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United States Department of the Interior
National Park Service

National Register of Historic Places Inventory—Nomination Form

For NPS use only
received AUG 14 1
date entered SEP 28 1985

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic Allendale Chert Quarries Archeological District

and/or common

2. Location

[redacted]

3. Classification

Category	Ownership	Status	Present Use	
_x_ district	___ public	_x_ occupied	___ agriculture	___ museum
___ building(s)	___ private	_x_ unoccupied	___ commercial	___ park
___ structure	_x_ both	___ work in progress	___ educational	___ private residence
___ site	**Public Acquisition**	**Accessible**	___ entertainment	___ religious
___ object	NA in process	_x_ yes: restricted	___ government	___ scientific
	NA being considered	___ yes: unrestricted	x industrial	___ transportation
		___ no	___ military	___ other:

4. Owner of Property

[redacted]

5. Location of Legal Description

courthouse, registry of deeds, etc. Allendale County Courthouse

street & number Courthouse Square

city, town Allendale state South Carolina 29810

6. Representation in Existing Surveys

title South Carolina Inventory of Historic Places has this property been determined eligible? ___ yes _x_ no

date 1984 ___ federal _x_ state ___ county ___ local

depository for survey records South Carolina Department of Archives and History

city, town Columbia state South Carolina 29211

7. Description

Condition		Check one	Check one
XX excellent	___ deteriorated	X unaltered	X original site
___ good	___ ruins	X altered	___ moved date _____
___ fair	XX unexposed		

Describe the present and original (if known) physical appearance

Allendale Chert Quarries Archeological District consists of fourteen prehistoric

[redacted]

t

the appearance of the landscape since prehistoric times is the clearing of upland hardwood forests and their replacement by pines.

ADDITIONAL INFORMATION

Environment

The Allendale chert quarries exist within the Middle Coastal Plain of South Carolina along the eastern margin of the Savannah River. Elevations in the district vary widely because of the relief posed by upland hills and the adjacent floodplains. Dissection is considerable in this area of Allendale County causing elevations to range from 250 feet AMSL** on hilltops to 70 feet AMSL on floodplains (Figure 1). The Savannah River, over 500 feet wide in places, is the most impressive aspect of the environment (Figure 1). This river valley was a major focus of prehistoric cultural life in the Southeast for several thousand years. One of the unique geological features of the Savannah as it flows past Allendale County is the presence of chert. This is the major source of quality chert for South Carolina and the outcrops are, according to current survey data, restricted to the Allendale County area. Chert occurring in the Flint River and Barnwell Formations (Upchurch, 1984:9-10) is exposed along the hillsides wherever erosion has occurred. Chert is especially abundant in the Smiths Lake Creek Valley where it occurs along the hillsides and stream bed. Modified and natural chert cobbles have been found in the Savannah River itself, indicating that the river bed, during times of low water, was a source. The biotic environment of the district is rich and complex as several different habitats occur over a short distance. Environments include the Savannah River, Smiths Lake Creek, floodplains, and upland hillslopes which are covered with a mantle of sand (Figure 1). These environments provide a nearly complete range of Coastal Plain plants and animals relevant to prehistoric subsistence. The growing season is a long one, approximately 245 days without freezing temperatures. The average yearly rainfall is 44.6 inches. The long growing season coupled with moderately high rainfall provides optimal conditions for hunting and gathering as well as agriculture. No major habitation sites were found in a survey of the district area (Goodyear and Charles, 1984), suggesting the use of this locality was related to chert procurement and whatever subsistence activities were required for short-term use of the quarries.

**Above Mean Sea Level

8. Significance

Period	Areas of Significance—Check and justify below				
X prehistoric	X archeology-prehistoric	___ community planning	___ landscape architecture	___ religion	
___ 1400–1499	___ archeology-historic	___ conservation	___ law	___ science	
___ 1500–1599	___ agriculture	___ economics	___ literature	___ sculpture	
___ 1600–1699	___ architecture	___ education	___ military	___ social/ humanitarian	
___ 1700–1799	___ art	___ engineering	___ music	___ theater	
___ 1800–1899	___ commerce	___ exploration/settlement	___ philosophy	___ transportation	
___ 1900–	___ communications	___ industry	___ politics/government	___ other (specify)	
		___ invention			

Specific dates NA **Builder/Architect** NA

Statement of Significance (in one paragraph)

The Allendale Chert Quarries Archeological District is significant under Criterion D of the National Register, "... have yielded, or may be likely to yield, information important in prehistory or history." Considerable anthropologically relevant data are contained in the quarries which can be used to test models of hunter-gatherer adaptations as viewed through technology and the cultural organization of technology. The fact that this chert was available in only a relatively small locality in South Carolina provides good analytical closure on the geographic study of its utilization. As the highest quality of cryptocrystalline available to prehistoric inhabitants of what is now South Carolina and parts of Georgia, chert from the Allendale quarries never lost its importance to prehistoric cultures over a 12,000-year period. There is evidence that the role of this chert was modified as the adaptations of groups changed. Outcrops at the quarries can provide raw data toward the study of the physicochemical properties of this chert. These data can help refine knowledge about sources, mobility and exchange, suitability for certain kinds of tools, and the role of thermal alteration. Rejected and broken cores and tools are present and exist in stratified sequences that can inform on changes in lithic assemblages through time. Broken cores and tool preforms can also provide an analytical datum point against which variability to tool form and size can be assessed at sites occurring away from the quarry.

9. Major Bibliographical References

See continuation sheet

10. Geographical Data [redacted]

Acreage of nominated property [redacted]

Quadrangle name [redacted] Quadrangle scale 15'

UTM References

	Zone	Easting	Northing
A	[redacted]		
B	[redacted]		
C	[redacted]		
D	[redacted]		
E			
F			
G			
H			

Verbal boundary description and justification [redacted]

List all states and counties for properties overlapping state or county boundaries

state	NA	code	county	NA	code
state	NA	code	county	NA	code

11. Form Prepared By

name/title Dr. Albert C. Goodyear

organization Institute of Archeology and Anthropology date August 3, 1984

street & number University of South Carolina telephone 803 777-8170

city or town Columbia state South Carolina 29208

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

_X_ national ___ state ___ local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature Charles E. Lee

title Charles E. Lee, State Historic Preservation Officer date 7/22/85

For NPS use only

I hereby certify that this property is included in the National Register

Thomas H. Stewart date 9/28/85

for Keeper of the National Register

Attest: date

Chief of Registration

U.S. GOVERNMENT PRINTING OFFICE : 1983 O - 419-311

Sandoz-Martin Works
Martin, SC 29836

Hanna, J. Harry & Elizabeth N. Harper & Lillian Daley & Charlotte H. Trotter
Box 396
Fairfax, SC 29827

Lafitte, Henrey S., Charles A. Jr., and Montague T.
P.O. Box 98
Allendale, SC 29810

Whitehead, Louis and John
6 Berry Street
Barnwell, SC 29812

Whitehead, Louis, John and David
6 Berry Street
Barnwell, SC 29812

Oswald, J. C. III, and Bosler, Diane Oswald
Barton Road
Allendale, SC 29810

McMillan, Thomas S. & Susanne N.
Rt. # 3, Box 282
Barnwell, SC 29812

Edenfield, William P.
1175 Moore Road
Orangeburg, SC 29115

Department of Energy
Savannah River Plant
Aiken, SC 29801

Archeological Investigations

Of the fourteen sites included in the district, only one (38AL23) had been previously recorded. At the time it was recorded (1973), it was not realized that it was related to a quarry. All of the quarries in the district were newly recorded in the 1983-1984 survey by Goodyear and Charles (1984) as part of the survey and planning study of Allendale County for the South Carolina Department of Archives and History. The survey strategy was an intensive examination of all exposed and eroded land surfaces on the Sandoz company property. This was done on foot and by truck by two people. The property is crisscrossed with fire trails, dirt roads, gulleys, and construction sites, providing good coverage of exposed ground. In places suspected to have buried quarry remains, an eight-inch bucket auger was employed which was capable of reaching depths of 1.8m. Two of the quarries, 38AL139 and 38AL137, were brought to the attention of Goodyear and Charles by an artifact collector who resides in the area. It was the existence of these two quarries that provided the impetus to conduct a survey in the area.

Prior to the discovery and recording of the quarries on the Sandoz-Martin Works property, the only other quarry known to produce the high quality Flint River Formation chert in South Carolina was that of 38AL14, recorded in the National Register as Red Bluff Flint Quarries, alias The Rice Quarry. This was nominated to the National Register in 1971 by E. Thomas Hemmings. This is an impressive chert outcrop and quarry, [redacted] Red Bluff Flint Quarries of the Allendale Chert Quarries District. The Red Bluff Quarries was originally surveyed and described by James B. Stoltman in 1964 as part of the Harvard expedition to Groton Plantation. He referred to it as "GR-5: Rice" (Stoltman 1974:175). Based on the field survey results (Goodyear and Charles 1984), no other quarries are known to exist between the Allendale Chert Quarries District and Red Bluff or the Rice Quarry (38AL14).

Regional Context

Until recently, evidence of Paleo-Indian (12,000-10,000 B.P.**) remains within the lower Savannah River valley of Georgia and South Carolina had been only minimally known (Caldwell 1952; Waring 1961; Brockington 1971; Stoltman 1974). Distributional studies published recently, however, have revealed a considerable presence of Paleo-Indian lanceolates in the southern Coastal Plain of South Carolina (Michie 1977; Charles 1981). It is evident from these distributional studies that the density of fluted and unfluted lanceolate points is related to the presence of and proximity to the high quality cryptocrystalline chert in Allendale County. This distinctive lithic material has been variously referred to as Brier Creek and Allendale chert. In a manner similar to the use and dispersion of cryptocrystallines prized by other paleo-Indian groups throughout North America, fluted points made from Allendale chert were regularly transported distances greater than 100 miles from sources in Allendale County.

**Before Present

The subsequent Archaic stage (10,000-3,000 B.P.) witnessed the continued utilization of Allendale chert. Early Archaic groups known by Dalton, Palmer, and Kirk points, continued to focus their tool kits largely on the fine grained cherts such as Allendale to create the symmetrical and highly curated chipped stone tools characteristic of Paleo-Indian. Early Archaic points made of Allendale chert are commonly found in the western Piedmont of South Carolina at distances greater than 100 miles (Goodyear, House and Ackerly 1979). This high geographic dispersion of Allendale chert tools is presumably a result of high mobility of early Holocene hunter-gatherers (Goodyear 1979; Anderson and Schuldenrein 1983).

Middle Archaic biface technologies are characterized by stemmed and leaf-shaped points which were generally thermally altered (Anderson, Lee and Parler 1979:53). The incidence of Allendale chert tools occurring at great distances away from the source seems to taper off and there is a pronounced reliance on local raw materials. Heat treatment of Allendale chert appears as the hallmark of Middle Archaic bifaces during the period 6,000-4,000 B.P.

During the Late Archaic and Early Woodland periods (4,000-3,000 B.P.), the geographic range of Allendale chert tools decreased dramatically and the practice of thermal alteration also became minimal. The incidence of caching behavior was most prominent during this period as Savannah River stemmed points and blanks for those points are frequently found on the Coastal Plain of South Carolina.

During Woodland and Mississippian times (3,000 B.P.-A.D. 1500), utilization of Allendale chert was continued, but the distribution of chert tools is much more restricted, basically to the southwestern Coastal Plain. This is interpreted to be a function of increased regional sedentism. Detailed studies of Woodland and Mississippian Allendale chert tool assemblages are as yet unavailable, but studies are underway (Hanson, Brooks and White, 1981).

DESCRIPTION OF SITES

Eight quarries were located and included in the district (Table 1; Figure 1). All of these except 38AL152 were sampled for petrologic analysis. The chert from all of these is generically referred to as "Allendale," a yellow, brown, waxy homogeneous chert (Upchurch 1984:15). It was first described by Cooke and was assigned to the Flint River Formation, the only representative of the Oligocene series in South Carolina (Cooke 1936:98).

[redacted] chert deposits. Based on the degree of utilization, measured by density and extent of chipping debris, and the quality of chert, there is variation in the condition of the quarries. The quarry at 38AL140, for example, is mostly comprised of grainy chert that did not lend itself to controlled flaking. This site has a comparatively small degree of use. It is also eroded down to rocky subsoil (Table 1). At 38AL139

chert boulders exist at the soil surface [redacted] the Johnsons Landing quarry (38AL141) (Figure 1). [redacted] . The quarries at 38AL137 and 38AL142 appear to have received only a moderate amount of use based on density and surface extent. Good knapping material is also scarce at 38AL142. Auger testing was done at 38AL137 within the outcrop revealing about a meter of cortical debris, gravel, and humanly fractured chert (Goodyear and Charles, 1984). The quarry at 38AL152 lies mostly near the surface, judging from a profile exposed in a pit on the hillside. This quarry, like 38AL136 and 38AL138, is covered with vegetation and leaf litter, which interfered with gaining a more complete picture of quarry activity. A terrace like area below the hillside was auger tested at 38AL136. This revealed a buried, cultural layer about .6m in thickness covered by approximately .5m of historic colluvium (Goodyear and Charles, 1984).

Quarry-Related Sites

Six sites can be described as quarry-related, i.e., exhibit lithic debris related to the reduction of chert cores and the manufacture and use of tools.

These sites can be classified into two groups based on their landform association and mode of natural deposition. Sites 38AL145, 38AL146, and 38AL161 exist within a mantle of coarse sand overlying what may be an ancient terrace (or terraces) of the Savannah River (Figure 1). The sandy soils of this landform are vertically undifferentiated, except for color and chemical differences characteristic of B horizon pedogenesis. These sediments are like those of the adjacent hills suggesting a colluvial origin. Given the low slope (1%) and distance to the hills (Figure 1), bioturbation is the probable agency responsible for burying artifacts between .5 and 1.0m below surface. Based on debitage analysis, these sites exhibit primarily later stage core and biface reduction rather than primary core reduction and tool use.

The other three sites [redacted] exhibit alluvially buried and stratified deposits. These sites are 38AL143, 38AL135, and 38AL23 (Figure 1). The first two exist on the same floodplain and have received overbank sediments from [redacted] These sites have chipped stone artifacts diagnostic of Paleo-Indian, Archaic, Woodland and Mississippian occupations. The site of 38AL23 is located on a [redacted] close to the maximum force of the flood energy resulting in a deep sandy levee (Figure 1). A full range of prehistoric artifacts ranging from probable Paleo-Indian through Mississippian have been found here through testing. The maximum depth of this site in places is 1.5m (Table 1). This site and 38AL135 offer great potential for studying prehistoric utilization of Allendale chert over a span of 12,000 years because of their stratified deposits.

Table 1.

Site Number	Characteristics			
	Quarry	Lithic Processing	Habitation	Maximum Depth
38AL23		x	x	1.50 m
38A1135		x	x	1.30 m
38AL136	x	x		1.35 m
38AL137	x	x		1.05 m
38AL138	x	x		1.05 m
38AL139	x	x		.50 m*
38AL140	x	x		.00
38AL141	x	x	x	1.00 m*
38AL142	x	x	x	1.00 m*
38AL143		x	x	1.20 m
38AL145		x	x	.60 m
38AL146		x	x	.60 m
38AL152	x	x		.50 m*
38AL161		x	x	1.05 m

* Estimated

Anderson, David G., Sammy T. Lee and A. Robert Parler, Jr.
1979 Cal Smoak: Archeological Investigations Along the Edisto River in the Coastal Plain of South Carolina. Archeological Society of South Carolina Inc. Occastional Papers 1. Columbia, South Carolina

Anderson, David G. and Joseph Schuldenrein
1983 Early Archaic Settlement on the Southeastern Atlantic Slope: A View from the Rucker's Bottom Site, Elbert County, Georgia, North American Vol. 4(3) pp. 177-210.

Brockington, Paul B.
1971 A Preliminary Investigation of an Early Knapping Site in Southeastern Georgia. University of South Carolina, Institute of Archaeology and Anthropology, The Notebook Vol. 3 (2).

Caldwell, Joseph R.
1952 The Archeology of Eastern Georgia and South Carolina. In The Archeology of Eastern United States, Edited by James B. Griffin, pp. 312-321. University of Chicago Press, Chicago.

Charles, Tommy C.
1981 Dwindling Resources: An Overture to the Future of South Carolina's Archeological Resources. University of South Carolina, Institute of Archeology and Anthropology, The Notebook Vol. 13.

Cooke, C. Wythe
1936 Geology of the Coastal Plain of South Carolina. United States Geological Survey Bulletin 867. Washington, D.C.

Goodyear, Albert C.
1979 A Hypothesis for the Use of Cryptocrystalline Raw Materials Among Paleo-Indian Groups of North America. Institute of Archeology and Anthropology, University of South Carolina Research Manuscript Series 156.

Goodyear, Albert C., John H. House and Neal W. Ackerly
1979 Laurens-Anderson: An Archeological Study of the Interriverine Piedmont, Institute of Archeology and Anthropology, University of South Carolina Anthropological Studies 4.

Goodyear, Albert C. and Tommy Charles
1984 An Archeological Survey of Prehistoric Chert Quarries in Allendale County, South Carolina. Report Submitted to the South Carolina Department of Archives and History.

Hanson, Glen T., Richard D. Brooks, and John W. White
1981 The Human Occupation Along the Steel Creek Floodplain: Results of an Intensive Archeological Survey for the L Area Reactivation Project, Savannah River Plant, Barnwell County, South Carolina. Institute of Archeology and Anthropology, University of South Carolina Research Manuscript Series 173.

Michie, James L.
1977 The Late Pleistocene Human Occupation of South Carolina. Manuscript on file with the Institute of Archeology and Anthropology, University of South Carolina.

Stoltman, James B.
1974 Groton Plantation: An Archeological Study of a South Carolina Locality. Monographs of the Peabody Museum 1. Harvard University, Cambridge.

Upchurch, Sam B.
1984 Petrology of Selected Lithic Materials from the South Carolina Coastal Plain. Manuscript on file with the Institute of Archeology and Anthropology, University of South Carolina.

Waring, A. J., Jr.
1961 Fluted Points on the South Carolina Coast. American Antiquity Vol. 26 (4) pp. 550-552.