APPENDIX 7

Research Design and Data Recovery Plan for the Prehistoric Component of the W.M. Hawthorn Site

RESEARCH DESIGN AND DATA RECOVERY PLAN FOR THE PREHISTORIC COMPONENT OF THE HAWTHORN SITE (7NC-E-46) NEW CHURCHMANS ROAD CHRISTIANA, NEW CASTLE COUNTY, DELAWARE

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A PROPOSAL FOR A PREHISTORIC ARCHAEOLOGICAL DATA RECOVERY PROJECT AT 7NC-E-46, NEW CASTLE COUNTY, DELAWARE

INTRODUCTION

The purpose of this proposal is to outline the research methods and costs of a data recovery project for prehistoric archaeological resources at the Hawthorn Site (7NC-E-46). The research design is described first followed by a description of the field methods and sampling strategies. Finally, a budget is provided along with a description of the calculations used to generate the budget.

RESEARCH DESIGN

The prehistoric components of 7NC-E-46 seem to date to the Woodland I Period based on the recovered artifacts (stemmed points) and soils analysis. A storage feature is present in one test unit and bifaces and large amounts of debitage have been recovered. Based on this preliminary evidence, along with its settings adjacent to an ephemeral stream and spring, the site is most likely a micro-band base camp (Custer 1983, 1982) of the Woodland I Period. Previous research in the immediate area has revealed the presence of large macro-band base camps (Clyde Farm Site - Custer 1982; Delaware Park Site - Thomas 1981), micro-band base camps (Green Valley Complex, Custer et al. 1981), and numerous procurement sites (7NC-D-70, and 72 - Custer et al. 1982). In most cases large portions of these known sites have been partially disturbed by plowing. In contrast, the cultural materials at 7NC-E-46 have been buried by slope wash, and possibly some aeolian deposition, and protected from disturbance by agricultural activities. As such, 7NC-E-46 offers the unique opportunity to study an undisturbed Woodland I micro-band base camp. The proposed research design is oriented toward obtaining the maximum information from the site.

Research on sites of the Woodland I Period from this section of New Castle County has recently focused on the processes by which Woodland I societies developed a sedentary lifestyle with associated exchange networks, storage facilities, and intensified food production systems (Custer 1982, 1983). At the large macro-band base camps special emphasis has been placed on understanding intra-site patterning of tool production activities, storage, and habitation areas (Custer 1982: Thomas 1981). Similar research has also been carried out at micro-band base camps (Custer et al. 1981). It is proposed here that similar research be carried out at 7NC-E-46 by opening continguous squares in several sections of the site and carefully recording the locations and configurations of any features and artifact concentrations. Analysis of distribution patterns of artifact classes such as fire-cracked rock (indicative of hearths and habitation areas) and debitage (indicative of tool production areas) will be important. Use of computer programs such as SYMAP is an important component of such analysis, has been used at other nearby sites (Custer et al. 1981), and is proposed as part of the research design for 7NC-E-46. Similarly, close analysis of tool use by microscopic and macroscopic analysis should be undertaken to further differentiate varied activity areas within the site. Flotation analysis of feature fill and living floors will also be used to gain further information on food production systems at the site.

The above-noted methods and research activities will maximize the information recovered from the site; however, they are also designed to be comparable to research methods used at the other sites in the area (particularly Clyde Farm, Delaware Park, and Green Valley). This will facilitate the comparison of the results of the excavations of 7NC-E-46 to the other sites. Such a comparison will allow the consideration of the site data from a regional perspective and will reveal the role of the site in larger settlement subsistence systems. For example, it is not clear whether or not the large macro-band base

camps of the areas are seasonally revisited locations with related small-scale sporadically revisited micro-band camp sites. Fusion and fission of social units would accompany such a pattern and micro-band base camps would be expected to be miniature versions of the larger macro-band base camps. On the other hand, macro-band base camps may represent sedentary occupations and the micro-band base camps may be special purpose camps that were visited for extended periods of time for special intensive resource procurement activities. In this case social organization would be less flexible. The mirco-band base camps in this case, might not contain all of the activities seen at a macro-band base camp or they may contain disproportionate numbers of special purpose tools. No matter which scenario is accurate, the research design proposed here, with its insurance of comparable data, should be able to clarify the role of micro-band base camps in the regional settlement system.

RESEARCH METHODS

Because the size of the site prohibits complete excavation, a sampling strategy is necessary. Also, it is very likely, given excavation experiences at similar sites in New Jersey (Steward 1981), that complete excavation would generate much data that are redundant. It is proposed here that the sampling design for the site be based on regular testing of the site with 5' x 5' excavation units. These units would be placed to cover the spatial extent of the site within the area of highest artifact density based on the preliminary test results. When subsurface concentrations of artifacts are encountered, adjacent units would be opened up to generate broader horizontal exposure and maximize the spatial data from the excavations. If adjacent units to not contain more cultural materials, the coverage of the testing could be expanded. The number of test units will be adjusted to produce a coverage of the site at the 15% level.

Preliminary test results show that the artifact-bearing horizons at the site are buried under culturally-sterile slope wash approximately one foot deep. This overburden would be removed with minimal examination for cultural materials. It would not be screened. The remaining soils containing artifacts would be excavated in three-inch arbitrary levels within any natural soil horizons. Excavation of the arbitrary levels would utilize a variety of methods. Initial excavation of the levels would be done with shovels and the minimum provenience unit would be quadrants of a five foot square. If features or high density artifact concentrations would be encountered methods would be changed to exact provenience techniques using trowels. Also, any diagnostic stone tools (projectile points and knives) and ceramics will be treated with exact provenience techniques. Careful excavation with shovels should allow the discovery of diagnostics in place; however, if more care is needed to secure exact provenience on diagnostics, trowels will be used in all excavations. These decisions will be made in the field by the site supervisor. Flotation samples of a standard volume, to be determined later, will be taken from excavation levels and all features will be floated. Standard pollen samples will also be taken from excavation levels and features. A standard volume soil sample will also be taken from all excavation units and features.

Laboratory techniques will include the washing and marking of all artifacts. Flotation samples will be processed and analyzed. Summary catalogues of all provenience units will be produced and further analysis will be carried out to produce distribution maps of special classes of artifacts such as fire-cracked rocks, debitage with and without cortex, bifaces of various stages of reduction and tolls of variable functions. These methods of research are consistent with methods utilized at Clyde Farm and the Green Valley Site Complex (Custer 1982; Custer et al. 1981) and will allow controlled comparison of the results. The SYMAP computer package will be used to develop distribution maps for the site.

A standard report detailing the findings of the field and laboratory research will be produced. This report will also include an analysis of the site in light of other archaeological sites from the surrounding region. It is assumed that the Delaware Department of Transportation will provide the final typing, report production, and duplication services.

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