Archaeological Research at 40HA65, Chattanooga, Tennessee

By Nicholas Honerkamp

Jeffrey L. Brown Institute of Archaeology
University of Tennessee at Chattanooga
Chattanooga, Tennessee

March 1990
Table of Contents

Introduction .............................................................................................................. 1
Site Backgrounds .................................................................................................... 1
Methodology .......................................................................................................... 6
Survey Results ....................................................................................................... 9
Summary and Recommendation ........................................................................... 16
Acknowledgements ............................................................................................. 18
References Cited .................................................................................................... 19

List of Figures

Figure 1. Project Vicinity Map, Citico Archaeological Survey ............................... 2
Figure 2. Western Barrow Pit, Citico Archaeological Survey ............................... 5
Figure 3. Plan of Test Units, Western Project Area, Citico Archaeological Survey ............................... 7
Figure 4. Plan of Test Units, Eastern Project Area, Citico Archaeological Survey ............................... 8
Figure 5. Cleaning Profiles Prior to Mapping, BT3 ............................................ 9
Figure 6. West Profile, BT1, Citico Archaeological Survey .................................. 10
Figure 7. East Profile, BT2, Citico Archaeological Survey .................................. 12
Figure 8. North Profile, BT3, Citico Archaeological Survey ............................... 13
Figure 9. West Profile, BT4, Citico Archaeological Survey .................................. 14
Figure 10. West Profile, BT7, Citico Archaeological Survey ............................... 15
Figure 11. South Profile, Hand Test 1, Citico Archaeological Survey .................. 17
Introduction

In compliance with Section 106 of the National Historic Preservation Act (36 CFR 800/51 FR 31115, September 2, 1986) an archaeological survey of part of the Citico Site was undertaken during December and January of 1990 by the Jeffrey L. Brown Institute of Archaeology, University of Tennessee at Chattanooga (hereafter "the Institute"). The project sponsor was the City of Chattanooga. Part of this well-known Mississippian site, called the Citico Site and designated as 40HA65 in the Tennessee State Site Files, was scheduled for development that would take two forms: (1) a proposed 48" sewer main pipeline that was to be placed next to an existing line and (2) the construction of an associated pumping station. Site 40HA120, a Cherokee interment camp, was also listed as endangered by this construction. The hookup of a pipeline on the right bank of the Tennessee River at Mile 465.1 is part of this same project, and it threatens 40HA210, a multicomponent prehistoric site. Archaeological surveys of all potentially effected areas were recommended by the Tennessee Historical Commission to determine if undisturbed cultural deposits associated with the previously recorded or currently unknown sites were present. Under the direction of Dr. Nicholas Honerkamp, the Institute was contracted by the City to carry out this survey.

On the left side of the Tennessee River the project area encompasses a 350 m by 10 m linear strip extending from the east bank of Citico Creek to an area of woods just west of a present pumping station; this latter area of low, marshy woods was also included in the survey. The area surveyed on the right side of the river consists of a 12 by 4 m parcel (see Figure 1 for general project vicinities). All areas have been extensively developed over the years. For 40HA65, destruction and disturbance of portions of the site have occurred from the construction of Riverside Drive, extensive mining for clay, construction of the Tennessee-American Water Company facilities, and a continuing series of looting episodes over more than a century. However, the exact boundaries of this site have never been firmly established, leaving open the possibility that intact remnants of the site exist within the project area. Given the long and tragic history of destruction and shoddy excavation at the Citico Site, any bit of evidence associated with the vanished mound and/or village would be an invaluable addition, and this consideration probably entered into the Historical Commission's survey recommendation. 40HA120 was defined exclusively on the basis of vague documentary information and never located on the ground, but it is indicated as being in the near vicinity of the project area. Equally vague is the southern boundary of 40HA210, which may be present in the small area slated for the sewer hookup.

Site Backgrounds

A brief overview of information available for the three sites in the vicinity of the project area will be given in order to establish the relevance of the survey work reported below. Due to the archaeological importance of the Citico Site, previous research and impacts that have occurred there over the years are covered in some detail.

40HA65

The Citico Site has long held a fascination for archaeologists and nonarchaeologists alike. According to Hatch (1976), this interest has extended over a century and a half. One of the most famous photographs of the site depicts the mound in 1864 with a gardener's tool shed and formal garden on the top (ibid.: Figure 1). Formal (if not systematic) excavation at the site is documented to have been initiated by M.C. Read in 1865, who tunnelled into the eastern side of the mound to learn of the fate of the ancient "race" of "Mound Builders." Read reports the size of the mound at that time thusly: basal dimensions, 158' x 128'; platform dimensions, 32' x 44'; and height, 19' (Read 1867; quoted in Hatch 1976:78). Read's mole-like explorations were short-lived, thanks to
Figure 1. Project Vicinity Map, Citico Archaeological Survey.
the firing of cannon in Chattanooga to celebrate Lee's surrender. The concussion collapsed his tunnel and his investigation of Citico.

Following 50 years of undocumented activities by several artifact collectors and dealers, the indefatigable C.B. Moore was next to hit the site in 1914-1915. In a March 10, 1914, Chattanooga Times article entitled "At Tomb of Chief Citico--Scientist Digging Into Mound of the Cherokees," excavations by individuals misidentified as representing the "archaeological department of the University of Pennsylvania" are reported. This was actually Moore, who represented himself but was affiliated with the Academy of Natural Sciences in Philadelphia. A description of the houseboat they traveled in, "one of the largest which ever came to Chattanooga, and . . . equipped with all the instruments and data peculiar to their profession" was the redoubtable steamship the Gopher. This work resulted in the "unearthing of skulls, skeletons, pottery, war mementoes and other relics of incalculable prehistoric interest." A March 11 follow-up article mentions that the "university men" had not concerned themselves with the mound, but rather they had excavated a burying ground about 300 feet to the east. "Curios" found with the graves included beads, "tomahawks," shells, ceramics, arrowheads, and interestingly, one piece of iron "shaped like an arrowhead except that it was about five inches long." Actually, Moore had excavated a 12 by 12 foot vertical shaft to a depth of 12 feet in the center of the mound but had found nothing (Hatch 1976:79). This he attributed in part to local competition, for in his excavation report Moore observed a fact of archaeological life that still applies with equal force today: Chattanooga is home to legions of relic hunters (1915:371). Despite his obvious disappointment, Moore was able to excavate 106 burials from Citico and he generated an impressive array of Mississippian artifacts, as summarized by Hatch (1976).

A year later the mound was slated for destruction as part of the building of Riverside Drive. "Old Mound Is Doomed" was the headline of an article in the May 30, 1915, edition of the Times. Speculating that the mound was about a hundred years old and that it had been used as a "lookout" by "Citico and his tribe," the reporter also noted that it would be leveled and used for fill as part of the road-building process. This story sparked a debate of sorts, with some opposed to the mound's destruction, while others, such as artifact dealer J.B. Nicklin, arguing that the majority of the "treasures of antiquity" deposited there had already been thoroughly gleaned from the site. Supposedly Professor P.C. Wilson had donated some of these artifacts, described by Nicklin as some of the best "relics and curios in the United States," to the University of Chattanooga (now UTC), though no trace of them can be found. The destruction proceeded as planned, prompting a witheringly sarcastic letter from Henry M. Wiltse in the June 12 edition of the Times. Some of his ideas on the adaptive reuse of the mound are worth repeating here:

I don't care if the mound has been explored, and I don't care a rap if nothing was found in it. It's an Indian mound, and such things are not to be found everywhere, nor seen every day, not even on the Dixie highway route...The mound would, if allowed to remain, even if it were restored to some extent, be one of the most interesting objects on the Dixie highway route. It would be more talked about than most of the things to be seen. It would be a subject of interested speculation, and the name of Chattanooga would always enter into the discussion. The mound would be one of the most valuable scenic assets along the Dixie highway.

In retrospect Wiltse was absolutely right, but the mound gave way to the inexorable steam shovel, and a short notice in the Times the next day spells out the fate of the earthworks with these words: "Removal of about two-thirds of the mound was necessary for the roadway." Extensive relic collecting apparently accompanied this process, as a story in the same edition provides a long list of skeletons, weapons, ornaments, and implements that were dug up at the site by Galen Jones and H.W. Hines. Additional interest in the mound was sparked by the publication of Moore's preliminary report to the site's owner, George W. Gardenhire, in the June 18 Times. Shell beads
and pins, several rattlesnake gorgets, numerous discoidals (chunky stones), stone "chisels and hatchets," and "considerably more than fifty skeletons," are included in the report.

Despite Nicklin's contention that the site had been previously relieved of its prehistoric treasures, construction of Riverside Drive unearthed an amazing quantity of artifacts that workers collected as souvenirs. W.E. Meyer amassed an assemblage of spectacular Citico artifacts by purchasing them from the laborers. As with Moore's materials, this collection eventually ended up in the Heye Foundation. Southern Ceremonial Complex items such as copper arm bands, beads, pendants, ear spools and headdresses were included in the collection (Hatch 1976). Hatch also details a final phase of digging (by Charles Peacock, J.B. Graham and Thomas M.N. Lewis) in 1957, when Riverside Drive was widened. Another 73 burials were recovered at that time. In keeping with long-established tradition at this site, no provenience information is available on the excavations carried out there. Despite the many drawbacks inherent in the Citico data base, Hatch was able to draw some important conclusions concerning the size and function of the site among other contemporaneous Dallas sites in eastern Tennessee and northwest Georgia:

All pan-area studies suggested that Citico ranked at or near the top in terms of mortuary complexity. The Citico sample was the most internally diverse of the 19 sites studied. It was the only site with three major sectors, each with its own burial program, and it probably contained (though we will never know for certain) some of the most elaborately accompanied burials in the entire region...If we combine this with the large size of the Citico site, the large population base, and its strategic location in the region as a whole, Citico emerges as the most impressive and perhaps the dominant site in the Dallas area. (1976:95)

Besides looting and road building, other substantial impacts to the site are obvious from an inspection of contours shown in Figure 1 (see also Figures 3 and 4). A barrow pit now exists where portions of the mound and village once stood on the east side of Citico Creek. According to Honerkamp et al. (1989), this large hole resulted from clay mining carried out by the J.W. Wells Brick company, which acquired lease rights in the 1920s to remove clay from the property. An earlier barrow pit is present on the west end of the project area and is the site of the proposed pumping station. Today this pit contains standing water and supports a thin growth of secondary forest (Figure 2). A 1917 Sanborn fire insurance map illustrates a "clay chute" originating in this area and connected to the brick company's mud mill. Any Citico village remnants in this vicinity would have been severely impacted by the mining operation, although earlier (and therefore lower) materials could still be present. Construction of the Tennessee American Water Company facilities, including settling ponds and numerous underground pipes, and the installation of sewer lines in the 20th century would also have a damaging effect on any archaeological resources. Despite these known and potential impacts, remnants of 40HA65 miraculously exist. From limited excavations Evans and Smith (1988) report the remains of an extensive prehistoric midden, house remains (postholes and wattle and daub), and a burial at the Tennessee American Water Company distribution complex. This portion of 40HA65, lying on the south side of Riverside Drive, corresponds to the village area. A power-auger survey carried out as part of a UTC archaeological field school in the summer of 1989 revealed the presence of extensive industrial fill material between the Sandbar Restaurant and Citico Creek. On the east end of the site, however, two auger tests encountered a dense Woodland-Mississippian midden. What both these reports establish is that potentially significant prehistoric archaeological remains are still present adjacent to the present project area, despite the nearly complete destruction of Citico outlined above.

To summarize, the Citico Site, once a spectacular Mississippian ceremonial and village center, exists now only as small buried remnants. The tragic history of neglect, indifference, and willful destruction at this site constitutes a shameful and enduring legacy for Chattanooga. Despite contemporary acknowledgement of what was being forever lost, "expedience" ruled the day 75 years ago, just as it often does now. The words of an "anonymous gentleman," remarking on
Figure 2. Western Barrow Pit, Citico Archaeological Survey. This thinly wooded area was the site of clay mining in the first quarter of the 20th century. Facing west.

Citico's destruction in the June 27, 1915, *Times* are certainly applicable today. When it comes to conservation of antiquities, this ahead-of-his-time gentleman observed

...there is not much use suggesting such things to the advocates of the short line between given points. The policy of today is to get there in the quickest time, and let all the relics, etc., take care of themselves. I believe in getting there, but while we are chasing the almighty dollar, it would not be a bad idea to bear in mind that people were here before us and that others will come after us.

40HA120

Little is known about this site, and its size and location are speculative at this point. According to Govan and Livingood (1963:99), Camp Cherokee was located about half a mile east of Ross's Landing on the south side of the river, possibly in the general vicinity of Scrappy Moore field. This stockade is often described as an "internment center" (a euphemism for a concentration camp) built by the military to quarter Cherokee Indians awaiting removal in 1836-38. Other than to note its significance to the history of Native Americans and Chattanooga, and its adjacent location to the project area, this site will not be considered further.
40HA210
This site consists of an extensive linear midden adjacent to the north bank of the Tennessee River (Honerkamp 1984). Both Woodland and Mississippian remains were recovered from a survey and limited salvage excavations. In the latter project a wattle and daub structure containing two sub-floor burials were recovered. Charred post remains from the structure were radiocarbon dated to 665, 550 and 500 years BP. Currently a housing subdivision has been installed on top of the midden area. Prior to construction, most of the midden was removed during a cut-and-fill operation. The south edge of the midden was not definitively established during the survey, presenting the possibility of adverse impacts occurring on the edge of the midden resulting from the planned sewer hookup operation.

Methodology

A backhoe survey method was chosen for the present project. Although previous archaeological survey work by the Institute along the Tennessee River had demonstrated the efficacy of power augering for the discovery of prehistoric remains within heavily alluviated sites (Council and Smith 1986), a UTC survey in the summer of 1989 just east of the project area discovered the presence of extensive modern demolition fills. In such a stratigraphic situation the auger proved generally ineffective, as it was unable to penetrate to its maximum depth of 1.5 m before binding on bricks, concrete, etc. (Honerkamp et al. 1989). Hence, a series of backhoe trenches were excavated during this project in order to reach below the modern strata. That deeply buried remains are present along the river's edge has been well documented at the Fishing Center Site (40HA102), where Archaic hearths radiocarbon dated to 5560 B.P. and 5070 B.P. were found almost two meters below surface (see Council 1989:27-35).

After clearing small trees and brush, eight backhoe trenches were cut in the locations shown in Figures 3 and 4. In each trench, soil was cut off in ca. 20 cm levels and inspected closely for the presence of features and/or artifacts. Once a trench was cut to a sufficient depth the walls were smoothed with shovel and trowel to enhance visibility of the profiles (Figure 5). Stratigraphic data were recorded on maps and through black and white photography. Using a transit and chain, a metric grid system was established and tied into existing landmarks, and the position of each trench was tied to the grid. These trenches were supplemented with the three power auger tests shown in Figure 3 and the hand-dug test pit in Figure 4. The auger tests were screened using 1/2" mesh; the hand test was not screened. At 40HA210 three power auger tests were dug within a 12 by 4 m area. This location was measured off of existing landmarks to ensure that it corresponded to the sewer hookup location, as indicated to us by consulting engineers provided by the City. The auger tests were arranged in the following manner:

![Diagram of trench layout](image)

Test A was approximately six meters north of the shore line, while Test B was about 9 meters away. Although screening of the auger fill dirt through 1/2" mesh was initially attempted, the heavy clay content of the soils made this technique too time-consuming. Instead, all the fill was carefully trowelled back into each test.
Figure 3. Plan of Test Units, Western Project Area, Citico Archaeological Survey. The barrow pit bounded by Trenches 1, 2, and 3 is illustrated in Figure 2.
Figure 4. Plan of Test Units, Eastern Project Area, Citico Archaeological Survey.
Survey Results

The barrow pit on the extreme west of the project area was included in the survey since this area will receive construction impacts associated with a new pumping station. Three excavations were placed on the margins of this large depression. Backhoe Test 1 (hereafter backhoe tests are abbreviated as "BT") was a 9.30 by 1.16 m unit with a stepped extension on the west end. This extension widened the trench to 1.85 m. As shown in Figure 3, this unit was dug into a three- to four-meter-high linear rise separating two barrow pits. Although this feature was suspected of being an artificial earthwork covering the storm sewer pipe shown egressing into the Tennessee River, it may have covered an undisturbed soil remnant. Such was not the case, however. The west profile recorded in this two-meter-deep trench, presented in Figure 6, illustrates the artificial nature of the rise. In addition, several distinctly modern artifacts such as brick and iron fragments were noted in the trench at depths in excess of 1.5 m below surface. Based on this data, we conclude that the linear feature is an artificial earthen structure built to cover the sewer pipe contained in it. Undisturbed soils were noted in the east end of the trench, but these were composed of dark gray waterlogged clay and appeared to be culturally sterile.

BT2 was dug on the lower western edge of the earthen platform that supports the present pumping station. This 2.80 by 0.70 m unit ranged in depth from 1.90 m on the east to 1.10 m on the west. An auger test to the north of BT2 had failed to penetrate more than 1.10 m below surface due to the
Figure 6. West Profile, BT1, Citico Archaeological Survey. Key: A - modern duff and humus, redeposited; B - orange clay with heavy gravel; C - medium gray mottled clay with gravel; D - orange clay with gravel; E - medium gray mottled clay with light gravel; F - orange clay with light gravel; G - dark gray mottled clay with gravel; H - light gray clay with occasional gravel; I - light orange clay with occasional gravel; J - medium gray clay; K - light orange clay; L - medium orange mottled clay with light gravel.
presence of rocks hanging up the auger bit; only modern coal clinker and glass were screened from
this auger spoil. BT2 was dug to determine if the pumping station earthworks might be perched on
undisturbed soil containing prehistoric materials. Instead, the backhoe revealed an astonishing
array of whole and partial bottles and other modern domestic debris. An underground spring was
also exposed in the bottom of the unit, and the trench quickly filled with water (Figure 7), making
further excavation hazardous. Only modern fill was noted on the profiles before the unit flooded.
Apparently landfill soils were used as a foundation for the pumping station.

As shown in Figure 3, BT3 was placed in a portion of the riverbank that appeared to be
undisturbed. Consisting of a 5.4 by 1.5 m stepped trench oriented northwest to southeast, this unit
ranged in depth from 3.4 to 1.4 m. No artifacts of any kind were noted in the spoil pile. However,
three artifacts were seen in the north profile of the unit. Illustrated in Figure 8, Item 1 was a plastic
bottle cap occurring in Zone C, while Items 2 and 3, associated with Zone D, consisted of
fragments of iron or steel. Also of interest is the east-west orientation of Zones A through E.
Natural deposited alluvial soils would be oriented parallel to the river, rather than at a right angle
to it, as indicated here. Finally, the sharp angles of the intersection of Zones E and F mean that the
former was intrusive upon the latter, in all likelihood, as part of a cut and fill event. Hence, with
the possible exception of Zone F, all deposits showing in this profile are attributed to the 'hand of
man' and are of recent origin.

BT4 measured 3.0 by 1.4 by 2.0 m deep. It was situated at the north foot of the artificial mound
supporting the pump station. All four zones noted in the west profile (presented in Figure 9) were
modern in origin. Deeper excavations were not attempted in BT4 due to the presence of water in
the bottom of the pit. No artifacts were recovered from this unit.

BT5 was a narrow trench dug in a low, flat area of the site (Figure 3). Measuring 6.8 m long by
0.65 m wide, this unit filled partially with water after reaching a depth of 1.35 m below surface.
The matrix in this area of the site apparently consists of modern fill, as no stratigraphy was noted
and only modern bottles were recovered from the trench fill. A north-south running iron pipe,
function unknown, was encountered approximately 2.5 m from the east end of the unit.

The most likely area for encountering prehistoric remains was thought to be in the woods east of
the pump station. Lying within the 645-foot contour, this flat tract of property had the appearance
of an undisturbed remnant between two highly modified parcels on the east and west. Prior to
backhoeing, two auger tests were dug, but with disappointing results. The north test was
excavated to 1.10 m before the bit hung up, while the south test could only penetrate 60-cm below
surface. These shallow depths were the direct result of encountering brick obstructions. Also noted
was a good deal of modern domestic trash (including plastic) and a large quantity of cinder. A
single artifact--a small shell button--may date to the 19th century. BT6, a 2.0 by 1.5 m trench, was
placed adjacent to the south auger test. The backhoe encountered modern domestic and industrial
trash to a depth of 3.65 m below surface, and what appeared to be sterile orange clay for 20 cm
below this. Due to the highly unstable nature of the walls in this unit no profile map was attempted.
A large quantity of bottles, cinder, brick rubble, etc, were noted in the back dirt pile. To
summarize, the woods appears to be growing on a landfill area.

BT7 was cut on the slope of the eastern margin of the woods in order to sample strata underlying
the modern fills. The unit measured 5.0 by 1.8 m, and was 1.83 m deep on the west end. As seen
in Figure 10, only the lowest 40 cm of the west profile was undisturbed. This brown sandy
alluvial zone was thicker in the east end of the trench, but not a single associated artifact was
recovered from it. Above this zone was the ubiquitous modern fill.

No test were placed in the project area from the river access road past the Tennessee-American
holding tank since the new sewer pipeline will be situated on the river side of the man-made rip-rap
levee at the river's edge. Although the gravel and stone surface from the holding tank to the pipe
Figure 7. East Profile, BT2, Citico Archaeological Survey. Modern fill constitutes the single zone evident in this profile.
Figure 9. West Profile, BT4, Citico Archaeological Survey. Key: A - clay and gravel spoil from adjacent earthworks; B - medium orange to light brown brown clay and sandy loam; C - orange clay with gravel; D - dark brown to black clay; darkened areas are structural iron fragments.
Figure 10. West Profile, BT7, Citico Archaeological Survey. The lowest zone of alluvial soil is clearly differentiated from the modern fill layers above it. Scale in 50 cm zones.
bridge (Figure 4) held little promise for containing underlying archaeological resources, BT8 (3.0 by 1.1 m) was dug adjacent to the river to verify this assumption. Large granite rocks, gravel, and clay were present to 1.5 m below surface, where water was encountered. No artifacts were recovered.

Located on the east side of Citico creek was a 1.0 by 2.0 m hand-dug test (Figure 4). Demolition fill was the order of the day in this unit, as seen in the uppermost five zones of fill shown in Figure 11. Zone F was composed of brown-gray silty clay that was devoid of any artifacts. If it is not part of the modern fill sequence, it may represent a remnant marsh substratum.

The three auger tests located on the edge of 40HA210 ranged in depth from 1.43 to 1.47 m below surface. Dark brown, hard packed sandy clay was encountered in all three tests. We were unable to determine if this soil was an alluvial deposit or part of the landfill process that is known to have occurred at the adjacent Heritage Landing housing project. Artifacts recovered were not particularly helpful: two fragments of modern glass were found in the top 30 cm of the westernmost unit. The absence of prehistoric remains is not particularly surprising. The project area is located directly adjacent to the river, and as such is situated below the earlier river terrace that contains the linear midden defined as 40HA210. The lower terrace that the augering occurred on is not only the most recent one to be cut by the river, but also the least likely to be chosen for habitation due to frequent flooding. Thus, the definition of site boundaries proposed by Honerkamp (1984) are not modified by the findings of the present survey.

Summary and Recommendation

A total of eight backhoe tests and one hand-dug test were excavated as part of the Citico archaeological survey, resulting in the exposure of just over 48 square meters of surface area. No significant artifacts or features were uncovered during the survey of the 350 m by 10 m project corridor. Although this area is adjacent to or part of two important Native American sites, documented impacts in the form of road construction, clay mining, and looting probably accounts for the destruction of materials associated with them. Augering on the right bank of the Tennessee River failed to locate any significant archaeological remains in a 12 by 4 m area adjacent to 40HA210. Based on these negative results, no significant archaeological resources are believed to be present in the project area. Hence, completion of the planned sewer lines and connections should not adversely impact any significant archaeological sites. Further archaeological research is neither warranted nor recommended for this project.
Figure 11. South Profile, Hand Test 1, Citico Archaeological Survey. Key: A - light brown clay with large rocks and gravel; B - light and dark brown mottled clay with gravel; C - light brown clay with light gray sand and heavy gravel; D - light tan and brown mottled clay with brickbats and gravel; E - lens, fine gravel; F - brown and gray silty clay. Bricks are indicated by even gray shading.
Acknowledgements

I am indebted to several individuals for their assistance and support on this project. Assisting in the field under bitterly cold conditions were Marshal Brewer, David Clark, Tracy Little, Charles Parham, Tim Pugh, and Stephanie Walker. R. Bruce Council produced the graphics and edited the report in his usual inimitable style. Phillip Dover and Allen Stevens of Hensley-Schmidt Engineering, Inc., were most helpful in coordinating this project with the sponsor and the Tennessee-American Water Company. Finally, I acknowledge the support of sponsor, the City of Chattanooga, in funding this research.
References Cited

Council, R. Bruce

Council, R. Bruce and Robin L. Smith

Evans, E. Raymond and Gerald Smith

Govan, Gilbert E. and James W. Livingood

Hatch, James W.

Honerkamp, Nicholas

Honerkamp, Nicholas, Beth Fowler, Tracy Little, and Robbie Mantooth

Moore, Clarence B.

Read, M.C.