ARCHEOLOGICAL COLLECTIONS MANAGEMENT

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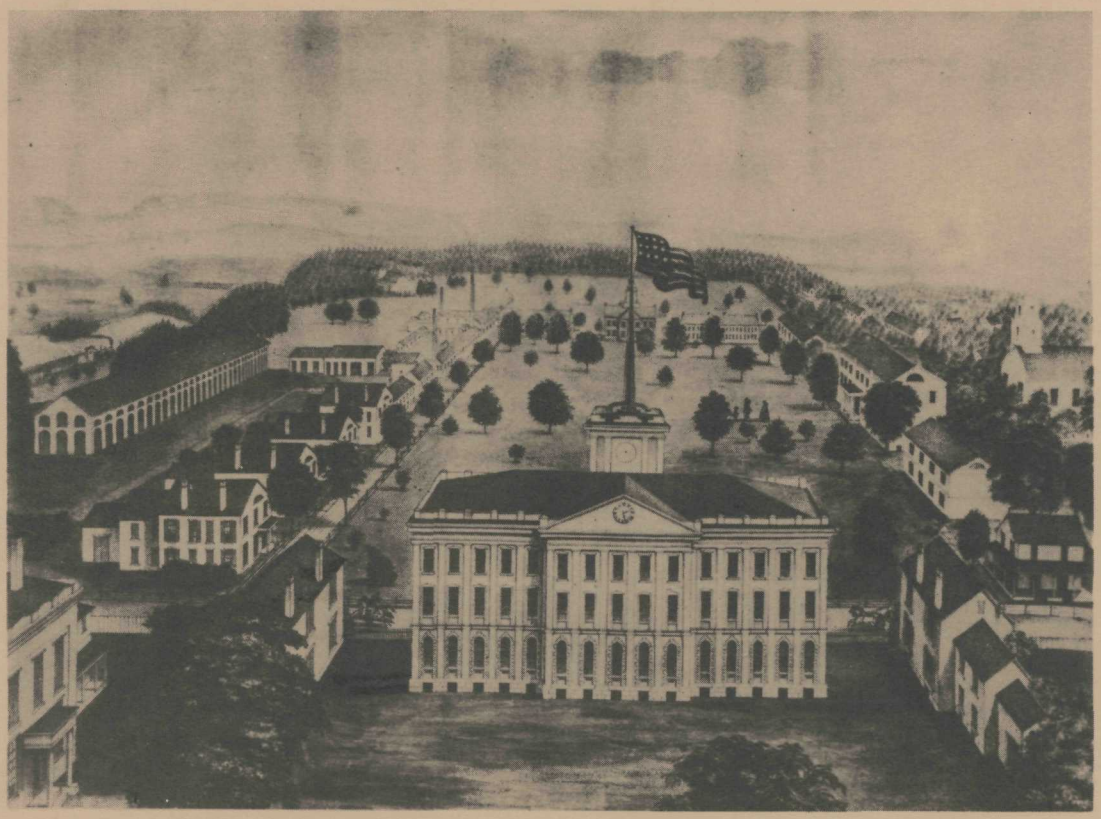

THE SPRINGFIELD ARMORY NATIONAL HISTORIC SITE

MASSACHUSETTS

ACMP Series No. 6

Division of Cultural Resources Management
North Atlantic Regional Office
National Park Service
U.S. Department of the Interior

Illustration on Cover: Springfield Armory ca. 1860 (from SPAR Park files).

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Louise M. DeCesare

Division of Cultural Resources Management
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Collections represent a valuable resource only if they are properly documented, conserved, and organized in such a manner that their research value is maintained....To maintain their research value, both collections and their associated documentation must be accessible, and they must be protected from deterioration....Without a doubt, there is a crisis in curation (Marquardt et al. 1982:409, 411).

Preface and Acknowledgements

The Springfield Armory National Historic Site (SPAR) is the tenth Park to have had its archeological collection processed by the Archeological Collections Management Project (ACMP) of the North Atlantic Regional Office, National Park Service (NPS). The goal of this project was to process (catalog and prepare for storage) the SPAR Electrical Line Corridor Survey archeological collection within National Park Service curatorial standards. This report presents an outline of ACMP processing methodology and procedures, as well as a synopsis of the site history and excavation background, based on information presented in Kathleen Fiero's survey report (1982a). It is hoped that this report will serve as a general guide for the collection, making the material more accessible to both Park curatorial staff and independent researchers alike.

Many individuals have contributed to the successful completion of this project. I would like to thank Myra Harrison, Manager of the Cultural Resources Center of the National Park Service North Atlantic Regional Office for her continued promotion of the ACMP. Without her guidance and support, the ACMP could not be a reality.

Linda Towle and Darcie MacMahon both deserve a special thanks. Their involvement and insightful editorial suggestions have helped to shape this report, and to make the project a success.

Many thanks go to Maria Capozzi and Kurt Faust for their contributions to the project. Without Maria's expertise, support and good humor, the monumental tasks of processing the collection and data entry could not have been realized. Kurt's fine graphics are a true asset to the report. Both were very helpful in reviewing the first and final drafts of this report, and their suggestions and comments were very much appreciated.

Louise M. DeCesare
Charlestown, MA
December 4, 1989

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Introduction

In May of 1981, a three day archeological survey was conducted at the Springfield Armory National Historic Site (SPAR) in Springfield, Massachusetts, by Kathleen Fiero and Juliette Guda, archeologists with the National Park Service's Denver Service Center (DSC). The purpose of this survey was to test the impact of a proposed electrical line on archeological resources at the Armory (Fiero 1982a:1).

Upon completion of the survey, the archeological material was brought back to the DSC in Denver, Colorado, where it was processed and analyzed by Kathleen Fiero (Fiero 1982b). An excavation report was published in 1982 (Fiero 1982a), and the collection was returned to the Springfield Armory along with associated excavation documentation in October, 1982 (Fiero 1982b).

In May of 1988, the Archeological Collections Management Project (ACMP) retrieved the Electrical Line Corridor Survey collection (SPAR Accession #46) from the storage area at SPAR. The artifacts and associated documentation were transported to the Eastern Archeological Field Laboratory (EAFL) at the Charlestown Navy Yard, Boston NHP, in Charlestown, Massachusetts, where they were processed.

The ACMP was developed in 1981 by the Division of Cultural Resources (DCR) of the North Atlantic Regional Office (NARO) of the National Park Service (NPS). The main objective of the ACMP is to catalog and reorganize archeological collections within the NPS system in a standardized and systematic manner. In this way, the ACMP facilitates access to the collections for Park curatorial staff, as well as for independent researchers (MacMahon 1988:3). SPAR is the tenth Park to have its archeological collection processed by the ACMP.

In 1985, as part of a Region-wide Accountability Project, ACMP archeologist Linda Towle conducted an assessment to determine the number of uncataloged archeological collections held at each Park in the region (Towle 1985:1). In the final report of the assessment phase, Towle included a table for each Park reviewing the status of its archeological collections, making it easier to target and prioritize collections in need of ACMP processing, and to track the overall progress of the ACMP (Towle 1985: Appendix III). The table for SPAR has been included as an appendix to this report (Appendix 1).

ACMP reports for small and well documented collections, such as SPAR's Accession #46, describe the procedures followed while cataloging and reboxing the collection. Reports for larger and more complex collections (especially those from numerous excavations) are more extensive, involving synthesis and, in some cases, reinterpretation (e.g., Minute Man NHP) (Towle and MacMahon

1986, 1987). This report for SPAR contains a brief summary of the project background which provides a context for the material, enabling the reader to better assess the research potential of the collection. It should be noted, however, that the summary presented in this report is based on information provided in Fiero's survey report, and that no additional research or interpretation has been undertaken by the author. It is therefore advisable that the reader refer to Fiero's thorough excavation report (1982a) for a detailed discussion of the site and the collection.

One additional archeological survey was conducted at SPAR in 1984 by American University archeologists under contract to the DSC. A draft report on that survey was written (Lackey 1987). The archeological collection from this survey, estimated to contain 11,000 artifacts, will be cataloged by the DSC.

The Electrical Line Corridor Survey

Site Background

Currently the boundaries of the Springfield Armory National Historic Site (SPAR) include only a small portion of the complex of buildings and grounds which formed the original Armory. Located on a sandy bluff overlooking the Connecticut River Valley (Figure 1), the site was most likely chosen for its ideal defensive position during the American Revolution when the property was used as a training ground for the local militia. It wasn't until 1777 that an arsenal was constructed on the grounds (Fiero 1982a:7). Although it was established by Congress as a national armory in 1794, it did not come under federal ownership until 1801 (Fiero 1982a:7).

Throughout its history as an Armory, the property has undergone considerable transformation with the erection, demolition and removal of buildings, and the various landscaping and grading alterations of the grounds. By the mid-19th century, many of these structural and landscaping changes were completed. During this time period, many original buildings were demolished (e.g., the schoolhouse, the original commanding officer's house, the pay office, and various residences and outbuildings) (Fiero 1982a:9). Concurrent with this organization, some of the more notable buildings on the property were erected: the paymaster's house and master armorer's house (both built ca. 1830), the extant commanding officer's house (Building 1; built from 1845-47), and the main arsenal (Building 13; built from 1847-50) (Fiero 1982a:9). At the same time, a series of landscaping and grading alterations were implemented in an effort to minimize the drainage problems resulting from the ongoing erosion of the property. The area along the bluff was graded in 1825, and between 1846 and 1850, the ravine was filled and sodded (Fiero 1982a:12). In 1854 the entire Armory was landscaped, and was regraded from 1856-57 due to persisting erosion problems (Fiero 1982a:12).

In the late 19th and early 20th centuries, the Armory experienced additional changes to the property, though not on the scale of the alterations made during the early and mid-19th century. During this time period, both the paymaster's house and master armorer's house were removed from the property. At the turn of the century, two greenhouses were erected northeast of the commanding officer's house. These were removed around 1950. By 1932, a tennis court had been constructed behind the Armory, and in 1937 a garage, associated with the commanding officer's house, was built on the property (Fiero 1982a:9). When the Armory was closed in 1968, the Department of Defense sold most of the property to private and industrial firms, while other portions were deeded to the Commonwealth of Massachusetts and the City of Springfield (Fiero 1982a:9). At this time, the area north of the commanding

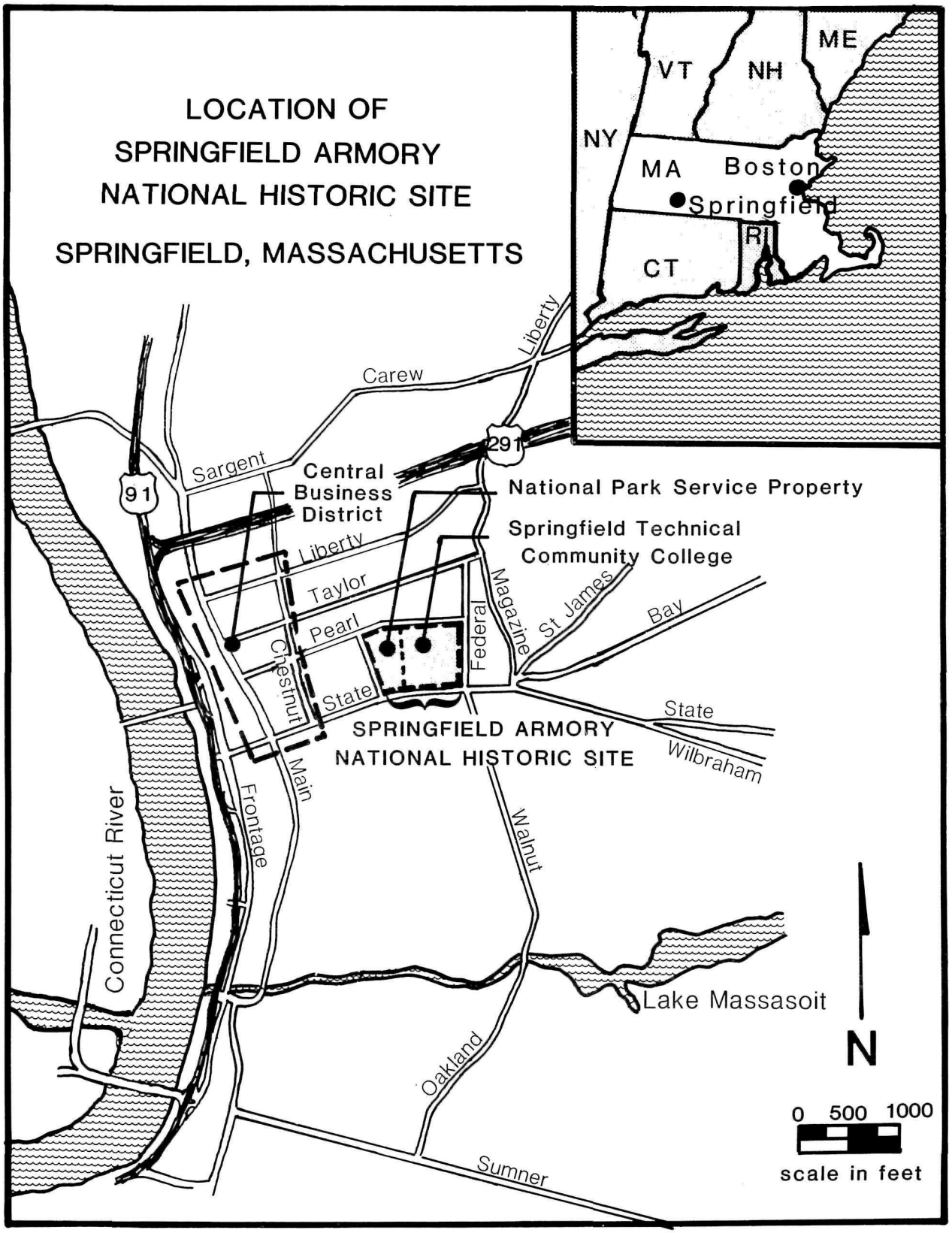

Figure 1. Map locating the Springfield Armory National Historic Site within the City of Springfield, MA (from Fiero 1982a:Figure 1; Mass. D.P.W. 1979: Boston & Vicinity Map).

officer's house and southwest of the main arsenal was used as a playing field for the City of Springfield school system (Fiero 1982a:9).

While the Armory site would most likely have provided an excellent location for prehistoric occupation (being located on a high bluff near a major waterway), ground disturbance dating from the 18th to the 20th century makes locating undisturbed prehistoric remains on the site unlikely. In her assessment of the archeological resources of the site, Fiero concluded that the probability of encountering significant historic deposits was much higher than encountering intact prehistoric deposits at the Armory site (Fiero 1982a:5).

Excavation Overview

Prior to surface examination and subsurface testing, Fiero undertook a thorough review of historical records (maps, planning documents, and secondary historical sources) relating to the Armory (Fiero 1982a:13). Subsequent to this examination, it was determined that cultural resources associated with the following non-extant structures might be impacted by the construction of the proposed electrical line: schoolhouse, commanding officer's ice house, two greenhouses, the master armorer's house, and the location of former ponds, fountains and outbuildings (Fiero 1982a:13) (Figure 2). While no wells, privies, or barns were known to have existed on the property, the possibility was considered that such structures may have been present without ever having been placed on a map of the grounds (Fiero 1982a:13).

The exact location of the proposed electrical line corridor was determined through discussion with the project architect, engineer, and archeologist. Though specifically designed to minimize disturbance to areas of archeological sensitivity, an environmental assessment of the impact area proved that the proposed line could not avoid intersecting the former location of one of the two greenhouses, constructed ca. 1950 (Fiero 1982a:13).

Artifact Recovery Techniques

Prior to excavation, a walkover survey of the site was conducted to determine whether there was discernible evidence of structural and/or landscaping features on the property (e.g., building foundations, wells, privies, ponds and fountains). As no features were detected from the surface, a testing strategy consisting of a total of twenty-three shovel test pits (STPs) was devised. These test pits were dug at thirty foot intervals along the length and spur of the proposed electrical line (Fiero1982a:14) (Figure 3). Each unit was roughly one foot square, and was excavated by trowel using natural stratigraphic levels.

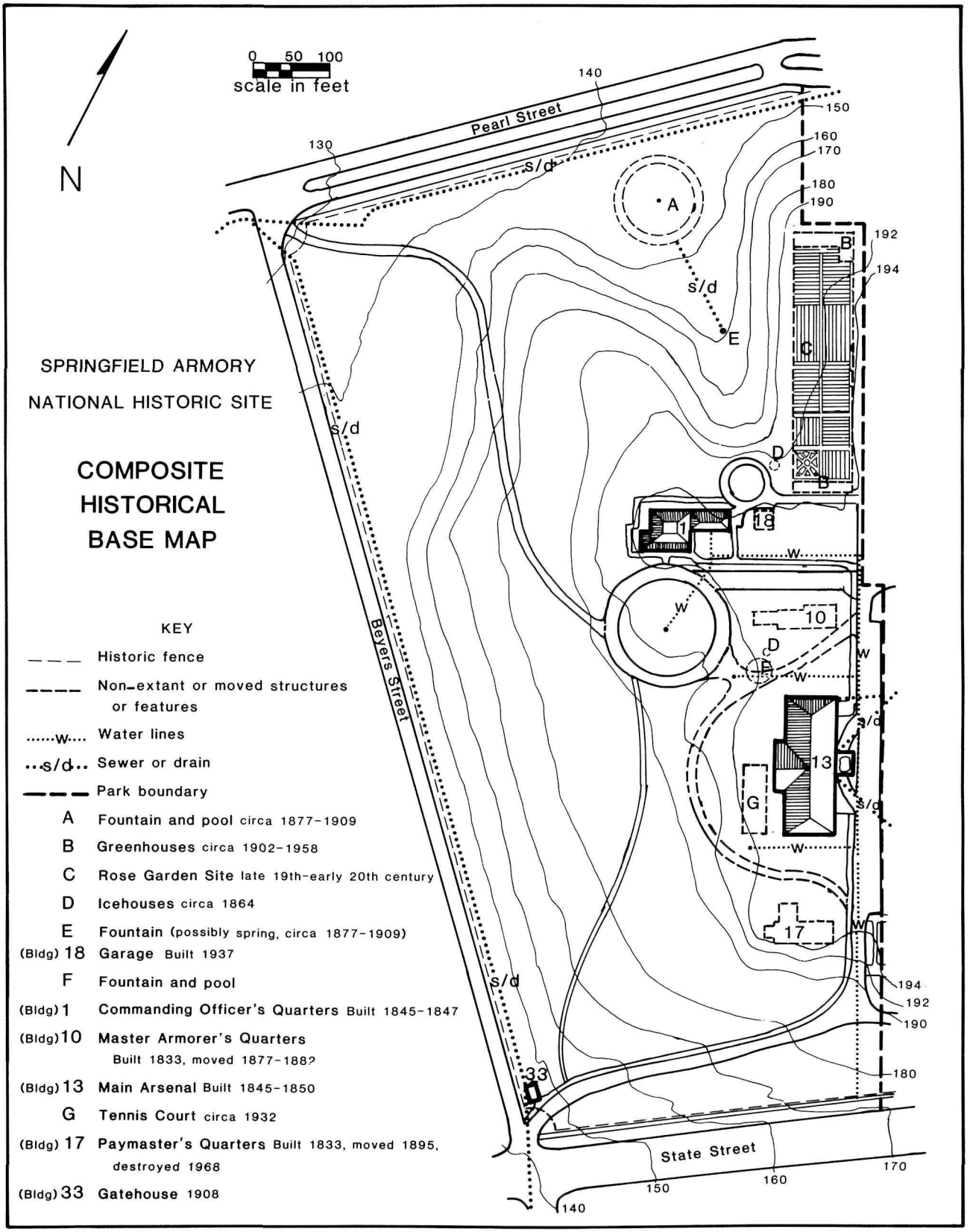

Figure 2. ACMP composite historic base map of SPAR showing extant and non-extant structures, utility lines, and topographic contours (from Catalog # SPAR 10399 and Fiero 1982a:Figure 5).

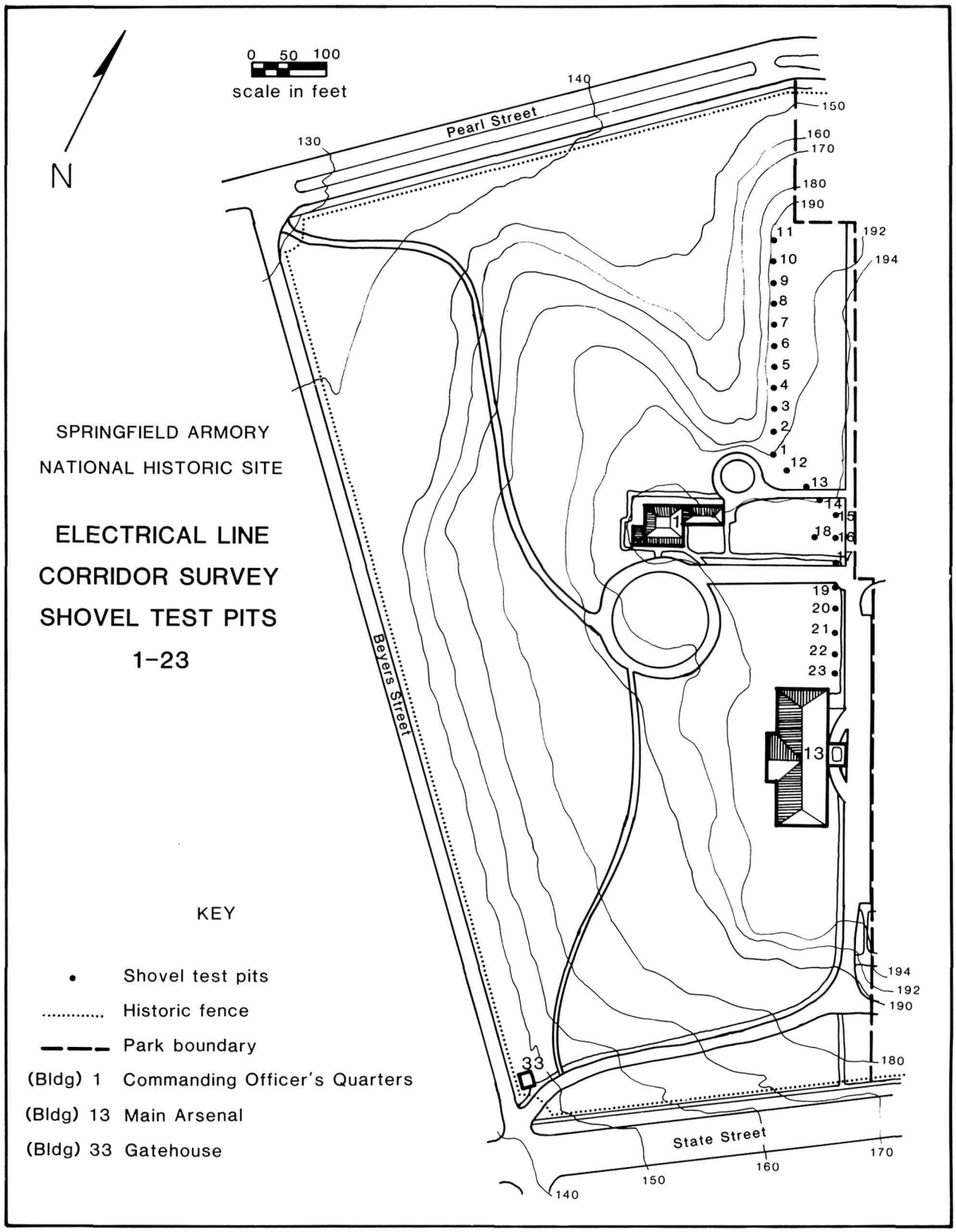

Figure 3. ACMP site plan of the SPAR Electrical Line Corridor Survey denoting the location of Fiero's shovel test pits (STPs) (from Catalog # SPAR 10399 and Fiero 1982a:Figure 11).

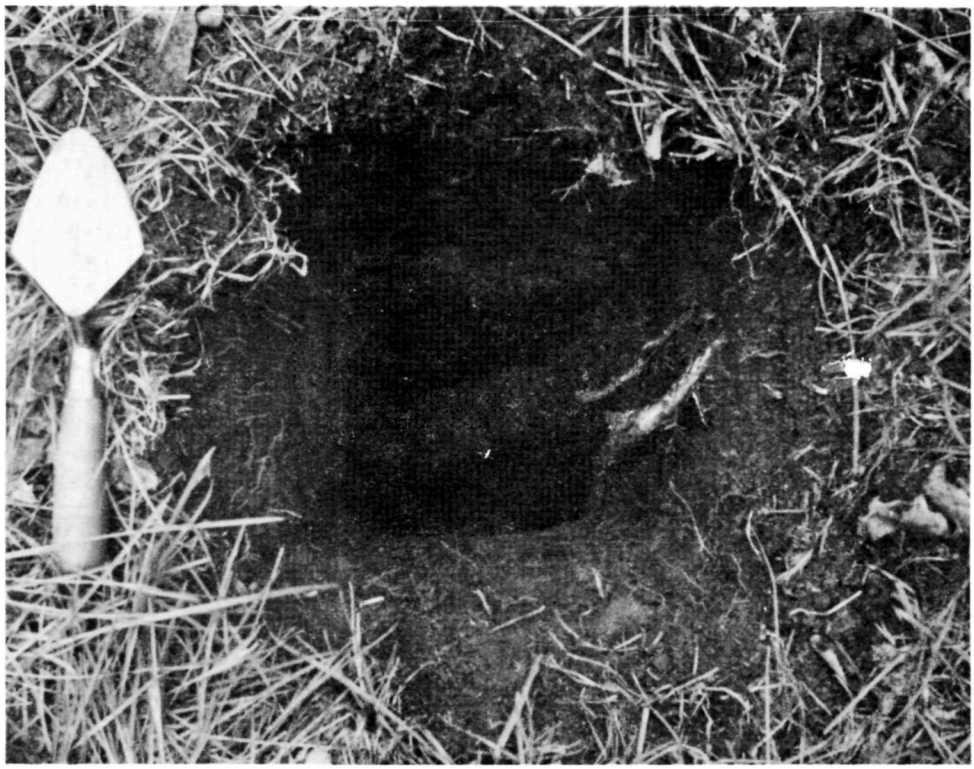

Figure 4. Fiero's excavation photograph illustrating the iron pipe feature found in STP 15. This feature was thought to be a utility line servicing the armory (Catalog # SPAR 10398).

Excavation was halted at a depth of approximately 30 inches below ground surface, or upon reaching sterile sand (Fiero 1982a:19).

In an attempt to speed up the excavation process, only the soil from STPs 1-5 was completely screened. One shovelful of soil per stratigraphic level was screened in the remaining units (STPs 6-23). As one might expect, Fiero found that this sampling strategy significantly altered the quantity and distribution of material recovered from the site. Indeed, the vast majority of artifactual material recovered from the site was retrieved from STPs 1-5. Fiero estimated that the number of artifacts which could have been collected from the other test pits (STPs 6-23) had been reduced by as much as 60 percent (1982a:19).

Testing Results

Features: Four features (three iron pipes and one brick structure, most likely a storm drain) were located in STPs 15 (Figure 4), 17, and 23. Two of these pipes (from STPs 15 and 23)

were identified as being associated with the utility system of the Armory (Fiero 1982a:29). There was no evidence of a builder's trench for any of these features (Fiero 1981:57-58, 61). Fiero found that historic maps of the Armory grounds did not show underground lines in the areas of these features, with the possible exception of the pipe found within STP 23. Additionally, the lack of artifactual material found in association with these features, or in the above strata, made it virtually impossible to assign a date to these features (Fiero 1982a:29).

A fourth pipe, 3 inches in diameter and 9 feet in length, was located 6 inches below ground surface in STP 3 (Figure 5). This pipe was painted green and embossed with "YOUNGSTOWN" on one side. After close examination, it was determined that the pipe had originally been an upright feature (Fiero 1982a:33). The area surrounding STP 3 once served as a formal garden, and also as a playing field for the Springfield school system. Hence, it was suspected that this feature had once been part of a garden trellis or a playing field post (Fiero 1982a:35).

Artifacts: Although there were examples of temporally diagnostic artifacts in the collection, due to the small size of the sample and the fact that many of these artifacts were found in all levels on the site, it was impossible to derive a firm "terminus post quem" date for the strata (Fiero 1982a:30). In several instances, early and late materials were found in the same stratigraphic deposit (though perhaps in different test pits) (e.g., creamware found in level 3 of STPs 15 and 18, and pearlware found in level 3 in STP 17) (Fiero 1982a:30). In other cases, material with a later mean date was found in a lower or earlier stratigraphic level (e.g., STP 10 contained pearlware in level 2 while whiteware was found in the same test pit at level 5) (Fiero 1982a:28).

Fiero's Interpretation

In examining the composition of the collection, attention was paid to material which might reflect the various activities which took place on the property. Surprisingly, no material was found which specifically reflected the site's history as an Armory (Fiero 1982a:30-31). No evidence of nonextant structures (e.g., the schoolhouse, commanding officer's ice house, two greenhouses, the master armorer's house, and various associated outbuildings), nor landscape features (e.g., former ponds and fountains) were found (Fiero 1982a:28-33).

A typical stratigraphic sequence for the areas tested consisted of several layers of silty and sandy loam superimposed over a native deposit of sterile sand (Figure 6)(Fiero 1982a:23). A total of 22 samples of these soil deposits were extracted,

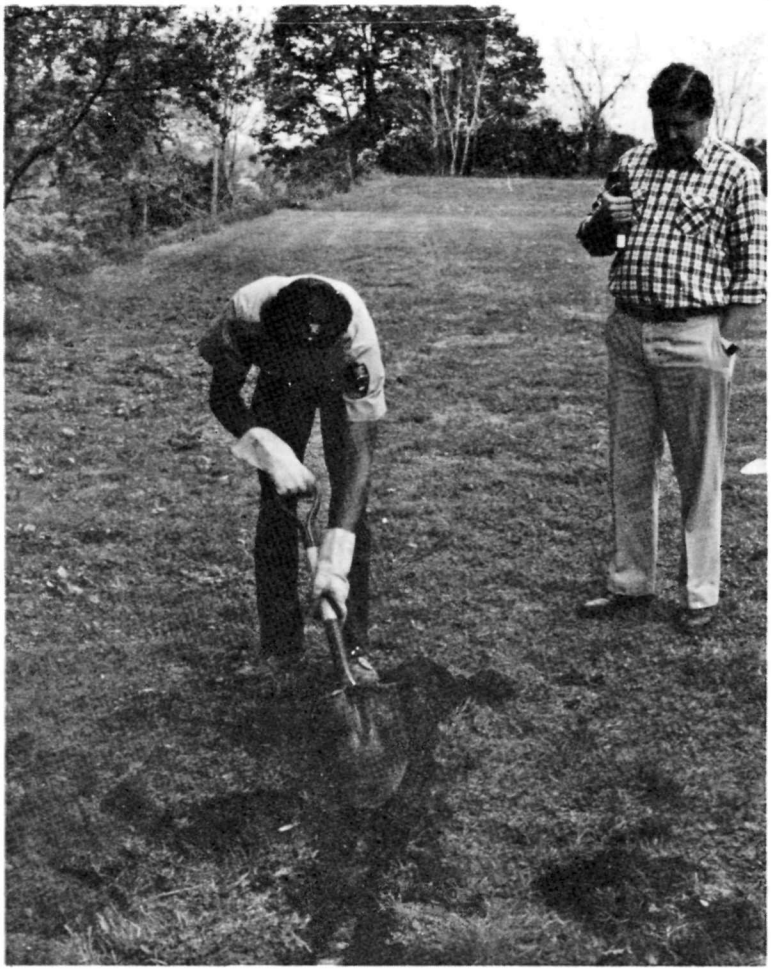

Figure 5. Fiero's excavation photograph illustrating the iron pipe feature found in STP 3. This feature was thought to be either part of a garden trellis or a playing field post (Catalog # SPAR 10398).

analyzed and determined by Fiero to be evidence of the periodic grading and filling which had occurred throughout the 19th century (Fiero 1982a:12). As had been expected, the quality of the soil was suitable for gardening (Fiero 1982a:36), and these loam layers were found to extend deepest in STPs 1-13. Thus, the stratigraphic record provided Fiero with evidence of the remains of a formal garden located in the area along the bluff during the latter part of the nineteenth century (Fiero 1982a:36).

In examining the distribution of material recovered from the site, Fiero identified a pattern in the distribution of artifacts which she found significant and indicative of behavior. An average of 8.9 sherds of ceramics and glass was recovered from STPs 1-13, compared with 1.8 sherds from STPs 14-23. Furthermore, STPs 6-13 averaged six sherds per STP (Fiero 1982a:30). Although the testing

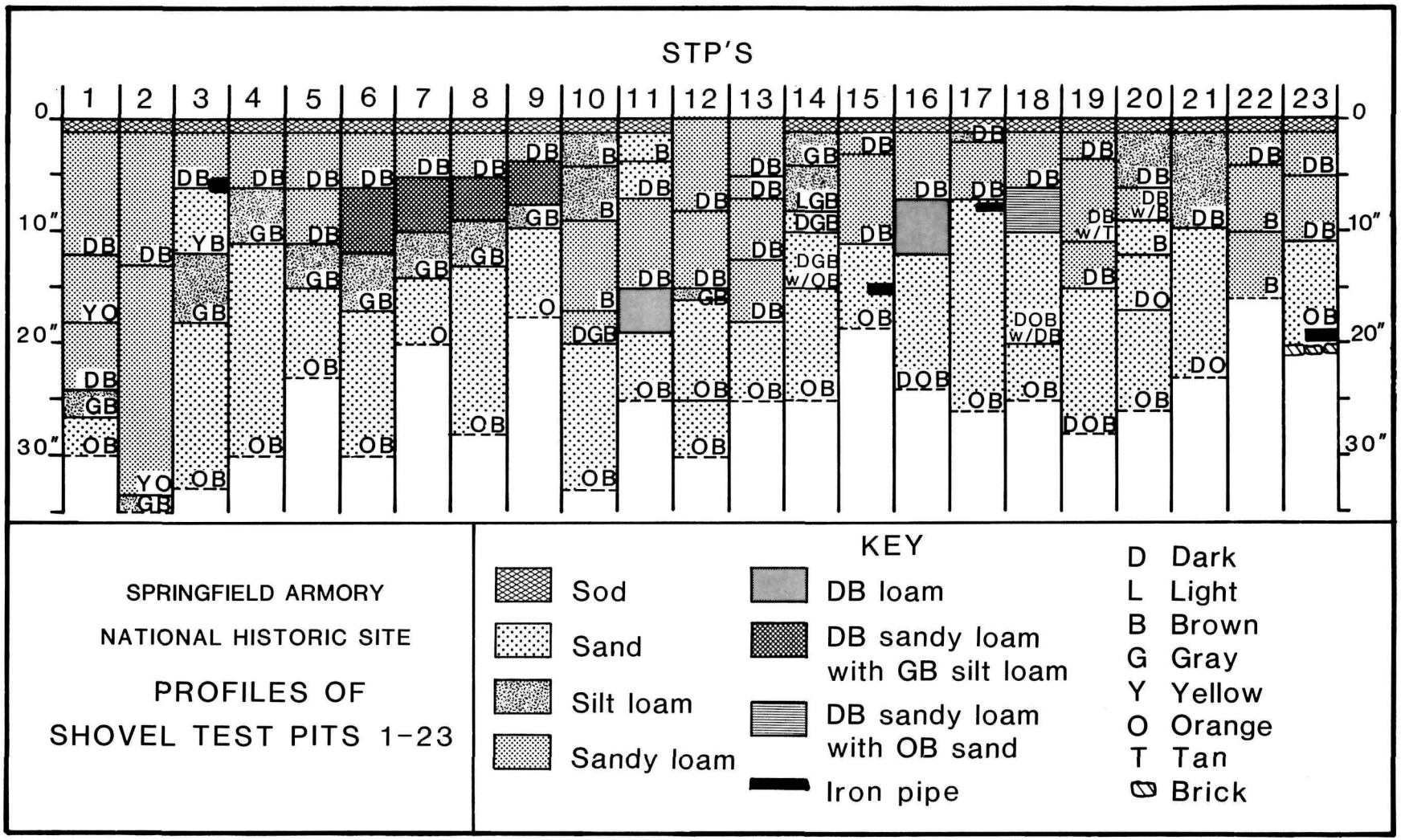

Figure 6. STP Stratigraphic Profiles (Catalog # SPAR 10399 and Fiero 1982a:Tables 2,3).

strategy employed may have altered the quantity of artifacts recovered from STPs 6-23 (Fiero 1982a:19), two distinctly different concentrations of material were identified and the material was analyzed accordingly. These two locations were identified as the area northeast of the commanding officers house (STPs 1-13), and the area adjacent to the commanding officer's house and the arsenal building (STPs 14-23) (Fiero 1982a:36).

The material recovered from STPs 1-13 represented 87% of the counted artifacts and 94.7% of the weighed material recovered from the site (Appendix 3). Redware was the most common ceramic type (composing 37.4% of the total ceramic vessel count, and 6.6% of the total number of artifacts) and was recovered from this area exclusively (Appendix 3). Due to the small size of these redware sherds, Fiero found that it was impossible to distinguish redware plant pots from other redware vessel types with certainty. However, she hypothesized that the majority of these sherds were remnants of flower pots, once used in the formal garden. She based this theory on the high concentration of redware sherds in this location, and the notable absence of these sherds in STPs 14-23 (Fiero 1982a:33). Since redware has a wide date range, and the few temporally diagnostic artifacts found in STPs 1-13 were mixed throughout the strata and dated to the early through late 19th century, it was impossible to arrive at a date for each stratum (Fiero 1982a:30,33).

In addition, a significant portion of bone, ceramics, glass, coal, and coal residue recovered from STPs 1-13 (all of which were small fragments) showed evidence of having been burned. Fiero determined that this material was incinerated refuse which was subsequently mixed with imported loam soil used to fill and regrade the area north of the commanding officer's house (Fiero 1982a:36).

In contrast, the area tested adjacent to the commanding officer's house and the arsenal building (STPs 14-23) contained very little burned material, and much less cultural material. Only 13% of the total number of artifacts and 5.3% of the total weighed material was recovered from this area (Appendix 3).

ACMP Project Methodology

Prior Condition of Collection

The Electrical Line Corridor collection was mailed from DSC to SPAR in October, 1982 (Fiero 1982b), and remained there until May, 1988, when it was transported to EAFL for ACMP processing. The collection was contained in one cardboard box and was comprised of cleaned, stabilized, and inventoried artifacts stored in plastic bags grouped by provenience. Each bag was tagged with a masking tape label denoting its provenience. Soil samples were taken from several test pits and analyzed at DSC during the inventory process (Fiero 1982a:23). These were also stored in separate polyethylene bags with masking tape provenience labels. Documentary material such as field notes, site map and graphics, black and white negatives and contact sheets, original artifact inventory sheets, and a chart showing artifact type distribution were stored with the collection inside a file folder.

The ACMP Provenience System

The provenience classifications and codes used in the ACMP inventory reflect those employed by Fiero (1982a; 1981). The shovel test pit number (abbreviated STP), and stratigraphic level (L) for the artifacts were derived from their original bag labels. Below surface depths for each level were added to the provenience designation and were derived from information in the field notes (e.g., STP 1 L1, 0-6") (Fiero 1981).

Collections Processing and Storage

The ACMP cataloging process began by organizing the material numerically according to provenience, and then separating material types within each provenience. The material was then examined and checked against the original artifact inventory sheets. Missing material, additional material, and changes in classification were noted on these forms in colored pencil to indicate ACMP staff documentation. A total number of artifacts (reflecting the number of artifacts originally cataloged by Fiero), and missing and additional artifact counts were noted on the top of these forms.

These categories were subsequently sorted into lots according to the ACMP artifact classification system (MacMahon 1988:13). Each lot was then assigned a catalog number following the sequential progression of artifact classes on the ACMP flow chart (Appendix 2). A separate ACMP worksheet was filled out for each lot detailing such information as artifact class, object name, counts or quantities, descriptive features, the storage box number, cataloger and catalog date. The range of assigned ACMP lot catalog

numbers was then recorded on the top of the original DSC inventory form for the corresponding material.

The artifacts from each lot were placed in resealable polyethylene bags accompanied by an acid-free tag designating the park acronym (SPAR), the collection accession number (46), the site name (Electrical Line Corridor), the provenience, and the catalog number for that lot. Polyethylene bags were used because they meet object conservation standards, are sturdy, and are transparent allowing visibility. Four sizes of bags were used to group artifacts according to their hierarchical typology (MacMahon 1988:13).

After bagging, artifacts were stored in acid-free Hollinger record storage boxes in catalog number and provenience order. Organic material (most commonly bone, shell, and wood) was separated from the inorganic material to allow for appropriate storage in a climate-controlled environment. Computer generated box labels were printed listing the Park acronym, the accession number, the site name, the box number, the catalog numbers stored within the box, and whether the contents were organic or inorganic. Because of the small size of the SPAR collection, the material was easily housed in two Hollinger boxes. Box one contained inorganic objects and box two contained organic material. These box numbers correspond with those listed on the catalog cards for each lot number, facilitating access to the material. The boxed artifacts and printed NPS catalog cards were returned to SPAR on January 12, 1989.

Collection Documentation Summary

Field notes and associated documentation are an integral component of an archeological collection, and should be cataloged and stored appropriately as part of collection processing. The documentation from the SPAR collection was sorted into several categories, cataloged, and stored in a file folder. These categories included field notes, field photographic records, field maps, and laboratory analysis records. These records were cataloged under the "History" classification as an "Archival/Manuscript Collection" (NPS 1984:D-18-20). Since oversized maps and sensitive material such as photographic negatives, prints, and original graphics composed part of the collection, this material was cataloged in separate lots to facilitate final storage appropriate to the material.

Field Notes: The field notes (catalog # SPAR 10397) itemized the range of material that was recovered and recorded from each test pit and strata. They documented the various soil color and composition descriptions along with depth readings for each stratum or level. Descriptions and measurements of features, notes

relating to field photographs, and general observations about the site were contained in the field notes.

Visual Documentation: Photographic negatives and a contact sheet were also included with the collection documentation (catalog # SPAR 10398). These provide a visual record of four of the features found on the site, and also document the location of the former greenhouse. Graphic documents, such as an oversized site map (plotting the location of the twenty-three test pits on the site), and test pit profiles (delineating the location of brick and pipe features) were cataloged within the category of Site Maps (catalog # SPAR 10399).

Analytical Material: Original inventory forms and a chart illustrating artifact type distribution across the site were included with the documentation (catalog # SPAR 10400).

ANCS and the SPAR Database

The Automated National Catalog System (ANCS) is a computerized cataloging program which was developed by the NPS Curatorial Services Division in Washington, D.C. (NPS 1987). Initially distributed in the summer of 1987, it is intended to be used in conjunction with the NPS Museum Handbook (1984) for the cataloging of all NPS collections. ANCS is a menu-driven system which was written using dBASE III Plus software (NPS 1984:v). It allows for the printing of NPS catalog cards (form 10-254, Rev. 7/84), and also creates data base files which can then be manipulated in dBASE III Plus for additional analytical purposes (MacMahon 1988:18).

All of the material from the Electrical Line Corridor survey was cataloged under the ANCS Archeology Classification, with the exception of the collection documentation (catalog numbers SPAR 10397-10400) which was classified under History. A total of 401 catalog cards were generated for the collection using the ANCS system, and these cards accompanied the collection when it was returned to the Park.

The SPAR database was stored in one file in ANCS format. This file, SPAR1.DBF, was archived onto floppy disks and was returned to the Park along with instructions on how to unarchive the file and use it in ANCS. Additional information about the actual contents of the database may be found in the Collection Summary section and Appendix 3 of this report.

Collection Summary

Artifact Collection Contents

The ACMP cataloged a total of 609 artifacts, 22 soil samples extracted from seven different STPs, and 2,319.5 gm of weighed material from SPAR Accession #46. With the exception of 1 prehistoric lithic, the material from the collection was overwhelmingly historic (99.8% of the counted material and 100% of the weighed material). The lithic, recovered from an upper level stratum in a disturbed context (STP 7, L1), was identified by ACMP staff as a flake made from saugus jasper and does not significantly alter Fiero's interpretation of the site.

The artifacts in the collection are generally small in size, and a significant portion of them showed evidence of having been burned. While bone (mainly mammal), composed nearly half of the counted artifactual material (46.3% of the total number), it should be also noted that most of this material was small and fragmentary. The majority of the remaining components consisted of ceramic vessel sherds (17.6%), miscellaneous material (17.4%), nails (6.6%) and window glass (6.2%). Structural material, mainly brick and mortar/plaster, formed the bulk of the weighed component of the collection at 88.8% of the total weight. Fuel/fire byproducts (5.8%), and shell (5.4%) composed the remainder of the weighed component (Appendix 3).

Documentation Problems

The project documentation was generally consistent and clear. The field notes provided the main source of documentation for material that was recovered from the site but not retained (e.g. large deposits of coal, slag, brick, and feature deposits) while the inventory forms provided a more detailed record of the types, quantity, and provenience of material which was collected from the site. Subsurface depths for each stratigraphic level were recorded in the field notes. Since this information was not duplicated on either the provenience tags or the inventory forms, the field notes were the primary and sole source for this provenience information.

Material was recorded systematically (either in the field notes or on inventory forms), with a few minor exceptions. There were two discrepancies between information recorded in the field notes and that which was presented in the final report with regard to features. Depth readings taken from the field notes for the two features found in STP 23 indicate that the utility pipe was located below the brick feature (Fiero 1981:61). According to both the profile for this test pit and the text of the final report, this relationship was reversed, with the brick feature located below the pipe (Fiero 1982a:29) (Figure 6). In addition, there is no

reference to the iron feature located in STP 17 in the text of the report. This feature is described as an iron pipe in the stratigraphic profile presented in the report (Fiero 1982a:25), while it is referred to as a ferrous ring in the field notes (Fiero 1981:58).

Occasionally, ACMP staff encountered material which appeared to have been overlooked by Fiero during the inventory process. However, the quantity of this material, as well as frequency of its occurrence, was very low. In all of these instances, the material had provenience tags and was processed by the ACMP along with the other material from the collection. Counts of this material were included in the ACMP tally of extra and missing artifacts (Appendix 4). In a few cases, additional bags containing numerous and minute fragments of mortar were located. These samples were listed in the comments column of the ACMP extra and missing artifacts tally (Appendix 4) as an additional bag of mortar, and were not added to the extra artifact count.

Soil samples were extracted from several strata and brought back to DSC where they were analyzed under uniform lighting conditions by Fiero (1982a:27). As it was Fiero's intention that these samples would be discarded at the end of the project, it can be assumed that they were never inventoried for this reason (1982a:27). These samples were present with the cultural material when the ACMP retrieved the collection, and therefore were cataloged with the rest of the collection as part of Accession #46. Fortunately, each sample had a provenience label attached to its bag so that it was possible to retrieve additional descriptive information relating to soil coloration and texture from the field notes.

Artifact Classification Differences

The artifact classification system employed by Fiero during inventory processing was in many ways similar to the ACMP classification. This facilitated the ACMP cataloging process, and aided in accounting for missing and additional items. However, there were some differences in both terminology and methodology which merit some discussion.

When the ACMP received the material, the glass was sorted in categories reflecting its physical characteristics (i.e. flat and non-flat categories) as a way of denoting function. With regard to morphology, glass sherds were identified as either body or diagnostic, though occasionally rim or base was noted within the diagnostic category. For each sherd, color was noted as the chief temporally diagnostic element. The ACMP cataloged this material with greater emphasis on object function, including such categories as bottle glass, drinking vessel, indeterminate vessel, and window glass. The ACMP also allowed for a broader range of

descriptive categories within object morphology (e.g., neck, base, shoulder, etc.). These sherds were then cataloged according to the method of manufacture, where it was discernable. Since the ACMP recognizes manufacturing technique and not glass color as being a significant diagnostic element, glass color was not included in the catalog.

Another significant difference appears to be in the way certain classes of material were quantified. Structural material (e.g., brick, mortar and plaster), as well as fire byproducts (e.g., slag, coal, ash, cinders, clinkers and charcoal), were counted by Fiero. Often a weight was also recorded for this material, but this was not done consistently. Brick was also sorted by Fiero according to differences in color and firing. The ACMP weighed this material, and made no distinction based on color or firing.

Missing and Additional Artifacts

As part of inventory control, the ACMP compared the number of artifacts in the collection during processing with the number recorded in Fiero's inventory. According to ACMP calculations, Fiero inventoried a total of 769 artifacts and of this number, 13 were missing and 136 were additional (Table 1).

The missing material consisted of small amounts of ceramics, bone, shell, stone, other synthetic and indeterminate mineral. The small numbers and distribution of this material seem to suggest that this absence was random.

Of the 136 additional artifacts, mortar and bone fragments represented the highest concentrations of these extra artifacts. One possible explanation for this is breakage during shipping and storage. Both mortar and bone (a good portion of the latter was burned) are fairly soft materials. It is also true that a small percentage of the mortar samples were not inventoried by Fiero and it is assumed that these were overlooked. In the cases where the size and quantity of the extra mortar samples could easily be counted, this was done and they were added to the extra count sum (Appendix 4). However, most often these extra samples consisted of bags of minute fragments making counting cumbersome and impractical. In these instances, they were simply recorded as an extra bag in the comments column of the ACMP extra and missing artifact tally (Appendix 4). They were then weighed for ACMP processing.

Soil samples were not added to the count, as they had never been inventoried by Fiero, though their presence was noted in the comments of the summary report (Appendix 4).

Table 1

SPAR Accession #46
Missing and Additional Artifact Counts by Material

Material	Fiero Total Count	ACMP Missing Count	ACMP Extra Count
Ceramic	111	1	5
Brick	50	--	2
Glass	60	--	4
Nails	20	--	3
Other Metal	21	--	9
Stone	39	1	7
Slate	10	--	--
Mortar/Plaster/Concrete	45	--	32
Coal/Ash	56	--	8
Cinders/Clinkers	3	--	14
Slag	19	2	--
Other Synthetic	7	1	1
Indeterminate Mineral	13	2	5
Bone	246	4	30
Shell	15	2	1
Wood	41	--	15
Other Vegetal	11	--	--
TOTAL	767	13	136

Summary

While no evidence of former architectural structures such as the schoolhouse, various residences, the commanding officer's ice house, or the two greenhouses were located, five features were uncovered on the site. Two ferrous pipes were located in STP 15 and STP 23, and determined to be utility pipes believed to have serviced the commanding officer's house and the arsenal (Fiero 1982a:29). A third ferrous feature, referred to as a pipe in the stratigraphic profile (Fiero 1982a:25), and as a ferrous ring in the field notes (Fiero 1981:58), was located in STP 17. A brick structure was found below the utility pipe in STP 23, and was identified as part of the storm drain system at the arsenal. Unfortunately, the scarcity of datable artifacts found in association with these three features made it impossible to date them with any certainty (Fiero 1982a:30). A fourth pipe was discovered in STP 3 and was determined to have been an upright feature. It may have functioned as a garden trellis, reflecting the use of this area as a formal garden, or as part of a goal post dating to the use of this area as a high school playing field in the late sixties and early seventies (Fiero 1982a:35).

The ACMP cataloged a total of 609 artifacts, 22 soil samples and 2,319.5 gm of weighed material from SPAR Accession #46. With the exception of one prehistoric flake, the material from both the counted and weighed components of the collection were predominantly historic. Bone, ceramic vessel sherds, miscellaneous material, nails, and window glass formed the main components of the counted material. Structural material, in particular brick and mortar/plaster, composed 88.8% of the weighed component of the collection. Fuel/fire byproducts (5.8%), and shell (5.4%) composed the remainder of the weighed component (Appendix 3).

In her analysis of the material recovered from the 23 STPs, Fiero concluded that the archeological data predominantly reflected landscaping and gardening activities, rather than activities specific to the Armory's function as either a weapons repository or a military training ground. Although it had been anticipated that features relating to the formal garden (such as paths and remains of two greenhouses formerly located in this area) would be encountered, Fiero discovered evidence of grounds maintenance activities. Fiero concluded that:

> The activities which dominate the distribution of artifacts and strata are the long history of grading and filling at the Armory, and the tradition of keeping the area around the commanding officer's quarters and arsenal cleared of trash--much to the dismay of archeologists (Fiero 1982a:37).

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Appendix 1

SPAR Accountability Project

Summary Table

Archeological Collections Accountability Project

PARK NAME: SPAR
(Acronym)

Site	Archeologist (Affiliation)	Date(s) Of Fieldwork	Report Reference	Artifact Inventory in Report (Y/N)	Provenience Data (Y/N)	Park Accession #	Accession Date	Acquisition Type	Catalog #'s
1) Electrical Line Corridor	Kathleen W. Fiero (DSC,NPS)	May 9-11 1981	Fiero 1982	Y	Y	Not Accessioned	--------	Field Collection	Not Cataloged
2)	American University	In Process							

PARK NAME: SPAR
(Acronym)

	Inventoried by ACMP	Estimated # Artifacts	Est. # Lots (Gross Material Types)	Estimated # of ACMP lots	Est. # Lots (Finest Breakdown)	Storage Location	Storage Containers	Artifacts sorted by	Documentation: Field Notes	Documentation: Maps	Documentation: Photos
1)	No	766	234	374	394	Upstairs Room Commandant's House	Plastic bags in 1 cardboard box	provenience	Yes in box)	Yes (in box)	Yes (in box)
2)											

Appendix 2

ACMP Catalog Flow Chart

CLASSIFICATION

ARCHEOLOGY (A)
HISTORIC (HI)
MINERAL (0001)
CERAMIC (02)

OBJECT NAME	DESCR1	DESCR2	MATERIAL
BODY SHERD(S) RIM SHERD(S) BASAL SHERD(S) HANDLE(S) LID/COVER(S) WHOLE VESSEL(S) (75%+) WHOLE VESSEL(S), RECONSTRUCTED PARTIAL VESSEL(S) (25-75%) PARTIAL VESSEL(S), RECONSTRUCTED	REDWARE TIN ENAMEL COARSE BUFF-BODY CREAMWARE PEARLWARE WHITEWARE WHIELDON WARE LUSTERWARE AGATEWARE ROCKINGHAM/BENNINGTON YELLOWARE UNIDENTIFIED EARTHENWARE	PLAIN, LEAD GLAZED 1 SURFACE, LEAD GLAZED 2 SURFACES, SGRAFFITO, TRAILED SLIPWARE, JACKFIELD, ASTBURY, OTHER (specify), UNIDENTIFIED DELFT, ROUEN/FAIENCE, OTHER (specify), UNIDENTIFIED COMBED WARE, DOTTED WARE, N. DEVON GRAVEL TEMPERED, MOTTLED, OTHER (specify), UNIDENTIFIED PLAIN, SHELL-EDGED, OTHER EDGE-DECORATED, HANDPAINTED, ANNULAR, TRANSFER-PRINTED, SPONGE/SPATTER-DECORATED, MOLDED, OTHER (specify), UNIDENTIFIED (as above for creamware) (as above for creamware)	EARTHENWARE
	PORCELAIN	UNDECORATED, UNDERGLAZE HANDPAINTED MONOCHROME (or POLYCHROME), OVERGLAZE HANDPAINTED MONOCHROME (or POLYCHROME), GILTED, TRANSFER-PRINTED, SPRIG-MOLDED, OTHER (specify), UNIDENTIFIED	PORCELAIN
	WHITE SALT GLAZED STONEWARE DRYBODY STONEWARE NOTTINGHAM BELLARMINE/FRECHEN WESTERWALD/RAEREN DOMESTIC STONEWARE UNIDENTIFIED STONEWARE	PLAIN, MOLDED (specify on DESCR3), SCRATCH BLUE, OTHER BLACK BASALTE, ROSSO ANTICO, OTHER, UNIDENTIFIED BLUE COBALT DECORATION	STONEWARE

DESCR3	DESCR4
(space to elaborate, e.g., FLOWER POT FRAGMENTS)	MAKER'S MARK = x (x = count) (not a separate lot)

CLASSIFICATION

ARCHEOLOGY (A)
HISTORIC (HI)
MINERAL (0001)
CERAMIC (02)

OBJECT NAME	DESCR1	DESCR2	DESCR3	MATERIAL
TOBACCO PIPE(S)	BOWL(S)	WITH STEM ATTACHED, XX BORE DIAMETER - x		KAOLIN (WHITE), RED CLAY, PORCELAIN, OTHER (specify)
	STEM(S), 4-9/64 BORE DIAMETER, INDETERMINATE BORE DIAMETER	MOLDED DECORATION = x	MAKER'S MARK = x	
BOTTLE CLOSURE(S)				specify ceramic type
BUTTON(S)	1 (or 2)-PIECE CAST; 2, 3 or 4-PIECE STAMPED; STAMPED; MOLDED; OTHER (specify); UNIDENTIFIED			
BUCKLE(S)				
OTHER FASTENER(S) (specify)				
specific Household/ Personal objects (*see p.13)				
STRUCTURAL MATERIAL	specify object (SEWER TILE, e.g.) (leave blank for brick)			EARTHENWARE, STONEWARE BRICK [weight, grams]

INDETERMINATE CERAMIC OBJECT

ACMP CATALOG FLOW CHART

CLASSIFICATION

ARCHEOLOGY (A)
HISTORIC (HI)
MINERAL (0001)
GLASS (05)

OBJECT NAME		DESCR1	DESCR2	DESCR3
BODY SHERD(S), NECK SHERD(S), BASAL SHERD(S), BASAL/STEM SHERD(S), STEM SHERD(S) HANDLE(S), RIM SHERD(S), LID/COVER(S), WHOLE VESSEL(S) (75%+), WHOLE VESSEL(S), RECONSTRUCTED, PARTIAL VESSEL(S) (25-75%), PARTIAL VESSEL(S)0 RECONSTRUCTED,	BOTTLE DRINKING VESSEL INDETERMINATE VESSEL	FREEBLOWN MOLDED INDETERMINATE	CONTACT MOLDED PATTERN MOLDED PRESS MOLDED OPTIC MOLDED MACHINE MADE MANUFACTURE	DIP MOLD 2-PIECE MOLD 2, 3, OR 4-PIECE MOLD WITH SEPARATE BASE SHOULDER-HEIGHT MULTI-PIECE MOLD RICKETTS MOLD TURN/PASTE MOLD MOLDED NECK WITH HAND-FINISHED LIP APPLIED COLOR LABEL
WINDOW GLASS SHERD(S)		CROWN/CYLINDER PLATE INDETERMINATE		
BOTTLE CLOSURE(S)				
BUTTON(S)		1 (or 2)-PIECE CAST; 2, 3 or 4-PIECE STAMPED; MOLDED; OTHER (specify); UNIDENTIFIED		
BUCKLE(S)				
OTHER FASTENER(S)				
specific Household/Personal Objects (*see p.13)		(specify object)		
e.g., LIGHTING FIXTURE(S)		LAMP CHIMNEY FRAGMENT(S)		
e.g., KITCHENWARE		JAR, MASON JAR, FOOD JAR, INDETERMINATE FUNCTION JAR, (specify)		
e.g., TOILETRIES		JAR, (specify)		
INDETERMINATE GLASS				

DESCR4

EMBOSSED BODY = x (x = count)
(not a separate lot)

DESCR5

MAKER'S MARK = x (x = count)
(not a separate lot)

MATERIAL

GLASS
MILKGLASS

CLASSIFICATION

ARCHEOLOGY (A)
HISTORIC (HI)
MINERAL (0001)
METAL (04)

OBJECT NAME	DESCR1	DESCR3
BOTTLE CLOSURE(S)		MAKER'S MARK = x (x=count)
BUTTON(S)	(see ceramics sheet)	
BUCKLE(S)		
specific Household/ Personal Objects (*see p.13)	(specify object)	
NAIL(S)	HAND WROUGHT MACHINE CUT INDETERMINATE MACHINE CUT (1795-1850) MACHINE CUT (1840-1885) WIRE INDETERMINATE	
SCREW(S)	HAND WROUGHT MACHINE CUT INDETERMINATE	
STAPLE(S) BOLT(S) STRUCTURAL MATERIAL		
		DESCR3
WINDOW HARDWARE DOOR HARDWARE ELECTRICAL HARDWARE PLUMBING HARDWARE LIGHTING/HEATING HARDWARE HAND TOOL(S) MACHINE PART(S) DOMESTIC ANIMAL GEAR TRANSPORTATION OBJECT(S) WEAPONRY/ACCOUTREMENTS MISCELLANEOUS HARDWARE [do all as one lot]	(specify object) (e.g.: SPIKES-2, BRASS RING-1)	RESIDUE FROM (specify object name) = x GM (x = wt. in grams), (put in same lot as object)
INDETERMINATE METAL OBJECT(S) RESIDUE (wt. in grams)		

MATERIAL

specific metals: FERROUS, COPPER, COPPER ALLOY, BRASS, LEAD, TIN, PEWTER, SILVER, INDETERMINATE, etc.

CLASSIFICATION

ARCHEOLOGY (A)
HISTORIC (HI)
MINERAL (0001)
STONE (01)

OBJECT NAME	DESCR1	MATERIAL
STRUCTURAL MATERIAL	ROOFING TILE (e.g.)	SLATE (e.g.)
specific Tools/Hardware Objects (***see p.13)		
GUNFLINT(S)	ROUNDED HEEL RECTANGULAR HEEL POSSIBLE GUNFLINT MANUFACTURE FLAKE (specify other)	(specify)
GROUNDSTONE	PESTLE MORTAR	
WORKED STONE UNWORKED STONE		

MINERAL
SYNTHETIC (06)

OBJECT NAME	DESCR1	MATERIAL
BOTTLE CLOSURE(S)		PLASTIC, RUBBER, ASPHALT, NYLON, (specify other)
CLOTHING	(specify object?)	
FOOTWEAR	(" ")	
BUTTON(S)	(see ceramics sheet)	
specific Household/ Personal Objects (*see p.13)	(specify object)	
STRUCTURAL MATERIAL		
specific Tools/Hardware Objects (***see p.13)		
MACADAM		SYNTHETIC
LINOLEUM FRAGMENTS		LINOLEUM
INDETERMINATE SYNTHETIC OBJECT(S)		(specify or INDETERMINATE)

CLASSIFICATION

ARCHEOLOGY (A)
HISTORIC (HI)
MINERAL (0001)
OTHER MINERAL (07)

OBJECT NAME	DESCR1	MATERIAL
STRUCTURAL MATERIAL [use weight in grams]		MORTAR/PLASTER, CONCRETE
PAINT CHIP(S) [use weight in grams]	(specify color)	PAINT
COAL [use weight in grams]		COAL
CINDERS/CLINKERS [use weight in grams]		CINDERS/CLINKERS
BOG IRON [use weight in grams]		BOG IRON
SLAG [use weight in grams]		SLAG
COMPOSITE FIRE BYPRODUCTS [use weight in grams]		(leave blank)
INDETERMINATE MINERAL OBJECT		(specify or INDETERMINATE)

MINERAL
CLAY/MUD/SOIL (03)

OBJECT NAME	
SOIL SAMPLE(S)	SOIL

CLASSIFICATION

ARCHEOLOGY (A)
HISTORIC (HI)
VEGETAL (0002)
WOOD (10)

OBJECT NAME	DESCR1	MATERIAL
BOTTLE CLOSURE(S)	(specify object)	WOOD, CORK
specific Household/Personal Objects (*see p.13)	↓	↓
STRUCTURAL MATERIAL		
specific Tools/Hardware (***see p.13)		
SPECIMEN (UNWORKED) [use wt. in grams if fragmentary]		
WOOD SAMPLE(S)		
CHARCOAL [use weight in grams]		CHARCOAL
ASH		ASH

VEGETAL
FIBERS (11)

OBJECT NAME	DESCR1	MATERIAL
CLOTHING	(specify object)	COTTON
specific Household/Personal Objects (*see p.13)	↓	WOOL
STRUCTURAL MATERIAL		
specific Tools/Hardware (***see p.13)		
INDETERMINATE TEXTILE(S)		FIBER

VEGETAL
PAPER (13)

OBJECT NAME
(specify object, e.g. wallpaper fragment)

VEGETAL
OTHER PLANT MATERIALS (14)

OBJECT NAME	DESCR1	MATERIAL
SEED(S)	(specify if possible)	VEGETAL
NUTSHELL(S)	(specify if possible, e.g., walnut)	NUTSHELL
FLOTATION SAMPLE(S)		(leave blank)
INDETERMINATE VEGETAL MATERIAL		

CLASSIFICATION

ARCHEOLOGY (A)
HISTORIC (HI)
ANIMAL (0003)
SHELL/CORAL (20)

OBJECT NAME	DESCR1	DESCR2
BUTTON(S)		
specific Household/ Personal Objects (*see p.13)		
SPECIMEN (UNWORKED) [weight in grams]	BIVALVE UNIVALVE INDETERMINATE SHELL CORAL	species (**see p.13)

ARCHEOLOGY
HISTORIC
ANIMAL
BONE/IVORY (21)

OBJECT NAME	DESCR1	DESCR2
BUTTON(S)		
specific Household/ Personal Objects (*see p.13)		
specific Tools/ Hardware Objects (***see p.13)		
SPECIMEN (UNWORKED)	FISH, MAMMAL, BIRD, INDETERMINATE specify other	DIAGNOSTIC UNDIAGNOSTIC TOOTH

ARCHEOLOGY
HISTORIC
ANIMAL
HIDE/HAIR (23)

OBJECT NAME	DESCR1	MATERIAL
CLOTHING	(specify object)	LEATHER
FOOTWEAR		FUR
BUTTON(S)		HAIR
specific Household/ Personal Objects (*see p.13)		
specific Tools/ Hardware Objects (***see p.13)		
INDETERMINATE LEATHER		

ACMP CATALOG FLOW CHART

11/88

CLASSIFICATION

ARCHEOLOGY (A)
HISTORIC (or PREHISTORIC) (HI or PR)
HUMAN REMAINS (0004)
OSTEOLOGICAL (30)

OBJECT NAME

TOOTH
BONE (and type)

CLASSIFICATION

ARCHEOLOGY (A)
PREHISTORIC (PR)
MINERAL (0001)
STONE (01)

OBJECT NAME	DESCR1	DESCR2	DESCR3**
FIRE-CRACKED ROCK [wt. in grams]			
GROUNDSTONE	PESTLE MORTAR (specify other)		
CHIPPED STONE	PROJECTILE POINT(S)	(specify point type)* INDETERMINATE INDETERMINATE	BASAL FRAGMENT POSSIBLE (specify type)
	BIFACE(S)	BIFACIAL IMPLEMENT BLADE*; EDGE TOOL*	BASAL FRAGMENT; TIP FRAGMENT; MIDSECTION FRAGMENT; REWORKED POINT; SHAPE*
	UNIFACE(S)	EDGE TOOL*	SHAPE*
	CORE(S) SHATTER/BLOCK DECORTICATION FLAKE(S) FLAKE(S) TRIM FLAKE(S)		

MATERIAL

FELSITE, QUARTZITE, QUARTZ, SAUGUS JASPER, CHERT, ARGILLITE, OTHER, UNKNOWN

ARCHEOLOGY
PREHISTORIC
MINERAL
CERAMIC (02)

OBJECT NAME	DESCR1	DESCR2
BODY SHERD(S) RIM SHERD(S) BASAL SHERD(S)	(specify temper)	(specify surface decoration)

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* Refer to MHC Artifact Classification System (1984:140-145); also see p.13 of this document.

CLASSIFICATION

ARCHEOLOGY (A)
PREHISTORIC (PR)
ANIMAL (0003)
SHELL/CORAL (20)

OBJECT NAME	DESCR1
specify object	
SPECIMEN (UNWORKED)	(see Historic/Shell sheet)

ARCHEOLOGY
PREHISTORIC
ANIMAL
BONE/IVORY (21)

OBJECT NAME	DESCR1
TOOTH	
specify object	
SPECIMEN (UNWORKED)	(see Historic/Bone sheet)

ARCHEOLOGY
PREHISTORIC
ANIMAL
ANTLER/HORN (22)

OBJECT NAME

specify object
SPECIMEN (UNWORKED)

CLASSIFICATION

ARCHEOLOGY (A)
PREHISTORIC (PR)
VEGETAL (0002)
WOOD (10)

OBJECT NAME	MATERIAL
CHARCOAL	CHARCOAL
C-14 SAMPLES	
(specify other)	

ARCHEOLOGY
PREHISTORIC
VEGETAL
OTHER PLANT MATERIALS (14)

OBJECT NAME

FOOD REMAINS
FOOD REMAINS, BURNED

ARCHEOLOGY
HISTORIC or PREHISTORIC or UNKNOWN (UN)
UNIDENTIFIED MATERIAL (0005)
UNIDENTIFIED (40)

OBJECT NAME	MATERIAL
UNIDENTIFIED OBJECT	INDETERMINATE

OBJECT NAMES FOR
HOUSEHOLD AND PERSONAL OBJECTS*

TABLEWARE
KITCHENWARE
FURNITURE AND HARDWARE
LIGHTING FIXTURE(S)
DECORATIVE OBJECT(S)
TOILETRIES
STATIONERY
COINS/TOKENS/MEDALS
PERSONAL OBJECT(S)
TOY(S)

OBJECT NAMES FOR
TOOLS AND HARDWARE***

OTHER BUILDERS' HARDWARE
WINDOW HARDWARE
DOOR HARDWARE
ELECTRICAL HARDWARE
PLUMBING HARDWARE
LIGHTING/HEATING HARDWARE
HAND TOOL(S)
MACHINE PART(S)
DOMESTIC ANIMAL GEAR
TRANSPORTATION OBJECT(S)
WEAPONRY/ACCOUTREMENTS
COMMERCIAL EQUIPMENT

UNIVALVES**

BUSYCON CANALICULATUM
CREPIDULA FORNICATA
NASSARIUS OBSOLETUS
POLINICES DUPLICATUS
UROSALPINX CINEREA
OTHER GASTROPODS
INDETERMINATE UNIVALVE

BIVALVES**

MERCENARIA MERCENARIA
CRASSOSTREA VIRGINICA
MYA ARENARIA
ENSIS DIRECTUS
ARGOPECTEN IRRADIANS
SPISULA SOLIDISSIMA
MYTILUS EDULIS
MODIOLUS MODIOLUS
OTHER MARINE BIVALVES
INDETERMINATE BIVALVES

CATALOG NOTES

CERAMICS

Lead Glazed Redwares: At times, most often with rim sherds, a LEAD GLAZED 1 SURFACE vessel will also exhibit patches of glaze on the rim or exterior of the vessel. In these cases the cataloger may not know whether to classify the sherd as LEAD GLAZED 1 SURFACE or TWO SURFACES. The cataloger should be able to see enough of the exterior to determine that the vessel was actually glazed only on the interior, and that the exterior was not intentionally glazed. Thus, even though there may be small sections of glaze on the exterior, the sherd should be classified as LEAD GLAZED 1 SURFACE.

Other Edge-Decorated: This classification appears in DESCR2, and may be substituted with an actual pattern name if the pattern can be identified in Noel Hume (1980:116) (e.g., BEAD AND REEL PATTERN). If the pattern cannot be identified, DESCR2 should say OTHER EDGE-DECORATED, and DESCR3 may be used to describe the pattern (e.g., BLUE-BANDED RIM).

CERAMICS OR GLASS

Crossmends: Sherds which crossmend with other sherds in different lots should be noted on DESCR3 or DESCR4 if necessary. The notation should begin with the word CROSSMENDS, followed by the number of sherds in parentheses, and the catalog number containing the sherds from the same vessel:

CROSSMENDS (2) WITH CAT. #4598

The crossmend should also be noted on the catalog card for Cat. No. 4598 (in this example).

Crossmends can also be noted within a lot as follows:

CROSSMENDS (2)

Rims/Bases: When a sherd exhibits attributes of either a rim or a base, but the distinction is not clear, the sherd should be classified as BODY SHERD since this category also contains undiagnostic sherds.

Whole Vessel/Partial Vessel: These categories may be defined as follows:

WHOLE VESSEL - at least 75% of the vessel
PARTIAL VESSEL - between 25% and 75% of the vessel

Multiple vessels may be cataloged in one lot.

Whole Vessel/Partial Vessel, Reconstructed: Reconstructed vessels may be defined as either whole or partial vessels which have been

reconstructed (usually glued together) during earlier projects, or vessels which are represented by a number of crossmended sherds but which have not been physically glued together. In all cases, the Item Count field should equal the total number of sherds in the reconstructed vessel. Each vessel should have its own catalog number (catalog lot), with all sherds cataloged in that lot and bagged together. Thus these vessels are treated differently from the one-piece Whole and Partial Vessels, which can have multiple vessels per lot. This is because the Item Count for reconstructed vessels equals the total number of sherds (vs. number of vessels), thus requiring separate lots to differentiate between vessels.

GLASS

Vessel Glass: Our vessel glass classification system is actually a little redundant in that all types listed in DESCR2 with CONTACT MOLDED are contact molded themselves. The category CONTACT MOLDED should be used for any sherds that can be further identified on DESCR3, as well as for sherds which cannot be classified as to DESCR3 mold type or as belonging to another DESCR2 category (e.g., whether they are machine-made). In other words, a sherd should never be classified as just MOLDED. At minimum, it should be MOLDED/CONTACT MOLDED, unless another DESCR2 attribute can be determined (e.g., MOLDED/MACHINE MADE MANUFACTURE).

METAL

Machine Cut Nails: It is often difficult to determine whether a machine cut nail is of the early or late manufacturing type. The primary classification choice will therefore be MACHINE CUT INDETERMINATE. The cataloger should feel confident that positive attributes are clearly evident before classifying a machine cut nail as either early or late. In other words, don't hesitate to use the Indeterminate category unless absolutely certain that the nail can be further identified.

Indeterminate Metal Objects: This category includes both objects which cannot be identified due to their state of corrosion and objects which may be identifiable but could not be identified by project staff given limited expertise and reference materials. Objects which could not be identified but which are clearly hardware of some sort should be classified as MISCELLANEOUS HARDWARE.

Residue: This category refers to unidentifiable metal fragments which are less that 1/2 inch in size, and which appear to be corrosion from objects in the collection. If such fragments are greater than 1/2 inch, they are classified as Indeterminate Metal Objects. Residue is used either as an Object Name (if the fragments were not associated with a specific object or lot of objects), or on the third Description line of the catalog record if they can be associated with that particular object or group of objects.

WOOD

Counts vs. Weights: Wood pieces should be counted if it seems "reasonable" to count them. For example, obvious structural fragments or pieces of tools or intact wooden objects should be counted. On the other hand, if the wood consists of small or decaying fragments, these should be weighed and the weight in grams noted on the catalog card. Weights as well as counts should be included in final collection totals.

PREHISTORIC CHIPPED STONE

MHC Typology: We are using a limited version of the stone tool typology developed by the Massachusetts Historical Commission (1984). This includes the classification of projectile point types, as well as the identification of unifaces as edge tools and bifaces as either edge tools or bifacial implement blades. These terms are explained in the MHC manual (pp. 140-147), and can be briefly summarized as follows:

BIFACE/BIFACIAL IMPLEMENT BLADE: This category is used for any lithic artifact which is bifacially modified around the entire periphery, but which exhibits both a length equal to or greater than 4cm, and a thickness of less than or equal to 1.5cm.

BIFACE/EDGE TOOL: There are three possibilities within this category. The lithic artifact may be:
(1) bifacially modified along at least one edge;
(2) bifacially modified around entire periphery and of any length but more than 1.5cm thick;
(3) bifacially modified around entire periphery and of any thickness but less than 4cm long.

The primary distinction between a bifacial implement blade and an edge tool is thus the size of the artifact, both in length and thickness.

Appendix 3

SPAR Accession #46

Summary Artifact Inventory

SPAR ACCESSION No. 46: SUMMARY ARTIFACT INVENTORY

	QUANTITY ARTIFACTS STP 1-13		PERCENT BY TOTAL ARTIFACTS STP 1-13		QUANTITY ARTIFACTS STP 14-23		PERCENT BY TOTAL ARTIFACTS STP 14-23		QUANTITY ARTIFACTS SITE TOTAL		PERCENT BY ARTIFACT TYPE		PERCENT BY ARTIFACT CLASS		PERCENT BY HISTORIC ARTIFACTS		PERCENT BY PREHISTORIC ARTIFACTS		PERCENT BY TOTAL ARTIFACTS	
	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %
HISTORIC ARTIFACTS																				
CERAMIC VESSEL																				
REDWARE																				
PLAIN	24	0.0			0	0.0			24	0.0	60.0%		22.4%							
LEAD GLAZED 1 SURFACE	8	0.0			0	0.0			8	0.0	20.0%		7.5%							
LEAD GLAZED 2 SURFACES	4	0.0			0	0.0			4	0.0	10.0%		3.7%							
SGRAFFITO	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
TRAILED SLIPWARE	3	0.0			0	0.0			3	0.0	7.5%		2.8%							
JACKFIELD	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
ASTBURY	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
ALL OTHER	1	0.0			0	0.0			1	0.0	2.5%		0.9%							
TOTAL REDWARE	40	0.0	6.6%	0.0%	0	0.0	0.0%	0.0%	40	0.0	100.0%		37.4%						6.6%	
TOTAL TIN ENAMEL	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0	0.0%		0.0%						0.0%	
TOTAL COARSE BUFF-BODY	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0	0.0%		0.0%						0.0%	
CREAMWARE																				
PLAIN	19	0.0			3	0.0			22	0.0	100.0%		20.6%							
SHELL-EDGED	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
OTHER EDGE-DECORATED	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
HANDPAINTED	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
ANNULAR	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
TRANSFER-PRINTED	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
SPONGE-DECORATED	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
ALL OTHER	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
TOTAL CREAMWARE	19	0.0	3.1%	0.0%	3	0.0	0.5%	0.0%	22	0.0	100.0%		20.6%						3.6%	
PEARLWARE																				
PLAIN	12	0.0			4	0.0			16	0.0	84.2%		15.0%							
SHELL-EDGED	0	0.0			0	0.0			0	0.0	0.0%		0.0%							

SPAR ACCESSION No. 46: SUMMARY ARTIFACT INVENTORY

	QUANTITY ARTIFACTS STP 1-13		PERCENT BY TOTAL ARTIFACTS STP 1-13		QUANTITY ARTIFACTS STP 14-23		PERCENT BY TOTAL ARTIFACTS STP 14-23		QUANTITY ARTIFACTS SITE TOTAL		PERCENT BY ARTIFACT TYPE		PERCENT BY ARTIFACT CLASS		PERCENT BY HISTORIC ARTIFACTS		PERCENT BY PREHISTORIC ARTIFACTS		PERCENT BY TOTAL ARTIFACTS	
	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %
OTHER EDGE-DECORATED	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
HANDPAINTED	0	0.0			1	0.0			1	0.0	5.3%		0.9%							
ANNULAR	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
TRANSFER-PRINTED	1	0.0			0	0.0			1	0.0	5.3%		0.9%							
SPONGE-DECORATED	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
ALL OTHER	1	0.0			0	0.0			1	0.0	5.3%		0.9%							
TOTAL PEARLWARE	14	0.0	2.3%	0.0%	5	0.0	0.8%	0.0%	19	0.0	100.0%		17.8%						3.1%	
WHITEWARE																				
PLAIN	9	0.0			1	0.0			10	0.0	58.8%		9.3%							
SHELL-EDGED	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
OTHER EDGE-DECORATED	1	0.0			0	0.0			1	0.0	5.9%		0.9%							
HANDPAINTED	1	0.0			0	0.0			1	0.0	5.9%		0.9%							
ANNULAR	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
TRANSFER-PRINTED	4	0.0			0	0.0			4	0.0	23.5%		3.7%							
SPONGE-DECORATED	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
ALL OTHER	1	0.0			0	0.0			1	0.0	5.9%		0.9%							
TOTAL WHITEWARE	16	0.0	2.6%	0.0%	1	0.0	0.2%	0.0%	17	0.0	100.0%		15.9%						2.8%	
OTHER EARTHENWARE																				
WHIELDON WARE	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
LUSTERWARE	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
AGATEWARE	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
ROCKINGHAM/BENNINGTON	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
YELLOWARE	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
ALL OTHER	6	0.0			1	0.0			7	0.0	100.0%		6.5%							
TOTAL OTHER EARTHENWARE	6	0.0	1.0%	0.0%	1	0.0	0.2%	0.0%	7	0.0	100.0%		6.5%						1.1%	
TOTAL PORCELAIN	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0	0.0%		0.0%						0.0%	

SPAR ACCESSION No. 46: SUMMARY ARTIFACT INVENTORY

	QUANTITY ARTIFACTS STP 1-13		PERCENT BY TOTAL ARTIFACTS STP 1-13		QUANTITY ARTIFACTS STP 14-23		PERCENT BY TOTAL ARTIFACTS STP 14-23		QUANTITY ARTIFACTS SITE TOTAL		PERCENT BY ARTIFACT TYPE		PERCENT BY ARTIFACT CLASS		PERCENT BY HISTORIC ARTIFACTS		PERCENT BY PREHISTORIC ARTIFACTS		PERCENT BY TOTAL ARTIFACTS	
	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %
TOTAL WHITE SALT-GLAZED STONEWARE	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0	0.0%		0.0%						0.0%	
TOTAL DRYBODY STONEWARE	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0	0.0%		0.0%						0.0%	
OTHER STONEWARE																				
NOTTINGHAM	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
BELLARMINE/FRECHEN	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
WESTERWALD/RAEREN	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
DOMESTIC	0	0.0			1	0.0			1	0.0	50.0%		0.9%							
ALL OTHER	1	0.0			0	0.0			1	0.0	50.0%		0.9%							
TOTAL OTHER STONEWARE	1	0.0	0.2%	0.0%	1	0.0	0.2%	0.0%	2	0.0	100.0%		1.9%						0.3%	
TOTAL CERAMIC VESSEL	96	0.0	15.8%	0.0%	11	0.0	1.8%	0.0%	107	0.0			100.0%		17.6%				17.6%	
TOBACCO PIPE																				
WHITE CLAY																				
BOWLS	0	0.0			1	0.0			1	0.0	100.0%		100.0%							
STEMS: 4/64	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
5/64	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
6/64	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
7/64	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
8/64	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
9/64	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
INDET.	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
TOTAL WHITE CLAY	0	0.0	0.0%	0.0%	1	0.0	0.2%	0.0%	1	0.0	100.0%		100.0%						0.2%	
ALL OTHER	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0	0.0%		0.0%						0.0%	
TOTAL TOBACCO PIPE	0	0.0	0.0%	0.0%	1	0.0	0.2%	0.0%	1	0.0			100.0%		0.2%				0.2%	

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	QUANTITY ARTIFACTS STP 1-13		PERCENT BY TOTAL ARTIFACTS STP 1-13		QUANTITY ARTIFACTS STP 14-23		PERCENT BY TOTAL ARTIFACTS STP 14-23		QUANTITY ARTIFACTS SITE TOTAL		PERCENT BY ARTIFACT TYPE		PERCENT BY ARTIFACT CLASS		PERCENT BY HISTORIC ARTIFACTS		PERCENT BY PREHISTORIC ARTIFACTS		PERCENT BY TOTAL ARTIFACTS	
	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %
BOTTLE GLASS																				
FREEBLOWN	0	0.0			2	0.0			2	0.0			14.3%							
CONTACT MOLDED	6	0.0			1	0.0			7	0.0			50.0%							
PATTERN MOLDED	0	0.0			0	0.0			0	0.0			0.0%							
PRESS MOLDED	0	0.0			0	0.0			0	0.0			0.0%							
OPTIC MOLDED	0	0.0			0	0.0			0	0.0			0.0%							
MACHINE MADE	0	0.0			0	0.0			0	0.0			0.0%							
ALL OTHER	4	0.0			1	0.0			5	0.0			35.7%							
TOTAL BOTTLE GLASS	10	0.0	1.6%	0.0%	4	0.0	0.7%	0.0%	14	0.0			100.0%		2.3%				2.3%	
TOTAL DRINKING VESSEL GLASS	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0			0.0%		0.0%				0.0%	
INDETERMINATE VESSEL GLASS																				
FREEBLOWN	0	0.0			0	0.0			0	0.0			0.0%							
MOLDED	1	0.0			0	0.0			1	0.0			20.0%							
INDETERMINATE	2	0.0			2	0.0			4	0.0			80.0%							
TOTAL INDET. VESSEL GLASS	3	0.0	0.5%	0.0%	2	0.0	0.3%	0.0%	5	0.0			100.0%		0.8%				0.8%	
TOTAL BOTTLE CLOSURES	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0			0.0%		0.0%				0.0%	
TOTAL APPAREL	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0			0.0%		0.0%				0.0%	
HOUSEHOLD & PERSONAL OBJECTS																				
TABLEWARE	0	0.0			0	0.0			0	0.0			0.0%							
KITCHENWARE	0	0.0			0	0.0			0	0.0			0.0%							
FURNITURE & HARDWARE	0	0.0			0	0.0			0	0.0			0.0%							
LIGHTING FIXTURES	0	0.0			0	0.0			0	0.0			0.0%							
DECORATIVE OBJECTS	2	0.0			0	0.0			2	0.0			66.7%							
TOILETRIES	0	0.0			0	0.0			0	0.0			0.0%							
STATIONERY	0	0.0			0	0.0			0	0.0			0.0%							
COINS/TOKENS/MEDALS	0	0.0			0	0.0			0	0.0			0.0%							

SPAR ACCESSION No. 46: SUMMARY ARTIFACT INVENTORY

	QUANTITY ARTIFACTS STP 1-13		PERCENT BY TOTAL ARTIFACTS STP 1-13		QUANTITY ARTIFACTS STP 14-23		PERCENT BY TOTAL ARTIFACTS STP 14-23		QUANTITY ARTIFACTS SITE TOTAL		PERCENT BY ARTIFACT TYPE		PERCENT BY ARTIFACT CLASS		PERCENT BY HISTORIC ARTIFACTS		PERCENT BY PREHISTORIC ARTIFACTS		PERCENT BY TOTAL ARTIFACTS	
	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %
PERSONAL OBJECTS	0	0.0			0	0.0			0	0.0			0.0%							
TOYS	0	0.0			1	0.0			1	0.0			33.3%							
TOTAL HOUSEHOLD & PERSONAL OBJ	2	0.0	0.3%	0.0%	1	0.0	0.2%	0.0%	3	0.0			100.0%		0.5%				0.5%	
WINDOW GLASS																				
CROWN/CYLINDER	0	0.0			0	0.0			0	0.0			0.0%							
PLATE	33	0.0			2	0.0			35	0.0			92.1%							
INDETERMINATE	3	0.0			0	0.0			3	0.0			7.9%							
TOTAL WINDOW GLASS	36	0.0	5.9%	0.0%	2	0.0	0.3%	0.0%	38	0.0			100.0%		6.3%				6.2%	
NAILS																				
HAND WROUGHT	0	0.0			1	0.0			1	0.0			2.5%							
MACHINE CUT INDETERMINATE	8	0.0			8	0.0			16	0.0			40.0%							
MACHINE CUT I	0	0.0			0	0.0			0	0.0			0.0%							
MACHINE CUT II	0	0.0			0	0.0			0	0.0			0.0%							
WIRE	1	0.0			0	0.0			1	0.0			2.5%							
INDETERMINATE	20	0.0			2	0.0			22	0.0			55.0%							
TOTAL NAILS	29	0.0	4.8%	0.0%	11	0.0	1.8%	0.0%	40	0.0			100.0%		6.6%				6.6%	
OTHER FASTENING DEVICES																				
SCREWS	0	0.0			2	0.0			2	0.0			100.0%							
STAPLES	0	0.0			0	0.0			0	0.0			0.0%							
BOLTS	0	0.0			0	0.0			0	0.0			0.0%							
TOTAL OTHER FASTENING DEVICES	0	0.0	0.0%	0.0%	2	0.0	0.3%	0.0%	2	0.0			100.0%		0.3%				0.3%	
STRUCTURAL MATERIAL																				
BRICK	0	1327.6			0	51.8			0	1379.4			0.0%	67.0%						
MORTAR/PLASTER	0	145.6			0	13.8			0	159.4			0.0%	7.7%						
STONE	1	0.0			1	0.0			2	0.0			40.0%	0.0%						
EARTHENWARE/STONEWARE	0	0.0			0	0.0			0	0.0			0.0%	0.0%						
PORCELAIN	0	0.0			0	0.0			0	0.0			0.0%	0.0%						

SPAR ACCESSION No. 46: SUMMARY ARTIFACT INVENTORY

	QUANTITY ARTIFACTS STP 1-13		PERCENT BY TOTAL ARTIFACTS STP 1-13		QUANTITY ARTIFACTS STP 14-23		PERCENT BY TOTAL ARTIFACTS STP 14-23		QUANTITY ARTIFACTS SITE TOTAL		PERCENT BY ARTIFACT TYPE		PERCENT BY ARTIFACT CLASS		PERCENT BY HISTORIC ARTIFACTS		PERCENT BY PREHISTORIC ARTIFACTS		PERCENT BY TOTAL ARTIFACTS	
	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %
METAL	0	0.0			0	0.0			0	0.0			0.0%	0.0%						
WOOD	3	0.0			0	0.0			3	0.0			60.0%	0.0%						
SYNTHETIC	0	0.0			0	0.0			0	0.0			0.0%	0.0%						
ALL OTHER	0	520.1			0	0.0			0	520.1			0.0%	25.3%						
TOTAL STRUCTURAL MATERIAL	4	1993.3	0.7%	85.9%	1	65.6	0.2%	2.8%	5	2058.9			100.0%	100.0%	0.8%	88.8%			0.8%	88.8%
TOTAL TOOLS & HARDWARE	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0			0.0%		0.0%				0.0%	
FUEL & FIRE BYPRODUCTS																				
COAL	0	40.9			0	5.1			0	46.0				34.0%						
CINDERS/CLINKERS	0	19.0			0	11.3			0	30.3				22.4%						
CHARCOAL	0	1.8			0	1.2			0	3.0				2.2%						
ASH	0	0.0			0	0.0			0	0.0				0.0%						
BOG IRON	0	0.0			0	0.0			0	0.0				0.0%						
SLAG	0	30.4			0	4.4			0	34.8				25.8%						
COMPOSITE FIRE BYPRODUCTS	0	19.5			0	1.5			0	21.0				15.5%						
TOTAL FUEL & FIRE BYPRODUCTS	0	111.6	0.0%	4.8%	0	23.5	0.0%	1.0%	0	135.1				100.0%		5.8%				5.8%
SHELL																				
BIVALVES	0	91.0			0	34.2			0	125.2				99.8%						
UNIVALVES	0	0.0			0	0.0			0	0.0				0.0%						
INDETERMINATE SHELL	0	0.1			0	0.1			0	0.2				0.2%						
CORAL	0	0.0			0	0.0			0	0.0				0.0%						
TOTAL SHELL	0	91.1	0.0%	3.9%	0	34.3	0.0%	1.5%	0	125.4				100.0%		5.4%				5.4%
BONE																				
FISH	3	0.0			0	0.0			3	0.0			1.1%							
MAMMAL	188	0.0			22	0.0			210	0.0			74.5%							
BIRD	0	0.0			0	0.0			0	0.0			0.0%							
HUMAN	0	0.0			0	0.0			0	0.0			0.0%							
ALL OTHER	66	0.0			3	0.0			69	0.0			24.5%							

SPAR ACCESSION No. 46: SUMMARY ARTIFACT INVENTORY

	QUANTITY ARTIFACTS STP 1-13		PERCENT BY TOTAL ARTIFACTS STP 1-13		QUANTITY ARTIFACTS STP 14-23		PERCENT BY TOTAL ARTIFACTS STP 14-23		QUANTITY ARTIFACTS SITE TOTAL		PERCENT BY ARTIFACT TYPE		PERCENT BY ARTIFACT CLASS		PERCENT BY HISTORIC ARTIFACTS		PERCENT BY PREHISTORIC ARTIFACTS		PERCENT BY TOTAL ARTIFACTS	
	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %
TOTAL BONE	257	0.0	42.2%	0.0%	25	0.0	4.1%	0.0%	282	0.0			100.0%		46.4%				46.3%	
VEGETAL MATERIAL																				
SEEDS	4	0.0			1	0.0			5	0.0			100.0%							
NUTSHELLS	0	0.0			0	0.0			0	0.0			0.0%							
TOTAL VEGETAL MATERIAL	4	0.0	0.7%	0.0%	1	0.0	0.2%	0.0%	5	0.0			100.0%		0.8%				0.8%	
MISCELLANEOUS																				
INDETERMINATE METAL OBJECTS	11	0.0			4	0.0			15	0.0			14.2%	0.0%						
OTHER INDETERMINATE OBJECTS	16	0.0			7	0.0			23	0.0			21.7%	0.0%						
METAL RESIDUE	0	0.0			0	0.0			0	0.0			0.0%	0.0%						
ALL OTHER MISCELLANEOUS	61	0.0			7	0.1			68	0.1			64.2%	100.0%						
TOTAL MISCELLANEOUS	88	0.0	14.4%	0.0%	18	0.1	3.0%	0.0%	106	0.1			100.0%	100.0%	17.4%	0.0%			17.4%	
TOTAL HISTORIC ARTIFACTS	529	2196.0	86.9%	94.7%	79	123.5	13.0%	5.3%	608	2319.5					100.0%	100.0%			99.8%	
PREHISTORIC ARTIFACTS																				
STONE																				
CHIPPED STONE																				
PROJECTILE POINTS	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
BIFACES	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
UNIFACES	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
CORES	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
SHATTER/BLOCK	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
DECORTICATION FLAKES	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
FLAKES	1	0.0			0	0.0			1	0.0	100.0%		100.0%							
TRIM FLAKES	0	0.0			0	0.0			0	0.0	0.0%		0.0%							
TOTAL CHIPPED STONE	1	0.0	0.2%	0.0%	0	0.0	0.0%	0.0%	1	0.0	100.0%		100.0%						0.2%	

SPAR ACCESSION No. 46: SUMMARY ARTIFACT INVENTORY

	QUANTITY ARTIFACTS STP 1-13		PERCENT BY TOTAL ARTIFACTS STP 1-13		QUANTITY ARTIFACTS STP 14-23		PERCENT BY TOTAL ARTIFACTS STP 14-23		QUANTITY ARTIFACTS SITE TOTAL		PERCENT BY ARTIFACT TYPE		PERCENT BY ARTIFACT CLASS		PERCENT BY HISTORIC ARTIFACTS		PERCENT BY PREHISTORIC ARTIFACTS		PERCENT BY TOTAL ARTIFACTS	
	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT	WT	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %	CNT %	WT %
FIRE-CRACKED ROCK	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0	0.0%		0.0%						0.0%	
GROUNDSTONE	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0	0.0%		0.0%						0.0%	
TOTAL STONE	1	0.0	0.2%	0.0%	0	0.0	0.0%	0.0%	1	0.0			100.0%				100.0%		0.2%	
TOTAL CERAMICS	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0			0.0%						0.0%	
TOTAL BONE	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0			0.0%						0.0%	
TOTAL SHELL	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0				0.0%						0.0%
ALL OTHER	0	0.0	0.0%	0.0%	0	0.0	0.0%	0.0%	0	0.0			0.0%						0.0%	
TOTAL PREHISTORIC ARTIFACTS	1	0.0	0.2%	0.0%	0	0.0	0.0%	0.0%	1	0.0							100.0%		0.2%	0.0%
TOTAL ARTIFACTS	530	2196.0	87.0%	94.7%	79	123.5	13.0%	5.3%	609	2319.5									100.0%	100.0%
SAMPLES																				
SOIL	14	0.0			8	0.0			22	0.0										
C-14	0	0.0			0	0.0			0	0.0										
FLOTATION	0	0.0			0	0.0			0	0.0										
POLLEN	0	0.0			0	0.0			0	0.0										
ALL OTHER	0	0.0			0	0.0			0	0.0										
TOTAL SAMPLES	14	0.0			8	0.0			22	0.0										
TOTAL MATERIAL	544	0.0			87	0.0			631	2319.5										

Appendix 4

SPAR Accession #46

Summary of Missing and Additional Artifacts

SPAR ACCESSION #46:
SUMMARY OF MISSING AND ADDITIONAL ARTIFACTS

PROVENIENCE	SPAR CATALOG #	FIERO COUNT	ACMP MISSING COUNT	ACMP EXTRA COUNT	COMMENTS
STP1 L1, 0-12"	10000-10015	38	1	9	
STP1 L2, 12-18"	10016-10024	10	1	4	
STP1 L3, 18-24"		0	0	0	STERILE
STP1 L4, 24-27"		0	0	0	STERILE
STP1 L5, 27-30"		0	0	0	STERILE
STP2 L1, 0-13"	10025-10038	33	1	3	
STP2 L2, 13-27.5"	10039-10052	16	1	2	UPPER PART
STP2 L2, 27.5-33.5"	10053-10065	28	0	6	LOWER 6"
STP2 L3, 33.5-35"		0	0	0	
STP3 L1, 0-6"	10066-10068	3	0	4	
STP3 L1+2	10069	1	0	0	
STP3 L2, 6-12"	10070	1	0	0	
STP3 L3, 12-18"		0	0	0	STERILE
STP3 L4, 18-33"		0	0	0	STERILE
STP4 L1, 0-6"	10071-10089	64	0	12	
STP4 L2, 6-11"	10090-10099	32	0	1	
STP4 L3, 11-30"	10100-10103	12	0	0	
STP5 L1, 0-6"	10104-10117	40	0	0	
STP5 L2, 6-11"	10118-10126	27	2	0	
STP5 L3, 11-15"	10127-10136	35	0	1	
STP5 L4, 15-23"		0	0	0	STERILE
STP6 L1, 0-6"	10137-10144	19	0	0	+1 SOIL SAMPLE NOT REFLECTED IN ACMP EXTRA COUNT
STP6 L2, 6-12"	10145-10155	21	0	0	+1 SOIL SAMPLE NOT REFLECTED IN ACMP EXTRA COUNT
STP6 L3, 12-17"		0	0	0	STERILE
STP6 L4, 17-30"		0	0	0	STERILE
STP7 L1, 0-5"	10158-10160	3	0	0	
STP7 L2, 5-9"	10161	1	0	0	
STP7 L3, 9-13.5"	10162-10169	16	0	0	+1 BAG OF MORTAR NOT REFLECTED IN ACMP EXTRA COUNT

SPAR ACCESSION #46:
SUMMARY OF MISSING AND ADDITIONAL ARTIFACTS

PROVENIENCE	SPAR CATALOG #	FIERO COUNT	ACMP MISSING COUNT	ACMP EXTRA COUNT	COMMENTS
STP7 L4, 13.5-20"		0	0	0	STERILE
STP8 L1, 0-5"	10170-10175	9	0	0	
STP8 L2, 5-9"	10176-10178	4	0	0	
STP8 L3, 9-13"	10179	1	0	0	
STP8 L4, 13-28"		0	0	0	STERILE
STP9 L1, 0-3.5"	10180-10183	10	2	1	
STP9 L2, 3.5-7.5"	10184-10191	10	0	0	
STP9 L3, 7.5-9.5"	10192	1	0	0	
STP9 L4, 9.5-17.5"	10193-10194	2	0	1	
STP 10 L1, 0-4"	10195-10200	7	0	1	+1 SOIL SAMPLE NOT REFLECTED IN ACMP EXTRA COUNT
STP 10 L2, 4-11"	10201-10210	28	0	2	+1 BAG OF MORTAR AND +1 SOIL SAMPLE NOT REFLECTED IN ACMP EXTRA COUNT
STP 10 L3, 11-17"	10211-10217	11	0	11	
STP 10 L4, 17-20"	10218-10226	21	0	8	+2 SOIL SAMPLES NOT REFLECTED IN ACMP EXTRA COUNT
STP 10 L5, 20-33"	10227-10234	18	0	1	+2 SOIL SAMPLES NOT REFLECTED IN ACMP EXTRA COUNT
STP 11 L1, 0-4"	10235-10242	13	0	0	
STP 11 L2, 4-7"	10243-10250	24	0	0	+1 SOIL SAMPLE NOT REFLECTED IN ACMP EXTRA COUNT
STP 11 L3, 7-15"	10251-10259	12	0	2	+1 SOIL SAMPLE NOT REFLECTED IN ACMP EXTRA COUNT
STP 11 L4, 15-19"	10260-10261	5	0	0	+1 SOIL SAMPLE NOT REFLECTED IN ACMP EXTRA COUNT
STP 11 L5, 19-25"	10262	5	0	0	
STP 12 L1, 0-8"	10263-10268	18	0	3	
STP 12 L2, 8-15"	10269-10277	23	0	4	
STP 12 L3, 15-16"	10278-10280	2	0	7	
STP 12 L4, 16-26"	10281-10283	7	0	21	

SPAR ACCESSION #46:
SUMMARY OF MISSING AND ADDITIONAL ARTIFACTS

PROVENIENCE	SPAR CATALOG #	FIERO COUNT	ACMP MISSING COUNT	ACMP EXTRA COUNT	COMMENTS
STP 12 L5, 26-30"		0	0	0	STERILE
STP 13 L1, 0-5"	10284-10286	2	0	0	+ WEIGHED CHARCOAL NOT REFLECTED IN ACMP EXTRA COUNT
STP 13 L2, 5-7"	10287-10288	3	0	0	
STP 13 L3, 7-12.5"	10289-10295	8	0	0	
STP 13 L4, 12.5-18"	10296-10302	8	0	0	
STP 13 L5, 18-30"	10303-10304	3	0	0	
STP 14 L1, 0-4"	10305-10306	3	0	0	
STP 14 L2, 4-8"		0	0	0	STERILE
STP 14 L3, 8-10"	10307	0	0	0	+1 SOIL SAMPLE NOT REFLECTED IN ACMP EXTRA COUNT, FIERO INVENTORY SHEET MISSING FOR THIS PROVENIENCE
STP 14 L4, 10-15"		0	0	0	STERILE
STP 14 L5, 15-25"		0	0	0	STERILE
STP 15 L1, 0-3"	10308-10310	5	0	1	
STP 15 L2, 3-11"	10311	1	0	0	
STP 15 L3, 11-18.5"	10312-10320	12	2	2	
STP 16 L1, 0-7"	10321-10324	8	1	3	
STP 16 L2, 7-12"	10325-10330	6	0	0	
STP 16 L3, 12-24"	10331-10337	7	0	0	
STP 17 L1, 0-2"	10338-10340	4	0	0	
STP 17 L2, 2-7"	10341-10343	3	0	0	
STP 17 L3, 7-20"	10344-10348	5	0	0	
STP 18 L1, 0-6"	10349-10353	7	0	0	
STP 18 L2, 6-10"	10354-10359	14	0	3	
STP 18 L3, 10-17"	10360-10367	21	0	7	+1 BAG OF MORTAR NOT REFLECTED IN ACMP EXTRA COUNT
STP 18 L4, 17-20"		0	0	0	STERILE
STP 18 L5, 20-25"		0	0	0	STERILE
STP 19 L1, 0-3.5"	10368-10371	4	0	0	

SPAR ACCESSION #46:
SUMMARY OF MISSING AND ADDITIONAL ARTIFACTS

PROVENIENCE	SPAR CATALOG #	FIERO COUNT	ACMP MISSING COUNT	ACMP EXTRA COUNT	COMMENTS
STP 19 L2, 3.5-11"	10372-10375	5	0	0	
STP 19 L3, 11-15"		0	0	0	STERILE
STP 19 L4, 15-28"		0	0	0	STERILE
STP 20 L1, 0-6"	10376-10378	2	0	2	+1 SOIL SAMPLE NOT REFLECTED IN ACMP EXTRA COUNT
STP 20 L2, 6-9"	10379-10381	3	0	0	+1 SOIL SAMPLE NOT REFLECTED IN ACMP EXTRA COUNT
STP 20 L3, 9-12"	10382-10384	2	0	0	+1 SOIL SAMPLE NOT REFLECTED IN ACMP EXTRA COUNT
STP 20 L4, 12-17"	10385	0	0	0	+1 SOIL SAMPLE NOT REFLECTED IN ACMP EXTRA COUNT, FIERO INVENTORY SHEETS MISSING FOR THIS PROVENIENCE
STP 20 L5, 17-26"	10386	0	0	0	+1 SOIL SAMPLE NOT REFLECTED IN ACMP EXTRA COUNT, FIERO INVENTORY SHEETS MISSING FOR THIS PROVENIENCE
STP 21 L1, 0-9.5"	10387-10388	2	0	0	
STP 21 L2, 9.5-17"		0	0	0	STERILE
STP 21 L3, 17-23"		0	0	0	STERILE
STP 22 L1, 0-4"		0	0	0	STERILE
STP 22 L2, 4-10"	10389-10392	5	0	1	
STP 22 L3, 10-16"	10393-10394	3	0	0	
STP 23 L1, 0-5"		0	0	0	STERILE
STP 23 L2, 5-11"	10395-10396	3	0	0	
STP 23 L3, 11-20"		0	0	0	STERILE
*** Total ***		780	11	123	

Appendix 5

ACMP Artifact Category Definitions

ACMP Artifact Category Definitions

The ACMP artifact category definitions are a synthesis of definitions derived from archeologically based nomenclature terms used in the ACMP cataloging of collections from various parks in the North Atlantic Region. General artifact classes were initially established for the Salem Maritime National Historic Site collection (Synenki and Charles 1983) and have been expanded and tailored to the specific needs of new collections as they have undergone ACMP processing. In 1985, minor revisions were made to the definitions during the ACMP for collections from Minute Man National Historical Park (Towle and MacMahon 1986, 1987). Further alterations in terminology were incorporated to accommodate the format of the NPS Automated National Catalog System (ANCS), while the classification of bottle glass was substantially broadened during ACMP cataloging of collections from the Saugus Iron Works National Historic Site (MacMahon 1988).

The following is an abbreviated listing of ACMP artifact category definitions excerpted from previous ACMP reports (Synenki and Charles 1983a:14-30, 1983b:26-36, 1984:28-41; Towle and MacMahon 1987:132-154; MacMahon 1988:168-193) which were selected on the basis of their relevance to the SPAR archeological collection. Specific citations are not included for these definitions, and the reader is advised to refer to The Archeological Collections Management at the Saugus Iron Works National Historic Site report for a comprehensive listing of ACMP definitions (MacMahon 1988:168-193). Most of the original artifact definition research was conducted by Sheila Charles, and subsequent research in upgrading and revising ACMP artifact terminology was undertaken primarily by Darcie MacMahon.

The categories discussed below will be ordered in two fashions. First, historic vessel ceramics and vessel glass will be defined. Second, the remaining artifact categories will be discussed within general functional groupings. This differs from the order in which the artifact categories appear on the ACMP flow charts (Appendix 2). The flow charts are organized by material type in order to accommodate the classification system required by ANCS. This means that functional groups of artifacts which cannot be associated with a single material class are listed repetitively on multiple pages of the flow charts, (e.g., Bottle Closures, which could be ceramic, glass, metal, cork, etc.). In the definitions which follow, these functional categories are discussed only once within the context of a general functional group. The functional categories which are included in this abbreviated listing were selected on the basis of their presence within the artifact collection.

More complete definitions are provided for historic ceramics and other artifact categories which were deemed most useful for site analyses, particularly those categories which provided

temporal information. Other categories are largely self-explanatory and are thus given general summary definitions. The "Indeterminate" categories will not be discussed, although they are a part of every material classification (e.g., Indeterminate Metal Object, Indeterminate Ceramic Object, etc.).

The SPAR artifact collection contained a total of 631 items, and 2319.5 grams of weighed materials. Reference may be made to Appendix 3 for the overall SPAR artifact inventory.

Historic Vessel Ceramics

Historic ceramics are divided into three groups on the basis of paste: earthenware, porcelain, and stoneware. There are major ware type categories within these groups, each of which also has subsidiary categories based upon temper, glaze, and decoration. The ceramics are also classified according to one of five attributes of form: body sherd, rim sherd, basal sherd, handle, or whole vessel. Fragments which contain both base and rim forms are classified as rims, in order to enable minimum number of vessel counts. These attributes of form are used for the "object name" field in the ANCS program, while the ware type is defined in the first two description fields (Appendix 2). The presence of maker's marks is noted in the third description line of the catalog record.

Ceramic sherds and vessels used in the preparation, cooking, serving, and storing of food are recorded in the historic ceramics section of the inventory. Also included are ceramic flowerpots and toiletry items such as chamber pots. Other ceramic items are recorded in functional categories, such as ceramic dolls (Toys), porcelain buttons (Buttons), or bricks and other structural materials (Structural Material). These will be discussed under the functional classification section.

The specific ceramic ware categories were chosen to reflect attributes generally considered useful for analytical purposes, although finer breakdowns by attributes such as decorative motif or color were not included. The attributes used were often derived from and consistent with those detailed by historical archeologists (e.g., Noel Hume 1980; South 1978) and ceramic specialists (e.g., Godden 1975; Lewis 1969; Ramsay 1976; Watkins 1959, 1968).

Historic Vessel Ceramics: Earthenware

Earthenware has a relatively soft, water-absorbent paste in comparison with stoneware and porcelain (Deetz 1977:47). Unrefined earthenwares, including redwares, tin enameled wares, and coarse buff-bodied wares, have a softer and more porous paste than the refined earthenwares which began to be developed in the mid-18th century. The harder pastes of the refined wares were due to the

addition of calcinated flint to the clay (Miller 1980:1). They include Whieldon ware, creamware, pearlware, whiteware, and several later ware varieties such as yelloware and Rockingham. Earthenwares were commonly glazed and often decorated, particularly the refined earthenwares. Unrefined earthenwares, when they served a utilitarian rather than tableware function, were not as consistently glazed, especially redwares, which were often "plain," or unglazed.

Redware: A red earthenware paste is the only attribute used to define redware ceramics. Eight categories of redware are defined, including 17th through 19th century wares manufactured in both local and foreign production centers. Redwares often compose the largest ceramic assemblage from 17th and 18th century historic sites in New England.

Plain Redware: This ware has an unglazed, coarse, red earthenware paste and was commonly used for utilitarian vessels. Plain redwares are common in ceramic assemblages from historic sites in New England.

Lead Glazed, 1 & 2 Surfaces: Lead glazed redwares exhibit a coarse red earthenware paste and a clear lead glaze on the interior and/or exterior surface. If only one surface is glazed, usually it is the interior of the vessel. The clear lead glaze results in a color similar to but darker than the fired clay body, though variations in glaze composition and firing procedures can result in color variations. The predominant colors after firing are black and brown or red-brown, although orange, yellow, and green are also possible.

Most of these wares were probably produced by local potters. The ACMP classification system does not further separate them by glaze color or other attributes, although it should be noted that recent research has shown such breakdowns to be of some utility in redware analysis (Turnbaugh 1983, 1985). Undecorated lead glazed wares are often the most abundant type of redware from 17th and 18th century historic sites in New England.

Trailed Slipware: This ware has three attributes: a coarse red earthenware paste; the presence of a thin, trailed white slip decoration; and a clear lead glaze. Godden suggests that slip-decorating represents "an early standard form of embellishing" on both American and English redware as early as ca. 1670 and as late as 1795 (1975:17). However, the dates for the many local American redwares and their variants, such as trailed slipware, have not been firmly established, and local trailed slipwares may also have been manufactured into the 19th century. Although typically not as abundant as plain lead glazed redwares, trailed slipwares are common components of historic site ceramic assemblages.

Miscellaneous and Unidentified Redwares: There are other ceramics with a redware paste which cannot be classified in the above categories.

Creamware: This ware type is identified by two primary attributes: a thin, hard, fine-grained cream-to-white earthenware paste; and a clear surface glaze to which copper was added, resulting in pale yellow to yellow-green tint. This tint is most noticeable in the folds and crevices of the vessel where the glaze pools, particularly along the edges of footrings.

The development of creamware was the result of many individuals' work in several districts of England (Solon 1906:199-299). The clay body was refined by the addition of ground flints which allowed the production of thinner, harder vessels. "Clouded" or "Whieldon" wares were among the first wares of this type to be manufactured, ca. 1750. Wedgwood perfected a plain cream-colored ware in Burslem by 1762 (Noel Hume 1980:123-124), although much English creamware is also attributed to producers in Leeds, Liverpool, and Staffordshire (Austin 1978:39; see also Moore 1909; Towner 1965).

In general, most creamware assemblages on American sites postdate 1770 (Miller and Stone 1970:42-44), and production continued in England until ca. 1820 (Towner 1957; Noel Hume 1980; South 1978), although its popularity waned significantly with the introduction of pearlware (Miller 1980:15) (see below). The perfection and subsequent popularity of creamware is viewed as one of the most important ceramic developments of the 18th century (Noel Hume 1980:123), as it shaped the course of all future earthenware production. It also displaced "tin-glazed ware, white salt glazed stoneware, and to some extent even oriental porcelain...from the market" (Miller 1980:1). Creamware, along with the subsequent development of pearlware (see below), allowed the British to capture "the world ceramic tableware trade by the 1790s" (Miller 1980:1).

Plain Creamware: This category is used to record undecorated creamware sherds, which are often the most common form of creamware found on New England historic sites.

Pearlware: Pearlware exhibits two major attributes: a thin, hard, fine-grained white earthenware paste; and a clear surface glaze to which cobalt was added, resulting in an overall blue tint. Like creamware, this coloration is most noticeable in the folds and crevices of vessels, particularly around footrings where the bluish glaze often pools.

Pearlware has been called "one of the landmarks of English earthenwares" (Noel Hume 1978:42). It evolved out of creamware

(Miller 1980:2), and although it was available in England as early as 1765, it seems to have entered the American ceramic market in the 1780s, after the disruption in trade caused by the American Revolution (Noel Hume 1978:46).

Pearlware developed as the demand for creamware waned (Miller 1980:2). Its bluish glaze and typically blue surface decorations were an attempt to imitate porcelain. With pearlware came the transition in marketing emphasis from ware type to decoration (Miller 1980:2, 15-16). Many of the decorative techniques were the same as those developed on creamware. Unlike creamware, pearlware was rarely undecorated (Miller 1980:16). This emphasis on decoration continued with the gradual development of whiteware, and the distinction between the two ware types was not as significant a factor for the market as were the decorative motifs. Thus the wares of the early 19th century (ca. 1820+) are less easily distinguished by ware type (Miller 1980:16-18). The decorative categories represented are classified in the same way as those used for creamware.

Handpainted: Underglaze handpainted designs were common on pearlware vessels and were generally floral, chinoiserie, or geometric patterns. Blue was the most common color, but polychrome designs were also made after ca. 1795, typically in brown, yellow, and green floral or geometric designs (Miller 1984:43; Noel Hume 1980:129).

Transfer-Printed: Underglaze transfer printing became a common mode of decoration by the 1790s, and continued to be very popular until the mid-19th century (Miller 1980:4, 1984:44). Blue was the most common color used, although other monochrome colors and polychrome designs were also available. Designs included oriental motifs (particularly the blue willow design), floral patterns, European and idealistic scenes, and geometric designs.

Miscellaneous and Unidentified Pearlware: There are other, less common decorative techniques which have not been enumerated above. Examples could include molding and multiple decorative techniques, and would be identified on the first description line of the catalog record as either a descriptive type or as Unidentified.

Whiteware: Two major attributes characterize whiteware: a very hard, fine-grained paste, with a vessel body that is usually fairly thin but can also be rather substantial; and a clear, glossy surface glaze. Whiteware emerged from the production of pearlware, and was first made simply by reducing the amount of cobalt in the glaze. The gradual whitening of the glaze reflected the growing popularity of whiter porcelains during the first decades of the 19th century (Miller 1980:17). These wares are thus sometimes difficult to distinguish from late pearlwares, and in

fact the producers made no real distinction as they focused instead on the decorative techniques (Miller 1980:17). However, the emergence of whiteware as the predominant ware type by ca. 1820 (Noel Hume 1980:130) serves as a useful, though certainly not absolute, chronological marker. By ca. 1840 there was again a demand for wares with a bluish or "pearl" tint, and the glazes of some whitewares of this period reflect this change (Miller 1980:17-18). Whiteware continues to be manufactured, and although it was first produced in England, it was subsequently produced in the United States as well.

The ACMP whiteware category includes all "white" wares of the period, although several varieties existed (e.g.,ironstone, white granite, semiporcelain). The subcategories identified are based upon the same decorative techniques discussed above for creamware and pearlware. The whiteware assemblage is often the largest ceramic assemblage from 19th century historic sites in New England.

Other Edge Decorated: A variety of edge decorations were used on creamware, pearlware and whiteware vessels, typically consisting of unpainted molded designs. These included shaped rims such as the Queen's and Royal patterns, and raised relief designs such as the feather-edge, spear head, and bead and reel designs (Noel Hume 1980:116, 126-127). The names of these patterns are identified whenever possible in the first description line of the catalog record.

Unidentified Earthenware: This category is used to record earthenwares which were different from the above categories or were otherwise unidentifiable, particularly sherds which have lost their glaze or had been burned.

Historic Vessel Ceramics: Stoneware

Stonewares are fired at high temperatures and have a very hard, vitreous, nonabsorbent paste. The color and surface texture of stoneware vessels is variable, depending largely on clay composition, kiln firing conditions, and the kinds and amounts of glaze applied to the surface (Stewart and Cosentino 1977:21).

Domestic Stoneware: Three attributes were used to define this ware: a stoneware paste, a salt glazed exterior vessel surface, and an interior Albany-type slip. Albany-type slip refers to an iron oxide clay wash which was used on a vessel's interior surface to seal the clay body. It was originally developed in Albany, New York, but similar varieties were subsequently mined and used elsewhere in the United States (Greer 1981:194). It varies in color from medium brown to black, but most often appears as a dark metallic brown. This color variability is due to differences in

clay sources or techniques of applying the slip before or after firing (Webster 1971:40). These are generally 19th century wares, and both Webster (1971:40) and Watkins (1968:11) indicate that after ca. 1800, Albany-type slip appeared often on American stonewares and nearly always on New England stonewares. These wares are not further broken down by the ACMP, although if a maker's mark or design is present, they are recorded and identified where possible.

Unidentified Stoneware: These sherds exhibit a stoneware paste, a glazed or unglazed exterior, but lack an Albany-type slip on the interior and cannot otherwise be identified. These sherds may be domestic stonewares produced without an Albany-type slip, or unidentified imported stonewares.

Bottle and Drinking Vessel Glass

The ACMP classifies bottle glass and drinking vessel glass according to manufacturing technique. These categories were developed from the system used by the Parks Canada Historic Parks and Sites Branch, as defined in their excellent publication entitled The Parks Canada Glass Glossary (Jones and Sullivan 1985; see also Miller and Sullivan 1981). The ACMP used these categories for the first time for cataloging the SAIR collection in 1986. The classification system used during previous ACMPs was based upon older research information and was not an adequate system for identifying chronological attributes. The new system uses hierarchical categories, as shown on the ACMP flow charts (Appendix 2). The first breakdown is based upon sherd morphology (body, neck, base, base/stem, handle, rim, lid/cover, or whole vessel), which is recorded in the "object name" field on the catalog record along with an identifier as to whether the object is from a bottle, drinking vessel, or indeterminate vessel (of indeterminate function).

The first three description lines on the catalog record are used for recording technological attributes. These categories, as defined by Jones and Sullivan (1985), provide chronological information which is useful for archeological analysis. The first breakdown identifies the object as freeblown, molded, or indeterminate. Molded objects are further described as contact molded, pattern molded, press molded, optic molded, or machine made. Whenever possible, the contact molded items are further classified as to mold type: dip mold; 2-piece mold; 2, 3, or 4-piece mold with separate base; shoulder-height multi-piece mold; Ricketts mold; turn/paste mold; or molded neck with hand-finished lip. If the item exhibits embossing or a maker's mark, these are noted on the fourth and fifth description lines of the catalog record.

Due to the small size of most glass sherds from archeological sites, it is often impossible to identify precise technological attributes, such as the mold types represented by contact molded sherds. Most frequently the bottle glass is identifiable only to the first level of classification, as either freeblown, molded, or indeterminate. The definitions for the manufacturing technique categories follow, as abstracted from The Parks Canada Glass Glossary (Jones and Sullivan 1985), with permission of the authors (Olive Jones, personal communication 1988). Researchers may refer to that publication for more detailed definitions.

Freeblown: Freeblown vessels are made without the assistance of molds, and are often somewhat irregular in shape and exhibit a glossy surface. Glass blowing technology has been used for centuries and is still used today, and thus specific dates of manufacture cannot usually be determined (Jones and Sullivan 1985:22). Generally, most glass vessels were freeblown until about the mid-18th century when molds began to be used with increasing frequency for the production of certain vessel types, particularly bottles. Thus, in order to use freeblown glass for chronological analysis, it is most useful to regard it in the context of the total glass assemblage (e.g., compared to the relative percentages of molded glass vessels).

Molded/Contact Molded: This category includes all glass vessels which were formed, at least partially, in a mold known as a contact mold. The glass can be blown by mouth or by machine into the mold. The technique of molding glass was known during Roman times, and was revitalized by Venetian glassmakers in the 17th century for molding stemware. It does not appear to have been regularly used for glass containers until the 18th century, with the exception of 17th century square case bottles (Jones and Sullivan 1985:22-24). The fact that a vessel was molded cannot therefore be used as a specific chronological marker, although in a general sense, molded bottles did not become common until after the mid-18th century. There are a number of mold types which were commonly used and which can be more chronologically diagnostic, but these were not identified in the SPAR collection. The reader is advised to refer to the The Archeological Collections Management at the Saugus Iron Works National Historic Site report (MacMahon 1988:183-184) for further definition.

Sherds from contact molded vessels can be best recognized if they have a portion of a mold seam or an embossed surface. Molded vessels are also more regular than freeblown vessels, and the surface of the glass often exhibits a fine stippling caused by contact with the mold. In many cases, it is possible to identify a sherd as molded, but specific mold types cannot be identified. In these cases, the ACMP classifies the sherd as Molded/Contact Molded on the first two description lines of the catalog record.

Functional Artifact Categories

The ANCS requires that archeological materials be cataloged according to material, as indicated on the ACMP flow charts (Appendix 2). However, many of the categories used for the "object name" and description fields are functional rather than material-based, and are more easily discussed by functional headings than by material groupings. The following discussion is therefore organized by functional groups, some of which are actually ACMP classification categories, while others are simply general topical groups which enable an overall discussion of a variety of categories.

Tobacco Pipes: Historic ball clay tobacco pipe bowls and stems are recorded as tobacco pipes in the "object name" field of the catalog record, and as either stems or bowls in the first description line. Stems are classified by bore diameter, which is measured using the shank end of drill bits ranging from 4/64 to 9/64 of an inch in diameter. These measurements are taken to facilitate chronological analysis using the Harrington-Binford technique (Harrington 1978; Binford 1978). When the diameter of pipe stems cannot be determined, they are recorded as indeterminate. Pipe bowls and bowls with stems attached are recorded in the bowl category. The presence of molded decorations and maker's marks is noted in the second and third description lines of the catalog record.

Household and Personal Objects: A variety of ACMP categories can be discussed under this general heading. Some of these categories are for objects which have pragmatic or decorative household functions, and others are for personal possessions associated with grooming, writing, procurement of goods, ornamentation, and play. These categories are largely self-explanatory: tableware, kitchenware, furniture and hardware, lighting fixtures, decorative objects, toiletries, stationery, coins/tokens/medals, personal objects, and toys. Each of these categories is used in the "object name" field of the catalog record, with more specific information provided in the description fields. These objects are cataloged by material type.

Many miscellaneous items are recorded in these functional categories, and confusion may arise as to which category an item would be included under. The following listing may also help to clarify some of the categories:

1) Tableware includes objects used in the serving and consumption of food (e.g., cutlery).

2) Kitchenware refers to objects used in the preparation, cooking, and storage of food (e.g., pots and pans, colanders, tin cans, stove parts).

Architectural-Related Materials: Several ACMP categories may be best described as architectural-related, as they include construction hardware and building materials. The specific categories, which appear in the object name field of the catalog record, include: window glass, nails, screws, staples, bolts, wood fasteners, and structural material. Each group is subdivided into additional categories, which are largely self-explanatory, though several merit further discussion.

Window Glass: The window glass category is divided into two manufacturing techniques: crown/cylinder, and plate. An indeterminate category was also added for less identifiable fragments. Crown/cylinder glass is identified by bubble patterns and other markings in the glass which indicated that either a cylinder of glass had been blown and then cut and laid flat, or that a crown of glass had been blown and laid flat leaving a circular pattern of bubbles and a "bull's-eye" in the center where the pontil was removed. This category is useful for identifying glass assemblages that predated plate glass.

Nails: Nails are also classified by manufacturing technique, in order to be used for dating purposes. The information used to identify the various nail types was derived from Nelson 1968 and from discussion with the Chief of the NPS North Atlantic Historic Preservation Center (Synenki and Charles 1983b:34).

Hand wrought nails, the first in the chronological sequence, are characterized by: a nail shank which tapers on all four sides to a point, a faceted head, and a grain in the iron which runs the length of the shank. Hand wrought nails are also often bent or twisted.

Machine cut nails were stamped out of rolled iron bars. Their production began ca. 1790, and after several decades they had virtually replaced hand wrought nails on the market (Nelson 1968:3). The early machine cut nails were characterized by: a shaft which was more rectangular than hand wrought nails, burrs on diagonal sides of the nail resulting from the method of cutting the iron bar, iron grain which ran across the shank, a somewhat rounded point, and at times, heads which were hand wrought and applied. After several decades, ca. 1840, the technology was modified, and these late cut nails can sometimes be distinguished from the early cut nails. The late cut variety were characterized by the same rectangular shaft shape, but also exhibited burrs on the common side of the rolled edge, grain which ran the length of the nail, a sheared point, and no hand wrought head.

The manufacture of wire nails from round steel wire began ca. 1850, but it was several decades before they became commonly used. By the late 1880s, wire nails were quickly superceding cut nails on the market (Nelson 1968:7).

It is often difficult to identify some of the above characteristics when examining archeologically recovered nails. In particular, separating early and late cut nails is often impossible to do, and the indeterminate cut nail category is often used. Prior to the addition of this category in 1985, nails which were identified by the ACMP as cut but not as early or late were placed in the late cut category to avoid biasing the dating of an assemblage as earlier than it might actually be. Therefore, the late cut category contains a large number of cut nails which were actually indeterminate cut nails. After 1984, the indeterminate machine cut category was used.

Screws: Screws are also sorted by hand wrought or machine cut technology, or cataloged as Indeterminate.

Structural Material: Structural Materials include categories such as brick, mortar, stone, and other materials used in buildings or associated structural components (e.g., stoneware sewer pipes). Structural Material appears in the "object name" field on the ANCS catalog record, and in the case of brick and mortar/plaster, the material field accommodates the only additional description (brick or mortar/plaster). Both brick and mortar/plaster were weighed rather than counted.

Fuel and Fire-Related Byproducts: Categories which may be discussed under this general heading include coal, charcoal, ash, cinders/clinkers, slag, and bog iron, all of which are recorded in the "object name" field of the catalog record. These materials are weighed rather than counted. Most of these materials are classified under the ANCS classification field entitled "Other Mineral," although ash and charcoal are recorded under "Wood."

Miscellaneous Mineral Objects: A number of additional mineral objects appear on the catalog flow charts in the "object name" field. These include mica (under "Other Mineral"), and macadam (under "Synthetic"). Another miscellaneous category consists of the small, unidentifiable iron fragments which are often corrosion residue from other iron objects in the collection.

Floral and Faunal Remains: A number of categories can be discussed under this general heading, including seeds, nutshells, shell, and bone. These do not refer to artifacts which have been culturally modified, but rather to unworked specimen which may reflect food remains. Seeds and nutshells are self-explanatory and will not be further discussed other than to note that the type of seed or nut is listed whenever possible in the first description field of the catalog record.

Bone: Bone is recorded as "Specimen (Unworked)" in the "object name" field of the catalog record, and as a more specific category of bone in the first description field. These categories commonly include fish, mammal, bird, or indeterminate, although other categories were possible if necessary. The second description field is used to record whether the bone is diagnostic, undiagnostic, or a tooth. Diagnostic bone is defined as that which exhibits articular surfaces (e.g., distal or proximal ends), or intentional sculpturing (Olsen 1971:18). Diagnostic bone aids researchers in determining information such as species, age, sex, size, diet, or possible pathologies. It may also yield data about butchering techniques. Certain research questions require bone weights rather than counts (Chaplin 1971:67). However, the ACMP uses counts to help specialists estimate the time and effort required for a more complete analysis. Human bone and teeth are treated differently as they are classified as osteological remains, with bone and tooth appearing in the object name field.

Shell: Shell is also classified as "Specimen (Unworked)" in the "object name" field, and is weighed rather than counted. It is further classified as bivalve, univalve, coral, or indeterminate shell on the first description line, and as any of 15 species or as indeterminate on the second description line. The species are listed on the last page of the catalog flow charts (Appendix 2). These descriptions are a part of the data base and are printed on the catalog cards, but are not included in the inventory in this report (Appendix 3). The specific identifying characteristics of each species are summarized in a previous ACMP report (Synenki and Charles 1984:39-40).

Samples: Several ACMP categories can be regarded as samples. These include soil samples, which are classified as "Clay/Mud/Soil" with soil sample as the "object name." Wood samples, which have been saved specifically as a sample, are also in this category and differ from wood classified as "Specimen (Unworked)," which has not been culturally modified. Other samples might be flotation or pollen samples (classified under "Other Plant Materials"), or Carbon-14 samples (classified under "Wood"). These categories are treated differently as to quantity (count or weight), as indicated on the flow charts (Appendix 2).

Prehistoric Lithics: Prehistoric lithics are divided into three major categories in the object name field of the catalog record: fire-cracked rock, groundstone, and chipped stone. The fire-cracked rock and groundstone categories will not be further discussed.

Chipped Stone: The chipped stone classification system was adapted from that developed by the Massachusetts Historical Commission (MHC 1984). The first level of breakdown within chipped

stone is recorded in the first description field as either projectile point, biface, uniface, core, shatter/block, decortication flakes, and flakes.

Flakes are not broken down further into various levels of reduction. These are cataloged as a single lot for each provenience, with "Core" listed on the first description line, "Shatter/Block" on the second, "Decortication Flake" on the third, and "Flake" on the fourth. For a complete listing of ACMP artifact definitions for prehistoric materials, the reader is referred to the Archeological Collections Management at the Saugus Iron Works National Historic Site report (MacMahon 1988:168-193).

REPORTS OF THE DIVISION OF CULTURAL RESOURCES MANAGEMENT
North Atlantic Regional Office, National Park Service

The Division produces and prints reports on archeological, curatorial, historical, and historic architectural topics that identify, evaluate, document, and interpret cultural resources in National Park Service units of the North Atlantic Region. Some of these reports are of general interest for their presentations of substantive, bibliographic, technical, or methodological information. These are listed below. Those that are listed with an NTIS number are only available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22151. Others are available from the Division of Cultural Resources Management, NARO, National Park Service, 15 State Street, Boston, MA 02109. Prices are listed.

Cultural Resources Management Studies

No. 1	Archeological Resource Study, Roger Williams National Monument. Public Archeology Laboratory, Brown University, 1979.	NTIS	PB81	185134
No. 2	Archeological Overview and Evaluation at Minute Man National Historical Park. Vernon G. Baker, 1980.	NTIS	PB81	185142
No. 3	Historic Resources Study, Jamaica Bay: A History. Gateway National Recreation Area, New York-New Jersey. Frederick R. Black, 1981.	NTIS	PB81	226649
No. 4	Archeological Site Examination: A Case Study in Urban Archeology. Roger Williams National Monument.	6.00		
No. 5	Archeological Resource Study, Historical Archeology at Bunker Hill Monument. Boston National Historical Park. Thomas Mahlstedt, 1981.	NTIS	PB83	186957
No. 6	Archeological Investigation at the Narbonne House. Salem Maritime National Historic Site. Geoffrey P. Moran, Edward F. Zimmer, Anne E. Yentsch, 1982.	7.00		
No. 7	Historic Resource Study, A History of Fort Wadsworth, New York Harbor. Frederick R. Black, 1983.	4.00		
No. 8	Chapters in the Archeology of Cape Cod, I: Results of the Cape Cod National Seashore Archeological Survey, 1979-1981 (2 volumes). Francis P. McManamon, editor, 1984.	NTIS	PB85	220101
No. 9	The National Park Service in the Northeast: A Cultural Resource Management Bibliography. Dwight T. Pitcaithley, 1984.	7.00		
No. 10	Celebrating the Immigrant: An Administrative History of the Statue of Liberty National Monument, 1952-1982. Barbara Blumberg, 1985.	5.00		
No. 11	Hoosac Docks: Foreign Trade Terminal. A Case of the Expanding Transportation System Late in the Nineteenth Century. Paul O. Weinbaum, 1985.	4.00		
No. 12	The 1983 Excavations of 19BN281: Chapters in the Archeology of Cape Cod, II. Christopher L. Borstel, 1985.	5.00		
No. 13	Chapters in the Archeology of Cape Cod, III: The Historic Period and Historic Period Archeology. Francis P. McManamon, editor, 1985.	5.00		
No. 14	Inventory of Structures: Morristown National Historical Park. David Arbogast, 1985.	7.00		
No. 15	The Scene of the Battle: Historic Grounds Report, Minute Man National Historical Park. Joyce L. Malcolm, 1985.	3.00		

No. 16	Chapters in the Archeology of Cape Cod, IV.	
No. 17	Chapters in the Archeology of Cape Cod, V: Indian Neck Ossuary. Francis P. McManamon, James W. Bradley, and Ann L. Magennis, 1986.	5.00
No. 18	Interdisciplinary Investigations of the Boott Mills, Lowell, Massachusetts. Volume I: Life at the Boarding Houses. Mary C. Beaudry and Stephen A. Mrozowski, editors, 1987.	12.00
No. 19	Interdisciplinary Investigations of the Boott Mills, Lowell, Massachusetts. Volume II: The Kirk Street Agents' House. Mary C. Beaudry and Stephen A. Mrozowski, editors, 1987.	12.00
No. 20	Charlestown Navy Yard, 1890-1973. Volumes I and II. Frederick R. Black, 1988.	
No. 21	Interdisciplinary Investigations of the Boott Mills, Lowell, Massachusetts. Volume III: The Boarding House System as a Way of Life. Mary C. Beaudry and Stephen A. Mrozowski, editors, 1989.	

Archeological Collections Management Project Series

No. 1	Archeological Collections Management at Salem Maritime National Historic Site. Alan T. Synenki and Sheila Charles, 1983.	4.00
No. 2	Archeological Collections Management at Morristown National Historical Park, New Jersey. Alan T. Synenki and Sheila Charles, 1983.	3.00
No. 3	Archeological Collections Management of the Great Island Tavern Site. Cape Cod National Seashore, Massachusetts. Alan T. Synenki and Sheila Charles, 1984.	3.00
No. 4	Archeological Collections Management at Minute Man National Historical Park, Massachusetts. Linda A. Towle and Darcie A. MacMahon, editors.	
	Volume 1, Introduction and Fiske Hill Area, 1987.	4.00
	Volume 2, Nelson Road Area, 1986.	6.00
	Volume 3, Virginia Road and Wayside Areas, 1986.	7.00
	Volume 4, North Bridge Area and Miscellaneous Collections, 1986.	9.00
No. 5	Archeological Collections Management at The Saugus Iron Works National Historic Site, Massachusetts. Darcie A. MacMahon, 1988.	4.00
No. 6	Archeological Collections Management at the Springfield Armory National Historic Site, Massachusetts. Louise M. DeCesare, 1990.	

Other Publications

Cultural Resources Inventory, Lowell National Historical Park and Preservation District: Report. Shepley, Bulfinch, Richardson and Abbott, Architects, 1980.	NTIS PB81	189169
The Archeology of Cape Cod National Seashore. Francis P. McManamon and Christopher L. Borstel, 1982, (pamphlet 16pp.).	1.00	