

commercial development on Route 896 north of the interchange has destroyed any potential archaeological remains for this resource.

Segment 4 - Survey Results (Figure 82)

Heavy disturbance from recent commercial and residential development in this portion of the Project Area made archaeological testing feasible in only two locations; a total of six shovel tests were excavated in this segment, reflecting the degree of this disturbance (Figure 82). No prehistoric or historic cultural resources were located during this testing.

SUMMARY AND CONCLUSIONS

Phase I field reconnaissance survey on the proposed Route 896 corridor resulted in intensive surface reconnaissance of approximately 1.5 miles of linear right-of-way (23.8% of total ROW) where ground surfaces were exposed by agriculture. Over remaining undisturbed portions of the corridor where ground cover was present, field personnel excavated 412 shovel test pits at 20 and 30 meter intervals (Table 3). Fifteen archaeological sites, eight of which warranted additional Phase II investigation (Table 11) were discovered. On one of these, Iron Hill East, property access for Phase II studies could not be obtained; formulation of recommendations for this site are therefore contingent upon completion of the additional work required.

Results of Phase I survey suggest that the criteria used for assigning portions of the Project Area to high or low probability of prehistoric site location were valid. All prehistoric sites discovered did occur within 200 meters of watercourses. As noted, within this part of the Mid-Peninsular Drainage Divide, such

TABLE 11

SUMMARY OF SITES SUBJECT TO PHASE I AND II STUDY, BY SEGMENT

Archaeological Site	Site #	Segm.	Ph.I/II
1) Brennan #2	7NC-F-66	1	I
2) Jacob B. Cazier Tenancy #2	7NC-F-64	1	I/II
3) Brennan #3	7NC-F-67	1	I
4) School House #57	7NC-F-65	1	I
5) Amelia Graw	7NC-F-62	1	I
6) Mary Johnson	7NC-F-63	1	I
7) Brennan #1	7NC-F-61	1	I/II
8) Jarmon	7NC-D-113	2	I
9) John Scott	7NC-D-110	2	I/II
10) Thomas Williams	7NC-D-130	2	I/II
11) Koval Site	7NC-D-92	2	I
12) Clarksdale Tenancy #2	7NC-D-115	3	I/II
13) Clarksdale Tenancy #1	7NC-D-111	3	I/II
14) Martucelli	7NC-D-112	3	I/II
15) Iron Hill East	7NC-D-108	3	I

Key
 Segm. - segment

features are the major factor affecting environmental variability. Its effectiveness as a guide for subsurface testing is supported by surface reconnaissance in the southern third of the Project Area where survey of cultivated fields was equal in intensity for both high and low probability zones. The clustering of sites around stream courses is particularly apparent here. Thus in areas of low environmental diversity, archaeological

survey designs which rely on one or only a few criteria for site location prediction may be appropriate. Predictive models for prehistoric sites in other parts of Delaware's Coastal Plain indicate similar findings (Custer and Galasso 1983; Custer et al. 1986; Eveleigh et al. 1983).

The results of Phase I and II survey can be used to evaluate some of the prehistoric settlement models detailed in discussion of the Project Area with regard to study units for different time periods (Custer 1986; Custer and DeSantis 1986). For all the time periods discussed, sites were located which consist only of single point finds. For the Paleo-Indian Period, a single Kirk-like corner-notched point from the Jarmon Site was the only diagnostic recovered, while the quartz bifurcate point in the collection of Mr. George Haenlein was the only specimen documented for the Archaic Period. Isolated point finds were also made for the Woodland I (Brennan #3 [Figure 15] and Jarmon [Figure 43]) and Woodland II (Brennan #2 [Figure 15]) periods. Such finds are difficult to interpret and assess in their relevance for settlement pattern models. They may represent instances of loss during hunting.

The discovery of more substantial remains at three Woodland I Period sites allows for consideration of its settlement models. As noted, the major foci of the Woodland I Period are believed to have been the resource-rich estuarine swamp and flood-plain settings where large group occupations of lengthy duration occurred. With the exception of the Christina River vicinity, such situations do not exist in the Project Area. It was

therefore expected that briefly occupied, micro-band and procurement sites would be the rule for this time period in the Project Area. Results of survey do reflect this, but with some qualification.

The Mary R. Johnson Site (Figure 30) yielded debitage of several lithic raw materials and a Rossville-like Woodland I projectile point, in a diffuse scatter designated Area "A". The site may have been the scene of more than one occupation episode, but represents a possible example of a micro-band base camp. The presence of Woodland I diagnostic points, flaked stone debris, and fire-cracked rock within a small, restricted area of the plowzone at Thomas Williams Site, Area "B", suggests a similar situation, indicating brief encampment by a small group.

The more substantial Phase II investigation of the Brennan Site #1, Area "A", allows a better basis for its interpretation. Documentation of two large concentrations of secondary jasper reduction debris there would qualify it as a procurement site, because of its apparent specialized function as a resource processing station. The very large size of this site is surprising, however, and does not fit a perception of procurement sites as occupations by small, single task-oriented groups. Density contours based on controlled surface collection reveal two distinct concentrations of material, suggesting at most two episodes of Woodland I occupation in Area "A". Its large size is therefore not a product of multiple, overlapping habitation scatters. In addition, the presence of tools such as unifaces and utilized flakes made of the same raw material as the reduction debris, suggests that jasper processing was not the only activity

to have gone on there. Thus, while these sites generally reflect Woodland I settlement model expectations for the Project Area, findings at Brennan #1 indicated that procurement sites may have been occupied by fairly large groups which carried out other activities, even though one task, lithic reduction, did predominate.

As was expected, most of the historic cultural resources clustered in the vicinity of Glasgow. Proximity to this transportation node seems to have been an important site location factor. South of Glasgow, where 896 follows its original course of the eighteenth and nineteenth centuries, agricultural complexes are related to the presence of the road. However, the choice of actual house sites for landowners is related to other factors and these structures, and associated archaeological sites, are located further from the road, outside the project area. On the other hand, tenant sites are located closer to the road, such as the Cazier Site. These location characteristics match with other analyses of historic site locations (Custer and Grettler n.d.).

Three sites, two historic and one prehistoric, were determined to be eligible to the National Register on the basis of Phase II investigation under Criteria "D". Criteria "D" deals with sites "that have yielded, or may be likely to yield, information important in prehistory or history (Nation Register Division 1977). The eligibility of Brennan Site #1, Area "A", hinges on the documented presence of buried artifacts and the opportunity it affords for study of the prehistoric exploitation

of the Delaware Chalcedony Complex. Archaeological studies of prehistoric lithic sources often emphasize the raw material sources themselves, and associated prehistoric exploitation in the immediate vicinity of these locations. Secondary treatment of the lithic material once it has been transported away generally receives less consideration. Brennan Site #1, Area "A", is a reduction station for Delaware Chalcedony Complex jaspers located five miles south of the Iron and Chestnut Hills. Discovery of a secondary reduction station at this distance from the source was unexpected, forcing reconsideration of models of lithic source exploitation and requiring a more extended perspective on reduction sequence trajectories.

Two historic sites, Jacob B. Cazier Tenancy Site #2 (late nineteenth to early twentieth century) and Thomas Williams Site (nineteenth to early twentieth century), were determined eligible for the National Register. They exhibit similar archaeological contexts, being situated in plowed settings, where Phase II studies revealed intact structural foundations of the original residences, with associated occupation debris present in surrounding plowzone soils and sub-plowzone features.

The sites both contrast and complement in the research issues that they can provide relevant data for. The Jacob B. Cazier Tenancy Site #2 was the residence of a black man who served as a retainer for Jacob B. Cazier. As such it can yield data for comparison with other nineteenth century agricultural tenant sites in the region. Perhaps more significantly, however, it provides an unusual opportunity to study the spatial patterns and material culture processes of a black household in Delaware

in the nineteenth century. This topic has been studied elsewhere in the eastern United States, at plantation sites in the southeast (Fairbanks 1984; Otto 1980, 1984) and at small black communities in the northeast (Schuyler 1974, 1980; Deetz 1977; Baker 1978, 1980; Geismar 1980). In Delaware however, with the exception of a recent study of the Fork Branch/DuPont Station community in Kent County (Heite and Heite 1985), the archaeology of black groups has received no attention. The value of investigating these types of sites stems from the belief that ethnic or racial differences may be apparent in a site's material remains. Baker (1980:29) suggests that "domestic sites of known black occupancy will reveal patterns of material culture distinctive of Afro-American behavior." Whether the patterns perceived are truly the results of a sites's ethnic affiliations or evidence of socio-economic status has been recently questioned (Kelly and Kelly 1980), but only through the archaeological examination of known black-occupied sites can this question be resolved. The Jacob B. Cazier Tenancy Site #2 can therefore yield a data base for examining issues of ethnicity not previously addressed in northern Delaware.

Although originally intended to be a tenant residence, the Thomas Williams Site was for a period the home of the "stone mason and plasterer" Thomas Williams. It can therefore be studied from the perspective of a lower/middle class independant tradesman owner, and thus represents an unusual archaeological site for nineteenth century rural Delaware where dominance of the agricultural industry is reflected in the resulting

archaeological record. In addition, the site may have also been the residence of a black couple in the early 1900's. Should this prove to be the case, it would complement investigations of the Jacob B. Cazier Tenancy Site #2 discussed above regarding issues relating to black lifeways and their reflection in the archaeological record.

In summary, Phase I and II archaeological survey and testing of the proposed Route 896 Corridor identified significant cultural resources whose further study can yield important information on past lifeways in northern Delaware. In addition, Site locational data from field survey tends to confirm existing site predictive models. Management studies such as that conducted on Route 896 thus not only provide information necessary to dealing with cultural resources in the Project Area, but also expand our knowledge of the region's history and prehistory, in turn enabling more effective treatment of cultural resources elsewhere in the region.