

NANTUCKET TEST PIT NO. 1990-1 AT THE UNIVERSITY OF
MASSACHUSETTS FIELD STATION, NANTUCKET, MASSACHUSETTS.

Elizabeth A. Little

Nantucket Historical Association

October 1990







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On August 15, 1990 at the Maria Mitchell Science Center in Nantucket, I gave to about 12 people a one hour slide presentation entitled, Preserving the Heritage of the Past 10,000 Years. This was followed by a two hour field trip to the University of Massachusetts Field Station, where a 30 cm x 30 cm test pit was excavated. This report will summarize the presentation, the field trip and the data recovered from the test pit.

Background of the Presentation and Field Trip.

There is very little professional archaeological activity open to the public on Nantucket Island, in spite of considerable public demand (Nantucket Beacon, June 27, and Nantucket Inquirer and Mirror July 5 1990; Appendix 2). In response to an invitation by Robert K. Noyes, president of the Maria Mitchell Association (MMA) and Dr. Wesley Tiffney, director of the University of Massachusetts Field Station (UMFS) at Quaise, Nantucket, I volunteered to offer an archaeological field trip at Nantucket with a strong emphasis on archaeological conservation. As principal investigator, I applied for and was granted a permit from the Massachusetts Historical Commission, Secretary of State's Office to carry out an educational but destructive archaeological field investigation (reconnaissance survey) at the UMass Field Station (Appendix 1).

Principal investigator: Dr. Elizabeth A. Little, curator for prehistoric archaeology, Nantucket Historical Association, P.O. Box 1016, Nantucket MA 02554.

Supervisor: Dr. Wesley Tiffney, Director of the University of Massachusetts Field Station, Nantucket MA.

Consultant: Dr. Barbara Luedtke, Department of Anthropology, University of Massachusetts, Boston.

The Presentation.

On August 15, 1990 (Appendix 2, Nantucket Inquirer and Mirror August 9, 1990), at the Maria Mitchell Science Center, Vestal St., Nantucket, MA 02554, about 13 people assembled for the slide presentation (Appendix 3, Outline for Archaeological Presentation). Handouts consisted of a Bibliography for Historic and Prehistoric Nantucket Indian Studies (Little 1990), and copies of an



Figure 1. (Looking south) Nantucket Field Station Site, Test Pit 1990-1 (photo by EAL). Dr. Tiffney addressing the group at the test pit site 15 August 1990.



Figure 2. (Looking north) Nantucket Field Station Site, Test pit 1990-1 after removal of 4 cm sod layer, at top of Level 1, 15 August 1990 (photo by EAL).



assortment of documents, a map of the historic sachemships on the island, a projectile point typology, a probate inventory for an 18th century Nantucket Indian, a Nantucket document written in Massachusetts, and a graph of Indian and English population through A.D. 1850. Questions were invited during the talk, which extended the presentation by 30 minutes.

The Field Trip and Test Pit.

The objective of the test pit was educational, and a number of new excavation and study techniques were tried for the first time on a Nantucket prehistoric site. Some of the participants had never seen a scientific excavation and were enthralled by the "authenticity" of the site (i.e., the chipping debris), and others were long-time island collectors. All were eager to learn and asked challenging questions.

A Bard College senior and summer natural history teacher at the MMA, Christine Wilson, with previous field archaeology experience, assisted in the field, helping on August 14 to survey a 30cm x 30cm test pit and to remove four cm of sod and on August 15, carrying out the excavation and sifting. She also had experience in flotation and seed identification. J. Clinton Andrews, retired marine naturalist from the Field Station and member of the archaeology committee of the Nantucket Historical Association, attended and answered many questions about prehistoric subsistence (especially fishing and shellfishing), and Dr. Wesley Tiffney gave a summary of the Field Station's geological history since the Wisconsin glacialiation, through sea level rise and shore erosion to its present form.

Fourteen people all together participated in the Field Trip, Elizabeth Little, Christine Wilson, Wesley Tiffney, J. C. Andrews, Sarah Reynolds, William Dexter, Edith Ray, Marie Schnetzler and daughter, Claire Seaquist, M.C. Foss, Deborah Roberts, Karen Harper, Stuart White, and one unidentified person (Figures 1, 2, and 3).

At the time of the archaeological field trip, a group of "Urban Scholars" from Boston were in residence at the UMFS (Nantucket Inquirer and Mirror August 16, 1990; Appendix 2), and participated, with considerable enthusiasm, in questioning Christine Wilson and me the two afternoons we were working at the site.

Description of the Area and Location of the Test Pit.

A locus within the Nantucket Field Station Site (Luedtke 1979) was chosen for the following reasons. The considerable previous archaeological survey work carried out on this property, by both professionals and amateurs (Luedtke 1979, 1980; Little 1979; Andrews 1979; Turcheon 1979, 1982; Trinkaus 1982) provides a rich context for a test pit. Also, the property is at all times supervised by



Figure 3. (Looking south) Nantucket Field Station Site, Test Pit 1990-1. Christine Wilson working in the test pit, with 1/4" and 1/16" sifters and notebook (photo by EAL).

a resident director and associates, and is considered to be well protected from vandalism. For these reasons the UMass property seemed a good choice for an educational test pit for a presentation to Nantucket residents. Dr. Luedtke suggested that an area that she had previously identified near the dormitory contained multicomponent prehistoric debris and would be a suitable place for a test pit, even though there was some disturbance there (two sewer lines). With Dr. Tiffney's assistance, the site selected was near both sewer lines and in full view of occupants of the house. Turcheon's (1979) test pits for the two sewer lines all showed a high density of prehistoric remains, mostly shell, in the test pit area. We were also aware that two burials have been located within a hundred meters of the test pit (Little 1979; Turcheon 1979), and were hopeful that we not encounter a burial.

Using a metric surveyor's chain and magnetic compass, on August 14, Little and Wilson measured from the southwest corner of a brick terrace at the southwest corner of the dormitory to Stake A (see inventory form). Magnetic variation, taken from NOAA Chart 13242 of Nantucket Harbor in 1975 is 15° 15' west of north, with an annual increase of 1'. The Nantucket Field Station Site covers the entire hill or knoll (sea level to 26 feet) overlooking Nantucket Harbor to the north and the entrance to Folger's Creek and salt marsh to the west. The test pit site was at the edge of the lawn or mowed grass area, on a slight rise to the west of the dormitory.

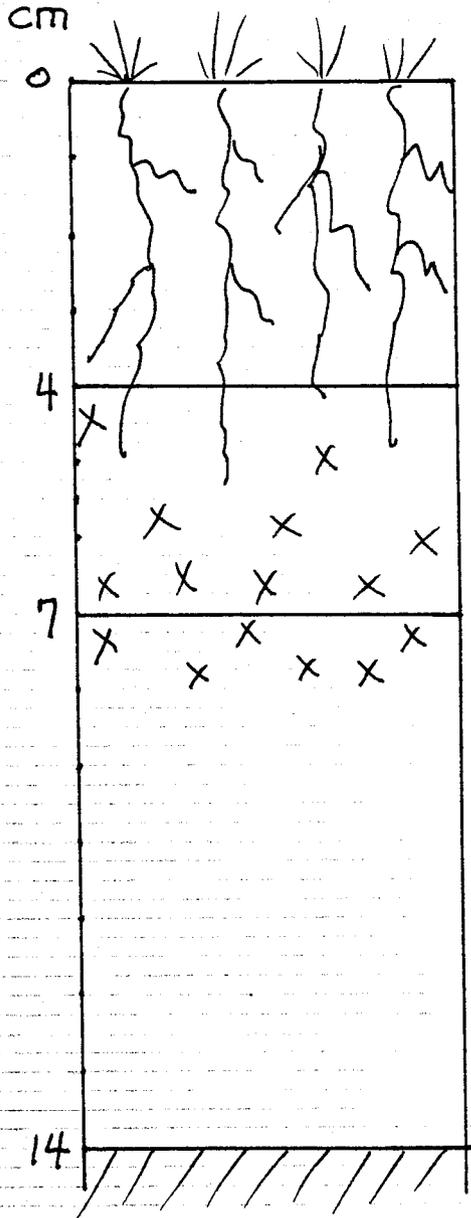
Maps and MHC Inventory.

To satisfy the conditions of the permit, an MHC Inventory Form D has been filled out and sent to the State Archaeologist. Included with the inventory and this report are maps showing the site of Test Pit 1990-1 plotted on USGS Siasconset 7.5 Topographic Quadrangle, on Turcheon's Figure 3 (1979), and on Atlas Sheet 26 and 27, Town and County of Nantucket (Schofield Brothers, Inc. 1975). Copies of the photographs and a list of references cited are also included with the inventory.

Research Design, Methodology and Research Techniques.

The purpose of the field investigation was to demonstrate to up to 20 interested persons on Nantucket a prehistoric archaeological site, how it is examined and analyzed, and why we are trying to preserve archaeological sites on Nantucket.

The afternoon before the field trip, Little and Wilson, with Tiffney's supervision, surveyed the test pit location, staked it (30 cm x 30 cm), removed 4cm of grass sod, and excavated to 7 cm using trowel and brush. I had planned to excavate the test pit in two halves, but the soil was very sandy and 15 cm was somewhat too small a space to excavate for the purpose of showing a clear profile. Therefore, we excavated the entire pit in arbitrary levels. The pit was covered with plastic for the night. During the field trip the next afternoon, we continued the excavation, demonstrating procedures of sifting,



Mowed grass lawn

Sod, 0-4cm removed entire.

Level 1 (4 cm to 7 cm). Gray sandy loam with grass roots. Shell fragments, seeds, insects, wood, sandy concretions and pebbles (not saved).

shell fragments: X

Level 2 (7-14 cm). Gray sandy loam with shell fragments above 8 cm. Shell fragments, seeds, insects, wood, sandy concretions, pebbles (not saved) and two felsite chipping flakes.

Below 14 cm, not excavated.

Figure 4. Profile view of Test Pit 1990-1.

measuring with a line level, recording and bagging. Because of very careful sifting (1/16" mesh), we did not achieve as much depth as I had planned, and, at 14 cm, were probably still in the plow zone at the end of the afternoon. While artifact finds were not a goal, the two flakes that exhibited striking platforms and bulbs of percussion provided concrete evidence that the site was prehistoric. The test pit was successful in its design to recover prehistoric shell, and the seeds and insects added interest. Since we had not demonstrated that we had reached sterile soil, the test pit was incomplete. We placed a metal bottle cap in the excavation, filled the pit with the sifted dirt and covered it with sod removed at the commencement of the excavation. The total time for the field work was one day.

In the original research design, we had hoped to obtain 30 gm of shell for purposes of radiocarbon dating and carbon-13 isotope measurements. Since the total weight of shell fragments from both levels was only 11 gm, this plan was not possible. Also, because the shell was very thin and weathered, it may contain extraneous carbon and I do not plan to submit it for isotope measurements. We identified most of the shell material as to species.

We also identified a number of seed finds. Because of the interest and background of C. Wilson, she and helpers picked a number of insect parts and seeds out of the 1/16" sieve. Subsequently, Tonya Largy, an archaeobotanical consultant of Wayland, identified the seeds of Level 2 as bayberry, pokeweed, plantago and gramineae (see Table 1 and Appendix 4). Bayberry and poke weed, growing in the vicinity today (see Appendix 5), may have grown close to the test pit before the lawn was established in 1974 (Tiffney, personal communication 1990). Although none of the seeds recovered were charred and may not be very ancient, they provide a base line for future seed studies (see also Mrozowski 1989). Largy recommends that we try to start a collection of identified modern Nantucket seeds at the MMA, especially if there is any interest in pursuing the archaeology of plants at Nantucket.

Artifacts and Features Recovered During Field Investigation.

All artifacts, shell, wood, seeds, insects and concretions were identified as to level and labelled and bagged. All pebbles were also bagged. A profile of the test pit is shown in Figure 4, and photographs of the finds from level 1 and 2 are shown in Figure 5. After the photograph, the pebbles were discarded. Table 1 gives quantitative data (number, weight, latin names, color and size) on the finds from the test pit.

Summary and Evaluation.

On the permit application I said, "If 20 people learn to be more considerate of possible archaeological deposits in lands which they own or manage or use, the test pit will have been a success." We attracted 12 people, a number of whom were local collectors. One of those present

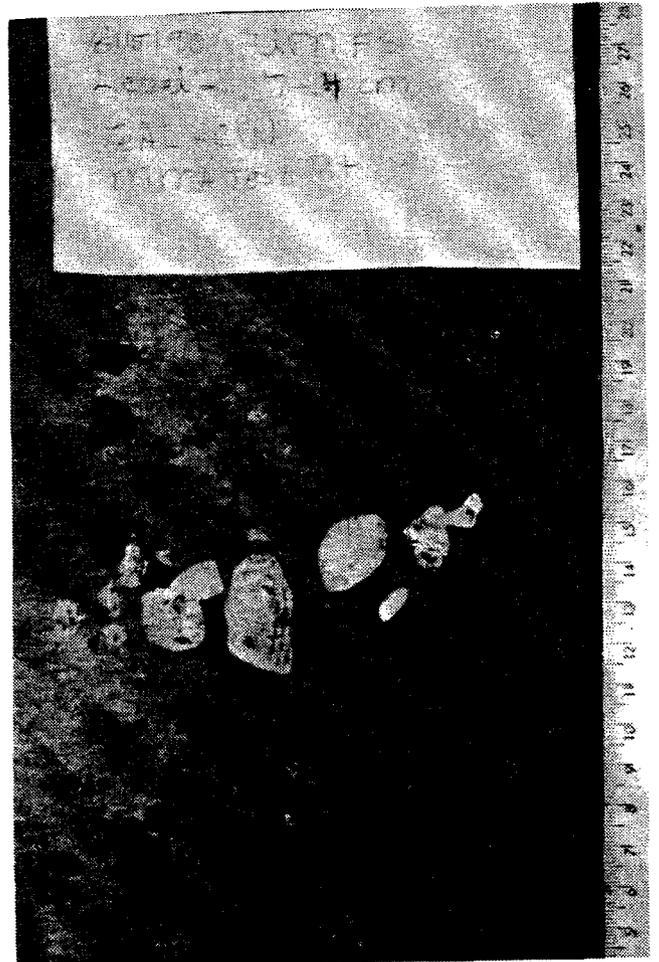
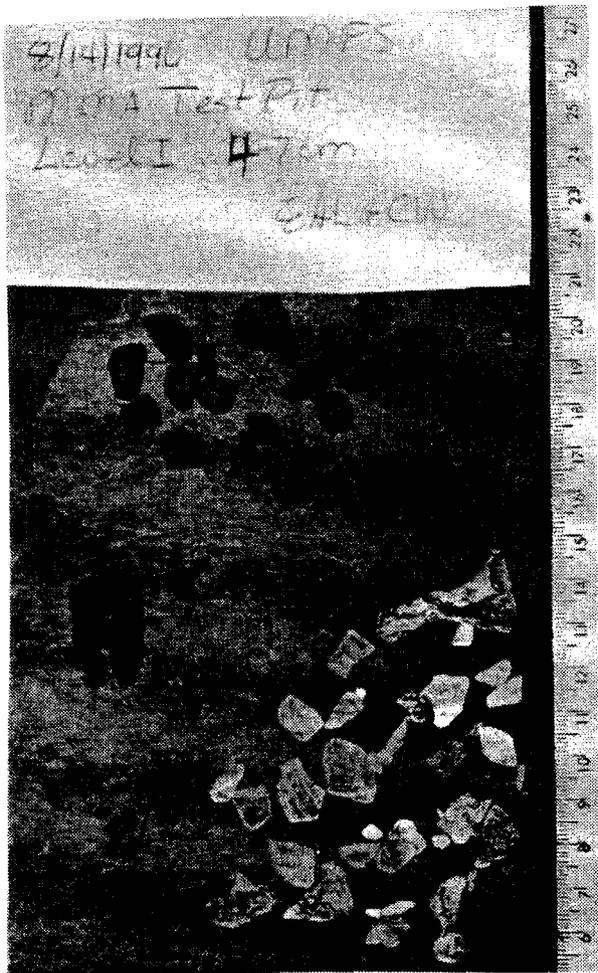


Figure 5.

Left: Finds from Test Pit 1990-1, Level 1 (4-7 cm), sifted through 1/16" mesh. Clockwise groups from lower right: shell, seeds/insects, wood, stone and concretions.

Right: Finds from Test Pit 1990-1, Level 2 (7-14 cm), sifted through 1/16" mesh. Clockwise groups from lower right: stones and concretions, wood and insect, shell, two chipping flakes, seeds and pupal case (see Appendix 1).

present later brought her collection to the NHA for mapping and photographing, and another took me to see a site from which she recalled two burials being excavated in 1935. These two burials were confirmed by a third participant. These reports represent positive results from the field trip.

The presentation and field trip was received with enthusiasm and numerous favorable comments, and I have been asked to repeat it twice next year. We could attempt to relocate the 1990-1 pit and continue down. However, the economics of the field trip are negative. I have donated my time, which has been one day in the field, one day in the lab and seven days in my office applying for a permit, writing the legally required report and printing and mailing the report, which has been designed to be circulated among interested Nantucket people. I value my time at \$100 a day. The Maria Mitchell Association requested \$20 from each participant, which resulted in \$240 for the MMA.

I have introduced some Nantucket people to quantitative archaeology and Nantucket Indians and I thoroughly enjoyed it. However, it would be easier to give only a slide presentation and more ethical to conserve archaeological test pits! Recent talks on isotope studies of prehistoric Indian bone (Medaglia 1989; 93 participants) and Massachusetts linguistics (Goddard 1990; also a "full house") achieved far more than 12 participants. These were highly technical talks. How about 'Radiocarbon Dating at Nantucket' as a lecture topic next year, with no associated field trip?

The limited archaeological destruction at Test pit 1990-1 was justified for its educational values. Future archaeological activities at Nantucket must recognize the unique, non-renewable and fragile nature of archaeological sites. The archaeological finds (Table 1), the property of the Commonwealth of Massachusetts, are curated at the Nantucket Historical Association.

TABLE 1. INVENTORY OF ARCHAEOLOGICAL FINDS AT NANTUCKET TEST PIT #1990-1.

ITEM	# OF FINDS	WEIGHT(GM)	COMMENTS
Level I (4-7 cm):			
Shell: <u>Mercenaria mercenaria</u>	13 frags.	5 gm	
<u>Busycon sp.</u> shell	1 frag.	3 gm	
too small and degraded to identify	frags.	1 gm	
Seeds: shiny black round	2	0	
Wood: frags. and conglomerates	5	1 gm	
Nut Shell:	1 frag.	> 1 gm	
Insect: Lady Bug-like carapace	1	0	
Concretions:	16	4 gm	
Level II (7-14 cm):			
Shell: <u>M. mercenaria</u>	2 frags.	3 gm	
<u>Argopecten irradians</u>	2 frags.	< 1 gm	
too small and degraded to identify	7 frags.	< 1 gm	
Seeds (see Appendix 1 [Largy 1990]):			
<u>Myrica pennsylvanica</u>	2 complete		
	16 fragments		
<u>Phytolacca americana</u>	1		
<u>Plantago [lanceolata]</u>	2		
<u>Gramineae?</u>	1		
Seed capsule: <u>Plantago</u> , sp	1		
Wood:	3 frags.	< 1gm	
Insect: pupal case, 1 cm long	1	< 1gm	
egg case (Largy 1990)	1		

TABLE 1, CONT'D.

ITEM	# OF FINDS	WEIGHT(GM)	COMMENTS
insect frags. (Largy 1990)	3		
Concretions:	5	2 gm	
Chipping Debris: (felsite)	1 flake	< 1 gm	1.25x0.8x0.3 cm Grayish brown (5YR3/2)*
	1 flake	< 1 gm	1.1x1.3x0.5 cm; Dark Yellowish Brown (10YR4/2)*

*GSA Rock-Color Chart 1980

REFERENCES CITED.

GSA

- 1980 Rock-Color Chart (1980 edition). Prepared by the Rock-Color Chart Committee in 1948. Geological Society of America, Boulder CO.

Largy, Tonya

- 1990 Archaeobotanical Identification - University of Massachusetts Field Station, Nantucket, Massachusetts. Report Submitted to the Maria Mitchell Association and the Nantucket Historical Association.

Little, Elizabeth A.

- 1979 An Inventory of Indian Sites on Nantucket. Report submitted to Nantucket Historical Association and Massachusetts Historical Commission.

- 1990 Bibliography for Historic and Prehistoric Nantucket Indian Studies. Nantucket Archaeological Studies #8. Nantucket Historical Association, Nantucket, MA 02554.

Luedtke, Barbara

- 1979 An Archaeological Survey of the University of Massachusetts Nantucket Field Station. Report submitted to the Massachusetts Historical Commission.

- 1980 Survey of the University of Massachusetts Nantucket Field Station. In Widening Horizons, edited by Curtiss Hoffman, pp. 95-129. Massachusetts Archaeological Society, Attleboro.

Mrozowski, Stephen A.

- 1989 An Archaeobotanical Analysis of the Jethro Coffin House, Nantucket, Massachusetts. In A Preliminary Archaeological Survey of the Jethro Coffin House, Nantucket, Massachusetts, by Duncan Ritchie, Appendix II, pp. 1-13. The Public Archaeology Laboratory, Inc., Pawtucket, RI.

NOAA

- 1975 Chart of Nantucket Harbor, # 13242. National Oceanic and Atmospheric Administration. U.S. Department of Commerce, Washington, D.C.

Trinkaus, Erik

- 1982 The Human Skeleton from the Nantucket Field Station Site. Bulletin of the Massachusetts Archaeological Society 43:37-39.

Turcheon, Frederic H.

- 1979 Report on the Archaeological Investigations Conducted on the University of Massachusetts Nantucket Field Station for the Proposed Field Station Sewage Disposal System. Submitted to the Commonwealth of Massachusetts, University of Massachusetts, Boston, and to the Nantucket Historical Association.

- 1982 A Woodland Burial from Nantucket. Bulletin of the Massachusetts Archaeological Society 43:34-37.

APPENDIX 1.

MHC PERMIT #1117 TO CONDUCT ARCHAEOLOGICAL FIELD INVESTIGATION.

APPENDIX B

COMMONWEALTH OF MASSACHUSETTS

SECRETARY OF STATE: MASSACHUSETTS HISTORICAL COMMISSION

PERMIT APPLICATION: ARCHEOLOGICAL FIELD INVESTIGATION

A. General Information

Pursuant to Section 27C of Chapter 9 of the General Laws and according to the regulations outlined in 950 CMR 70.00, a permit to conduct a field investigation is hereby requested.

1. Name Elizabeth A. Little
2. Institution/Address Nantucket Historical Association, Nantucket MA
3. Project Location Field School, Quaise
4. Town Nantucket, MA
5. Attach a copy of a U.S.G.S. quadrangle with the project area clearly marked.
6. Property Owner(s) University of Massachusetts (Dr. W. Tiffney, Director)
7. The applicant affirms that the owner has been notified and has agreed that the applicant may perform the proposed field investigation.
8. The proposed field investigation is for a:
(circle one)
 - a. Reconnaissance Survey
 - b. Intensive Survey
 - c. Site Examination
 - d. Data Recovery

B. Professional Qualifications

1. Attach a personnel chart and project schedule as described in 950 CMR 70.11(b).
2. Include copies of curricula vitarum of key personnel (unless already on file with the State Archeologist.)

950 CMR: DEPARTMENT OF THE STATE SECRETARY

C. Research Design

1. Attach a narrative description of the proposed Research Design according to the requirements of 950 CMR 70.11.
2. The Applicant agrees to perform the field investigation according to the standards outlined in 950 CMR 70.13
3. The Applicant agrees to submit a Summary Report, prepared according to the standards outlined in 950 CMR 70.14, by Feb. 1, 1991
date
4. The specimens recovered during performance of the proposed field investigation will be curated at Nantucket Historical Association
(M.G.L. c. 9, s. 27C) curatorial facility

SIGNATURE

Elizabeth A. Little
APPLICANT

22 May 1990
DATE

Elizabeth A. Little, curator for prehistoric archaeology, Nantucket Historical Association

**37 Conant Road, Lincoln MA 01773
4 North Ave., Nantucket MA 02554**

**617-259-9397
508-228-4381**

22 May 1990

**ATTACHMENTS TO PERMIT APPLICATION, ARCHAEOLOGICAL RECONNAISSANCE
SURVEY AT UMASS FIELD SCHOOL, NANTUCKET, AUGUST 1990:**

PERSONNEL CHART:

Principal investigator: Dr. Elizabeth A. Little, curator for prehistoric archaeology, Nantucket
Historical Association, P.O. Box 1016, Nantucket MA 02554.

Supervisor: Dr. Wesley Tiffney, Director of the University of Massachusetts Field Station, Nantucket
MA.

Consultant: Dr. Barbara Luedtke, Department of Anthropology, University of Massachusetts, Boston.

PROJECT SCHEDULE:

A presentation and field trip sponsored by the Maria Mitchell Natural Science Center at Nantucket entitled: Nantucket Archaeology: Preserving the Heritage of the Past 10,000 Years, is planned for the latter part of August 1990. Dr. Little plans to consult with Dr. Luedtke about a suitable location for the test pit. The day before the field trip, she plans to survey the test pit location, stake it, and excavate it down to any cultural or shell level, and half of it down to sterile soil, covering it with plastic for the night. During the presentation she plans to finish the excavation, demonstrating procedures of measuring, recording and bagging. The following day, she will finish up, covering the excavation with the sod removed at the commencement of the excavation. The total time estimated for the field work is one day.

RESEARCH DESIGN:

1) The purpose of the field investigation is to demonstrate to approximately 20 interested persons on Nantucket a prehistoric archaeological site, how it is examined and analyzed, and how we are trying to preserve archaeological sites on Nantucket. This will constitute the field trip portion of the presentation, of which the first part, with slides and handouts, will be indoors at the Maria Mitchell

Science Center, Vestal Street, Nantucket.

2) The Field School has already been surveyed (Luedtke, 1979 An Archaeological Survey of the University of Massachusetts Nantucket Field Station. Report submitted to the Massachusetts Historical Commission). I propose to chose, in consultation with Professor Luedtke, a spot where shell remains are known to be.

3) I would plan to shovel and trowel excavate a 30 x 30 cm test pit to sterile soil, hoping to find, especially in profile, a cultural level indicated by shell. I shall screen (either or both 1/4" mesh and 1/16" mesh) all soil. All artifacts will be identified as to level and labelled and bagged. All shell and bone will also be bagged, labelled and saved for research purposes.

4) In order to correct C-14 dates on marine shell or bone and marine food consumers (humans), the marine and continental reservoir effects in shell are important to establish at a given locality. If we obtain enough shell (30 gm) and some charcoal, we can undertake a C-14 analysis on both for a measurement of the reservoir effect in Nantucket Harbor before modern times. We already have one such measurement from the Quidnet Site (M52/65) which is 306 ± 90 years.

If we obtain only 5 gm of shell, I will plan to obtain through Geochron a measured $\delta^{13}\text{C}$, a number which may indicate the relative amounts of marine ($\delta^{13}\text{C} = +2$ o/oo) and terrestrial ($\delta^{13}\text{C} = -26$ to -13 o/oo) material ingested by archaeological shellfish in the harbor, which has not heretofore been measured on Nantucket shell. This might also be relevant to proposed studies of the harbor.

5) Artifact finds, except for shell, are not required or expected. If 20 people learn to be more considerate of possible archaeological deposits in lands which they own or manage or use, the test pit will have been a success. The δ value on shell carbon will be a bonus and not very costly (\$40).

6) The brief report which will be prepared will provide a USGS map and a more detailed map of the site. It will describe and justify the purpose of the test pit, the area, research design, methodology and research techniques. Quantitative and qualitative descriptions of the artifacts, faunal remains and features will be included.

7) The disturbance of archaeological property at this time is justified for the following reasons. First, the disturbance is very limited: one 30 x 30cm testpit. Secondly, it is our hope and intent to attract some movers and shakers as well as just curious attendees, and involve them in the conservation of Nantucket archaeological sites. Dr. Tiffney suggested that the Field School might be the best site for such a test pit, because the Field School property is well guarded against vandalism. Finally, my current research shows that Nantucket has no measured $\delta^{13}\text{C}$ values, an important measurement for research issues in estuaries today. This is not the only place on the island archaeological shell can be obtained, but the Field School is a very well studied and controlled site and offers long-term context.



PERMIT TO CONDUCT ARCHAEOLOGICAL FIELD INVESTIGATION

Permit Number 1117

Date of Issue June 13, 1990

Expiration Date June 13, 1991

Elizabeth A. Little, Nantucket Historical Association, is hereby authorized to conduct an archaeological field investigation pursuant to Section 27c of Chapter 9 of the General Laws and according to the regulations outlined in 950 CMR 70.00.

Nantucket Field Station, Quaise, Nantucket, MA.

Project Location

Brona Simon
Brona Simon, State Archaeologist
Massachusetts Historical Commission

Massachusetts Historical Commission, Valerie A. Talmage, *Executive Director, State Historic Preservation Officer*
80 Boylston Street, Boston, Massachusetts 02116 (617) 727-8470

Office of the Secretary of State, Michael J. Connolly, *Secretary*

APPENDIX 2. NEWSPAPER CLIPPINGS

Nantucket Beacon 6/27/90.

Nantucket Inquirer and Mirror 7/5/90.

Nantucket Inquirer and Mirror 8/9/90.

Nantucket Inquirer and Mirror 8/16/90.

Archaeology group seeks members

Are you an amateur archaeologist? Out of curiosity many of us notice or collect odd-looking pieces of stone, pottery, bone, glass or shell, or items that appear to have carving on them. Many things which are meaningless to most of us can be very revealing to an archaeologist. If you would like to join an amateur archaeologist group on Nantucket, or have any information or questions, call Marie Schnetzler, 228-5865, or write P.O. Box 291, Nantucket, MA 02554.

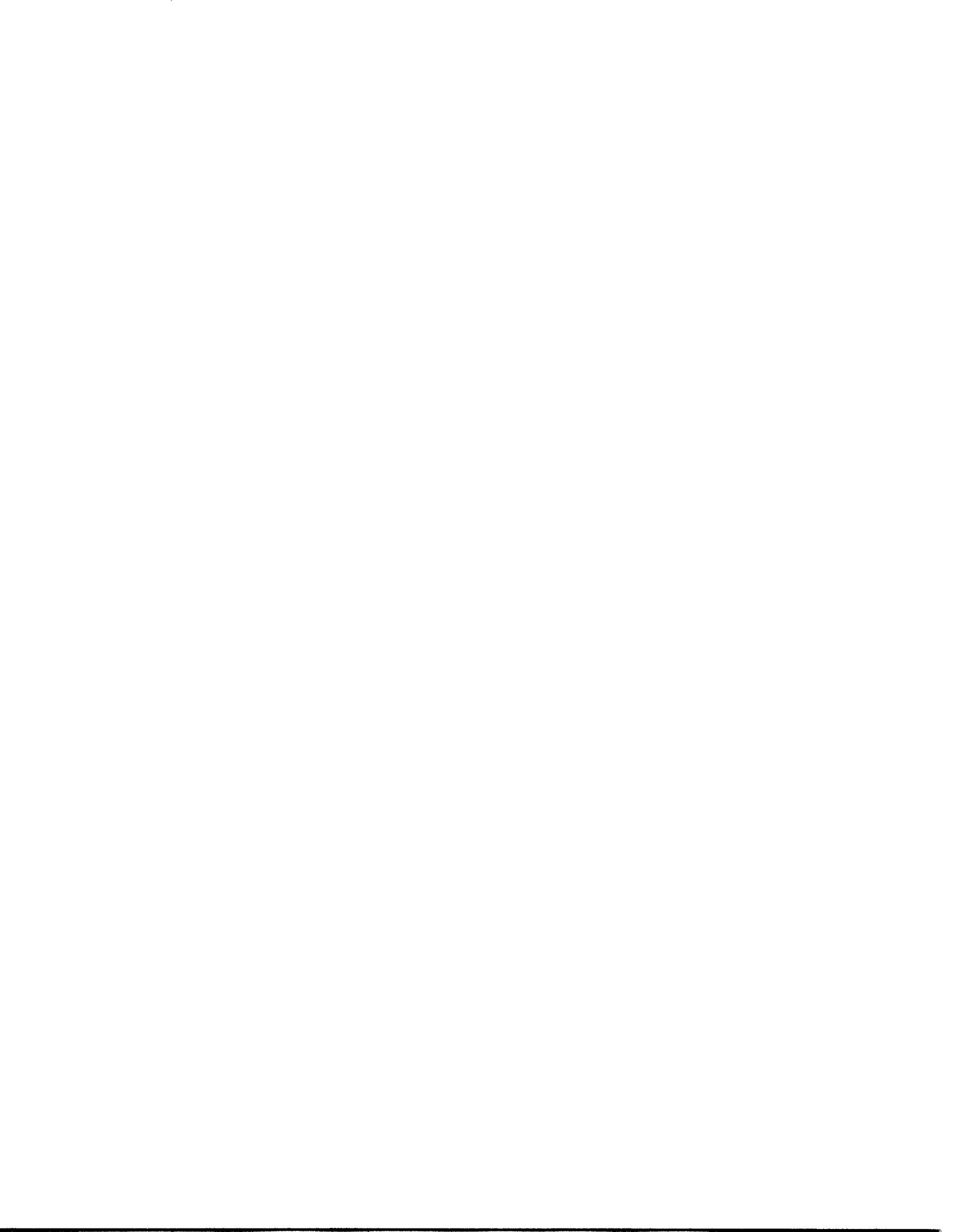
6/27/90 History underfoot

To the editor: *Beacon*

Are you an amateur archaeologist? Out of curiosity many of us notice or collect odd-looking pieces of stone, pottery, bone, glass, metal, wood, shell or even what appears to be the carvings on stones or rocks. The collector might be the farmer, who turns things up while plowing, the fisherman who dredges things up in his nets, the excavator digging a cellar-hole or a trench, a child playing outdoors, the beachcomber, etc. Many things which are meaningless to most of us can be very revealing to an archaeologists.

Although much is known about Nantucket since the colonial days, we know little about it's history before that time. Although visits along the coast of New England by Norsemen (some even say Phoenicians, too) have been documented, and Nantucket's location would have been made it a very likely stopping place for early explorers, no evidence has yet been found of European contact here before the English colonization in the 1600's. An expert in this field recently told me there may, however, very well be evidence here, only people are not aware of it, or for lack of a local collection point for interesting stories or finds, they don't know what to do with what they may have collected. It is possible, for example, that an item which appears to be of Indian origin, is actually of European origin. If you would like to join an amateur archaeologists group on Nantucket, or have any information or questions, please let me know, Marie Schnetzler, Tel. (508) 228-5865 (P.O. Box 291, Nantucket, Ma. 02554.)

MARIE SCHNETZLER



Maria Mitchell lecture focuses on archaeology

By Christina Wilson
Special Writer

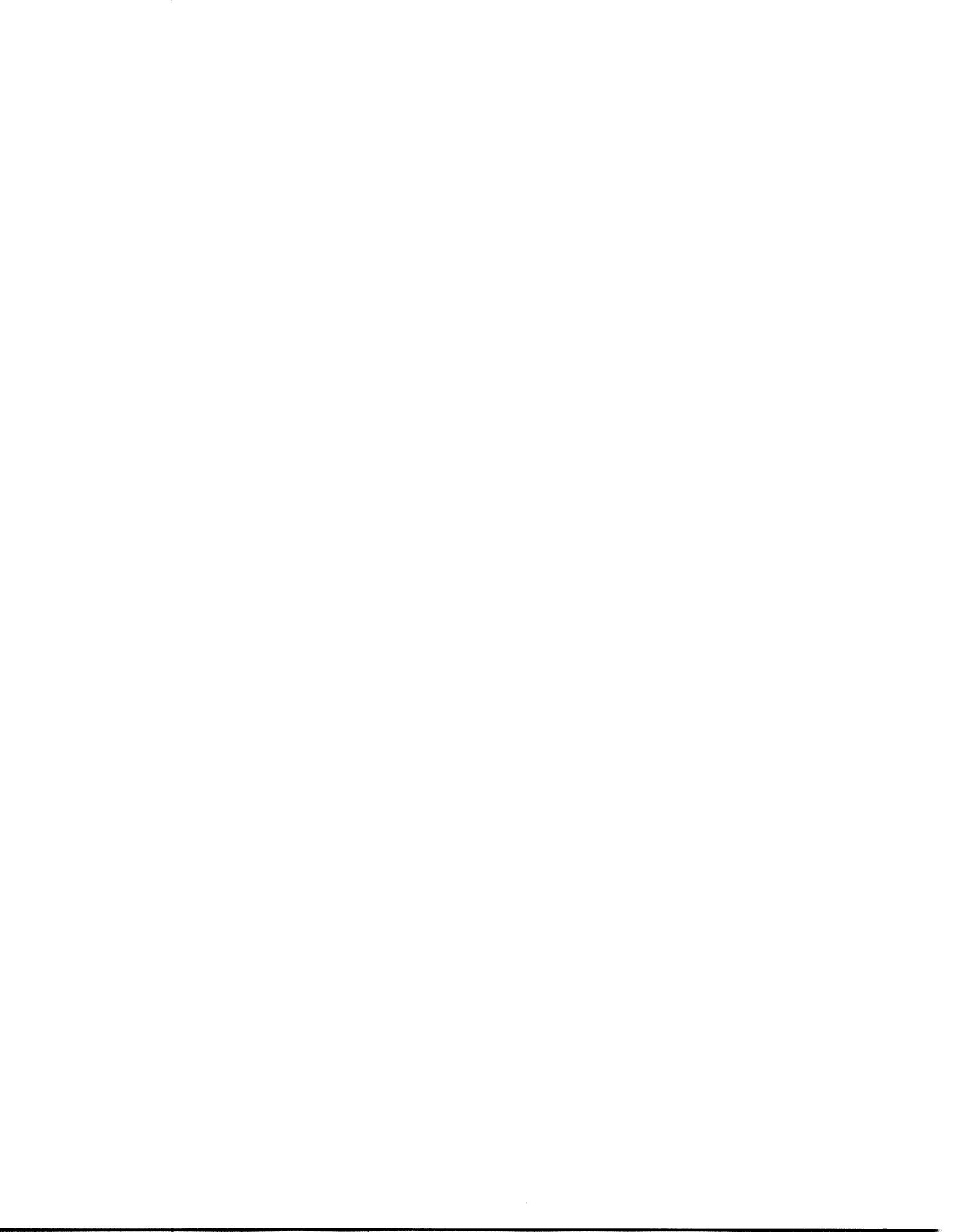
Approximately 3000 Indians were living on Nantucket in 1642 when Thomas Mayhew came to the island. Exposure to European culture gradually transformed the Indian life. With Christianity came literacy. Indian culture has thus been preserved in written documents (see Goddard and Bragdon 1988).

In order to gain an understanding of Nantucket's pre-contact, pre-document history, one must turn to the archaeological record. Nantucket's island geography presents a particular challenge to archaeology. Only through an examination of undisturbed sites can the archaeologist begin to construct a complete picture of the past. On the island, of limited space, bounded on all sides by the ocean, and threatened by development from within, undisturbed sites are difficult to find. It has become vital for each and every island inhabitant to respect the need for preservation.

On August 15, 1990 from 2 to 4 p.m., the Maria Mitchell Natural Science Center is sponsoring a seminar entitled "Nantucket Archaeology: Preserving the Heritage of the Past 10,000 Years." The class is open to adults who are members of the Maria Mitchell Association. Enrollment is limited to 25 people. Participants will meet at Hinchman House at 2 p.m. for slides and a lecture. The second portion of the class will take place at the University of Massachusetts Field Station. Participants will become familiar with archaeological field techniques through a demonstration excavation. The course will be taught by Dr. Elizabeth Little, curator for the Nantucket Historical Association. Dr. Little is an expert on Nantucket prehistory. Her articles have appeared in numerous archaeological journals including the "Michigan Continental Journal of Archaeology," and the "Maine in the Northeast."

The course fee is \$20.00. For information, contact Hinchman House at 228-0898.

Nantucket Inquirer and Mirror 8/9/90.



U/Mass Field Station a break for city students

By Mary Lancaster
Staff Writer

Middle school students from Roxbury, North Dorchester and south Boston have had a break from the city heat this week. Chosen to participate in a special program called Urban Scholars, 26 girls and boys are spending four days at the U/Mass field station studying marine life and taking refreshing dips in the ocean to cool off.

"I've been having so much fun I didn't even realize how much I was learning. When it's fun you learn more," said 13-year-old Syreeta Stephens.

Urban Scholars is a U/Mass, Boston math and science program for gifted students whose potential isn't being tapped in the public school system, explained program co-ordinator Jody Higgins. The middle school program grew out of the four-year-old high school program

and is for 7th and 8th graders who show talent, commitment, interest and ability.

The pupils are considered students at risk because without a strong math and science background they have difficulty competing at the college level with students who received private or suburban educations, said Higgins. During the summer, Urban Scholars have seven weeks of intensive tutoring and classes as a supplement to their academic year.

Urban Scholars is primarily state funded, but was recently given a federal grant to expand its middle school program, said Higgins. This is the first time students have been brought to Nantucket.

"This is hands-on field work," said Higgins. "The purpose was to get them to think, to experience and to touch things — things they

normally wouldn't touch at home."

This week the students went snorkeling to bring up marine life that was examined under microscopes at the field station lab. They've learned Nantucket's native American history, studied astronomy, had a science treasure hunt and traveled to local museums. The students also helped sift dirt with Nantucket Historical Association's archaeologist, Betty Little, and were excited to find bones, pottery and shells.

The group agreed that not only has the trip been fun, they've absorbed a greater understanding of science by being able to see what they're learning about and really investigate its functions.

"I've enjoyed it because it's fun, and it's learning about the animals you see here and the island," said 13-year-old Allie Khan. "I'd like to come back."

Nantucket Inquirer and Mirror 8/16/90.

APPENDIX 3. OUTLINE FOR ARCHAEOLOGICAL PRESENTATION, MMA 8/15/90.

Outline for Archaeological Presentation
Maria Mitchell Association, 2 Vestal St., Nantucket MA 02554
2 PM August 15 1990 (2 hours)

NANTUCKET ARCHAEOLOGY: PRESERVING THE HERITAGE OF THE PAST 10,000 YEARS.

Geological/glacial Background: Dr. Wesley Tiffney, 10 minutes

Effects of melting glaciers, and sea level rise and transgression and erosion by the sea for 18,000 years: on mammoths, mastodons, palaeoindians and on prehistoric sites at Nantucket Island. Island biogeography-faunal extinctions.

Pollen studies: evidence for changes in vegetation due to plant migration, climate, and anthropogenic effects (fire, land clearance for hunting or horticulture). Introduction of the tropical cultigen, maize, to the Northeast about A.D. 1000.

Time line of tools and technology.

Historic Indians of Nantucket: Data from deeds, wills, maps, account books. Whaling, sickness, settlement pattern changes around 1764.

Archaeological Studies: site distribution as function of the environmental variables, shellfish habitat, fresh water, NW winter wind protection. Lacking gold at Northeastern sites, we treasure undisturbed strata which preserve charcoal for radiocarbon dating, shell and fish and animal bone for climatic, seasonal and oceanic isotopic records. Lithic materials sometimes indicate distant sources of stone for tools (steatite, Onondaga chert, obsidian).

Site discovery (and destruction): by erosion, development, vandalism, controlled, scientific survey and excavation.

[Move to UMass Field Station, Quaise, to examine test pit (Mass. Historical Commission permit #1117), and procedures for study of prehistoric middens (garbage) at Nantucket.]

Needs: adequate funding for modern, high-tech archaeology. Maria Mitchell and NHA are funding radiocarbon dates and isotope studies on prehistoric human burials salvaged under the 1983 Massachusetts Unmarked Burial Law (the Massachusetts Historical Commission may study the bones for one year, after which they are returned to the Massachusetts Indian Commission for reburial).

Wise use of archaeological sites. With the cooperation of landowners and the public, preservation of significant sites for future study techniques and research questions. When the developers are ready to move in, it is usually too late to preserve the site. To emphasize: there are no laws enabling archaeological remains to be used to prevent development.

Need: slide projector and carousel for 35 mm slides; 4 cars to transport people. I have a Bronco II, will hold 5 in seats and 2 more agile people sitting on rear baggage floor. Rain or shine; we can extend the indoor part and shorten the outdoor part if it rains heavily.

APPENDIX 4. ARCHAEOBOTANICAL IDENTIFICATION BY TONYA LARGY, 1990.

ARCHAEOBOTANICAL IDENTIFICATION - UNIVERSITY OF MASSACHUSETTS

FIELD STATION, NANTUCKET, MASSACHUSETTS

by

Tonya Largy

Archaeobotany Consultant

Report Submitted to

Elizabeth Little

Nantucket Historical Association

Nantucket Island, Massachusetts

September 17, 1990



ARCHAEOBOTANICAL IDENTIFICATION - UNIVERSITY OF MASSACHUSETTS

FIELD STATION, NANTUCKET, MASSACHUSETTS

by
Tonya Largy

Introduction and Analytical Methods

One sample of archaeobotanical materials recovered by flotation was submitted for analysis by Ms. Elizabeth Little, curator of archaeology, Nantucket Historical Association. The sample was taken from test pit 1990-1, level 2, 7cm.-10 cm. below surface.

The materials were examined under low magnification (10X to 20X) using a binocular dissecting microscope (Wild M3Z). Specimens were handled with "featherlite" forceps and placed in size "000" gelatin capsules. Species identification was written on a paper label which was placed in the capsule with the specimen.

Identification of seeds was made using the analyst's comparative collection of modern seeds. In addition the following manuals were consulted: The Seed Identification Manual by Martin and Barkley, and Seeds and Fruits of Plants of Eastern Canada and Northeastern United States by Montgomery. Seymour's Flora of New England was also consulted.

The sample consists of seeds, invertebrate remains, very small degraded wood fragments, stones and one concretion. Materials other than seeds were placed under the category marked "other". All are listed in Table 1. It

should be noted that all materials are uncharred.

Interpretation of Archaeological Plant Remains

The interpretation of archaeological plant remains recovered by flotation is a complex matter necessarily requiring careful deliberation, especially in the case of wild plant foods. Pre-agricultural peoples relied heavily on wild plant foods for their subsistence. Carbonized seeds from fruits and berries, and nutshell are the most frequent remains preserved by accidentally falling into the hearth during food preparation or by disposal of food remains from a meal as well as the by-products of food processing. However, these same items might have been carbonized by blowing into a fire or by being caught in a generalized "burn" over an area either from cultural activities or from a natural event.

Added to this is the interpretation of uncharred seeds. Are they necessarily modern seeds which have intruded into archaeological deposits or is it possible that the uncharred seeds were deposited contemporaneously with occupation of the site, and survived to be recovered by the flotation process? Keepax (1977) has written about contamination of samples, including the role of invertebrates in soil disturbance. Strauss (1981) elaborated on the effects of earthworms and small, mound-building ants on archaeological sediments. Minnis (1981) has contributed a discussion of prehistoric seed rain preservation in a cogent, well-presented article on interpretive problems.

Kaplan and Maina (1977) discuss longevity of non-

carbonized plant remains and suggest the importance of off-site controls in interpreting the data recovered.

The question of intrusion is pertinent to the interpretation of all archaeological recoveries, even more so when interpreting plant remains. Thomas (1975:75-76) has pointed out that "The question of intrusion is a fact which must be decided in the field, not in retrospect...flotation, itself, cannot discriminate between recent and aboriginal remains, but if care is taken in collecting the sample for flotation, any intrusive disturbances should be noted. With a controlled sample and proper procedure flotation can discriminate." What Thomas says is true; however, in the field, it is often difficult to discern the subtle disturbance caused by earthworms, ants and other species of invertebrates.

The literature reflects the difficulty in interpreting uncharred seeds recovered in flotation. According to Minnis, "Many ethnobotanists use this basic rule: **unless there is a specific reason to believe otherwise**, only charred remains will be considered prehistoric" (1981).

Seed Data

Species present include Myrica (bayberry), Phytolacca americana (pokeweed), Plantago [lanceolata] (plantain, rib grass), and one severely degraded seed which may be Gramineae (grass family). Bayberry and pokeweed are native to New England while several species of plantain are introduced from Europe. The seeds from test pit 1990-1 strongly resemble



Plantago lanceolata. They definitely are not P. major, P. maritima, P. rugelii, or P. aristata.

Little is understood about the preservation of seeds in New England soils. However, seeds with a denser texture such as bayberry may be expected to last in the ground for a longer period of time than those with a thin testa, or seed coat, lasting long after the shrub has been removed. The two seeds of plantain look much more recent than the other species. The presence of a modern-looking seed capsule of Plantago, spp. strongly suggests the seeds are very recent. The bayberry nutlets and the possible grass seed are fairly degraded, implying earlier deposition in the soils.

In the absence of radiocarbon dating for the flakes found in this test pit, my conclusion is that the seeds of bayberry probably were deposited in more recent times, perhaps during the last one hundred years. The pokeweed and grass seed also are probably of more recent times.

TABLE 1. ALL MATERIALS FROM TEST PIT 1990-1

Qty.	Taxon
SEEDS	
2 complete	<u>Myrica pennsylvanica</u>
6 1/2 to 3/4 complete	" "
10 frags. less than 1/2	" "
1	<u>Phytolacca americana</u>
2	<u>Plantago [lanceolata]</u>
1	<u>Gramineae ?</u>
WOOD	
2	Degraded fragments
OTHER	
1 seed capsule frag.	<u>Plantago, sp.</u>
3 fragments	Invertebrate
1	Invertebrate egg case
1	Concretion
5	Stone

TOTAL SEEDS = 6 PLUS 16 FRAGMENTS



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APPENDIX 5. VASCULAR PLANT SPECIES IN THE VICINITY OF TEST PIT 1990-1,
UNIVERSITY OF MASSACHUSETTS FIELD STATION¹

by Wesley N. Tiffney, November 15, 1990

Within 5 m of the Pit:

Planted lawn grasses

Ligustrum vulgare L. (privet)

Solidago sp. (goldenrod)

Taraxacum officinale Weber (common dandelion)

Chrysanthemum leucanthemum L. (ox-eye daisy)

Within 10 m of the Pit:

Taxus canadensis Marsh (yew)

Myrica pensylvanica Loisel (bayberry)

Within 50 m of the Pit:

Pinus rigida Mill. (pitch pine)

Juniperus virginiana L. (red cedar)

Baccharis halimifolia L. (sea-myrtle)

Lonicera sp. (honeysuckle)

Parthenocissus quinquefolia (L.) Planch. (Virginia creeper)

Ilex verticillata (L.) Gray (winterberry)

Asclepias sp. (milkweed)

Elaeagnus umbellata Thunb. (autumn olive)

Rosa rugosa Thunb. (rough or seaside rose)

Hydrangea sp. (hydrangea)

Note: The nearest Phytolacca americana L. (poke) and Plantago major L. (common Plantago or Englishman's foot) are about 200 m from the pit.

¹ Nomenclature is that of: Fernald, M. L. 1950. Gray's Manual of Botany (eighth ed., corrected printing, 1970). D. Van Nostrand Co., N.Y.



