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A Survey and Evaluation of the Archeological Resources of South Carolina Electric and Gas Company's Columbia Industrial Park Project

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A SURVEY AND EVALUATION OF THE ARCHEOLOGICAL RESOURCES OF SOUTH CAROLINA ELECTRIC AND GAS COMPANY'S COLUMBIA INDUSTRIAL PARK PROJECT

by

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INTRODUCTION

This report concerns an archeological survey of the right-of-way for South Carolina Electric and Gas Company's proposed Columbia Industrial Park 230 Kilovolt Tap Line. The research result will be appended to S.C.E.&G.'s application for a construction permit on the project to the South Carolina Public Service Commission. The library and field research on this project were conducted during May, 1977. Both phases of the research effort were supported in part by facilities and staff of the Institute of Archeology and Anthropology of the University of South Carolina. The Institute's role was due to its state-mandated responsibility for the conservation of archeological resources in the interest of all of the people of South Carolina.

The Columbia Industrial Park project is planned to provide a major increase in power capacity to the southeastern portion of Columbia, South Carolina (Fig. 1). Roughly three miles of right-of-way for a new 230 Kilovolt transmission line will link a new 8.0 acre power substation site with the existing Wateree-Edenwood 230 Kilovolt line. Over 80% of the length of the line will be in cultivated fields. The remaining portion of the route, the creek bottoms and poorly drained areas, are today still wooded and will be cleared. Trees may be felled with chain saws and it is likely that the resulting brush will be moved by heavy machinery.

The new transmission line will require a 100 foot right-of-way and will be carried on steel towers, except for a short segment near Bluff Road, which will be supported by steel poles. Excavations (probably by backhoe) for each of the four legs of a steel tower will be squares 5-10 feet on a side, steep-walled, and about 10 feet deep. A square area about 50 feet on a side will be affected by each structure, although the entire area will not be excavated. The steel towers will be spaced about 800 feet apart. The steel poles will be placed in augered excavations 4-6 feet in diameter and 13-20 feet deep.

The 115 kilovolt substation site north of Bluff Road had already been graded at the time of the survey. Judging from the surrounding ground level, the site had been raised as much as two feet at its southern corner and lowered as much as five at the northern corner. Most of the site was lowered in elevation.

Guiding goals for the Columbia Industrial Parks survey were (1) locating archeological sites potentially to be damaged by construction; (2) evaluating the utility of these sites in understanding past human behavior; (3) assessing probable effects of construction on each site; and (4) disseminating, via this report, the information gained by the survey.

Implementation of these goals involved library research, consultation with local archeologists and historians, and field research. Fieldwork included pedestrian inspection of the transmission line right-of-way

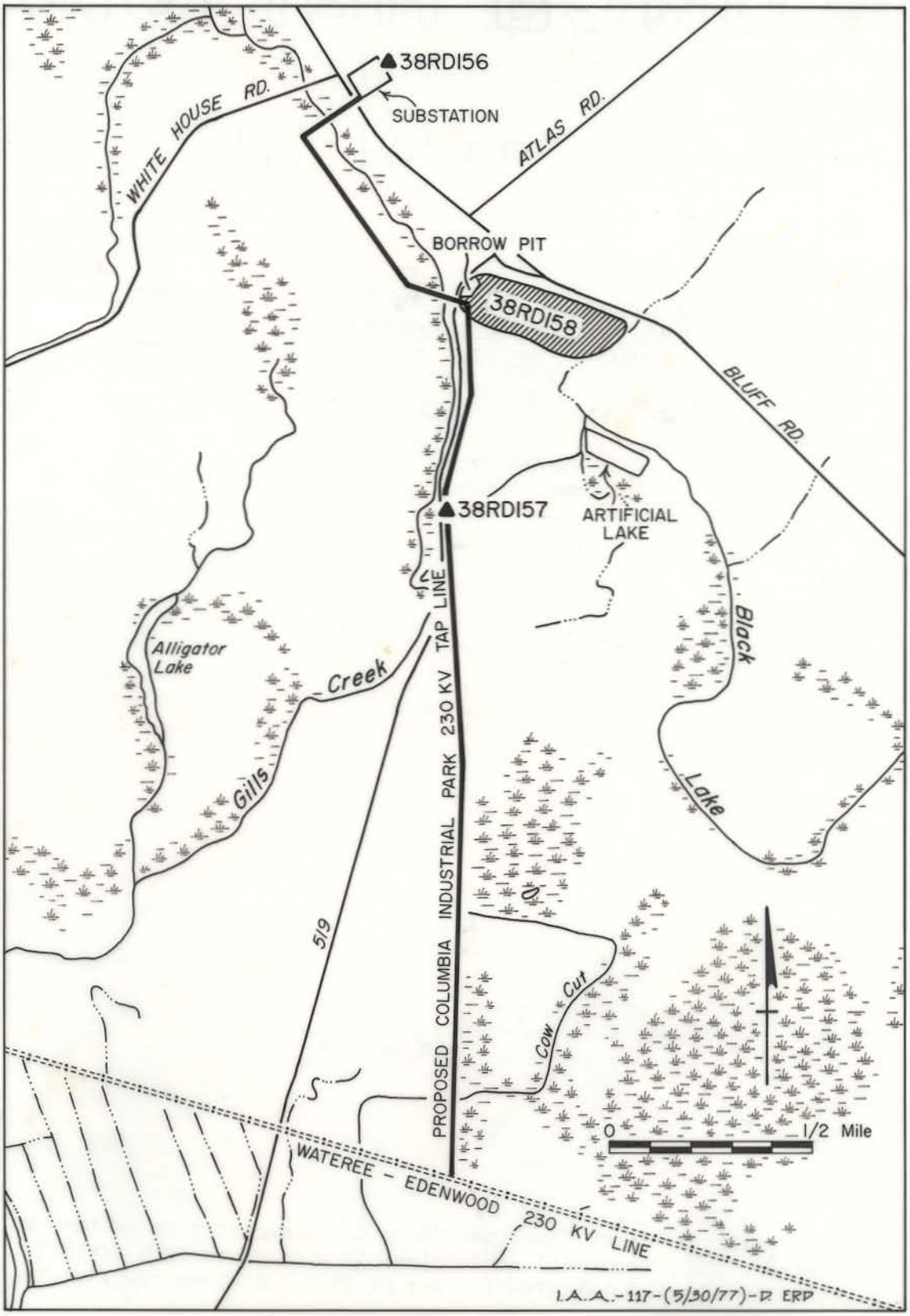
38RDI56
SUBSTATION
WHITE HOUSE RD.
ATLAS RD.
BORROW PIT
38RDI58
BLUFF RD.
38RDI57
ARTIFICIAL LAKE
Alligator Lake
Creek
Gills
Black
Lake
PROPOSED COLUMBIA INDUSTRIAL PARK 230 KV TAP LINE
519
Cow Cut
0
1/2 Mile
WATEREE - EDENWOOD 230 KV LINE
I.A.A.-117-(5/30/77)-D ERD

FIGURE 1.

and substation site, as well as subsurface testing by posthole digger in the one large area of heavy vegetation.

Sites discovered and evaluated included 38RD156, a small prehistoric and historic site outside the project impact area; 38RD157, a twentieth century trash dump judged to be of minimal archeological significance; and 38RD158, a rather large and significant site of both the prehistoric and historic periods. As planned, the Columbia Industrial Park project will substantially affect this last cultural resource, and further archeological work on 38RD158 will be needed in the event that the right-of-way cannot be relocated.

ENVIRONMENTAL BACKGROUND

A warm, temperate and subhumid modern climate characterizes the project area. At Columbia, temperature averages 46° F. in January and 81° F. in July. The growing season averages 248 days per year and in a normal year, 42 inches of precipitation falls. Climatic factors adverse to human concerns--such as cold, drought, floods, and windstorms--are relatively moderate in frequency and severity (United States Department of Agriculture 1941). The climate of the study area, then, does not strongly constrain human activities and is indeed quite favorable for agriculture.

In geologic terms, the project lies within the Pleistocene Sunderland formation of the Coastal Plain province. As is true of most of the Coastal Plain, the geologic substrate here consists of unconsolidated marine sediments in the form of a Pleistocene terrace. The terrace consists chiefly of sand and gravel, with a large range of grain size (Cooke 1936: 2, 8-9, Plate 8), and thus most of the lithic raw materials well suited for prehistoric toolmaking would have had to have been imported to the vicinity of the project.

Physiographically, the project area was described by the Bureau of Soils in 1918 as within the

> river-bottom and terrace division [of Richland County]... largely represented in a belt, 4 to 6 miles in width, bordering the Congaree River below Columbia... The terraces lie above overflow, being situated 10 to 25 feet above the first bottoms, and range from 1 to 1 1/2 miles in width. The first-bottom land lies only a few feet above the normal level of the rivers and is subject to overflow. The elevation of this lowland division ranges from 75 to 150 feet above sea level (Van Duyne, McLendon, and Rice 1918: 7).

Most of the project area lies in the first bottoms; it is only at the substation site and at the southward turn of the right-of-way (at site 38RD158--see Figure 1) that the route rises to terrace level. The predominant modern soils of the project area and its vicinity are Congaree fine sandy loam and Congaree silt loam. Both are brown in color, easily cultivated, well to moderately well drained, and productive for modern agriculture, although each is often overflowed by the river. Old (though not necessarily aboriginal) growth on both consists of mixed hardwoods and pines. Local lowlying areas frequently under standing water and stream banks exhibit Congaree silty clay loam or Johnston sandy loam, which are poorly drained and support mixed hardwoods including sweetgum, oak, ash, maple, and cypress (Van Duyne, McLendon, and Rice 1918: 62-5 and soil map).

> The forest on the hardwood bottoms of the Congaree River, in South Carolina, consists chiefly of red gum, cottonwood (Populus heterophylla), white ash, elm, sycamore, hackberry, some few oaks, and red and silver maples (Chittenden 1905, as quoted in Braun 1950: 293).

The most important terrace soil in the project area is Kalmia sandy loam, described as light to medium gray, well drained to moderately well drained, moderately productive, and easily cultivated. Old growth on this soil consists of mixed shortleaf pine, oak, and gum (Van Duyne, McLendon, and Rice 1918: 62-6 and soil map). In the general project area, the vegetation of stream valley terraces tends toward an oak-hickory forest climax. The extent to which aboriginal burning of the forest interfered with the development of the natural biota is unknown. It is likely, however, that in local areas a fire subclimax condition, in which longleaf and other pines dominated (Shelford 1963: 87) was prevalent. Thus the probable aboriginal picture is of mixed hardwoods in the bottoms and oak-hickory forest on the terraces. To an unknown degree pines, grass, and green forbs were locally encouraged by natural and artificial fires.

Early records show as pine forest fauna rattlesnake, white-tailed deer, gray fox, fox squirrel, eastern cottontail, gray wolf and mountain lion. Oak-pine forests (as in areas going through post-fire succession) would add to this list bobcat, eastern chipmunk, gray squirrel, raccoon, white-footed mouse, opossum, and black bear. For the oak-hickory forests important animals included turkey, wolf, bobcat, white-tailed deer, bear, gray and fox squirrels, raccoons, opossums, striped skunks, turkey, golden mouse, and cotton mouse. Shelford (1963: 59) suggests that, "few mammals appear to have large populations in oak-hickory forests or in pinelands." In this area, then, resources important to a hunting and gathering existence were probably diverse but rather diffusely distributed. Efforts to have created favorable deer habitat (and consequent concentrations of this prey animal) are probable; firing the forest would have been one such effort.

The sketch above of the local environment is applicable for Late Archaic and later times. Before about 5000 years ago, climatic changes affected the project environment in ways that are not yet well understood. House and Ballenger (1976) give a brief review of environmental change in the southeastern United States.

ARCHEOLOGICAL AND HISTORICAL CONTEXT OF THE COLUMBIA INDUSTRIAL PARK AREA

Archeology

Archeologically, the general vicinity of the Columbia Industrial Park project is one of the better known regions of the state, but it is the opposite bank and floodplain of the Congaree River that have been studied most intensively for many years (Wauchope 1939; Griffin 1945). In recent years members of the Archeological Society of South Carolina and the Institute of Archeology and Anthropology of the University of South Carolina have been especially active in archeological work nearby. James L. Michie and other members of the Society have conducted intensive excavations at the Thom's Creek (38LX2), Taylor (38LX1), and Manning (38LX50) sites (Michie 1969, 1970). The University of South Carolina conducted its field school at Thom's Creek under Dr. Donald R. Sutherland (Trinkley 1974).

The Institute of Archeology and Anthropology has conducted several surveys due to South Carolina Highway Department proposals for a major highway project, Columbia's Southeastern Beltway (Anderson, Michie and Trinkley 1974; Anderson 1974; Goodyear 1975; Wogaman, House and Goodyear 1976). An Institute survey of a South Carolina Electric and Gas Company transmission line south of Cayce involved controlled surface collecting and mechanized testing of deep alluvial deposits (Ackerly 1976), while the Institute assisted another S.C.E.&G. powerline survey in Cayce (Smith 1977). A Cayce municipal sewer line project occasioned another survey in Lexington County (Garrow, Cocker, and Warner 1977). Further stratigraphic testing and controlled surface collections at the Manning site by the University of South Carolina Anthropology Department and the Institute in 1975 and 1976 have not yet been fully reported upon (Wogaman, House and Goodyear 1976: 21-22).

An outline of prehistory in the general project area is presented as Table 1. A more detailed treatment, with emphasis on the west bank of the Congaree, may be found in the report by Wogaman, House, and Goodyear (1976). Anderson (1974) and Goodyear (1975) have reported on the only previous archeological surveys in the immediate area of the project on the east side of the Congaree. Table 2 summarizes information on the previously known archeological sites of the immediate area.

History

Following the first permanent English settlement of South Carolina at Charleston in 1670, an economically important trade for Indian deerskins developed. The junction of the Broad and Saluda rivers, which forms the Congaree River close to the shoals of the Fall Line, was a natural location for a trading center. In 1718 such an outpost (fortified in light of Indian and European threats) was established on the western

TABLE 1

OUTLINE OF SOUTHEASTERN PREHISTORY

PERIOD	APPROXIMATE DATES	LIFEWAY SUGGESTED BY THE ARCHEOLOGICAL EVIDENCE	TYPICAL ARTIFACTS
Paleo-Indian	13,000(?)B.C.to 8,000 B.C.	Nomadic hunting of big game with some plant collecting.	Spear or dart points thinned at base ("fluted") for hafting, such as the Clovis type.
Early Archaic	8,000 B.C. to 5,500 B.C.	Transhumant hunting and gathering with more use of small game and plants.	Dalton-Hardaway, Palmer, and Kirk points (Coe 1964).
Middle Archaic	5,500 B.C. to 2,500 B.C.	Similar to preceding period.	Stanly, Morrow Mountain, and Guilford points (Coe 1964)
Late Archaic	2,500 B.C. to 1,000 B.C.	As in earlier Archaic; but intensive shellfish harvesting is prominent in many coastal and riverine areas. Increased use of plant resources and a trend to more settled life in many areas.	Savannah River points (knives), ground stone tools, fiber tempered or sand tempered pottery in some areas.
Woodland	1,000 B.C. to A.D. 1,000	Increasing dependence on agriculture, but hunting and gathering are still important. Relatively permanent villages.	Grit or sand tempered pottery, plain or decorated by stamping with a linear check design.
South Appalachian Mississippian	A.D. 1,000 to A.D. 1,700	Maize farmers lived in towns and built temple mounds. Relatively high and dense populations and more complex social organizations are characteristic.	Pottery decorated with complicated stamped designs, small well-made triangular arrow points.

TABLE 2.

KNOWN SITES CLOSE TO PROJECT AREA, LISTED BY SITE NUMBER

Abbreviations Used

E	Early
M	Middle
L	Late
PI	Paleo-Indian
A	Archaic
W	Woodland
M	Mississippian
18th	Eighteenth century
19th	Nineteenth century

SITE: 38--	RELATION TO PROJECT AREA	SETTING	GENERAL CULTURAL PERIOD	REFERENCE
RD25	Ca. 1 mi. NW of project	Edge of Bull Street Extension(urban roadwork)	A	IAA site files
RD28	Ca. 2.5 mi. NW of project	Higher ground 20'-30' above river bottom land	EA, MA, W?	IAA site files
RD84	Ca. 0.75 mi NW	Plowed field near Gills Creek	18th? W? A?	IAA site files
RD86	Ca. 1 mi. NW	Cultivated field:site occurs along terrace edge for about 600'. Linear swamp adjacent to east	LA,L, 18th, 19th W?	Anderson 1974; Goodyear 1975 IAA site files
RD87	Ca. 2 mi. W	Plowed fields in alluvial bottom land--close to terrace adjacent to Congaree Creek, 700' east of Congaree River	M	Goodyear 1975; Anderson 1974 IAA site files
RD101	Ca. 2.5 mi. NW	Immediately adjacent to Congaree River	M	IAA site files

KNOWN SITES CLOSE TO PROJECT AREA, LISTED BY SITE NUMBER

SITE: 38--	RELATION TO PROJECT AREA	SETTING	GENERAL CULTURAL PERIOD	REFERENCE
RD102	Ca. 1.5 mi. NW	Small rise overlooking a wet area immediately to the north--now cultivated	LA, prehistoric ceramic	Goodyear 1975; IAA site files
RD103	Ca. 1.5 Mi. NW	In same field as RD102 on slight rise; away from major streams or swamps	A?	IAA site files; Goodyear 1975
LX2	Ca. 4 mi. SE	Both banks of Thom's Creek, but mainly the southern	EA,MA,LA,W	Milling 1945, Griffin 1945, Michie 1970, IAA site files
LX3	Ca. 3 mi. SE	On flat cultivated field above Congaree flood stage. Pond within 300 m.	A?, E, W?	IAA site files
LX21	Ca. 3.5 mi. SE	Cultivated field-a low sandy knoll falling away to swamp	W	IAA site files
LX51	Ca. 3.5 mi. E	Sandy area sloping to swamp northeastward. Near Dry Creek, a Congaree River tributary	PI, A?, W or M	IAA site files
LX74	Ca. 4 mi. SE	Cultivated field on bank of Dry Creek, a tributary of Congaree River	W	IAA site files

side of the Congaree River about a mile below the Broad-Saluda confluence (McDowell n.d.). This outpost was known as "the Congarees." The probable location of the Congarees was about seven miles upstream from the project area.

The township plan of the 1730's sought to encourage Protestants from northern Europe to settle along rivers in the midlands of South Carolina in order that territorial expansion and trade would be promoted and the lowlands might be buffered against possible slave revolts or Indian or Spanish attacks. One of the townships was Saxe Gotha, ordered to be marked off at the Congarees. Intensive settlement apparently began in the general area with this township in 1733.

The rich bottom lands on the east bank of the river were also taken up around this time. Between the Congaree shoals and Gills Creek eight surveys were made between 1732 and 1735. Probably three of these surveyed plots were actually lived upon (Meriwether 1940: 53). By 1749 Martin Friday, a German settler, was feeding travelers and canoeing them across the Congaree River at the foot of the shoals. Swiss-Germans and English of the upper Congaree Valley numbered 800 to 900 by that time (Meriwether 1940: 61,63).

In 1786 the growing importance of the South Carolina back country to the state as a whole was symbolized in the movement of the capital from coastal Charleston to Columbia, less than five miles northeast of the study area. But the observed paucity of historic artifacts so near a modern city, as well as a check of an 1825 map (Mills 1969) tend to confirm that the prevailing Euro-African use of the project area has been strictly agricultural until very recent times. Thus the following general comments on the agricultural history of Richland County seem apt.

> The earliest agricultural efforts in this territory were made by more or less permanent hunters and trappers or owners of heads of cattle and sheep, who made small clearings in the pine woods and grew corn, wheat, and vegetables for their own use. The first permanent settlements, made about the middle of the eighteenth century, mark the beginning of agricultural development. Early progress was very slow on account of the lack of markets and of transportation facilities. Stock raising continued to be an important industry, but as better means of communication with outside markets became available, more attention was given to the growing of sale crops, and cotton early became an important money product. Wheat was grown either to be shipped to outside markets or ground into flour for home use. Corn was grown mostly for home and farm use. Other crops at one time important were indigo and tobacco. Rather diversified farming on a small scale was carried on, as it was necessary to produce all supplies needed on the farm.
>
> Prior to the Civil War the best sections of the county were included within plantations, where operations were conducted on a large scale under wasteful farming methods.

> The war was followed by a long period of depression, from which agriculture has gradually emerged as the leading interest of the county with the development of markets and transportation facilities. The prevailing one-crop system of farming dates back to the time when cotton began to command a high price. Other crops were discontinued or reduced greatly in acreage. During this period of agricultural development the turpentine and lumbering industries began to assume importance. They retarded the extension of farming by affording a more ready source of income and by absorbing the labor available for farm work. With the decline of these industries attention was again turned toward farming, and gradual development of the agricultural resources has continued to the present time (Van Duyne, McLendon, and Rice 1918: 12).

Since the writing of the above passage, cotton as monoculture and cash crop has given way to a more diversified agricultural system under the onslaughts of the Great Depression and of the boll weevil, and urban-industrial development is reaching the long-immune study area.

A check with the South Carolina Department of Archives and History revealed that no historical sites were known in the project impact area. In the general vicinity of the Columbia Industrial Park project (but not to be affected by it), Institute of Archeology and Anthropology files listed archeological sites 38RD84 and 38RD86 with historical components (see Table 2).

FIELD METHODS

Techniques needed to accomplish the fieldwork for this survey were quite simple, owing to the relatively short length of the proposed power line and to the mainly cultivated condition of the route; thus most of the survey area was easily walked. Pedestrian inspection of the cultivated ground was deemed adequate to discover archeological resources likely to be impacted, since only relatively small areas of the route will be deeply disturbed by the setting of steel towers or poles. The alluvial bottomland setting of most of the right of way leads one to expect that archeological sites would be buried beyond the probable range of disturbance by the simple passage of construction equipment.

Only one significant section of the route was heavily vegetated and, at the same time, dry enough to allow access. The projected right-of-way from the border of site 38RD158 southward to the next small creek comprised about 0.4 mile of obscured ground. The northern half of the overgrown segment was covered with heavy undergrowth and saplings, while the southern half was a long-fallowed field. The segment was sampled at 30 meter intervals on the route center by posthole digger. Excavated earth was sifted through 1/4" metal screen. No artifacts were recovered by this subsurface testing. Indeed, all sites recorded on this survey were observed through surface remains.

One site, 38RD158, was examined by means more intensive than a spatially uncontrolled surface collection. (See section on "Site Information" below.) The other two sites were replete with artifacts of obviously modern origin, and so only an opportunistic "grab" sample was deemed practical.

The substation site was unfortunately at an advanced stage of construction when the fieldwork was undertaken, and had already been graded. Both the fenced, graded area and the periphery outside the fence where the grading backdirt ended up were closely examined in traverses walked no more than 5 meters apart. One quartz flake that was possibly modified by prehistoric activity was found in the grading fill.

SITE INFORMATION

The three archeological sites discovered during this survey will be discussed in this section. Detailed specification by provenience of artifacts recovered will be found in the appendix.

38RD156. This prehistoric and historic site, near the edge of the first terrace overlooking the floodplain, was defined from surface indications observed over an area approximately 30m by 15m between the new substation site and a paved road. The river is about three miles away and Gills Creek, a medium sized tributary of the Congaree, runs about 300m south. Prehistoric artifacts recovered included stone debitage manufactured in both Coastal Plain chert and quartz, as well as a single sherd of coarse plain sand-tempered pottery.

Historic ceramics included annular pearlware, ca. 1790-1820 (South 1974, Appendix V), and also other types of generally later manufacture. These materials may indicate a long-occupied historic home site. No subsurface testing was done, as the site lay outside the area of direct project impact.

38RD157. This site is represented by a small grab collection of historic artifacts from a roadside trash dump and an adjacent cultivated field. Also, one piece of apparent quartz debitage may indicate prehistoric utilization of the area. All material was collected within a 30m radius from a point near the confluence of Gills Creek and a small tributary, within the floodplain of the Congaree River. The most interesting artifacts were fragments of at least two spherical, flat-bottomed glass bottles with half-seams and screw tops; the name "Lunkenheimer" was molded into the bottom of each bottle. Conference with historically knowledgeable staff of the Institute of Archeology and Anthropology suggested that the materials' general appearance would be consistent with a date in the early twentieth century. The site, then, appears to be a relatively recent trash dump. It is within the power line right-of-way.

38RD158. This site occupies a knoll overlooking Gills Creek at the edge of the first terrace of the Congaree River (Figs. 1 & 2). Disturbance by cultivation and by borrow pit activities revealed an extensive and sporadically dense prehistoric component as well as a few scattered historic artifacts. While an almost continuous distribution of artifacts appears to characterize the site's recently cultivated area of more than 20 acres, large variations are apparent in artifact density. Several "hot spots" were noted in a brief inspection of the whole site. One locus (A) was more intensively examined than the rest of the site due to the prospect of direct impact from the Columbia Industrial Park project (Fig. 2). Locus A occupies an area of approximately 5,000m^2, even taking into account the fact that an estimated half of the original area has been destroyed by borrowing operations by the landowner. These operations were going on even as the survey was performed.

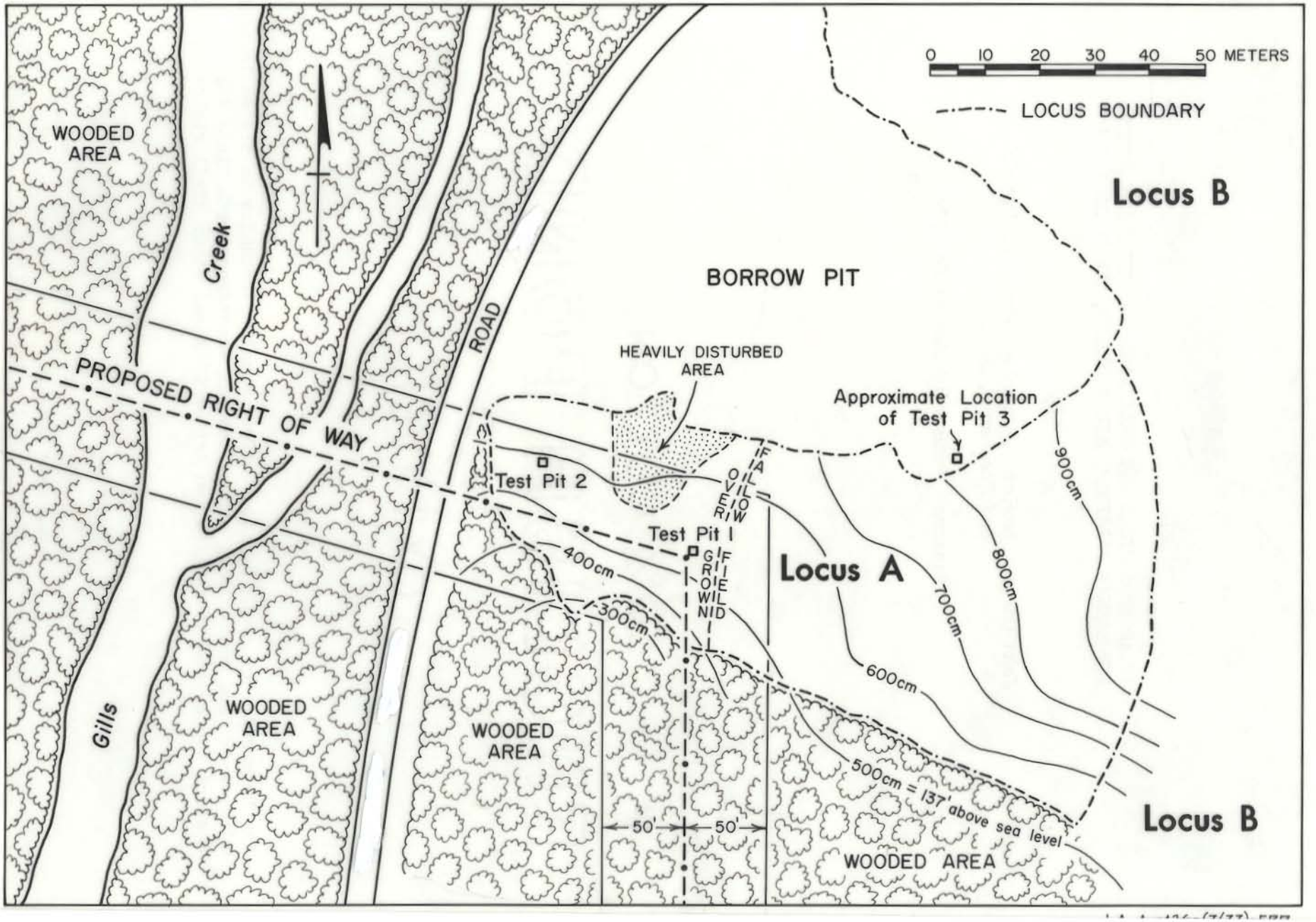

FIGURE 2. Site 38RD158.

The highest density of surface artifacts was noted in and around a greatly disturbed heavy equipment ramp area leading down into the borrow pit (Fig. 2). In addition to a spatially uncontrolled grab sample from the surface of Locus A, three 50 cm squares were excavated in natural strata and screened through 1/4" mesh to establish stratification and the nature of subsurface cultural deposits. One of these test units (Test Pit 3) is not accurately located on Figure 2, as its vicinity was unexpectedly "borrowed" away between its excavation and the mapping of the site.

Soil stratification at the site as exhibited from 35 cm deep test unit 1 consisted of two natural layers--

0-20 cm below surface: cream colored fine sand containing artifacts.

20-35 cm: red clay loam containing a decreasing number of artifacts.

Unit 2, of 40 cm depth showed two natural layers--

0-20 cm below surface: very compact cream colored fine sand, with artifacts.

20-40 cm: compact medium to coarse brownish red sand containing no artifacts.

At unit 3, 30 cm deep, one natural layer was noted--

0-30 cm below surface: light brown medium sand, probably containing artifacts in the top 20 cm.

The consistent soil change in the range of 20 to 30 cm below surface probably corresponds to a relict plow zone; in the area of Locus A marked "overgrown" (Fig. 2) it appeared that the most recent cultivation had been 5-10 years before survey, while the "fallow" area had been plowed within the last year or two. This plow zone appears to correspond to the greatest density of cultural material.

The artifactual material discussed here was recovered from an area of 20 to 25 acres and through approximately 30 cm of topsoil; however, most emphasis in the field was placed on that area of the site which will be directly affected by power line construction (Locus A). Only a descriptive analysis of the material is attempted because of the biased nature of the grab sample. In an effort to obtain a measure of comparability of the results of this survey with others recently undertaken in the state, the artifact typology of the Institute of Archeology and Anthropology's Highway program was used (Appendix A) (see for example, Wogaman, House, and Goodyear 1976).

Artifacts that aid in the assignment of this site's material to peoples of specific times and "cultural affiliation" are found in both lithic and ceramic categories. A Middle Archaic component is suggested by the presence of the Morrow Mountain point type (Coe 1964).

Punctate sherds with a sand or grit temper, if they may be subsumed within the Thom's Creek Punctate type (Waddell 1963), would date to the Late Archaic period described here--in the range of 2000 to 500 B.C., according to a chronology developed for the South Carolina coast (South 1973). To the Woodland period would belong the Deptford Linear Check Stamped sherds and a check stamped, baked clay object from Locus 3 (Caldwell and Waring 1939: 8-9; Griffin and Sears 1950), for in South's (1973) chronology these would fall somewhere between 800 B.C. and about A.D. 750.

Non-local raw materials at the site suggest that it had extensive, if possibly indirect, trading relationships with quite a large area. Chert tentatively identified as native to the Ridge and Valley geomorphic province beyond the Blue Ridge is one example. Another is chert which appears to be of a type extensively quarried farther out in the Coastal Plain--particularly in Allendale County, South Carolina.

This site's multiplicity of archeological components without perceptible midden formation or great depth of deposition may be due to intermittent occupations over a substantial time span of up to six millennia. The site is situated at a local ecotone between hardwood bottoms and mixed pines and hardwoods of the terraces, and thus would be blessed with resources of both zones. Its topographic situation would allow year-round habitation above Congaree floodstage and good access to the resources of the first bottom and river (e.g. water fowl and fish). Seasonally, much of the adjacent floodplain would have been under water, and at least in recent times Gills Creek serves as an immediate source of water and other fluvial resources. In addition, for modern agriculture, the dominant soils in both bottomland and terrace are reasonably well drained, easily tilled, and productive. This may have been true for aboriginal horticulture and agriculture as well. Both hunter-gatherer groups of the Archaic and farmers of Woodland times probably would have found this a desirable location for a base camp or village.

There is some evidence for this in the artifactual content of the site. A common archeological indicator of relatively permanent occupation is the presence of heavy and fragile pottery vessels, which in fact do occur. Nor are the stone artifacts inconsistent with this interpretation, as all stages of tool manufacture, from cores to flakes of bifacial retouch, are present. Finally, relatively large spatial extent and relatively dense artifact distribution are consistent with indications of permanence of settlement. Thus it seems likely that the site represents a permanent village during Woodland (if not earlier) times.

RECOMMENDATIONS

The overall impact of any construction project on a given archeological site depends on two factors: the physical results or effects of the project, and the significance of the site being affected. Unlike the assessment of project effects, evaluation of resource significance depends on the informed judgment of the archeologist. The usual basis for judgment is a scientific one. That is, the site is significant in the degree to which its preservation or study promises to advance archeological theory. This theory, like all anthropology, is an attempt to understand why humans behave as they do. The use of this criterion does permit the judgment of degrees of archeological significance for specific archeological sites.

38RD156. This site is outside the area of direct project impact and indirect effects should be negligible. No further archeological work is recommended.

38RD157. This historic site (with one prehistoric stone flake) will be affected by clearing of stream side vegetation and equipment traffic, but it lacks historical or archeological significance in its identification as a twentieth century trash dump. No further work at this site is recommended.

38RD158. The planned Columbia Industrial Park transmission line will affect a large portion of Locus A that remains after the borrowing activities. The most important project effect at this site will be the excavation of a foundation for a large steel tower, which is currently planned to be placed in the densest (according to the results of testing) area of Locus A. This location is adjacent to Test Pit 1 where the right-of-way turns to the south (see Fig. 2). Another lesser effect would occur in the likely event that heavy equipment is employed in the clearing and removal of vegetation from the site area.

Archeological potential of the site is seen to be quite high despite its damaged condition. The combination of factors pointed out above that make this a desirable location for prehistoric base camp or village--situation on a hill on terrace edge, proximity to a good sized stream such as Gills Creek, and the probability of adjacent favorable soils--is not present at many locations on the eastern side of the Congaree River Valley. Most particularly, there are very few such sites close to the Congaree at the Fall Line due to the inexorable march of urban Columbia in this direction. That rather unique prehistoric cultural phenomena can be expected in the vicinity of the Fall Line has been hypothesized many times (e.g., Anderson, Michie, and Trinkley 1974). Proximity to two major ecological zones, Piedmont and Coastal Plain, with different resources, may well have increased the variety and reliability of subsistence resources and encouraged local population concentrations. Fording possibilities and/or the necessity for prehistoric boaters to

portage may well have entailed the development of such local concentrations into centers and transshipment points for long distance trade of such desirable raw materials as the various cherts which have already been found at 38RD158. Even in its heavily damaged state, this site is in a setting and location that the march of progress has made nearly unique. Moreover, the apparently long span of occupation at this site offers the prospect of testing the hypotheses suggested above over a relatively long time span.

The most desirable outcome for the project at this site would be to relocate the steel angle structure and to have a professional archeologist assess the changed project effect on this site. This should require no more than a couple of man-days.

If relocation is not possible, then a well-controlled archeological excavation of a reasonable sample of Locus A should be undertaken, with emphasis on the area to be destroyed for setting of the tower's foundation. This excavation should include at least one contiguous area of moderate size (a minimum of perhaps 20 square meters) to study small scale artifact distribution. Other measures should include the sampling of a smaller fraction of other areas of Locus A, and the study of Locus B. The latter has not been examined in detail but is known to exhibit several areas of high artifact density. An understanding of the prehistoric behavior at Locus A necessarily involves study of these other cultural remains, which may actually have been part of the same settlement. Such a study would best be advanced by plowing the cleared area of Locus B, by doing intensive and controlled surface collection of artifacts thus exposed, and by excavating such minor test pits as may seem necessary.

APPENDIX A

COLUMBIA INDUSTRIAL PARK SURVEY, BY PROVENIENCE.

38RD156-1 Surface grab sample

	number	weight
Prehistoric		
Lithics		
Quartz chunks	2	65g
Chert chunk	1	1.0g
Chert other flake	1	2.5g
Chert thinning flake	1	1.5g
Historic		
Ceramics		
Unidentified	8	22g
Annular pearlware	2	3g
Salt glazed stoned	1	2g
Transfer-printed ironstone	1	3g
Ironstone	1	3.5g
Edged blue ironstone	1	4g
Red unglazed earthenware	1	4g
Thick plain porcelain	2	6g
Plain porcelain	1	3g
Porcelain decorated	1	2.5g
Other		
Green wine bottle glass		
Glass vessel fragment-purple		
Milk glass with pink outer layer		
Metal coat hanger		

38RD157-1 Surface grab sample from trash dump and adjacent field

	number	weight
Prehistoric		
Lithics		
Quartz chunks	1	11g
Historic		
Fragments of at least two Spherical, flat-bottomed glass bottles with half seams and screw tops; "Lunkenheimer" molded in	3	
Neck fragment of stoppered purple glass bottle	1	
Milk glass	1	
Heavy split iron ring	1	
Glazed tile fragment	1	

COLUMBIA INDUSTRIAL PARK SURVEY, BY PROVENIENCE.

38RD158-1 Locus A, general surface collection

	number	weight
Prehistoric		
Lithics		
Quartz firecracked	15	295g
Quartz chunks	35	194g
Quartz primary other flakes	3	12g
Quartz secondary other flakes	12	107g
Quartz tertiary other flakes	31	90g
Quartz secondary thinning flakes	1	1g
Quartz tertiary thinning flakes	21	22g
Quartz flake tool(?)	1(1 edge)	
Quartz flake core	2	11.6g
Lustrous slatey(?)tertiary thinning flake	1	2.5g
Ridge & Valley Chert tertiary thinning flake	1	0.5g
Slate tertiary thinning flake	2	16g
Chert tertiary thinning flake	10	7.5g
Red chert-like(jasper?)chunk	1	15g
Granitic chunk	1	18g
Basaltic tertiary other flake	1	18g
Basaltic tertiary thinning flake	1	7.5g
Unidentified siliceous(?)primary other flake	1	7g
Quartz point(whole)	1	4g
Quartz point (frag)	4	17g
Quartz preform(frag)	4	52g
Quartz preform (whole)	1	44g
Quartz other biface (frag)	1	85g
Quartz other biface (whole)	1	95g
Chert Morrow Mtn II point (frags)	4	20g
Ridge & Valley Chert point tip w/spokeshave-like notch	1	3g
Chert unmodified	1	4.5g
Ceramics		
Fine sand/temperless plain	3	8g
Fine sand/temperless incised(?)	2	4g
Fine sand/temperless unident decorated	1	2.5g
Grit temper plain	10	37g
Grit temper punctate	2	3g
Grit temper linear check(?)	3	11g
Grit temper unident decorated	4	9.5g
Coarse grit temper plain	4	20g
Coarse grit temper unident. decorated	3	11g
Historic		
Brickbat	1	94g

38RD158-2 Locus B, grab sample

	number	weight
Prehistoric		
Lithics		
Quartz fire cracked	2	127g
Quartz chunk	28	400g
Quartz primary other flake	1	7g
Quartz secondary other flake	3	12.5g
Quartz tertiary other flake	11	56g
Quartz primary thinning flake	1	0.8g
Quartz tertiary thinning flake	4	8.5g
Quartz flake tool	4(5 edges)	34g
Quartz steep margin tool	2	34g
Quartz graver(?)	1	
Quartz flake core	3	114g
Chert tertiary thinning flake	2	0.1g
Unident. Slate(?)tertiary thinning flake	1	2g
Ridge & Valley Chert chunk	1	2.5g
Quartz small side notched point(whole)	1	
Quartz point base (frag)	1	
Quartz preform	2	59g
Quartz other bifaces	2	241g
Chert point base(frag)	1	
Sandstone(?) dark grey,unmodified(?)	1	25.5g
Sandstone(?) light grey,unmodified(?)	1	16g
Ceramics		
Fine sand/temperless plain	1	4g
Grit temper plain	2	4g
Grit temper, linear check, baked clay object	1	
Historic		
Ceramics	3	
Cartridges	2	
Lead slug	1	

38RD158-3, complete surface collection from borrow pit, original provenience of artifactual material uncertain.

	number	weight
Prehistoric		
Lithic		
Quartz fire cracked	3	39g
Quartz chunks	8	79g
Quartz primary other flake	1	8g
Quartz tertiary thinning flake	4	8g
Quartz flake core	1	86g
Siltstone(?) primary thinning flake	1	3g
Slate(?) tertiary thinning flake	1	0.5g
Quartz other biface	1	3g
Ceramic		
Grit temper plain	1	2.5g
Historic		
Ceramic		
Red earthenware	1	

38RD158-4A, 50 x 50cm TP1, level 1, (0-20cm below surface, cream colored fine sand).

	number	weight
Prehistoric		
Lithic		
Quartz fire cracked	18	107g
Quartz chunks	14	64g
Quartz primary other flake	2	8g
Quartz secondary other flake	3	12g
Quartz tertiary other flake	4	5g
Quartz primary thinning flake	1	0.1g
Quartz tertiary thinning flake	3	3g
Quartz flake tool	1 (1 edge)	2.5g
Quartz flake core	2	70g
Slate(?) tertiary other flake	1	7g
Chert tertiary thinning flake	2	0.3g
Quartz preform	1	5g
Quartz chunks w/possible graver spurs	2	
Ceramic		
Coarse grit temper plain	2	3g
Coarse grit temper punctate	2	6g
Historic		
Glass	1	

38RD158-4B, TP1, level 2(20-35cm below surface, red sandy clay)

	number	weight
Prehistoric		
Lithic		
Quartz fire cracked	12	96g
Quartz chunks	11	37g
Quartz flake tool	1(2 edges)	6g
Chert chunk	1	0.4g
Unidentified, heat exposed(?)	12	11.5g
Ceramic		
Fine sand/temperless unident decorated	1	1.5g
Grit temper plain	1	1.2g

38RD158-5A, 50 x 50cm, TP2, level 1 (0-20cm below surface, cream colored compact fine sand)

	number	weight
Prehistoric		
Lithic		
Quartz fire cracked	31	152g
Quartz chunks	21	41g
Quartz primary other flake	2	1g
Quartz secondary other flakes	3	4.2g
Quartz tertiary other flakes	9	7g
Quartz secondary thinning flake	3	2g
Quartz tertiary thinning flake	4	2.7g
Quartz core tool	2	74g
Chert chunks	2	1g
Quartz stemmed point (frag.)	1	3.5g
Unidentified conglomerate (intensively heated/deteriorated)	7	24g
Ceramic		
Grit temper plain	4	16g
Grit temper simple stamp(?)	1	5g
Grit temper cord marked	1	2g
Grit temper punctate	1	3g

38RD158-5B, TP2, level 2(20-30 cm, below surface, 30-40 cm post hole, compact cream colored fine sand)

	number	weight
Prehistoric		
Lithic		
Quartz fire cracked	10	150g
Quartz chunk	3	53g
Quartz primary other flake	1	0.2g
Quartz tertiary other flake	7	6g
Slate tertiary other flake	1	0.3g

38RD158-6A, 50 x 50cm TP3, level 1 (0-20cm below surface, light brown medium sand)

	number	weight
Prehistoric		
Lithic		
Quartz fire cracked	3	4g
Quartz chunks	6	13g
Ceramic		
Grit temper plain	2	1.5g
Historic		
Glass	1	

38RD158-6B, TP3, level 2(20-30cm below surface, light brown medium sand)

	number	weight
Prehistoric		
Lithic		
Quartz chunk	1	0.5g
Chert tertiary thinning flake	1	0.3g

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