II. Research Methods

The primary goal of this research project was to identify the culture history of 1Ja643, particularly within the project's Area of Potential Effect (APE). These findings resulted in a determination of the sites preservation state and NRHP eligibility. These data provided sufficient information on site structure, feature potential and horizontal dimensions to allow completion of a draft NRHP nomination form for 1Ja643, which is included as Appendix III.

Archival and Historical Research

The Tennessee River valley has been an attractive place for human settlements since the Paleoindian period. The valley abounds in plant and animal food resources, which were capable of supporting large aggregates of human population. Extensive archaeological research has been conducted on the Tennessee Valley in Alabama, Georgia, Kentucky, Mississippi, North Carolina, Tennessee, and Virginia.

As was known prior to the present study, Site 1Ja643 contains a multicomponent prehistoric deposit of food remains, pottery sherds, ground stone items, chipped stone, and fire cracked rocks. Components that were tentatively identified included Gulf Formational, Middle Woodland, and Mississippian. Background research for the present study concentrated on these periods in developing a research context for the site.

In protohistoric times, the study area would have been within the sphere of influence of the powerful Coosa chiefdom, which Hernando DeSoto encountered in the 1540s (Hudson et al. 1985). In the eighteenth century, this area was considered Cherokee hunting ground, being situated on the western fringe of the Overhill Cherokee towns (Stuart 1762).

Jackson County, Alabama was created in 1819 and the Jackson County courthouse burned in 1864. Consequently, county records that date prior to 1864 are sketchy at best. The Guntersville Reservoir was constructed by the TVA and was completed in 1939. One of a series of impoundments on the Tennessee River, Guntersville Lake contains nearly 70,000 acres and floods portions of Alabama and Tennessee.

Environmental and historical information pertaining to the project area were gathered from a variety of archival sources in Georgia, Alabama, and Tennessee.

These data were used to construct a historical and environmental context for the archaeological study.

Geological information was obtained from the Alabama Geological Survey in Tuscaloosa. Their internet website also provided important background information on the geological resources in the study area. Jackson County has a complex geological history and consequently, it contains diverse geological resources, many of which would have been economically useful to aboriginal and later peoples.

Library resources at the W. S. Hoole Special Collections Library, University of Alabama (Tuscaloosa) were consulted for information relevant to the study area. This included archaeological reports and historical maps.

Archives of the Tennessee Valley Authority, which are housed at the National Records and Archives Administration (NARA), East Point, Georgia, were consulted for relevant information concerning the construction of Guntersville Reservoir, which may have adversely impacted 1Ja643.

Maps and books at the Alabama Department of Archives and History (ADAH) in Montgomery were consulted for information relevant to the study area. Their extensive cartographic collection proved most useful in documenting historical places and the changing face of the study area through time. The ADAH's internet website also provided important background information on Jackson County. Several important cartographic references, which are held in their collections but were unavailable for examination at the time of the present research, included numerous early French maps of Alabama.

The site files, report files, and library at the Office of Archaeological Services, Moundville State Park, in Moundville, Alabama were consulted for information on studies and sites in the project vicinity. A review of their collection of the journal *Arrow Points*, which was an early twentieth century publication of the Alabama Anthropological Society, provided important information on the history and early antiquarian exploits in the project vicinity.

Since the initial examination of 1Ja643 indicated that it is an aboriginal site, historical research for the project was minimal. The historical data reviewed for this project were used in compiling the historical and prehistoric context. Historical maps that were consulted included: Alabama State Highway Department (1937, 1948, 1973), Alabama Geological Survey (1926), Anonymous (n.d., 1832-1835, 1835), Asher and Adams (1873), Barnwell (1744), Bonar (1757), Bradford (1838); Burr (1836, 1839),

Carey (1795, 1839), Cowperthwait and Company (1850), DeBrahm (1766), Greenleaf (1836), Hinton, Simkins, and Marshall (1831), Hunter (1730), LeTourette (1833, 1856), Low (1810), Melish (1818, 1820), Purcell (1775), Stuart (1762), Sturgess (1818, 1822), B. Tanner (1796), H. S. Tanner (1823, 1830), and United States Geological Survey (U.S.G.S.) (1895, 1983).

Several secondary sources provided useful information on aboriginal settlements in the study area, including: Alabama Anthropological Society (1920), Brannon (1922), Edwards (1921), Foscue (1989), Gatschet (1901); Harris (1985), Moore (1915); Owens (1950), and Swanton (1922, 1984). Other secondary histories that provided important historical context for the study area included: Halbert and Ball (1895), McDaniel (1971), Pickett (1975), Young (1961), Waselkov (1989), Waselkov and Braund (1995); and Woodward (1965).

Important archaeological reports and syntheses that were consulted included: Chapman (1973, 1981); Chase (1982); Elliott (1993); Faulkner and Graham (1965, 1966); Futato (1977); Futato and Solis (1983); Griffin (1974); Hally and Langford (1988); Hudson and others (1985); Oakley and Futato (1975); Solis and Futato (1987); Walthall (1980); Webb and Wilder (1951); Williams and Elliott (1997); and Williams and Shapiro (1995).

Field Methods

Once the Archaeological Resources Protection Act (ARPA) permit for the excavation was secured by the Jackson County Commission, Southern Research commenced fieldwork with a crew of four persons over a four week period. Southern Research's research plan, which was approval by NRCS and the Alabama Historical Commission (AHC) served as a guide for the project. The specific objectives of archaeological testing included:

- a review and search of the archaeological and historical records from the general project area;
- test excavation to determine the presence, density and distribution of archeological and cultural remains at 1Ja643 within the APE;
- an evaluation of 1Ja643, including significance;
- completing a draft NRHP nomination form for 1Ja643.

The requirements for testing site 1Ja643 were largely dictated by the emergency character of the stabilization work. Work concentrated on eight work areas within the

project's APE and provided recommendations regarding the site's preservation information. These eight work zones are associated with eight severe erosion cuts; the preservation state and NRHP eligibility of each area was assessed by archaeological excavation. The overall scope of the stabilization project for each work zone will not exceed: "15 meters wide at the top of the bank and 25 meters wide at the shoreline" (Buttram 2000:2).

Archaeological testing began with the establishment of a site grid, using a Topcon total station. A baseline was established along side the abandoned county road, which parallels the Tennessee River. Grid North for the site was set at 47 degrees east of Magnetic North. Two permanent site datum (Datum 1 and Datum 2), consisting of a red-painted aluminum road driven in the ground, were established and the location of these data was established using a Garmin 12XL GPS handheld device with an accuracy of five meters. The estimated UTM location for the site's Datum 1 (gridpoint 5000N 5000E) was Zone 16 Easting 618247.7 m Northing 3863006.8 m (which was based on an average of 19 GPS readings). The elevation of Datum 1 was arbitrarily established as 100.00 m, which was approximately 10 cm above the ground surface. Datum 2 was located at 5082.1N 5000.0E at an elevation of 99.69 m. A topographic map of selected portions of the site was made, which included:

- a map of the eight work sites;
- archaeological excavation Blocks A and B;
- posthole digger tests; and,
- selected bank exposures.

Surface inspection of the study areas helped in selecting the location for the block excavation. Selected bank profiles within the eight APEs were cleaned, photographed, and carefully mapped and were plotted on the site plan. Survey tests, which included posthole digger tests, were conducted on each of the eight work areas to aid in the placement of larger test units. Fifteen posthole tests were completed for this project. The UTM locations of the APEs and posthole tests associated with them were plotted using a Garmin 12XL handheld GPS device. Soil stratigraphy, artifact content, and depth were recorded for each of these tests. Auger tests were excavated to the base of cultural material and any exceptions from this were noted in the field records. These data were used to determine the horizontal and vertical site dimensions of 1Ja643.

A Gradeall excavator was employed to remove areas of overburden and to create safe work areas for examining the deeply buried cultural strata, in compliance

with Occupational Safety and Health Administration (OSHA) regulations for excavations. The heavy machinery also was used to remove sections of the asphalt pavement and other road bed materials from the abandoned county road that capped the site.

Southern Research completed 15 m^2 of block excavation, which were configured as two block units. Most of the excavation was configured as a 3 m x 3 m block (Block A), which sampled the most promising part of the archaeological site, based on the results of auger samples. Soils surrounding the 3 m x 3 m block locations were removed to prevent collapsing overburden. In order to sample the lowest depths of a 3 meter deep cultural deposit, OSHA regulations required a minimum excavation that is 9 meters in diameter at the top. In order to comply with these regulations an area approximately 7 m x 10 m had the top 1 m of soil carefully removed by heavy machinery, which left an unexcavated 4 m x 4 m block in the center. This pedestaled portion was hand excavated as a 3 m x 3 m excavation block. This method enabled the 3 m x 3 m test to sample to greater depths.

The remaining 6 m^2 of excavation (Block B) were placed at Work Area 2 within an area exposed by heavy machinery. This excavation also revealed a minor shell midden exposure. Each block unit was excavated in 1 m x 1 m subunits in 10 cm levels, or until a natural soil change occurred. Soil conditions, disturbances, features, artifacts, and other pertinent information were recorded for each level. The central portion of the block unit was excavated to subsoil or sterile soil, as was practical within OSHA excavation guidelines. All soils were screened through 1/4 inch mesh.

Block A was located at 5438.8-5441.8N and 4977.5-4980.5E. The datum elevation used for measurements at Block A was 98.92 m. Block B was located at 5602.2-5604.2N and 4958.6-4961.6E. The datum elevation used for measurements at Block B was 98.69 m.

A column sample from the 3 m x 3 m excavation blocks was fine screened to examine the potential for recovery of small floral and faunal remains. This sample consisted of a two soil bags taken from each excavation level in a 50 cm x 50 cm column, which was placed in the center of the excavation block (from the NW quadrant of Test Unit 5). Soils from the column sample was water screened through fine mesh. All shell fish remains and large artifacts were retained from the column sample for systematic quantification in the laboratory. Floating particles of carbonized seeds and wood was skimmed off and bagged for specialized ethnobotanical analyses. The heavier fraction was examined for other floral and faunal material. These materials were sorted and subjected to specialized ethnobotanical and zooarchaeological study. Shell and firecracked rock were quantified by metric weight and discarded in the field.

Features extending into the subsoil were documented, mapped, photographed, and examined. Features were excavated separately from the block unit fill. All of the soil from the excavation units, including feature fill, and auger tests was screened through 1/4 inch hardware cloth. Freshwater shellfish remains from regular unit levels was quantified in the field and discarded. Shell from the 50 cm x 50 cm column sample and from selected features were returned to the laboratory for processing. Photographs were taken of every significant site feature, the base of excavation, and soil profiles for each block unit. The soil profile of each test unit was recorded using standard soil descriptions (Munsell Color Company 1994). Test units were completely backfilled following completion of testing.

*As noted in the project advertisement: “Due to the nature of the site (shell lenses and deeply buried cultural strata) it is possible that human remains may be discovered. Prior to the start of any archeological work, as per the Native American Graves Protection and Repatriation Act (NAGPRA), meetings or consultations with Tribal Historic Preservation Officers, the State Historic Preservation Officer, federally recognized Native American tribes and other interested parties may be required” (Buttram 2000:2). The TVA served as the lead agency in conducting any NAGPRA-related meetings.

In the event that human remains, funerary objects, sacred objects, or objects of cultural patrimony had been discovered, Southern Research would have followed the directions of a pending Memorandum of Agreement (MOA) between the Jackson County Commissioners, TVA, NRCS, AHC, and Tribal Historic Preservation Officer(s).

Southern Research’s work complied with the following:

- Section 106 of the NHPA
- Section 110 of the NHPA (ARPA)
- 36 CFR 60 (National Register of Historic Places)
- 36 CFR 800 (Protection of Historic Properties)
- The Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation, including the Professional Qualifications Standards
- 43 CFR 10 (Native American Graves Protection and Repatriation Act)
- National Register Bulletin 15 (How to Apply the National Register Criteria for Evaluation)
- Occupational Health and Safety Act (OSHA)
- Drug-Free workplace Environment
- Equal Opportunity Employer

Laboratory Analysis

Artifacts and field records were inventoried as they arrived in Southern Research's laboratory and were integrated into the quality control system. Artifacts were washed and handled under accepted standard laboratory procedures. Analysis forms were customized for the project. Laboratory cataloguing and analysis were compliant with standards acceptable to the TVA and OAS. Artifact washing and preliminary laboratory analysis began after the initiation of fieldwork and continued concurrently with the middle and final stages of survey. All artifacts were coded on analysis sheets for computer data entry. Aboriginal artifacts were subdivided into specific categories, as detailed below.

Aboriginal Artifacts

Aboriginal lithic artifacts were analyzed by material, method of manufacture, and function. Ridge and Valley cherts were expected to be the most commonly encountered lithic resource type but other types include coastal plain cherts, exotic cherts, metavolcanics, quartz, quartzite, and petrified wood. Ridge and Valley cherts were not subdivided into finer descriptive categories because of budgetary constraint. Raw material identification was based on macroscopic inspection. Lithic tools were analyzed according to method of manufacture and coded appropriately. Cores were subdivided into bipolar, random, and other groups. Debitage was classified by raw material type. Other lithic categories expected to occur included chipped axes, endscrapers, *piece esquilees,* fire cracked rock, and manuports. Ground stone lithic categories include manos, metates, hammerstones, and indeterminate ground stone. Soapstone artifacts were divided into bowl fragments, gorget fragments, and worked fragments. Lithic tools were grouped into biface, biface fragment, hafted biface, stemmed projectile point knife (PPK), and triangular PPK. These were further defined by shape or typology and key measurements of the diagnostic PPKs were recorded. Regional typologies were applied to all applicable artifacts such as tools and projectile points/knives. A variety of published sources were consulted for lithic identification (Bullen 1975; Chapman 1973; Cambron and Hulse 1983; Coe 1964).

Aboriginal pottery was analyzed according to surface treatment and paste. Surface treatments include those found on vessel bodies and/or rims. Decorative categories ranged from plain to stamped to brushed to incised to corn cob marked. Stamped ceramic categories consisted of simple and complicated; curvilinear

complicated; and check stamped. Rim treatment categories included folded, pinched, applique, flared, scalloped, and notched. Paste was analyzed for tempering agents such as sand, grit, shell, and fiber. Many of the plain and stamped sherds were given type names appropriate to their surface treatment and paste composition. Notations were made on laboratory analysis sheets concerning vessel shape when discernible.

Special Analyses

Ecofacts (or ethnobotanical or zooarchaeological artifacts) such as animal bone, charcoal, seeds, and faunal remains were noted on the analysis sheet, coded, and bagged separately from the other artifacts. Shells, which are abundant at the site, were quantified and discarded as part of the laboratory analysis. Butchering marks such as saw or chop marks were noted on the analysis sheet and are included in the database.

Selected samples of faunal remains were submitted to zooarchaeologist Susan L. Scott (as a subconsultant) for analysis. This included specimens from the Blocks A and B. Ms. Scott's zooarchaeological report is included as Appendix V in this report.

A complete research report was prepared in compliance with standards for archaeological testing documents set by the State of Alabama (Alabama Historical Commission 1996). A revised site form was prepared and submitted to the Alabama State Site Files, OAS, Moundville, following completion of the project. A draft NRHP nomination was completed for 1Ja643, although the NRCS archaeologist will have the responsibility for any follow-up revisions of the NRHP nomination.

The report includes:

- the location and description of the planned project;
- results of literature and documents search;
- methods employed in conducting the archaeological testing;
- results of the study, including a discussion of location, setting, vertical and horizontal content, and cultural affiliation;
- interpretations; and
- summary conclusions and management recommendations (including NRHP evaluation of 1Ja643).

The artifacts, notes, electronic records, photographs and other records from this project are permanently curated through the TVA at the OAS, Moundville, Alabama.

Prior to the completion of the ongoing contract these materials were temporarily housed at the laboratory facilities of Southern Research. A complete photograph log notebook accompanied all photographs taken during the project. Field and laboratory forms and notes were submitted on acid-free paper and placed in acid-free folders. Artifacts were put in acid-free sealable bags labeled on the outside and with corresponding acid-free labels on the inside. Inventory sheets were submitted which track artifacts by box and provenience.

The archaeological testing at 1Ja643 was fully documented and four copies of the draft report were submitted to the Jackson County Commission for review and comments. After addressing any concerns or comments from the AHC, TVA, and NRCS, ten copies of the final report were submitted to the Commissioners for distribution. Artifacts, notes, and other records from the project will be permanently curated at the University of Alabama's Office of Archaeological Services, Moundville.