were excavated in the poor visibility areas. The pedestrian survey combined with the shovel testing produced three quartz artifacts, all of which came from the plowzone. One of the pieces of quartz has no cortex but resembles a medial section of an early stage biface reject. Soil stratigraphy in the shovel tests consisted of a brown silty or sandy clay plowzone overlying orange or yellow brown clayey sands with gravels. The northern end of this parcel has been disturbed by electrical transmission towers and an electrical transformer site. Based on the low numbers of artifacts found throughout the parcel and their plowzone locations, no further work is recommended.

INTERPRETATIONS AND CONCLUSIONS

This section of the report will summarize the cultural resources recovered during the Phase I survey of the Chesapeake and Delaware section, Odessa Segment, of the proposed Relief Route. Table 2 lists the findings by parcel number and survey station number and Figure 17 shows the sites found during the Phase I survey.

IMPLICATIONS FOR REGIONAL ARCHAEOLOGY

The Phase I archaeological survey of this segment of the proposed Route 13 Relief Route identified only one historic archaeological site and twelve prehistoric archaeological sites. The locations of the all sites identified by the survey can be studied for meaningful insights.

The single historic farmstead identified in the survey, 7NC-E-98, will likely address only one of the historic themes identified previously. The site apparently dates to the second

TABLE 2

CULTURAL RESOURCE LOCATIONS WITHIN THE PROPOSED U.S. 13 RELIEF ROUTE RIGHT-OF-WAY WHERE PHASE II TESTING IS RECOMMENDED, SCOTT'S RUN CREEK - RED LION CREEK

Cultural Resource	Figure Number	Parcel/Name	STA
1) Parkway Gravel Prehistoric Site	12	1) Parkway Gravel Field and Woodlot	1785
2) Snapp Prehistoric Site	12	3) Snapp Field	1825
3) Weaver Prehistoric Site	13	5) Weaver Field and Woodlot	1875
4) Dragon Run North A Prehistoric Site	14	8) Dragon Run North Field and Woodlot	1920
5) Dragon Run North B Prehistoric Site	14	8) Dragon Run North Field and Woodlot	1927
6) Wrangle Hill South Prehistoric Site	14, 15	9) Wrangle Hill South Field	1946
7A) Conrail South A Prehistoric Site	15	11) Conrail South Field	1972
7B) Conrail South B Prehistoric Site	15	11) Conrail South Field	1978
8) Smith Historic Site (N-5053)	16	15) Smith Woodlot	2032

Key:

STA = Department of Transportation Centerline Station Numbers

quarter of the 19th century and the period between 1820 and 1840 is a time of agricultural reform on the Delmarva Peninsula. Advances in agricultural practices meant changes in yields and farm sizes. Overpopulation meant there was too little available arable land and many people left the county and moved to western states. Finally, Herman (1987:128) has documented a period of rebuilding in the county for the period from 1830 to 1860 whereby

many 17th and 18th century farmhouses underwent major alterations or were torn down and replaced with modern structures. This dwelling house may represent that rebuilding. However, there are no earlier deposits in the archeological record from the site, so an earlier farmhouse site, if one existed, may lie somewhere else on the property. In any event, it is likely that an archival and archaeological investigation of the property would yield a detailed record of the lifeways of the inhabitants, the placement of the farm in the local market economy, the reason for the selection of the site for a residence (settlement pattern), and agricultural practices for the time and their effect on the lifestyle of the inhabitants.

The results of the Phase I survey can also be used to test the predictive model for prehistoric sites developed in the original Route 13 cultural resource planning survey (Custer, Jehle, Klatka, and Eveleigh 1984). Preliminary tests using the results of the two planning surveys (Custer and Bachman 1986:117-120; Custer, Bachman, and Grettler 1986:172-175) showed that the predictive model worked with a high degree of accuracy; however, additional tests are always useful. Unfortunately, the area covered by this survey was not large enough to allow the application of the kinds of statistical tests used in earlier evaluations of the predictive model. Also, the predictive model was not applied to the northernmost end of the current project area (see Custer, Jehle, Klatka, and Eveleigh 1984, Vol. II:124). Nonetheless, the general findings of the survey can be compared to the model's predictions on an impressionistic basis.

Figure 18 shows the location of the prehistoric sites found during the survey and these locations can be compared to Figure 4, which shows the predicted site locations. Six of the twelve prehistoric sites (7NC-G-100, 7NC-G-103, 7NC-G-104, 7NC-G-102, 7NC-G-105, and 7NC-E-97) are located in, or adjacent to, predicted locations. The remaining six sites (7NC-G-101, 7NC-E-92 through 7NC-E-96) that are not located in the area of anticipated site locations, are found in interior areas and are indicative of the previously noted Woodland I use of interior areas on an ephemeral basis. Similar sites were identified in similar High Coastal Plain settings during the surveys of the Route 896 Corridor (Lothrop, Custer, and DeSantis 1987) and the Route 7 South Corridor (Catts, Rappleye-Marsett, Custer, Cunningham, and Hodny 1988), two completed studies of other archaeological sites in the vicinity of the above Route 13 Corridor Project Area.

In general, the site locations noted in this study confirm the interpretations of interior procurement sites during Woodland I times noted in the Route 7 South Corridor (Catts et al. 1988:196-200) and in the Management Plan for Delaware's Prehistoric Cultural Resources (Custer 1986). For the most part, Woodland I settlement focused on major drainages. From these base camps, there were forays to specific resource settings for the focused procurement of specific resources and these forays produced discrete archaeological sites. At the same time, more generalized forays took place and these less well focused forays tended to produce more scattered, less discrete sites. The less discrete sites are the generalized lithic scatters which make up

a large part of the sites reported from this survey. This two part definition for the generation of procurement sites in the project area is an expansion of that definition given in the management plan, which states only that procurement sites are the result of the exploitation of specific resource locations. Both types of interior sites were identified during the Route 13 Canal Section survey.

Further study of both types of interior sites is needed to better understand the organization of the resource procurement process. It may be possible that the discrete interior sites are small staging sites from which individualized forays to very transient procurement sites, which produced the lithic scatter

sites, were made. Figure 19 illustrates this land/use scenario. An alternative scenario (Figure 20) would explain the variation in interior sites as a function of the length of time spent in the associated procurement activities. The discrete sites would represent focused, relatively long term procurement activities while the more scattered diffuse sites would have been produced by a large number of very short term individual procurement events. It is also possible that both of the scenarios noted in Figures 19 and 20 operated together in the same settlement system (Figure 21). Similar variability in settlement patterns has been described for the initial Woodland I time period in the central Middle Atlantic (Custer 1988:45-46) and has been noted from the

ethnographic record (Binford 1982). In any event, data quality is poor for both the Delaware River Shore and the Interior zones, the two Management Plan Woodland I study units in which the project area is contained, and further investigation of the procurement sites noted in this report should help to clarify the issue.

CULTURAL RESOURCE MANAGEMENT RECOMMENDATIONS

The Phase I survey of the Chesapeake and Delaware Canal section, Odessa Segment, of the U.S. 13 Relief Route identified the location of 13 archaeological sites, and Phase II testing is recommended at 10 of these (7NC-G-100 through 7NC-G-105, 7NC-E-

93, 7NC-E-94, 7NC-E-97, and 7NC-E-98). These site categories (Appendix II) are consistent with the guidelines developed in the Route 13 Phase I/II Reserach Plan (Custer, Bachman, and Grettler 1987). For the purpose of identifying the necessary levels of Phase II research at the varied archaeological sites and for categorizing significance, four major categories of sites were identified (Table 3 and Appendix II).

For each of the sites where additional work is recommended, avoidance of the site is the recommended prudent alternative. If avoidance is not possible, then the site-specific recommended archaeological testing program should be implemented. As per National Park Service guidelines for a site's National Register determination of eligibility, the Phase II testing program will include the delineation of the sites areal limits. It should also be noted that if any other Proposed Rights-of-Way are placed in areas which have not been tested, then Phase I survey will be required for those sections.

In conclusion, the Phase I survey of the Chesapeake and Delaware Canal section, Odessa Segment, of the U.S. 13 Relief Route has identified ten archaeological sites for which Phase II testing is recommended and this research will add much to our knowledge of the archaeology of New Castle County and the Delaware Upper Coastal Plain.