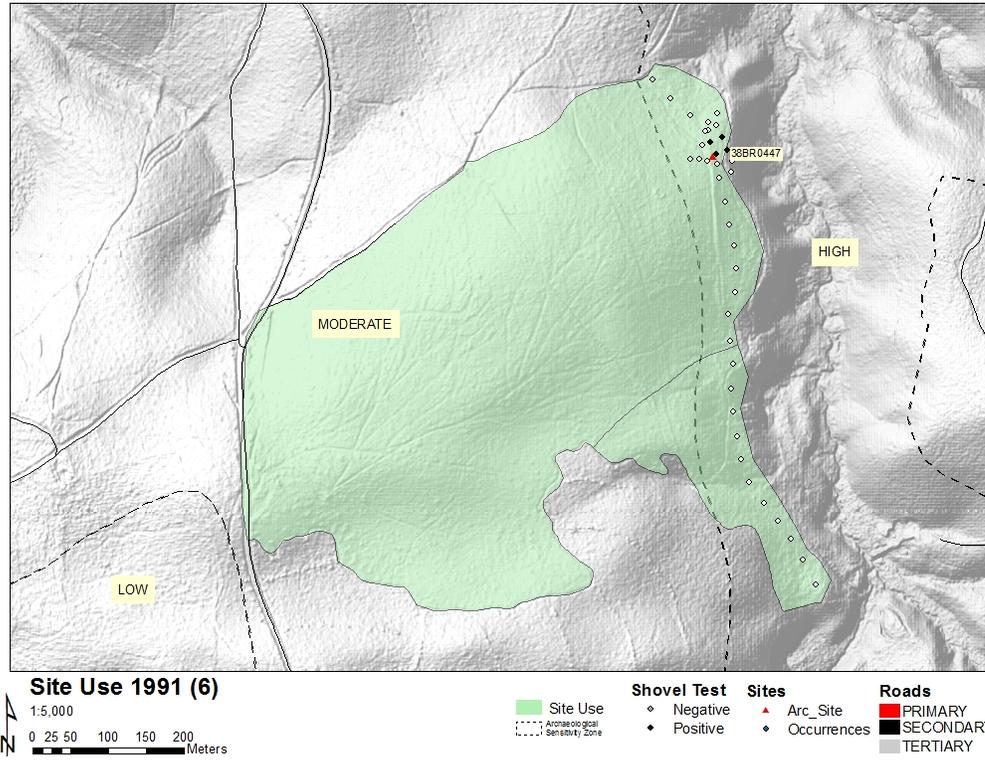


Figure 21. SU Log No. 1991(6) survey area.

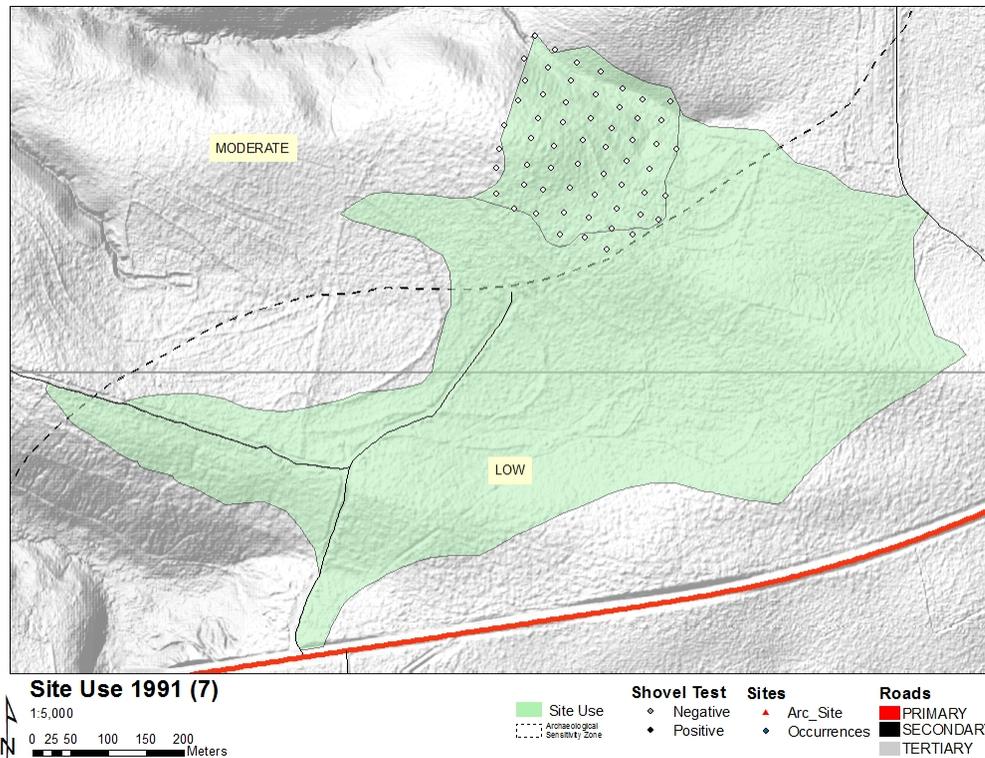


Figure 22. SU Log No. 1991(7) survey area.

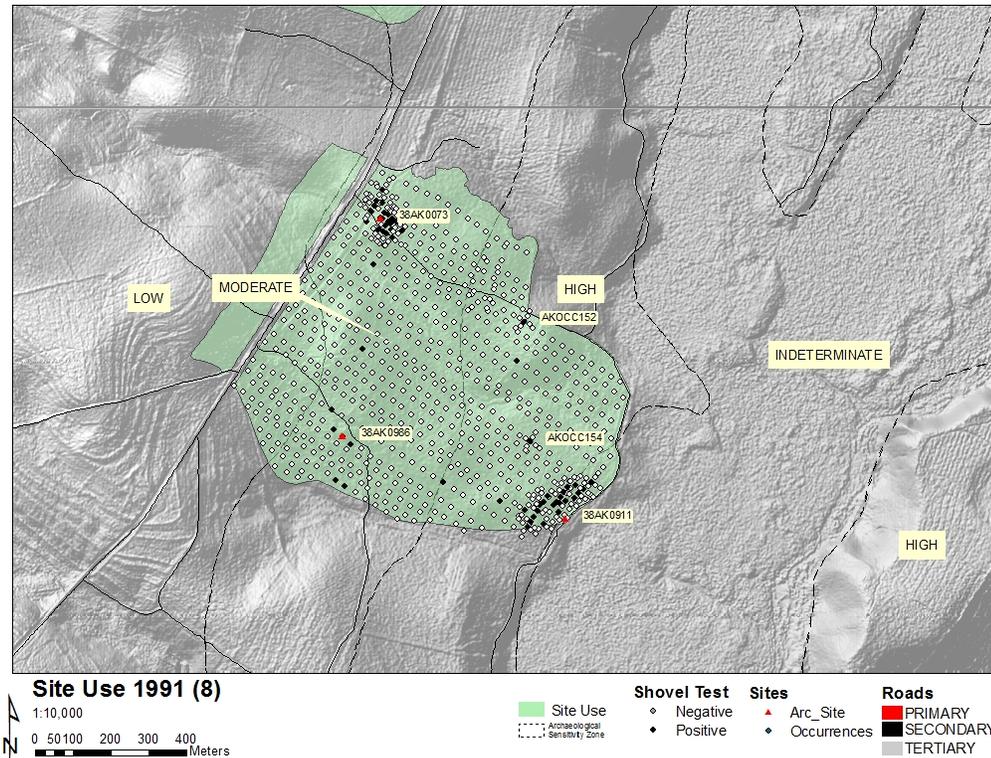


Figure 23. SU Log No. 1991(8) survey area.

#### *SU Log No. 1992 – J Area Laydown Yard*

This Site Use Permit, initiated September 20, 2009 by the Salt Waste Processing Facility (SWPF), requested a land tract adjacent to J Area to be used as a temporary laydown yard for storage of supplies and equipment during the construction and testing of the SWPF. Review of the SRARP database showed no previously recorded sites in the project area. Field reconnaissance determined that the proposed location has been disturbed by past and current SRS land use activities. This previous land disturbance of the project area precluded further archaeological survey. There will be no adverse effect to any historic properties by the proposed Site Use action.

#### *SU Log No. 1993 – Deer Hunt Gate Parking Lot*

This Site Use Permit, initiated September 21, 2009 by SI, proposed the construction of a gravel parking lot adjacent to the Deer Hunt gate for use by patrons of the annual SRS deer hunts. Review of the SRARP database showed no previously recorded sites in the project area. Field reconnaissance determined that the project area had been recently clear cut thereby enhancing ground surface visibility. Pedestrian coverage of the area produced no cultural material of archaeological significance. On this basis, no further archaeological survey or testing is required. There will be no adverse effect to any historic properties by the proposed Site Use action.

*SU Log No. 1995 – Short Rotation Woody Crops Research*

This Site Use Permit, initiated October 19, 2009 by the USFS-SR, proposed the research hill slope flow routing, contaminant, transport, and water uptake in zero-order watersheds. Three 10 x 10-m project area locations were specified for timber harvesting and research monitoring. Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of a total of 24 STPs (0 positive) excavated on 10-m grid within each project area (Figure 24). As all STPs were negative, no further archaeological testing was required for this project. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

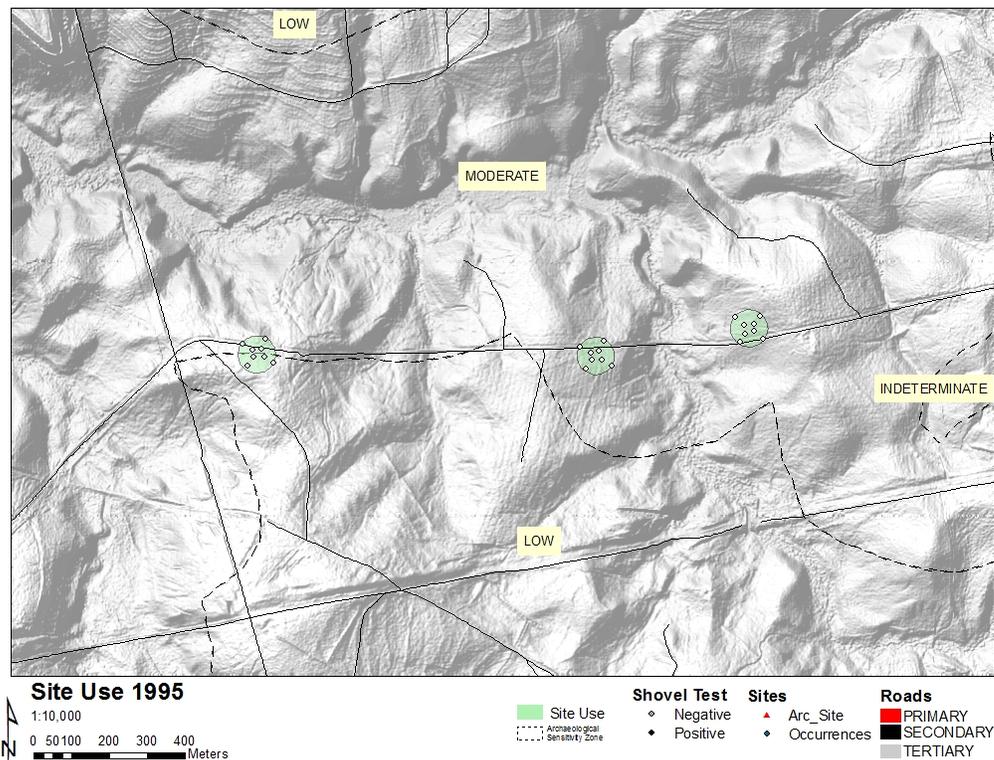


Figure 24. SU Log No. 1995 survey area.

*SU Log No. 1997 – Construction Boundary for ATTA Access Road*

This Site Use Permit, initiated October 28, 2009 by SI, proposed the reconstruction and paving of a portion of Tyler Bridge Road from the USFS-SR facility to the Advanced Tactical Training Academy (ATTA) complex involving a 200-foot construction boundary from the center of the existing roadway. SRARP personnel consulted with SI engineers regarding the possibility of reducing this 200-foot construction boundary to avoid previously recorded sites in this zone and also to reduce the level of archaeological survey involved. SI engineers agreed to reduce the proposed construction boundary to the existing road and right-of-way, except in two locations comprising about 6 acres altogether. Review of the SRARP database showed no

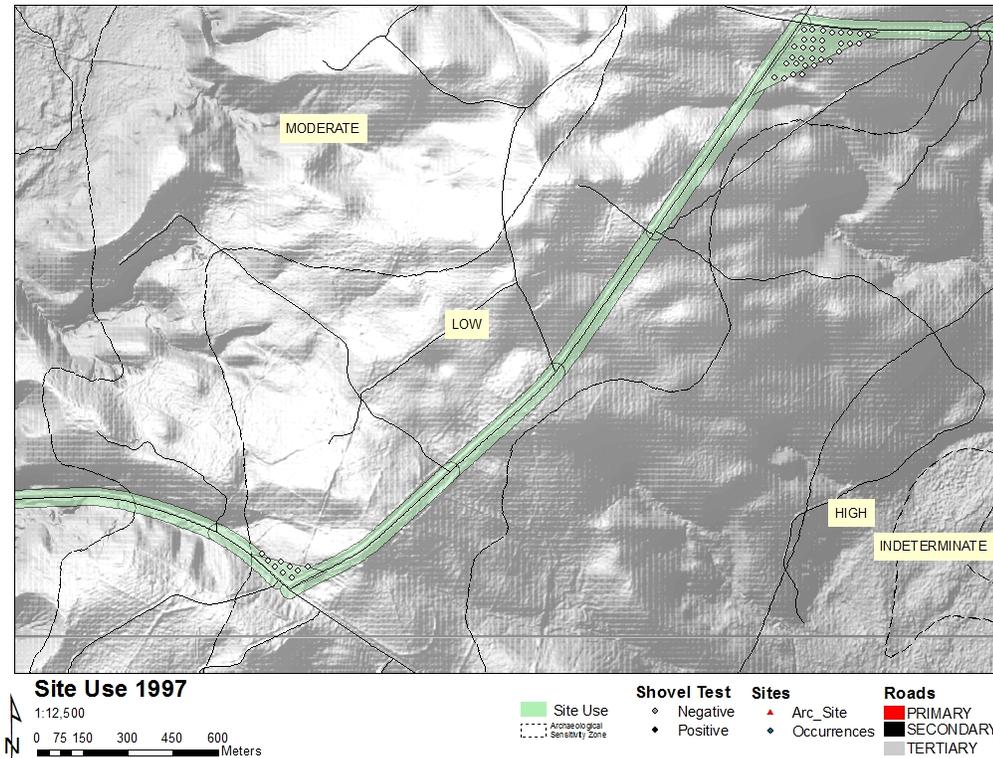


Figure 25. SU Log No. 1997 survey area.

previously recorded sites in the revised project areas. Fieldwork consisted of a total of 44 STPs (0 positive) excavated along 10 transects on a 30-m grid (Figure 25). As all STPs were negative, no further archaeological testing was required for this project. There will be no adverse effect to any historic properties by the proposed Site Use action.

#### *SU Log No. 1998 – Hardwood Restoration Demonstration Area*

This Site Use Permit, initiated November 11, 2009 by the USFS-SR, requested the replacement of a previous Site Use (SU-96-54-F) to better reflect the current land use activity, which involves the planting of upland hardwoods. Review of the SRARP database showed no previously recorded sites in the project area, which comprises about eight acres. Fieldwork consisted of 32 STPs (0 positive) excavated along 4 transects on a 30-m grid (Figure 26). As all STPs were negative, no further archaeological testing was required for this project. There will be no adverse effect to any historic properties by the proposed Site Use action.

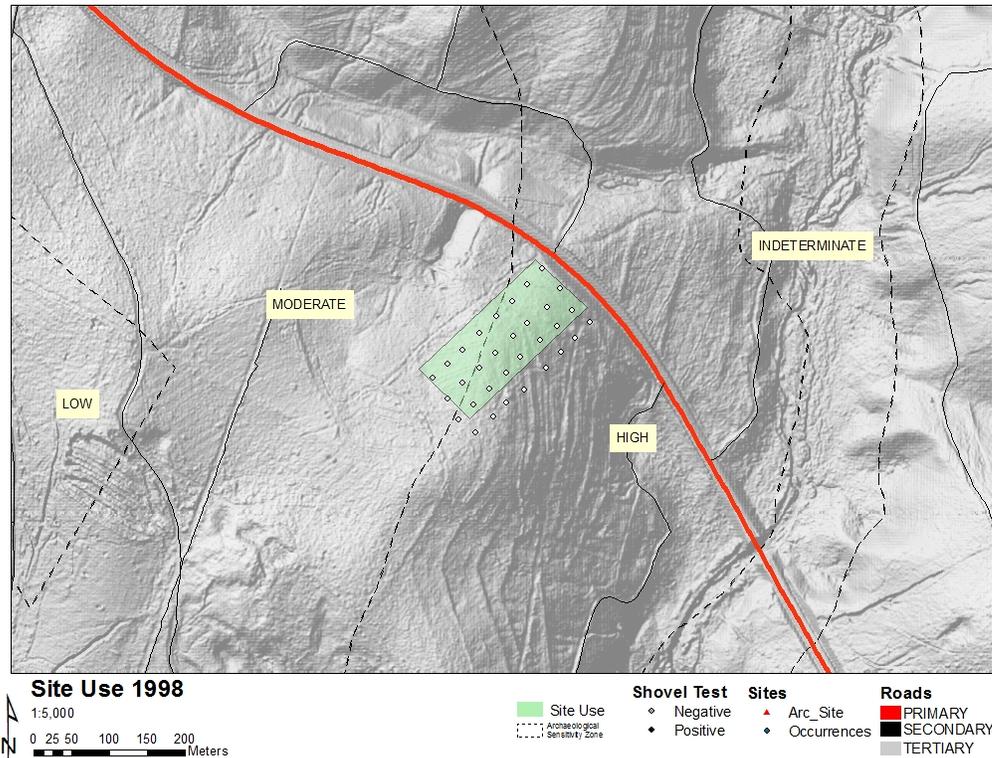


Figure 26. SU Log No. 1998 survey area.

#### *SU Log No. 2001 – Additional Land at ATTA*

This Site Use Permit, initiated November 29, 2009 by the SI, proposed upgrades to the ATTA complex that involve a request to annex 15 acres adjoining the main facility. Review of the SRARP database showed no previously recorded sites in the project area. The central area of acquisition already was developed as an ATTA parking lot, office building, and access road, therefore requiring no archaeological survey. Fieldwork consisted of 40 STPs (0 positive) excavated along 9 transects on a 30-m grid (Figure 27). As all STPs were negative in the undeveloped project area, no further archaeological testing was required for this project. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

#### *SU Log No. 2007 – Ecological Field Activities*

This Site Use Permit, initiated January 13, 2010 by the Savannah River National Laboratory (SRNL), proposed the evaluation of a mixture of apatite, organoclay, and cross-linked biopolymers for the remediation of metals in Tim's Branch soils in a lysimeter experiment. A pit will be dug by hand for installation of soil columns in a 5-m area. Review of the SRARP database showed no previously recorded sites in the project area. Field Reconnaissance determined that the proposed project area is very small (less than 5 meters in extent), located in a wet area (Sensitivity Zone 0), and contains heavy metal contaminants. There will be no adverse effect to any historic properties by the proposed Site Use action.

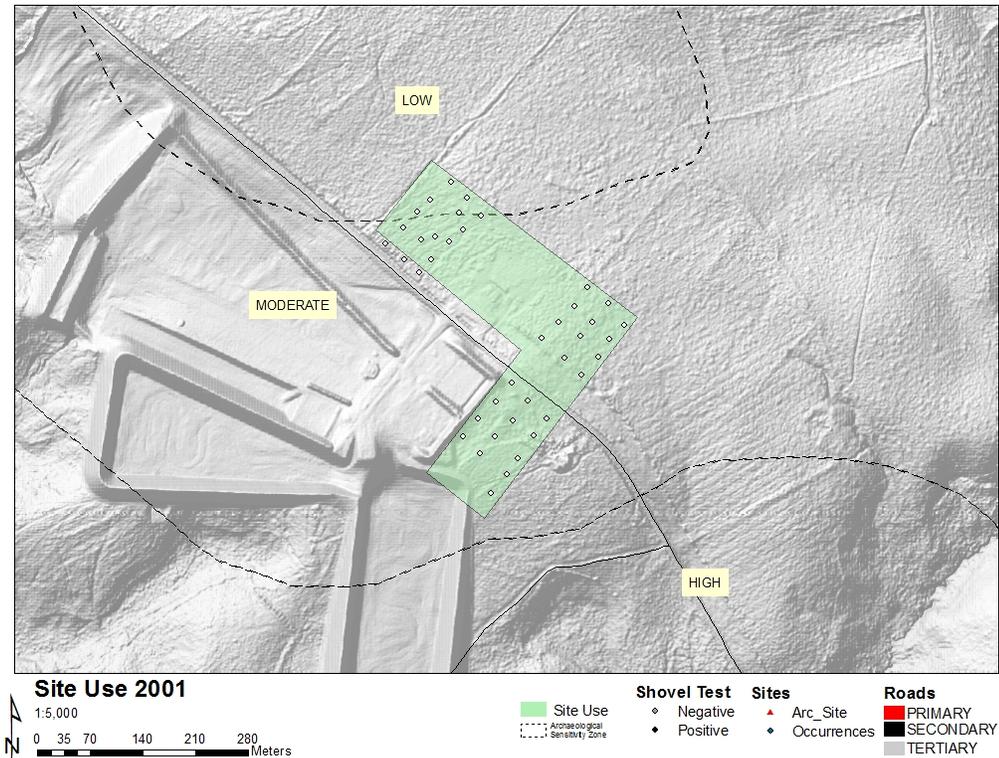


Figure 27. SU Log No. 2001 survey area.

#### *SU Log No. 2010 –P Area Decommissioning Activities*

This Site Use Permit, initiated January 27, 2010 by Mike Knichel, Tony Long, and Kenny Barrineau, requested land for a laydown yard and trailer-office area to support P Area decommissioning activities. Review of the SRARP database showed no previously recorded sites in the project area. Field reconnaissance determined that the project area had been impacted through SRS land use activities and also likely contaminated given its proximity to P Reactor. The potential for on-site contamination, as well as previous land disturbance, precluded further archaeological survey. There will be no adverse effect to any historic properties by the proposed Site Use action.

#### *SU Log No. 2011 – Reroute Road 50-23*

This Site Use Permit, initiated January 27, 2010 by USFS-SR, proposed the construction of a secondary road for timber management purposes. Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 13 STPs (0 positive) excavated along a single transect in the project corridor (Figure 28). As all STPs were negative in the undeveloped project area, no further archaeological testing was required for this project. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

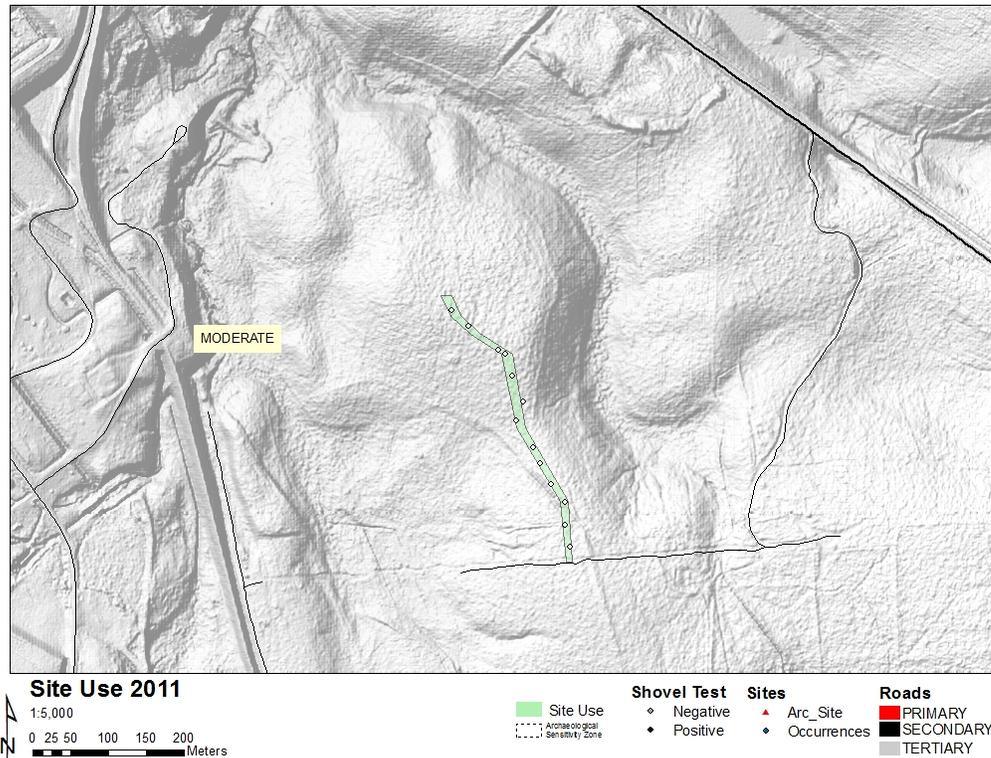


Figure 28. SU Log No. 2011 survey area.

*SU Log No. 2016 – Lead removal at SATA*

This Site Use Permit, initiated February 22, 2010 by Soil and Groundwater Closure Projects (SGCP), proposed the removal of all lead and lead-contaminated soil associated with the closure of the Small Arms Training Academy (SATA). Review of the SRARP database showed no previously recorded sites in the project area. Field reconnaissance determined that the project area had been impacted through SRS land use activities within the SATA range fence-line. This previous land disturbance precluded further archaeological survey. There will be no adverse effect to any historic properties by the proposed Site Use action.

*SU Log No. 2017 – Ellenton Walking Trail*

This Site Use Permit, initiated February 24, 2010 by the Office of Acquisition Management (OAM) and the SRS Heritage Foundation, requested the construction of a gazebo on a 3-acre location at the former town of Ellenton (38AK985). Fieldwork consisted of 40 STPs (36 positive) excavated along 7 transects on a 10-m grid (Figure 29). Based on the results of these survey efforts, a consultation between SRARP personnel and the SRS Heritage Foundation determined that mitigation of this portion of the town site of Ellenton was required prior to proposed construction of a public gazebo. No further archaeological testing was required for this project. As, 38AK985 is considered eligible for inclusion in the NRHP, there will be no adverse effect to any historic properties by the proposed Site Use action.

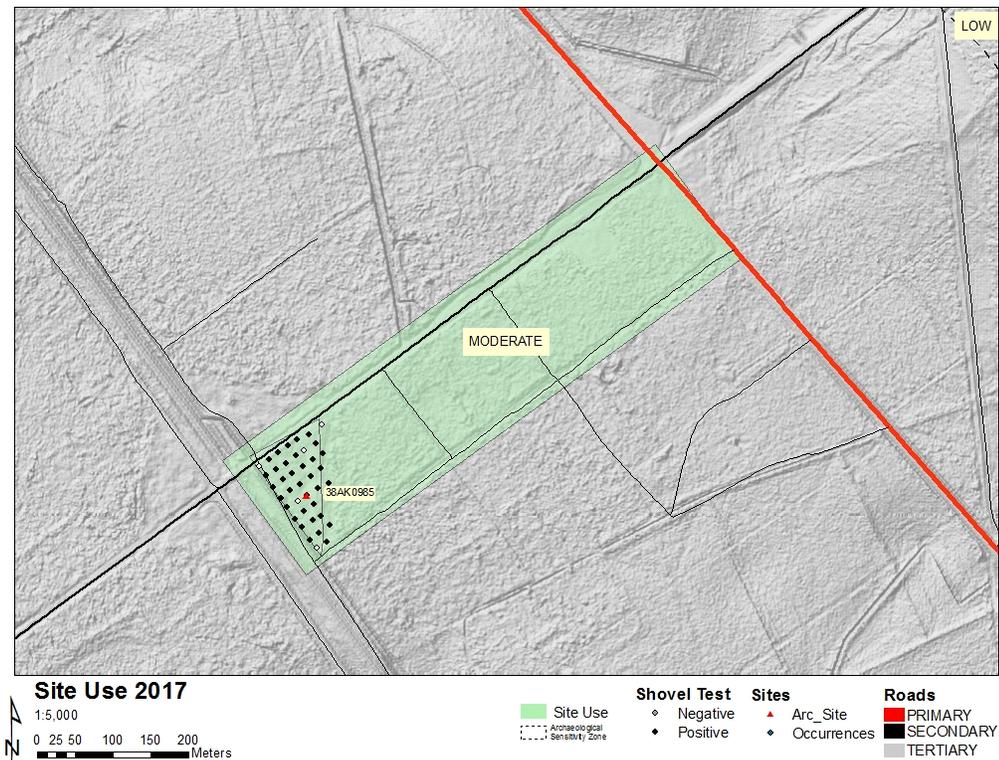


Figure 29. SU Log No. 2017 survey area.

#### *SU Log No. 2018 – T Area Operable Unit Drainage Repair*

This Site Use Permit, initiated March 4, 2010 by the SGCP, proposed repairs including a new drainage system and the temporary construction of an access road. Review of the SRARP database showed no previously recorded sites in the project area. Field reconnaissance determined that the project area is marked with contamination signs. This on-site contamination precluded further archaeological survey.

#### *SU Log No. 2028 – SWPF Laydown yard*

This Site Use Permit, initiated April 27, 2010 by the SWPF, proposed an expansion of the limits of J Area during the construction of SWPF to include a 1.4-acre tract north of the main S Area parking lot on the eastern margin of the S Area entrance road. Review of the SRARP database showed no previously recorded sites in the project area. Field reconnaissance determined that the project area had been impacted through SRS land use activities. This previous land disturbance precluded further archaeological survey. There will be no adverse effect to any historic properties by the proposed Site Use action.

*SU Log No. 2031 – J Area Parking Lot*

This Site Use Permit, initiated June 3, 2010 by the SWPF, proposed an expansion of the limits of J Area during the construction of the SWPF to include 1.01 acres near the southeast corner of J Area to provide additional parking space. Review of the SRARP database showed no previously recorded sites in the project area. Field reconnaissance determined that the project area had been impacted through SRS land use activities. This previous land disturbance precluded further archaeological survey. There will be no adverse effect to any historic properties by the proposed Site Use action.

*SU Log No. 2032 – Waterline for Biomass Steam Plant*

This Site Use Permit, initiated June 3, 2010 by the DOE-Infrastructure Support Division, proposed the construction of an additional river-water routing line originating from Fourmile Branch to service the Biomass Steam Plant. Review of the SRARP database showed one previously recorded site (38AK418) in the project area. Fieldwork consisted of 47 STPs (0 positive) excavated along 4 transects on a 30-m grid within the proposed water routing line corridor (Figure 30). As all STPs were negative, no further archaeological testing was required for this project. Additionally, site 38AK418 was not relocated during these survey efforts. There will be no adverse effect to any historic properties by the proposed Site Use action.

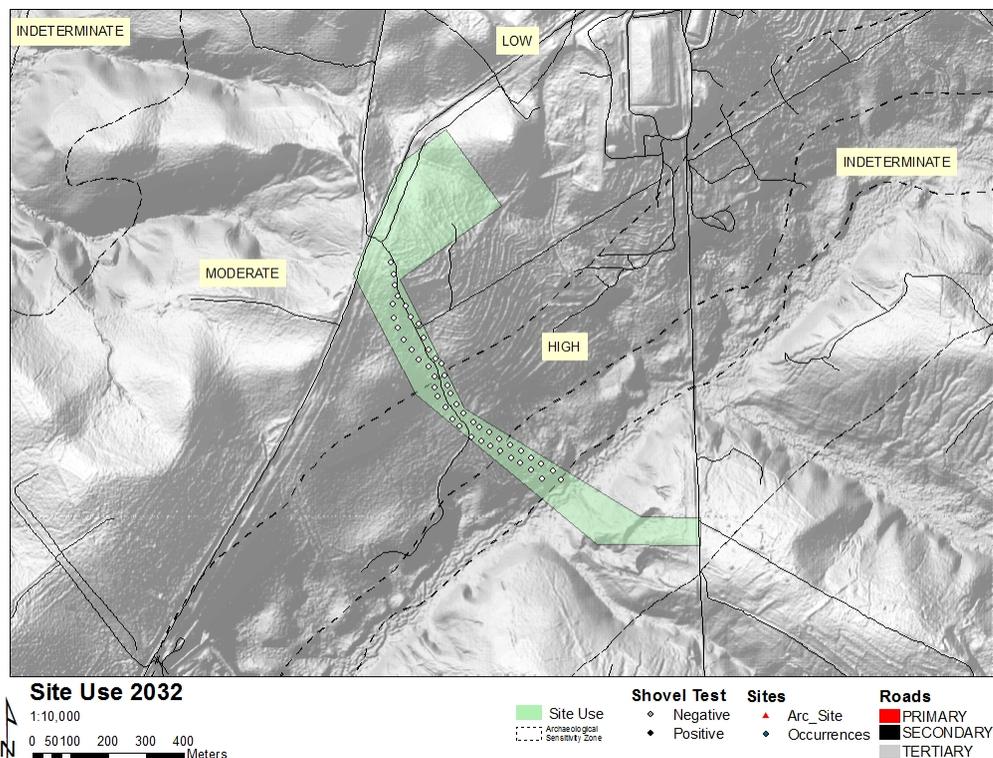


Figure 30. SU Log No. 2032 survey area.

*SU Log No. 2038 – R Area Monitoring Wells*

This Site Use Permit, initiated June 21, 2010 by Mo Kasraii, Terry Killen, and Ron Socha, proposed the installation of two groundwater monitoring wells. Review of the SRARP database showed no previously recorded sites in the project area. Field reconnaissance determined that the project area was located in a power-line corridor with visible ground surface. Pedestrian coverage of the area revealed no artifacts present on the surface. Land disturbance resulting from construction of the power-line corridor, along with the absence of surface artifacts, precluded further archaeological survey. There will be no adverse effect to any historic properties by the proposed Site Use action.

*SU Log No. 2040 – Stewardship Plan in Conjunction with Remnant Timber Stand*

This Site Use Permit, initiated June 30, 2010 by the USFS-SR, proposed a regeneration harvest in Timber Compartment 25, Stand 55 to remove low quality stems and will be planted with genetically superior seedlings of longleaf pine to increase land utilization. Review of the SRARP database showed no previously recorded sites in the 15-acre timber stand. Fieldwork consisted of 60 STPs (0 positive) excavated along 10 transects on a 30-m grid within the project area (Figure 31). As all STPs were negative, no further archaeological testing was required for this project. There will be no adverse effect to any historic properties by the proposed Site Use action.

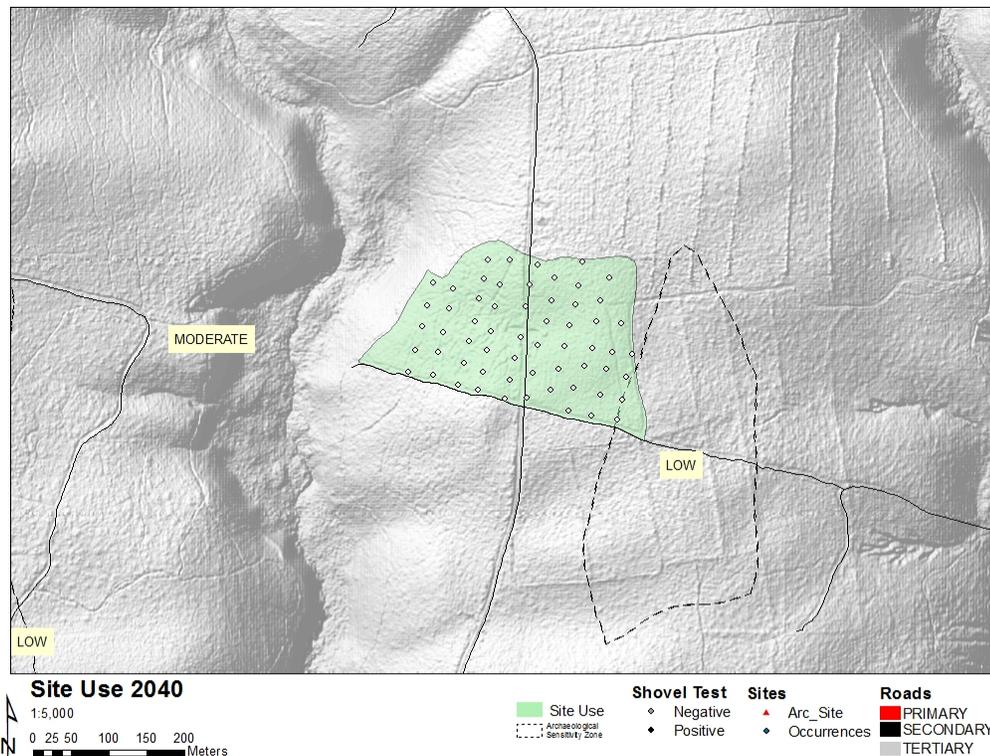


Figure 31. SU Log No. 2040 survey area.

### **Timber Compartment Prescriptions**

The USFS-SR is the most extensive land user on the SRS, as this agency's primary function is one of research and forest management in support of silvicultural practices. Each year, the USFS-SR issues a list of Timber Compartment Prescriptions indicating those areas on the SRS where timber management activities are scheduled to occur. As a policy, the USFS-SR issues this list two to three years before the planned thinning or harvesting is scheduled. Employing these Prescriptions, the SRARP identifies areas that must be surveyed prior to any land-use activities. Because of the lead-time provided by way of this process, the SRARP has the opportunity to locate and evaluate all resources within the area of proposed land use at least one year in advance of the Site Use Application request detailing all proposed timber management actions. Additionally, the USFS-SR, in consultation with the SRARP, insures that all archaeological sites deemed significant for research potential are avoided completely during the development of secondary roads and timber loading decks. Finally, all historic and prehistoric sites with potential research significance are avoided completely during harvesting activities. As a result, all adverse effects to historic properties are mitigated through avoidance.

The SRARP management reviews each Timber Compartment Prescription to determine the level of survey required for each Timber Stand slated for timbering. The review process involves determining the potential for archaeological resources in each Timber Stand. This is accomplished by applying the predictive locational model of site discovery developed by the SRARP for management of cultural resources on the SRS (SRARP 1989). Information from the SRS site files, previous survey records, and historic documentation are also incorporated into the review process to insure that all resources are located and previous survey efforts are not duplicated. The following summaries describe Timber Compartment projects and survey results during FY10. Surveys of Log Decks and Timber Stands were conducted in 15 Timber Compartments, which involved 871 acres (54%) of the total survey area coverage in FY10. Table 6 provides a listing by Timber Compartment of all sites investigated.

Certain aspects of archaeological work are standard for all projects. Upon completion of each survey project, point data for all STPs, all new and previously recorded sites, and isolated artifact occurrences are recorded using GPS equipment. Prior to fieldwork, a review of 1951 aerial photographs is conducted to identify standing historic structures at the time of federal acquisition. The SRARP site files are consulted to identify previously recorded cultural resources. All STPs measure 35 x 35 cm and are excavated to a depth of at least 80 cmbs, unless a gravel or clay substratum is encountered. Exceptions to this fieldwork procedure include historic site locations identified from 1951 aerial photographs that are situated in low-probability areas for prehistoric sites (see discussion of Archaeological Sensitivity Zones in SRARP 1989). At these locations, STPs are excavated to just below the plowzone (usually between 20 - 40 cmbs). The reduced depth of STPs on historic sites is justified because late-period historic sites generally lack thick, stratified deposits (Cabak and Inkrot 1997:29-31). The soil from the STPs is sifted through 0.25-in. wire mesh, and artifacts are collected and bagged by provenience.

Table 6. Timber Compartment Prescription and Log Deck Surveys, FY10.

PROJECT	PROJECT STPs	PROJECT AREA SURVEYED (ac.)	NEW SITES	SITE REVISITS
Timber Comp. 2				
Stands 46/70	27	3		
TOTAL	27	3		
Timber Comp. 4				
Stands 10/31	18	2		
TOTAL	18	2		
Timber Comp. 27				
Stands 56/60	27	3		
TOTAL	27	3		
Timber Comp. 28				
Stands 24/49	18	2		
TOTAL	18	2		
Timber Comp. 29				
Stands 34/35/36/37/38	72	9		
Stands 24/25/27/67/70/80	78	8		38BR782
TOTAL	150	17		1
Timber Comp. 38				
Stand 26	29	76		
TOTAL	29	76		
Timber Comp. 43				
Stand 2	28	72		
Stand 7	14	34		
Stand 14	11	14	38BR1260	
Stand 19	19	50		38BR543
Stand 23	7	26		
TOTAL	79	196	1	1
Timber Comp. 53				
Stand 59	36	70		
Stand 61	27	51	38BR1184	
Stand 122	14	5		
TOTAL	77	126	1	
Timber Comp. 54				
Stand 102	9	1		
TOTAL	9	1		
Timber Comp. 57				
Stand 7	11	10		
TOTAL	11	10		
Timber Comp. 58				
Stand 49	53	62		
TOTAL	53	62		
Timber Comp. 61				
Stand 5	22	77		
Stand 8	10	24		
Stand 15	43	46		
Stand 53	24	17		
Stands 60/82	33	83		
TOTAL	132	247		
Timber Comp. 67				
Stand 53	18	2		
TOTAL	18	2		
Timber Comp. 69				
Stands 16/94	39	122		38BR361
TOTAL	39	122		1
Timber Comp. 72				
Stand 15	18	2		
TOTAL	18	2		
<b>TOTAL</b>	<b>705</b>	<b>871</b>	<b>2</b>	<b>3</b>

### Timber Compartment 2

Archaeological survey in Compartment 2 involved subsurface inspection of 3 proposed Log Decks totaling 1 acre each in extent in Stands 46 and 70 (Figure 32). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of STPs excavated on a 30-m grid at each Log Deck location. Altogether, 27 STPs (0 positive) were dug in this manner. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 2.

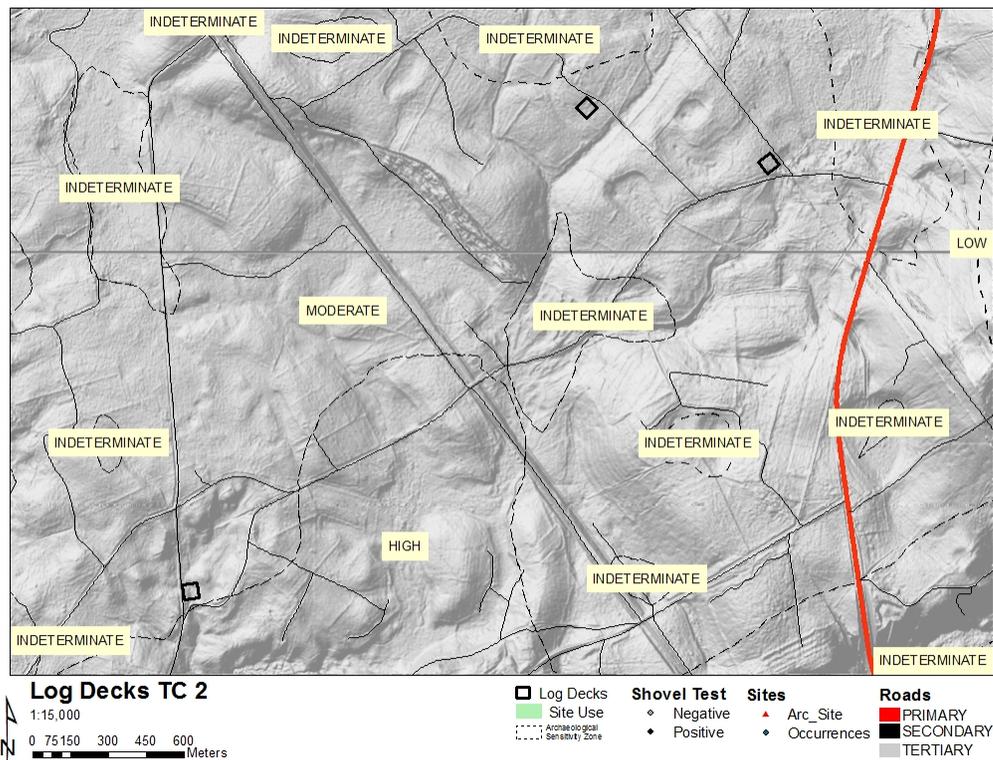


Figure 32. Timber Compartment 2, Stands 46/70 survey area.

### Timber Compartment 4

Archaeological survey in Compartment 4 involved subsurface inspection of 2 proposed Log Decks totaling 1 acre each in extent in Stands 10 and 31. Reconnaissance survey showed previous ground disturbance at a third proposed Log Deck location in the form of push-piles from past SRS land use activities. As such, this Log Deck, located just to the northeast of the other two (Figure 33), was excluded from subsurface survey. Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of STPs excavated on a 30-m grid at each Log Deck location. Altogether, 18 STPs (0 positive) were dug in this manner. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 4.

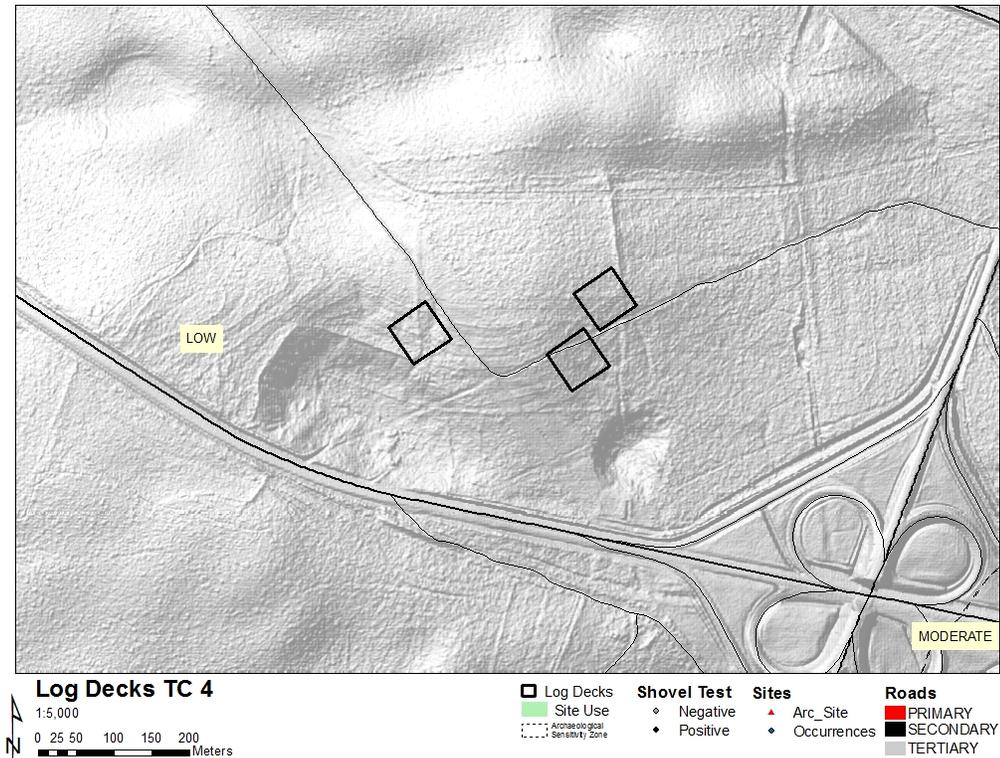


Figure 33. Timber Compartment 4, Stands 10/31 survey area.

#### *Timber Compartment 27*

Archaeological survey in Compartment 27 involved subsurface inspection of 3 proposed Log Decks totaling 1 acre each in extent in Stands 56 and 60 (Figure 34). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of STPs excavated on a 30-m grid at each Log Deck location. Altogether, 27 STPs (0 positive) were dug in this manner. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 27.

#### *Timber Compartment 28*

Archaeological survey in Compartment 28 involved subsurface inspection of 2 proposed Log Decks totaling 1 acre each in extent in Stands 24 and 49 (Figure 35). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of STPs excavated on a 30-m grid at each Log Deck location. Altogether, 18 STPs (0 positive) were dug in this manner. As this survey effort resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 28.

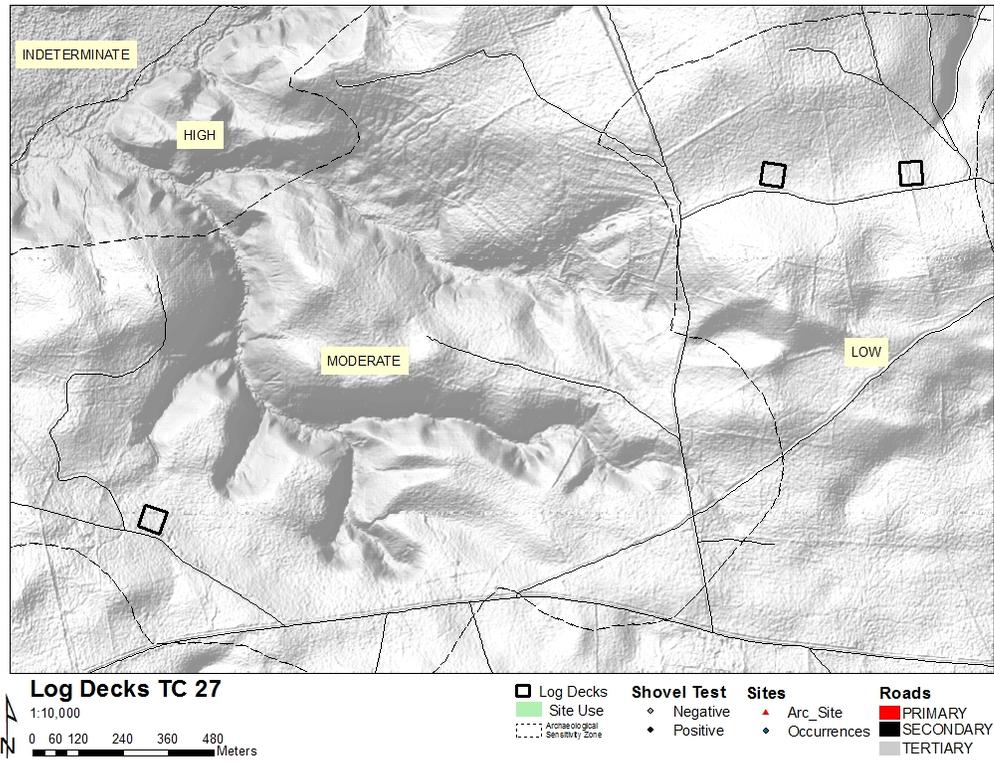


Figure 34. Timber Compartment 27, Stands 56/60 survey area.

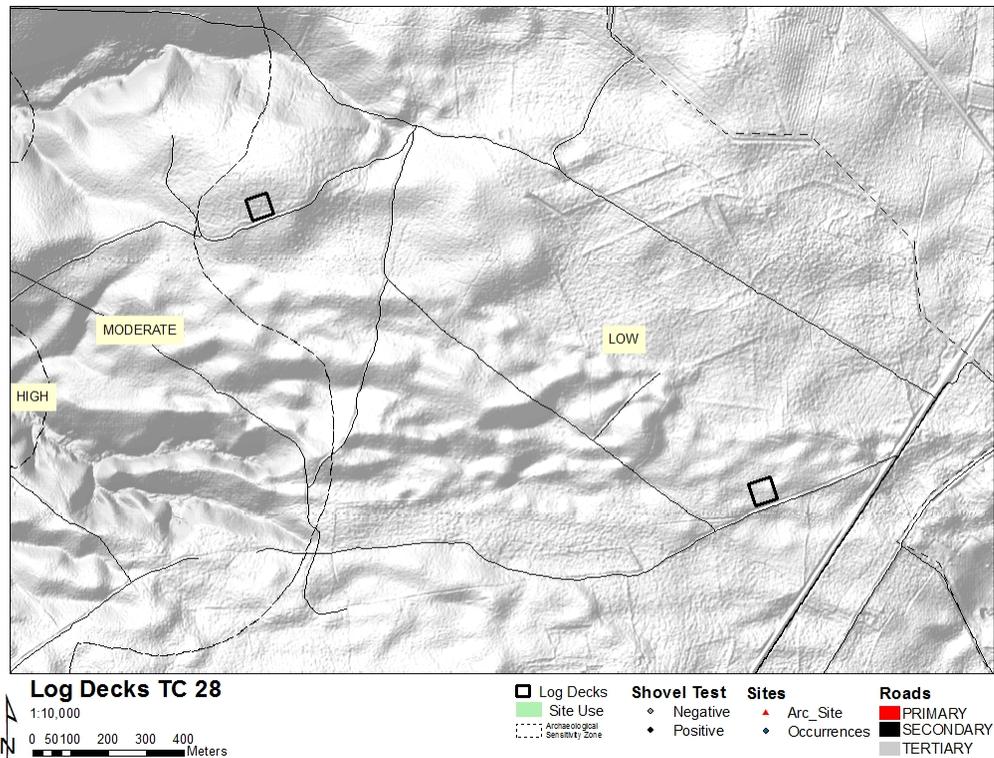


Figure 35. Timber Compartment 28, Stands 24/49 survey area.

### Timber Compartment 29

Archaeological survey in Compartment 29 involved subsurface inspection of 9 proposed Log Decks totaling 1 acre each in extent in Stands 34, 35, 36, 37, and 38 (Figure 36), as well as subsurface inspection of 8 proposed Log Decks totaling 1 acre each in extent in Stands 24, 25, 27, 67, 70, and 80 (Figure 37). Review of the SRARP database showed one previously recorded site (38BR782) in the project area. Fieldwork consisted of STPs excavated on a 30-m grid at each Log Deck location. Altogether, 150 STPs (2 positive) were dug in this manner. These survey efforts resulted in the relocation and delineation of 38BR782 and the recovery of one isolated artifact (BR-OCC-282). Site 38BR782 consists of a mid-twentieth-century homesite that was razed during initial SRS land use activities in the early 1950s. As such, the site has poor integrity and holds little research potential to advance our understanding of the history of the region, and is considered not eligible for nomination to the NRHP. The artifact occurrence also holds no research potential to advance our understanding of the history of the region. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 29.

### Timber Compartment 38

Archaeological survey in Compartment 38 involved subsurface inspection within Stand 26 totaling 76 acres slated for clearcutting. Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 29 STPs (0 positive) excavated along a single transect (Figure 38). As these survey efforts resulted in

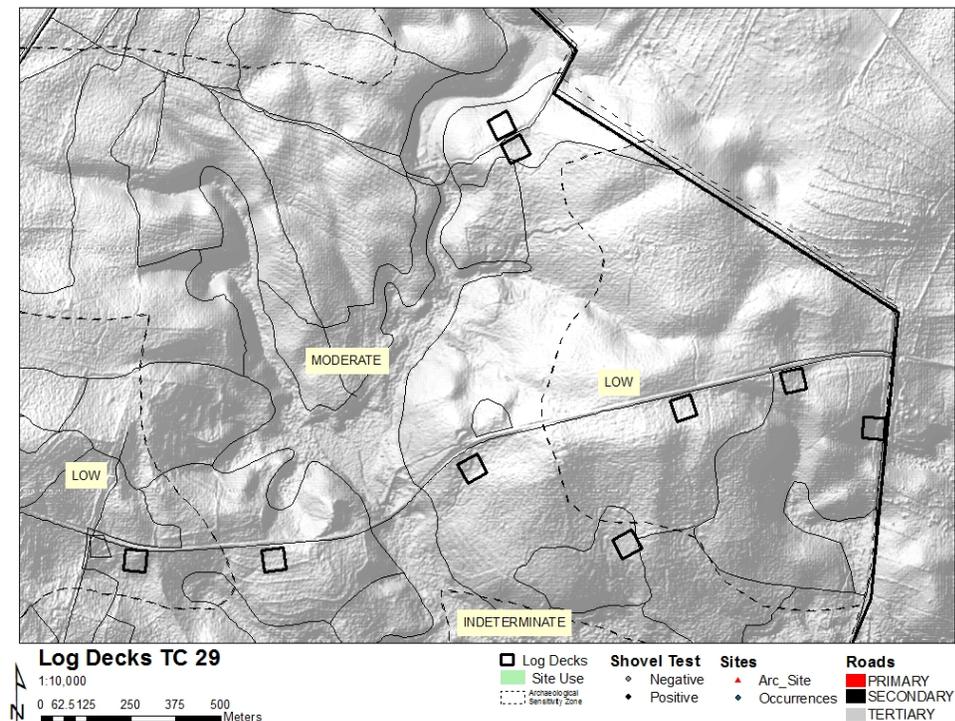


Figure 36. Timber Compartment 29, Stands 34/35/36/37/38 survey area.

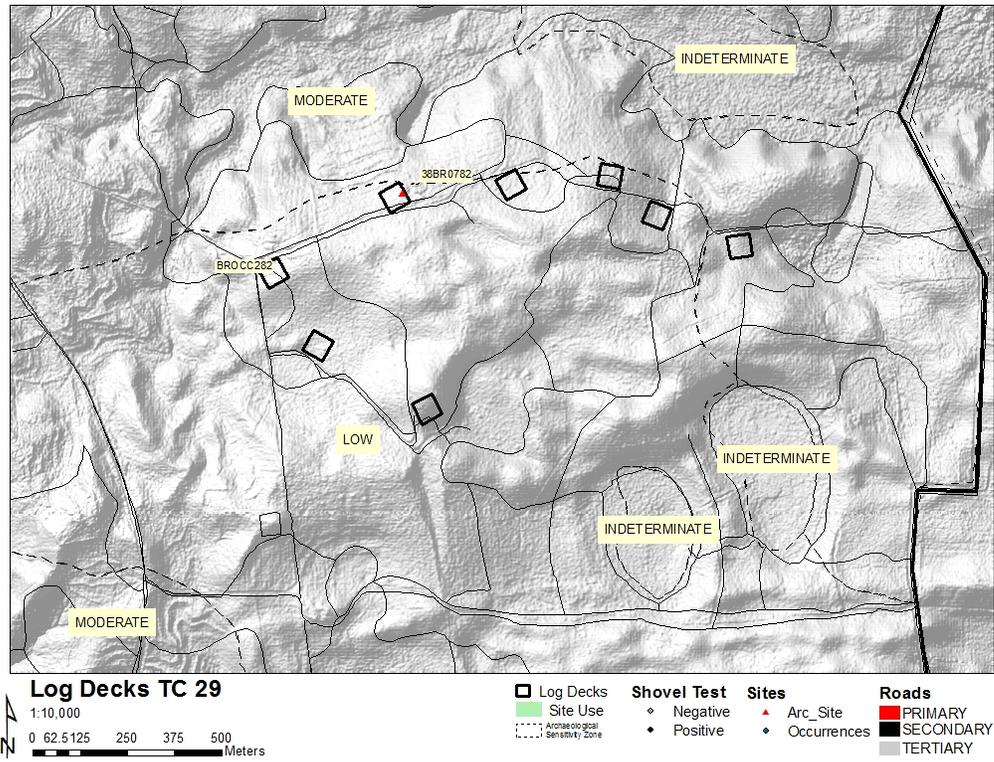


Figure 37. Timber Compartment 29, Stands 24/25/27/67/70/80 survey area.

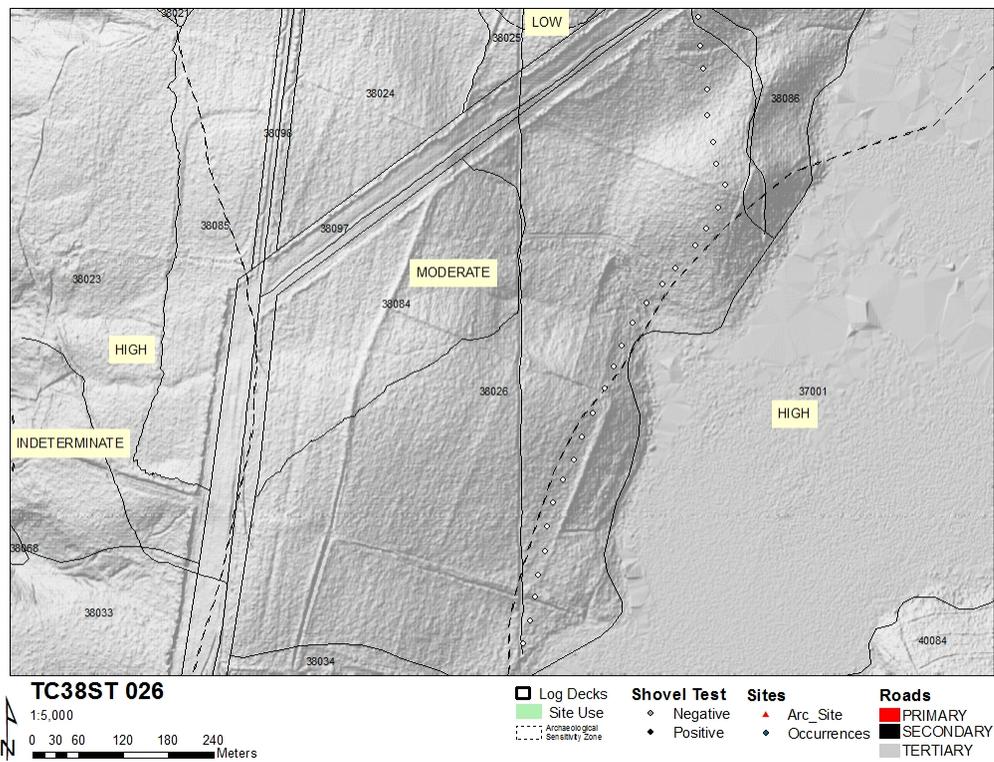


Figure 38. Timber Compartment 38, Stand 26 survey area.

only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 38.

*Timber Compartment 43*

Archaeological survey in Compartment 43 involved subsurface inspection within Stands 2, 7, 14, 19, and 23 totaling 196 acres slated for clearcutting. Review of the SRARP database showed one previously recorded site (38BR543) in the project area. Fieldwork consisted of 79 STPs (3 positive) excavated along 6 separate transects (Figure 39 – Figure 43). These survey efforts resulted in the relocation and delineation of 38BR543, as well as the discovery and delineation of one new site (38BR1260). Site 38BR543 consists of a small, ephemeral deposit of non-diagnostic lithic scatter. As such, this site has poor integrity and holds little research potential to advance our understanding of the history of the region, and is considered not eligible for nomination to the NRHP. Site 38BR1260 is considered to have the research potential to advance our understanding of the history of the region. As such, this site is recommended as potentially eligible for nomination to the NRHP, but further survey and testing must be conducted at this site for a full eligibility determination. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 43.

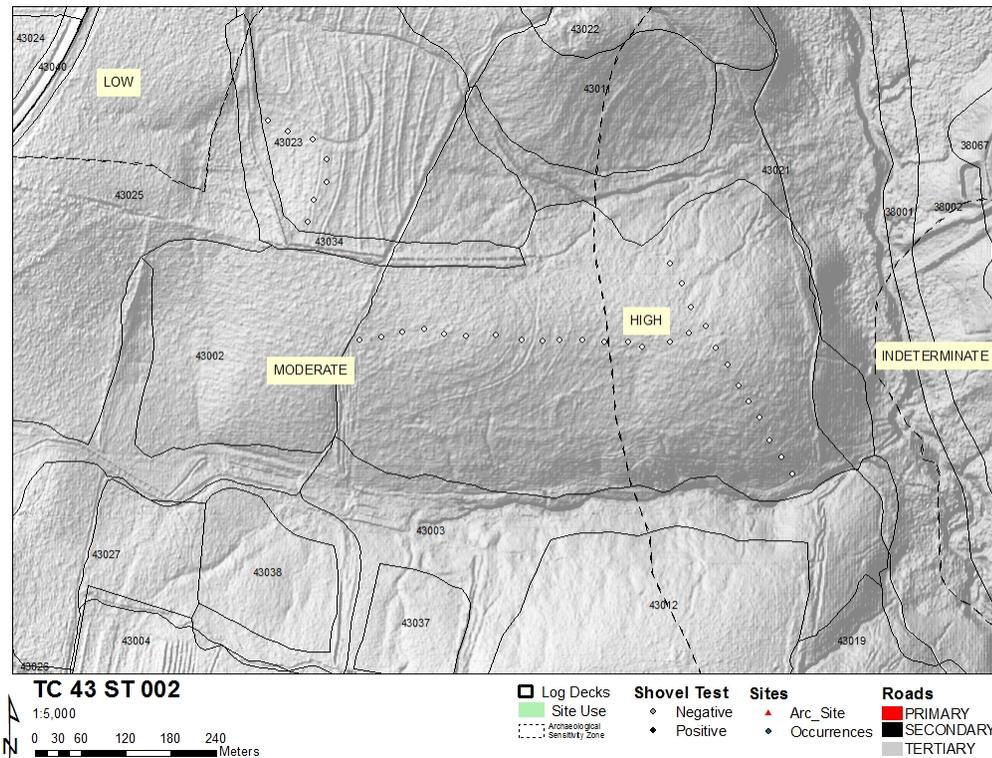


Figure 39. Timber Compartment 43, Stand 2 survey area.

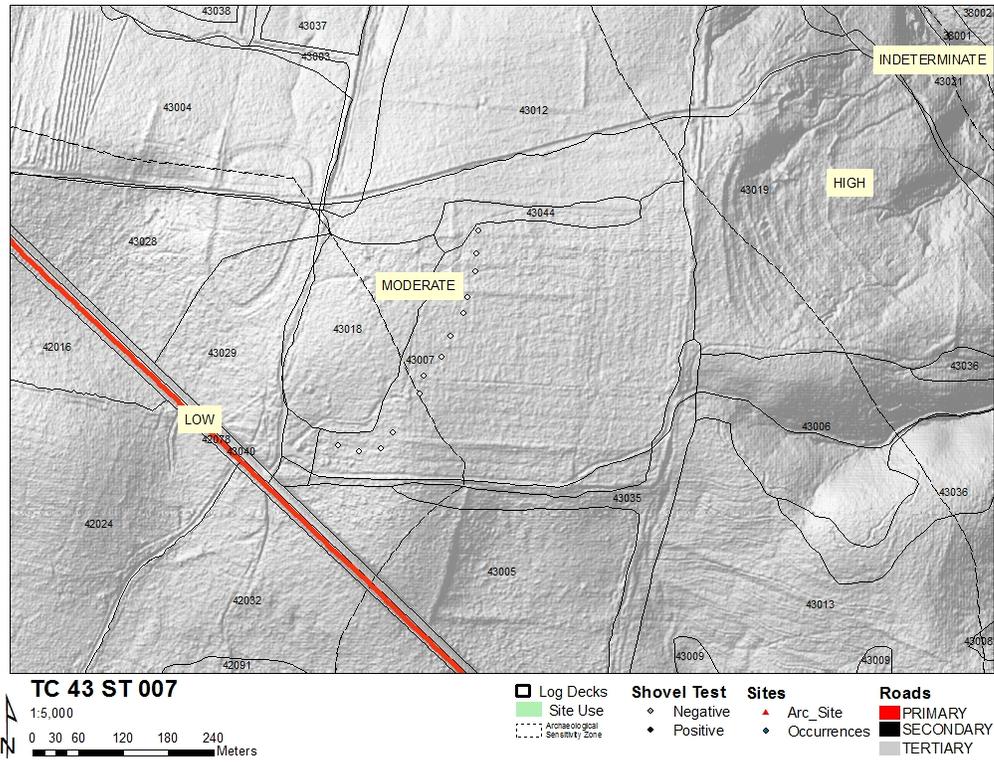


Figure 40. Timber Compartment 43, Stand 7 survey area.

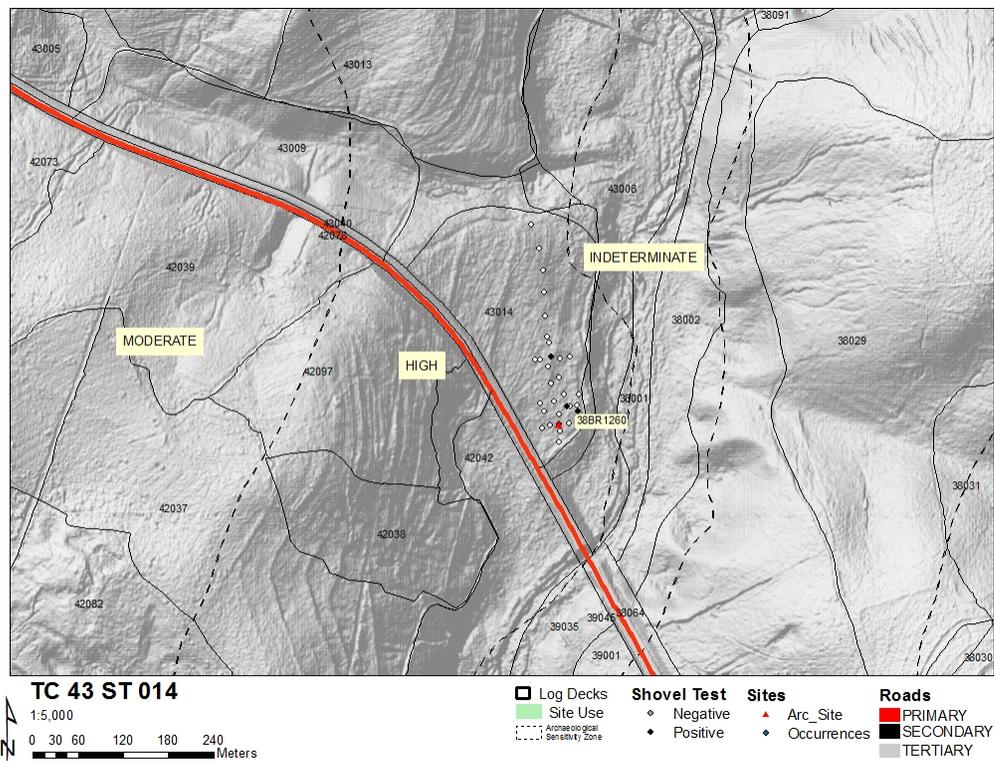


Figure 41. Timber Compartment 43, Stand 14 survey area.

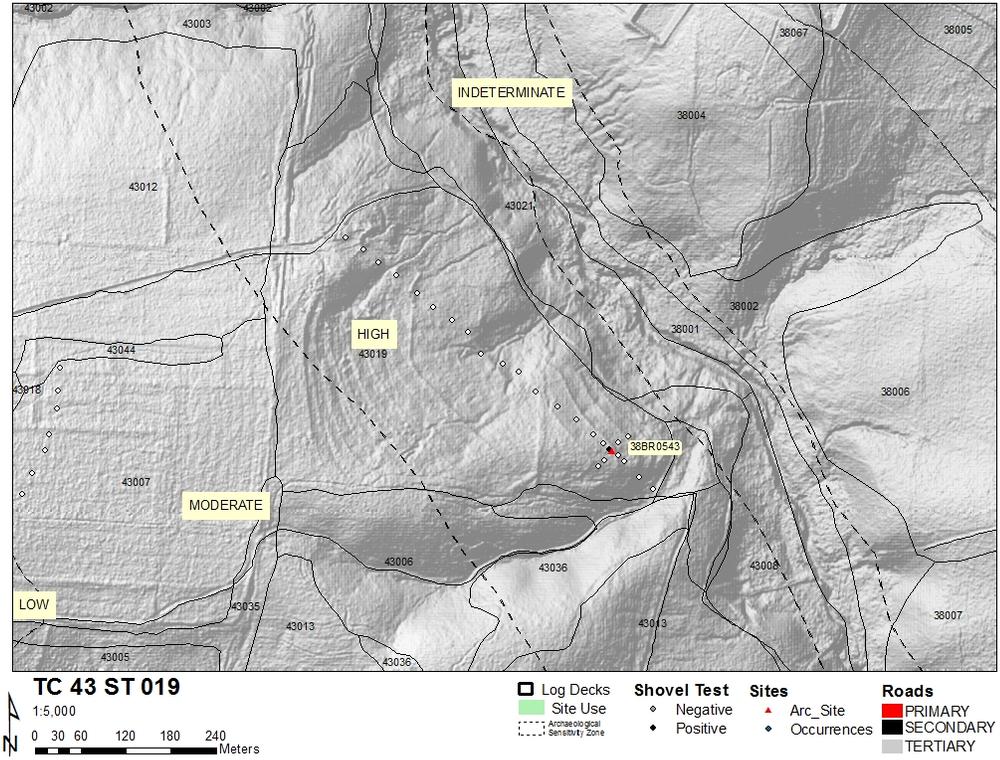


Figure 42. Timber Compartment 43, Stand 19 survey area.

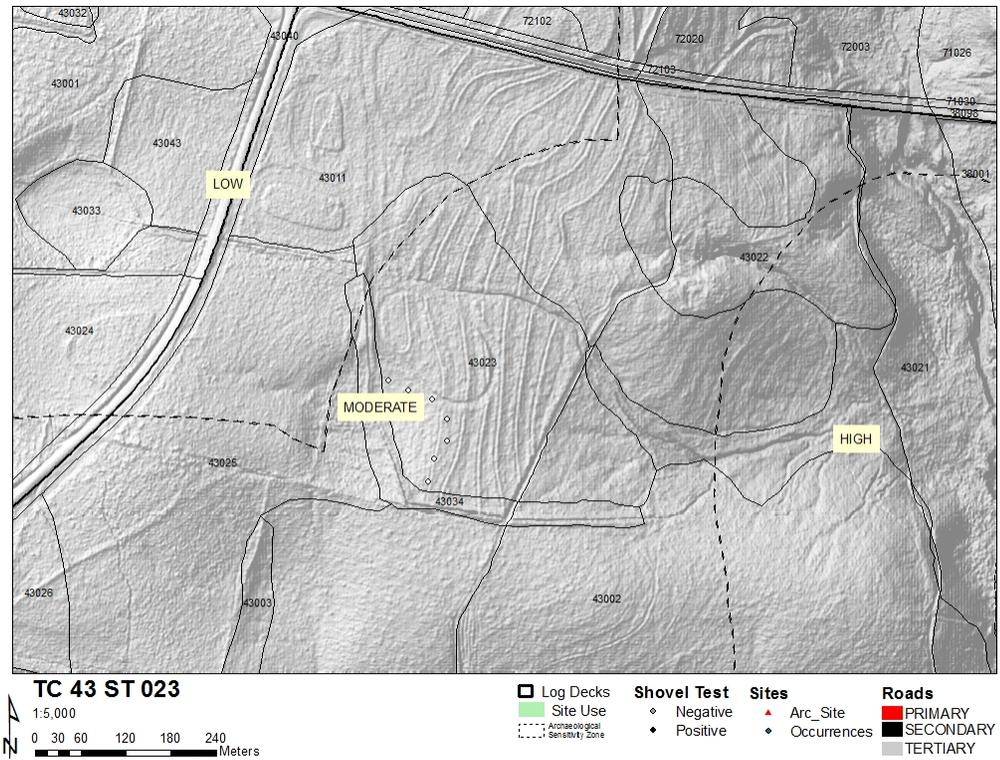


Figure 43. Timber Compartment 43, Stand 23 survey area.

### Timber Compartment 53

Archaeological survey in Compartment 53 involved subsurface inspection within Stands 59, 61, and 122 totaling 126 acres slated for clearcutting. Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 77 STPs (8 positive) excavated along 3 separate transects (Figure 44 – Figure 46). These survey efforts resulted in the discovery and delineation of one new site (38BR1184), as well as the recovery of one isolated artifact (BR-OCC-281). Site 38BR1184 consists of a mid-twentieth-century homesite that was razed during initial SRS land use activities in the early 1950s. As such, the site has poor integrity and holds little research potential to advance our understanding of the history of the region, and is considered not eligible for nomination to the NRHP. The artifact occurrence holds no research potential to advance our understanding of the history of the region. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 53.

### Timber Compartment 54

Archaeological survey in Compartment 54 involved subsurface inspection of 1 proposed Log Deck totaling 1 acre in extent in Stand 102 (Figure 47). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork

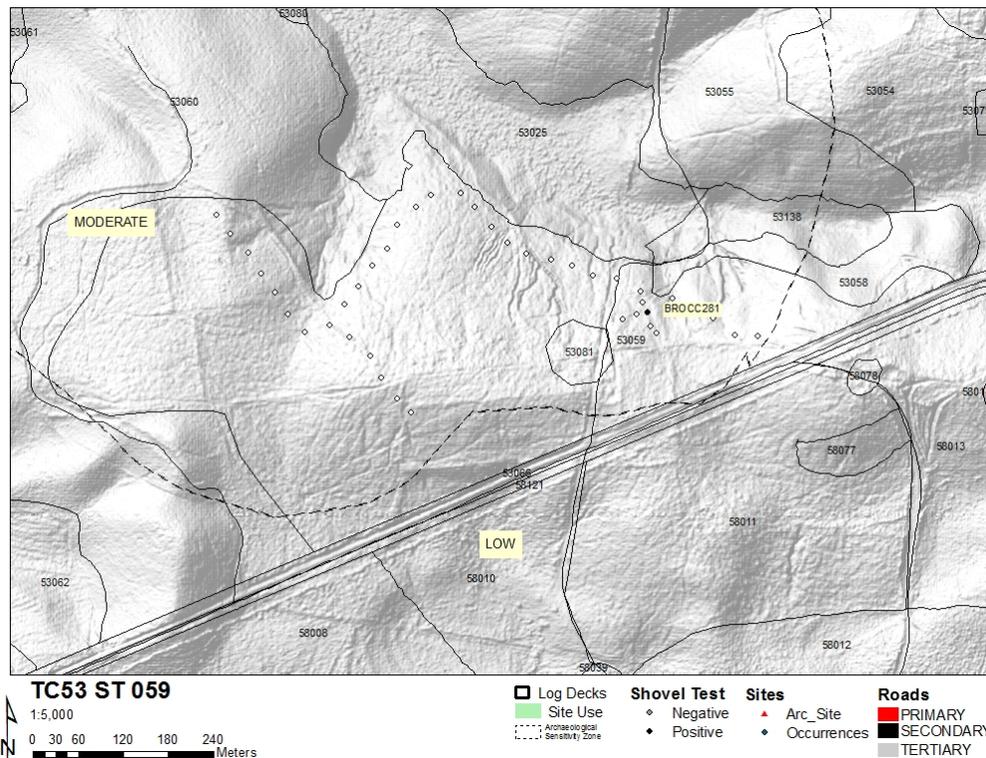


Figure 44. Timber Compartment 53, Stand 59 survey area.

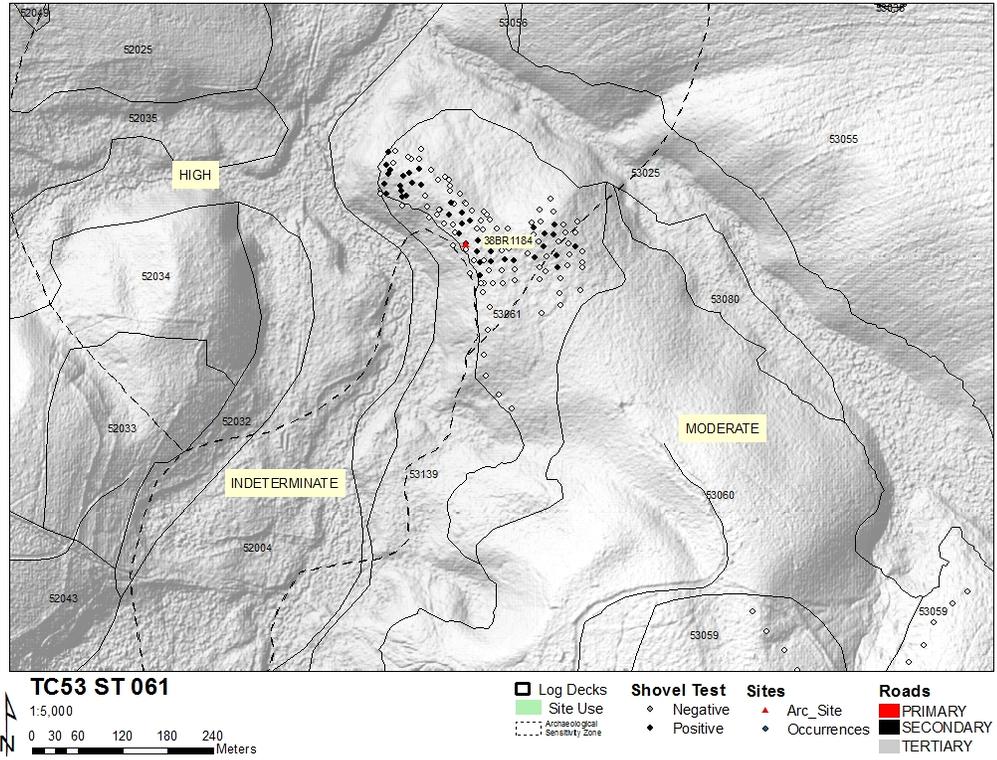


Figure 45. Timber Compartment 53, Stand 61 survey area.

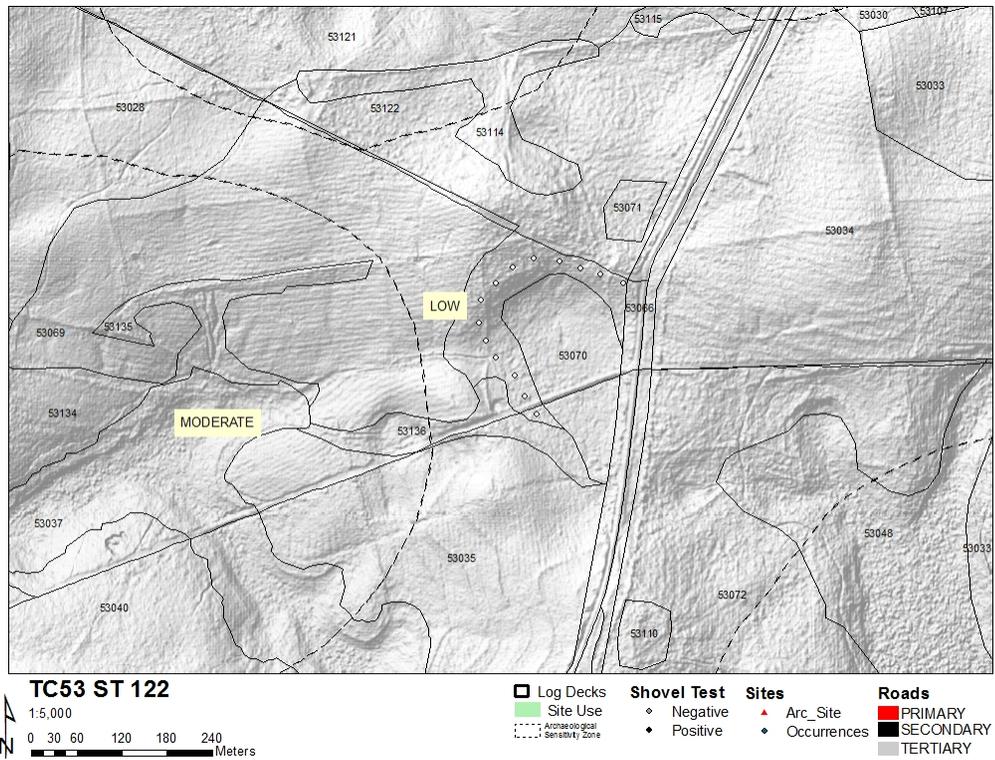


Figure 46. Timber Compartment 53, Stand 122 survey area.

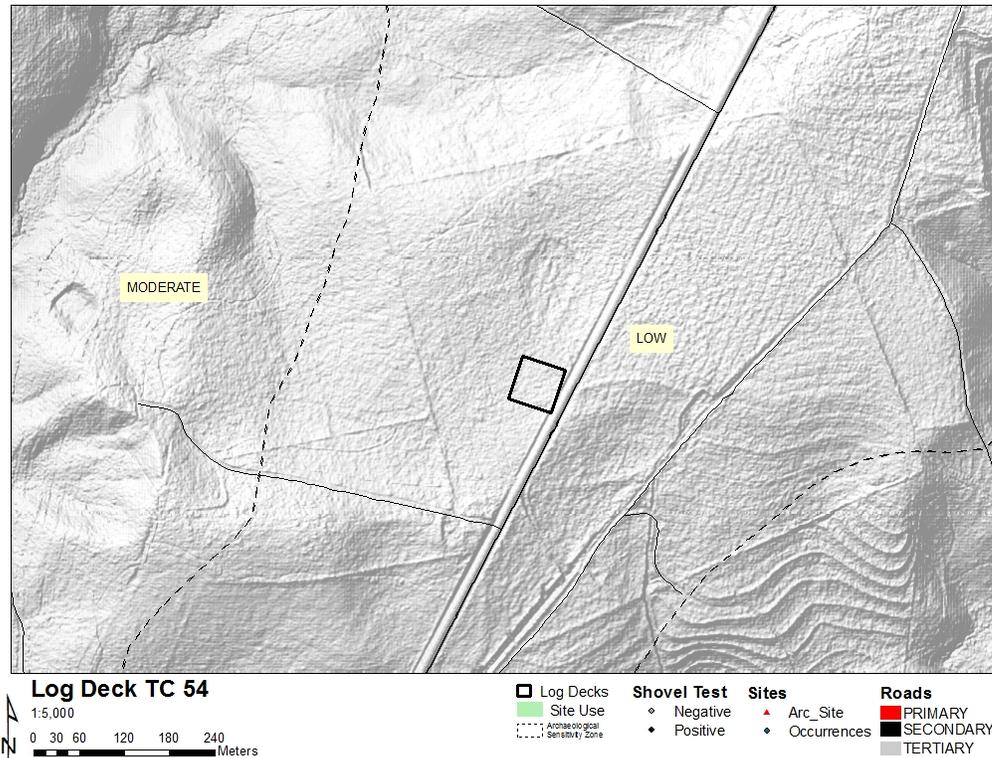


Figure 47. Timber Compartment 54, Stand 102 survey area.

consisted of 9 STPs (0 positive) excavated on a 30-m grid at the Log Deck location. As this survey effort resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 54.

#### *Timber Compartment 57*

Archaeological survey in Compartment 57 involved subsurface inspection within Stand 7 totaling 10 acres slated for clearcutting (Figure 48). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 11 STPs (0 positive) excavated along a single transect. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 57.

#### *Timber Compartment 58*

Archaeological survey in Compartment 58 involved subsurface inspection within Stand 49 totaling 62 acres slated for clearcutting (Figure 49). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of

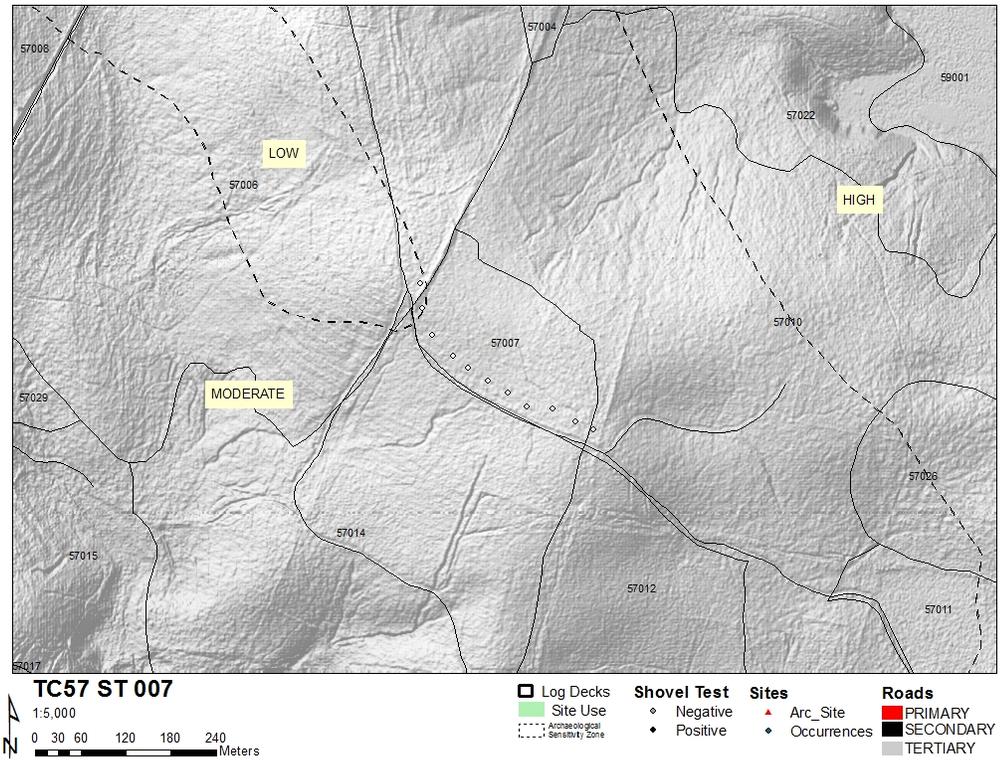


Figure 48. Timber Compartment 57, Stand 7 survey area.

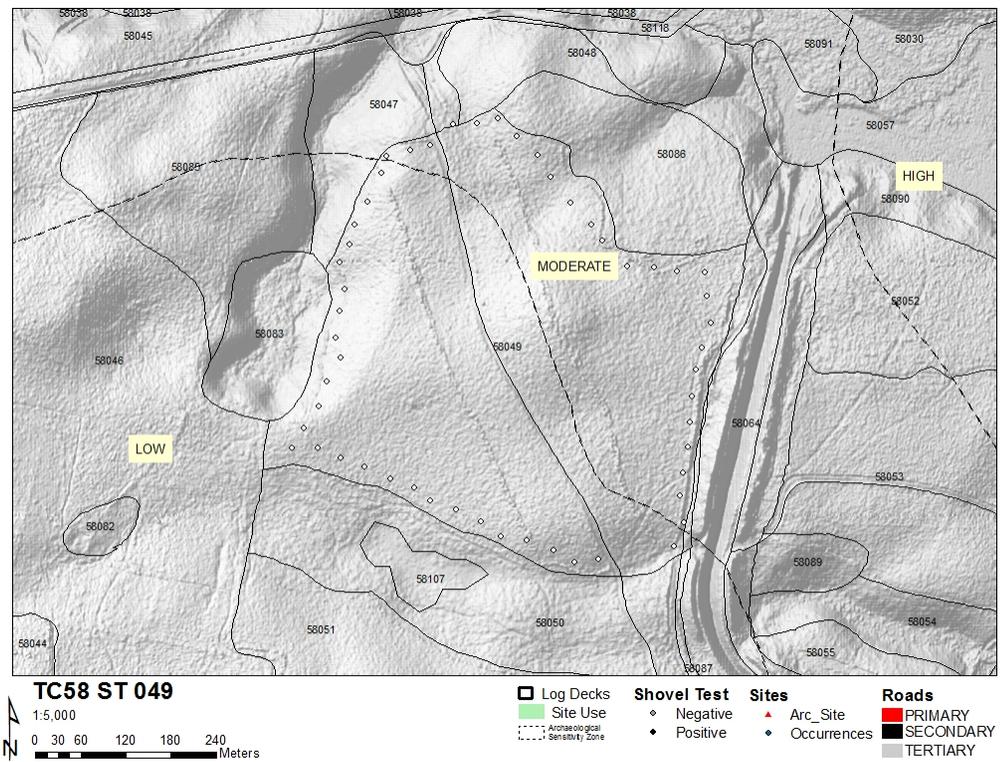


Figure 49. Timber Compartment 58, Stand 49 survey area.

53 STPs (0 positive) excavated along two separate transects. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 58.

### *Timber Compartment 61*

Archaeological survey in Compartment 61 involved subsurface inspection within Stands 5, 8, 15, 53, 60, and 82 totaling 247 acres slated for clearcutting. Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 132 STPs (2 positive) excavated along 10 separate transects (Figure 50 – Figure 54). These survey efforts resulted in the recovery of two isolated artifacts (BR-OCC-277, BR-OCC-278). These artifact occurrences hold no research potential to advance our understanding of the history of the region. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 61.

### *Timber Compartment 67*

Archaeological survey in Compartment 67 involved subsurface inspection of 2 proposed Log Decks totaling 1 acre in extent in Stand 53 (Figure 55). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 18 STPs (0 positive) excavated on a 30-m grid at each Log Deck location.

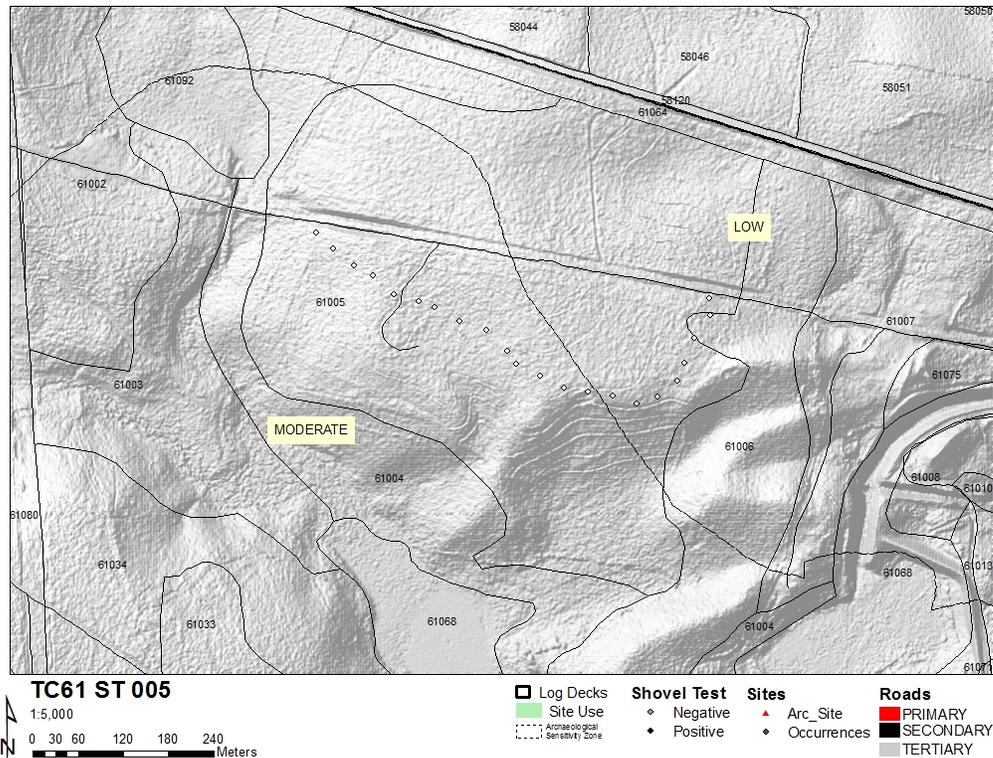


Figure 50. Timber Compartment 61, Stand 5 survey area.

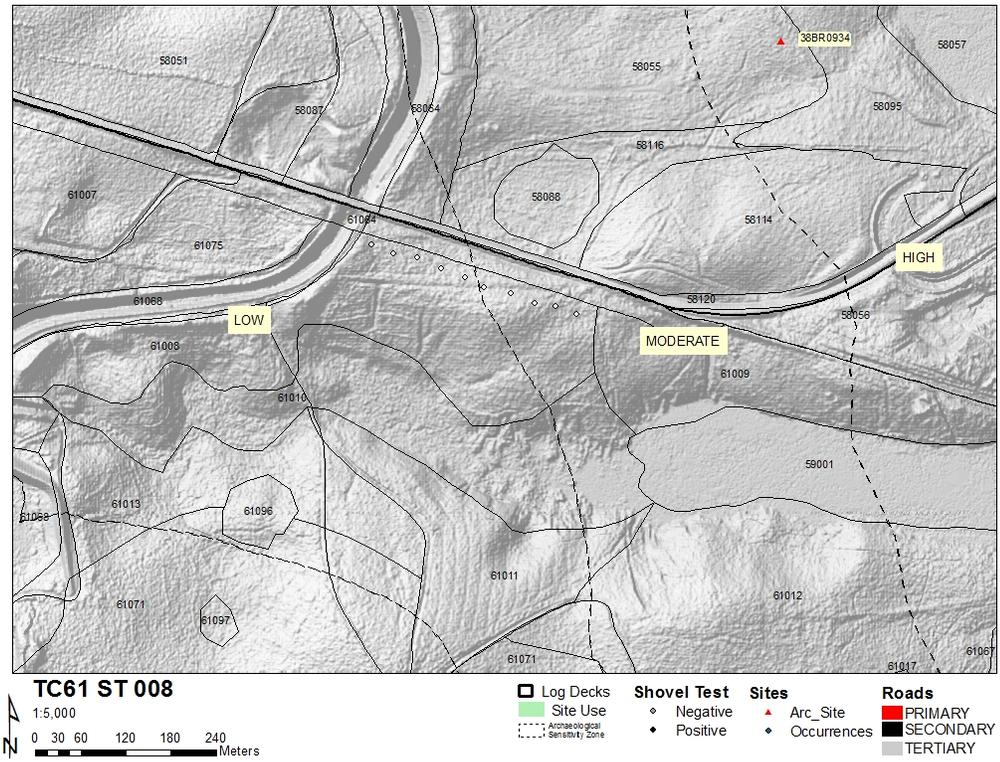


Figure 51. Timber Compartment 61, Stand 8 survey area.

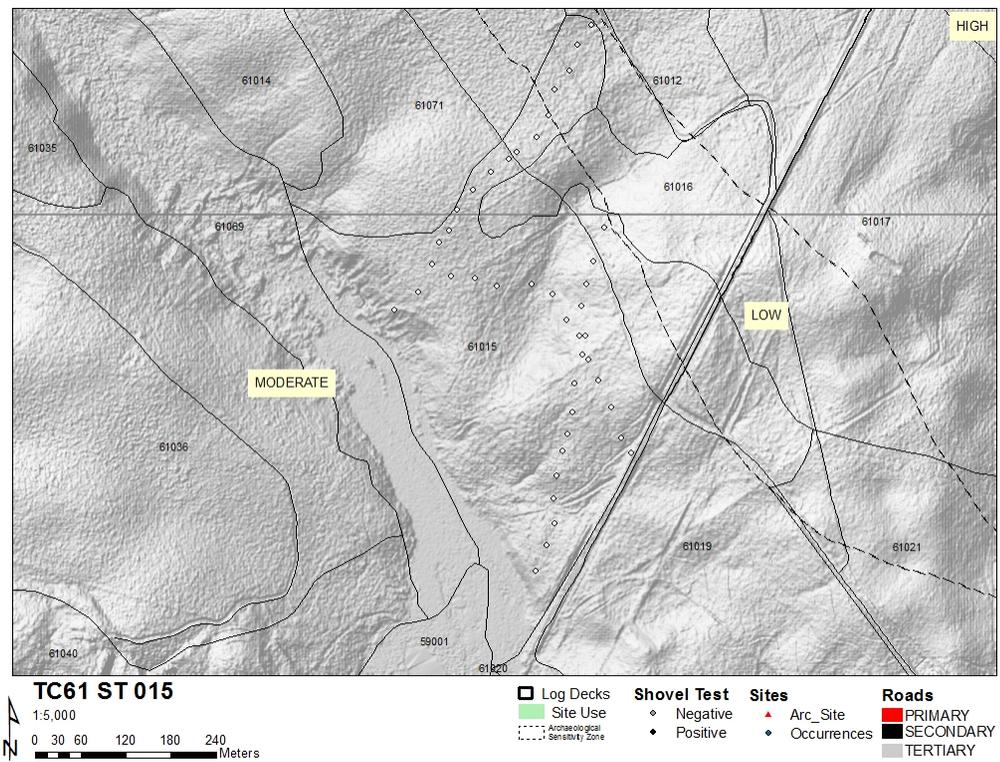


Figure 52. Timber Compartment 61, Stand 15 survey area.

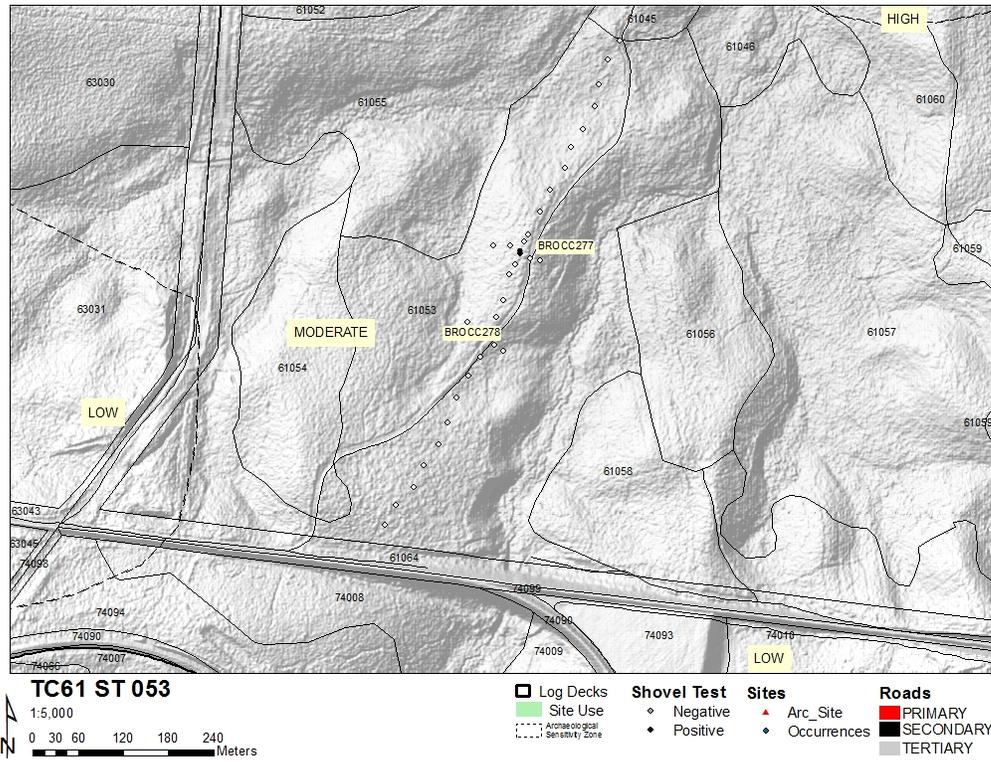


Figure 53. Timber Compartment 61, Stand 53 survey area.

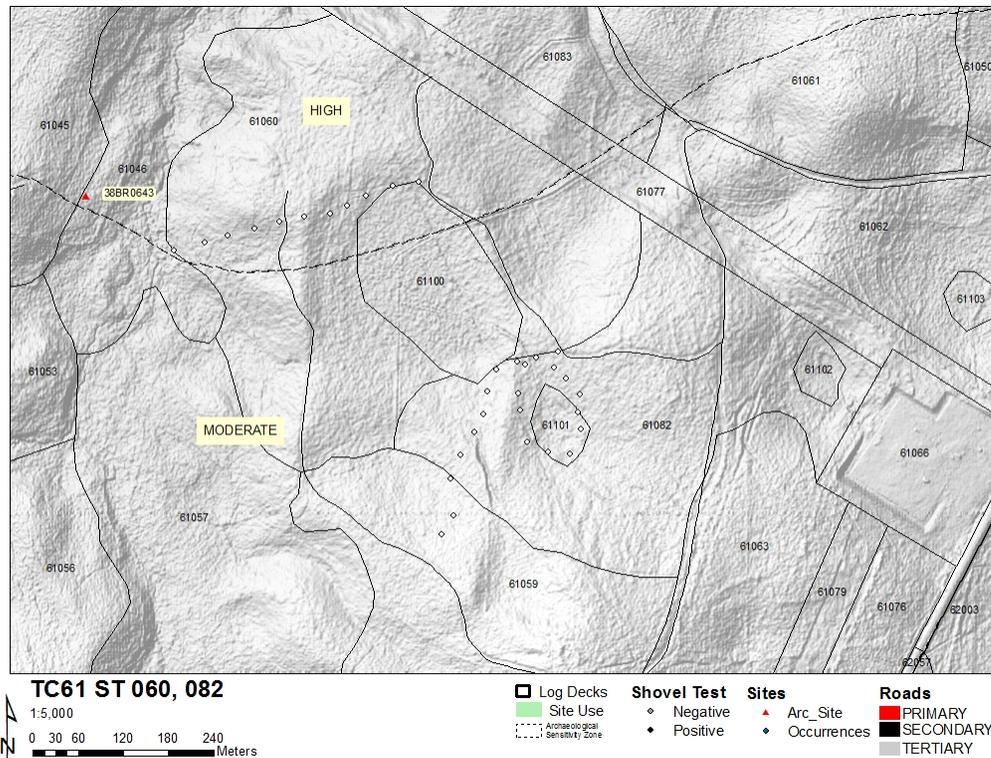


Figure 54. Timber Compartment 61, Stands 60/82 survey area.

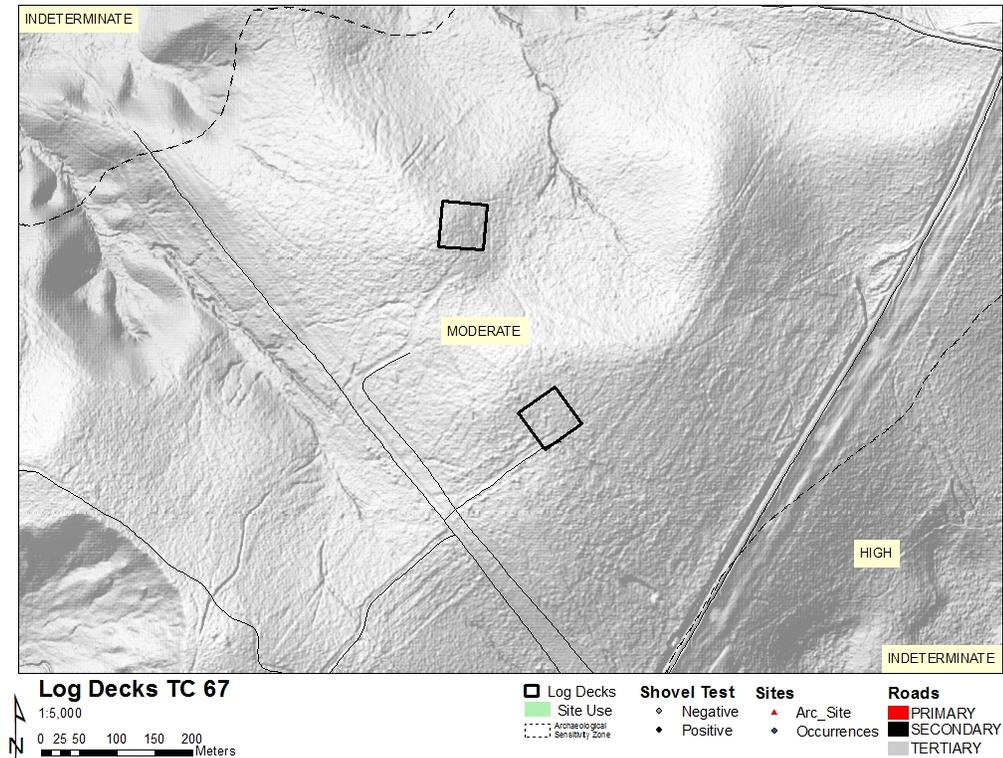


Figure 55. Timber Compartment 67, Stand 53 survey area.

As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 67.

#### *Timber Compartment 69*

Archaeological survey in Compartment 69 involved subsurface inspection within Stands 16 and 94 totaling 122 acres slated for clearcutting. Review of the SRARP database showed one previously recorded site (38BR361) in the project area. Fieldwork consisted of 39 STPs (2 positive) excavated along 3 separate transects (Figure 56). These survey efforts resulted in the rediscovery and delineation of 38BR361. This prehistoric site has occupation components dating from the Late Archaic to the Late Woodland periods, and along with its good subsurface integrity, has the research potential to advance our understanding of the history of the region. As such, 38BR361 is considered eligible for nomination to the NRHP. For this reason, 38BR361 will be avoided completely during current timbering activities. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 69.

#### *Timber Compartment 72*

Archaeological survey in Compartment 72 involved subsurface inspection of 2 proposed Log Decks totaling 1 acre in extent in Stand 15 (Figure 57). Review of the

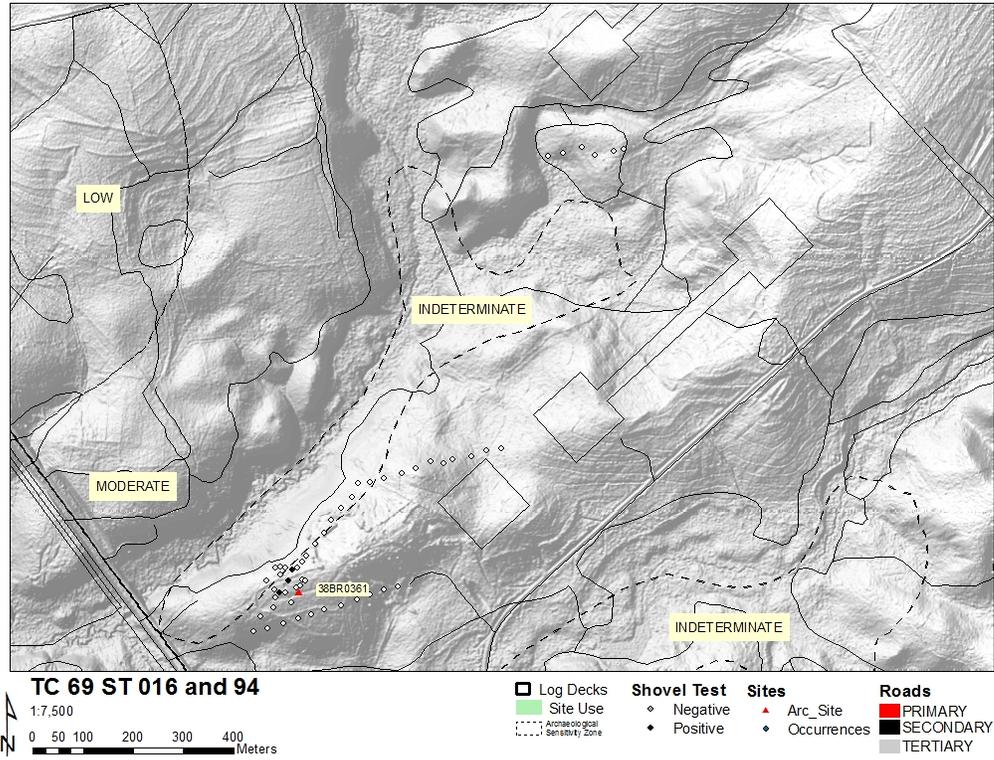


Figure 56. Timber Compartment 69, Stands 16 and 94 survey area.

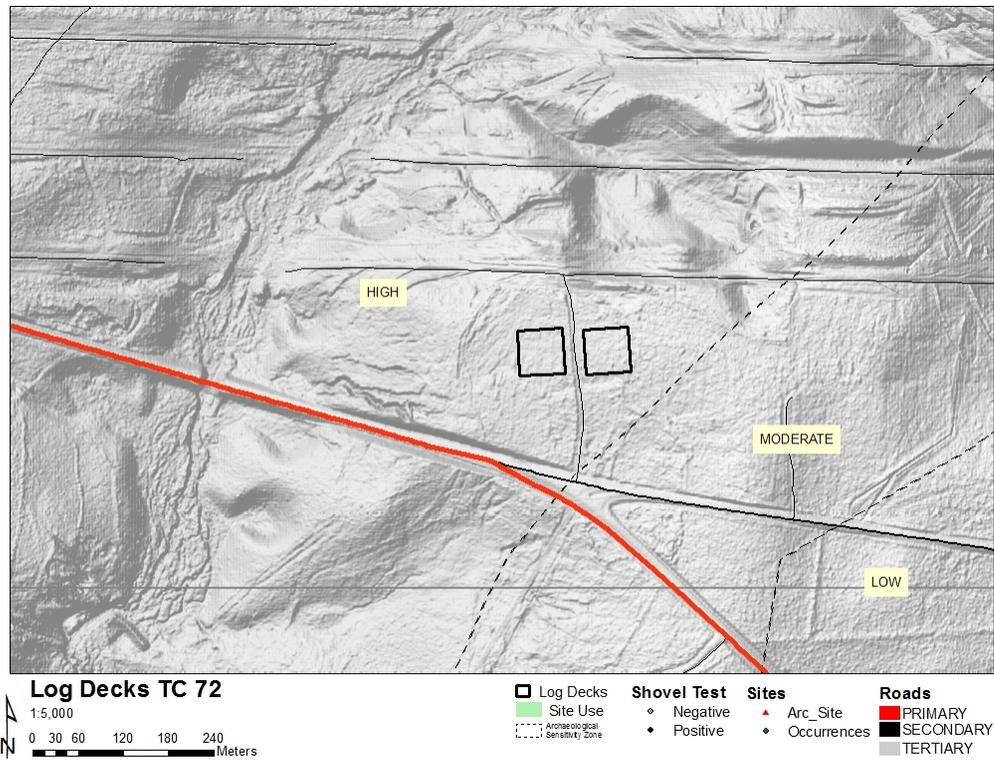


Figure 57. Timber Compartment 72, Stand 15 survey area.

SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 18 STPs (0 positive) excavated on a 30-m grid at each Log Deck location. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 72.

### Survey Results

To summarize, Table 7 lists the results of FY10 compliance survey. Altogether, 8 new sites were recorded and delineated, and 11 previously recorded sites were revisited. Additionally, one previously recorded site (38AK418) could not be relocated during FY10 survey. Of the total sites investigated during FY10, 2 are considered eligible and 6 are considered not eligible for inclusion in the NRHP. The remaining sites have been assigned an indeterminate (potentially eligible) status, and each will be avoided by DOE contractors. In the event that any of these sites are threatened, further testing will be conducted to make a determination of eligibility. Fifteen isolated artifact occurrences were also recorded during FY10. Isolated finds are considered to hold low research potential. As such, there will be no adverse effects to these ephemeral resources through DOE related activities. Summary data for new and existing sites are provided in Table 1 and Table 2. Evaluations of these sites are provided in Table 3. Finally, a tabulation of isolated artifact occurrences by project type is provided in Table 4.

The SRARP surveyed 1,627 acres in FY10 for 26 Site Use Permits and 15 Timber Compartment Prescriptions. Of the total area surveyed, 756 acres (46%) involved Site Use Permit projects and 871 acres (54%) involved Timber Compartment Stands slated for harvesting or Log Deck use. Altogether, 3,866 STPs were excavated in FY10 during site surveys, archaeological site delineations, and isolated artifact occurrence locations with a total of 189 STPs producing artifacts.

In conclusion, Section 110 of the Regulatory process requires an inventory of all cultural resources on public lands. As of this report, the SRARP has surveyed approximately 65,055 acres (33.7%) out of a total of 193,276 (97.4%) of SRS acreage suitable for survey (i.e., excluding SRS wetlands and developed areas). In total, the SRS comprises 198,344 acres or 310 sq. mi. These efforts have resulted in the inventory of 1,885 sites (925 prehistoric, 487 historic, and 473 with both prehistoric/historic components) recorded to date.

Table 7. Summary of FY10 Survey Results.

Site Use Application Surveys	26
Timber Compartment Prescription Surveys	15
Total STPs Excavated	3,866
Total Positive STPs Excavated	189
Total Area Surveyed (acres)	1,627
New Sites	8
Site Revisits	11
Isolated Artifact Occurrences	15

## **CURATION COMPLIANCE ACTIVITIES**

Tammy F. Herron

As a result of the analysis of artifacts recovered through daily compliance activities and the analysis of artifacts recovered from excavations conducted at Flamingo Bay (38AK469), Frierson Bay, and Johns Bay, 21,279 artifacts have been curated over the course of the past fiscal year. Compliance related excavations conducted throughout the year account for 1,648 of these artifacts. Analysis of artifacts from 38AK469 yielded 15, 213 artifacts. Artifacts analyzed from Frierson Bay totaled 1,009 and from Johns Bay 3,409.

Staff members continued data entry for the Master Baseline Database (MBD), which houses the artifact summary sheets recorded for each provenience and level assigned; however, there is a backlog of data to be entered. Due to this fact and some glitches in the curation section of the Master Baseline Database created by ESRI, an accurate count of the number of artifacts housed in the Central Curation Facility (CCF) cannot be given but is rather estimated to be approximately 1.5 million. Rob Moon is working in-house to create a database that will integrate the compliance, curation, and GIS/GPS data into one efficient package to better aid the SRARP in future management issues.

Dedicated curation space, or the lack thereof, has become a major issue here at the SRARP. Currently, the CCF houses 660 boxes of artifacts in a climate controlled area. Of note, is the fact that 718 boxes of artifacts are currently being stored outside of the CCF due to a lack of storage space. Boxes of artifacts are stored wherever possible in the offices of staff members, under tables and desks, in corners, and stacked as high as feasibly possible in some areas. We even used a little ingenuity by making a table out of stacked boxes. These practices, however, are in violation of 36CFR79—leaving the artifacts more susceptible to theft and damage from a lack of environmental control, as well as creating a safety hazard in some instances due to the height of the stacked boxes and the location of the stacks. The need for an increase in dedicated curation space continues to be a primary concern of the program.

## **THE SRARP ARCHAEOLOGICAL GEOGRAPHIC INFORMATION SYSTEM**

J. Christopher Gillam

The SRARP archaeological Geographic Information System (GIS) in FY10 involved ongoing use of the SRARP GeoDatabase with ArcGIS 9.3.1. The archaeological point coverage was updated and errors from previous records were corrected. The site-wide survey coverage and associated database were added to the list of GIS resources with assistance from SRARP staff. The SRARP staff continues updating the curation and site files databases as new data are collected from the field and began research on new database products for future use by the SRARP.

## **MANAGEMENT OF COLD WAR-ERA CULTURAL RESOURCES**

Robert Moon

In FY10, the SRARP continued to work with the SRS Cold War Artifact Selection Team with an emphasis on two specific projects. First, were the necessary modifications to 315-M as a proposed curation facility. Progress is being made on the curation facility as discussed below in this report. Second, members occasionally met in conjunction with the SRS Heritage Tourism Committee at various locations on the SRS and in the CSRA to discuss progress on the proposed historic Ellenton site public walking trail as proposed by the SRS Heritage Foundation. While the SRARP occasionally conducts tours of Ellenton for former residents, the Heritage Foundation seeks to establish either a guided or self-guided tour of the site, as well as regular hours that the area would be available for public access. Additionally, the SRS Heritage Foundation is seeking grant funding for site preparation, trail markers, and signage along the tour route. This year, the SRARP conducted an archaeology survey of the area for a proposed pavilion and parking lot for the tours. The results of the survey are further discussed above in the compliance management section of this report.

## **DOE COMPLIANCE SHORTFALLS AND FUTURE REQUIREMENTS**

Tammy F. Herron

Overall, the DOE's record of compliance with CRM legislation has been excellent with the expert technical guidance of the SRARP. There is, however, one exception to this which concerns the curation of DOE archeological collections. Because of the nature of the facilities provided by DOE, full compliance with 36CFR79 has never been achieved. This regulation requires that all federally-owned archaeological collections and associated documents be housed in a facility that has sufficient space for extant collections and meets stated requirements for security, environmental controls, and fire suppression. As was reported in the SRARP Annual Reports for FY93 through FY09, as well as in the SRARP appraisal of 1994 (DOE 1994) and the SRARP report to DOE (Brooks and Forehand 2002), Building 760-11G, which houses the SRARP, continues to be out of compliance with 36CFR79. Areas of DOE noncompliance include dedicated curation space, security, and environmental controls required by 36CFR79. The curation space, as it is currently configured, is not large enough to house existing artifact and document collections and cannot accommodate future additions that will be created by ongoing CRM activities.

The rear entrance of the building flooded again several times throughout the year due to an ineffective drainage system behind the building. Staff members monitor the drainage ditch and clean it out as necessary. We have also purchased "water snakes" to soak up the water when it floods the back foyer in an effort to keep the water from spreading to other sections of the building. In addition, water alarms have been placed on the floor adjacent to the rear entrance and along the east wall of the CCF.

For the DOE to be in compliance with 36CFR79 and meet growing space needs for the archaeological collection, the SRARP needs access to a facility with at least 3,500 sq. ft. of floor area that meets established regulatory requirements for security, climate control, and fire suppression. Because easy access to artifact and document collections is essential for efficient long-term management of SRS cultural resources, it is imperative that this facility be located in close proximity to the SRARP administrative offices. Not only will the dedication of appropriate facilities bring DOE into compliance with federal regulations, it will also insure that DOE's extensive investment in its archaeological collection is protected. DOE made a concerted effort to address this problem in FY05 by conducting a study to select an existing building on the SRS to house not only the SRARP and DOE's archaeological artifacts, but also the Cold War Era artifacts and associated curation staff.

On 1 June 2006, the Building 315-M Modification Scope of Work was signed. This document outlined two scenarios for converting Building 315-M into the SRS Curation Facility. Case A would convert building 315-M into a 36CFR79 compliant facility by providing 3,600 sq. ft. of artifact storage for SRARP artifacts and 12,200 sq. ft. for Cold War artifacts. Offices and an analysis area/working curation room would be incorporated to house personnel associated with the Cold War History Program, as well as the SRARP when onsite, while the main offices for the SRARP personnel continue to be housed in Building 760-11G. In addition to the aforementioned arrangement, Case B would provide housing and work areas for SRARP personnel, including a primary analysis area, a file/map storage area, equipment storage and maintenance areas, 2 secondary analysis areas, 2 wet labs, and 12 new offices. As of the FY09 report, engineers and design teams were still in the process of determining design elements and cost estimates regarding both scenarios. During FY10, Case A was selected, and the Washington Savannah River Company (WSRC) was contracted by the DOE-SR to complete the design of the Savannah River Site Curation Facility.

New HVAC systems have been installed throughout the building, exterior siding was replaced where necessary, and the roof has been repaired in places as well. Due to the height of the ceilings, ceiling fans have also been installed in the curation areas to assist with air flow. The interior of the building is still under construction. Walls and floors are being painted. The restroom facilities were gutted and will be practically all new construction and ADA compliant. The plumbing system throughout the building has been revamped as well. The existing offices will be cleaned and left as is when construction is complete. The projected move may take place in December 2010, if work proceeds as scheduled. SRARP staff has decided it would be in the best interest of the artifacts for the staff to move the artifacts to the new facility rather than hiring another firm. At present, we are debating whether to move the artifact collection in a few large loads or to move smaller loads as time permits. The goal of this facility is to bring DOE into compliance with 36CFR79, and relieve the overcrowded state of the collections presently stored at Building 760-11G. We appreciate DOE's efforts to make this facility a reality.

## **SAFETY COMPLIANCE**

George L. Wingard

During FY10, the SRARP continued compliance with federal and state regulations governing human health and safety. As Director of Safety, George Wingard shared with the staff a variety of topics pertaining to their health and safety at meetings held throughout the year. The topics included:

2009	September	Shoveling Safety
	October	Colds and Flu
2010	February	Home Ergonomics
	March	Haz Com
	April	Weather Safety
	May	Home Safety
	July	Handling the Heat

## PART II. RESEARCH

### RESEARCH ABSTRACTS

#### *Exploring an Early Antebellum Homestead at the Savannah River Site*

Robert Moon and Tammy Herron

Poster presented at the 66th Annual Meeting of the Southeastern Archaeological Conference, Mobile, AL.

In 2005, the Savannah River Archaeological Research Program (SRARP) identified site 38AK892 at the Savannah River Site (SRS) as part of a mitigation project for the South Carolina Department of Natural Resources (SC-DNR). Initial analysis indicated that the site dated from the late colonial and early antebellum periods—a poorly researched time period at the SRS. Limited block excavations demonstrated that the site had the potential for intact features below the plowzone, and SC-DNR agreed to avoid the site. In 2007, the SRARP expanded block excavations at the site. This poster will report on the 2005 and 2007 excavations and explore potential avenues for future research.

#### *Geoarchaeological Investigations of Carolina Bays in South Carolina: Methodological Approaches for Interpreting Site Formation Processes, Archaeostratigraphy and Geochronology*

Christopher R. Moore, Mark J. Brooks, Andrew H. Ivester, and Terry A. Ferguson

Poster presented at the Northeastern Section (45th Annual) and Southeastern Section (59th Annual) Joint Meeting of the Geological Society of America; the 40th Annual Meeting of the Archaeological Society of South Carolina, Columbia, SC, and the 2010 Symposium on Southeastern Coastal Plain Archaeology, Douglas, GA.

This long-term Carolina bay study addresses four basic research objectives. These are: 1) determine the age, origin, and evolution of Carolina bays; 2) delineate prehistoric cultural activities and site formation processes on Carolina bay sand rims; 3) determine the role of Carolina bays in prehistoric settlement systems; and 4) explore linkages at Carolina bays between climate change, depositional processes, and prehistoric adaptations.

Recent geoarchaeological investigations of Carolina bay sand rims indicate they have accreted ~1 meter of sand since the beginning of the Holocene (ca. 11,450 Cal BP). Bay rim deposits at Flamingo Bay (Aiken County, SC), Johns Bay (Allendale County, SC) and Frierson Bay (Barnwell County, SC) were tested to determine archaeostratigraphy and intensively sampled for grain size, soil chemistry, bulk phytolith, sediment bulk density, LOI, field water content, micromorphology and magnetic susceptibility. Ground Penetrating Radar (GPR) surveys were conducted to broadly delineate bay rim stratigraphy and geomorphology. Sediment samples were taken from continuous columns at 2.5 cm intervals from the ground surface to ~1 to 1.8 meters below surface. In addition, 5 single-grain luminescence (OSL) age estimates were acquired for the upper meter at Flamingo Bay using 2 cm diameter sampling tubes. Eight single-grain OSL ages were

acquired for Johns Bay and Frierson Bay, including a basal rim age for Johns Bay at 2.8 meters below surface. Sediments associated with Early and Middle Archaic occupations at all three bay sites were also dated.

Tangentially, our research has implications for the recently proposed comet impact origin for Carolina bays by Firestone et al. (2007), who suggest that such impacts precipitated the Younger Dryas (YD) stadial (ca. 12,800-11,450 Cal BP), megafauna extinctions, and the demise of Clovis culture at the end of the last ice-age. Our data, however, demonstrate that Carolina bays were formed by high-energy lacustrine processes over lengths of time far greater than the onset of the YD and that bay evolution is a long-term process rather than a synchronous event.

*Site Formation Processes and Climatic Disequilibrium: Geoarchaeological Evidence for Rapid and Episodic Climate Change Events in the North Carolina Coastal Plain*

Christopher R. Moore and I. Randolph Daniel, Jr.

Poster presented at the 66th Annual Meeting of the Southeastern Archaeological Conference, Mobile, AL.

Geoarchaeological investigations along the Tar River in North Carolina suggest burial of archaeological sites reflect Holocene millennial-scale climatic cyclicity and its related effects on the fluvial system. Chronometric dates from stratified sites along the Tar River correspond closely to Bond Events 4 through 8 and indicate a pervasive and episodic signature of climate change over the last 11,500 years. Other researchers in the Southeast have also found evidence for coupling of the late Quaternary sedimentological record with abrupt climate and vegetation changes (e.g., Waters et al. 2009). These events likely influenced hunter-gatherer adaptation and site preservation along coastal rivers in the Southeast.

*Putting the Robot to Work at Etowah: Integrating High-Density Digital Elevation Data with Magnetic Gradiometry Data*

Duncan P. McKinnon, Chester P. Walker, and Adam King

Paper presented at the 66th Annual Meeting of the Southeastern Archaeological Conference, Mobile, AL.

Geophysical investigations at Etowah Indian Mounds Historic Site have become a critical tool in the explanation of subsurface features. A component of these investigations includes a full coverage magnetic gradiometry survey resulting in an insightful and informative magnetic map of subsurface features. To compliment magnetic gradiometry survey, the site was surveyed by robotic total station permitting the total coverage with high-density sampling and centimeter-level accuracy. From these data a digital elevation model of the site has been created permitting improved understanding of site topography. Integrating these datasets offers important new insights about the relationship of subsurface features to site topography.

*Etowah's External Connections as Revealed by Style and Iconography*

Adam King and Alexander Corsci

Paper presented at the 75th Annual Meeting of the Society for American Archaeology, St. Louis, MO.

In this paper, we explore connections between the Etowah site and other regions from AD 1250 to 1400. To do this, we examine artistic style and imagery found on copper, marine shell, and pottery from Etowah's Mound C. Those connections reveal a corridor extending from northern Georgia through the Nashville Basin and to southeastern Arkansas and the Missouri Bootheel. We view the western terminus of this corridor as the successors, both in terms of art and power, of the Great Early Mississippian center of Cahokia, and we explore the implications of its ties to Etowah.

*PIDBA (Paleoindian Database of the Americas) 2010: Current Status and Findings*

David G. Anderson, D. Shane Miller, Stephen J. Yerka, J. Christopher Gillam, Erik N. Johanson, Derek T. Anderson, Albert C. Goodyear, and Ashley M. Smallwood

*Archaeology of Eastern North America* 38:63-90.

The Paleoindian Database of the Americas (PIDBA), available on-line at <http://pidba.utk.edu>, provides locational data on close to 30,000 projectile points, and attribute data on over 10,000 from across much of North America. These samples document patterns of land and lithic raw material use, and the changes in numbers of artifacts over time may reflect demographic trends within the Paleoindian period. PIDBA grows through the contribution of primary data, and recent additions include radiometric and bibliographic databases, as well as updated distributional maps. Ongoing research is directed to adding images of artifacts and compiling the attribute data into a single comprehensive database.

*Past Landscapes, Future Knowledge: Becoming Better Advocates for Humanity and Nature*

J. Christopher Gillam

*2010 NEOMAP Landscape Workshop: What Does Landscape History Mean to Us, and How can Landscape Studies Contribute to our Future?* Research Institute for Humanity and Nature, Kyoto, Japan.

Cultural landscapes, like cultures themselves, are defined, modified, overlap, and often transformed by changes in ideology, technology, economy, and the passage of time. Being culturally defined, landscapes can teach us about past civilizations since their cultural patterns or life-ways are archaeologically "written" into the landscape or historically written in texts and/or recorded on maps. Modifications to cultural landscapes help us to understand the process of cultural change. Likewise, overlaps in cultural landscapes may teach us about cultural interactions from the distant and recent past.

When cultural landscapes are radically changed, or transformed, we may also learn about the corresponding cultural transformations in ideology, technology, and economy that led to changes in the cultural landscape. Time is also a significant factor, particularly when transformations are gradual instead of abrupt, and will often yield clues to long-term processes that affect the human condition. Knowledge of landscape history can teach us valuable lessons about our cultural impacts on the natural environment. This knowledge may be used to prevent the repetition of past mistakes and provide the basis for a system of checks-and-balances for creating effective legislation to protect the global environment.

*Modeling Neolithic Cultural Landscapes in East Asia*

J. Christopher Gillam

*Proceedings of the 14th International Conference of Historical Geographers, Kyoto 2009*, edited by A. Kinda, T. Komeie, S. Minamide, T. Mizoguchi, and K. Uesugi, pp. 214-215. Kyoto University Press.

The Neolithisation of Japan remains a topic of scholarly debate and great research interest. Significant issues include the impacts of complex hunter-gatherer and early agricultural societies on local and regional environments, the diverse cultural trajectories of the Jomon Period (16,000 to 3,000 CYBP) leading to cultural and landscape changes during the Yayoi Period (3,000-1,750 CYBP), how these different groups co-existed, traded and interacted, and the factors influencing the adoption of metallurgy, horticulture/agriculture, and increased sedentism in some regions (e.g., Kyushu, Shikoku, Honshu) versus continued fisher-hunter-gatherer adaptations and traditions in others (e.g., Okinawa, Hokkaido). Advancements in the design and implementation of archaeological databases, Geographic Information Systems (GIS), and map modeling enable archaeologists to construct empirical models of past cultural and natural systems at a variety of scales. The goals of this paper are to explore critical considerations in the resolution and accuracy of archaeological and environmental GIS datasets, to highlight useful GIS datasets that are distributed freely on the internet, and to discuss techniques for modeling prehistoric cultural landscapes and their impacts on the environment using examples from North America, South America, and East Asia.

*From the Hida Mountains to Toyama Bay: Understanding Diversity and Change in Jomon Cultural Landscapes*

J. Christopher Gillam, Oki Nakamura, and Tomohiko Matsumori

*2010 Landscape Archaeology Conference* Amsterdam, Netherlands.

The Jomon Period of Japan ranges over an expansive period of time (16,500 – 2,400 CAL YBP) and environs in west-central Honshu. Using time-sliced site distribution models and GIS data from the mountains of the Hida District and the Toyama Bay and Plain of neighboring Hokuriku District, this research compares and contrasts models of

the complex hunter-gatherer-fisher cultural landscapes of the six Jomon sub-periods from Incipient to Final Jomon. We have constructed a database of over 1,500 sites in this area including features and artifacts, such as pit dwellings, assemblages of stone tools, pottery, and ritual objects. GIS, spatial, and statistical analyses highlight variation in cultural organization and complexity over time and space, from the mountains to the sea. Particular attention is given to the landscapes and apparent demographic peak of the Middle Jomon (5,500-4,400 CAL YBP) and its relation to earlier and later cultural landscapes and population distributions.

*Monumentos funerarios y festejos rituales: Complejos de recintos y montículos  
Taquara/Itarare en ElDorado, Misiones (Argentina)*

*[Funeral Monuments and Ritual Celebrations: Mound and Enclosure Complexes of the  
Taquara/Itarare in ElDorado, Misiones (Argentina)]*

José Iriarte, Oscar Marozzi, and J. Christopher Gillam

*Arqueologia IberoAmericana 6:25-38.*

Around A.D. 1000, during a period of great environmental change in the Southern Brazilian Highlands of Argentina and Brazil, there arose a monumental architectural tradition of earthen enclosure complexes and associated funeral mounds. Based on ethnographic analogy with historical southern Jê groups and comparison to similar archaeological sites of southern Brazil, recent excavations in Misiones province, Argentina, suggest that the complexes served as locations of ritual celebrations where the prehistoric Taquara people consumed roasted meat and maize beer.

*Systematic Shovel Testing At Colonial Dorchester, South Carolina*

Ben P. Johnson

Paper presented at the 66th Annual Meeting of the Southeastern Archaeological Conference, Mobile, AL.

Using data generated from a systematic grid of shovel test units excavated across Colonial Dorchester, South Carolina, I analyzed distributions of artifact classes through inverse distance weighted interpolations in ArcGIS. The largely intact archaeological record at Dorchester provides an excellent context for investigating site structure and functionality through the distributions of architectural materials, ceramics, glass, personal items, and trade goods. Comparative analyses of artifact class distributions provide insights into activities taking place at Dorchester, which was once an enclave of Puritan immigrants from Massachusetts and a trade center for farmers, planters, merchants and craftsmen during the 18th century.

*Demographic Survey of the Extant Historical Cemeteries of the Savannah River Valley*

Ben P. Johnson

Paper presented at the 40th Annual Meeting of the Archaeological Society of South Carolina, Columbia, SC.

In 1951, approximately 130 of an estimated 165 cemeteries were removed from the Savannah River valley to make way for the SRS, a Department of Energy facility for the production of nuclear materials. Today, 35 known 19th- and early 20th-century cemeteries exist on site at SRS. Building on historical demographic research conducted by George Wingard, I investigate the demography of extant cemeteries at SRS through monument inscriptions, census records, and other archival research.

*Joseph Caldwell's Northern Ceramic Tradition in the Deep South*

Keith Stephenson and Frankie Snow

Paper presented at the 66th Annual Meeting of the Southeastern Archaeological Conference, Mobile, AL.

In his monograph *Trend and Tradition* (1958), Caldwell described the cultural processes he believed led to increased regional differentiation in the Eastern U.S. For the Deep South, he noted a discontinuity in ceramic style within the Southern Appalachian Tradition marked by “cord-decorated pottery in the simple northern conoidal form.” The presence of this enigmatic cordmarked ware, particularly on the South Atlantic Coastal Plain, has prompted various models of population movement, interaction, and exchange that extend Caldwell’s notion of the Northern Tradition influence. We revisit these models with regard to the Late Woodland cordmarked pottery sites of interior southern Georgia.

*Weeden Island Mortuary Ritual*

Karen Smith and Keith Stephenson

Poster presented at the 75th Annual Meeting of the Society for American Archaeology, St. Louis, MO.

Burial mounds associated with Weeden Island culture (ca. A.D. 200-900) are remarkable for their pottery “caches” of several to fifty or more vessels. These mass ceramic deposits have no historical precedent and, as a result, have been the focus of much empirical work but also considerable speculation. Unsatisfied with a normative explanation that invokes elite mortuary ritual alone, we seek an alternative understanding couched in evolutionary theory of signaling behavior. We use this poster as an opportunity to model the social contexts in which signaling would be advantageous, given our understanding of Woodland Period population and settlement dynamics.

*Investigation of the Lawton Mound Site Palisade*

Keith Stephenson, Adam King, and Christopher Thornock

Paper presented at the 2010 Symposium on Southeastern Coastal Plain Archaeology, Douglas, GA.

In 2008, we conducted fieldwork at Lawton focusing on a portion of the remains of a burned and collapsed palisade that once surrounded the site. We initially suspected the

presence of a burned enclosure when concentrations of fired daub were detected through systematic shovel testing conducted in 1999 along the interior edge of the fortification ditch, as well as the terrace edge. In 2007, Chet Walker of Archaeo-Geophysical Associates, conducted limited magnetometer survey at Lawton. At Lawton the magnetometer survey revealed clear anomaly patterns on the southern, eastern, and northern interior margins of the fortification ditch. These highly magnetic burned daub concentrations confirmed the presence of what we had interpreted as a palisade wall collapse. To further investigate the architectural structure of the palisade, we excavated a small block consisting of eight 1 x 1-m units in five arbitrarily defined levels. At 10 cmbs, burned daub concentrations were encountered. Removal of the daub and underlying midden revealed a wall trench feature 30 to 40 cm in width running the length of the block excavation. Postmolds were difficult to discern in the wall trench, but were perceptible as amorphous light brown stains. The absence of charcoal in the postmolds indicates that the wall posts did not burn completely to the ground surface. In profile, the wall trench extended approximately 80 cm into the subsoil from the base of the alluvial layer. At this depth, the wall trench narrowed from a width of 40 cm to about 20 cm. At the base of our excavation at 110 cmbs, five postmolds were exposed in plan, and were identifiable only as splotchy white-colored soil stains devoid of organics in a tan soil matrix. The postmolds were between 20 and 30 cm in diameter, which in actuality may be postholes rather than molds with their organic signature having leached through the sandy substrate. These postmolds (or holes) were spaced 15 to 25 cm apart, as measured from center to center, and extended to a depth of 20 cm from the base of the wall trench. It is noteworthy that the wall trench cuts through the midden, rather than the midden having formed after the palisade was erected. Evidence for this inference lies in the fact that the midden on the interior side of the palisade had two layers, one consisting of mottled soil with artifacts overlying a more homogenous dark brown midden. The upper layer appears to be midden and subsoil excavated from the wall trench at the time of its construction. If the palisade had been planned and built at the time Lawton was first occupied, then the substrate backfill of the wall trench should be found below a homogenous artifact laden and organic rich midden.

#### *Characterization of Swift Creek Vessel Assemblages*

David Hally, Emily Beahm, Sarah Berg, Dan Bigman, Carol Colaninno, Ben Steere,  
Keith Stephenson, Karen Smith, and Frankie Snow

Paper presented at the 66th Annual Meeting of the Southeastern Archaeological Conference, Mobile, AL.

A number of studies concerning Mississippian domestic vessel assemblages have been published over the past 25 years. Few attempts, however, have been made to reconstruct Woodland domestic vessel assemblages. Drawing on analysis of collections of whole vessels from mortuary contexts and rim sherd collections from domestic contexts at several sites in Georgia, this paper describes the array of vessel forms that appear to characterize both Early and Late Swift Creek domestic vessel assemblages. Between six and seven vessel shapes can be recognized at any one time during the Swift Creek period, and several of these were made in multiple size classes. Preliminary identifications of vessel function are offered.

## RESEARCH NOTES

### Geoarchaeological and Paleoenvironmental Research

Christopher R. Moore, Mark J. Brooks, Andrew H. Ivester, and Terry A. Ferguson

Geoarchaeological and paleoenvironmental research continued in FY10 on the SRS and beyond. Volunteer support of our research effort increased substantially over FY09. This year, volunteer help at the SRARP included substantial lab work in support of the Carolina Bay Volunteer Research Program. This involved washing and sorting of artifacts, lithic analysis, artifact refitting, analysis of archaeological sediments (i.e., sieving), flotation, and data entry. In addition, volunteers assisted in continued archaeological excavations and testing at Flamingo Bay (38AK469) on the SRS, Johns Bay in Allendale, and Frierson Bay near Blackville. Involvement with graduate student research, consulting with colleagues, and writing projects continued as well.

Work also continued on the Tar River Geoarchaeological Survey in North Carolina. In this study, Drs. Christopher R. Moore (SRARP) and I. Randolph Daniel, Jr. (Department of Anthropology, East Carolina University) are conducting research on stratified sandy sites on the Tar River.

Finally, work on a project titled “Stone Quarries and Sourcing in the South Carolina Slate Belt” got underway in FY10 with extensive sampling of metavolcanic quarries in Saluda, McCormick, Lexington, and Lancaster counties for geochemical characterization. Additionally, Early Archaic and Paleoindian projectile points discovered in South Carolina and made from exotic or non-local vitric tuff or rhyolite, were also sampled for isotopic analysis.

#### *Carolina Bay Research*

##### Introduction

Carolina bays are shallow, oriented (NW-SE in the Carolinas), elliptically-shaped ponds occurring in large numbers throughout the Coastal Plain portion of the South Atlantic Slope (Raiz 1934; Johnson 1942; Prouty 1952, Kaczorowski 1977). Several hundred-thousand bays are thought to exist between Maryland and northern Florida with the greatest concentration occurring in the Carolinas and Georgia (Walker and Coleman 1987). Carolina bays often have elevated sand rims composed of fine sand to gravel-sized sediments. Geological evidence indicates that these sediments were deposited by high-energy, lacustrine (lake) processes involving shoreface (water-lain) and eolian (wind-blown) sedimentation (Brooks et al. 1996). With these and related processes (e.g., slopewash) occurring over the course of the Holocene, under varying climatic conditions, the potential exists for prehistoric occupations to have been buried and preserved. Thus, these geologic deposits represent “time-capsules” for understanding the archaeological record of the Coastal Plain and serve as a proxy for understanding climate change and cultural adaptation.

Many “theories” about Carolina bay origins have been promoted over the years by scientists and non-scientists alike, but few if any of these ideas have been supported by scientific data. Among these ideas, the more pervasive claims for bay formation relate to low-angle meteor or comet impacts/air bursts and date as far back as the 1930s (e.g., Melton and Schriever 1933). More recently, a comet impact origin for bays has been advanced (implicitly if not explicitly) by some scholars promoting a hypothesis regarding the onset of the Younger Dryas (YD), megafauna extinctions, and the reported decline of Clovis hunter-gatherers at the end of the last ice age, some 13,000 years ago (e.g., Firestone 2009; Firestone et al. 2006, 2007). Although the idea of bay formation by a comet or meteor at the YD boundary (or any other time) has been continually discredited by geologists, the idea remains very popular among the lay public and is promoted fervently (almost religiously) on many websites and in popular print. While our research is not directed at substantiating or refuting the claims for an impact(s) origin for Carolina bays, it directly addresses these claims through the establishment of a high resolution, optically stimulated luminescence (OSL) geochronology and through detailed sedimentological and geophysical studies of bay sand rims. OSL dating is a relatively new technique for determining the burial age of sediments (i.e., the last time the sediments were exposed to light) and is useful for indirectly dating archaeological deposits contained within those sediments and for building site formation chronologies (Feathers 2003).

Recently available high resolution Light Detection and Ranging (LiDAR) elevation data have revealed Carolina bays in spectacular detail. This technology has revealed geological structures within and around bays not visible before and is useful for geomorphic reconstruction of Carolina bay evolution and for predicting likely locations for buried archaeological sites (e.g., Moore 2009) (Figure 58 and Figure 59).

#### Research Questions/Methods

Geoarchaeological and paleoenvironmental research on Carolina bays has been ongoing at the SRARP for 18 years. The results of this research have led to numerous peer-reviewed publications on Carolina bay geoarchaeology, geomorphology, and geochronology (e.g., Brooks et al. 1996; 2001, 2010; Eberhard et al. 1994; Grant et al. 1998; Ivester et al. 2007). These earlier studies have provided insight into Carolina bay genesis and evolution, site formation processes, hunter-gatherer archaeology, and paleoclimate. The goal of this investigation is to build on this work and to continue to address questions related to Carolina bay archaeology, geoarchaeology, and geomorphology through a more focused (multiscalar) approach. This approach includes the collection of a comparative body of archaeological, geological, and chronometric data from bays throughout the CSRA, as well as significantly decreasing our sample collection interval for specialized analyses.

Comparative datasets from multiple bays at the regional level will allow a greater understanding of paleoenvironmental controls on depositional processes affecting bay rim accretion and hunter-gatherer settlement. Specifically, we are interested in

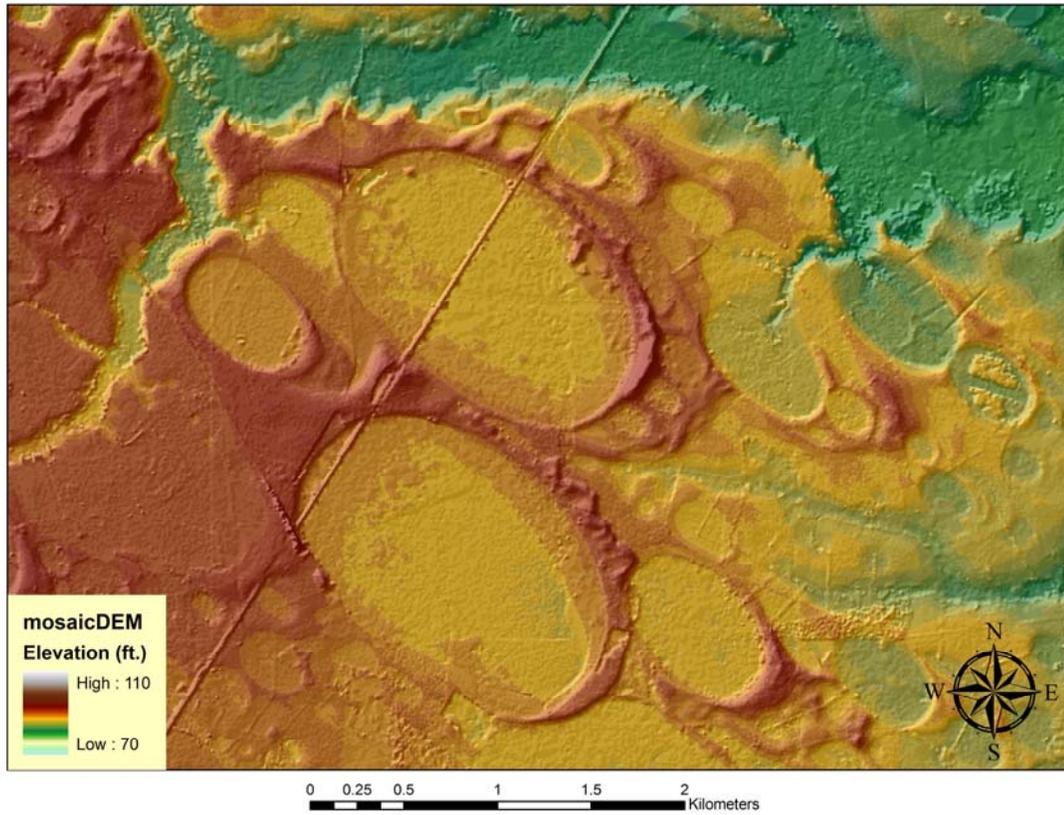


Figure 58. LiDAR image of overlapping Carolina bays, bays within bays, and parabolic dunes in southeastern North Carolina.

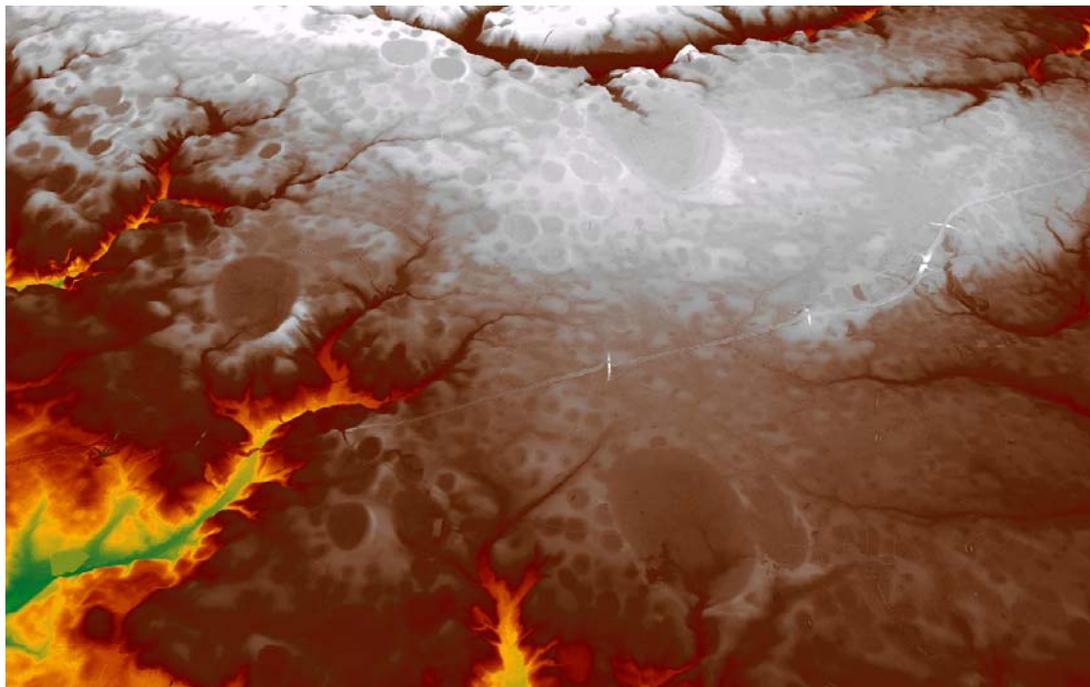


Figure 59. LiDAR image of numerous Carolina bays in Clarendon County, South Carolina.

understanding site-formation processes, producing a detailed OSL and radiocarbon geochronology of landform development (including basal dates for sand rims), and interpreting the stratigraphy of bay rim sediments through high resolution archaeological and sedimentological sampling. More broadly, we are interested in understanding the functional role of Carolina bays within Paleo-Indian and Archaic settlement systems, and providing linkages between climate, natural processes, and human adaptation since the late Pleistocene. At the larger scale of analysis, our bay research has sought to couple more intensive excavations of a single Carolina bay (i.e., Flamingo Bay) with more limited reconnaissance level testing and geoarchaeological sampling of bays scattered throughout the CSRA. Below, we describe results of geoarchaeological research on Carolina bays in Aiken, Allendale, and Barnwell counties.

As part of the SRARP's overall mission of outreach and research, we utilize avocational archaeologists and the interested public in an ongoing study of Carolina bays through the establishment of the Carolina Bay Volunteer Research Program. While meeting our objectives for engaging the public, this long-term Carolina bay study by the SRARP addresses four basic research objectives:

- Determining the age, origin, and evolution of Carolina bays.
- Delineating prehistoric cultural activities and site formation processes on Carolina bay sand rims.
- Determining the role of Carolina bays in prehistoric settlement systems.
- Exploring linkages between Carolina bays, climate change, depositional processes, and prehistoric adaptations.

Methodologically, these objectives are operationalized through the integration of high resolution archaeological and sedimentological data that require scaling down to appropriate vertical intervals of analysis (levels appropriate for stable to episodically accreting depositional environments). The methods applied to this research include:

- Archaeological testing involving artifact piece-plotting, backplotting, and refitting studies.
- Close-interval, (2.5 cm) grain size analysis of sediment columns taken directly from archaeological Test Units.
- Close-interval, single-grain OSL dating using small diameter sampling tubes to minimize cross-cutting depositional boundaries in visually undifferentiated sediments.
- Detailed soil chemistry and magnetic susceptibility analysis of close-interval sediment samples.

- Analysis of close-interval sediment samples for biogenic silica (bulk phytolith analysis) for purposes of delineating buried, long-term stable surfaces.
- Ground-Penetrating Radar (GPR) analysis for broadscale reconstruction of landform geomorphology and lithofacies.

Over the last two years, ge archaeological investigations of Carolina bays have focused primarily on the upper portions of bay sand rims in order to understand the nature of buried prehistoric occupations. Intensive ge archaeological research has been conducted at three bay sites within the CSRA (Figure 60). Bay rim deposits at Flamingo Bay, Johns Bay, and Frierson Bay were tested to determine archaeostratigraphy and intensively sampled for grain size, soil chemistry, biogenic silica (i.e., bulk phytolith), sediment bulk density, loss on ignition (LOI), field water content, micromorphology, and magnetic susceptibility. Additionally, ground penetrating radar (GPR) surveys were conducted to broadly delineate bay rim stratigraphy and geomorphology. Sediment samples were taken from continuous columns at 2.5 cm intervals from the ground surface to ~1 below surface. At Flamingo Bay, 5 single-grain OSL age estimates were acquired for the upper meter. Eight single-grain OSL samples were acquired for Johns Bay and Frierson Bay, including basal rim samples for Johns Bay at ~2.8 meters below surface and Frierson Bay at ~2.7 meters below surface. These samples were collected just above underlying Tertiary-aged Coastal Plain terrace deposits. Whenever possible, OSL samples were collected within or bracketing sediments directly associated with temporally diagnostic projectile points. This year, an OSL sample was collected at Flamingo Bay in association with a buried Clovis point.

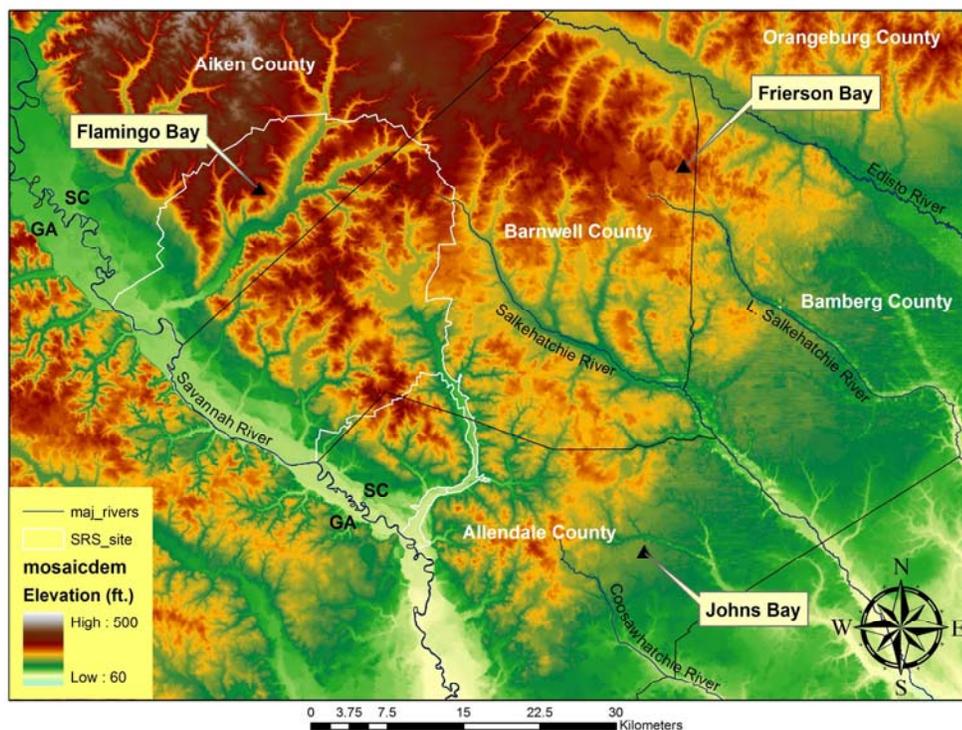


Figure 60. Carolina bay study sites within the Central Savannah River Area.

Grain-size analyses in combination with a consideration of the vertical distribution of artifacts have proven successful in delineating buried occupation surfaces (e.g., Brooks and Sassaman 1990; Brooks et al. 1996). Accordingly, artifacts larger than 2.5 cm were point-plotted (larger artifacts are less likely to be displaced vertically due to post-occupational processes, a proposition that will be evaluated by refitting broken artifacts) and a continuous sediment column was collected at 2.5 cm increments to the depth of excavation. In the past, 5 cm increments were used, but it is likely that multiple, thin burial events were cross-cut. In addition, samples were collected from sediment columns for grain size, soil chemistry, and magnetic susceptibility analysis. Samples were taken for micromorphology analysis at several bay sites. These samples were collected, and analyzed, in consultation with Andrew H. Ivester (University of West Georgia) and Terry A. Ferguson (Wofford College).

With specific reference to the OSL dating, refinements were made by reducing the sample collection tube size from ~5 cm (or larger) to 1.5-2 cm, and by shifting from the single aliquot to the single grain technique. This was done in order to test our hypothesis that depositional events along bay sand rims since the late Pleistocene were centimeter-scale events and that the use of larger sampling tubes likely intersects multiple depositional events (e.g., Feathers et al. 2006). A shift to single-grain OSL dating also reflects our increased understanding of site-formation processes of shallow eolian, lacustrine, and fluvial depositional environments within the Coastal Plain (e.g., bay rims and source-bordering dunes and sand-sheets) (Brooks and Taylor 2008; Moore 2009). The combined effects of small-scale deflation and mixing, limited faunal and floral-turbation, partially-bleached or otherwise “older” grains with an inherited paleodose, and/or combined very thin depositional units collected within individual OSL sampling tubes may cause problems for age estimates produced by traditional single-aliquot dating (e.g., Feathers et al. 2006). All single-grain OSL dates were determined by Dr. James Feathers at the University of Washington Luminescence Dating Laboratory.

Although age-estimates for many of these samples are pending, previous age determinations by Brooks et al. (2003) and Ivester et al. (2007) have demonstrated that at least some Carolina bays are in excess of 100,000 years old and were formed primarily during and just prior to glacial stadials (Figure 61). Analyses of sediments indicate that sand rims associated with Carolina bays are typical shoreline deposits resulting from fluctuations in water level. At individual bays where concentric sand rims occur, dating has established that rims are progressively younger toward the center of the bay, reflecting a regressive sequence. Thus, contrary to the “Meteorite Theorists,” this confirms that bays are not single-event features; they evolved episodically over a long period of time when a climatic threshold was crossed during the transition toward a glacial stadial (Brooks et al. 2010).

At Flamingo Bay (38AK469), the major site-level goal is to derive a better understanding of site activities and how these small-scale, hunter-gatherer societies were organized, in this case with respect to the use of Carolina bays. However, because most behavioral interpretations are based on artifact patterning, it is necessary to first differentiate between the natural and cultural processes that collectively formed the archaeological record.

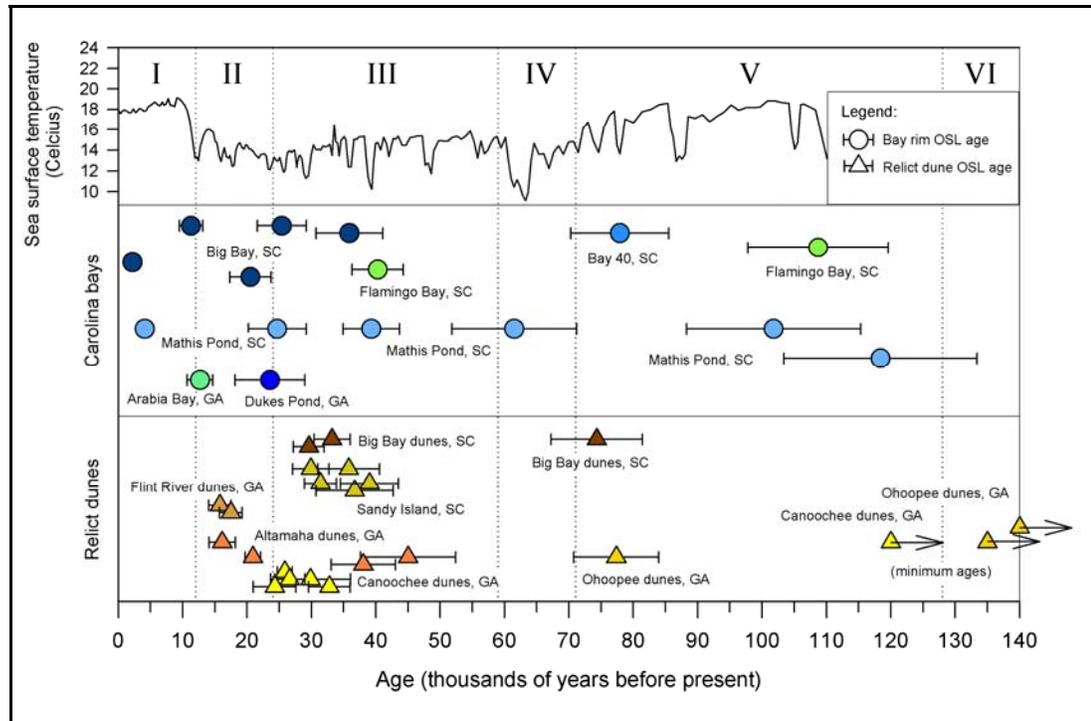


Figure 61. OSL dates for Carolina bays and relict dunes in Georgia and South Carolina (from Brooks et al. 2010).

This is particularly critical when dealing with shallow, sandy, multicomponent, Coastal Plain sites with no visually observable depositional stratigraphy; the net result is often the vertical conflation of artifact distributions that appear to be mixed when, upon further scrutiny, it is often found that the artifacts were actually shallowly buried and that much of the apparent mixing was due to arbitrary excavation levels (typically 10 cm increments) that cross-cut multiple, shallowly buried occupation surfaces. Clearly, finer scale vertical resolution is called for in the collection and analyses of all datasets.

### *Study Sites/Results*

#### Flamingo Bay

At Flamingo Bay, investigations over the last two years have focused on site 38AK469, situated on the bay's east-central sand rim (Figure 62). Several Early Archaic activity areas, or possibly discrete, small-scale occupations, were identified earlier through systematic, close-interval testing (Brooks and Taylor 2003). Shovel testing was on a 10-m grid, subsequently reduced to 5 m, and consisted of 0.50 x 0.50 m units excavated in 5 cm arbitrary levels to a depth of 80 cmbs. To that end, beginning in 2009, four contiguous 2 x 2 m Test Units (TUs) were excavated immediately south of the 38AK469 site datum at N300, E300 within the area of one of the high-density Early Archaic artifact distributions. This year, fieldwork at Flamingo Bay consisted of adding an additional 5 contiguous 2 x 2 m TUs to the already existing 4 x 4 m block.

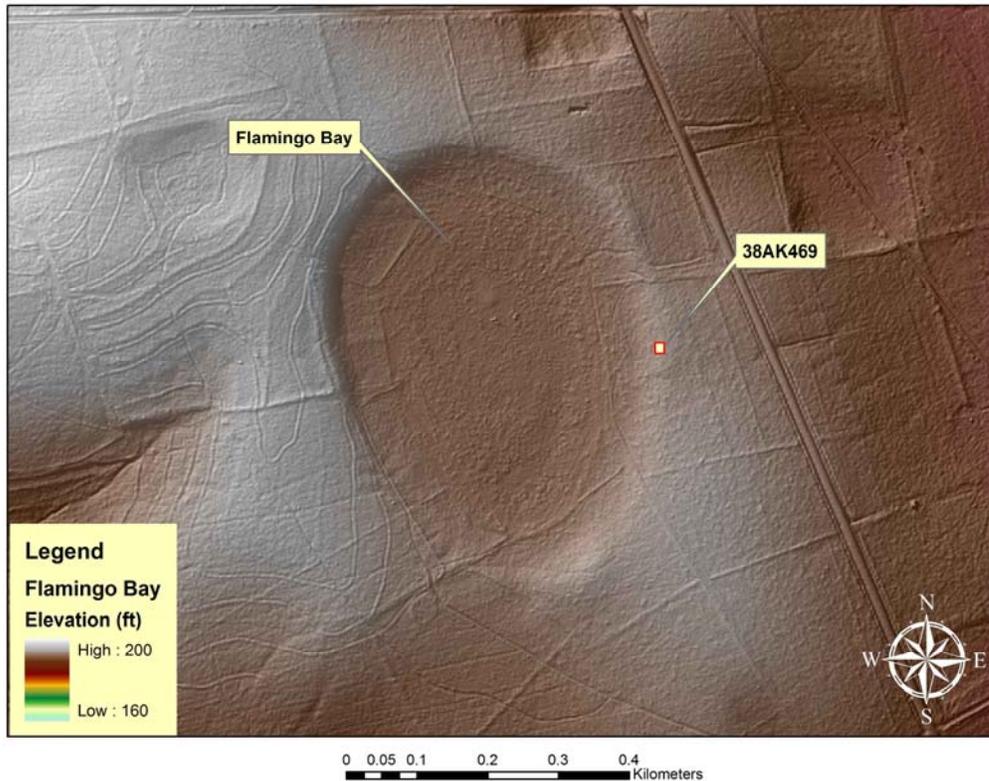


Figure 62. LiDAR map of Flamingo Bay and location of site 38AK469.

During our initial block excavations in 2009, all soil was screened through 0.25 in. (7.5 mm) mesh hardware cloth. Subsequently, during our 2010 field season, 0.125 in. mesh was utilized for part of our excavation block and included experimenting with 2.5 cm excavation levels and flotation. This shift to 0.125 in. mesh and 2.5 cm levels, for selected areas, along with collection of samples for flotation, was in response to questions raised during the previous field season and a desire to collect archaeological data consistent with and directly comparable with high-resolution sedimentological and geological data.

Detailed piece-plotting of artifacts, cobble fragments, and even gastroliths (when found *in-situ*) was conducted to produce a detailed planview and vertical backplot distribution map for the site (Figure 63). Combined piece-plots for 2009 and 2010 have revealed interesting spatial clusters and voids, as well as indicating the major Early Archaic occupation or stratigraphic zone. This stratigraphic zone appears to gradually become more shallow and “pinch-out” as you move west, down slope, and towards the bay basin.

Preliminary analysis of archaeostratigraphic data from Flamingo Bay, gathered over the last two field seasons, indicates a compressed stratigraphic sequence with Mississippian and Woodland occupations within the historic plowzone (a plowzone significantly deflated by as much as 30 cm through historic land use practices), Late Archaic (Savannah River) occupations at the base or just below the plowzone, followed by Middle Archaic (Guilford and Morrow Mountain), and Early Archaic (Kirk Corner

Notched) occupations typically between 50 and 70 cmbs. The stratigraphic sequence represented by our excavation block in Figure 63 thickens slightly to the east and thins basinward to the west.

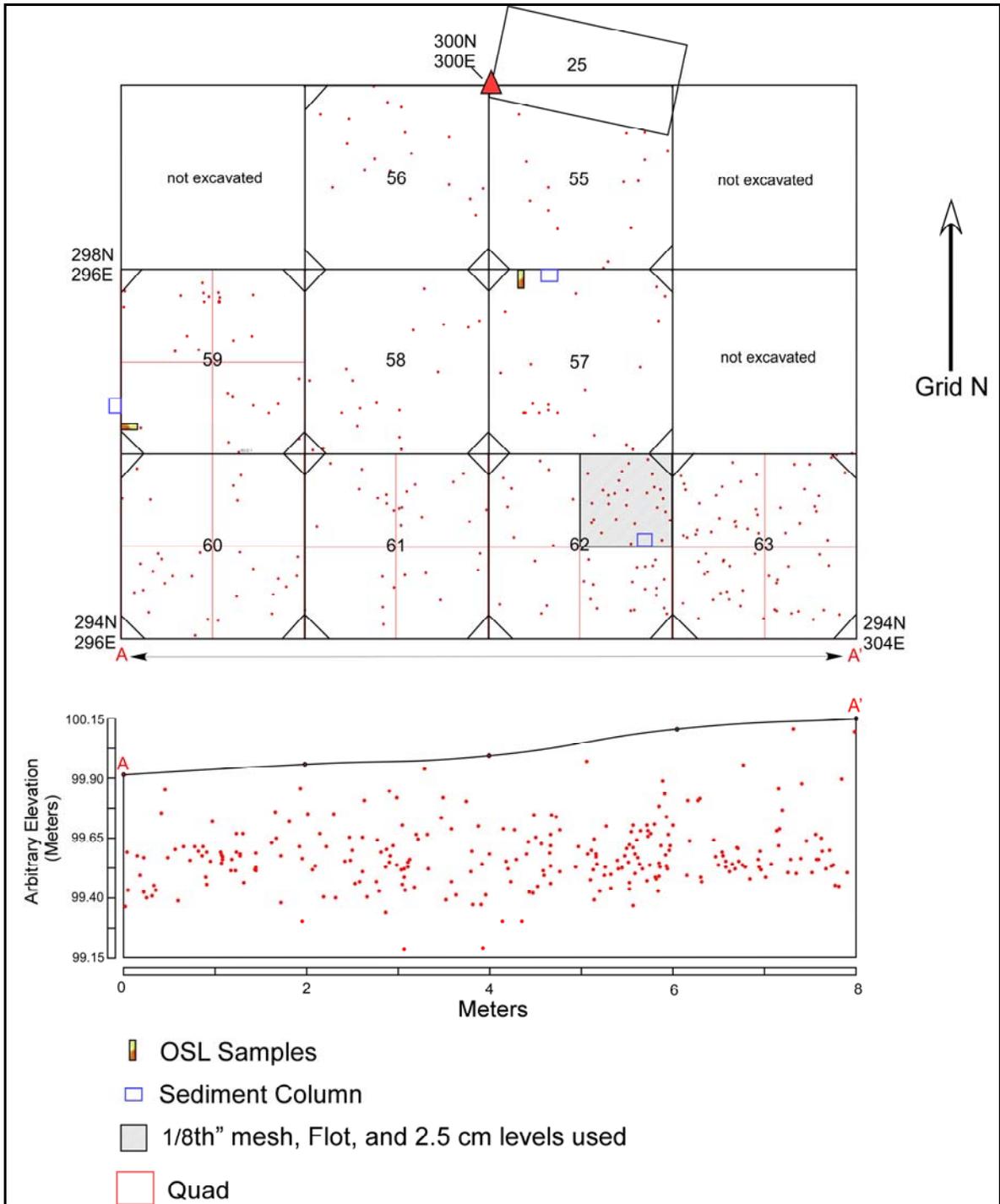


Figure 63. Planview map and artifact backplot for Flamingo Bay (38AK469). Note: Plots are from 2009 and 2010 fieldwork.

Of particular note, during the 2010 field season, the basal portion of an exotic, greenish, vitric tuff Clovis point was recovered in buried context along the western edge of our excavation block (see Figure 76 in subsection below titled “Stone Quarries and Sourcing in the South Carolina Slate Belt”). Although we are uncertain if the Clovis point is in Paleoindian or Early Archaic (i.e., recycled or reworked) context, analysis of vertical backplot data suggests the Clovis may slightly underlie Early Archaic deposits. This is because, while sediments thin basinward, archaeostratigraphic zones are also thinning and remain relatively flat across our excavation area. In other words, while the Clovis was found at depths consistent with Early Archaic on other higher and thicker portions of the block, it may actually be slightly deeper stratigraphically. Analysis of close-interval sediment column data including grain size and magnetic susceptibility analysis may provide additional clues. A sample from the Clovis base was taken for isotopic analysis as part of an ongoing lithic sourcing study as discussed below.

Excavations at Flamingo Bay over the last two years have produced a considerable number of cobble fragments, cobble tools, hammerstones, and hammerstone fragments (i.e., site furniture), along with smaller amounts of bifacial and unifacial tools, lithic debitage, and moderate numbers of diagnostic hafted bifaces and point fragments. This is in contrast to Johns Bay in Allendale County where fewer cobble fragments and cobble tools were recovered, but with greater numbers of diagnostic projectile points. Although temporal anchors in the form of temporally diagnostic projectile points are desirable, the quantities of obvious site furniture at Flamingo Bay is particularly amenable to reconstructions of site formation and taphonomic processes affecting artifact distribution. This is because cobble and cobble tool refitting studies (currently underway) are a particularly robust technique for assessing archaeostratigraphic integrity within a site.

In addition to large numbers of cobble fragments, cobble tools, and ferruginous sandstone clusters, numerous polished gastroliths or gizzard stones were recovered from Flamingo Bay during the 2009 field season but were not conclusively identified as such until later during lab analysis (Figure 64). In 2009, gastroliths were recovered using 0.25 in. screens and ranged in size from ~7 to 12 mm. Given the size and ecological setting, recovered gastroliths are likely from migratory waterfowl. These gastroliths probably only represent the upper size range present at the site. Use of 0.125 in. mesh and flotation sampling may reveal far more numerous and much smaller gastroliths not recovered using traditional 0.25 in. mesh. Most gastroliths appear as polished pebbles with rounded and polished high surface and unpolished low areas or crevices. Many have the appearance of tooth enamel and are visually distinct from the natural pebbles deposited through geological processes.

During our most recent 2010 field season, particular attention was paid to excavating and plotting gastroliths when found *in-situ*. Spatial clusters of gastroliths were recovered within individual excavation quads and appear to correspond primarily with the Early Archaic occupation of the site. In fact, in one area of the site (i.e., Prov. 62 and 63), gastroliths were plotted in direct association with numerous utilized and retouched flakes, flake cores, and expedient unifacial tools (all made on weathered Coastal Plain chert). In



Figure 64. Examples of gastroliths recovered from Flamingo Bay (38AK469).

addition, all of these artifacts were found within a sediment matrix consisting of numerous very small charred hickory nut fragments, tiny pieces of calcined bone, and at least one small piece of soft hematite. In places, this matrix resembles a leached midden or expansive pit or hearth feature, although edges were not defined within our excavation area. Although a later (e.g., Middle Archaic) intrusive pit feature cannot be ruled out, radiocarbon samples collected from this “feature” should resolve the question as to cultural affiliation in the near future.

Concentrations of utilized flakes and small expedient unifacial tools may indicate mass processing of birds, while a sediment matrix composed of charred hickory nut and small pieces of calcined bone may indicate hearth-related activities, including smoking and preserving of meat. Some of these gastroliths appear to be made from exotic or non-local stone, such as Ridge and Valley chert pebbles. This is further evidence for processing of migratory waterfowl at the site. Ethnographic data on processing of birds and smoking of meat by hunter-gatherers may be useful for interpreting the assemblage recovered at Flamingo Bay (e.g., Hudson 1976). In any case, the recognition of gastroliths in archaeological assemblages (an often ignored or overlooked “artifact”) provides a rare and unexpected insight into the diverse food procurement strategies of early Holocene hunter-gatherers along Carolina bay sand rims and suggests that our traditional sampling strategies for archaeological sites may be missing an important class of archaeological data (Jones 2009). Further analyses of associated sediments as well as possible analysis of calcined bone and hickory nut fragments using organic chemistry and stable isotopes to look for chemical signatures of waterfowl are planned.

In addition to gastroliths, preliminary analysis of flotation samples is revealing botanical remains, including small charred seeds such as persimmon and possibly wild grape. These seeds appear charred in similar fashion to the much more numerous hickory nutshell fragments present at the site. The preservation of botanical remains in these acidic and leached sand sites is also somewhat of a surprise and counter to general assumptions about the lack of preservation within sandy sites in the Coastal Plain.

Turning our attention to geochronology, single-grain OSL dates ( $n = 5$ ) collected during the 2009 field season returned preliminary minimum-age model estimates consistent with the observed archaeostratigraphy at the site (Figure 65 and Figure 66). These age estimates range from 5.7 ka at 35 cmbs to 16.5 ka at 105 cmbs (well below archaeological deposits). Age estimates of 9.1 ka and 11.0 ka between 50 and 65 cmbs bracket Early Archaic occupations at Flamingo Bay. These data, along with evidence provided by detailed grain size analysis and archaeostratigraphic data indicate that relatively distinct soil stratigraphic zones are interpretable, even from within shallow, sandy, and highly leached “undifferentiated” Coastal Plain sites. Soil chemistry analysis, along with magnetic susceptibility (ms), and biogenic silica data are more ambiguous, although these datasets cumulatively appear to support conclusions based on more robust measures of archaeostratigraphic integrity (i.e., position of artifacts, artifact refits, OSL dates, and textural analysis of sediments). Given that soil chemistry and magnetic data are primarily coming from the fine fraction (i.e., silt and clay), some of the ambiguity in these data may be due to enhanced pedogenesis and leaching of fine grains within sandy sites. That said, further analysis of these datasets may provide additional information, including linkages with climate, pedogenic and biogenic processes, and anthropogenic activity at the site.

### Frierson Bay

Frierson Bay is large (~1.2 km along its long axis and 0.6 km at its widest point), forested, and contained permanent water until drained in the early 1960s. Its prominent eastern sand rim, which was the focus of our geoarchaeological attention, has prograded into the western edges of two other Carolina bays immediately to the east (Figure 67, Figure 68, and Figure 69). Archaeological survey consisted of shovel tests (0.50 x 0.50 m excavated in 20-cm levels to 100 cmbs) at 20-m intervals along the spine of the sand rim, along with east-west shovel test transects across the sand rim at key locations. The GPS location of all shovel tests was recorded, and the sand rim was mapped with a total station.

Virtually all shovel tests contained archaeological material, primarily Coastal Plain chert debitage in the 40-80 cmbs depth range. All Archaic and Woodland period components were represented; however, it is unclear which component is dominant. Unlike Flamingo Bay, no particular area appeared to contain noticeably higher densities of material, but this may be due to the larger testing interval at Frierson Bay. Thus, the placement of three adjacent 2 x 2 m TUs and one isolated 1 x 2 m TU was largely arbitrary. One of the 2 x 2 m TUs produced an exhausted, Early Archaic quartz Taylor biface at 77 cmbs, and the 1 x 2 m TU produced a cache ( $n = 12$ ) of Coastal Plain chert, biface performs, and a quartzite biface between 66 and 69.5 cmbs. Based on depth range,

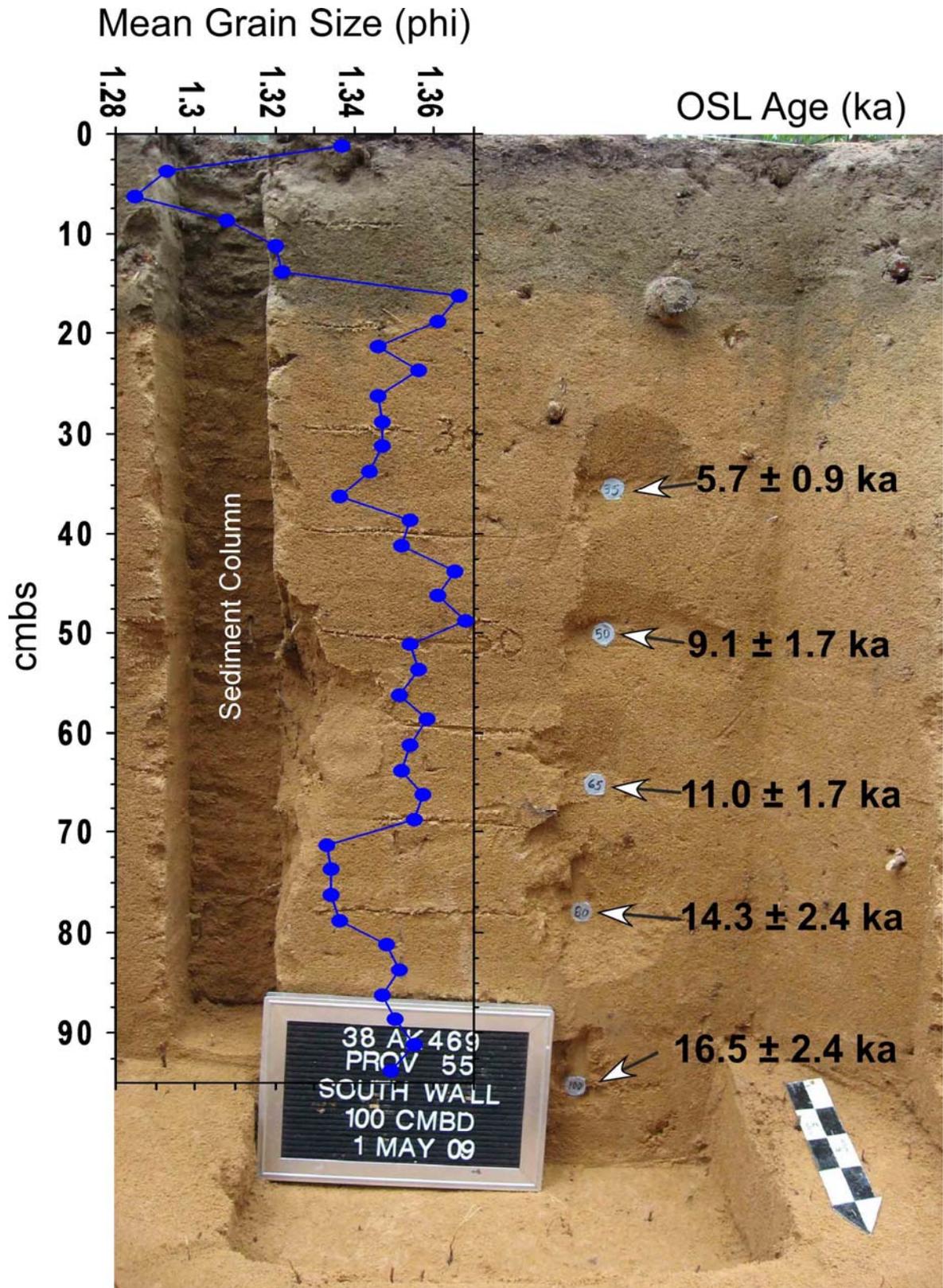


Figure 65. Profile at Flamingo Bay (Prov. 55) showing sediment column, mean grain size data, OSL samples, and preliminary OSL minimum age model estimates.

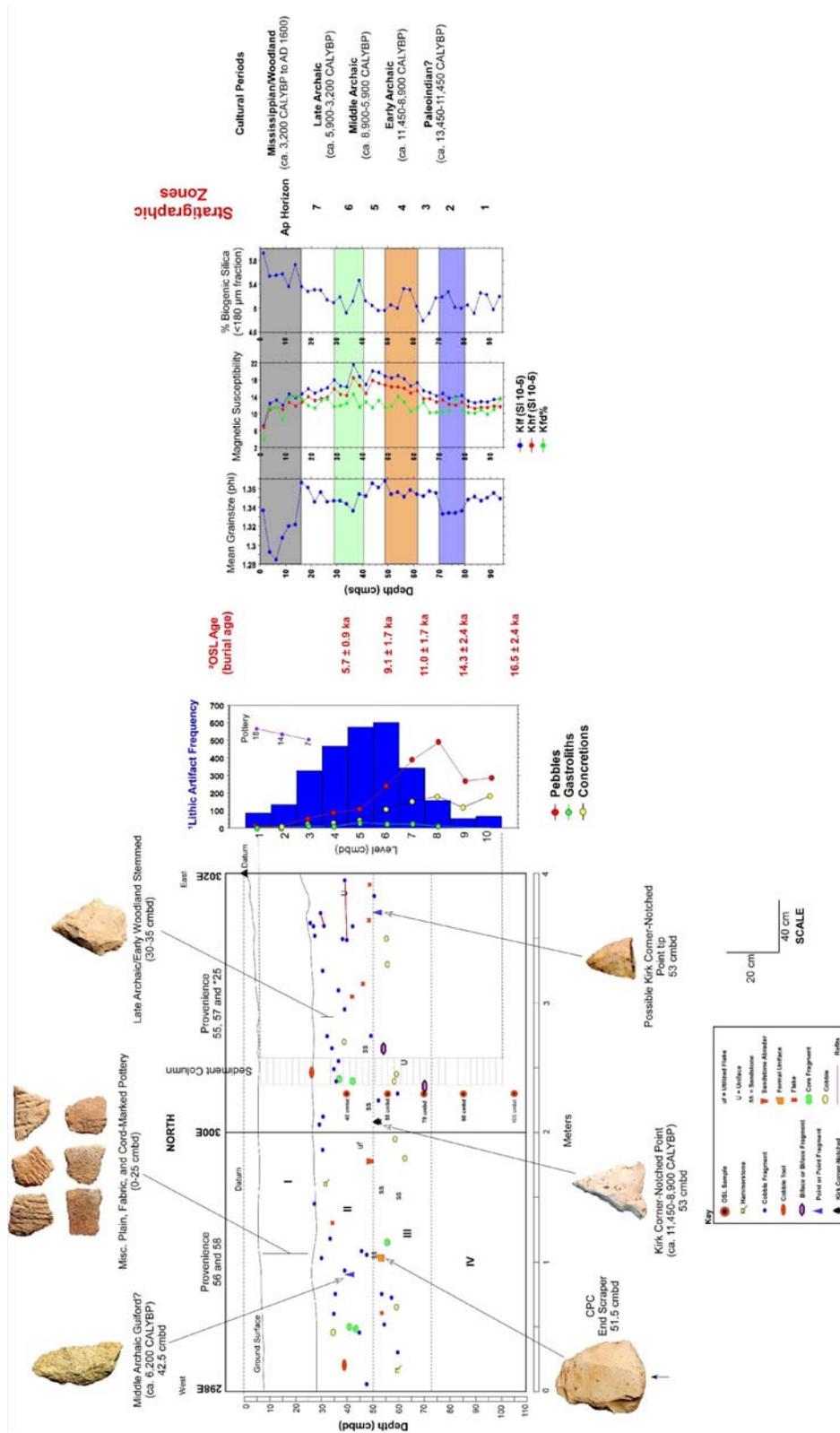


Figure 66. Archaeostratigraphy, preliminary single-grain OSL dates, sedimentological data, and interpreted stratigraphic zones for Flamingo Bay (38AK469). Note: Archaeological data are from 2009 only.

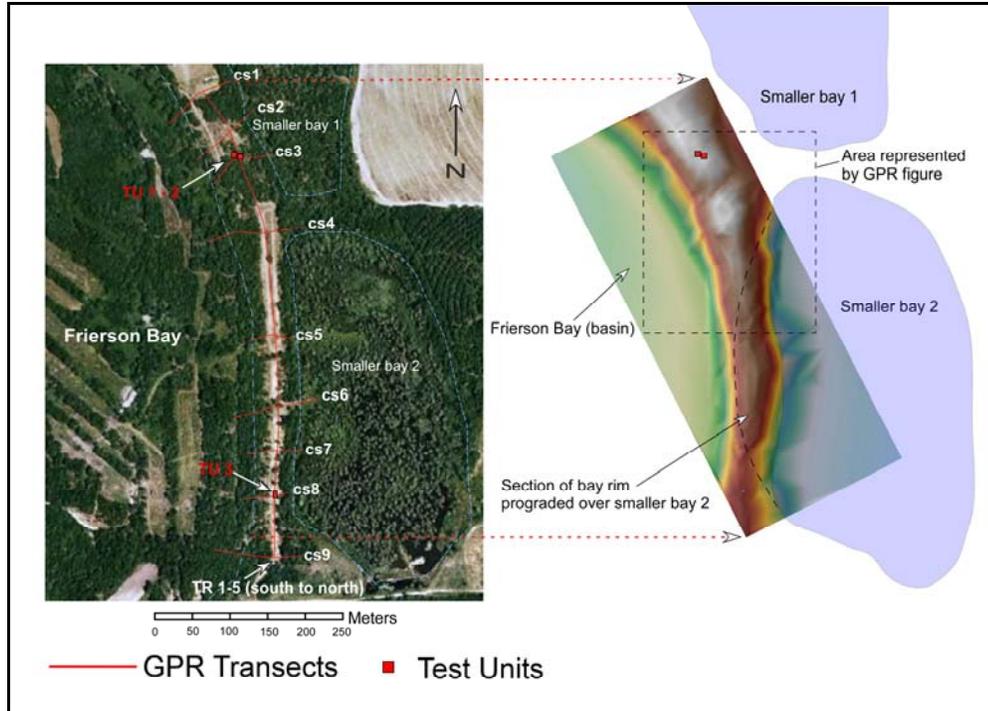


Figure 67. Aerial image and elevation map of the eastern sand rim of Frierson Bay showing GPR transects, excavation Test Units, and an elevation map depicting the prograded section of the sand rim over a “Smaller bay 2.”

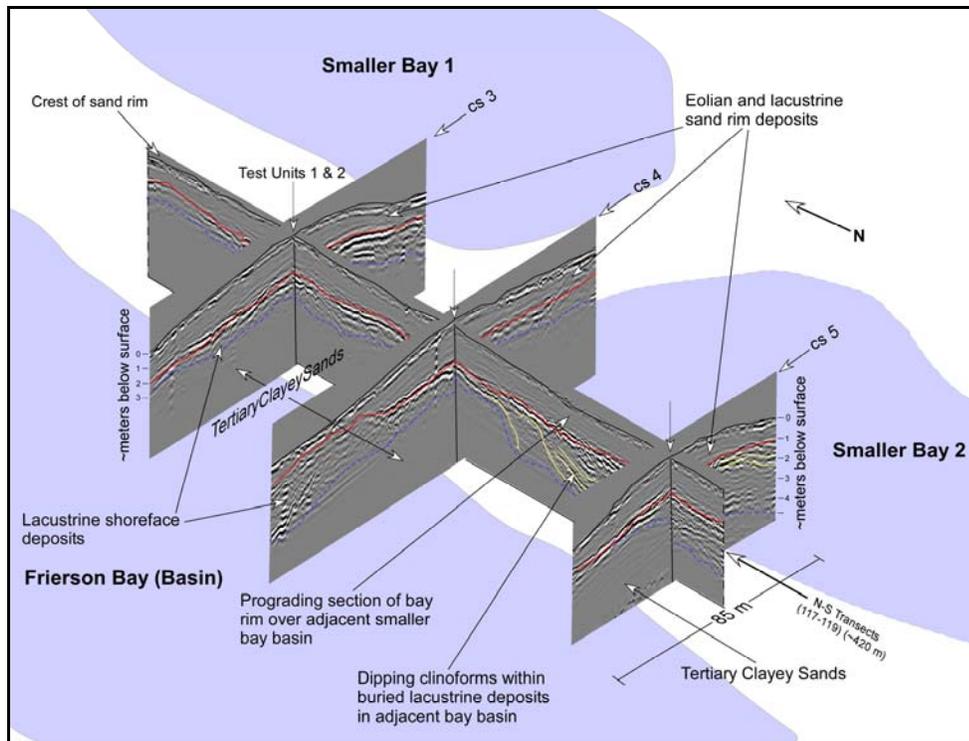


Figure 68. GPR fence diagram showing major lacustrine and eolian lithofacies. Note: dipping clinofoms within “Smaller bay 2” underneath prograded sand rim.

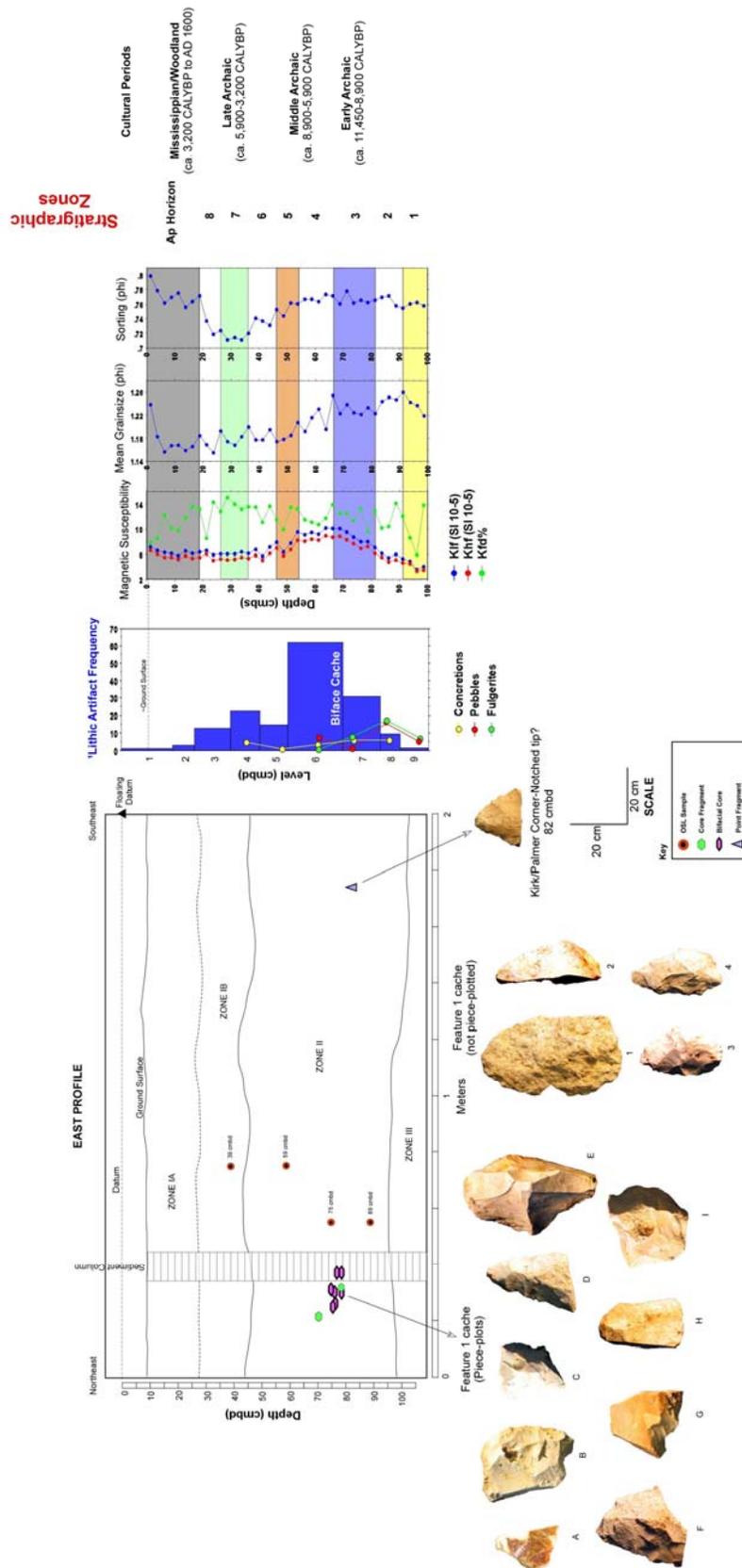


Figure 69. Archaeostratigraphy, sedimentological data, and interpreted stratigraphic zones for Frierson Bay (TU 3).

technology, degree of patination, and thermal alteration, a Middle or Late Archaic component is likely for the cache. In addition to the biface cache, TU 3 produced numerous fragmentary pieces of fulgurites beginning in Level 6 (same level as the cache and peak artifact density) and extending through all remaining levels. The presence of fulgurites in these levels provides additional, if circumstantial, evidence for the presence of a buried, long-term stable surface, possibly associated with the biface cache and overall peak accumulation of cultural debris.

Over the last two years of fieldwork, continuous sediment columns (sampled at 2.5 cm intervals) were taken from two of the 2 x 2 m TUs and from the 1 x 2 m TU. These samples were analyzed using traditional grain size analysis along with magnetic susceptibility. This year, a sediment column from TU 4 was subsampled for magnetic susceptibility analysis, sediment chemistry, biogenic silica, and grain size analysis. These data will allow for direct comparisons with similar data already obtained for Flamingo Bay.

In total, nine OSL samples were collected from Frierson Bay within the upper meter of TUs 2 and 3. Four samples were submitted for single-grain OSL dating. At Frierson Bay, small diameter (1.5 cm) OSL sampling tubes were used to reduce the likelihood of sampling across “invisible” depositional boundaries. All age estimates for Frierson Bay are pending. During the 2010 field season, we successfully acquired a basal OSL sample at Frierson Bay by auguring from the bottom of TU 4 to just above Tertiary deposits at ~2.9 meters below surface. This sample will be submitted for OSL dating in the near future and will complement the basal age estimates already acquired from Flamingo Bay (see Figure 65) and Johns Bay (age estimate pending).

#### Johns Bay

Johns Bay is also large (~0.7 km along its long axis and 0.5 km at its widest point) with a prominent eastern sand rim merging laterally into a markedly elevated (~3 m), broad, parabolic dune-shaped landform on the southeastern bay margin (Figure 70). The bay basin is open, characterized by low, herbaceous vegetation and an open-water pool (~.5 ha) at the south end. The owner, Mary Johns, whose house is located on the NE portion of the rim, noted that the entire basin was open water until at least 1955 when she remembers people waterskiing. Mrs. Johns also noted that the bay was most recently completely inundated in 2003 when the water level was up to her yard. An interesting manifestation of the most recent inundation was the formation of a “clean” white sandy beach along the bay’s southeast margin (Figure 71). This was produced by high-energy wave action reworking the toe of the sand rim, representing former shoreline deposits consisting of both water lain and eolian components. This is significant because most bays transitioned from high-energy, open-water ponds to low-energy, vegetated wetlands during the mid-Holocene (Brooks et al. 1996), such that sediments became vegetation bound. Under this circumstance, it is hard to explain how mid- to Late Holocene archaeological materials could be buried on the sand rim if the sediment supply was shut down. As demonstrated by Johns Bay, this can be explained by the episodic, small-scale reworking of existing source-bordering (sand rim) deposits. In this case, the beach sands would be exposed for eolian transport up onto the sand rim by winds out of the W-NW once the water level receded and the sediments dried.

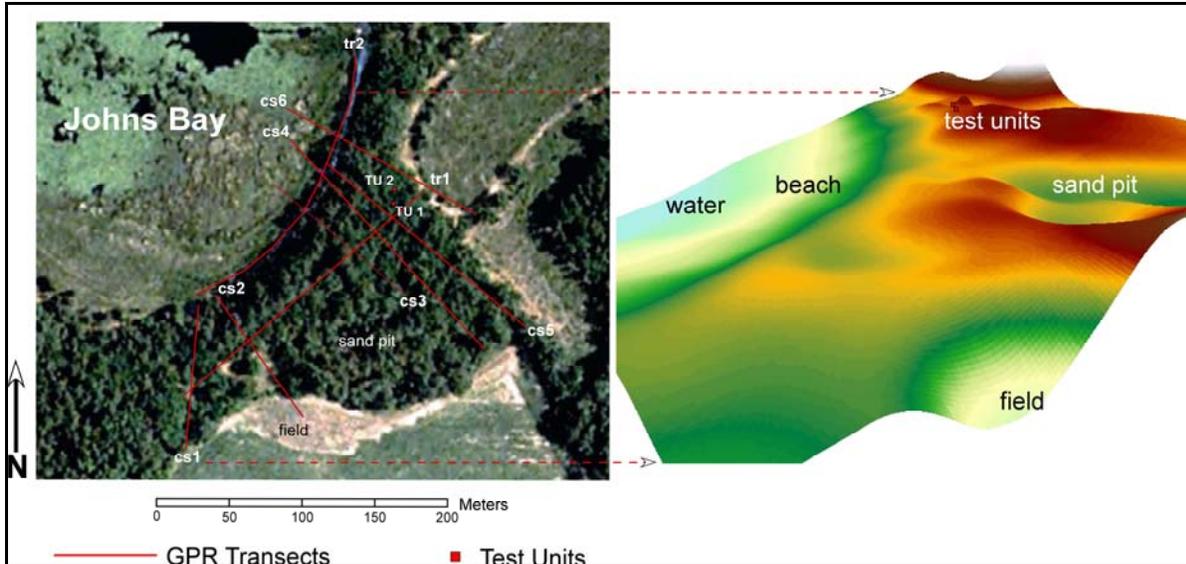


Figure 70. Aerial image and elevation map of the southeastern rim of Johns Bay in Allendale County, South Carolina. Note: Sand borrow pit, and parabolic dune deposits that extend to the southeast.



Figure 71. White sandy beach at Johns Bay representing the last period of bay inundation and high-energy wave action on the beach face.

Another interesting feature of the Johns Bay sand rim is the presence of water lain pebbles at elevations far exceeding the bankfull elevation of the basin margins. This seems to be typical of most bays, but the elevation differential between the bay's bankfull margins and the top of the E-SE sand rim, especially in the area of the parabolic dune-shaped feature at the southeastern end of the bay, is dramatic. With the bay sand rims representing high-energy, lacustrine shoreline features, one would expect the sediments to have both water lain and eolian components. However, the occurrence of water lain pebbles at elevations far exceeding that of what would have been the swash zone under normal water levels can only be explained by extreme storm events with strong directional winds stacking water in surge-like fashion against the eastern and southeastern shores. This would be somewhat analogous to storm washover events in coastal settings where coarse materials (e.g., shells) are deposited well above and landward of the normal high tide range.

The parabolic dune-shaped deposits of the southeastern rim were targeted for geoarchaeological investigations. Two areas were selected for archaeological survey, with every shovel test (0.50 x 0.50 m excavated in 20 cm levels to 100 cmbs) producing cultural material. One of these areas contained a fairly dense spatial cluster (~30 x 30 m), more similar to the archaeological patterning at Flamingo Bay than of that at Frierson Bay. All areas of the site appear to be multi-component, including substantial Middle Archaic through Mississippian occupations. This fact is somewhat unexpected given that Early Archaic occupations are often the most dominant temporal component at Carolina bays (Brooks et al. 2010). This may be explained by the fact that Johns Bay has apparently maintained an open water environment for much, if not all, of the Holocene. While many other bays shut down as active, open water, and higher energy environments by the mid Holocene, the presence of continuous open water conditions into the late Holocene may have made this site particularly attractive to later groups.

In the area of highest density of archaeological material, four 2 x 2 m TUs were excavated over two seasons of fieldwork in 2009 and 2010. Mississippian, Woodland, and Late Archaic materials were immediately below the plowzone and an exhausted, Early Archaic Kirk/Palmer biface of Coastal Plain chert was point-plotted at 80 cmbd in one of the TUs. This year, excavations at Johns Bay produced numerous triangular and Archaic stemmed points, including likely Savannah River, Allendale (MALA), and Morrow Mountain hafted bifaces. A large stone abrader made of ferruginous sandstone was also found in TU 3, along with a possible Stanly Point and a thin, late-stage broken preform of likely Early Archaic origin. In addition, a buried feature was first recognized in Level 8 of TU 4 and consisted of darker inner and lighter outer soil zones with numerous very small pieces of charred hickory nut fragments (see Figure 6, which shows the excavation of this feature by Kevin Eberhard). This feature appears to be an intrusive pit and was likely present for multiple levels before being recognized. Flotation and carbon samples were taken to look for botanical remains and for radiocarbon dating.

In all excavations, Coastal Plain chert dominated the assemblage, but small amounts of non-local material were present in the Archaic horizons. Possibly relating to proximity to the Allendale chert quarries, the chert debitage from Johns and Flamingo

bays represents the complete range of post-quarry reduction activities, whereas the small chert debitage from Frierson Bay indicates primarily late stage tool reduction and maintenance.

Sediment samples for grain size, magnetic susceptibility, and OSL samples were collected from TU 1 in 2009. Although OSL dates are pending, analysis of archaeostratigraphic data along with grain size and magnetic susceptibility data suggest that soil stratigraphic zones similar to those from Flamingo and Frierson bays are discernable (Figure 72). Basal bay rim OSL samples were also collected from Johns Bay at 165-195 and 255-285 cmbs, just above the Tertiary-aged boundary, to obtain a minimum age for the bay and to document rates of net sedimentation in the vicinity of the excavated TUs. This year, a sediment column was collected from TU 4 in order to perform sediment chemistry analyses at Johns Bay for comparison with samples obtained at Flamingo and Frierson bays. Analyses of samples collected from the three bays during the past two field seasons are currently in progress.

### Discussion

Among all of our study sites, the upper meter of the bay rim deposits can be considered a pedocomplex of weakly-expressed, cumulic, multistory soils. Nevertheless, consistent patterning and correlation across all datasets suggest identifiable soil stratigraphic zones. Physical and chemical characteristics at each level in the profile reflect the relative importance of primary sedimentation versus pedogenesis. Variations in soil texture, geochemistry, and biogenic silica concentrations allow delineation of zones dominated by accretion as separate from zones more influenced by long-term (millennial-scale) periods of relative stability or slowed accretion. Magnetic susceptibility data indicate a long-term interaction of pedogenic, biogenic, anthropogenic, and possibly climate driven processes. The data indicate a general trend of bay rim accretion featuring periods of stable to eroding surfaces characterized by pedogenic development of (weakly preserved) A-horizons and prehistoric occupation. The GPR data collected from all three bays indicate that geomorphological processes involved in landform development are consistent, and major lacustrine and eolian lithofacies can be defined. OSL dates from Flamingo Bay indicate that the upper meter developed sequentially over 16.5 ka. That the five OSL dates are in proper chronostratigraphic order, and in agreement with the temporally diagnostic artifacts recovered, suggests that the archaeostratigraphic sequences and contexts are intact and relatively well defined. Given the shallow nature of these deposits, vertical mixing due to bioturbation is not unexpected, but our data suggest that this mixing has not compromised the archaeostratigraphic character of these sites or that biomantle formation alone is responsible for the interpreted soil stratigraphic zones.

Within Carolina bay sand rims examined in this study, the most rapid accretion occurred in the lower zones and is associated with the late Pleistocene. All datasets indicate a distinct transition near the Pleistocene/Holocene boundary. Comparisons of our soil stratigraphic zones with global (ice-core) and regional (pollen) data suggest the

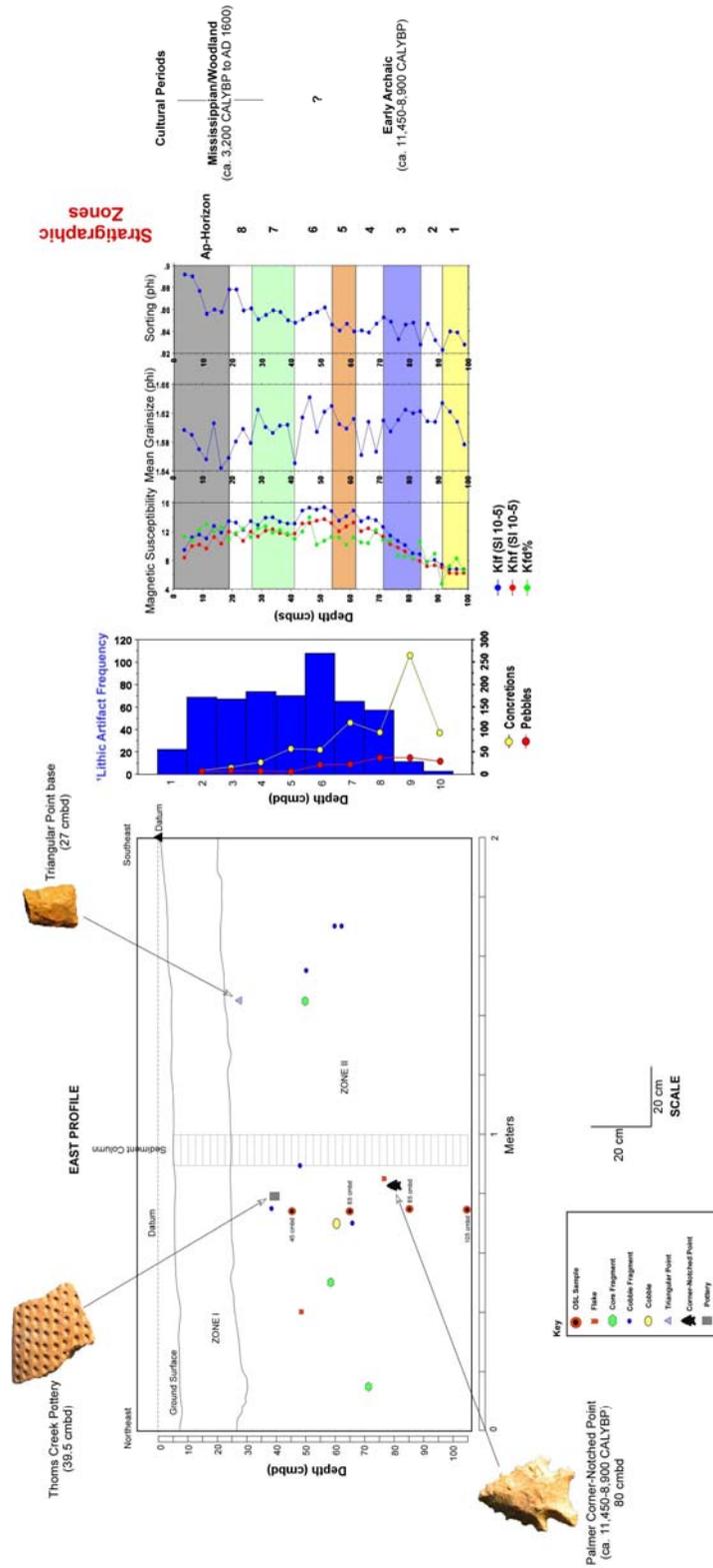


Figure 72. Archaeostratigraphy, sedimentological data, and interpreted stratigraphic zones for Johns Bay (TU 1).

mechanisms involved in episodic cycles of accretion and stability/erosion might be related, in part, to rapid climate change and ecosystem instability. In addition, linear interpolation with global climate proxies suggests that zones with properties indicating more rapid accretion may be associated with the YD stadial and the 8.2 ka event. Finally, all lines of evidence support lacustrine and eolian processes as dominant formation processes for bay basin and bay rim development, while OSL dates refute the notion that bay genesis occurred during the YD stadial.

### Conclusions

Results from two seasons of fieldwork (including single-grain OSL dating) support conclusions that late Pleistocene and Holocene burial events have sequentially stratified archaeological deposits into shallow soil stratigraphic zones. These zones are discernable with intensive, close-interval analysis of archaeostratigraphy, sediment textural data, soil chemistry, and magnetic susceptibility. Episodic burial of archaeological occupations suggest linkages between rapid climate change events and concomitant shifts in bay hydrology, ecosystem response, and depositional processes leading to bay rim accretion.

Tangentially, this research has implications for the recently proposed comet impact origin for Carolina bays (e.g. Firestone 2009) that suggest such impacts precipitated the YD stadial (ca. 12,800-11,450 Cal BP), megafauna extinctions, and the demise of Clovis culture at the end of the last ice age. While we remain open-minded to the comet impact hypothesis for explaining the onset of the YD, our data indicate that Carolina bays were formed by high-energy lacustrine processes over lengths of time far greater than the onset of the YD and that bay evolution is a long-term process rather than a synchronous event.

Of the more interesting conclusions is that the most robust measures of archaeological integrity and site formation include the archaeostratigraphy itself, (i.e., vertical placement of temporally diagnostic artifacts and artifact density), refitting studies, luminescence dating, and traditional grain size or textural analysis of sediments. Other indices of site formation processes, including sediment chemistry, biogenic silica, and magnetic susceptibility produced useful, but more ambiguous results. Additional studies using this suite of analyses are underway and should provide comparative results for future publications.

The methods outlined in this research provide a systematic approach to deciphering site formation processes that produced the sedimentological and archaeological stratigraphy observable within sandy, near-surface, and visually undifferentiated Quaternary deposits of Carolina bay sand rims. Close interval sampling at 2.5 cm, in conjunction with textural, soil chemistry, biogenic silica, and magnetic susceptibility analyses recovered rich and detailed datasets. GPR data (200MHz) were recorded in transects across and along the bay rims to place the analyzed samples in a broader spatial context. Temporal context was provided by age estimates from five samples subjected to single-grain luminescence (OSL) analysis.

We wish to acknowledge the contributions of the members of our Carolina Bay Volunteer Research Program: Bob Van Buren, John Whatley, the late Kevin Eberhard, Rooney Floyd, Tom Cofer, Danny Robinson, Jill Nazarete, Robert Nazarete, Dennis Hendrix, John Arena, Jennifer Stevenson, Dr. Larry Strong, and Duval Lawrence. In addition, Ben Johnson, Chris Thornock, Katherine Tantillo, Maggie Needham, Megan Taylor, and Warren Rich of the SRARP field crew, and SRARP staff member Rob Moon assisted in archaeological testing and topographic survey of all bays. SRARP staff member Tammy Herron assisted in cataloging and analysis of artifacts from Flamingo Bay. Jim Feathers (UW Luminescence Dating Lab) performed all OSL dating for this project. We wish to thank Dr. John Frierson, Mr. Jimmy Grubbs, and Mrs. Mary Johns for allowing access to Carolina bays on their property for this research. Finally, we wish to thank the South Carolina Archaeological Research Trust (ART) for providing a grant used in this research.

*Tar River Geoarchaeological Survey, Greenville, NC*

Geoarchaeological investigations along the Tar River in North Carolina continued during FY10 with collaborative research between Drs. Christopher R. Moore and I. Randolph Daniel, Jr. (Department of Anthropology at East Carolina University). This research involves ongoing archaeological and geoarchaeological investigations of sandy, stratified sites along the Tar River. This year, the focus of research was on the Squires Ridge site (31ED365) identified during Moore's dissertation research (Moore 2009).

The purpose of this research is to understand site formation processes within sandy source-bordering fluvial and eolian landforms along the Tar River for reconstructing Archaic and Woodland Period cultural chronology and for examining linkages between burial events, rapid climate change, and human adaptation. This research has direct implications for the SRARP's Carolina Bay Volunteer Research Program currently underway on the SRS. The long-term perspective gained from each of these studies will also be relevant to contemporary concerns about the human response to climate change.

Archaeological testing at the Squires Ridge Site (31ED365) continued this summer with help of East Carolina University's Archaeological Field School (Figure 73). Six 2 x 2 m TUs were excavated in May and June of 2010. The placement of these excavation units was guided by shovel test data collected during last summer's Summer Ventures Program in Science and Mathematics (see FY09 annual report for details). Data collected from these shovel tests revealed dense artifact concentrations along the central and northern portion of the landform.

Test Unit excavations recovered large quantities of Woodland pottery and lithic debitage, including the presence of several horizontally and vertically discrete and dense scatters of debitage from locally available quartzite. These artifacts may be indicative of multiple occupation surfaces or "floors." In addition to large amounts of quartzite



Figure 73. 2010 East Carolina University Archaeological Field School at the Squires Ridge Site (31ED365).

debitage, numerous diagnostic projectile points were recovered including small triangular and stemmed Woodland points, probable Late Archaic stemmed, Middle Archaic Guilford, Morrow Mountain, and several Kirk Stemmed/Serrated points. Several features were also excavated and were characterized by circular, darker colored inner and lighter colored, outer soil stains with numerous charred hickory nut fragments. At least one buried feature appears to be associated with several small Morrow Mountain projectile points. Charred hickory nut samples from this feature were recently sent to Beta Analytic Inc. for AMS dating.

Another charred hickory nut sample was recovered from general level fill (Level 7) and was associated with a very thin and vertically discrete cluster of early stage cobble reduction debris (Figure 74). This sample was also sent for AMS dating and should help to demonstrate both the chronological position of the non-diagnostic artifacts, as well as to establish the geochronology of the buried deposits at Squires Ridge. While the feature sample may be associated with an intrusive Middle Archaic fire pit or earth oven, the general level sample appears to represent the presence of a fairly discrete living surface. These dates should compliment single-aliquot OSL dates already obtained from another part of the site during the dissertation research by the author (see Moore 2009).

#### *Stone Quarries and Sourcing in the South Carolina Slate Belt*

This year, the SRARP began a research project to 1) identify the locations of metavolcanic/metasedimentary quarries in the South Carolina Slate Belt, 2) characterize



Figure 74. Dense artifact cluster from Level 7 (60-70 cmbd) from Squires Ridge (31ED365).

these sources geochemically using Samarium-Neodymium isotope ratio analysis, and 3) characterize quarry samples mineralogically using thin-section petrographic analysis. The purpose of this study is to determine the geological provenance and chemical signature of stone quarries for sourcing prehistoric artifacts to stone sources throughout the Slate Belt. This work will compliment the research conducted on stone quarries in the North Carolina Slate Belt by Steponaitis et al. (2006) and will enhance our understanding of hunter-gatherer settlement systems and technological organization in the South Carolina Piedmont and beyond. Moreover, the settlement and mobility implications for wide-ranging Paleoindian and Early Archaic hunter-gatherers from this study will help to address the role played by Carolina bays as resource draws within the CSRA.

This work is being directed by Christopher R. Moore and Mark J. Brooks at the SRARP, along with Tommy Charles (formerly of SCIAA). We are also working with Chris Young, who recently completed his undergraduate work at the University of South Carolina. Chris is attempting to petrographically characterize metavolcanic material from the Johannes Kolb site (38DA75) for purposes of sourcing artifacts at the site. As part of Chris's study, 10 quarry samples collected by the SRARP in Sumter National Forest as well as a site in Lancaster County (northernmost portion of the South Carolina Slate Belt) are being analyzed via thin-sectioning and petrographic analysis. Two projectile point

samples from the Kolb Site are included in an isotope study contracted by Moore and Brooks. Isotopic analysis of quarry and point samples is being undertaken by Dr. Drew Coleman, Department of Geosciences, University of North Carolina, Chapel Hill. Thin-section samples are being analyzed by Dr. Gene Yogodzinski, Department of Earth and Ocean Sciences, University of South Carolina, Columbia.

Thus far, the SRARP has collected 10 quarry samples from 7 quarry/quarry workshop sites in South Carolina, including 8 from Sumter National Forest in Saluda and Edgefield counties and 2 samples from a likely quarry related workshop site in Lancaster County. Additionally, we have recently collected three more quarry/outcrop samples from quarry sites in Georgia, outcrop samples of fine-grained metavolcanic material from the central South Carolina Slate Belt near Chapin, South Carolina, and an example of greenish vitric tuff from a stone outcrop near the Asheboro Zoo in North Carolina (Figure 75). The Georgia sample is southwest of stone sources in Sumter National Forest and provides a geochemical and mineralogical data point slightly further south than our other South Carolina samples, while the Chapin sample was selected in order to fill a void in our data for the central Slate Belt region of South Carolina. Finally, green vitric tuff from North Carolina was selected for isotopic analysis due to strong similarities to exotic green vitric tuff projectile points recovered in South Carolina that were also sampled for isotopic analysis (see below).

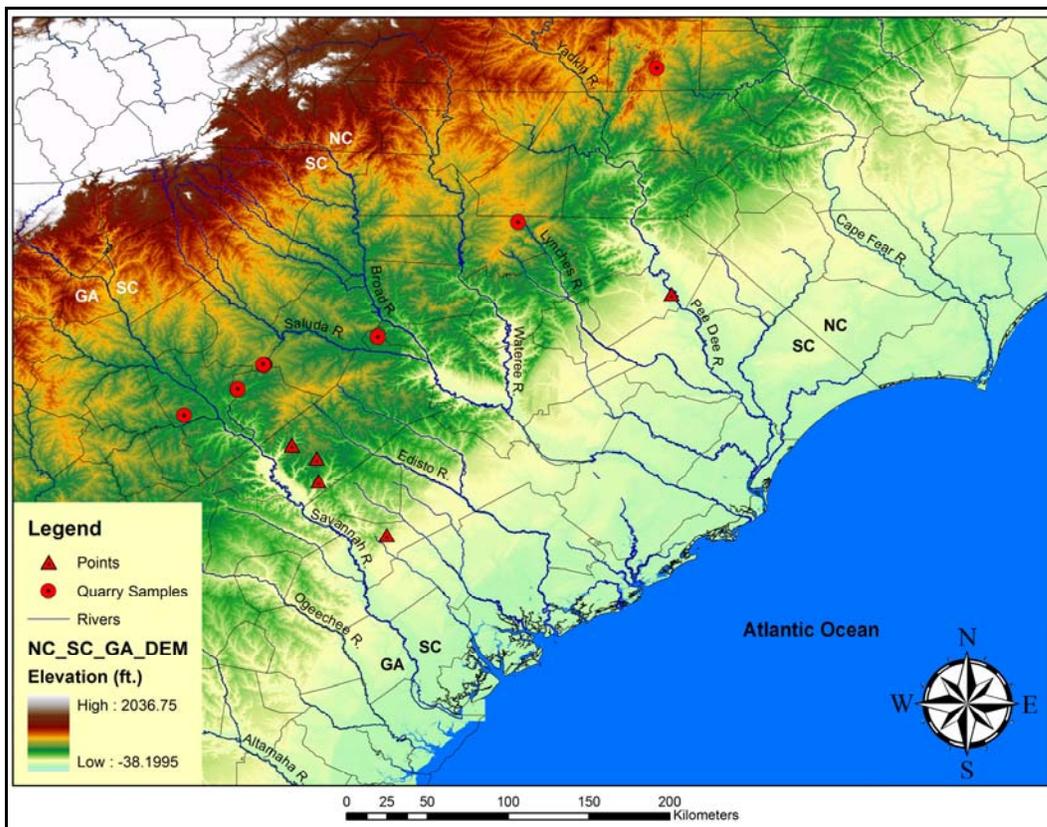


Figure 75. Digital elevation map (30 m DEM) showing the location of sampled metavolcanic quarry sites and projectile points in South Carolina, Georgia, and North Carolina.

We are greatly indebted to Mr. Jim Bates, archaeologist for Francis Marion and Sumter National Forests, for his help and guidance in identifying and collecting samples from the extensive quarry sites within and around Sumter National Forest. We are also indebted to Mr. Jim Errante (United States Department of Agriculture – National Resources Conservation Service, South Carolina) for identifying a quarry/quarry workshop area in Lincoln County, and Mr. Sean Taylor (South Carolina Department of Natural Resources) for identifying a possible stone source near Chapin, South Carolina. We also thank Mr. John Whatley of Evans, Georgia for assisting in the collection of samples of Lincoln County “metadacite” from Dozier Branch in Georgia and Dr. Al Goodyear (SCIAA) for providing the Asheboro sample. These samples, along with samples of four exotic raw material projectile point samples (discussed below), have been sent to Dr. Drew Coleman (Department of Geosciences, University of North Carolina, Chapel Hill) for Samarium-Neodymium isotope ratio geochemistry.

In addition to mineralogical and isotopic characterization of stone quarries, we are also testing two likely Early Archaic metavolcanic/metasedimentary points from the Johannes Kolb Site as part of Chris Young’s undergraduate research. From the CSRA, we have included pressure-flake samples of four exotic raw material projectile points for Samarium-Neodymium isotope geochemistry (Figure 76). These include two Early



Figure 76. Exotic green vitric tuff and differentially crystallized tuff (DCT) or black aphyric (non-porphyratic) rhyolite projectile points selected for isotopic analysis from the CSRA. From left to right: Flamingo Bay (38AK469) Clovis, Langley Pond Dalton, Crosby Bay (38AK682) Kirk Corner-Notched, and Allendale County Kirk Corner-Notched.

Archaic Kirk Corner-Notched points (one from Crosby Bay [38AK682] in Aiken County and one from a private collection in Allendale County), one Dalton from Langley Pond in Aiken County (courtesy of avocational archaeologist and long time Augusta Archaeological Society member, John Arena), and a Clovis base excavated from Flamingo Bay in March of this year as part of the ongoing Carolina Bay Volunteer Research Program.

Of these four points, all but one is made of a similar, non-local greenish to bluish green microcrystalline vitric tuff. One Kirk Corner-Notched point from Allendale County is made of black rhyolitic material, known locally as differentially crystallized tuff (DCT). This material is microcrystalline, exhibits a dark black color in fresh cross-section, and although aphyric (i.e., non-porphyrific), weathers to produce a light speckled surface patina with “ghost phenocrysts” that give the appearance of porphyritic rhyolite. In hand specimen, these samples appear very similar to source material and artifacts seen in parts of the North Carolina Slate Belt, and unlike any known sources in either South Carolina or Georgia. Confirmation of a non-local origin of these artifacts through isotope geochemistry and petrography has implications for modeling early hunter-gatherer stone procurement strategies and mobility over large distances and for refinement of existing settlement models (e.g. Anderson and Hanson 1988; Daniel 1994, 1998). Isotopic analysis should be completed by early 2011. Results from this pilot study will be presented at regional conferences and through publication within peer-reviewed archaeological journals.

#### *Graduate Student Research*

Brooks continued on David Rigtrup’s graduate committee. David started in the Masters’ Program in the Anthropology Department at the University of South Carolina in the fall 2007 and completed his degree in December 2009. His interests included hunter-gatherers and lithic analysis. Accordingly, his research involved analyses of lithic assemblages from Early Archaic sites on the SRS. With the emphasis on gaining a better understanding of Early Archaic social and technological organization, a wide range of analyses (lithic techno-functional, intra-site spatial, site locational) were conducted. The analyses generally supported the Anderson and Hanson (1988) model of Early Archaic hunter-gatherer adaptations and mobility on the South Atlantic Coastal Plain, but indicate greater variability in the use of the uplands than predicted by the model.

Audrey Dawson is in the Anthropology Ph.D. program at the University of South Carolina, Columbia. Brooks joined her committee in the spring of 2010. Audrey’s dissertation will be based on a Data Recovery Project at archaeological site 38RD841/842/844, a predominantly Middle Archaic, Sandhills site on Fort Jackson. Interestingly, preliminary geoarchaeological investigations indicate that the Middle Archaic occupation in one area of the site was buried by colluvium/slopewash, whereas it was buried by eolian deposition in another. Details of the dissertation research have yet to be determined.

Brian Choate is a graduate student in the Department of Anthropology at East Carolina University. Christopher Moore joined Brian's committee in the spring of 2010. Brian's thesis will be to examine several excavation trenches at the Barber Creek Site (31PT259) in order to define the archaeostratigraphy at the site. These data will be useful for refining the cultural chronology and typology for the North Carolina Coastal Plain.

### *Consulting*

The consulting front involved a diversity of topics. These included: geomorphic and settlement modeling in the Congaree River National Park; background geomorphic and soils research in anticipation of fieldwork at an early man site in Uruguay; delineating site formation processes at a shallow, multicomponent Coastal Plain site (Kolb site—38DA75) whose landform was of fluvial origin; examining landform evolution and site formation processes at a deeply buried, stratified, multicomponent, Piedmont site (38PN35) on the South Saluda River near Greenville, and, ascertaining site burial processes at a predominantly Middle Archaic, Sandhills site on Fort Jackson. The names and affiliations of the colleagues requesting assistance are presented below in the "Consulting" subsection.

### *Writing Projects*

Four writing projects are in progress. The first is an article titled "Late Pleistocene and Holocene Vegetation Changes in the Sandhills, Ft. Jackson, South Carolina" by Barbara E. Taylor, Fredrick J. Rich, Mark J. Brooks, Andrew H. Ivester, and Christopher O. Clement. The article, based on an 18 ka <sup>14</sup>C yr B.P. sediment core from a streamhead basin, was submitted to *Southeastern Geology* in May 2010 and is currently under review.

The second writing project is an article titled "Geoarchaeological Investigations of Carolina bays in South Carolina: Methodological Approaches for Interpreting Site Formation Process, Archaeostratigraphy, and Geochronology" by Christopher R. Moore, Mark J. Brooks, Andrew H. Ivester, and Terry A. Ferguson. This manuscript will be submitted to the journal *Geoarchaeology*.

The third writing project is a manuscript titled "Interpreting Depositional History of Eolian and Fluvial Sediments from Archaeological Sites along the Tar River, North Carolina" by Christopher R. Moore and I. Randolph Daniel, Jr. This manuscript, based on analysis of several hundred sediment samples during the dissertation work of the principle author, will be submitted to *Southeastern Geology*.

The fourth writing project is a manuscript titled "Geoarchaeology and Geochronology of Stratified Aeolian Deposits in the North Carolina Coastal Plain" by Christopher R. Moore and I. Randolph Daniel, Jr. This manuscript will be published as part of an edited volume on the archaeology of the North Carolina Coastal Plain by The Historic Publications section of the North Carolina Archives and History.

### **Collaborative Research on Jomon Cultural Landscapes of West-Central Honshu, Japan**

J. Christopher Gillam (SRARP), Junzo Uchiyama, Oki Nakamura, Tomohiko Matsumori, and Carlos Zeballos (Research Institute for Humanity and Nature, Kyoto, Japan)

The Jomon Period of Japan is best known for its fabulous array of pottery styles spanning nearly 14,000 years of time (ca. 16,000 to 2,300 calendar years before present, CYBP). The term “jomon” literally means “cord marked” reflecting the early and long-lasting tradition of using cord-impressed decorations on clay pots (Kobayashi 2004) that are very similar to later Woodland Period decorations here in eastern North America. However, Jomon pottery took on many forms over the millennia, from simple bowls and conical-based cord-marked forms to very complex flame-style pots, which ranged in function from storage and cooking to ceremonial (Figure 77).

In addition to vessels, the Jomon potters created clay figurines, Dogu, that represent fertility and other ceremonial forms (Kaner 2009). Dogu figurines take on such exotic forms that many UFO enthusiasts claim they represent extraterrestrial beings, and cartoonists in Japan have portrayed them as living beings with special powers; however, these portrayals are fictional and fantasy. The real meaning of the figurines is much closer to humanity than their odd forms suggest, often representing human fertility.



Figure 77. Jomon pottery from central Honshu, Japan.

The Jomon Period can be broken down into six sub-periods based on pottery and lifestyle: the Incipient Jomon (16,000-10,000 CYBP), Initial Jomon (10,000-7,000 CYBP), Early Jomon (7,000-4,500 CYBP), Middle Jomon (4,500-3,500 CYBP), Late Jomon (3,500-3,000 CYBP), and Final Jomon (3,000-2,300 CYBP). The people of the Jomon period lived primarily as hunters, gatherers, and fishers. The land offered a variety of nuts, such as acorns and chestnuts, herbs, and seeds for gathering, and large game, such as boar and deer, for hunting. The waterways, lakes, and coastlines offered aquatic water-fowl (e.g. ducks), fishes (e.g. carp and salmon), and shellfish (e.g. clams and oysters) that were easily exploited from the shore, or by netting, trapping, and by canoe (Seguchi 2009). Their homes were typically small, circular (3-4 m [10-12 ft.] diameter) semi-subterranean pit houses with floors dug a few feet (ca. 1 m) beneath the surface of the ground and could house 4-6 people (although exceptionally large examples could hold many more). The houses contained excavated pits for storing food and other goods and often had central hearths for cooking and heat in winter months (Figure 78). The walls and roof were thatched and anchored to wooden poles. Most archaeological sites contain 4-5 houses arranged in a circle and facing a small central plaza, often representing a small population of 30-40 people.



Figure 78. Jomon pithouse features and shell midden.

The Neolithisation and Modernisation of East Asian Inlands Seas (NEOMAP) project of the Research Institute for Humanity and Nature (RIHN), Kyoto, is exploring the development and change in prehistoric cultural landscapes throughout the region and beyond (Uchiyama 2009). Geographic research by the NEOMAP GIS team is exploring

the shifting cultural and environmental setting of Jomon archaeological sites over time near Toyama Bay, the Hida Mountains, Lake Biwa, and other regions of west-central Honshu. Initial results from statistical and geographic analyses indicate that Jomon people lived in clustered settlement patterns throughout the region (Figure 79), suggesting that frequent group interaction and multi-family organization was common. Frequent communication, exchange of goods, and close-kinship ties between settlements likely ensured the long-term success of small local populations (ca. 30-100 people).

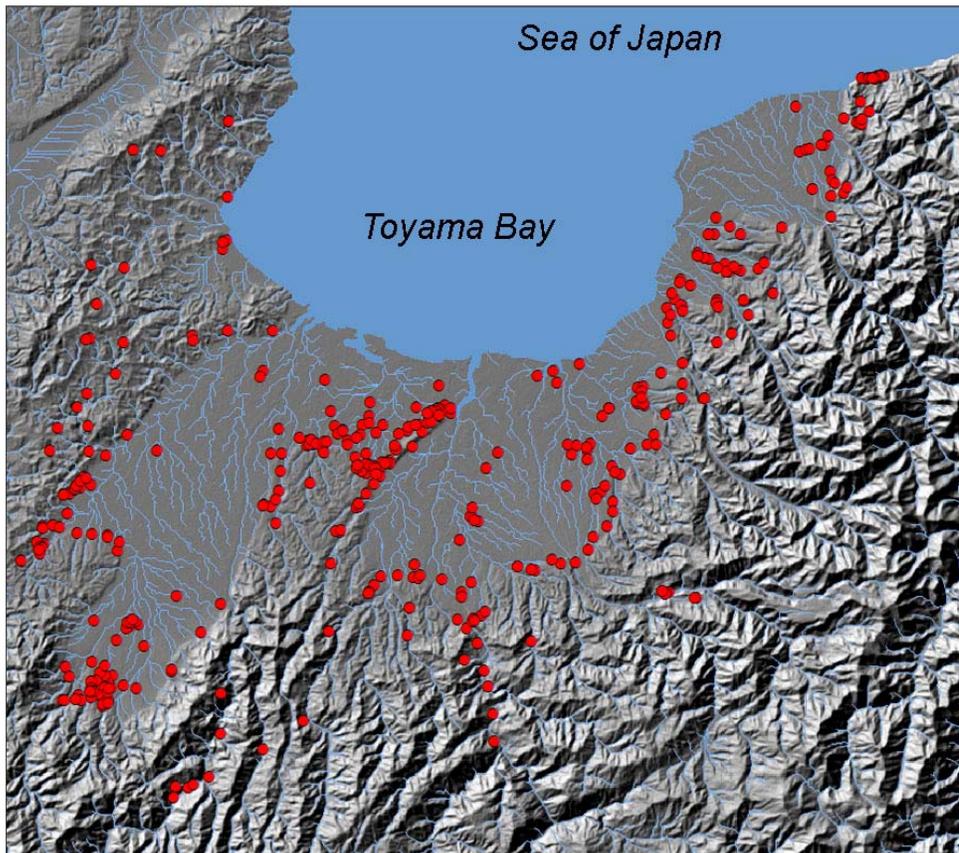


Figure 79. Middle Jomon site clusters near Toyama Bay.

Near Toyama Bay in Toyama Prefecture, the geographic center of settlement migrated north-eastward from the mountain-plains interface onto the fertile lowland plains. This may suggest a shift from hunting and gathering to horticulture over time (Gillam 2009). Current research is examining the differences in settlement patterns along the sea coast, lowland plains, mountains, and lake shore settings of central Honshu (Gillam et al. 2010; Oki Nakamura and Tomohiko Matsumori, personal communication 2009) and the significance of trade and interaction between these various groups (Bausch 2004). Geographic models of trade networks across the landscape are illustrating possible trails used by Jomon people thousands of years ago for the exchange of raw and finished materials, such as jadeite and obsidian, and local foods, such as fish and venison. After more than four years of background research and extensive data development by an international team of scholars, the NEOMAP project is shedding new light on the development of complex prehistoric cultures throughout East Asia.

## Research at 38BR1272: Dredge Piles along the Savannah River

Christopher Thornock

LiDAR imagery research in 2009 revealed a series of 21 large piles of soil along the Savannah River in the floodplain on the SRS (Figure 80) in a region known historically as “The Reaches.” Many hypotheses were put forward during discussion at the SRARP as to what the anomalies were from the logical (they were dredge piles), to possible floodplain timbering activity-related structures, to the unrealistically optimistic (they were part of a previously undiscovered Mississippian mound community). Ultimately the dredge pile theory would prove correct.

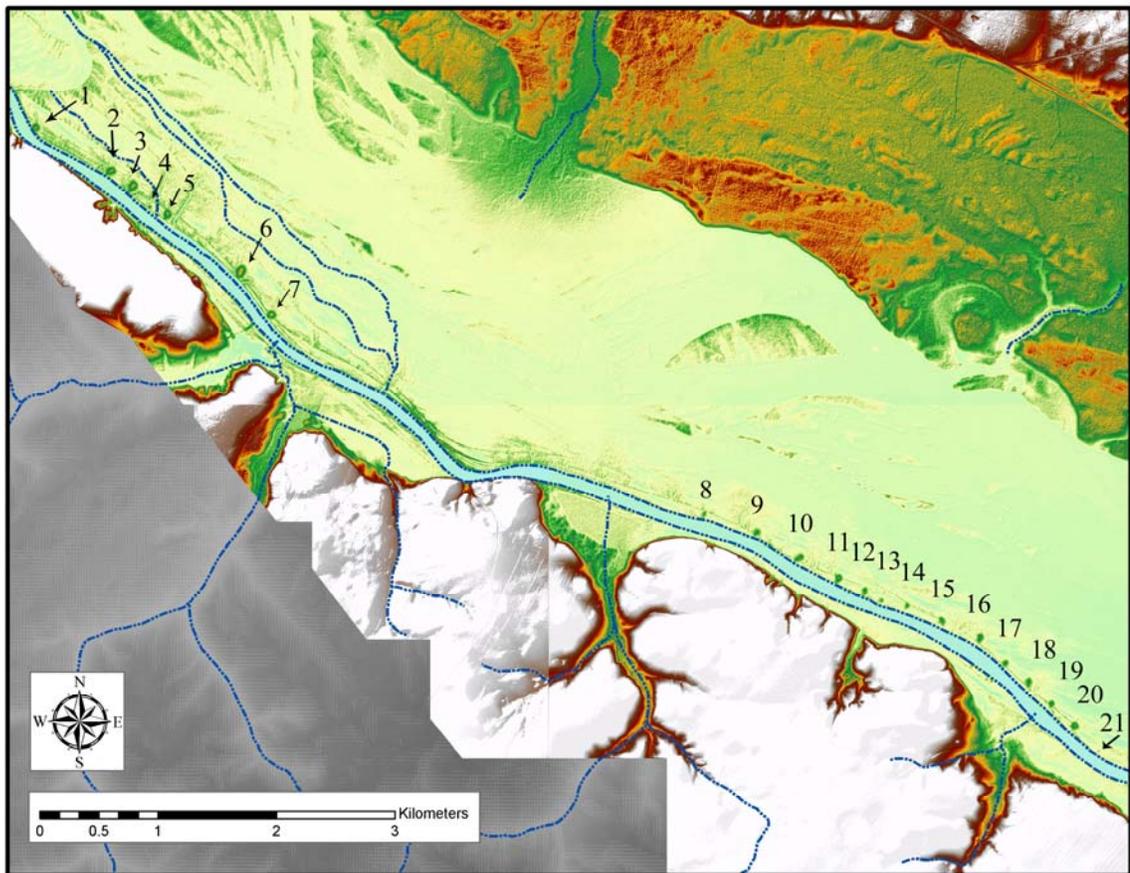


Figure 80. LiDAR image of 19th-century dredge-piles in the Savannah River floodplain on the SRS.

On September 3, 2009, a SRARP research team (Tantillo and Thornock) paddled across the Savannah River, from the Georgia side to SRS property, to investigate the piles. Three piles in particular were examined: Piles 18, 19, and 20 (Figure 81). A total of eight STPs were excavated along three transects. Transect 1 began on top of Pile 19. This pile is approximately 95 x 70 m and 4.8 m high. STP 1 uncovered two prehistoric sherds, one flake, and one river muscle shell. The sherds were water-worn. The soil matrix

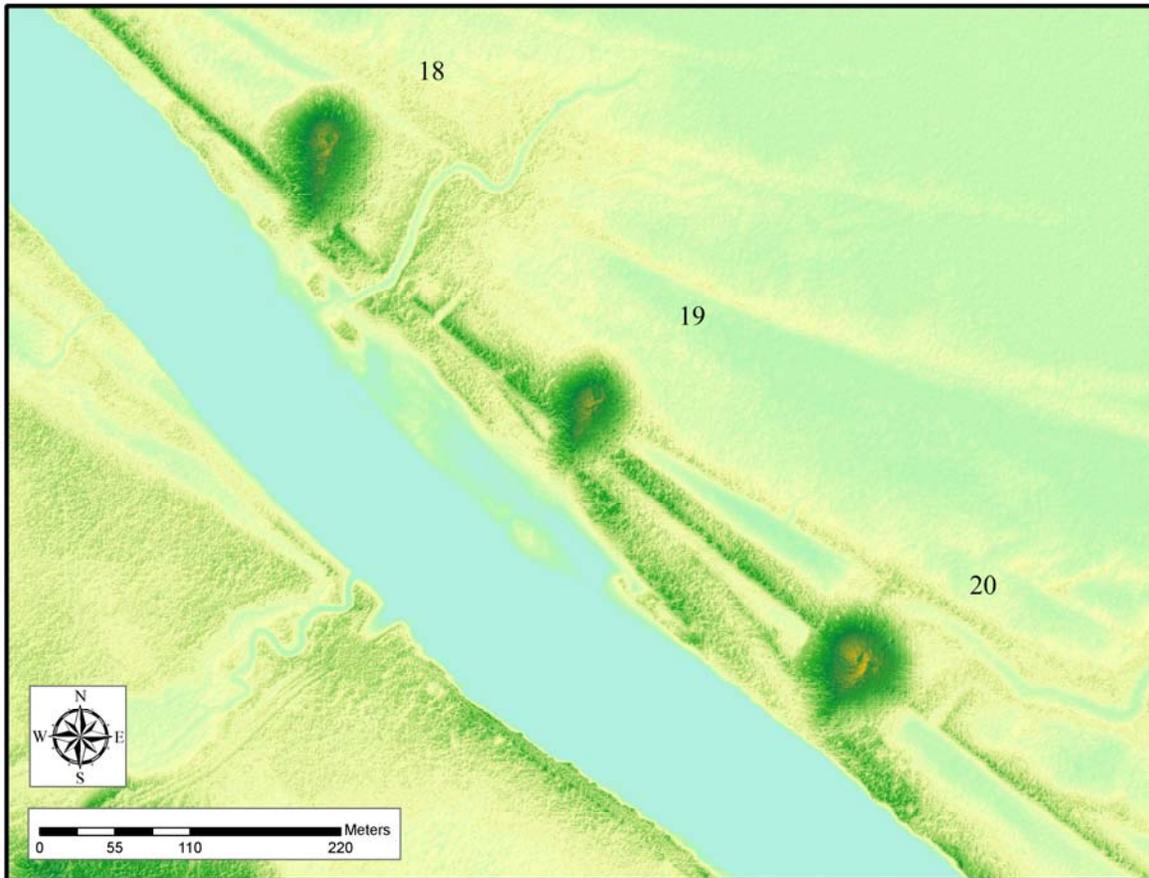


Figure 81. Closeup LiDAR image of dredge piles 18, 19, and 20.

consisted of coarse, well-drained sand. STP 2, located on the side-slope of the pile, contained two blue transfer-printed historic sherds and a piece of slag at about the same depth as the prehistoric sherds from the previous STP. Again, the soil matrix was coarse, well-drained sand. The third and final STP, located at the base of the pile, contained no artifacts and consisted of hard alluvial clay. Transect 2 began on the top of Pile 20. Pile 20 is approximately 100 x 90 m and 5.5 m high. STP 1 was on the summit, and STPs 2 and 3 were on the side-slope. All three were negative and contained a soil matrix of coarse sand and river pebbles. STP 4, at the base of the pile and also negative, contained a soil matrix of sand and pebbles similar to the previous STPs, and then at 35cmbs changed to the hard alluvial clay. Transect 3 consisted of one STP placed atop Pile 18. The STP contained two flakes and a soil matrix of coarse sand and river pebbles.

Based on these excavations, the piles were determined to have been dredged from the Savannah River. The lack of pile stratigraphy, the water-worn artifacts, the piles' composition of sand and river pebbles, the piles' position on top of alluvial clays that appear to make up the uppermost soil level of "The Reaches" floodplain, and evidence of dredge-slurry runoff in the form of pile slumping toward the river's edge, all suggest river dredging.

Having determined the origin of the piles in the floodplain, the next step was to figure out when the piles were deposited. Aerial photos of “The Reaches” from 1951 show mature trees in the area of the piles, and certainly some of these same trees still existed at the time of STP excavation as the trees on top of the piles were extremely large. So, the piles were already old by 1951 but were younger than the recovered blue transfer-printed sherds because the pottery would have been dredged and deposited with the sand at the time of the pile’s formation.

When river navigation charts drafted in 1889 by the USACE (Figure 82) are overlaid with LiDAR images of the study area (Figure 83), it is apparent that some of the dredge piles occur in locations where 19th-century sandbars were mapped by the USACE. It is possible that the piles were created by the USACE during removal of the sandbars to deepen the Savannah River. While some of the sandbars have corresponding dredge piles, others do not, indicating that the piles were created either from sands from the river bottom or from sandbars that occurred before or after the 1889 map. I therefore conclude, that the dredge piles were created in the late 19th century by the USACE.

In the 1820s, Congress passed two laws that marked the beginning of the Corps’ continuous involvement in America’s water ways (USACE 2007) In short, the General Survey Act authorized the President to have surveys made of routes for roads and canals of national importance from a commercial and military perspective, as well as necessary for the transportation of public mail. The USACE took responsibility. A second act appropriated money to improve the navigation of the Ohio and Mississippi rivers by removing sandbars, snags, and other obstacles. The act was then amended to include other rivers. This work, too, was given to the USACE.

During the 19th century, two main methods were used to maintain the nation’s waterways: snag boats and dredging. In 1829, a revolutionary new steam-powered snag boat invented by Henry M. Shreve was put into USACE service (Figure 84). The snag boat would run into tree snags, jar them loose, hoist them up onto the ship’s deck, and break them apart. The snag boat was so effective at clearing waterways that insurance and shipping rates dropped and steamboat traffic increased.

On the Savannah River during the 1880s and 1890s, the snag boat on duty was the *Toccoa*. To give an idea of how important the snag boat was, a list of the *Toccoa*’s operations between Augusta and Savannah from 1881 to 1887 is offered here. According to the annual report of the Chief of Engineers, U.S. Army (USACE 1888), *Toccoa*’s work for the 1881–1882 year involved removing 26 obstruction piles, 160 snags, logs, and stumps, and 3 drift-piles, and 207 overhanging trees were cut and pulled back out of the way of boats. During the 1882–1883 year, *Toccoa* removed 104 snags and logs, 32 piles, 2 wrecks, and 140 overhanging trees. During the 1883–1884 year, *Toccoa* removed 88 snags, 19 piles, and 45 overhanging trees. During the 1884–1885 year, *Toccoa* removed 369 snags and logs, 3 piles, 385 overhanging trees, and 1 wreck. During the 1885–1886 year, no work was done because of a lack of funds. During the 1886–1887 year, *Toccoa* time and removed 259 logs, snags, and stumps, as well as 596 overhanging trees. The allocation of money demonstrated here for one boat shows the dedication of the USACE to maintaining the navigability of the Savannah River’s channels.

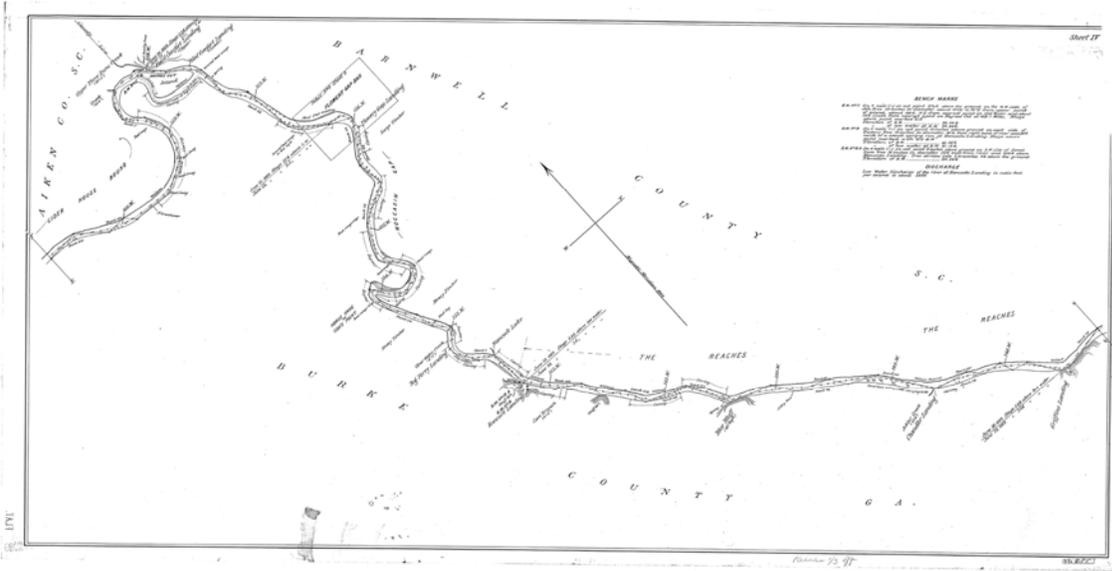


Figure 82. 1889 navigation chart of a portion of the Savannah River by the U.S. Army Corps of Engineers.

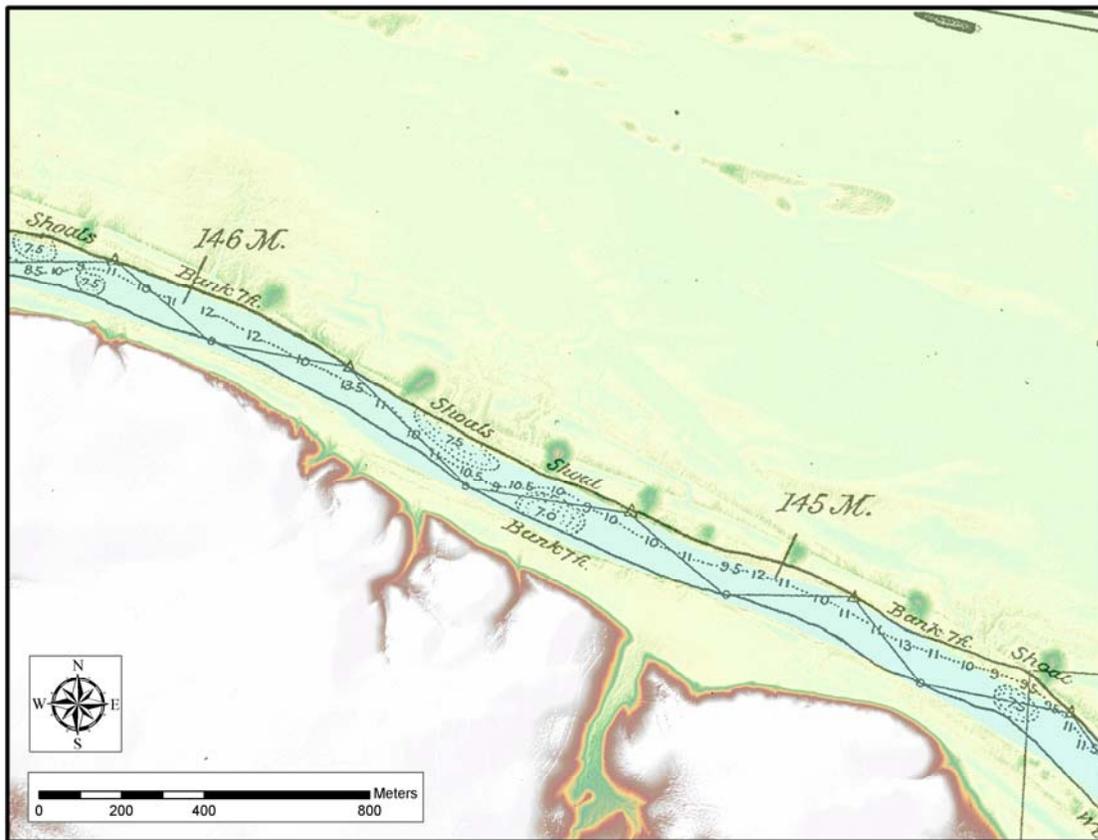


Figure 83. Map overlay of the study area combining LiDAR imagery and the 1889 river course in an 1889 chart with sand bar locations.



Figure 84. Henry M. Shreve, inventor, posing in the foreground of his steam-powered "snag boat."

In 1871, Army Corps engineer Major Quincy A. Gillmore chartered a steamer and converted it for "suction dredging." This boat, named the *Henry Burden* (Figure 85), was the Corps' first hydraulic dredge (USACE 2007). The *Henry Burden* was heavily active in the harbor and river around the city of Savannah in the 1880s maintaining the river channel. In an 1875 schematic of the *Henry Burden* (Figure 85), notice that it is labeled "Employed on the Savannah River Improvement" and designed by Gillmore.

A project for the improvement of the Savannah River was adopted in 1880 by the USACE with the goal of securing a low-water steamboat channel of at least 5 ft. in depth between Savannah and Augusta (USACE 1890:142). A survey of the river was completed August 6, 1889 (USACE 1890:143), and charts from that survey were used in overlays during my research project. After all obstacles to river navigation were identified and mapped, the USACE then proceeded, as it had done for years, to remove the obstructions. As of yet, I have not identified the particular dates the USACE dredged "The Reaches." However, seeing that the *Toccoa* was the only USACE snag boat patrolling the Savannah River for decades, and that the USACE had a hydraulic dredge patrolling the Savannah River just downstream of "The Reaches" at about the time the obstructions were mapped, it is quite likely that the *Henry Burden* was the boat that created the dredge piles located on SRS property.

Although spread out along the river, the dredge piles were given one site number, 38BR1272, because they were created during one historical event. Each pile was given a number (Figure 80) so that if and when proposed impacts on the SRS threaten a particular pile, that pile can be readily identified.

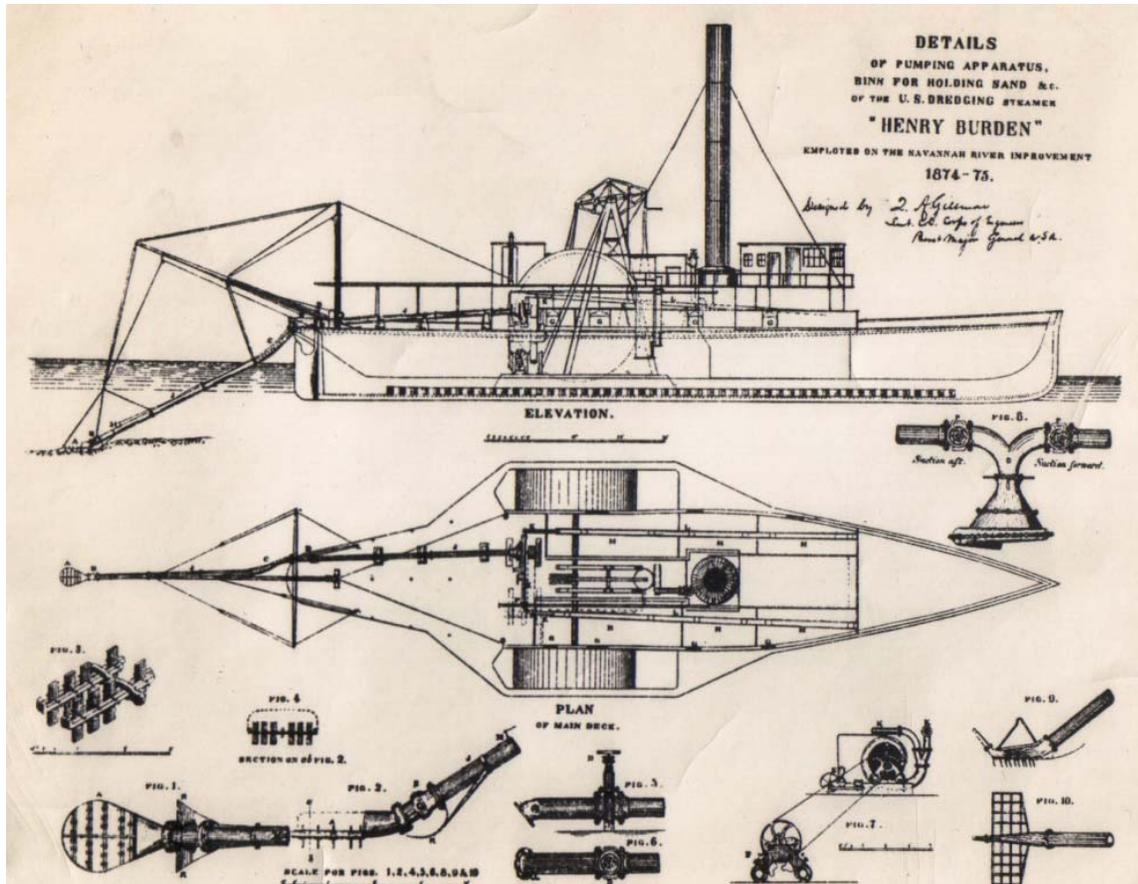


Figure 85. Plan drawing of the *Henry Burden*, first hydraulic dredge on the Savannah River used by the U.S. Army Corps of Engineers.

### Archival Research of the Hollywood Mound Site

Adam King and Keith Stephenson

The Hollywood site is a double mound Mississippian period site located 20.5 km (12.75 miles) below the Fall Line on the Savannah River floodplain near Augusta, Georgia. As with so many other Mississippian mound sites, Hollywood became famous after it was investigated by one of Cyrus Thomas' field assistants, Henry Reynolds, during the Bureau of American Ethnology's "Mound Builders" project (Thomas 1985 [1894]). Reynolds' excavations in Mound B at the site revealed an impressive collection of elaborate pots, embossed copper, stone, copper celts, and pipes in a series of graves. Those objects figured prominently in the definition of a widespread set of art styles and

ritual themes collectively called the Southeastern Ceremonial Complex or Southern Cult (Muller 1989; Waring and Holder 1945).

Clemens de Baillou (1965) conducted additional investigations at the site when his crew excavated a trench into the flank of Mound A and two test units in the vicinity of Mound B (Figure 86). The recovered pottery collections revealed assemblages similar to Pee Dee pottery in North Carolina and Irene wares on the Georgia Coast. David Hally and James Rudolph (Anderson et al. 1986, Hally and Rudolph 1986; Rudolph and Hally 1985) used de Baillou's collections to name the Hollywood phase, which he placed in the Middle Mississippian period dating from A.D. 1250 to 1350. Working with collections from the middle Savannah River valley, Stephenson and King have confirmed the dating of the Hollywood phase through radiocarbon dating deposits at the Hollywood, Red Lake, and Lawton sites.

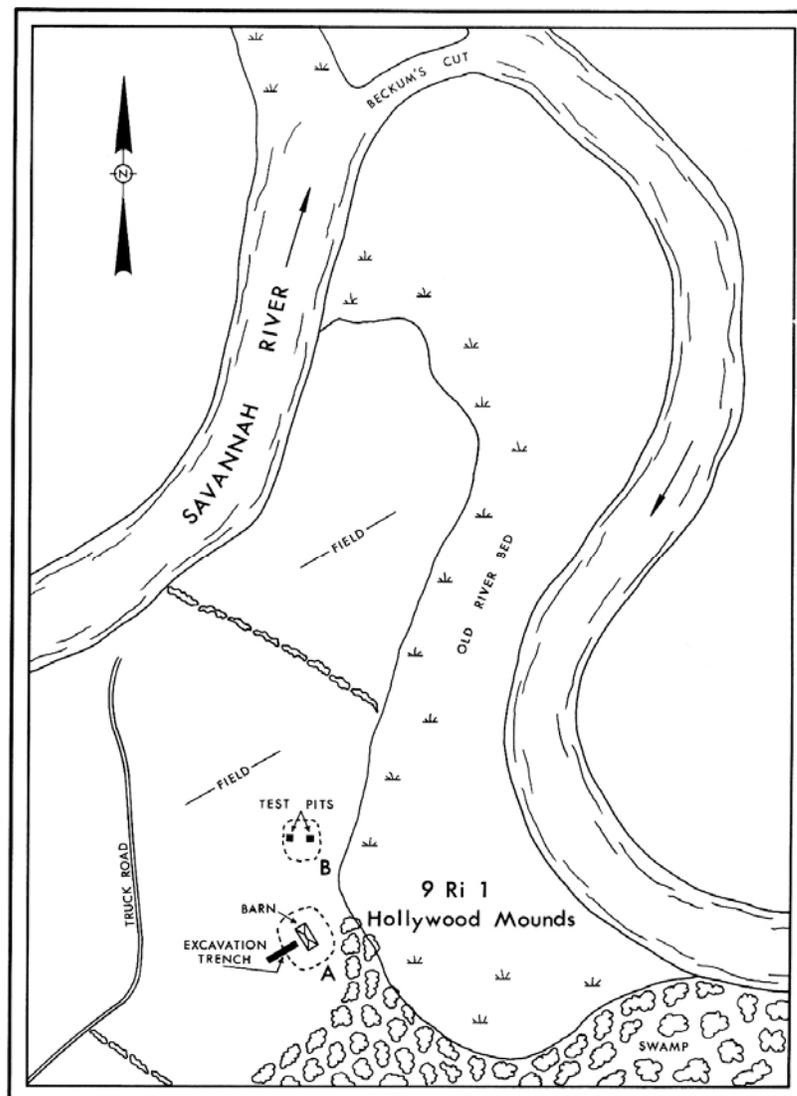


Figure 86. Site map of the Hollywood site from de Baillou (1965).

While the dating of the Hollywood phase itself seems to be fairly secure, the dating of the graves in Hollywood's Mound B remains the subject of disagreement. David Anderson (1994) has argued that those graves date to the Hollywood phase at ca. A.D. 1250-1350, while Jeffrey Brain and Phillip Phillips (Brain and Phillips 1996) argue that those graves date closer to the 15th or even the 16th century.

The significance of the materials found in Hollywood's Mound B takes this debate beyond a simple one about the dating of a particular mound. Hollywood is the only mound center in the middle Savannah to have produced elaborate and ritually-charged items associated with the Southeastern Ceremonial Complex (SECC). The appearance of these materials in the region reveals connections between middle Savannah Mississippian societies and those from other parts of the Southeast, including Etowah and sites westward to the Mississippi Valley. Their appearance also comes at a time when Mississippian chiefdoms were just forming in the middle Savannah River valley. As a result, accurately dating the deposits in Hollywood's Mound B will not only help us more clearly understand the history of Mississippian in the middle Savannah River valley, but it also will help us understand connections between this local region and the wider Mississippian world.

In an effort to resolve this debate, we examined the Hollywood site collections recovered by Reynolds and curated at the Smithsonian's Museum Support Center in Suitland, Maryland. All of the artifacts recovered by Reynolds were examined and photographed. This short report presents our conclusions based on that examination.

#### Reynold's Excavations at Mound B

Reynolds claimed to have completely excavated Mound B, the smaller of the two mounds present at the site. He described Mound B as conical in form, 10 feet high, 70 feet in diameter, and located 280 feet due north of the large mound (Mound A as labeled by de Baillou) (Thomas 1985 [1894]:317-326). Reynolds noted that atop this mound were the remains of a cattle-barn that had been destroyed during recent flooding of the Savannah River. He initiated his excavation with two trenches, each 10 feet wide, crosswise through the center in cardinal directions and down to the base of the mound. The resulting mound quadrants were then entirely excavated. These efforts revealed the mound as stratified, consisting of an upper stratum about 3 feet thick and composed of a sandy micaceous loam (most likely an accumulation of floodplain alluvium) containing historic period (ca. A.D. 1800) artifacts, and a lower stratum some 7 feet thick and composed of compact, silty-clay sediments containing human burials and accompanying grave goods. The burials within the lower stratum were grouped into two layers with the upper burial group between 1 and 2 feet below the top of the stratum and the lower group at the base of the mound within the initial 1.5 feet of fill. These superimposed burial groups were separated by 3.5 feet of non-differentiated mound fill. Both series of interments are collectively arranged around a central area of "burnt earth and ashes," which Reynolds noted for the upper layer was about 2 feet thick and some 5 feet square, and apparently of similar dimensions in the lower layer of interments. Reynolds further observed that the burials were not intrusive into the mound, noting that the soil above them showed no indication of disturbance.

Reynolds' drawings of these separate interment groups show them to be, for the most part, a superimposed, symmetrical image of one another, with the upper group containing the extended burials of three individuals oriented to the west and a single individual facing south. The lower group contained the extended burials of six individuals oriented to the east and a single individual facing north (Figure 87). This patterned symmetry of interment is also reflected in the artifact assemblage series in each burial layer. As noted, Reynolds' excavation recovered artifacts of the SECC. These materials originated in association with the interments in the initial stage of mound construction (the lower burial group), and included copper plates, a painted bottle with sun circle and cross motif, two cups engraved with serpent and human hand motifs, elaborate pipes, shell beads, and earspools (Anderson et al. 1986:33). The upper level interment series was devoid of SECC materials (with the exception of the decayed remnants of a repoussé-figured copper plate) and contained only nine jar and bowl covered burial urns.

Excavation of the larger mound in 1965 by Clemens de Baillou of the Augusta Museum yielded a pottery assemblage distinct enough to merit recognition as the

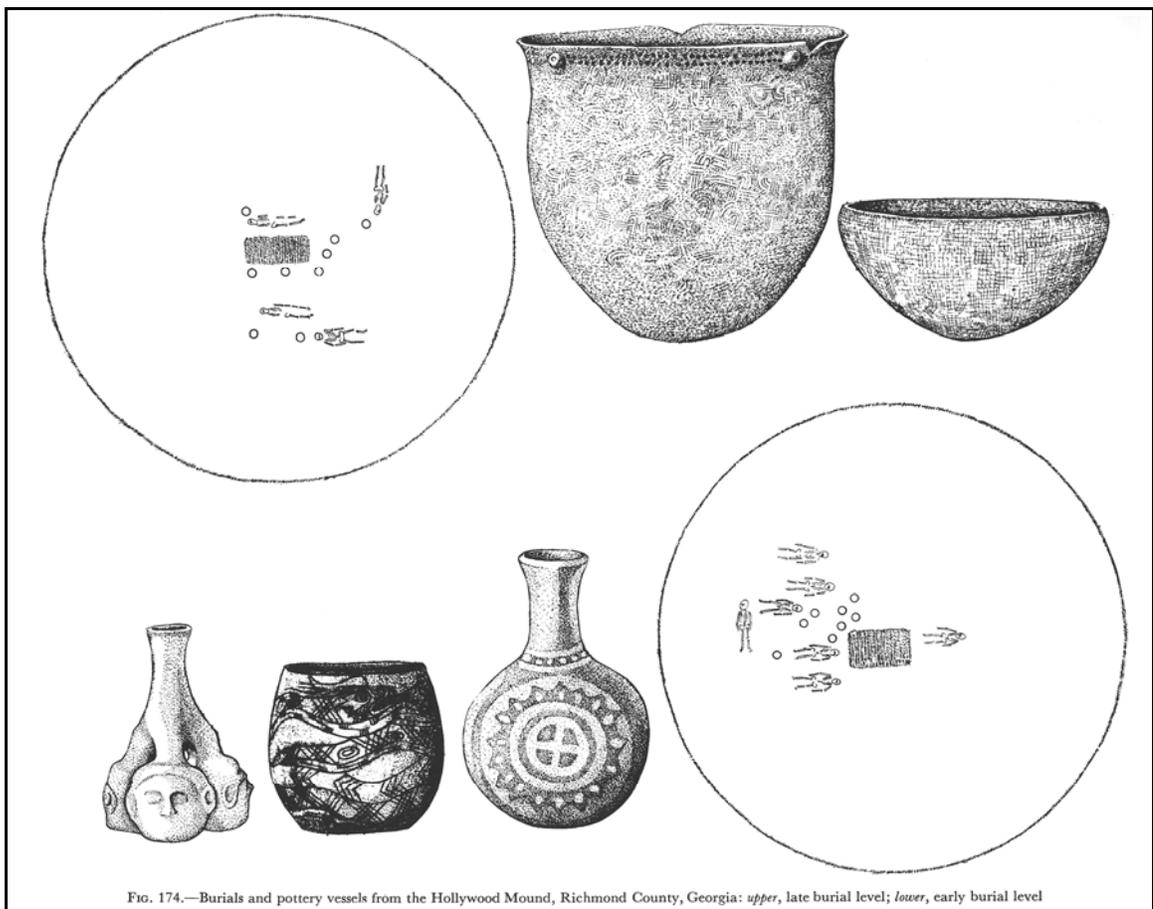


Figure 87. Upper (top row) and lower (bottom row) Mound B burial groups with representative ceramic vessels (Caldwell 1952: Figure 174).

Hollywood phase of the Savannah period. Anderson and colleagues (1986:41; see also Hally and Rudolph 1986:62) note that the ceramic complex of the Hollywood phase closely resembles that of the Pee Dee phase Town Creek site in North Carolina as demonstrated in a comparative study by Reid (1965). These researchers cross-date the Hollywood phase to between A.D. 1250 and 1350 on the basis of a radiocarbon series published by Dickens (1976:198) for Town Creek. Primary Hollywood ceramic types are Savannah Check Stamped, Savannah Plain and Burnished Plain, and Savannah Complicated Stamped dominated by variations of the filfot-cross motifs and other related designs. Additional characteristics include cane punctations and large riveted nodes impressed with cane punctations on unthickened jar rims (Anderson 1994:370; Anderson et al. 1986:40-41; Hally and Rudolph 1986:62-63). Recently, we obtained three radiocarbon dates from sooted sherds in the de Baillou collection that produced one sigma calibration ranges between A.D. 1220 and 1410, thereby substantiating the Hollywood phase designation for the site.

### Dating

Anderson (1990a; 1990b; 1994) was the first to publish recent interpretations of Reynolds' excavations. In his discussion, he acknowledges that some of the pottery found in Mound B graves matches the descriptions of typical Hollywood phase vessels as identified by Hally and Rudolph (1986). He does, however, allude to the persistent suspicion that the burial urns found in the second deposit of graves might be intrusive. By identifying them as Irene burial urns, (Irene being a pottery designation used for post-1400 pottery) the possibility is left open that those were in fact later intrusions into the mound. Anderson identifies the historic period ceramics and metal objects as likely late 18th to early 19th century, and therefore contemporary with the barn constructed on top of Mound B.

Two years after the publication of Anderson's book on Mississippian chiefdoms in the Savannah River basin, Brain and Phillips (1996) published a volume on shell gorget styles and their dating across the Southeast. Many have noted that the chronological arguments put forth by Brain and Phillips run counter to widespread and long-standing ideas about the dating of particular sites, artifact types, and decorative styles in the Southeast (Hally 2007; King 2007; Muller 1997).

Employing a complex (and sometimes teleological) argument, Brain and Phillips (1996) argue that the assemblage of artifacts found in the first burial layer of Hollywood's Mound B date to the protohistoric period. To make this case, they note that many of the artifacts found in Mound B are similar in form or style to those found at Etowah, Moundville, and sites in the Mississippi Valley—all from contexts that they argue date to the protohistoric period. It is important to note that Brain and Phillips' dating of contexts at Etowah and Moundville are clearly refuted by radiocarbon dating evidence (King 2007; Knight 2010).

As the second burial layer post-dates the initial burial group by extension, Brain and Phillips argue that it also must date to the protohistoric or later, albeit not much later.

As support for this contention, they assert that the burial urns found in the second layer date to the protohistoric period based on burial form and pottery type. Citing Reid (1965), they further assert that burial urns are a burial type restricted to the protohistoric period. Finally, they conflate the type Irene Complicated Stamped with the type Lamar Complicated Stamped and state these types all date to the protohistoric period. The argument is finished by stating that European artifacts were found associated with two of the burial urns and generally throughout the upper level.

While clearly flawed through circular logic, argument through assertion, and misrepresentation of the facts, the case made by Brain and Phillips persists in the literature. It was for this reason that we traveled to the Museum Support Center to examine the Hollywood artifacts for ourselves. Having worked with Hollywood phase pottery for over a decade, we felt confident that we could resolve the question of the dating of the burial urns through visual inspection. We also wanted to document the historic period artifacts identified as Postbellum Euroamerican by Anderson and implied to be 16th-century Spanish by Brain and Phillips. Finally, we hoped to identify materials suitable for radiocarbon dating to fix both the burial urns and earliest burial deposits in Mound B in time.

Our inspection of the pottery recovered from Mound B resulted in three observations. First, the burial urns found in the upper burial layer in Mound B are classic Hollywood phase pots as suggested by Anderson. In addition, we were able to conclude that the bottle and cup forms found in the lower burial layer derive from the Central Mississippi Valley, and finally at least one classic Hollywood phase vessel also was recovered from the lower burial layer. Inspection of the historic artifacts recovered from Mound B also confirmed Anderson's dating to the postbellum period. The assemblage includes cut nails, creamware, and a decorated sherd of porcelain, all dating to the late 18th and early 19th centuries.

From these results, we draw a series of conclusions about the dating of Mound B. First, as Anderson suggested, the initial burial layer in the mound dates to the Hollywood phase in the middle Savannah River valley. We base this on the presence of a single Hollywood phase vessel in the mortuary offerings at this level. This is further supported by a series of cross-dates based on distinctive artifacts types and decorative styles found in this burial layer. The frontal-facing piasa copper plate has a companion executed in the same style found in Etowah's Mound C, and the same is true of the anthropomorphic pipe found in Hollywood's Mound B. Both objects were recovered from contexts dating to the Wilbanks phases at A.D. 1250-1375 (King 2010). In addition, the two engraved pottery cups are decorated in the Late Braden style, which Brown (2007) demonstrates dates to the 13th century. A Negative Painted ceramic bottle from the Hollywood mound, exhibiting a "cross in circle and sunburst" motif design, is stylistically similar to a Negative Painted ceramic bottle (Brain and Phillips 1996:143; see also Moorehead 1979 [1932]: Figure 33c) from a Late Wilbanks burial context (ca. A.D. 1325 to 1375) in Mound C at Etowah (King 2007:119). These data confirm that so-called SECC goods—the copper plate, engraved ceramic cups, bottles, effigy pipes, and copper and stone celts—first appeared in the middle Savannah River valley between A.D. 1250 and 1350.

We further conclude that the upper burial layer also dates to the Hollywood phase. We base this on the dating of the burial urns and the fact that there is no archaeological evidence that they intruded into earlier deposits. Reynolds (in Thomas 1985 [1894]) indicates that those urns were arranged among the extended burials as part of the original mortuary event or sequence. With the exception of a single sand-tempered plain and zone punctated vessel (Figure 88), all of the burial urns exhibit surface treatment and vessel forms consistent with a Hollywood phase assignment (Figure 89). The closeness in time between the first and second burial sequences suggested by the artifacts is consistent with the fact that Reynolds could find no distinct stratigraphic separation between the mound fill containing the first burial layer and those containing the second. We cannot determine whether both deposits are part of a single event, or separate parts of a series of events that took place over a longer period of time.

Finally, we argue that the last mound layer identified by Reynolds was likely historic alluvium and not an intentionally created deposit. The Savannah River, like so many other Southern rivers, saw an increase in the frequency of floods and also an increase in the volume of sediment carried by those floods in the postbellum period. This is evidenced by record-breaking historic period flooding events resulting in very thick deposits of alluvium at and below the Fall Line throughout the Savannah River floodplain. The presence of pearlware and creamware ceramics (i.e., blue shell edge, green shell edge, and transfer print), as well as wrought and cut nails all confirm the postbellum dating of this deposit.

### Hollywood and Middle Savannah Mississippian

The importance of the dating of Hollywood's Mound B mortuary deposits reaches beyond site and regional chronology, and this is because it places a significant event in time. That event is the appearance in the middle Savannah of non-local and elaborately decorated items associated with widespread canons of elite regalia and ritual practice—the SECC. The insertion of these objects into the material culture of the middle Savannah River valley is important for two key reasons. First, it connected this region to wider political and religious processes impacting much of the rest of the Mississippian world. In addition, it appears to have occurred at a critical time in the formation of chiefdoms in the middle Savannah River valley and therefore likely was an important catalyst of that process.

The elaborate pots, copper plates and celts, anthropomorphic pipes, and chunkee stones found in Mound B have long been considered part of the SECC—a set of objects and ritual themes spread widely across the Southeast during the Mississippian period. Many have recognized that the term SECC is too broad of a term for what is actually more productively viewed as interrelated sets of art styles and ideological traditions, each with their own particular cultural context and individual history (King 2007; Knight et al. 2001). This perspective asks investigators to explore the particular histories of sets of objects using specific cultural contexts derived from artistic styles and forms.

Looking at the objects recovered in Mound B, the weight of evidence clearly points to a non-local and western origin for most. The negative painted bottle is an example of Avenue Polychrome from the Central Mississippi Valley (Brain and Phillips 1996) (Figure 90), while the other bottles take the carafe form that also is found only in the same region (Figure 91). As will be discussed, both vessel types also have been found at Etowah in northern Georgia. Additionally, the two engraved cups exhibit Brown's (2007) Late Braden style, which has its home in the Memphis area (Figure 92). Only one of the Hollywood copper plates has imagery that is interpretable. It presents a frontal image of a feline interpreted to be the Underwater Panther or "Piasa" (Reilly 2004) (Figure 93). There is another example executed in the same style that was recovered from the Etowah site in northwestern Georgia, but its stylistic connections are not clearly understood. The closest referents are the frontal depictions of a similar creature engraved on pottery vessels and also executed in the round as stone pipes. Both sets of images were made in the Central and Lower Mississippi Valley. One of the effigy pipes found in Mound B presents a human figure holding a pottery vessel representing the "Bowl Giver." (Figure 94) Companion pipes, again likely created in the same style, have been found at Etowah and in eastern Tennessee. The stylistic similarity to the statuary of eastern Tennessee and northern Georgia, which Smith and Miller (2009) argue were made in that region, suggests that these pipes also have their origins there.



Figure 88. Hollywood Mound B Burial Urn, atypical sand-tempered plain and zone punctated jar form vessel (Accession No.135205).



Figure 89. Hollywood Mound B Burial Urn, typical sand-tempered jar form vessel decorated with fillet cross stamping and, double row of cane punctations, and four cane punctated nodes.



Figure 90. Negative painted bottle is an example of Avenue Polychrome from the Central Mississippi Valley.

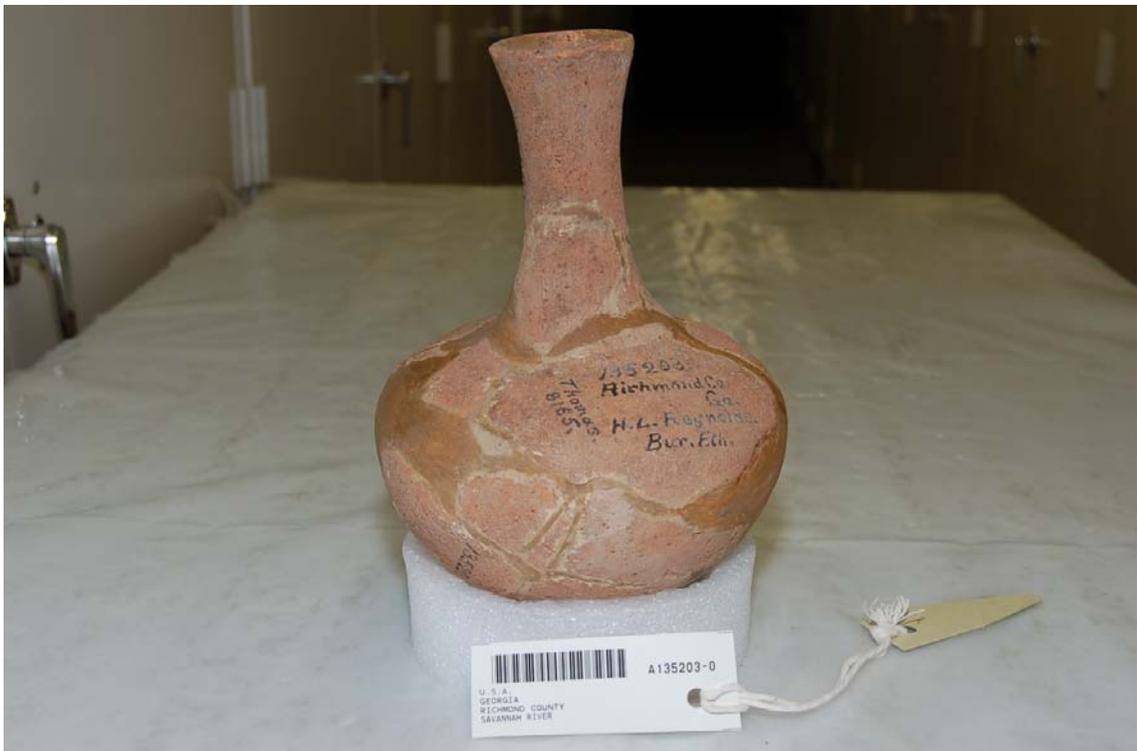


Figure 91. Shell-tempered carafe bottle form from the Central Mississippi Valley.



Figure 92. Two engraved cups that exhibit Late Braden style and are from the eastern Tennessee area (top vessel Accession No. 135196; bottom vessel Accession No.135204).



Figure 93. Copper plate presents frontal image of a feline, the “paisa,” interpreted as an Underwater Panther.



Figure 94. Effigy pipe presents a human figure holding a pottery vessel, the “Bowl Giver.”

A common pattern is apparent in the place of origin of the non-local goods found in Hollywood's Mound B. Much of it derives from sites in the Central Mississippi Valley, but there are also clear connections to northern Georgia and eastern Tennessee. In fact, these are the same external connections revealed by the assemblage of non-local artifacts found in Etowah's mortuary mound, Mound C, at roughly the same time as the Hollywood assemblage was interred. At Etowah, included among the non-local imagery are objects decorated in the Classic Braden style, whose place of origin was the American Bottom (Brown 2007). King has argued that the non-local mortuary objects found in Etowah's Mound C were the result of the movement of people from the Central Mississippi Valley to eastern Tennessee and northern Georgia after the collapse of the great Early Mississippian center of Cahokia. The materials in Hollywood's Mound B seem to be part of the same dispersal of Braden style objects and their makers. However, it is not clear whether the materials made their way directly from the Mississippi Valley or arrived via another eastern center like Etowah. For now, that detail is less significant than connecting the middle Savannah Mississippian societies to wider regional social processes.

Understanding that the presence of the SECC goods at Hollywood connects events in the middle Savannah River valley to the rest of the Mississippian world becomes even more important when it is realized that this happens at a critical point in the history of those middle Savannah Mississippian societies. Unlike other areas, like the Wateree River valley, Mississippian chiefdoms do not develop in the middle Savannah until after A.D. 1250, during the Hollywood phase (A.D. 1250-1350). At this time, mound sites abruptly appear near the Fall Line at Hollywood (9RI1) and Masons Plantation (38AK11), and further south into the Upper Coastal Plain at Lawton (38AL11), Red Lake (9SN4), and Spring Lake (9SN215). We have little doubt that the correspondence in timing of the appearance of foreign goods and ideology at Hollywood and the rapid emergence of chiefdoms means that the two processes are causal and interlinked.

In fact, we have some reason to believe that the mortuary activity in Hollywood's Mound B may have preceded the establishment of mound centers further to the south. A detailed ceramic chronology has been established for the middle Savannah, initiated by Anderson (1994) and elaborated on by Stephenson and King (2007). Accompanying that chronology is a suite of radiocarbon dates, representing dates from Lawton, Red Lake, several non-mound sites, and three dates from the Hollywood site. Based on both radiocarbon dates and details of ceramic decoration, there is the possibility that Hollywood was one of the earliest of the Hollywood phase mound centers to be established. If this can be confirmed, then an argument can be made that the appearance of the elaborate goods in Hollywood's Mound B was a key part of the process that led to the establishment of Mississippian polities in the middle Savannah.

While we think the appearance of foreign goods and ideas may have inspired the formation of Mississippian polities in the region, we do not think this process involved a simple copying of social, ritual, and decision-making structures from other places. We

have argued that the polities in the middle Savannah River valley are not “classic” Mississippian polities like those found in the Piedmont of Georgia and South Carolina. On the middle Savannah, Mississippian polities have dispersed settlement systems where mound sites appear to be more ceremonial precincts than actual towns. Mortuary traditions appear to involve cremation and placement within burial urns in natural sand ridges along the Savannah River. Those cemeteries contain no indications that differential ranking was reflected in either grave form or accompanying goods. No other sites thus far investigated have produced the same kinds of non-local and elaborate materials found in Mound B at Hollywood.

We suspect that the mortuary activity at Hollywood, including its non-local ritual objects and regalia, represent a dedicatory event that was in fact part of the inspiration for middle Savannah Mississippian. However, it seems apparent that the version of Mississippian created at Hollywood was as much local in character as it was foreign. The melding of local and non-local traditions is apparent in the nature of the mortuary activity represented by Mound B.

Several factors suggest that the two mortuary episodes in Mound B were intimately linked and likely separated by a very short period of time. As noted above, both layers contained diagnostic Hollywood phase pottery, so both were created during the same phase. Both also contained a mix of local Hollywood phase pots and non-local objects. In the lower deposit, artifacts were dominated by non-local SECC goods with only one Hollywood phase pot present. In the upper deposit, the majority of artifacts were Hollywood phase pots, although a relatively small number of SECC goods were present, most notably a copper plate. Further, in the lower deposit extended burials were the dominant form, while in the upper deposit the burial urn was the predominant grave form. One burial urn was found in the lower deposit and four extended graves were present in the upper deposit. The complementarity of the two deposits is most clearly demonstrated by the distribution of graves and other features. As noted above, both sets of graves were oriented around a large central hearth or pit. The graves in the first layer were all located on the northern and eastern sides (with the exception of one individual) of a large fire basin, while in the upper deposit the graves were located to the west and north of a second fire basin.

We believe that Mound B should be considered as one deposit that was likely created over a short period of time. While stratigraphically separated, the upper and lower deposits are clearly designed to complement one another both spatially and culturally. The lower deposit is dominated by goods and burial types that are not local to the middle Savannah, and in fact derive from regions to the west. The upper deposit is dominated by the regional form of burial treatment using locally-manufactured, domestic pottery vessels. Each deposit is a counterpart of the other in regard to artifacts and burial treatment, and this symmetry connecting the upper and lower burial events in turn reflects the balance in nature. Taking the central fire basin as a common center for these deposits, the spatial arrangements of the two burial contexts place them together in both sacred and real geography. The non-local mortuary deposit that appears to derive from regions west of the middle Savannah River valley is located on the western side of the fire basin, while the local mortuary deposit is positioned to its east. In effect the Mound B deposit blends

two different mortuary, and presumably ideological, traditions by placing them on a common geographic and ideological plane. We suspect the end result is a new variant of Mississippian ritual and political culture that was part of the basis of the polities centered at sites in the Upper Coastal Plain as Lawton, Red Lake, and Spring Lake.

#### Future Considerations

Some key elements of our interpretation of the dating of Hollywood's Mound B require additional support. Given the tenacity of Brain's and Phillips' adherence to their interpretations of dating, it will be important to obtain radiocarbon dates from materials associated with the Hollywood phase burial urns and the SECC materials. During our inspection of the materials curated at the Museum Support Center, we identified soot deposits adhering to the exterior and interior surfaces of several Hollywood phase pots. Additionally, cane matting was preserved with one of the copper plates, and a portion of a wooden handle was preserved with a copper celt. These dates will place both the upper and lower burial deposits in time, and also allow us to more completely assess the idea that Hollywood's occupation is slightly earlier than the occupations of the other mound sites in the middle Savannah River valley. We intend to seek funds and permission to obtain dates on these objects.

As an additional means of both dating occupations at Hollywood relative to other sites in the area, we intend to examine pottery collections recovered by de Baillou in 1965. De Baillou excavated two 10-foot square blocks on the remnant of Mound B. These units confirmed that intact Mound B deposits were still present, and it also tested those deposits and a midden the predated the mound. The pottery collections, and datable materials that hopefully are part of the assemblage, will provide another means of examining the question of the relative dating of occupations at Hollywood and the other mound sites in the middle Savannah.

#### Concluding Comments

The Hollywood site has long been known as a place where elaborate and non-local materials were incorporated into mortuary deposits. In recent years, the exact dating of those deposits has become part of a larger debate over the dating of so-called SECC goods. Our examination of the artifacts recovered by Reynolds confirms, as Anderson (1994) suggested, that the graves in Hollywood's Mound B, and by extension the artifacts found in them, were interred during the Hollywood phase. The radiocarbon chronology we have assembled for the Hollywood phase unequivocally confirms a date range from A.D. 1250 to 1350.

This places the appearance of those goods at a time when Mississippian chiefdoms were just forming in the middle Savannah River valley. We suspect those SECC goods and the beliefs that accompanied them formed part of the impetus for the formation of a distinctive version of Mississippian society most clearly reflected in the archaeological record during the Mississippian period in the middle Savannah River valley. The blending of both foreign and local practice and belief can be seen in the arrangement of people, objects, and archaeological features within Mound B at Hollywood.

## PART III. PUBLIC EDUCATION

### EDUCATIONAL OUTREACH

Christopher R. Moore

As set forth in the PMOA, and implemented through the DOE/SCIAA cooperative agreement, the SRARP continued to offer a variety of educational and outreach programs, lectures, tours, archaeological displays, and special assistance for the public in FY10. Although down slightly from last year, outreach activities in FY10 continued with an emphasis on archaeological displays at area events and the “You Be the Archaeologist” program held at the Audubon Center at Silver Bluff. Flintknapping demonstrations and displays of lithic raw material types continued to be popular at educational events. In FY10, over 160 students participated in the program at Silver Bluff while more than 3,000 people attended public outreach displays at Redcliffe Plantation and North Augusta Kids Earth Day.<sup>2</sup> Numerous other outreach activities included lecture seminars for the Aiken Gem, Mineral, and Fossil Society, the Augusta Archaeological Society, and volunteers at the Topper Paleoamerican Survey excavation. Additionally, artifact displays were prepared for the Georgia on My Mind Day and the SRS Take our Children to Work Day. Additionally, Rob Moon reports that the SRARP website ([www.srarp.org](http://www.srarp.org)) had over 10,000 documented visits during FY10. Webpage upgrades and improvements are key elements in maintaining the site as information pertaining to current research projects and other aspects of the SRARP is added on a regular basis.

### SRARP VOLUNTEER PROGRAM

Christopher R. Moore and Tammy F. Herron

Volunteers have been an integral part of the SRARP since the program’s inception in 1973. Over the course of FY10, our volunteers logged in over 900 hours of work. Volunteers assist in a variety of tasks such as archaeological fieldwork, artifact processing and analysis, soil sediment analysis, data entry, documents research, assisting with exhibits, Xeroxing, and filing.

This fiscal year, Jill Nazarete spent much of her time in the lab creating a database consisting of 276 radiocarbon dates for the SRS and adjacent regions. This database will be linked to the Site File and artifact database currently being created by Rob Moon. Jill also spent time reintegrating artifacts pulled for secondary analysis, Xeroxing, processing artifacts, combing primary documents for information regarding 38AK892, processing faunal remains from 38AK892, and participating in fieldwork. Mrs. Nazarete logged in a total of 223.00 hours of volunteer time over the course of the fiscal year.

In FY10, the SRARP expanded its volunteer-based research program. The Carolina Bay Volunteer Research Program was started in FY09 and involves the interested public in geoarchaeological and paleoenvironmental research of Carolina bays located throughout the CSRA. Now in its second year, the volunteer program logged

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<sup>2</sup> FY10 total attendance for the major heritage education events reflects the total number of attendees at each event as opposed to the estimated number of attendees who actually visited the SRARP display as cited in previous annual reports.

more than 700 volunteer hours (more than double that of FY09). This year, volunteer help included substantial lab work involving washing and sorting of artifacts, lithic analysis, artifact refitting, analysis of archaeological sediments (i.e., sieving), flotation, and data entry. In addition, volunteers assisted in continued archaeological excavations and testing at Flamingo Bay, Johns Bay, and Frierson Bay. Our volunteers for FY10 include Bob Van Buren, John Whatley, the late Kevin Eberhard, Rooney Floyd, Tom Cofer, Danny Robinson, Jill and Robert Nazarete, Dennis Hendrix, John Arena, Jennifer Stevenson, Dr. Larry Strong, and Duval Lawrence.

The staff of the SRARP would like to acknowledge the hard work and diligence of the volunteers who support the program by giving their time to aid in advancing the research conducted here at the SRARP. The contributions of these individuals are indeed greatly appreciated, and much of the research that we carry out would not be possible without their help and support.

### CINEMATIC OUTREACH

George L. Wingard

Since our first meeting in June 2005, I have worked closely with filmmaker Mark Albertin. His recent documentary about the communities formerly located on the SRS titled *Displaced: The Unexpected Fallout from the Cold War* premiered at the University of South Carolina – Aiken campus in March 2009 to capacity filled audiences at both back-to-back showings. His film used much of the SRARP's photo archive donated by former residents in its production.

The film has become a great outreach tool for the SRARP. The DVD's extras include a four-minute film describing the cultural resource management, research, and outreach mission of the SRARP. Mark and his company, Scrapbook Video Productions, have sold thousands of copies in and around the local area, which extends the audience the SRARP can reach.

The film was a finalist and screened at two international film festivals: the Southside Film Festival in Bethlehem, Pennsylvania and the Beaufort International Film Festival (BIFF) held in Beaufort, South Carolina, where it was nominated as best documentary (Figure 95). *Displaced* was very well received by the audience and the other filmmakers in attendance. Several former residents from the towns displaced by the construction of the SRS were in attendance at the BIFF and participated in a spontaneous question and answer session after the film.

Following the BIFF, George Wingard and Mark Albertin attended the awards program where actress Blythe Danner and novelist Pat Conroy were presented awards for their work in the Beaufort/Low Country area (Figure 96). Unfortunately, *Displaced* did not win best documentary; however, many new contacts were made, and the story of the former SRS communities found a new venue to be presented.

Collaboration with Mark and Scrapbook Video Productions continues with two new productions that will spotlight the research of the SRARP. In July, filming began on



Figure 95. Mark Albertin of Scrapbook Video Productions being interviewed after the screening of the film *Displaced: The Unexpected Fallout from the Cold War* (Albertin 2009), at the Beaufort International Film Festival.



Figure 96. Blythe Danner accepting 2010 Beaufort International Film Festival's Excellence in Acting Award.

a short film about Carolina bay research on the Savannah River Site and the surrounding area. This fall, filming will begin on a short documentary about the slave potter Dave and an example of one of his alkaline-glazed stoneware vessels discovered by the SRARP on the SRS. Both of these films will be downloaded to the SRARP.org website with the hopes that, in the future, more SRARP research can be highlighted in this way.

FORMER HOMESITE TOURS:  
CONNECTING FORMER RESIDENTS TO THEIR PAST

George L. Wingard

On Friday, May 21, 2010, SRARP staff member George Wingard, took members of the Meyer family to the former town of Dunbarton and the location of their former home. The tour included brothers Billy and Mac Meyer, Mac's son Michael, and their cousin Margaret Roundtree (Figure 97). The morning was spent walking the woods where their home was located prior to being moved in November 1951 to the Colston Community in Bamberg, South Carolina. Using information from historic land plat records located at the SRARP and the latest GPS data, the group was able to find brick piers, trash piles, and assorted metal during the reconnaissance—evidence confirming the location of the homesite.



Figure 97. Left to right: Mac Meyer, his son Michael, and his brother Billy stand near the location of where their parents' home was located before being moved in 1951.

The homestead was owned by Mac and Billy's parents, William McDuffie and Anne Laura Meyer (Figure 98). Their property consisted of a 78-ac. tract with a five-room dwelling, barn, chicken house, pump house, hog pen, tenant house, privy, and pecan grove, as well as several sheds and other assorted storage buildings. The Meyers were paid \$13,210.00 for their property and its improvements.



Figure 98. The home of the Meyer family at its original location in Meyers Mill.

The house was removed from its foundation, towed through Meyers Mill, and made the nearly 60-mile trip to Bamberg taking a week. In an interview, Billy Meyer said that during the move the family slept in the house at night and used a kerosene heater to heat and cook with. During the day, as the house was being moved, the family dog stayed on the porch and watched the progress. At one point, the Meyer family was away from the house while it was stopped for the night, and someone stole the rocking chairs off the porch. From discussions with other residents displaced by the move, theft and property destruction happened quite often.

This particular tour was rare in that not only did the family get to visit the property where the house once stood, but Wingard also had the chance to visit the house where it now stands (Figure 99). Lovingly restored, with a new addition to the back of the house, it is now lived in by Billy Meyer. This was a unique opportunity to not only meet former residents, but also to record their narrative from its beginnings 60 years ago on the SRS to its finality some 60 miles from where it all started.



Figure 99. The Meyer family home as it now appears in Bamberg, South Carolina (Photo courtesy of Billy Meyer).

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2009 How Did They Survive? Adaptation Process to the Post-Glacial Environment in the Biwako Area, Japan. *Neolithisation and Landscape: NEOMAP International Workshop*, edited by J. Uchiyama, K. Lindstrom, C. Zeballos, and K. Makibayashi, pp. 73-84. Research Institute for Humanity and Nature, Nakanashi Printing Co., Kyoto, Japan.

Smith, K., and J. V. Miller

2009 *Speaking with the Ancestors: Mississippian Stone Statuary of the Tennessee-Cumberland Region*. University of Alabama Press, Tuscaloosa.

Stephenson, K., and A. King

2007 Labor Patterns, Scales of Surplus, and Centralized Society in the Middle Savannah River Valley. Paper presented at the 72nd Annual Meeting of the Society for American Archaeology, Austin, Texas.

Steponaitis, V. P., J. D. Irwin, T. E. McReynolds, and C. R. Moore

2006 *Stone Quarries and Sourcing in the Carolina Slate Belt*. Research Report No. 25, University of North Carolina, Chapel Hill. Access this document at <http://rla.unc.edu/Publications/pdf/ResRep25/>.

SRARP (Savannah River Archaeological Research Program)

1989 *Archaeological Resource Management Plan of the Savannah River Archaeological Research Program*. Submitted to the Savannah River Operations Office, US Department of Energy. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

1990 *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program: Fiscal Year 1990*. Submitted to the Savannah River Operations Office, US Department of Energy. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

1997 *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program: Fiscal Year 1997*. Submitted to the Savannah River Operations Office, US Department of Energy. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

2009 *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program: Fiscal Year 2009*. Submitted to the Savannah River Operations Office, US Department of Energy. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Taylor, B. E., M. J. Brooks, and C. O. Clement

2003 Paleoenvironmental Research at Ft. Jackson. In *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program: Fiscal Year 2003*, pp. 50-56. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Thomas, C.

1985 [1894] *Report of the Mound Explorations of the Bureau of Ethnology*. Introduction by B. D. Smith. Smithsonian Institution Press, Washington, D.C. 1985 facsimile ed. Originally published 1894, Annual Report 12, Bureau of American Ethnology, Smithsonian Institution, Washington, D.C.

Uchiyama, J.

2009 Understanding Neolithisation of East Asian Inland Seas. Paper presented at the 74th Annual Meeting of the Society for American Archaeology, Atlanta.

USACE (United States Army Corps of Engineers)

1888 *Annual Report of the Chief of Engineers, United States Army, to the Secretary of War*, Part I. Government Printing Office, Washington, D.C.

1890 *Annual Report of the Chief of Engineers, United States Army, to the Secretary of War*, Part I. Government Printing Office, Washington, D.C.

2007 Improving Transportation. In *The U. S. Army Corps of Engineers: A Brief History*. Electronic document, <http://www.usace.army.mil/History/Documents/Brief/03-transportation/transport.html>, accessed September 29, 2010.

US DOE (United States Department of Energy)

1994 Savannah River Archaeological Research Program Appraisal. Report Number 94-E&LPD-EPB-001.

Walker, H. J., and J. M. Coleman

1987 Atlantic and Gulf Coastal Province. In *Geomorphic Systems of North America*, edited by W. L. Graf, pp 51-110. Centennial Special, Vol. 2 American Geological Society, Boulder, Colorado.

Waters, M. R., S. L. Forman, T. W. Stafford, Jr., and J. Foss

2009 Geoarchaeological Investigations at the Topper and Big Pine Sites, Allendale County, Central Savannah River, South Carolina. *Journal of Archeological Science* doi:10.1016/j.jas.2008.12.020

Waring, A. J., Jr., and P. Holder

1945 A Prehistoric Ceremonial Complex in the Southeastern United States. *American Antiquity* 47:1-34.

**APPENDIX. PUBLICATIONS AND PROFESSIONAL ACTIVITIES**

## PUBLISHED PAPERS

Anderson, David G., D. Shane Miller, Stephen J. Yerka, J. Christopher Gillam, Erik N. Johanson, Derek T. Anderson, Albert C. Goodyear, and Ashley M. Smallwood  
2010 PIDBA (Paleoindian Database of the Americas) 2010: Current Status and Findings. *Archaeology of Eastern North America* 38:63-90.

Brooks, Mark J., Barbara E. Taylor, and Andrew H. Ivester  
2010 Carolina Bays: Time Capsules of Culture and Climate Change. *Southeastern Archaeology* 29:146-163.

Gillam, J. Christopher  
2010 Modeling Neolithic Cultural Landscapes in East Asia. In Proceedings of the 14th International Conference of Historical Geographers, Kyoto 2009, edited by A. Kinda, T. Komeie, S. Minmide, T. Mizoguchi, and K. Uesugi, pp. 214-215. Kyoto University Press.

Iriarte, José, Oscar Marozzi, and J. Christopher Gillam  
2010 Monumentos funerarios y festejos rituales: Complejos de recintos y montículos Taquara/Itarare en ElDorado, Misiones (Argentina) [Funeral Monuments and Ritual Celebrations: Mound and Enclosure Complexes of the Taquara/Itarare in ElDorado, Misiones (Argentina)]. *Arqueologia IberoAmericana* 6:25-38.

King, Adam  
2010 Multiple Groups, Overlapping Symbols, and the Creation of a Sacred Space at Etowah's Mound C. In *Mississippian Mortuary Practices: Beyond Hierarchy and the Representationist Perspective*, edited by L. P. Sullivan and R. C. Mainfort, pp. 54-73. University Press of Florida, Gainesville.

## TECHNICAL REPORTS

Moore, Christopher R., Keith C. Seramur, and Paul R. Hanson  
2010 Geoarchaeological Investigations at the Harriot Trail Woods Site, Fort Raleigh National Historic Site, Roanoke Island, NC. Report submitted to First Colony Foundation, Durham, NC.

## PROFESSIONAL PAPERS AND POSTERS

Gillam, J. Christopher  
2010 *Past Landscapes, Future Knowledge: Becoming Better Advocates for Humanity and Nature*. Invited paper for the 2010 NEOMAP Landscape Workshop, "What does landscape history mean to us, and how can landscape studies contribute to our future?" Kyoto, Japan.

Gillam, J. Christopher, Oki Nakamura, and Tomohiko Matsumori

2010 *From the Hida Mountains to Toyama Bay: Understanding Diversity and Change in Jomon Cultural Landscapes*. Presented at the 1st meeting of the Landscape Archaeology Conference, Amsterdam, Netherlands.

Hally, David, Emily Beahm, Sarah Berg, Dan Bigman, Carol Colaninno, Ben Steere, Keith Stephenson, Karen Smith, and Frankie Snow

2009 Characterization of Swift Creek Vessel Assemblages. Paper presented at the 66th Annual Meeting of the Southeastern Archaeological Conference, Mobile, AL.

Johanson, Erik N., David G. Anderson, D. Shane Miller, Stephen J. Yerka, Derek T. Anderson, and J. Christopher Gillam

2009 *PIDBA: The State of the Database*. Presented at the 66th Annual Meeting of the Southeastern Archaeological Conference, Mobile, AL.

Johanson, Erik N., David G. Anderson, D. Shane Miller, Stephen J. Yerka, Derek T. Anderson, J. Christopher Gillam, and Ashley Smallwood

2010 *PIDBA: Challenges Related to the Curation and Dissemination of Paleoindian Data at a Hemispheric Scale*. Presented in the Digital Data Interest Group Electronic Symposium at the 75th Annual Meeting of the Society for American Archaeology, St. Louis, MO.

Johnson, Ben P.

2009 Systematic Shovel Testing At Colonial Dorchester, South Carolina. Paper presented at the 66th Annual Meeting of the Southeastern Archaeological Conference, Mobile, AL.

2010 Demographic Survey of the Extant Historical Cemeteries of the Savannah River Valley. Paper presented at the 40th Annual Meeting of the Archaeological Society of South Carolina, Columbia, SC.

King, Adam, and Alexander Corsci

2010 Etowah's External Connections as Revealed by Style and Iconography. Paper presented at the 75th Annual Meeting of the Society for American Archeology, St. Louis, MO.

McKinnon, Duncan P., Chester P. Walker, and Adam King

2009 Putting the Robot to Work at Etowah: Integrating High-Density Digital Elevation Data with Magnetic Gradiometry Data. Paper presented at the 66th Annual Meeting of the Southeastern Archaeological Conference, Mobile, AL.

Moon, Robert, and Tammy Herron

2009 Exploring an Early Antebellum Homestead at the Savannah River Site. Poster presented at the 66th Annual Meeting of the Southeastern Archaeological Conference, Mobile, AL.

Moore, Christopher R., and I. Randolph Daniel, Jr.

2010 Site Formation Processes and Climatic Disequilibrium: Geoarchaeological Evidence for Rapid and Episodic Climate Change Events in the North Carolina Coastal Plain. Poster presented at the 66th Annual Meeting of the Southeastern Archaeological Conference, Mobile, AL.

Moore, Christopher R., Mark J. Brooks, Andrew H. Ivester, and Terry A. Ferguson

2010 Geoarchaeological Investigations of Carolina Bays in South Carolina: Methodological Approaches for Interpreting Site Formation Processes, Archaeostratigraphy, and Geochronology. Poster presented at the 40th Annual Conference of the Archaeological Society of South Carolina, Columbia, SC.

Moore, Christopher R., Mark J. Brooks, Andrew H. Ivester, and Terry A. Ferguson

2010 Geoarchaeological Investigations of Carolina Bays in South Carolina: Methodological Approaches for Interpreting Site Formation Processes, Archaeostratigraphy, and Geochronology. Poster presented at the Joint Meeting of the Northeastern (45th Annual) and Southeastern (59th Annual) Sections, Geological Society of America, Baltimore, MD.

Moore, Christopher R., Mark J. Brooks, Andrew H. Ivester, and Terry A. Ferguson

2010 Geoarchaeological Investigations of Carolina Bays in South Carolina: Methodological Approaches for Interpreting Site Formation Processes, Archaeostratigraphy, and Geochronology. Poster presented at the 2010 Symposium on Southeastern Coastal Plain Archaeology, Douglas, GA.

Smith, Karen, and Keith Stephenson

2010 Weeden Island Mortuary Ritual. Poster presented at the 75th Annual Meeting of the Society for American Archeology, St. Louis, MO.

Stephenson, Keith, and Frankie Snow

2009 Joseph Caldwell's Northern Ceramic Tradition in the Deep South. Paper presented at the 66th Annual Meeting of the Southeastern Archaeological Conference, Mobile, AL.

Stephenson, Keith, Adam King, and Christopher Thornock

2010 Investigation of the Lawton Mound Site Palisade. Paper presented at the 2010 Symposium on Southeastern Coastal Plain Archaeology, Douglas, GA.

#### CONTRIBUTIONS TO CURRENT RESEARCH

Gillam, J. Christopher

2009 International Outreach: The Southeast Prehistoric and Historic Landscapes Tour. *Legacy* 13(2):3.

Gillam, J. Christopher, Junzo Uchiyama, Oki Nakamura, Tomohiko Matsumori, and Carlos Zeballos

2010 Jomon Period Research in West-Central Honshu, Japan. *Legacy* 14(1):14-15.

Moore, Christopher R., and I. Randolph Daniel, Jr.

2010 Results from the 2009 Tar River Geoarchaeological Survey. *Legacy* 14(2):12-17.

Moore, Christopher R., Mark J. Brooks, Andrew H. Ivester, and Terry A. Ferguson

2010 Carolina Bay Volunteer Research Program. *Legacy* 14(1):4-9.

Moore, Christopher R., Mark J. Brooks, Andrew H. Ivester, and Terry A. Ferguson

2010 Carolina Bay Volunteer-Based Research Program. Geological Society of America, *Archaeological Geology Division Newsletter* 32(1):4-5.

#### REVIEWS OF ARTICLES AND MANUSCRIPTS

Brooks, Mark J.

Review of a Data Recovery Report for the SC SHPO. Charles Cantley, Compliance and Review Archaeologist.

Gillam, J. Christopher

Review of article for *Journal of World Prehistory*.

Review of article for *American Antiquity*.

Review of article for *Current Research in the Pleistocene*.

King, Adam

Manuscript review for *American Antiquity*.

Manuscript review for the University Press of Florida.

Proposal review for National Geographic and National Science Foundation.

Moore, Christopher R.

Review of manuscript for Southeastern Paleoamerican Survey (SEPAS)/SCIAA.

#### PROFESSIONAL ORGANIZATION SERVICE

Herron, Tammy F.

Designed the poster for Georgia Archaeology Month 2010 sponsored by The Society for Georgia Archaeology (SGA) with graphic assistance from Rob Moon and compiled the text with the theme "Making the Past Come to Life: Exploring Ancient Techniques."

Created the lesson plan for Georgia Archaeology Month 2010 sponsored by The SGA with contributions from Scott Jones and Catherine Long and graphic assistance from

Rob Moon. The plan is titled “Learning Through Archaeology: Exploring Ancient Techniques” and is Number 13 in The SGA’s Lesson Plan Series.

#### OFFICES AND APPOINTMENTS HELD

Brooks, Mark J.  
Director, SRARP.

Associate Director and Division Head, SCIAA.

Member, Senior Advisory Council, SCIAA.

Member, Ethics Committee, SCIAA.

Member, Grants and Contracts Committee, SCIAA.

Member, Building Committee for the new SCIAA building.

Member, SRS Senior Environmental Managers Council.

Gillam, J. Christopher  
Research Archaeologist and GIS Manager, SCIAA.

Research Member of the international research project, Neolithisation and Modernisation (NEOMAP) of the East Asian Inland Seas, with Junzo Uchiyama, NEOMAP Director, and others at the Research Institute for Humanity and Nature (RIHN), Kyoto, Japan.

Co-Principle Investigator for research on the sacred landscapes and funerary rites of ancestral southern Gê of the Southern Brazilian Highlands with José Iriarte, Primary Investigator, University of Exeter, United Kingdom, and Silvia Moehlecke Copé, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brasil.

Co-Principle Investigator for research on the socio-political and environmental context of Taquara/Itarare Culture in Misiones Province, Argentina, with José Iriarte, Primary Investigator, University of Exeter, United Kingdom, and Oscar Marozzi, SAR, Servicios Arqueológicos, Montevideo, Uruguay.

Project Co-Director and GIS Manager for the Paleoindian Database of the Americas, with David G. Anderson, Project Director, and others at the University of Tennessee.

GIS and SC Paleo-Point Database Manager for the Southeastern Paleoamerican Survey, with Albert C. Goodyear, Director, and others at SCIAA, USC.

Archivist, Council of South Carolina Professional Archaeologists.

Research Associate of the Walker Institute of International and Area Studies, USC.

Research Affiliate of the Center for Asian Studies, USC.

Research Affiliate of the Latin American Studies Program, USC.

Research Affiliate of the Russian and Eurasian Studies Program, USC.

Voting Member, E&GIS Data Trustee Committee, SRS, Aiken, SC.

Chair, DIC, SRARP.

Moore, Christopher R.

Co-Principle Investigator for the Tar River Geoarchaeological Survey, Coastal Plain portion of the Tar River in eastern North Carolina, with I. Randolph Daniel, Jr., Principle Investigator, Department of Anthropology, East Carolina University, Greenville, NC.

Herron, Tammy F.

Board Member and Secretary, Beech Island Historical Society.

Chairman, Exhibits Committee, Beech Island Agricultural Museum owned by the Beech Island Historical Society, Beech Island, SC.

Member, Beech Island Heritage Corridor Committee.

Board Member, The Society for Georgia Archaeology.

Chairman, Georgia Archaeology Month Committee, The Society for Georgia Archaeology.

Chairman, Local Arrangements Committee, Spring Meeting, The Society for Georgia Archaeology

Member, Archaeobus Committee, The Society for Georgia Archaeology.

Member, Public Relations Committee, The Society for Georgia Archaeology.

Member, Volunteer Stewardship Program Committee, The Society for Georgia Archaeology.

King, Adam

President, Council of South Carolina Professional Archaeologists.

Editorial Board for the SCIAA *Legacy*.

Moon, Robert

Webmaster, Council of South Carolina Professional Archaeologists.

Member of the Board of Directors, Historic Augusta.

Stephenson, Keith

Treasurer, Council of South Carolina Professional Archaeologists.

#### CONSULTING

Brooks, Mark J.

Geoarchaeological consultant to Adam King (SCIAA-SRARP) for various proposals to conduct paleoenvironmental and archaeological research at the Congaree River National Park.

Geoarchaeological consultant to J. Christopher Gillam (SCIAA-SRARP) for the project titled "The Cerro de los Burros Locality, Uruguay: a Cross-Cultural Comparison to the Allendale Chert Quarries of South Carolina." Fieldwork in Uruguay is tentatively scheduled for 2011.

Brooks, Mark J., and Christopher R. Moore

Geoarchaeological consultants to Carl Steen (Diachronic Research Foundation), Christopher Judge (USC-Lancaster), and Sean Taylor (DNR-Heritage Trust) for ongoing work at the Kolb site (38DA75) on the SC DNR's Great PeeDee Heritage Preserve near Mechanicsville, SC.

Geoarchaeological consultants to Terry Ferguson (Wofford College) for ongoing work at 38PN35, a deeply buried, stratified site on the South Saluda River in Pickens County, SC.

Geoarchaeological consultants (April 1-2, 2010) to Audrey R. Dawson (SCIAA) and Andrew H. Ivester (Profile Sciences, LLC) for Data Recovery at archaeological site 38RD841/842/844, a predominantly Middle Archaic, Sandhills site on Ft. Jackson, SC.

Gillam, J. Christopher

Numerous consultations during the fiscal year on prehistoric archaeology, GIS, GPS, and computer-related equipment and software for the Divisions of SCIAA.

Moore, Christopher R.

Consultant to Dr. Jonathan M. Leader (State Archaeologist and Research Associate Professor at the University of South Carolina) for the design of the 2010 South Carolina Archaeology Month poster.

Moore, Christopher R., and Mark J. Brooks

Geoarchaeological consultant to Christopher Young (undergraduate student at University of South Carolina) working on a Magellan Grant to petrographically characterize stone tools from the Johannes Kolb Site on the Pee Dee Heritage Preserve.

Herron, Tammy F.

Archaeological Consultant, Aiken County Historical Museum, Aiken, SC.

Archaeological Consultant, Beech Island Historical Society, Beech Island, SC.

Archaeological Consultant, Oakley Park Museum, Edgefield, SC.

Archaeological Consultant, Silver Bluff Audubon Center & Sanctuary, Jackson, SC.

Wingard, George L.

Consultant to Mark Albertin of Scrapbook Productions on two future video productions about history/archaeology on the SRS. One will feature the archaeological excavation of a Carolina bay, and the other will focus on archaeological recovery of a “Dave pot”—an alkaline-glazed stoneware vessel attributed to the slave potter Dave from Edgefield, SC.

Represented the SRARP on the Savannah River Heritage Foundation Committee, which is in the process of creating a walking trail in the former SRS town of Ellenton. Consultation with Mrs. Marsha Harris on African-American schools formerly located on the SRS and tour of the location of the former Four Mile High School.

Consultant to Dr. Marsha Harris on her research of the Jacksonville African-American communities, as well as African-American schools formerly located on the SRS.

Consultant to Robert T. Morgan, Heritage Program Manager, Francis Marion and Sumter National Forests regarding information about fire lookout towers on the SRS.

#### GRANT PROPOSALS SUBMITTED

King, Adam

Exploring Mississippian Period Community Development and the Built Environment at the Etowah Site. Submitted to the National Science Foundation.

Exploring the Mississippian Emergence at Macon Plateau and Mound Bottom. Submitted to the National Endowment for the Humanities.

#### CONTRACTS AND GRANTS

Brooks, Mark J.

FY10 Cultural Resource Management on the U.S. Department of Energy’s Savannah River Site, Aiken and Barnwell Counties, South Carolina. U.S. Department of Energy, Savannah River Operations Office.

Iriarte, José (University of Exeter, UK), Silvia Moehlecke Copé (Universidade Federal do Rio Grande do Sul, Porto Alegre, Brasil), and J. Christopher Gillam

Wenner-Gren Foundation for Anthropological Research, International Collaborative Research Grant titled “Sacred Places and Funerary Rites: The Longue Durée of Southern Gê Monumental Landscapes.” (\$34,845.00)

King, Adam

National Park Service Research Grant titled “Natural and Cultural History of the Congaree River Floodplain, Congaree National Park, South Carolina.” (\$25,381)

## ACADEMICS

Brooks, Mark J.

Ph.D. dissertation committee: Audrey R. Dawson, Department of Anthropology, University of South Carolina, Columbia, SC.

M.A. thesis committee: David Rigtrup, Department of Anthropology, University of South Carolina, Columbia, SC. Degree conferred in December 2009.

King, Adam

Ph.D. dissertation committee chair: Christopher Thornock, Department of Anthropology, University of South Carolina, Columbia, SC.

Ph.D. dissertation committee chair: Johann Sawyer, Department of Anthropology, University of South Carolina, Columbia, SC.

M.A. thesis committee chair: Dwight Jones, Department of Anthropology, University of South Carolina, Columbia, SC.

M.A. thesis committee member: Jeremy Vanier, Department of Anthropology, University of South Carolina, Columbia, SC.

M.A. thesis committee member: Kimberly Wescott, Department of Anthropology, Texas State University at San Marcos, TX.

Fall Semester 2009 – Instructor, Department of Anthropology, University of South Carolina, ANTH 102 (Understanding Other Cultures) and ANTH 317 (North American Indian Cultures).

Spring Semester 2010 – Instructor, Department of Anthropology, University of South Carolina, ANTH 101 (Primates, People, and Prehistory).

Moon, Robert

Fall Semester 2009 – Adjunct Instructor, Ashford University, ANTH 101 (Introduction to Cultural Anthropology).

Spring Semester 2010 – Adjunct Instructor, Ashford University, ANTH 101 (Introduction to Cultural Anthropology).

Moore, Christopher R.

M.A. thesis committee: Brian Choate, Department of Anthropology, East Carolina University, Greenville, NC.

Co-director with I. Randolph Daniel, Jr. of the 2010 East Carolina University Archaeological Field School.

## PUBLIC SERVICE ACTIVITIES

*September 2009*

Moore, Christopher R.

Educational and artifact display for the Archaeology Day at Redcliffe Plantation State Historic Site, Beech Island, SC.

You Be the Archaeologist program for students at the Silver Bluff Audubon Center and Sanctuary, Jackson, SC.

Wingard, George L.

Display on the SRARP presented at Fort Discovery, Augusta, Georgia during the movie premier of *Displaced: The Unexpected Fallout from the Cold War*.

*October 2009*

Herron, Tammy F.

Organized an archaeological exhibit to be displayed at CoastFest, sponsored by the Georgia Department of Natural Resources Coastal Resources Division, Brunswick, GA.

Moore, Christopher R.

You Be the Archaeologist program for students at the Silver Bluff Audubon Center and Sanctuary, Jackson, SC.

Lecture titled "The Prehistory of the Middle Savannah River Valley and the Aiken Plateau" presented at First Presbyterian Church, Aiken, SC.

Wingard, George L.

Tour of the former town of Meyers Mill for members of the Meyer family.

*November 2009*

King, Adam

Lecture titled "Recent Research at the Etowah Site" presented at the Discover Etowah Day 2010, Etowah Indian Mounds State Historic Site, Cartersville, GA.

*December 2009*

Gillam, J. Christopher

Hosted the Midlands ASSC annual holiday party at SCIAA-USC.

Wingard, George L.

Tour of the former town of Meyers Mill for members of the Duncan/Preister family.

Tour of the local Central Savannah River Area, cemeteries on the SRS, and the Aiken County Historical Museum for members of the Swendson/Green family.

*January 2010*

Wingard, George L.

Tour of Williams Cemetery for the Norris family.

Tour of Pleasant Hill and Talatha-Toole cemeteries for the Mathews family.

*February 2010*

Wingard, George L.

Display for the SRARP and the movie *Displaced: The Unexpected Fallout from the Cold War* sponsored by the SRARP at the Beaufort International Film Festival.

*March 2010*

Moore, Christopher R.

You Be the Archaeologist program for students at the Silver Bluff Audubon Center and Sanctuary, Jackson, SC.

Volunteer excavations at the Flamingo Bay site (38AK469), SRS.

Wingard, George L.

Tour of Grubbs Cemetery with members of the Ferguson Family.

Tour of Woods Cemetery with members of the Wood Family.

Tour of the former town of Ellenton for employees of the Department of Energy.

Tour for members of the Bell family to their former home-site and the former town of Ellenton.

Tour of the former towns of Dunbarton and Ellenton for employees of the Savannah River Forest Service.

Archaeological presentation at the Salkehatchie Stew History Day Festival, Denmark, SC.

*April 2010*

Herron, Tammy F.

Manned an archaeological exhibit at Georgia On My Mind Day, sponsored by the Georgia Department of Transportation, Georgia Visitor Information Center, Sylvania, GA.

Moore, Christopher R.

Volunteer excavations at the Flamingo Bay site (38AK469), SRS.

Lecture titled "Geoarchaeological Investigations of Carolina Bays in South Carolina" presented to the Augusta Archaeological Society, Augusta, GA.

You Be the Archaeologist program for students at the Silver Bluff Audubon Center and Sanctuary, Jackson, SC.

Artifact display and flintknapping demonstration for students at the North Augusta Kids Earth Day, Lions Memorial Field, North Augusta, SC.

You Be the Archaeologist program for students at the Silver Bluff Audubon Center and Sanctuary, Jackson, SC.

Wingard, George L.

Tour of the former towns of Ellenton and Dunbarton for members of the Proctor family.

Tour of Pleasant Hill Cemetery for the Kassing family.

Tour of the former Julius Rosenwald funded African-American Four Mile High School for Dr. Marsha Harris.

*May 2010*

Gillam, J. Christopher

Archaeology lecture for the First Grade Class of Rosewood Elementary School, Columbia, SC.

Herron, Tammy F.

Designed and installed an exhibit titled "Celebrating Georgia Archaeology Month" for the Screven County Library, Sylvania, GA.

Participated in Artifact Identification Day sponsored by the Augusta Archaeological Society, Ezekial Harris House, Augusta, GA.

Participated in The Society for Georgia Archaeology's seventeenth annual Georgia Archaeology Awareness promotion for Archaeology Month 2010 themed "Making the Past Come to Life: Exploring Ancient Techniques," The Parks at Chehaw, Albany, GA.

Shared information with Elliott Levy, Director of the Aiken County Historical Museum, regarding archaeological research in New Windsor Township for an exhibit showcasing the influence of various ethnic groups on the history of Aiken County and checked the SRARP exhibit in the Archaeology Room at the Aiken County Historical Museum, Aiken, SC.

Moore, Christopher R.

Volunteer excavations at the Johns Bay site, Allendale, SC.

Lecture titled "Geoarchaeological Investigations of Carolina Bays in South Carolina" presented to the Aiken Gem, Mineral, and Fossil Society, USC Aiken, Aiken, SC.

Lecture titled "Geoarchaeological Investigations of Carolina Bays in South Carolina" presented to the volunteers at the Topper site, Allendale, SC.

Wingard, George L.

SRARP representative at the annual reunion of the former residents of historic Dunbarton held at Barnwell State Park.

Tour of the former home-site of the Meyer family located in the historic town of Meyers Mill.

*June 2010*

Wingard, George L.

Tour of the former towns on the SRS for employees of Savannah River Remediation-Equal Employment Opportunity office.

SRARP representative at the annual reunion of the former residents of historic Ellenton held at Silver Bluff High School, Jackson, SC.

Moore, Christopher R.

Archaeological excavations for the East Carolina University summer field school.

*July 2010*

Wingard, George L.

Visited the historic Burckhalter house formerly located on the SRS with members of the Burckhalter family at its present location in Williston, SC.

Moore, Christopher R.

Display for Take Your Kids to Work Day, SRS.

Volunteer excavations at the Frierson Bay site, Allendale, SC.

*August 2010*

Gillam, J. Christopher

International Cultures lecture for the summer students of Shandon Presbyterian Church Child Development Center, Columbia, SC.