



**CULTURAL INVESTIGATION PLANS
EASTERN SURPLUS COMPANY SUPERFUND SITE
MEDDYBEMPS, MAINE**

RESPONSE ACTION CONTRACT (RAC), REGION I

**For
U.S. Environmental Protection Agency**

**By
Tetra Tech NUS, Inc.**

Superfund Records Center
SITE: Eastern
BREAK: 76
OTHER: _____

**EPA Contract No. 68-W6-0045
EPA Work Assignment No. 047-TATA-0189
TtNUS Project No. N0551**

January 2001



TETRA TECH NUS, INC.

**CULTURAL INVESTIGATION PLANS
EASTERN SURPLUS COMPANY SUPERFUND SITE
MEDDYBEMPS, MAINE**

RESPONSE ACTION CONTRACT (RAC), REGION I

**For
U.S. Environmental Protection Agency**

**By
Tetra Tech NUS, Inc.**

**EPA Contract No. 68-W6-0045
EPA Work Assignment No. 047-TATA-0189
TtNUS Project No. N0551**

January 2001



TETRA TECH NUS, INC.

**TABLE OF CONTENTS
CULTURAL INVESTIGATION PLANS
EASTERN SURPLUS COMPANY SUPERFUND SITE
MEDDYBEMPS, MAINE**

SECTION

- 1.0 RESEARCH DESIGN FOR ARCHAEOLOGICAL DATA RECOVERY AT SITE 96.02**
- 2.0 CULTURAL RESOURCES MANAGEMENT PLAN**
- 3.0 PHASE III DATA RECOVERY AT ARCHAEOLOGICAL SITE 96.02,
IMPLEMENTATION PLAN**

**RESEARCH DESIGN FOR ARCHAEOLOGICAL DATA RECOVERY AT SITE 96.02
EASTERN SURPLUS COMPANY SUPERFUND SITE, WASHINGTON COUNTY,
MEDDYBEMPS, MAINE**

Prepared for the

**U.S. Environmental Protection Agency
Region 1**

1 Congress Street, Suite 110
Boston, MA 02114-0223

through

Tetra Tech NUS, Inc.
55 Jonspin Road
Wilmington, MA 01887-1020

Prepared by

Richard Will, Ph.D.
Archaeological Research Consultants, Inc.
71 Oak Street
Ellsworth, Maine 04605

February 25, 2000

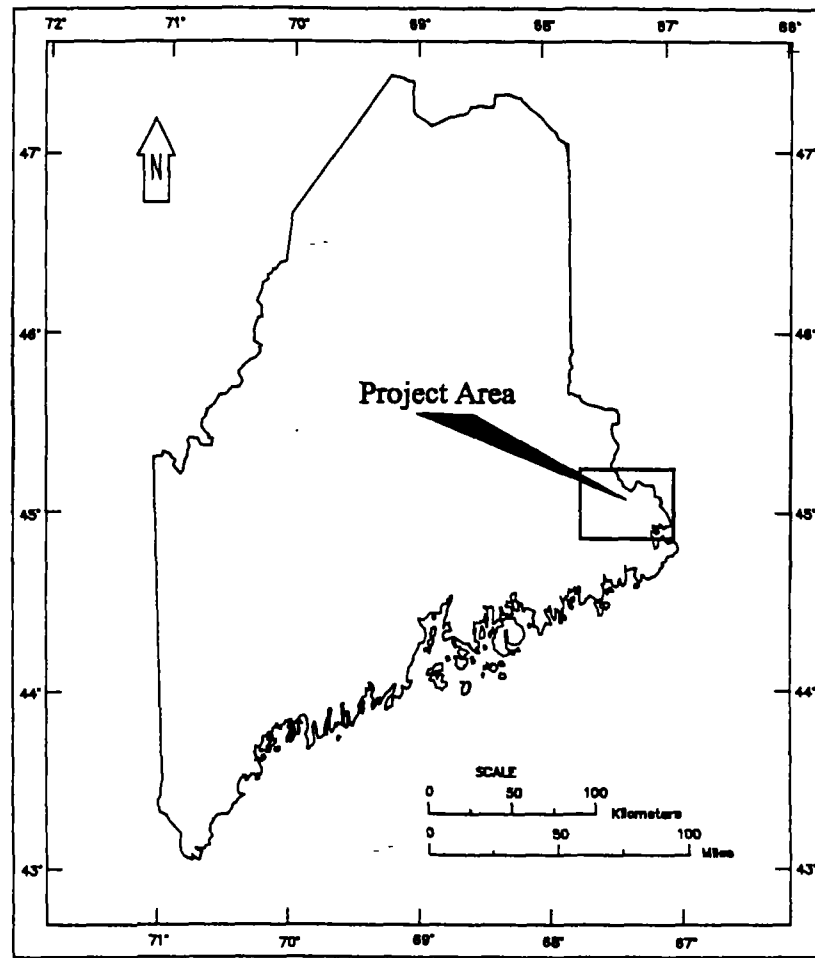
Introduction

Prehistoric archaeological site 96.02 is located within the Eastern Surplus Company Superfund Site, in the town of Meddybemps, Washington County, Maine (Figure 1). The site is believed to cover a roughly rectangular area of approximately 10,700 m². A total of 4,755 pre-European artifacts and other archaeological materials were recovered from the site during fieldwork in 1999 (Will 1999a, 1999b; Will et al. 2000). The artifacts consist of aboriginal ceramics and lithic tools, including a variety of chipped-stone projectile points and scrapers, groundstone implements, and chipping debris. Other materials collected include calcined food bone remains, soil samples, and charcoal samples for radiocarbon dating. Nine features were also recorded, however, some of these are likely portions of buried soil surfaces or living floors rather than discreet cultural events. The archaeological evidence suggests that the site contains intact cultural material attributable to the Middle and Late Archaic Period study units (ca. 8,000 - 3,000 years ago) and perhaps the earliest portion of the Ceramic Period study unit (ca. 3,000 - 2,000 years ago). A Middle Ceramic Period component (ca. 2,000 - 1,000 years ago) is also present at the site, but it has been severely disturbed by plowing and other cultural, as well as natural activities. Archaeological evaluation of site 96.02 resulted in the determination that it is eligible for listing in the National Register of Historic Places (Will et al. 2000) (letter from Dr. Arthur Spiess of the Maine Historic Preservation Commission to Mr. Edward Hathaway of the U.S Environmental Protection Agency - February 7, 2000). The EPA and its consulting parties have concluded that environmental cleanup activities at the Eastern Surplus Company Superfund Site have had adverse effects upon site 96.02 and that archaeological mitigation should minimally involve field study of an additional 200 m² of the site (draft Memorandum of Agreement - January 6, 2000). This document provides a research design for data recovery and analyses of archaeological materials to be excavated to mitigate the effects of cleanup of the superfund site on site 96.02.

Research Design

According to the Maine Historic Preservation Officer, mitigation through data recovery

"will follow a scientific research proposal designed to maximize data recovery The goal . . . is not necessarily to prove a particular theoretical point, or recover data addressing just one category of inquiry. The Principal Investigator must demonstrate awareness of a broad range of research goals and problems that can be addressed by the data preserved in the site. The data recovery techniques proposed must be sufficient to do the best current possible job recovering as much potential data as possible from the ground for the widest range of research goals" (27 MRSA S.509).



Archaeological Research Consultants, Inc.
 71 Oak Street, Ellsworth, Maine 04605
 Phone (207) 667-4055; Fax (207) 667-0485

PROJECT: Eastern Surplus Company Superfund Site

CLIENT: Tetra Tech NUS

DRAWING: Figure 1. Project Area

DATE: 01/28/2000

DRAWN BY: JAC

FILE: D:\Projects\Meddybemps\CRMP-Fig1.dwg

This research design identifies the scientific potential of additional study of site 96.02 in terms of the Maine State Plan for Prehistoric Archaeology (Spiess 1990). The plan identifies twelve research themes that "form a consistent set of focal points for assessing current knowledge, and the contribution of any single site, to the study of prehistory (Spiess 1990:121) (see Table 1). Data on some of the themes listed in Table 1 have been collected from a wide variety of sites located in Maine -- especially information on theme 1, culture history. However, site 96.02 falls within Management Unit 25 - a geographic unit that "reflects some reality in the prehistoric use of Maine's landscape" that includes the eastern Washington County lakes (Spiess 1990:127, 131). This is an area that has not been extensively studied, as reported in Will et al. (2000:4-5), so that even the culture history of this area is not well known.

Based on the data recovered in 1999, minimally research themes 1, 2, 3, and 5 can be examined with more study of site 96.02 (Will et al. 2000). Each of these themes is considered here. It should be noted that only a small amount of the site has been excavated and that additional excavation may result in the recovery of data that are pertinent to address other research themes presented in Table 1. Consequently, there will need to be some flexibility in the implementation of this research design to accommodate previously unrecognized data sets.

Theme 1

Theme 1 concerns identifying and understanding pre-European cultural chronologies in the area. Investigations by Cox (1991, 1995, 1998; Cox and Bourque 1986, 1989) and others (e.g., Kopec 1985; Sanger and Kellogg 1985) have documented pre-European use of far eastern Maine during the Late Archaic and Ceramic Period (ca. 6,000 years ago to the time of contact with Europeans). Such information, however, has only been gathered through excavation at a few sites and examination of several artifact collections.

Site 96.02 preserves a record of human use of the shores of Meddybemps Lake that extends to more than 6,000 years ago but seems to end sometime before 1,000 years ago. Therefore, one area of research must be the elucidation of the earliest use of the site and the explanation for why the site does not contain archaeological remains from the Late Ceramic Period (ca. 1,000 years ago to the time of contact with Europeans). This research issue will be addressed through the detailed analyses of features and artifacts, radiocarbon dating, and paleoenvironmental reconstruction.

Features. Nine features or portions of living surfaces with carbonized organic remains were discovered during excavation of 36.75 m² of the site in 1999 (Will et al. 2000). Many more features are likely to be uncovered during the additional excavation of 200 m². A feature in Maine archaeology, such as a fire hearth, represents a cultural event that was of short duration and that was produced by a small group of hunters and gatherers. Features provide archaeologists with their best information concerning when sites

were inhabited and who were the occupants. Consequently, features encountered during additional excavation at site 96.02 will be sampled for small artifacts and plant and animal remains by collecting bulk samples for water screening and flotation. The bulk samples will be subsequently water screened through 1/8" screen mesh to recover small or fragmentary artifacts or items, such as calcined bone, that would otherwise be missed in the field using 1/4" screen mesh. The samples will also be floated to recover carbonized plant remains for paleobotanical and subsistence analyses described below. Each bulk sample should minimally include 10 liters of feature fill.

Artifacts. Classification and understanding of artifacts from pre-European sites in Maine has advanced to the stage where it is possible to determine temporal/cultural association in most cases. All artifacts will be collected and characterized by manufacturing material, methods of production, and morphology (as defined by quantitative and qualitative attributes) so that they can be assigned a temporal/cultural association. Temporal/cultural assignment must be based on careful study of published data on artifacts from other Maine sites and other sites in northern New England or the Maritime Provinces in order to make regional comparisons.

At this point in time, research by Petersen and Sanger (1991) has provided the most time-sensitive chronology for aboriginal pottery in northern New England and the Maritime Provinces. The ceramic chronology has been used with great success to study aboriginal pottery collections from several pre-European sites in Maine to understand site chronology when other types of archaeological data were either absent or nondiagnostic (e.g., Wilson, Will, and Cormier 1994; Mack and Will 1999; Moore, Clark, and Will 1999; and Clark et al. 1999). This chronology and the analysis methods used for it should be applied to study the aboriginal ceramics from site 96.02 so that regional comparisons may be possible.

Recent thinking and intensive study of artifacts recovered from Early and Middle Archaic Period sites in Maine has shown that specimens from these cultural periods may not resemble artifacts of similar age from outside of Maine. Robinson (1992) has assigned meaning to these seemingly nondiagnostic archaeological assemblages by postulating technological patterning that has otherwise gone unrecognized. He proposes a new technological tradition, termed "the Gulf of Maine Archaic," which is characterized by "three broad patterns: 1) a flaked stone industry dominated by core, uniface and flake technology; 2) a relatively minor role of biface and flaked stone projectile points; and 3) the early development of a diverse assemblage of ground stone tools, including ground stone rods, full-channeled gouges, celts and adzes, among other forms. It is the combination of these broad lithic patterns as a polythetic set that is considered to be diagnostic of the tradition. No single artifact type is to be considered diagnostic of, or exclusive to,

Table 1. Archaeological Research Significance Themes

Research Significance Theme	Description
1. Cultural History	Elucidating archaeological cultural chronologies and tracing ethnohistory and ancestry of Native American groups.
2. Settlement Patterns	Studying distribution of sites across state, in relation to specific land forms, and with respect to intrasite patterning.
3. Subsistence Patterns	Studying faunal and floral remains for interpreting intrasite and intersite variation in food acquisition and use.
4. Mortuary Practices	Studying burial remains including single graves and cemeteries to develop interpretations of various aspects of social organization and religious beliefs.
5. Transportation, Travel, Trade, and Commerce	Investigating quarrying activities and movement of lithic materials and other goods across the landscape. It also includes studying the scale of regional cultural contacts that occurred among people and the identification of reasons for such contacts.
6. Social and Political Organization	Examining sites or groups of sites to investigate sociopolitical organization, especially of groups organized into units larger than the band.
7. Laboratory and Field Techniques	Investigating sites where the situation allows for the application of field and laboratory techniques not currently used or the testing of new techniques.
8. Anthropological Archaeology	Investigating anthropological issues that are associated with the study of "New Archaeology".
9. Human Biology	Studying human skeletal remains for the purpose of learning about demographics, general health, disease, and diet of prehistoric peoples.
10. Environmental Studies	Covering topics directly related to understanding the paleoenvironmental contexts of sites that have significance in relation to other themes.
11. Non-Mortuary Practices	Including the study of special purpose sites such as petroglyphs that can contribute to understanding non-material aspects of past cultures.
12. Cultural Boundaries	Studying sites that contribute information on location and changes in location of cultural boundaries through time and across state.

Source: Spiess (1990: 121-26).

the tradition" (1992:96). Robinson (1992:98) goes on to argue that, "[I]t is not proposed that bifaces were not produced in the Gulf of Maine Archaic tradition, but rather that they were not systematically employed as projectile points" (emphasis in original). Artifacts from the deepest portions of site 96.02, when considered as an assemblage, show similarities to this newly defined tradition (see Will 1999b). The Gulf of Maine Archaic technological tradition has not been previously identified in far eastern Maine. Analyses of artifacts from the Middle Archaic Period component of the site should be conducted to identify similarities and differences with the Gulf of Maine Archaic technological tradition. In turn, these data should be used to determine what are the cultural relationships with later Archaic Period assemblages.

Radiocarbon Dating. Radiocarbon dating (14C) is a radiometric method of determining the absolute age of an organic item measured in 14C years before present (1950). Radiocarbon years are not necessarily consistent with calendar years, but correction curves based on tree-ring dating now exist to calibrate them. This dating technique is the most widely used technique for dating archaeological remains in North America. It is the technique that archaeologists use to turn a relative chronology of events into an absolute chronology of events. Very few 14C dates have been obtained on organic materials from archaeological sites in far eastern Maine. One 14C date was obtained on a hearth feature from site 96.02, but it is believed to be too recent in age (Will et al. 2000). Since building a cultural chronology for this site is an important research goal, 14C dating of organic remains from features or contexts associated with artifacts should be a high priority. A minimum of 30 standard dates and five AMS 14C dates (for small, carbonized samples) is estimated for use in building chronology and conducting paleoenvironmental research at site 96.02. Some of these 14C dates will be used to date organic materials from the site while others will be used to date carbon deposits in sediment core to be removed from the bottom of Meddybemps Lake (see below).

Paleoenvironmental Research. Site 96.02 appears to have been used by people over a long time in prehistory during which time the environment in Maine went through a variety of changes involving precipitation, temperature, flora and fauna (e.g., see Davis and Jacobson 1985; Jacobson et al. 1987). Interdisciplinary studies combining research on past environments and people have shown their explanatory power for understanding the relationship between people and their environments. These studies have not been common in Maine, but are becoming more so today (Sanger et al. 1977; Almquist-Jacobson and Sanger 1995, 1999). Paleoenvironmental research at site 96.02 will be used to determine whether changes in Meddybemps Lake levels and local vegetation can assist in understanding why the site area was used at some times and not others in prehistory. This will be accomplished by initially conducting a feasibility study to determine whether the lake is suitable for taking a sediment core. This will be accomplished with some preliminary lake coring using a square-rod piston core. If it is feasible, the study of the core will be used to reconstruct lake levels and vegetation through the analysis of sediments and pollen recovered and

14C dating of the core. Qualified scientists who work directly with the principal investigator will perform these tasks.

Theme 2

Theme 2 deals with understanding site settlement patterns across the region in relation to land use. It is through a comparison of sites of similar age, location, and function that regional models of settlement patterns can be constructed. Objectives of this portion of the study will be to take the results of work completed for studying theme 1 and compare them with similar sites from northern New England and the Maritime Provinces. Minimally, this work will involve library research and consultation with other archaeologists regarding unpublished data.

Theme 3

Theme 3 concerns reconstructing pre-European subsistence patterns. The majority of people who inhabited Maine before the arrival of Europeans in the late 1500s and early 1600s were hunters and gatherers. The exceptions are people who lived south of the Kennebec River valley. The evidence for prehistoric agriculture in Maine is scant and consists of only a handful of archaeological sites where the carbonized remains of corn, beans, and squash have been discovered (Cowie and Petersen 1990; Will et al. 1996). None of these discoveries date to more than 700 years ago (Asch Sidell 1999).

Hunting and gathering patterns changed through time in response to environmental change, hunting pressure, and other factors. Our best record of hunting and fishing activities comes from food bone remains that are found in two forms. The first consists of unburned bone fragments from coastal shell middens that show a wide range of mammals, birds, fish, and reptiles were included in the pre-European diet (e.g., Spiess and Lewis 2000).

The record of unburned faunal bone only extends about 5,000 years into prehistory. This is because unburned bone does not usually preserve in acidic Maine soils. However, unburned bone does preserve in shell middens where the calcium carbonate, which leaches from the shells, neutralizes soil acidity and permits green bone to preserve. However, shell middens are only found on the Maine coast where they are subjected to the combined action of waves and sea-level rise. The cumulative effect is that archaeological evidence for sites greater than 5,000 years in age on the coast has eroded away.

The second type of food bone remains consists of bone fragments that were subjected to a great amount of heat, such as being tossed into fire hearths after all of the meat on them was consumed. Firing the bone causes it to become "calcined," a condition that permits the bone to survive indefinitely even in acidic soils. There are a variety of problems associated with the analyses of calcined animal bone, which are often found in Pre-European sites throughout Maine, including Meddybemps (see Knight 1985). However, Spiess

(1992) has also shown that much subsistence information can be gathered from calcined food bone assemblages-even from Middle and Early Archaic Period sites.

The hunting activities of pre-European people who used site 96.02 will be identified through the analysis of calcined food bone remains, which are preserved in the site. This research will involve identification of the calcined fragments by a specialist trained in zooarchaeology and analyses will minimally include standard quantification methods. These include determining number of individual specimens (NISP) and, where relevant, the minimum number of individuals (MNI). These data will be used for making comparisons with calcined food bone assemblages from other Archaic Period sites in Maine and the Maritime Provinces (see Spiess 1992).

The study of plant food remains from pre-European archaeological sites in Maine is relatively new and has largely been accomplished by Ms. Nancy Asch Sidell (1999). Her studies of carbonized plant remains from 22 sites in northern New England is an important reminder that plant foods were also an important part of the pre-European diet and that many species were used as food, as well as for medicinal and other cultural uses. Evidence for plant gathering generally only preserves in Maine when plant materials have been burned-a process similar to burning bone in that it permits the remains to preserve in acidic soil. Plant gathering did take place at site 96.02. Evidence for this activity is preserved in hearths and on living floors. In addition to collecting samples from hearths for floatation of carbonized plant remains, living floors will also be sampled (with a minimum of 10 liters of sediment from each sample location). The objective will be to identify and compare the plant foods gathered and used at site 96.02 with the plant foods that were used at other pre-European sites in northern New England and the Maritime Provinces. A trained paleobotanist who has experience working with plants in Maine will complete this work. In addition, depending on the interest and willingness of members of the Passamaquoddy Tribe, another research component should be to understand the site botanical remains from an ethnobotanical perspective. Passamaquoddy knowledge of local plant use may be an important key to explaining why certain plant remains are present in carbonized form on site 96.02 in the pre-European context.

Taken together, the calcined food bone remains and the carbonized plant remains will help reconstruct a picture of pre-European diet at site 96.02. This information will be used for beginning to build a model of pre-European subsistence patterns on a regional basis in northern New England and the Maritime Provinces by comparing the subsistence data from this site with that of other sites of similar age. Last, these data will also be useful for the reconstruction of the paleoenvironment during the time of site occupation.

Theme 5

This theme deals with transportation, travel, trade, and commerce among pre-European peoples. Collecting data to address this research theme must come from a regional analysis and should acknowledge

some of the implicit assumptions required to discuss pre-European travel, trade, and commerce. Data on lithic types and sources is traditionally used to address this topic. Non-local rock types in archaeological collections are used as evidence to support either long-distance travel or trade. The assumption being if people traded and transported lithic materials, then they likely also traded or obtained on their own more perishable materials as well. The distinction between these two forms of lithic acquisition is important for reconstructing pre-European commerce. On the one hand, long-distance travel implies the concept of a widespread settlement pattern with no cultural boundaries to impede access to raw materials. On the other hand, trade may imply local-based settlement systems and the presence of cultural boundaries that may have prevented unrestricted access to raw materials.

Regardless of what explanation is adopted to explain the presence of non-local lithics in an archaeological site, the first step is to determine that the lithics are not from local sources and then the second step is to determine where the sources are located. This sort of research is still in a fledgling stage in northern New England. This is because adequate sourcing of lithic materials generally requires more documentation than inspection with a hand lens has traditionally provided. "Fingerprinting" not only the lithic materials on site but also quarry locations for the lithics involves a number of techniques (such as X-ray diffraction and chemical analyses) and has only rarely been undertaken in Maine (e.g., Pollock, Hamilton, and Bonnicksen 1999).

Nonetheless, some of the lithic materials collected from site 96.02 appear on hand-lens inspection to be fine-grained cryptocrystalline silicate materials that are not locally available and would likely have come from lithic sources in New Brunswick or even Nova Scotia. Research to test this argument must involve two steps. First, there are at least two researchers in eastern Canada (Dr. David Black at the University of New Brunswick and Dr. Adrian Burke at the University of Montreal) who have researched lithic materials and quarry sites in the Maritime Provinces. These archaeologists should be consulted and, depending on their availability, be involved in attempting to source the lithic materials from site 96.02. Second, it may be necessary to conduct some X-ray diffraction or chemical analyses to determine the sources of the Meddybemps lithics. Researchers with the specialized background to complete these tasks should be consulted.

The information generated from this type of research will be the first of its kind in the area and will be very useful for beginning to understand what types of relationships existed among pre-European people in far eastern Maine with pre-European people in the surrounding region. Identification of these relationships will not be based exclusively on the presence or absence of specific lithic types, but will include analyses of the total archaeological assemblage in comparison with the total archaeological assemblages from other sites in the region.

Final Remarks

Site 96.02 contains evidence for addressing a number of interesting and interrelated research questions relating to culture history (e.g., Why was the site used during some time periods and not others? How did climate or lake level variations influence use of the site?), settlement (How does site 96.02 fit into a regional picture of land use during the pre-European period?), subsistence (Did the diet of the site's occupants change through time? What role did plant foods play in the pre-European diet? How do the subsistence practices at this site compare with those inferred at other sites in northern New England and the Maritime Provinces?), and travel, trade, and commerce (Where were raw materials, such as lithics, obtained and why? How does this pattern compare with lithic acquisition patterns inferred at other sites in northern New England and the Maritime Provinces? What do the raw material acquisition patterns at site 96.02 say about cultural boundaries or commerce in the pre-European period?).

There is also reason, based on past experience working with many pre-European archaeological sites in Maine, to conclude that data for addressing other research themes in the State Plan may emerge during additional excavation at the site. Therefore, the principal investigator must have some flexibility in either pursuing these new data or abandoning some of the questions identified above if data to address them are not encountered with additional excavation. Regardless, future research should include the results of prior analyses of site 96.02 archaeological materials combined with additional research on them where appropriate to answer questions not considered during earlier stage of work at the site.

References Cited

Almquist-Jacobson, H. and D. Sanger

1995 Holocene Climate and Vegetation in the Milford Drainage Basin, Maine, U.S.A., and their Implications for Human Prehistory. *Vegetation History and Archaeobotany* 4:211-222.

1999 Paleogeographic Changes in Wetland and Upland Environments in the Milford Drainage Basin of Central Maine in Relation to Holocene Human Settlement History. In *Current Northeast Paleoethnology*, edited by J. Hart. New York State Museum Bulletin No. 494.

Asch Sidell, N.

1999 Prehistoric Plant Use in Maine: Paleoindian to Contact Period. In *Current Northeast Paleoethnology*, edited by J. Hart. New York State Museum Bulletin No. 494.

Cowie, E. and J. Petersen

1990 Archaeological Phase II Testing of the Bonny Eagle Project (FERC No. 2529), Cumberland and York Counties, Maine. Report on file with the Maine Historic Preservation Commission, Augusta.

Cox, S. L.

1991 Site 95.20 and the Vergennes Phase in Maine. *Archaeology of Eastern North America* 19:135-161.

1995 Report on the Phase I Archaeological Survey of the Forest City Project (FERC 2660). Report on file with the Maine Historic Preservation Commission, Augusta.

1998 Report on the Phase II Archaeological Survey of the Forest City Project Area. Report on file with the Maine Historic Preservation Commission, Augusta.

Cox, S. L. and B. J. Bourque

1986 The Big Lake Archaeological Project: 1986 Survey. Report on file with the Maine Historic Preservation Commission, Augusta.

1989 Phase II Archaeological Investigations of Sites in the Big Lake Region, Maine. Report on file with the Maine Historic Preservation Commission, Augusta.

Clark, J. C., K. Mack, J. Mosher, B. Newsom, and R. Will

1999 Results of Phase I and Phase II Archaeological Testing of the Great Works Hydroelectric Project, FERC No. 2312, Penobscot County, Maine. Report on file with the Maine Historic Preservation Commission, Augusta.

Davis, R. B. and G. L. Jacobson, Jr.

1985 Late Glacial and Early Holocene Landscapes in Northern New England and Adjacent Canada. *Quaternary Research* 23:341-368.

Jacobson, G. Jr., T. Webb III and E. C. Grimm

1987 Patterns and Rates of Vegetation Change During the Deglaciation of Eastern North America. In: *North America and Adjacent Oceans During the Last deglaciation*, edited by W. F. Ruddiman and H. E. Wright, Jr. Geological Society of America, Boulder, Colorado.

Knight, J.

1985 Differential Preservation of Calcined Bone at the Hirundo Site, Alton, Maine. Masters of Science thesis in Quaternary Studies at the University of Maine, Orono.

Kopec, D.

1985 The Eddie Brown Collection from the West Grand Lake Area, Maine. *The Maine Archaeological Society Bulletin* 25(2):3-37.

Mack, K. and R. Will

1999 Additional Phase I Archaeological Survey of the Proposed University of New England Marine Center, Biddeford, York County, Maine. Report on file with the Maine Historic Preservation Commission, Augusta.

Moore, E., J. A. Clark, and R. Will

1999 Phase II Archaeological Study of Mooselookmeguntic Lake, Maine, Upper and Middle Dam Storage Project (FERC UL94-1). Report on file with the Maine Historic Preservation Commission, Augusta.

Petersen, J. B. and D. Sanger

1991 An Aboriginal Ceramic Sequence for Maine and the Maritime Provinces. In *Prehistoric Archaeology in the Maritimes: Past and Present Research*, edited by M. Deal and S. Blair. The Council of Maritime Premiers, Reports in Archaeology No. 8., Fredericton, N.B.

Pollock, S., N. Hamilton, and R. Bonnichsen

1999 Chert from the Munsungun Lake Formation (Maine) in Palaeoamerican Archaeological Sites in Northeastern Northern America: Recognition of its Occurrence and Distribution. *Journal of Archaeological Science* 26:269-293.

Robinson, B. S.

1992 Early and Middle Archaic Period Occupation in the Gulf of Maine Region: Mortuary and Technological Patterning. In *Early Holocene Occupation in Northern New England*, edited by B.S. Robinson, J. B. Petersen, and A. K. Robinson. Occasional Publications in Maine Archaeology No. 9. Maine Historic Preservation Commission, Maine Archaeological Society, and Haffenreffer Museum of Anthropology.

Sanger, D. and D. Kellogg

1985 Preliminary Report on the Roque Island Project - 1985. Report on file with the Maine Historic Preservation Commission, Augusta.

Sanger, D., R. B. Davis, R. G. MacKay, and H. W. Borns, Jr.

1977 The Hirundo Archaeological Project--An Interdisciplinary Approach to Central Maine Prehistory. In *Amerinds and their Paleoenvironments in Northeastern North America*, edited by W. S. Newman and B. Salwin. *Annals of the New York Academy of Sciences*, vol. 288.

Spiess, A. E.

1990 Maine's Unwritten Past: State Plan for Prehistoric Archaeology. (2nd Draft) Report on file with the Maine Historic Preservation Commission, Augusta.

1992 Archaic Period Subsistence in New England and the Atlantic Provinces. In *Early Holocene Occupation in Northern New England*, edited by B. S. Robinson, J. B. Petersen, and A. K.

Robinson. Occasional Publications in Maine Archaeology no. 9. Maine Historic Preservation Commission, Augusta.

Spiess, A. and R. Lewis

2000 Turner Farm Fauna: 5000 Years of Hunting and Fishing in Penobscot Bay, Maine. Occasional Publication in Maine Archaeology, No. 11. The Maine Historic Preservation Commission, The Maine State Museum, and the Maine Archaeological Society, Augusta.

Will, R.

1999a Recent Archaeological Investigations of the Meddybemps Site (96.02). Report on file with the Maine Historic Preservation Commission, Augusta.

1999b Archaeological Investigation of Eleven Contaminated Areas at the Eastern Surplus Company Superfund Site: Results and Recommendations. Report on file with the Maine Historic Preservation Commission, Augusta.

Will, R., J. C. Clark, K. Mack, J. Mosher, and B. Newsom

2000 Results of Phase I and II Archaeological Testing of the Eastern Surplus Company Superfund Site, Meddybemps, Washington County, Maine.

**CULTURAL RESOURCES MANAGEMENT PLAN FOR THE EASTERN SURPLUS
COMPANY SUPERFUND SITE, WASHINGTON COUNTY, MEDDYBEMPS, MAINE**

Prepared for the

U.S. Environmental Protection Agency, Region 1
1 Congress Street, Suite 110
Boston, MA 02114-0223

through

Tetra Tech NUS, Inc.
55 Jonspin Road
Wilmington, MA 01887-1020

Prepared by

Richard Will, Ph.D.
Archaeological Research Consultants, Inc.
71 Oak Street
Ellsworth, Maine 04605

DRAFT: February 25, 2000

REVISED: June 27, 2000

The Eastern Surplus Company Superfund Site Project
Washington County, Meddybemps, Maine
Cultural Resources Management Plan
Revised July 2000

INTRODUCTION

This cultural resources management plan (CRMP) was prepared at the request of the United States Environmental Protection Agency (EPA). It specifies how an Historic Property located within the Eastern Surplus Company Superfund Site project (hereafter, the “Project”), Washington County, Meddybemps, Maine will be managed within the project’s area of potential effect as defined in 36CFR 800.2 (c). The Historic Property consists of a preEuropean archaeological site, which is listed as 96.02 in the Maine Prehistoric Archaeological Site Survey Records (hereafter, the “Site”).

The EPA, through its contractor Tetra Tech NUS, Inc. (TtNUS) subcontracted with Archaeological Research Consultants, Inc. (ARC, Inc.), of Ellsworth, Maine to prepare the CRMP. This work was completed by Richard Will, Ph.D., who meets the Secretary of the Interior’s professional qualification standards in archaeology, is approved by the Maine State Historic Preservation Officer (MSHPO) to undertake all phases of prehistoric archaeological study in Maine, and who is a member in good standing on the Register of Professional Archaeologists (ROPA).

Here is how this CRMP is organized. Section I provides an overview of the Project and the Site. A mitigation plan to conduct additional archaeological excavation to acquire, analyze, and report on the scientific value of the Site is described in Section II. No human remains have been found on the Site. However, should unanticipated human remains be uncovered during future scientific study of the Site, then a plan for their treatment and disposition is addressed in Section III. Curation of artifacts recovered as a result of implementation of this CRMP is discussed in Section IV. Section V describes how the scientific results obtained through archaeological study of the Site will be interpreted for public benefit.

I. The Eastern Surplus Company Superfund Project and the Site

The Project and previous cultural resource management archaeological investigations conducted within it are described in this section.

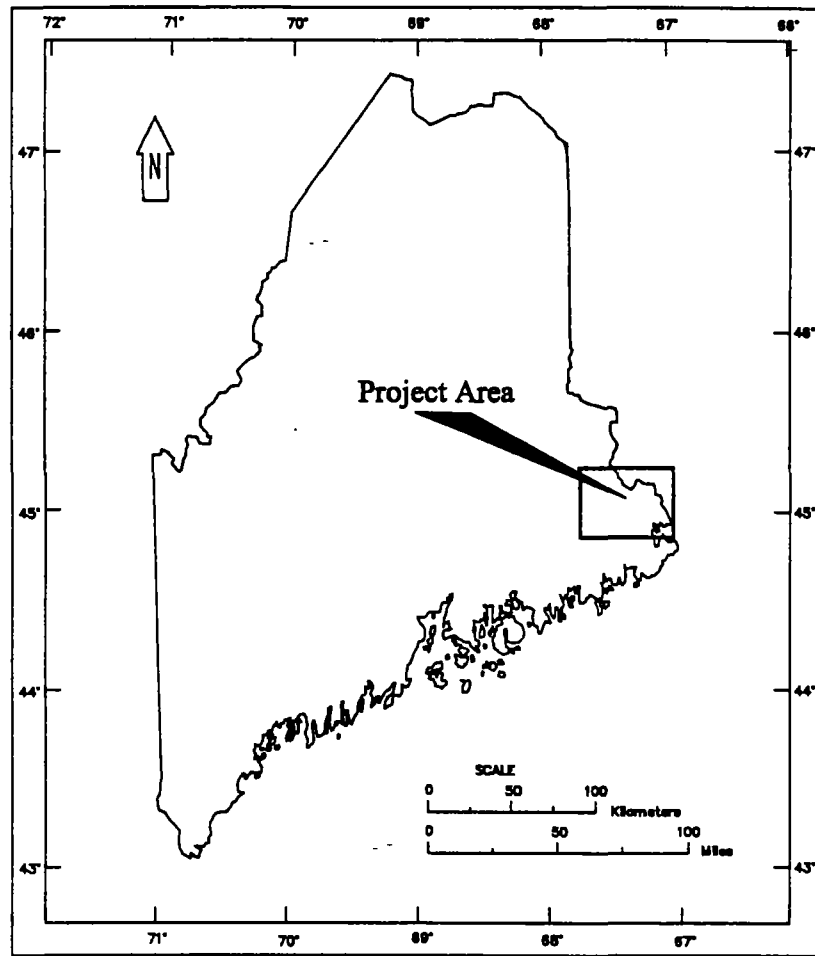
The Project

The Project area consists of a 4-5 acre abandoned junkyard in Meddybemps, Maine where salvage and surplus materials (some of them hazardous) were stored beginning in 1946 (Figure 1).

The following discussion is based on information obtained from property deeds and a report on the clean-up action for the property (Tetra Tech NUS 1999). As early as 1825, construction of a sluice and fish passage at the mouth of the Dennys River was considered for the property. By 1828, when the property was conveyed to Joshua Tilden, a mill dam at the outlet of Meddybemps Lake on Dennys River had been constructed (Washington County Registry of Deeds, vol. 18, p. 389). From that date on, a succession of owners used the land for agricultural purposes. A mill was apparently constructed on the property, as was a roadway that paralleled the bank of the river on the west shore.

In August 1946, Mr. Harry Smith, Sr. acquired the property and began storing materials and equipment for the Eastern Surplus Company on it. According to Mr. Smith's son, the property was used to store salvage and surplus materials for about 27 years until 1973. The first complaints about the property to the Maine Department of Environmental Protection (MEDEP) began in 1985. A visit by MEDEP to the Site documented that it was covered with a large amount of scrap metal, junk cars, old appliances, military personnel equipment, and a variety of containers in which hazardous materials and/or substances were present. The MEDEP, the EPA, and the U.S. Department of Defense (DOD) undertook a major clean-up operation over the next five years. Sampling of the property during this period indicated that many of the contaminants, primarily volatile organic compounds (VOCs) such as tetrachloroethene and trichloroethene, as well as polychlorinated biphenyls (PCBs) had been released into the soils, sediments, and groundwater.

In 1996, the Project was placed on the National Priorities List, which qualified it for further response actions by the EPA. This resulted in an extensive sampling and analysis program for contaminants at the Site. In 1998, the EPA authorized an action to remove soils contaminated primarily with VOCs, PCBs and certain metals from the Project and to extract and remove VOCs from groundwater. The plan for this work involved the excavation, transportation, and off-site disposal of over 10,000 cubic yards of contaminated soils, the construction of a groundwater extraction and treatment system, and site preparation to include roads, erosion control, and site restoration work (seeding and planting). Many of these objectives were completed in 1999.



Archaeological Research Consultants, Inc.
 71 Oak Street, Ellsworth, Maine 04605
 Phone (207) 667-4055; Fax (207) 667-0485

PROJECT: Eastern Surplus Company Superfund Site

CLIENT: Tetra Tech NUS

DRAWN:

Figure 1. Project Area

DATE: 01/28/2000

DRAWN BY: JAC

FILE: D:\Projects\Meddybemps\CRMP-Fig1.dwg

The Site

According to local informants, the existence of the Site has been known for at least several decades. Mr. Edward Ketchen, a long-time resident of Meddybemps, verbally reported (7/19/99) that the Project area was traditionally used to grow corn. He and his neighbor, Mrs. Madge Orchard, who owns a cottage across the mouth of the river from the Project, reported that people used to collect "Indian arrowheads" from the freshly plowed fields. Mr. Ketchen said that people sometimes dug for them as well. He had a collection of stone implements from the Site that was lost in a fire when his house burned about twenty years ago. The Site first came to the attention of the state when Dr. Dean Snow of the University of Maine filed a prehistoric site survey record form in 1967.

As required by the National Historic Preservation Act (1966), EPA's prime contractor for the cleanup, Tetra Tech NUS, retained a qualified archaeologist to perform a pre-excavation survey of the cleanup area. Dr. Richard Will completed the survey on April 28, 1999 at the request of Mr. Gordon Bullard of Tetra Tech NUS. This survey had not been performed at an earlier date as the extensive quantities of surface debris and hazardous waste made field inspection very difficult. The EPA's contractor cleared debris and remaining hazardous materials from the Site in fall 1998. Fieldwork continued part time during the summer and fall and was completed in late September 1999. It involved informant interviews, surface walkover and excavation of standard 50 square centimeter (cm²) testholes and 1 meter square (m²) test units. In all, 107 testholes and 25 test units were excavated (Will et al. 2000). Two teams of archaeologists conducted the work. Trained staff from Archaeological Research Consultants Inc. of Ellsworth, Maine performed fieldwork on portions of the Site where no soil contaminants were present. Contaminated Site areas were excavated by hazardous materials (HAZMAT)-trained staff from PAL, Inc. of Pawtucket, Rhode Island.

All of the work was performed under the supervision of Dr. Richard Will (ARC, Inc.), the principal investigator for the archaeology work. Dr. Arthur Spiess, prehistoric archaeologist at the Maine Historic Preservation Commission, reviewed the various scopes of work prepared for archaeological investigations of the Site before fieldwork commenced. Additional written and verbal review of various aspects of the archaeological study have been provided by Mr. Edward Hathaway and Dr. John Vetter of the U.S. Environmental Protection Agency (EPA), Mr. Gordon Bullard of Tetra Tech NUS, representatives of the Passamaquoddy Tribe, and Dr. Steven Cox who acted as the Passamaquoddy Tribe's archaeological consultant on the project. Several meetings were also held at the Project location to discuss the archaeological site and to permit personnel from the various agencies to view fieldwork in progress.

A total of 4,755 pre-European artifacts and other archaeological materials were recovered during fieldwork in 1999. The artifacts include aboriginal ceramics and lithic tools, including a variety of chipped-stone projectile points and scrapers, groundstone implements, and chipping debris. Other materials include calcined food bone remains, soil samples, and charcoal samples collected for radiocarbon dating. Nine features were also recorded. Some of these, however, are likely portions of buried surfaces or living floors rather than discreet cultural events. The Site is believed to cover a roughly rectangular area of approximately 10,700 m². Several reports have detailed progress in the archaeological investigation of the Site (Will 1999a, 1999b). A final report on the various stages of archaeological investigations was issued in January 2000, which provides detailed description and discussion of the archaeological materials recovered from the Site (Will et al. 2000).

Site Significance. Archaeological site significance in Maine is defined in relation to the State Plan for Prehistoric Archaeology (Spiess 1990). The Site falls within Management Unit 25Ca geographic unit that reflects some reality in the pre-European use of Maine's landscape that includes the eastern Washington County lakes (1990:131). This is an area that has not been extensively studied as reported in Will et al. (2000:4-5). The Site contains cultural material attributable to the Middle and Late Archaic Period study units and perhaps the earliest portion of the Ceramic Period study unit. Based on the materials recovered and analyzed to date, the Site, at a minimum, appears to have potential for contributing information to several research significance themes identified in the Maine State Plan for Prehistoric Archaeology. These themes form a consistent set of focal points for assessing current knowledge, and the contribution of any single site, to the study of prehistory (Spiess 1990:121). Specifically, these themes include themes 1, 2, 3, and 5.

Theme 1 concerns the pre-European cultural sequence of the area. Additional excavation will likely uncover more Middle and Late Archaic Period artifacts and cultural features that will permit development and refinement of the Archaic Period chronology in eastern Maine. Additionally, the discovery of more Early Ceramic Period materials in an undisturbed context may help to determine when ceramic technology was introduced into the area and how this early part of the Ceramic Period is related to similar manifestations in other parts of Maine and the Maritimes.

Theme 2 deals with settlement patterns in Management Unit 25 during the Early Ceramic Period and the Middle and Late Archaic Periods. The data collected so far on the Site expands our knowledge of the distribution of Early Ceramic Period and Middle and Late Archaic Period sites in Washington County.

Additional research is needed in a regional context to determine how archaeological site distributions in Washington County relate to other parts of Maine and the Maritimes.

Theme 3 covers subsistence patterns. Although much of the calcined food bone remains are from disturbed contexts, the collection from the Site is one of the largest studied from Washington County. Some of this bone is associated with features. More excavation may help to locate intact features with faunal remains that can be used to study the kinds of subsistence changes that may have occurred between the Archaic and Ceramic Periods.

Last, theme 5 in the State Plan deals with transportation, travel, trade, and commerce among prehistoric peoples. A variety of lithic materials are found at the Site that appear to be more common in archaeological assemblages from Eastern Maine and the Maritimes than they are from assemblages from the west and south. Additional research on existing lithic collections and those that could be uncovered through future excavation at the Site may prove important for establishing links to quarry sources and to other pre-European sites that exist in the region. Establishing these links will provide opportunities to understand how lithic resource exploitation in this area is similar or different to other areas, such as the Maine coast or the Penobscot or Kennebec River drainages.

Based on the existing evidence and the perceived potential for the Site to contribute significant data for addressing research themes in the State Plan, the Site is believed eligible for listing in the National Register of Historic Places under criterion D, which means that it has yielded or is likely to yield information important in prehistory. Dr. Arthur Spiess of the Maine Historic Preservation Commission concurred with this finding upon review of the final report (letter from A. Spiess to E. Hathaway, February 2000).

II. Mitigation Plan to Conduct Additional Archaeological Excavation at the Site

The mitigation plan involves excavation of an additional 200 m² of the Site primarily in the northern portion of the Site. The 200 m² of additional excavation is based upon a draft Memorandum of Agreement between the EPA, SHPO, and the Passamaquoddy Tribe regarding the extent of additional data collected that would be appropriate given the significance of the Site. This additional excavation shall be determined by a research design that will be submitted for review and comment by the interested parties. The research design shall focus on addressing research themes identified in Section I, shall be interdisciplinary in content, and shall contract with appropriately trained scientists in other disciplines during the implementation and

analysis phases. Implementation of the design shall be accomplished under the direction of a principal investigator to be selected by the EPA who is on the approved list of Level II consulting archaeologists, which is maintained by the MHPC. No components of this CRMP shall be implemented without completion and acceptance of a scientifically based research design that is tailored specifically to the circumstances of this Site.

Implementation of the research design shall involve fieldwork, analyses, and reporting. The costs associated with completing these tasks shall be the responsibility of the EPA. A schedule for completion of these tasks appears in Table 1. Some general guidance on expectations for fieldwork and analyses are provided below. Reporting is addressed in Section IV.

Table 1. Schedule for Completing Fieldwork, Analyses, Reporting, and Publicizing of the Site.

Objectives	Year	Year	Year	Year
Excavation of 200 m ² and paleoenvironmental fieldwork	2000			
Analysis and writing		2001		
Analysis and final report			2002	
Public interpretation	2000	2001	2002	
Contingency				2003

Note: one year contingency for unexpected delays is provided in the schedule. If delays should occur they shall be explained in writing for review and comment by the EPA and the MSHPO who will then decide on whether the delays are justified and acceptable.

Field Methods

Standards for conducting fieldwork in Maine have been in place for more than a decade and these shall be strictly followed. All cultural-bearing sediment will be screened through 64 mm (1/4 inch) hardware cloth except in those cases where bulk sediment samples are removed for laboratory analysis. Beyond the standard requirements of field record-keeping, protocols for specific collection of materials, such as calcined food bone remains, carbonized floral remains, soil and sediment samples will be developed in consultation with the appropriate professionals to ensure that proper sampling designs and procedures are employed.

It is also recommended that additional geological fieldwork be conducted at the Site and the immediate area to understand how natural processes occurred that created the alluvial environment, which preserved the Site. This work shall involve additional studies beyond those completed by Lyford et al. (1998) and shall give consideration to the feasibility and scientific merits of obtaining a sediment core from Meddybemps Lake.

Laboratory Analyses

The Site contains a wide variety of materials that can be collected and analyzed in the attempt to address research themes identified earlier in this plan. Some of these analyses are identified here, but should not be considered the only types of research that may be pertinent to the investigation of this Site. Emphasis should be placed on using the widest range of approaches possible to the study of archaeological materials during fieldwork so that comparison with existing collections made during earlier field studies is possible.

Lithic analysis should involve rock identification at the macroscopic level using standard mineralogical descriptions and at the microscopic level in those situations where it may be possible to locate the source of raw materials used for tool manufacture. In addition to the study of unifacially and bifacially worked artifact classes, analysis of debitage from the sites should be performed not only for understanding lithic reduction strategies but also for assisting in determining pre-European settlement patterns and even cultural boundaries (e.g., see Will 1996). This work should also be completed in consultation (when practicable) with archaeologists working in New Brunswick, Canada who may have information about quarry locations et cetera for some of the lithic materials recovered from the Site.

There have been recent advances in the comparative study of aboriginal ceramics from Maine and the Maritimes (Petersen and Sanger 1991). All of the aboriginal ceramics recovered from the excavation in 2000 should be analyzed using similar methods and protocols as identified in Will et al. (2000). Ceramic analysis should be completed by someone with experience in the use of these methods.

Reports on the analysis of calcined food bone samples from Washington County pre-European sites are not numerous. Therefore, the calcined food bone samples collected from the Site will offer an important opportunity to expand scientific knowledge regarding pre-European diet and the paleoecology of interior northeastern Maine. Analysis of faunal remains shall be considered a mandatory part of the study and shall be performed by a professional with zooarchaeological expertise. Various quantitative methods, such as MNI (minimum number of individuals) and NISP (number of individual specimens) shall be used as part of the analysis protocol.

Analysis of paleobotanical remains from archaeological sites in Maine is a relatively new research arena, and one that is proving to be very significant to the study of pre-European diet and settlement patterns, and to the reconstruction of past floral communities (e.g., Asch Sidell 1997). Analysis of carbonized floral remains shall also be considered a mandatory part of the study and shall be performed by a professional with appropriate expertise.

Soils research and analysis of sediments should be conducted to understand archaeological site context and depositional history of the area. This work shall also be undertaken by trained professionals working as part of an interdisciplinary team to identify and to interpret a picture of changing Native American land use in the project area.

III. Treatment and Disposition of Human Remains Discoveries on Non-Tribal Lands

If human remains are encountered during archaeological fieldwork in the Project, their treatment will be guided by the first principal of the Advisory Council on Historic Preservation (ACHP) policy guidelines:

1) Human remains and grave goods should not be disinterred unless required in advance of some kind of disturbance, such as construction or erosion. If disinterment is necessary, human remains and grave goods will be immediately transferred to the Wabanaki NAGPRA Intertribal Repatriation Committee.

2) If human remains are identified by any personnel on the Site, excavation in the immediate vicinity of the burial that could affect the integrity of the remains will cease immediately. The remains will not be touched, moved, or further disturbed. The principal investigator will be responsible for notifying appropriate EPA personnel immediately, as well as the MSHPO, the Passamaquoddy Tribe, the landowner, and the Chief Medical Examiner (see List of Contacts, Attachment 3) (Applicable State Laws: Maine General Laws, 27 MRSA S.509). If human remains and grave goods are discovered and not threatened by construction or erosion they shall be left undisturbed and the activity moved from the immediate vicinity.

IV. Curation

It is understood that all archaeological materials recovered from the Site shall be curated in a repository that meets United States Department of the Interior (DOI) standards once analysis and reporting on the materials have been completed.

The arrangements on curation shall be specified in the final Memorandum of Agreement between the EPA, MSHPO, Passamaquoddy Tribe and consulting parties including the Site property owners, State of Maine, and Town of Meddybemps.

V. Public Interpretation

The Site has already drawn considerable public attention. Dr. Richard Will has presented lectures on the archaeology of the Site to the Meddybemps Historical Society and to more than 125 junior high school students in Charlotte and Woodland, Maine. The following public and/or educational objectives should be considered as part of the implementation of this CRMP:

1. A student internship shall be offered to the Passamaquoddy Tribe to enable two Native American students to be involved in the entire period of field investigation at the Site. The internships will be offered more generally to Native American students who belong to one of the four federally recognized tribes in Maine if there are no Passamaquoddy students to fill the internships. This educational opportunity will be in 2000, 2001, and 2002. It shall be the responsibility of the principal investigator to write the specifications for the internship and it shall be the responsibility of the Tribe or tribes to select the students who receive the internships.

2. The principal investigator shall make an effort to employ up to three members of the Passamaquoddy Tribe as field technicians in 2000 that have demonstrated an interest in archaeology and Native American prehistory. This objective is to provide archaeological training and educational experiences for Passamaquoddy Tribal members who show a serious interest in the discipline of anthropology or archaeology as a potential career.

3. The final report on the Site shall be in a substantially publishable form as specified in the Maine Historic Preservation Commission Contract Archaeology Guidelines (1992:3). The principal investigator shall work toward publishing the entire final report as well as portions of the report as journal articles. The final report shall be submitted for consideration for publication in the Maine Historic Preservation Commission's Occasional Publications in Maine Archaeology series. The principal investigator shall also prepare at least one article for inclusion in the *Bulletin of the Maine Archaeological Society*. The principal archaeologist shall also prepare article-length submissions concerning the Site for at least peer-reviewed journals of his or her discretion. All of these scholarly publishing efforts shall take place within five years of the completion of fieldwork in 2000.

4. In addition to the scholarly format of publications identified in no. 3 above, the principal investigator shall work toward dissemination of information on the Site through writings or presentations that are accessible to the general public. These shall include, but not be limited to, newspaper accounts of the Site, collaboration with writers for submissions to such magazines as *Downeast* and *Yankee*, and public speaking to local schools and community organizations.

5. A cultural study shall be done as part of the research at the site. The Principal Investigator shall consult with members of the Passamaquoddy Tribe to collect indigenous cultural information about the general project area and dig. This information will be included in writings, presentations, and exhibits prepared by the principal investigator.

6. Recognizing that there are other forms of communication than just the written word, the principal investigator shall, with collaboration as necessary, produce two exhibits about the project. The first shall be an exhibit on the Site that will be donated to the Passamaquoddy Tribe for use in the local school system or for permanent installation at an appropriate location in the community. This exhibit shall be prepared in consultation and collaboration with the Passamaquoddy Tribe. The second shall be an exhibit that either is permanently installed at the Project or is constructed as a traveling exhibit for use in schools or other organizations. A traveling exhibit will be stored and made available by the facility that curates the archaeological materials from the Site. The facility will enter into an agreement with the MSHPO that specifies how access to and loan of the exhibit shall be managed. The EPA shall make a one-time payment to the facility as acknowledgement for storage of the exhibit and for fees associated with making the exhibit available to other organizations. After a period of study, the artifacts shall be included in the Passamaquoddy exhibit.

7. The principal investigator shall also prepare two public informational fact sheets (two pages each) that shall be distributed by the EPA. This first one will describe the fieldwork and initial findings of archaeological investigations completed in 2000. The second one will summarize additional findings and analyses completed in 2001. Both fact sheets are intended for audiences to include the general public, historical societies, regulators (EPA and MEDEP), and the Passamaquoddy Tribe.

References Cited

Asch Sidell, N.

1997 **Prehistoric Plant Use in Maine: Paleoindian to Contact Period.** Draft report on file with the author.

Lyford, F. P., J. R. Stone, J. P. Nielsen, and B. P. Hansen

1998 **Geohydrology and Ground-Water Quality, Eastern Surplus Superfund Site, Meddybemps, Maine.** Water-Resource Investigations Report 98-4174, U.S. Department of the Interior, U.S. Geological Survey, Marlborough, MA.

Maine Historic Preservation Commission

1992 **Contract Archaeology Guidelines.** On file with the Maine Historic Preservation Commission, Augusta.

Petersen, J.B. and D. Sanger

1991 **An Aboriginal Ceramic Sequence for Maine and the Maritime Provinces.** In **Prehistoric Archaeology in the Maritimes: Past and Present Research**, edited by Michael Deal. The Council of Maritime Premiers, Reports in Archaeology No. 8.

Spiess, A. E.

1990 **Maine's Unwritten Past: State Plan for Prehistoric Archaeology.** (2nd Draft) Report on file with the Maine Historic Preservation Commission, Augusta.

Tetra Tech NUS, Inc.

1999 **Non-Time Critical Removal Action: Technical Specifications, Eastern Surplus Site Meddybemps, Maine.** Document prepared for the U. S. Environmental Protection Agency on file with Archaeological Research Consultants, Inc., Ellsworth, Maine.

Will, R.

1999a **Recent Archaeological Investigations of the Meddybemps Site (96.02).** Report on file with the Maine Historic Preservation Commission, Augusta.

1999b **Archaeological Investigation of Eleven Contaminated Areas at the Eastern Surplus Company Superfund Site: Results and Recommendations.** Report on file with the Maine Historic Preservation Commission, Augusta.

1996 **An Example of Late Middle Ceramic (Woodland) Period Biface Production Technology from Moosehead Lake, Maine.** *Archaeology of Eastern North America* 24:227-238.

Will, R., J. Clark, K. Mack, J. Mosher, and B. Newsom

2000 **Results of Phase I and II Archaeological Testing of the Eastern Surplus Company Superfund Site, Meddybemps, Washington County, Maine.** Report on file with the Maine Historic Preservation Commission, Augusta.

Attachments

1. Advisory Council's Policy Statement Regarding Treatment of Human Remains and Grave Goods adopted September 27, 1988.
2. MRSA S.509 The Maine Indian Bones Law.
3. List of Contacts.
4. Maine Guidelines for Determination of Cultural Affiliation for Notification to tribes of Holdings of Human Remains, Associated Funerary Objects and Unassociated Funerary Objects under the Native American Graves Protection and Repatriation Act (March 1993).

**Attachment 1: Advisory Council's Policy Statement Regarding Treatment of Human Remains
and Grave Goods adopted September 27, 1988.**

Advisory Council On Historic Preservation

The Old Post Office Building
1100 Pennsylvania Avenue, NW, #809
Washington, DC 20004

MAY 2 1988

Memorandum

To: Director, OCRP

From: General Counsel *John*

Subject: Treating undertakings that exhume human burials as having "no adverse effect" under the regulations.

This is in response to your request for guidance in responding to the letter of July 24, 1987 from the National Congress of American Indians (NCAI), in which NCAI expressed concern about treating projects that result in the exhumation of human remains as having "no adverse effect" on historic properties under 36 CFR §800.9(c)(1).

36 CFR § 800.9(c)(1) provides that the effects of an undertaking "that would otherwise be found to be adverse may be considered as being not adverse "when the historic property is of value only for its potential contribution to archeological, historical, or architectural research, and when such value can be substantially preserved through the conduct of appropriate research, and such research is conducted in accordance with applicable professional standards and guidelines" (Emphasis added).

I believe that NCAI is correct in its belief that "a site containing graves cannot be significant (sic) 'only' for its importance in archeological research," although their terminology is not exact. It is important to note that the regulations use the term "value" rather than "significance." "Significance" could be taken to limit consideration to those elements that contributed to the qualification of a property for National Register listing or eligibility. Criterion (d) of the National Register Criteria (36 CFR §60.4) extends only to a property's known or potential ability to yield "information significant in history or prehistory." Had 36 CFR §200.9(c)(1) referred to historic properties significant only for their potential contribution to research, it arguably would not be appropriate for the Council to extend the exclusionary language beyond that term.

However, the regulations do not use the term "significance," but rather use "value," which implies a broader range of concerns. Therefore, even where a property has technically been determined eligible for the National Register only under criterion (d), the special nature of graves, which are widely recognized in law and practice as having sanctified qualities, suggests that the "value" of such a property extends beyond the interests of archeological research. Where the graves involved are those of American Indians, and may be viewed by practitioners of traditional religions as having religio-cultural importance, the American Indian Religious Freedom Act implies that there is a further "value" that may warrant special consideration, such as ensuring the protection of the graves in place. Consequently, the exclusion from an adverse effect finding under 36 CFR §800.9(c)(1) would not be applicable.

The inapplicability of 36 CFR §800.9(c)(1) to such a property because of its "value" does not mean that archeological data recovery may not be an appropriate way to mitigate effects on the property. It does mean that data recovery followed by destruction or alteration cannot be construed to have "no adverse effect" on such a property. Such activities should be treated as having adverse effects, and be the subject of Memoranda of Agreement.

I realize that there may be situations in which there may be uncertainty about whether graves are present, or about whether graves will be affected by an undertaking, and where efficiency in project review may make a "no adverse effect" determination the reasonable approach. There may be other such circumstances; where, for example, all potentially interested persons are in agreement that data recovery is appropriate because the "value" of the property, despite the presence of graves, is "only for its potential contribution to archeological, historical, or architectural research." It would be appropriate for the Council to address such substantive matters in guidance documents, such as the new draft publication on preparing agreement documents. As a general rule, however, it is my conclusion that a project that is known or likely to disturb graves contained within or related to a historic property cannot be treated as having "no adverse effect" on the property under 36 CFR §800.9(c)(1).

Advisory Council On Historic Preservation

The Old Post Office Building
1100 Pennsylvania Avenue, NW, #809
Washington, DC 20004

POLICY STATEMENT REGARDING TREATMENT OF HUMAN REMAINS AND GRAVE GOODS

Adopted by the Advisory Council on Historic Preservation

September 27, 1988

Gallup, New Mexico

When human remains or grave goods are likely to be exhumed in connection with an undertaking subject to review under Section 106 of the National Historic Preservation Act, the consulting parties under the Council's regulations should agree upon arrangements for their disposition that, to the extent allowed by law, adhere to the following principles:

o Human remains and grave goods should not be disinterred unless required in advance of some kind of disturbance, such as construction;

o Disinterment when necessary should be done carefully, respectfully, and completely, in accordance with proper archeological methods;

o In general, human remains and grave goods should be reburied, in consultation with the descendants of the dead.

o Prior to reburial, scientific studies should be performed as necessary to address justified research topics;

o Scientific studies and reburial should occur according to a definite, agreed-upon schedule; and

o Where scientific study is offensive to the descendants of the dead, and the need for such study does not outweigh the need to respect the concerns of such descendants, reburial should occur without prior study. Conversely, where the scientific research value of human remains or grave goods outweighs any objections that descendants may have to their study, they should not be reburied, but should be retained in perpetuity for study.

The Old Post Office Building
1100 Pennsylvania Avenue, NW, #808
Washington, DC 20004

TREATMENT OF HUMAN REMAINS AND GRAVE GOODS

Issued: December 1, 1988

The purpose of this memorandum is to provide guidance on how to implement the policy statement regarding treatment of human remains and grave goods, adopted by the Council on September 27, 1988 (Attachment A), primarily in the context of Section 106 review.

Definitions

Before beginning this discussion, we need to provide operational definitions of some of the key terms used in the policy statement. For purposes of this memorandum:

- The term "*human remains*" is taken to mean the remains of deceased human beings, including but not limited to bone, teeth, mummified flesh, burials, and cremations.
- The term "*grave*" is taken to mean the pit, tomb, or other facility in which human remains have been interred.
- The term "*grave goods*" is taken to mean artifacts or other material remains that can plausibly be interpreted as having been intentionally included in a grave as some part of the interment process.
- The term "*descendants of the dead*" is taken to mean any group, community, or organization that may be related culturally or by descent to the deceased persons represented by human remains, for example, a Native Hawaiian group that may be descended from individuals interred during Hawaiian prehistory, or a Chinese-American community that may be related to individuals interred in an early historic mining town.
- The term "*scientific research value*" is taken to mean the value of human remains or grave goods to the study of specific research topics of importance to such scientific disciplines as archeology, physical anthropology, human biology, or medicine.

Discussion

The policy statement articulates six interrelated points, each of which will be discussed below with specific reference to the Section 106 process.

- *Human remains and grave goods should not be disinterred unless required in advance of some kind of disturbance, such as construction.*

This statement indicates a clear preference for leaving graves undisturbed unless some change agent -- be it construction, changes in land use, pothunting, or erosion -- threatens them. It follows that in Section 106 review we should seek preservation in place of sites known or thought likely to contain graves wherever this is feasible and prudent. In some areas, where graves may occur in virtually any habitation site, this may mean seeking preservation in place as the treatment of choice as a matter of course. This, of course, has been standing Council policy for many years (cf. *Treatment of Archeological Properties*, Principle VII, 1980).

The policy statement undergirds the General Counsel's opinion that the exception to the Criteria of Adverse effect set forth at 36 CFR § 800.9(c)(1) should not be applied to the excavation of sites known or strongly suspected to contain graves (Attachment B). We should not readily concur in the excavation of graves if there are likely to be reasonable ways of preserving them in place, and when we do concur, it should be in the context of a Memorandum of Agreement that acknowledges the adverse effects that will result from excavation, and spells out mechanisms for minimizing or mitigating such effects.

In applying this policy, we need to be sure that its implementation will really lead to preservation. It will do no good to ensure that a logging road misses the cemetery if the road then serves as an access route for pothunters who loot the site. WOPR will recall our discussions with FHWA about the circumstances under which excavation of sites and areas outside the boundaries of a construction project are appropriate. Nothing in the Council's policy statement changes our position on this matter: as a matter of course we should consider both the direct and indirect effects of undertakings. Accordingly, it may be entirely appropriate to excavate a site or portion of a site that is subject to indirect effect -- for example, subject to uncontrollable vandalism as the indirect effect of nearby road construction.

- *Disinterment when necessary should be done carefully, respectfully, and completely, in accordance with proper archeological methods.*

"Careful" disinterment and disinterment "in accordance with proper archeological methods" can be taken to mean the same thing. When human remains and grave goods must be disinterred, those doing the work should have, or be supervised by people having, appropriate archeological credentials, and the work should be carried out in accordance with effective contemporary archeological techniques. Adherence to the policy statement

does not preclude using different kinds of archeological methods, or applying different levels of rigor in different situations; it would not be unreasonable to apply cruder methods to a burial in imminent danger of destruction than might be applied to one whose loss was not imminent.

"Proper archeological methods" include field recordation of the remains unearthed, typically involving photography, field sketches, and the recording of such fundamental data about the deceased as age at death, sex, stature, and evidence of disease or trauma. In rare instances such recording, or some aspect of it (for example, taking photographs) may be so abhorrent to the descendants of the dead that it will be inappropriate to carry it out. Such alterations to standard procedure will need to be negotiated on a case-by-case basis.

"Proper archeological methods" should not automatically be assumed to include washing bones or treating them with preservatives, particularly where Native American remains are involved. Many Native American groups regard the earth surrounding the bones as part of the body itself, and many regard intervention in the process of decay as interrupting the spirit's return to the earth. If it is anticipated that washing or preservation treatments will be necessary, the descendants of the dead should be consulted beforehand to ensure that this will not be abhorrent to them.

The word "respectful" is self-explanatory; when working with human remains, one should maintain a decent respect for the dead. One should also maintain respect for the customs and beliefs of those who may be descended from the deceased, and try to avoid unnecessary conflict with them.

The statement that human remains and grave goods should be disinterred "completely" indicates both that in excavating an individual burial one should be careful not to leave pieces in the sidewalls or backdirt, and that in excavating a threatened cemetery one should excavate it in its entirety, rather than leaving human remains to be destroyed by whatever change agent prompted the excavation. There will be circumstances, of course, under which one cannot be sure that one has gotten all of a cemetery or other group of graves. For example, if graves are widely dispersed through a reservoir area, it may not be feasible, or even technically possible, to find them all. To the extent feasible, however, we should try to ensure that threatened human remains and grave goods are recovered in their entirety. Note that this principle applies regardless of the research interests being addressed by an excavation project. The fact that for research purposes one may need to recover only 10% of the burials in a site is not relevant to the need to remove 100% in order to avoid their violation by whatever change agent is involved.

On the other hand, the policy statement does not justify excavation of unthreatened burials. If a project will result in disturbing only 10% of the cemetery, it is that 10% that ought to be excavated; the policy statement

does not encourage excavating the complete cemetery in such a case.

- *In general, human remains and grave goods should be reburied, in consultation with the descendants of the dead.*

This statement articulates one half of the modal rule to be adhered to wherever feasible, prudent, and in accord with law. The Council clearly prefers reburial of human remains, in consultation with descendants. This policy is broad enough to embrace the delivery of human remains to descendants, or to third parties, for reburial as well. Logically, "reburial" must be taken to embrace the whole range of possible disposal modes that might be preferred by descendants -- for example, burial in caves (e.g. Hawai'i) and cremation (e.g. Southern California) -- as well as simple reinterment of bones in the ground.

The policy statement does not define the word "descendants," but we have provided an operational definition above for staff use. Experience suggests that it is seldom fruitful to argue with someone's claim to be descended from a given group of deceased individuals; such arguments tend to degenerate into disputes about how much of various kinds of blood the person has, which is often irrelevant to membership in the cultural group that may be involved and often cannot be ascertained in any event. It is recommended that if someone claims to be descended from the person represented by a set of human remains, this claim should be honored to the extent of consulting the putative descendant about how the remains should be disposed of, however little evidence the individual may show of genetic relationship to the deceased. This is not to deny that people who really are unrelated to the deceased may on occasion claim spurious relationships in order to advance particular agendas of their own; it is only to say that practically speaking, in such a case it is probably more practical to let the putative descendant into consultation than to try to exclude him or her.

A question has been raised about whether veterans' groups should be regarded as "descendants of the dead where the remains of battlefield casualties are involved (e.g. at Saratoga, Gettysburg, or Custer Battlefields). While we do not believe that the Council had such groups in mind when it issued the policy statement, in the absence of more direct descendants (e.g. actual family members), it would be reasonable to consult with such groups in deciding about the disposal of the remains of war dead.

- *Prior to reburial, scientific studies should be performed as necessary to address justified research topics.*

This is the other half of the modal rule: the Council clearly favors analysis prior to reburial, provided the analysis addresses "justified research topics."

This statement undergirds our standard practice of trying to ensure that agencies justify the research they intend to do as part of data recovery. It is consistent with the General Accounting Office's 1981 recommendation to

the Council that it insist that Federal data recovery projects address justified research questions.

In reviewing data recovery proposals involving the treatment of human remains, we should examine plans for analysis of human remains and grave goods especially critically. Analysis should not be done simply for the sake of analysis, or merely to compile a descriptive record. The potential analyst should have some definite set of defensible research problems that will be elucidated through conduct of the analysis proposed, and the connection between problem and analytic technique should be clearly laid out.

Logically, the rigor and thoroughness with which the justification for a given research topic should be set forth can vary with the intrusiveness of the analytic methods proposed. In other words, if one proposes only to make field observations to determine age, sex, stature, etc., one usually need not go into great detail about why this is necessary; such data are applicable to a wide range of research questions, and their collection is not widely regarded as objectionable. Conversely, if one proposes to retain human remains or grave goods for study in perpetuity, or to conduct destructive analyses on them, one will need to justify doing so in considerable detail, with reference to specific research questions that cannot be addressed in some other manner.

- *Scientific studies and reburial should occur according to a definite, agreed-upon schedule.*

This policy is clear, and should be carefully addressed in consultation. Schedules should be spelled out in Memoranda of Agreement and other relevant documents. The length of time allowed for analysis depends, of course, on the nature of the remains, the kinds of analysis proposed, the number of bodies involved, and so on. In many cases one year has turned out to be a reasonable length of time, but this is by no means an invariable rule. Responsible agencies should, of course, provide sufficient funds to ensure that analysis can be and is done within the agreed upon schedule.

- *Where scientific study is offensive to the descendants of the dead, and the need for such study does not outweigh the need to respect the concerns of such descendants, reburial should occur without prior study. Conversely, where the scientific research value of human remains or grave goods outweighs any objections that descendants may have to their study, they should not be reburied, but should be retained in perpetuity for study.*

In contrast with the modal rule of reburial after analysis, this final statement permits us to enter into agreements providing for either end of the spectrum -- reburial without analysis, and analysis without reburial -- and hence into agreements providing for any permutation in between. The consultation process is obviously the context in which the consulting parties should decide on the precise permutation to employ in a given case.

There will of course be some interest groups that will maintain that analysis is always offensive, and never justified, while others will insist that analysis in perpetuity is always justified and claims of offensiveness are spurious or disingenuous. Experience suggests, however, that in most cases a meeting of the minds can be reached if the parties involved will deal with each other with open minds and mutual respect. Where one group or another is intractable, of course, it should still be possible for the core consulting parties -- the Federal agency, the SHPO, and the Council (where we participate) to reach a conclusion. The outcome of the one case of this kind that has thus far been litigated¹ suggests that in such a case, the Memorandum of Agreement reached by the consulting parties will be capable of withstanding legal challenge.

Approved for consistency with Council policy:

Robert D. Bush

Robert D. Bush, Executive Director

12-1-88

Date

¹ Coastal Band of the Chumash Nation, et al. v. Ventura County, et al (C.D. Cal. 1986; No. CV 86-7979 FAR).

Attachment 2: The Maine Indian Bones Law, MRSA S.509.

Maine
REVISED STATUTES ANNOTATED
1964

*Prepared Under the Supervision
of the
Committee on Revision of Statutes*

Being the Tenth Revision of the
Revised Statutes of the State
of Maine, 1964

Volume 12A
Title 22
§ 3101 to End



ST. PAUL, MINN.
WEST PUBLISHING CO.

TEXT OF REVISED STATUTES
COPYRIGHT © 1992
By
STATE OF MAINE

ANNOTATION MATERIALS
COPYRIGHT © 1992
By
WEST PUBLISHING CO.

Library References

American Digest System

Criminal responsibility for fraud; offenses in general, see Fraud ¶68.

Encyclopedias

Criminal responsibility for fraud; offenses and responsibility therefor; see C.J.S. Fraud § 154.

WESTLAW Research

Fraud cases: 184k[add key number].

§§ 4716 to 4719. Repealed. Laws 1979, c. 732, § 16

Historical and Statutory Notes

The repealed § 4716, which related to the appointment and term of office of special constables, was derived from:

R.S.1954, c. 25, §§ 336, 337.
Laws 1957, c. 158, §§ 1, 2.
Laws 1971, c. 622, § 77-B.

The repealed § 4717, which related to the adoption of ordinances by the Penobscot and Pasamaquoddy tribes, was derived from:

Laws 1965, c. 513, § 41.
Laws 1971, c. 544, § 81.
Laws 1977, c. 694, § 370.
Laws 1979, c. 127, § 150.

The repealed § 4718, which related to licensing and registration of all dogs owned by each tribal member, was derived from: Laws 1969, c. 95, § 1.

The repealed § 4719, which related to the election of tribal members to a school committee, was derived from: Laws 1973, c. 571, § 53-C; Laws 1973, c. 783, § 43.

Former Section 4719

A former § 4719 of this title, which related to transfer of the bones of Indian skeletons to Indian tribes for reburial, was derived from: Laws 1973, c. 353; Laws 1973, c. 788, § 95.

See, now, § 4720 of this title.

Separability of Provisions and Effective Dates

For separability of provisions and effective date provisions of Laws 1979, c. 732, see the italicized note preceding § 6201 of title 30.

§ 4720. Indian bones

From October 3, 1973 and thereafter all Indian skeletons and bones that come into the possession of any person, state department or organization, whether public or private, shall be transferred to appropriate Indian Tribes in Maine for reburial.

Prior to the time of transferral to the Indian Tribes, any such Indian bones or skeletons found may be subjected to scientific study by persons skilled in the anthropological and archaeological fields, but in no instance may such study continue longer than one year from the time of the bones discovery, before being transferred to the Indian Tribe.

1973, c. 788, § 96, eff. April 1, 1974.

Historical and Statutory Notes

Derivation:

Laws 1973, c. 353.

Laws 1973, c. 788, § 95.

Former § 4719 of this title.

Attachment 3: List of Contacts for the Eastern Surplus Company Superfund Cultural Resources Management Plan

List of Contacts for the Eastern Surplus Company Superfund Cultural Resources
Management Plan

State Historic Preservation Officer
Maine Historic Preservation Commission
55 Capitol Street, Station 65
Augusta, ME 04333
(207) 287-2132 FAX: (207) 287-2335
Contact: Mr. Earle G. Shettleworth, Jr.,

Chief Medical Examiner
State of Maine
Public Safety Department
Augusta, ME 04330
(207) 866-5786
Contact: Dr. Marcella Sorg

U.S. EPA Region 1
1 Congress Street, Suite 110
Boston, MA 02114-2023
(617) 918-1372 FAX (617) 918-1291
Contact: Mr. Edward Hathaway

Pleasant Point Tribal Government Office
Passamaquoddy Indian Tribe
Box 343
Perry, Maine 04667
(207) 853-2600
Contact: Mr. Richard Doyle, Governor

Indian Township Tribal Government Office
Passamaquoddy Indian Tribe
Box 301
Princeton, Maine 04668
(207) 796-2301
Contact: Mr. Richard Stevens, Governor

Attachment 4: Maine Guidelines for Determination of Cultural Affiliation for Notification to Tribes of Holdings of Human Remains, Associated Funerary Objects and Unassociated Funerary Objects under the Native American Graves Protection and Repatriation Act (March 1993).

Maine Guidelines for Determination of Cultural Affiliation
for Notification to Tribes of Holdings of
Human Remains, Associated Funerary Objects
and Unassociated Funerary Objects under the
Native American Graves Protection and Repatriation Act

March 1993

Requirements of NAGPRA

The Native American Graves Protection and Repatriation Act (hereinafter the Act), and [10/92 draft] regulations issued under the authority of the act, require a determination of the presence of either a lineal descendant or cultural affiliation as part of the decision-making process for determining the appropriate Native American or tribe(s) for notification and consultation concerning skeletal remains, associated funerary objects, and unassociated funerary objects in existing museum or institutional collections.

A Lineal descendant (§ 10.14(b) draft regs) is defined as "an individual tracing his or her ancestry directly and without interruption by means of the traditional kinship system of the appropriate Indian Tribe to a known Native American individual whose remains, funerary objects, or sacred objects are being requested under these regulations." If there is no clear lineal descendant, then a determination of cultural affiliation must be made.

Cultural affiliation (§ 10.14(c) "means a relationship of shared group identity that may be reasonably traced historically or prehistorically between a present-day Indian Tribe and an identifiable earlier group." Determination of cultural affiliation requires existence of an identifiable present-day Indian Tribe, evidence of the existence of an identifiable earlier group (which may be defined by archaeological data), and the ability to trace "shared group identity" between the two groups. Shared group identity may be established by preponderance of evidence; scientific certainty is not necessary (§ 10.14(e) draft regs).

Maine SHPO Role

The Act does not assign a statutory function to State Historic Preservation Officers. However, "they may assist Federal agencies or recipients of Federal assistance in identifying Native American groups that should be consulted under the statute" (NPS NAGPRA memo, October 30, 1991, p. 10). In order to provide guidance to holders of Maine archaeological collections subject to the Act, the Maine SHPO convened a meeting of the Prehistoric Subcommittee of the Archaeological Advisory Committee on January 27, 1993. The Subcommittee was charged to develop guidelines for determining cultural affiliation of archaeological collections from Maine, using the current collective understanding of regional and Maine ethnohistory and archaeology.

Maine law (22 MRS §4729) also requires return of Indian skeletons and bones excavated after October 3, 1973, after a period of study, to the "appropriate" Indian tribe for reburial.

These guidelines shall be used by Museums receiving Federal funds or archaeological collections excavated under Federal permit or with Federal money as a basis for determining the "appropriate" tribe under 22 MRS §4729, and for an initial determination of cultural affiliation for the purposes of notification and initiating consultation with one or more tribes under terms of the Act. Once adopted, these guidelines may be revised based on an improved understanding of Maine prehistory, ethnohistory, or Native cultural tradition.

Notification Provisions Under the Act

Notification procedures as described in § 10.9(e) of (draft regs) require delivery of inventory results to be sent to one or more culturally affiliated tribes and to the Departmental Consulting Archaeologist, Dept. of the Interior for publication in the Federal Register. Where a determination has been made that there is no affiliated tribe, inventory results are sent to the Consulting Archaeologist for publication in the Federal Register.

Determination of Affiliated Tribe(s)

Under §10.14(c) of the Act, there are four identifiable present-day Indian tribes in Maine that must be considered for cultural affiliation. They are the Penobscot Nation (Old Town), the Passamaquoddy (Pleasant Point and Princeton), the Houlton Band of Maliseets, and the Micmac (Presque Isle). It is our policy that these four tribes must be considered when making an initial determination of potential affiliation for items covered by the Act.

The Subcommittee reached a consensus that tribal affiliation could be determined for remains of Contact Period age (after the arrival of Europeans) with relative certainty based on the geographic origin of the remains. One specific tribe, or a pair of tribes, is most-likely affiliated with each Contact Period archaeological site and remains from it. This understanding is based primarily on research in primary documents yielding tribal names and individual's names as published by Bourque, by Prins, and their coauthors. Because the period of Prehistory is characterized by the necessity to use archaeological data in the absence of documents, determination of affiliation between prehistoric archaeological collections and an existing tribe is more difficult. The Subcommittee felt that a "shared group identity" could reasonably be traced between remains of Late Prehistoric age, 1000 years old or less, and all of the existing tribes in Maine as an undivided group. The Subcommittee felt strongly that the prehistoric archaeological record is characterized by major cultural discontinuities that make tracing of shared group identity across these discontinuities virtually impossible. The Late Prehistoric period is consistently recognized by archaeologists working in northeastern North America as the time of coalescence of ethnic groups and cultures recognized during early European contact. Although individual archaeologists may feel they can trace shared cultural identity across one or more of the most recent major discontinuities in the archaeological record (at least one or two discontinuities between 3000 and 1000 years ago) there is absolutely no consensus on shared group identity traceable to modern Tribes from archaeological materials older than 1000 years. Based on this opinion, the SHPO adopts the following guidelines for determining affiliation with modern Tribes, and recommendations for notification procedures under the Act.

Guidelines for Affiliation between Tribes and Archaeological Material

A. Contact Period

For the coastal zone east of Casco Bay eastward to include Penobscot Bay, stopping at Blue Hill Bay, and for the interior drainages of the Kennebec and Penobscot Rivers, the Penobscot Nation is the affiliated Tribe to be notified.

From Blue Hill Bay eastward to the western border of Passamaquoddy Bay, and for river drainages in Washington County exclusive of the St. Croix, the Penobscot Nation and Passamaquoddy are both possibly affiliated Tribes, and both must be notified.

From the western edge of Passamaquoddy Bay eastward to the Canadian border, and for the St. Croix drainage, the Passamaquoddy are the affiliated tribe to be notified.

For drainages in Aroostook County and the portions of the St. John and Aroostook drainage in other Maine counties, both the Micmac and Houlton Band of Maliseets are possibly affiliated Tribes, and both must be notified.

For Casco Bay and westward along the coast, and for the Androscoggin and Saco drainages in the interior, there is no shared group reasonably traced to any surviving tribe, primarily because of massive depopulation and cultural disruption in the area early in the Contact Period. There is no affiliated Tribe to be notified, and notification must go only to the Department of the Interior for publication in the Federal Register.

B. Late Prehistoric Period

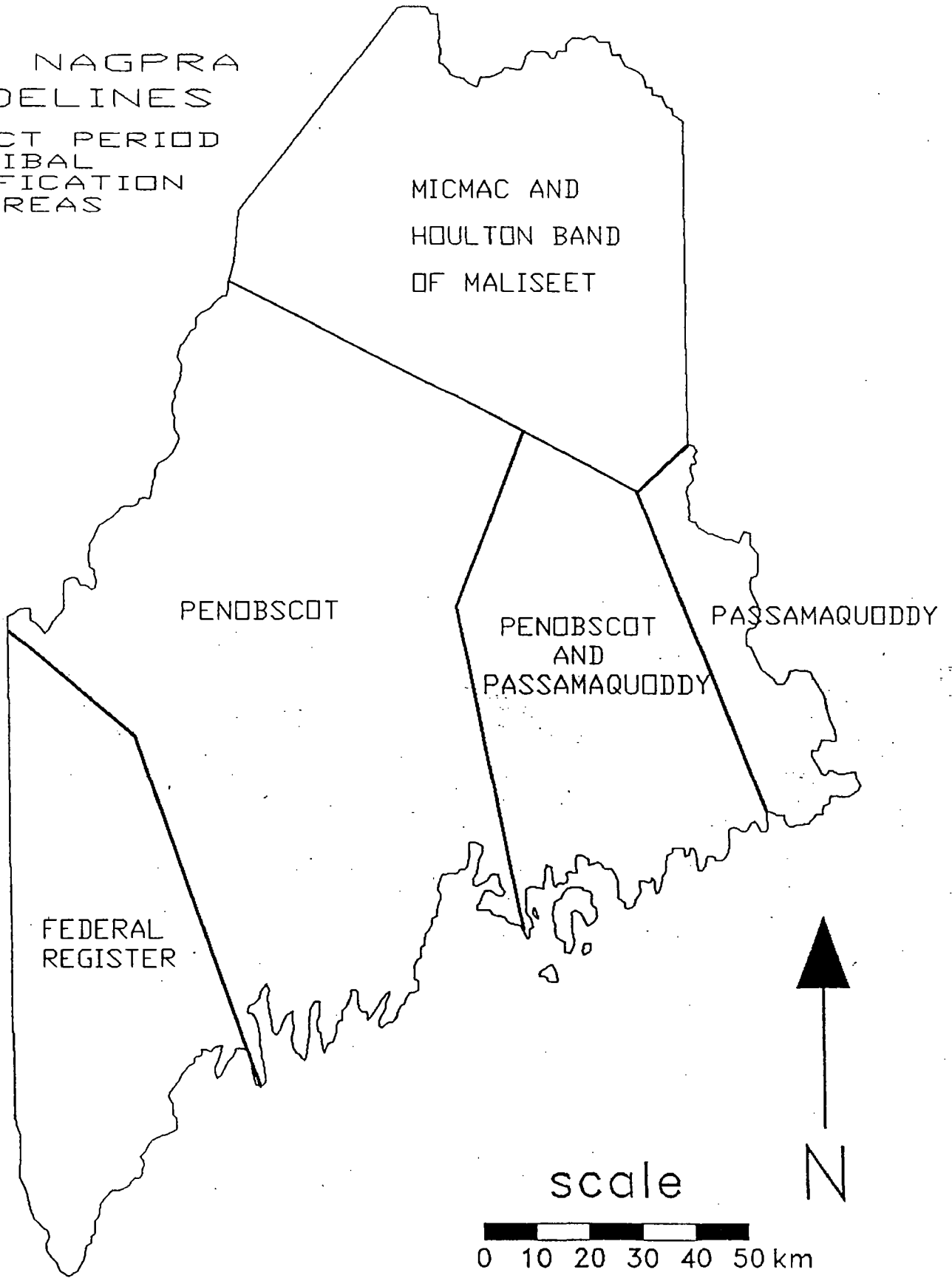
For all of Maine, the Subcommittee felt that it was reasonable to trace shared group identity from the Late Prehistoric Period inhabitants of Maine as an undivided whole to the four modern Tribes as an undivided whole based on geographic proximity, survivals of stone, ceramic, and perishable material culture skills, and probable linguistic continuity across the Late Prehistoric/Contact period boundary. Therefore, for the Late Prehistoric period (to 1000 years ago), all four Tribes or any one of the four may be possibly affiliated with any particular location in Maine. All four tribes should be notified.

C. Prehistory before 1000 Years Ago

For the rest of the prehistoric past, before 1000 years ago, there is no demonstrably affiliated tribe with any particular archaeological material. There is no affiliated Tribe to be notified, and notification must go only to the Department of the Interior for publication in the Federal Register.

SHPO NAGPRA
GUIDELINES

CONTACT PERIOD
TRIBAL
NOTIFICATION
AREAS



PHASE III DATA RECOVERY AT ARCHAEOLOGICAL SITE 96.02

for the

**EASTERN SURPLUS COMPANY SUPERFUND SITE, MEDDYBEMPS,
WASHINGTON COUNTY, MAINE**

Implementation Plan

by

Ellen R. Cowie

and

Robert N. Bartone

prepared for:

Tetra Tech NUS, Inc.
55 Jonspin Road
Wilmington, Massachusetts 01887-1020

University of Maine at Farmington
Archaeology Research Center
17 Quebec Street
Farmington, Maine 04938

May 12, 2000

Revised June 27, 2000

PHASE III DATA RECOVERY AT ARCHAEOLOGICAL SITE 96.02

for the

**EASTERN SURPLUS COMPANY SUPERFUND SITE,
MEDDYBEMPS, WASHINGTON COUNTY, MAINE**

TABLE OF CONTENTS

1. INTRODUCTION.....	3
2. PROJECT OVERVIEW AND BACKGROUND	4
RESEARCH APPROACH.....	5
3.1. PROBLEM STATEMENT	5
3.2. DATA RECOVERY PLAN	13
3.2.1. <i>Field Work</i>	13
General Excavations	14
Feature Excavations	15
Additional Field Work	15
Treatment and Disposition of Human Remains	17
3.2.2. <i>Laboratory Work</i>	17
General Lab Procedures	17
Analysis of Feature Fill.....	17
Analysis of Floral Remains.....	18
Analysis of Faunal Remains	18
Analysis of Native American Ceramic Remains	19
Analysis of Lithic Remains.....	19
Analysis of Euroamerican Remains.....	19
Data Management	20
Curation of Project Related Material	20
3.2.3. <i>Cultural Study</i>	21
3.2.4. <i>Report Preparation</i>	21
4. PROJECT SCHEDULE.....	22
4.1. FIELD INVESTIGATION IMPLEMENTATION PLAN	22
4.2. LABORATORY WORK IMPLEMENTATION PLAN	22
5. PUBLIC INTERPRETATION.....	24
6. PROPOSED PERSONNEL FOR PHASE III DATA RECOVERY FIELD AND LABORATORY WORK.....	27
7. REFERENCES CITED.....	28
APPENDIX I: RESUMES OF KEY PERSONNEL	

1. INTRODUCTION

This implementation plan has been prepared by the University of Maine at Farmington Archaeology Research Center (UMF ARC) in response to a request for proposal from Tetra Tech NUS, Inc. (TtNUS). Archaeological phase III data recovery is to be undertaken at prehistoric archaeological site 96.02 within the Eastern Surplus Company Superfund Site, given disturbance to the site by environmental remediation work. Archaeological phase I survey and phase II testing determined that the site is eligible for inclusion to the National Register of Historic Places (NHRP), and is considered an Historic Property, thus necessitating the phase III data recovery study (Will et al. 2000). This implementation plan has been prepared in accordance with the Research Design, Cultural Resource Management Plan and the Memorandum of Agreement between the Passamaquoddy Tribe, the Environmental Protection Agency, the Advisory Council on Historic Preservation and the Maine Historic Preservation Commission.

The work is mandated by legislation and regulations concerning the identification and protection of cultural resources from federally funded or permitted activities, including but not limited to the National Historic Preservation Act (PL 89-665, 16 USC 470) as amended; Executive order 11593; the National Environmental Policy Act (PL 91-190, 42 USC 4321); Advisory Council Procedures For the Protection of Historic And Cultural Properties (36 CFR VIII, Part 800); and the Archaeological Historic Preservation Act (PL 93-291).

This implementation plan includes the following: a brief overview of the project in Section 2 and in Section 3 a research design that addresses the requirements of the Cultural Resource Management Plan and the Research Design, which meet the standards and requirements of the Maine Historic Preservation Commission (MHPC). Section 4 outlines the proposed project schedule, a plan for public interpretation is presented in Section 5, and Section 6 presents the UMF ARC personnel proposed for the project. Resumes of key project personnel are included in Appendix I.

2. PROJECT OVERVIEW AND BACKGROUND

Archaeological site 96.02 is located within the Eastern Surplus Company Superfund Site in Meddybemps, Washington County, Maine. The Eastern Surplus Company Superfund Site includes a 4-5 acre parcel of land at the outlet of Meddybemps Lake on Dennys River. The project area is an abandoned junkyard, where salvage and surplus material were stored, including hazardous waste material, over a span of years from 1946-1973, by Harry Smith for the Eastern Surplus Company. TtNUS, under contract to the U.S. Environmental Protection Agency (EPA), is currently undertaking environmental remediation work of the project area. Given the partial destruction of archaeological site 96.02 (first reported and recorded in the state files in 1967) by remediation work, TtNUS sub-contracted Archaeological Research Consultants, Inc. (ARC, Inc.) to conduct archaeological phase I survey and phase II testing. This work was completed in 1999 and represents the first subsurface testing of archaeological site 96.02 (Will et al. 2000). A total of 36.75 square meters was excavated at the site ("site" hereafter referring to the archaeological site), including 107 0.5 m x 0.5 m test pits and 25 larger 1.0 m x 1.0 m excavation units, determining that the site is (was) approximately 10,700 square meters in area, and represents a multi-component Native American encampment which was occupied during the Middle and Late Archaic periods (ca. 5500-4000 B.C. and 4000-1000 B.C., respectively) and portions of the subsequent Woodland (Ceramic) period, specifically the Early Woodland (Ceramic) period through the Middle Woodland (Ceramic) period, from ca. 1000 B.C.–A.D. 1000. The presence of temporally diagnostic artifacts, cultural features, subsistence remains within apparently stratigraphically discrete, or otherwise separable deposits (at least partially), attests to the significance and research potential of the site. The remediation process, specifically the removal of contaminated sediments, necessitated the destruction of a large portion of the site, although the northern portion remains intact. The phase III data recovery work will focus on the northern site area where intact archaeological deposits have been documented and will include the excavation of up to 200 square meters of the site as stipulated in the draft Cultural Resources Management Plan and the Memorandum of Agreement.

3. RESEARCH APPROACH

3.1. PROBLEM STATEMENT

Phase I survey and phase II testing at archaeological site 96.02 resulted in the recovery of 4,755 prehistoric Native American cultural remains, including lithic debitage, lithic tools (both flaked-stone and ground-stone) and ceramics in addition to calcined bone and charred floral remains. Nine cultural features were identified at the site and represent the remains of hearths and remnant living floors. The site is located on what is interpreted as an alluvial landform, consisting of a disturbed plowzone, overlying a developed "B" soil horizon. A buried surface containing cultural material has been identified as well. Evidence of the Middle and Late Archaic periods (ca. 5500-4000 B.C. and 4000-1000 B.C., respectively) as well as portions of the Woodland (Ceramic) period (specifically Ceramic Periods 1-4 from ca. 1000-B.C.–A.D.1000) has been recovered. Given the lacustrine setting of the site adjacent to Dennys River, the outlet of Meddybemps Lake, site deposition may more likely be the result of colluvial (slope wash) as opposed to alluvial deposition as indicated. Cultural material recovered from the plowzone is obviously from a disturbed context and material in the underlying strata are somewhat mixed, however both the Middle and Late Archaic components and possibly the Early Woodland (Ceramic) period component (ca. 1000-100 B.C.) apparently represent intact (or partially intact) cultural deposits (Will et al. 2000).

The archaeological significance of the site in part rests on the existence of the proposed buried surface. On the basis of the previous field work conducted at the site, the buried surface reportedly contains cultural material attributable to the Archaic period. The existence of a buried surface at this site is somewhat problematic given its setting adjacent to Meddybemps Lake and the outlet at Dennys River. An obvious question arises as to the origin of the sediments that cap the buried surface, if in fact it is one. If it is a buried surface containing Archaic period material, the presence of Archaic period material in the plow zone becomes somewhat curious. Clearly, this issue will be a major focus of the phase III data recovery work.

Given the characteristics of the site and the cultural deposits which are known to be present there, site 96.02 can potentially address several of the Research Significance Themes as outlined in the Maine State Plan for Prehistoric Archaeology (Spiess 1990). Specific Study Units that can be addressed through data recovery at the site include the Early and Middle Archaic period Study Unit, the Late Archaic period Study Unit(s), and the Ceramic period Study Unit specifically including components attributable to the Early Woodland (Ceramic) and Middle Woodland (Ceramic) periods, ca. 1000 B.C.–A.D. 1000.

Data recovery excavations at site 96.02 could yield information pertinent to culture history (Theme 1), settlement patterns (Theme 2), subsistence practices (Theme 3) and, transportation, trade and travel (Theme 5), as well as potentially other Research Significance Themes such as Cultural Boundaries (Theme 12) and Environmental Studies (Theme 10).

General and specific research topics which will drive the phase III data recovery field work and the methods employed include the following:

- 1) Clarification of the occupation(s) represented among the cultural deposits at site 96.02 through detailed artifact analysis and radiocarbon dating.
- 2) Clarification of site formation processes including determination of the existence of an intact or partially intact buried surface/soil at the site and the processes involved with its burial.
- 3) Determination of the specific uses of the site and season(s) of use through spatial analysis of cultural features and/or activity areas potentially identifiable at the site as well as analysis of subsistence remains.
- 4) Determination of the full range of subsistence practices represented among the subsistence remains recoverable from the site.
- 5) Definition of the technological systems of the groups who occupied the site, specifically study of all remnants of the various technologies that they brought to the site, produced and/or used there.
- 6) Assessment of how the cultural deposits at site 96.02 can inform us about social interaction and mobility of the group(s) of people who occupied the site using their lithic, ceramic and all other relevant evidence, including

subsistence and feature remains, providing an index of inter-regional trade and/or travel at this time.

- 7) Assessment of how the cultural deposits at site 96.02 are potentially related to similarly aged archaeological deposits throughout the region.
- 8) Assessment of whether continuity and changes in the cultural history represented at the site can be correlated with continuities and changes in the paleoenvironmental record.
- 9) Importantly, site 96.02 affords the opportunity to explore issues of continuity and change in Native American lifeways during and between the Archaic and Woodland (Ceramic) periods.

All of these research questions are essential for a full understanding of the various Native American occupations represented at the site. The Archaic and Woodland (Ceramic) period deposits preserved at this site will offer the opportunity for detailed exploration of continuities and modifications of Native American life during the period of site occupation.

Site 96.02 is located on Meddybemps Lake within the Dennys River basin, a subbasin of the St. Croix River drainage. The headwaters of the St. Croix River drainage are situated in the area of the Chiputneticook Lakes including Grand Lake and Spednick Lake. Human occupation of the St. Croix River drainage includes evidence for early occupation during the Paleoindian period on the basis of isolated find spots (Bonnichsen et al. 1991; Kopec 1985) as well as evidence for later Archaic and Woodland (Ceramic) period occupation on the basis of both personal artifact collections and through research and consulting archaeology studies (Cox 1991, 1994, 1995a and 1995b; Kopec 1985; Pearson 1970; Rutherford 1991; Sanger 1975, 1986, 1987, among others).

Until relatively recently, Early and Middle Archaic period occupation of the Northeast was considered quite low in comparison to areas to the west (i.e., Fitting 1968; Ritchie 1965). This apparent hiatus was related to a perceived paucity of natural resources at this time. However, archaeological research conducted over the last decade has shown the apparent low populations of the Early and Middle Archaic period are more a reflection of poor visibility of archaeological remains associated with these prehistoric

occupations, coupled in some cases with processes of deep site burial, as well as a general lack of archaeological research at interior locations since sea level rise has drowned evidence of Early and Middle Archaic period occupations in coastal regions (i.e., Petersen 1991a, 1995; Petersen and Putnam 1992; Robinson and Petersen 1992; Robinson et al. 1992).

Recent research has resulted in a fuller understanding of the Archaic period in northern New England in part due to the intensive excavations at a select number of sites including the Sharrow and Brigham sites in central Maine (Petersen 1991a), excavations at the Gilman Falls site on the Stillwater River (Sanger et al. 1994) as well as at other Early and Middle Archaic sites investigated throughout Maine (Cowie and Petersen 1988, 1990, 1992; Sanger et al. 1992), and in the present case, Archaic period sites investigated in eastern Maine (Cox 1991, 1994 and 1995a) and detailed through personal artifact collections (Kopec 1985).

All this combined work has expanded our understanding of the technological traditions now considered characteristic of the Early and Middle Archaic period; typified by flake core industry, extensive use of ground stone, and few temporally recognizable bifaces (Petersen 1995; Petersen and Putnam 1992; Robinson and Petersen 1992). The extensive documentation work at the Sebasticook Fish Weir on Sebasticook Lake attests to the complex and rich nature of Archaic period cultures (Petersen et al. 1994). These recent revisionist views of the Archaic period need to be recognized and incorporated into any research design focusing on this still poorly understood period in Native American history.

The Late Archaic period is better known than the earlier periods, but generally for areas of northern New England the finer details of culture history still remain elusive. The Late Archaic period encompasses three developments including the Laurentian Tradition, ca. 4,000-2500 B.C., the Moorehead Tradition, ca. 2500-1800 B.C., and the Susquehanna Tradition, ca. 1800-1000 B.C.

Artifacts recovered from site 96.02 and attributed to the Middle Archaic period, ca. 5500-4000 B.C., include a stone rod fragment and possibly a grooved cobble while Late Archaic period artifacts from the site apparently include one plummet and stemmed

bifaces similar to those found in Occupation 2 at the Turner Farm site (Bourque 1995; Will et al. 2000). Based on the previous work at the site and at other Archaic period sites in the region, one important aspect of the phase III mitigation will be to clarify the occupation(s) present at the site as represented by the diagnostic artifacts. It may in fact be the case that the Archaic period occupation(s) represented at the site are all attributable to one or more Late Archaic period manifestations (i.e., Laurentian, Moorehead, Squibnocket) and that no earlier Middle Archaic period activity occurred, as is the case with nearby site 95.20, within the Grand Falls drainage, a tributary of the St. Croix River drainage.

Detailed excavations at site 95.20 on the shores of Lewy Lake, within the Grand Falls drainage about 30 km northeast of Meddybemps Lake, have provided substantial evidence of a significant Late Archaic occupation largely attributable to the Vergennes phase of the Laurentian tradition, ca. 3500-2500 B.C. (Cox 1991; Ritchie 1965). Lithic tools typical of the Laurentian and the Vergennes phase were recovered including stone rods, ulus, grooved pebbles, side-notched, or Otter Creek-type points, plummets, abraders and chopper fragments. This lakeshore site has been interpreted as a fishing encampment which was occupied seasonally for perhaps just a few years on the basis of faunal remains and the clustered distribution of certain tool types and other artifact classes. The faunal sample from the site is quite substantial given the area excavated and of the preserved and identifiable specimens recovered, mammal remains dominate the sample with reptile, bird and fish represented in lesser numbers. Interestingly, a bone harpoon tool fragment has been recovered and identified as a fragment of a swordfish sword.

Areas of research interest concerning the Late Archaic period component at the site include those general research questions noted above as well as specific processes related to cultural boundaries, since the developments of the Late Archaic period are not well known for the regions of eastern Maine. Also of interest is the relationship of coastal and maritime Late Archaic period manifestations to interior and broader regional manifestations. Through the intensive recovery techniques proposed for the phase III data recovery excavations and detailed attribute analysis on lithic materials recovered

from the site, information on technologies, trade and exchange, and cultural boundaries can be more clearly defined and thereby understood for this site.

In terms of how the site can inform on issues of Archaic period settlement and subsistence, the site location is one very typical for Archaic and Woodland (Ceramic) period occupations – the lake outlet (Cox 1991; Petersen 1995; Sanger 1976 and 1982). The position of the site directly adjacent to the outlet of Meddybemps Lake is significant in terms of the related aspects of settlement and subsistence and clearly the site location was favored for its position near the lake shore and Dennys River for easy access to the aquatic resources likely concentrated there. Atlantic salmon runs are reported for the Dennys River as well as other anadromous fish species (New England River Basins Commission 1981).

Subsistence patterns for the Archaic period in the interior portions of Maine can be characterized as a generalized pattern with focus on both terrestrial and aquatic mammals, anadromous and catadromous fish as well as increased utilization of a variety of plant resources (Asch Sidell 1999; Petersen 1991a; Spiess 1992). As expected, in contrast, the subsistence patterns exhibited in the Maritime Archaic Tradition includes a focus on terrestrial and marine mammal hunting and marine fishing (Spiess 1992). The recovery at interior site 95.20 on Lewy Lake is quite significant and raises many significant questions as to the processes involved with its presence at this interior site.

Previous excavations at site 96.02 resulted in the recovery of a range of faunal remains including the calcined (burned) remains of mammals, and one single unidentified fish vertebrae (Will et al. 2000). The lack of fish at this probable fishing encampment is not surprising given processes related to consumption and discard behavior and importantly post depositional processes resulting in differential faunal preservation (Knight 1985). The lack of fish remains may also be in part due to the recovery methods employed during previous excavations at the site that included sampling of only limited amounts of feature sediment. Given these factors, the proposed excavations include intensive recovery of feature sediment with 100% retention of all feature sediment identified at the site for subsequent flotation in the laboratory.

An intensive recovery program of feature sediment and associated remains will enable detailed analysis of the full range of preserved faunal and floral remains used and discarded at the site thereby aiding in developing the overall subsistence pattern practiced by the various inhabitants of the site over time as well as aiding in paleoenvironmental reconstruction through identification of wild plant and forest communities (Petersen and Cowie 2000).

The transition from the Archaic period to the Woodland period in northern New England includes the introduction of ceramic manufactures, and for the broader Northeast, processes such as the intensification of plant use and increased sedentism have traditionally been recognized with northern New England and the Maritimes region an exception. Broadscale continuities in most aspects of Native American lifeways (i.e., settlement and subsistence) appear to have changed little at this time and even the mortuary practices associated with the Early Woodland period (i.e., Middlesex, Adena) in general respects show continuities with Archaic period mortuary ceremonialism (Heckenberger et al. 1990; Petersen 1995) as evident at Augustine Mound in New Brunswick (Turnbull 1976).

Few Early Woodland (Ceramic) period habitation sites have been excavated and fully reported in eastern Maine and the Maritimes region making the archaeological deposits at site 96.02 particularly significant (Heckenberger et al. 1990; Rutherford 1991). Although the archaeological record for the Middle Woodland period throughout Maine and the Maritimes is better known, the Middle Woodland (Ceramic) period occupation at the site will provide useful information on a range of issues through detailed attribute and vessel lot analysis thereby enabling comparisons with other local and regional Middle Woodland (Ceramic) period ceramic manifestations (Allen 1981; Bishop 1983; Foulkes 1981; Pearson 1970; Sanger 1987).

Site 96.02 preserves evidence of both the Early Woodland (Ceramic) period and the Middle Woodland (Ceramic) period on the basis of the recovery and identification of Native American ceramics. In addition, apparently one Middle–Late Woodland (Ceramic) period shell-tempered vessel has been identified as CP4/5 at the site, although

the majority of the ceramic remains can be attributed to the Early and Middle Woodland (Ceramic) periods (Will et al. 2000).

The focus for the Early Woodland (Ceramic) period occupation at the site will be to isolate intact remains attributable to this period for intensive recovery of cultural remains including lithics and ceramics, and importantly, subsistence remains and potentially datable material. Areas of specific research interest for the Early Woodland (Ceramic) period deposits include exploration of issues of technology including both ceramic and lithic manufacture, settlement and subsistence patterns and how potentially recognized patterns compare with earlier Archaic and later Woodland (Ceramic) period components in the region.

Native American ceramic remains will be a particular focus for the data recovery work and a range of research topics can be easily explored. The introduction of ceramics into the Northeast occurred around 1000 B.C. while in Maine, the earliest date on these ceramics, designated as Ceramic Period 1 by Petersen and Sanger (1991) (known regionally as Vinette I), have been recovered from the coastal Knox site and radiocarbon dated to 2270±70 B.P. (Belcher 1989) and in New Brunswick, Canada at the Oxbow site located on the Miramichi River at 2600± 60 B.P. on the basis of associated material (Allen 1981). An important aspect of the data recovery work will be to ascertain the date of the Early Woodland (Ceramic) period occupation at the site through radiocarbon dating of organic material recovered from cultural features apparently intact at the site.

This particular site offers an excellent opportunity to examine issues of cultural boundaries and ethnicity through the analysis of fabric and cordage impressions preserved on the ceramic fragments. Early Woodland (Ceramic) period ceramic vessels were impressed with a variety of fabric and cordage remnants as a technique of surface treatment. Through the intensive analysis of fabric and cordage impressions preserved on Native American ceramics, Petersen has argued that the cordage twist and weft slant are cultural markers perhaps indicative of ethnicity (Petersen and Hamilton 1984; Petersen and Sanger 1991). Variability in twist has been noted between Native American occupations located on interior, freshwater sites and those located on coastal or estuarine and marine settings. Examination of how the material from site 96.02 fits into this

general pattern will be an important aspect of the proposed work. Based on the ceramic analysis conducted on the material recovered during previous work at the site, the cordage twist evident on the ceramics identified as Early Woodland (Ceramic) period (CP1) is S-twist, typical of interior sites.

Again, Early Woodland (Ceramic) period interior (freshwater) habitation sites are rare, particularly those with subsistence remains. As such, a focus on recovery and analysis of both faunal and floral remains from cultural features attributable to this time period will be a major focus of the recovery work. Little paleobotanical data is available for the Early Woodland (Ceramic) period and interior sites have produced relatively little in the way of large floral samples from this period (Asch Sidell 1999; Cowie and Petersen 1992).

Unlike the Early Woodland (Ceramic) period, more variability in ceramic manufacture occurs during the Middle Woodland (Ceramic) period (Cowie and Petersen 1999; Petersen and Sanger 1991). Although the Woodland (Ceramic) period deposits at the site have largely been incorporated into the plow zone (at least in the northern portion of the site) and hence are in a disturbed context, the ceramic remains recoverable from the site through proper attribute and vessel lot analysis can inform us on a variety of issues related to Native American lifeways including technology, settlement patterns and cultural boundaries.

3.2. DATA RECOVERY PLAN

3.2.1. Field Work

The data recovery effort at site 96.02 will include the excavation of up to 200 square meters in the intact, northern portion of the site. All field work will focus on maximizing the recovery of intact cultural deposits and addressing the research topics outlined above. Systematic methods will be employed to conduct the phase III data recovery excavations and will be consistent with methods previously employed at many sites in Maine and northern New England by the UMF ARC (for example see Bartone and Petersen 1992, 1994; Corey et al. 1995; Petersen 1991b) and which meet standards set by the MHPC (MHPC 1992).

General Excavations

All subsurface testing will be conducted using hand-held tools, generally removing 10 cm arbitrary levels within natural strata, as appropriate, with 1.0 m x 1.0 m units excavated by 50 cm subunits as the basic unit of provenience. Methods used during previous excavations at the site will be generally followed in order to ensure consistency and correlation across the site. All sediments will be passed through 6.4 mm (1/4 in) mesh hardware cloth in the field. All Native American artifacts will be recovered for subsequent analysis. Historic Euroamerican artifacts will not be saved from the disturbed context of the plowzone, but if encountered from sub-plowzone contexts will be retained to aid in assessing the site stratigraphy and any sub-plowzone disturbances that may have occurred at the site.

To expedite the excavations, arbitrary 10 cm levels within clearly disturbed contexts, specifically the historic plowzone, will be combined and material recovered through screening will be provenienced together, thereby enabling us to maximize the effort within intact deposits. All material recovered during excavation will be assigned a provenience (catalogue) number in the field. The horizontal grid established during the phase II fieldwork will be reestablished and utilized for horizontal excavation control. A site-wide vertical elevational system will be established and utilized for vertical excavation control as well. Standardized sets of forms will be utilized to record all pertinent data (for example, unit summaries, unit level records, provenience catalogue records, and photograph log). Intensive photo documentation of all aspects of field work will be maintained in black and white, color slide and digital format.

Archaeological field work at site 96.02 will be conducted in the northern, intact portion of the site, as identified by ARC, Inc. (Will et al. 2000) during phase I survey and phase II testing. Work will be initiated with the excavation of 1.0 m x 1.0 m excavation units specifically placed to expand off of the 10 square meter phase II excavation block, located in the vicinity of N500W500. Reportedly, this area preserved feature/living floors (designated Stratum IV) as well as diagnostic artifacts and relatively high artifact densities. Dispersed discrete units will also be placed on grid across the northern, intact

portion of the site. These units will be excavated to help define site formation processes and to identify additional areas of artifact density, cultural features and/or the buried surface. Subsequently, if warranted, additional units will be placed to expand off of productive units. Test units will also be excavated to further assess particular areas of interest as identified through phase II test pit excavation.

Ultimately, the configuration of phase III excavation units will be in one or several large excavation blocks. Large block excavation offers the opportunity to achieve broad scale horizontal exposure of cultural deposits thereby aiding in the delineation of discrete activity areas and intra-site spatial patterning.

Feature Excavations

The identification and excavation of features will be a major focus of the data recovery field work, given the potential for significant context of cultural remains and the preservation of subsistence remains. Once exposed, all cultural features will be photographed and mapped to scale. All cultural features identified will be excavated in their entirety, with feature sediment (100%) saved for finer processing in the laboratory. *All* feature fill identified will be retained after initial screening in the field and *all* sediment retained will be processed by the flotation technique in the lab. This will ensure the recovery of small ecofacts that can easily pass through screens as small as 1mm in size (Asch Sidell 1999).

Additional Field Work

As outlined in the CRMP and Task 2.0 of the Technical Specifications, additional field work will include the collection of soil and sediment samples, specifically including sediment column samples taken from select excavation units, for the purpose of understanding the depositional history and formation processes of the site. UMF ARC geomorphological consultant, Dr. G. Robert Brakenridge, will be involved in this aspect of the project. As previously mentioned, a critical aspect of the phase III field work will be to ascertain the existence and nature of the possible buried surface/soil thought to be present at the site. In collaboration with UMF ARC archaeologists, Dr. Brakenridge,

through his field investigations and analysis of data from select sediment column samples, will determine the depositional history of the site.

Select sediment samples collected from the site during field work will be submitted to the University of Wisconsin-Milwaukee Sediment Laboratory for standard grain-size, organic matter, pH and chemical analyses. These data will be utilized by the geomorphologist, geologist and paleobotanists in their various analyses and will be synthesized in overviews of site stratigraphy, geomorphology and paleobotany in the final report.

Other select samples will be taken to better understand specific areas of the site, for example activity areas, living- floors or surfaces, and, as mentioned above, cultural features. These bulk soil samples will also be utilized to recover often small and fragile floral remains, essential for reconstructing paleo-environment, subsistence patterns and general plant use of the site inhabitants. Paleobotanist, Nancy Asch Sidell, will be hired as a consultant as part of this aspect of the project.

Additional field work will also involve a geologist, Chris Dorion, who will be contracted to assess the feasibility and potential utility of procuring and analyzing a core sample from Lake Meddybemps for the purpose of paleo-environmental reconstruction as specified in the Research Design.

Determining the feasibility of obtaining climate and vegetation records from preserved lake sediments using long-piston cores, requires basic background research into previous paleohydrological and paleoecological work in Maine. Based on discussions with Chris Dorion, it is apparent that Meddybemps Lake is best suited for paleoenvironmental reconstruction through the analysis of macrofossils preserved in near lakeshore settings. The pollen record available at Meddybemps Lake would not provide a local record but rather a more regional record of pollen based on its size and other climatic and geologic factors (Dorion, personal communication 2000). In addition, the record of lake level change at Meddybemps Lake will not likely show relative lake level changes through time, given the number of lake inlets and outlets.

The focus of the additional field work outlined above will include detailed geomorphological analysis of the site landform as well as paleoenvironmental and

paleohydrological reconstruction through paleobotanical samples recovered from the archaeological site and macrofossils recovered from near shore sediment lake cores.

Treatment and Disposition of Human Remains

No human remains were recovered during the archaeological phase I survey and phase II testing; however it is possible that such remains will be identified during the phase III data recovery work. If so, procedures set forth in the Section III of the CRMP and the policies set forth by the Advisory Council on Historic Preservation, as well as other federal (NAGPRA) and state (27 MRSA S. 509) regulations will be strictly followed.

3.2.2. Laboratory Work

General Lab Procedures

Standard processing of all cultural remains recovered during the phase III field work, as well as those recovered during the previous excavation of the 10 square meters within “hot” areas of the site, will follow at the UMF ARC, in conjunction with its individual and institutional consultants. In the laboratory, non-organic artifacts recovered from dry screening in the field will be washed and catalogued using a standard format and analyzed to varying degrees under the supervision of the Laboratory Director and Principal Investigator. Native American ceramics and faunal remains will not be washed, but dry-brushed only. Likewise, organic ecofacts, and perhaps artifacts recovered from processing of feature sediments will be carefully cleaned and analyzed. More specific details of the proposed analyses of the various artifact classes are outlined below.

Analysis of Feature Fill

The processing of feature sediment will entail the flotation of *all* feature sediment retained during field work after a constant volume of sediment is removed for potential chemical analyses and curation. Flotation of all sediments will ensure the recovery of small artifacts and ecofacts. This intensive process is critical for reconstructing Native American subsistence patterns. After drying, all such remains will be removed from the

samples; however, a representative sample of artifacts and ecofacts will be fully analyzed depending on the amount of specimens recovered.

Analysis of Floral Remains

The scale of analysis of floral remains will be dependent on the context, associations and quantity of such remains recovered. For instance, samples of floral remains from the site will be sent to paleobotanical consultant Nancy Asch Sidell for general identification of the plants used by Native Americans at the site. Select floral samples will be submitted to Beta Analytic, Inc., for radiocarbon dating, and prior to submission, these samples will be identified by Nancy Asch Sidell. Every effort will be made to select samples for dating that are clearly representative of cultural behavior. For instance charred plant food (species clearly collected/harvested) remains will be chosen over charred wood specimens since we can more confidently assign the plant foods to cultural vs. potentially natural processes (forest fire, re-deposited wood charcoal, etc.). This becomes particularly important when attempting to date cultural deposits at a multicomponent site (Cowie et al. 2000).

Analysis of Faunal Remains

Faunal remains will be variably analyzed depending on the context and number of specimens recovered. Faunal remains recovered from the disturbed contexts of the plowzone will be counted and weighed and separated into animal classes and burned and unburned categories. Given the mixed context of material in the plowzone and other disturbed or otherwise inseparable sub-plowzone contexts, it is accepted that further analysis would provide less useful information. All faunal samples will be scanned for the potential recovery of fragmentary bone tool remains.

Emphasis will be given to faunal remains recovered from cultural features and other intact deposits for which more intensive analysis to the species level, if possible, will be completed. This analysis will be undertaken in-house by the Principal Investigator, in consultation with Brian Robinson (Cowie et al. 2000; Cowie and Petersen 1992).

Analysis of Native American Ceramic Remains

All Native American ceramics will be fully analyzed including detailed attribute and vessel lot analysis employing the seven part ceramic chronology developed by Petersen and Sanger (1991) and utilizing general analytical methods developed by Petersen which have been employed in many studies throughout northern New England (Cowie et al. 2000; Cowie and Petersen 1992, 1999; Petersen and Hamilton 1984; Petersen and Sanger 1991). This analysis will be undertaken in-house by the Principal Investigator.

Analysis of Lithic Remains

Lithic artifacts including flakes and tools will be analyzed to varying degrees. A basic catalogue of all lithic flakes from the site will include count, determination of material type, and size and presence/absence of cortex. A select sample of lithic flakes from the site will be chosen, based on archaeological context and association, and a detailed attribute analysis will be completed. All lithic tools will be fully analyzed following standardized methodological procedures utilized by the UMF ARC in projects throughout northern New England (Bartone and Petersen 1992, 1994; Corey 1997; Cowie et al. 2000; Petersen 1991b). Analysis of both tools and flakes includes recording of standard attributes as well as assessment with regard to reduction sequence. Lithic analysis will be undertaken in-house by UMF staff members with training and experience in lithic analysis. Select samples of lithic artifacts will be further analyzed for raw material sourcing by Canadian archaeologist Adrain Burke, who has collaborated with UMF on other lithic studies. Consultation with other professional archaeologists familiar with the region will also be conducted to ensure as broad a consideration of interpretations as possible.

Analysis of Euroamerican Remains

As mentioned above, Euroamerican artifacts will not be collected from the disturbed context of the plowzone, but will be retained from underlying deposits if encountered. These remains will be processed and cataloged at the UMF ARC to aid in

assessing the site stratigraphy and any sub plowzone disturbances that may have occurred at the site.

Data Management

All provenience information, catalogs and analyses will be entered into a *Microsoft Access* database for data manipulation and final curation. GIS software (*ArcView*) will be utilized to facilitate the organization, management, analysis and interpretation of the data, as well as to produce report graphics. The use of GIS enables the large and often-complicated range of data typically generated during phase III data recovery projects to be organized spatially (geographically) and in “layers”, thus greatly facilitating archaeological interpretation. UMF ARC has extensive experience with conducting GIS-based archaeological analysis and has successfully applied these techniques to a number of completed and ongoing consulting archaeology studies (for example see Brigham and Cowie 1999; Cowie et al. 1999, 2000).

Curation of Project Related Material

The final disposition of artifacts has not been determined; however following the completion of the phase III data recovery field work, all project related material, including artifacts, ecofacts, project and site records, photographs and other documentation will be temporarily housed at the facilities of the UMF ARC.

The UMF ARC is fully cognizant of the curation standards and procedures outlined by the Secretary of the Interior (35 CFR 79) pertaining to federally funded, or permitted activities resulting in archaeological collections. All catalogs and analysis sheets will be recorded on acid-free archival paper and curated in digital database format as well. All resultant databases, select photographs and graphics will be curated on long-term, archival CD ROM diskettes.

The ultimate location of these materials will be determined once an agreement is reached between the Passamaquoddy Tribe, the State of Maine and the Robert Abbe Museum of Stone Age Antiquities.

3.2.3. Cultural Study

The traditional and continuing relationship of the Passamaquoddy people and their traditional land is increasingly being recognized and will be the focus of the Cultural Study. A goal of the Cultural Study is to incorporate Passamaquoddy history (from the perspective of the Passamaquoddy) into the overall archaeological research program thus enabling a fuller understanding of the archaeological site.

UMF ARC will implement a Cultural Study under the archaeological investigation subcontract to TiNUS. UMF ARC will consult and coordinate with the Passamaquoddy Tribe in conducting the Cultural Study. The Cultural Study will be accomplished through interviews with tribal members and recording of oral history. The study will establish and record information regarding the traditional native use of the land for both economic (i.e., subsistence, trade, etc.) and religious or ceremonial purposes.

Recording of oral histories told by tribal elders about the area of Lake Meddybemps and the Dennys River may provide important insights into traditional Passamaquoddy landuse practices. Linguistic studies focusing on place names and ethnobotanical and ethnozoological, native plant and animal use, will be an important aspect of the study.

The results of the study will offer an interpretive framework from which to understand cultural material recovered from the site. For example, an understanding of contemporary and traditional use of plants (i.e., an ethnobotanical study) may enrich our understanding of the archaeobotanical remains potentially recovered from the site.

The results of the study will be incorporated into the technical report and other aspects of the public outreach program such as displays and published popular and technical articles.

3.2.4. Report Preparation

Six copies of the draft report will be submitted to TiNUS. This report and the final report will meet all MHPC guidelines and be in accordance with the CRMP. The Principal Investigator will oversee all report preparation activities although members of the UMF ARC staff and its consultants will write the majority of the report as a

collaborative effort. The resultant report will be produced in *Adobe Pagemaker* and will be of publishable quality as specified in the CRMP.

4. PROJECT SCHEDULE

4.1. FIELD INVESTIGATION IMPLEMENTATION PLAN

A crew of 14 excavators and three supervisory staff will complete the phase III data recovery fieldwork at site 96.02 in 40 days (two months). This determination is based on the extensive experience of the UMF ARC with large-scale data recovery excavations as well as excavation rates established through assessment of the depth of cultural deposits, complexity of stratigraphy, and expected density of cultural deposits (artifact and features) as based on the phase I survey and phase II testing.

The specific project schedule includes having field work be conducted in four concurrent 10-day work periods separated by four off-days between each 10-day work period. Rain delays are not anticipated, except for extremely severe weather, since the UMF ARC routinely employs shelters to enable continuing work during inclement weather.

Table 1. Field Work Schedule

Work Period 1 Day 1-10	Work Period 2 Day 11-20	Work Period 3 Day 21-30	Work Period 4 Day 31-40
Initiate field work; Complete first 50 sq meters	Ongoing field work; Completion of 100 sq meters	Ongoing field work; Completion of 150 sq meters	Completion of field work; 200 sq meters; backfill and reseed excavation area; close down project
	Geologist-Dorion; paleo-environmental feasibility study	Geomorphologist-Brakenridge; site Visit	If feasible; geologist Dorion conducts lake core retrieval
		Paleobotanist-Asch Sidell; site Visit	

4.2. LABORATORY WORK IMPLEMENTATION PLAN

Laboratory work including artifact processing, analysis and curation, as well as report preparation activities will be initiated as cultural materials are brought into the

UMF ARC facilities. The general schedule for all lab related activities showing completion dates for specific tasks and major report preparation milestones is presented below.

Several individuals in the UMF ARC staff will be involved with the processing and analysis of the cultural materials from the site. Major report preparation tasks will be undertaken by a smaller team of UMF ARC staff archaeologists who will collaboratively prepare the final technical report.

Laboratory Work Schedule

Summer 2000:

- 1) 1st Passamaquoddy Internship – archaeological field work
- 2) Initiate lab work- washing and processing of all cultural material
- 3) Initiate flotation of feature sediment
- 4) Data entry of field catalog
- 5) Initiate cultural study with Passamaquoddy Tribe

Fall 2000:

- 6) Initiate artifact catalog using direct data entry
- 7) Completion of feature sediments flotation
- 8) Public education activities (public talks during Maine Archaeology Week)

Spring 2001

- 9) Complete artifact catalog
- 10) Initiate selection of paleobotanical samples for species identification and radiocarbon analysis
- 11) Initiate lithic, ceramic, floral and faunal analyses

Summer 2001:

- 1) 2nd Passamaquoddy Internship – archaeological lab work
- 2) Complete various artifact and ecofact analyses
- 3) Finalize project database
- 4) Initiate GIS analyses
- 5) Initiate report writing of individual report sections
- 6) Initiate graphic and table production
- 7) Complete all artifact photographs
- 8) Consultant analyses and reports due.

Fall 2001:

- 1) Ongoing report writing.

Spring 2002:

- 1) Initiation of cultural exhibit design
- 2) Completion of cultural study
- 3) Report editing and production, report submitted March 31, 2002
- 4) Begin curation of project related materials
- 5) Preparation of professional and popular articles

Summer 2002:

- 1) 3rd Passamaquoddy Internship – public interpretation
- 2) Complete cultural exhibits
- 3) Completion of professional and popular articles
- 4) Submit final phase III data recovery report to all parties, June 30, 2002
- 5) Complete curation of all project material and transfer to designated curation facility, July 31, 2002.

5. PUBLIC INTERPRETATION

Public Interpretation is discussed here separately as it will be integrated in both the field and lab aspects of the project and will continue after the completion of the project. As outlined in the CRMP (Section V), Public Interpretation will involve the following six components:

- 1) Establishment of up to three student internships, offered to members of the Passamaquoddy Tribe, for both field and laboratory aspects of the project discussed more fully below.
- 2) Employment of up to three Passamaquoddy tribal members as field technicians.
- 3) Submission of the final report in a “substantially publishable form” as specified in the MHPC *Contract Archaeology Guidelines (MHPC 1992)*. Submission of the final report for publication to the MHPC’s Occasional Publications in Maine Archaeology series. Preparation of at least one article for the *Bulletin of the Maine Archaeological Society*. Preparation of article(s) for peer-reviewed journals such as *Archaeology of Eastern North America*. All published articles and manuscripts will be completed within five years of completion of field work in 2000.
- 4) Dissemination of information to the general public through such means as presentations, newspaper articles, public talks in local schools and community organizations, articles in popular magazines.

- 5) Development of two public displays or exhibits. One to be donated to and prepared in collaboration with the Passamaquoddy Tribe. The second to be set up at the site or as a "traveling" exhibit for use by schools and other organizations.
- 6) Preparation of two (2) two-page information fact sheets to be distributed by the EPA. One will describe the field work and initial findings and be completed in 2000. The second will summarize additional findings and analyses and be completed in 2001.

The UMF ARC has extensive experience in developing and implementing public education and outreach programs associated with consulting and research archaeology studies. In fact, the UMF ARC has recently developed and undertaken one of the most ambitious and successful public education programs ever conducted in northern New England in association with a large-scale phase III data recovery program for the Vermont Agency of Transportation in southern Vermont. Of particular note, the UMF ARC has received an award from the Federal Highway Administration for excellence concerning a cultural exhibit developed in association with a phase III data recovery consulting study. This particular exhibit was designed by the current UMF ARC Director and Laboratory Director and produced by the UMF ARC in 1996 and is currently a permanent exhibit at the Vernon Public Library in Vernon, Vermont.

The student internships will be created and offered to the Passamaquoddy Tribe, to include potential field experience and training in the laboratory, for three (3) two-week periods in 2000, 2001, and 2002. The first of three internships associated with this study will commence with the initiation of field work in the summer of 2000. As noted above, three field positions will be earmarked for interested members of the Passamaquoddy Tribe. The field internship will include instruction in scientific archaeological techniques and instructional background in current Native American culture history on the basis of archaeological research in the region.

The second student internships will be scheduled for three weeks in the summer of 2001. During this period, two Passamaquoddy students will be housed at the University of Maine at Farmington dormitories and work in the ARC laboratory on project related

materials. Specific instruction in laboratory techniques will be provided including artifact processing and analysis as well as instruction in computer applications such as *Geographic Information Systems*.

The third student internships will be scheduled for the summer of 2002 with the major focus on archaeological interpretation and the finalization of the cultural displays. Design and planning of the two cultural exhibits will include Passamaquoddy collaboration and the student interns selected for the 3rd internship will receive experience in archaeological interpretation and public education in association with the design and development of these exhibits.

6. PROPOSED PERSONNEL FOR PHASE III DATA RECOVERY FIELD AND LABORATORY WORK

The personnel proposed for primary responsibilities for the implementation and planning of the phase III data recovery work outlined above have extensive experience in Northeastern archaeology and specifically, Maine archaeology. An effort will be made to hire up to three members of the Passamaquoddy Tribe as field technicians as specified in the CRMP. The key personnel are listed below and additional details concerning past work experience can be found in Appendix I.

The UMF ARC has a permanent staff of 14 people and a large number of trained, seasonal employees are available. The field crew members proposed for the data recovery work will include eleven regular seasonal employees as well as three individuals from the Passamaquoddy Tribe.

UMF ARC Principal Project Staff

Principal Investigator: Ellen R. Cowie, M.A.
Project Director: Robert N. Bartone, M.A. (primary)
Project Director: Geraldine Baldwin, M.A.
Field Director: Michael S. Brigham (40-hour Haz-Mat certified) (primary)
Field Director: Belinda J. Cox (40-hour Haz-Mat certified)
Laboratory Director: Rosemary A. Cyr
Data Management: Ed Frank

Consultants:

Geomorphologist: Dr. G. Robert Brakenridge
Geologist: Chris Dorion, M.A.
Paleobotanist: Nancy Asch Sidell, M.A.

7. REFERENCES CITED

- Allen, Patricia M.
1981 The Oxbow Site: Chronology and Prehistory in Northeastern New Brunswick. In *New Brunswick Manuscripts in Archaeology Series 2*, Fredericton.
- Asch Sidell, Nancy
1999 Prehistoric Plant Use in Maine: Paleoindian to Contact Period. In *Current Northeast Paleoethnobotany*, edited by John P. Hart, pp. 191-223. New York State Museum Bulletin No. 494, Albany.
- Bartone, Robert N., and James B. Petersen
1992 *Archaeological Phase III Data Recovery Excavations at the Brockway Site (ME 90-3), Milo, Piscataquis County, Maine*. University of Maine at Farmington Archaeology Research Center. Submitted to the Town of Milo Water Department.
- Bartone, Robert N., and James B. Petersen
1994 *Archaeological Phase III Data Recovery Excavations at the Witch Gutter (VT-WD-72) and Quarry Road (VT-WD-73) Sites, Vernon, Windham County, Vermont*. University of Maine at Farmington Archaeology Research Center. Submitted to the Vermont Agency of Transportation, Montpelier.
- Belcher, William R.
1989 The Archaeology of the Knox Site, East Penobscot Bay, Maine. *Maine Archaeological Society Bulletin* 29:33-46.
- Bishop, Jennifer C.
1983 *The Partridge Island Site*. Unpublished Master's thesis, Department of Anthropology, McMaster University, Hamilton.
- Bonnichsen, Robson, David Keenlyside, and Karen Turnmire
1991 Paleindian Patterns in Maine and the Maritimes. In *Prehistoric Archaeology in the Maritime Provinces: Past and Present Research*, edited by Michael Deal and Susan Blair, pp. 9-36. The Council of Maritime Premiers Reports in Archaeology 8, Fredericton.
- Bourque, Bruce J.
1995 *Diversity and Complexity in Prehistoric Maritime Societies: A Gulf of Maine Perspective*. Plenum Press, New York.

- Brigham, Michael S., and Ellen R. Cowie
 1999 *An Archaeological Phase I Survey of the Proposed Rochester Salt Sheds Project, Salt 001-100, Rochester, Windsor County, Vermont.* University of Maine at Farmington Archaeology Research Center. Submitted to Vermont Agency of Transportation, Montpelier.
- Corey, Richard P., and Robert N. Bartone, and James B. Petersen
 1997 *Archaeological Phase III Data Recovery Excavations at the Emerson Site (27-CA-77), Sandwich, Carroll County, New Hampshire.* University of Maine at Farmington Archaeology Research Center. Submitted to the New Hampshire Department of Transportation.
- Corey, Richard P., Robert N. Bartone, and James B. Petersen
 1995 *Archaeological Phase III Data Recovery Excavations at the Emerson Site (27-CA-77), Sandwich, Carroll County, New Hampshire.* University of Maine at Farmington Archaeology Research Center. Submitted to New Hampshire Department of Transportation, Concord.
- Cowie, Ellen R., Robert N. Bartone, and James B. Petersen
 2000 *Archaeological Investigations at the Tracy Farm Site (69-11 ME) in the Central Kennebec River Drainage, Somerset County, Maine.* University of Maine at Farmington Archaeology Research Center. Submitted to FPL Energy Maine LLC, Portland.
- Cowie, Ellen R., Jeffrey A. Williams, Richard P. Corey, Belinda J. Cox, and Robert N. Bartone
 1999 *An Archaeological Phase IA Study of the Southern Vermont Natural Gas Corporation Proposed Natural Gas Pipeline Project, Bennington and Rutland Counties, Vermont.* University of Maine at Farmington Archaeology Research Center. Submitted to the Southern Vermont Natural Gas Corporation.
- Cowie, Ellen R., and James B. Petersen
 1988 *Archaeological Phase II Testing of the Gulf Island/Deer Rips Project (FERC No. 2283), Androscoggin County, Maine.* University of Maine at Farmington Archaeology Research Center. Submitted to Central Maine Power Company, Augusta.
- Cowie, Ellen R., and James B. Petersen
 1990 *Archaeological Phase II Survey and Testing of the Bonny Eagle Project (FERC No. 2529), Cumberland and York Counties, Maine.* University of Maine at Farmington Archaeology Research Center. Submitted to Central Maine Power Company, Augusta.

- Cowie, Ellen R., and James B. Petersen
1992 *Archaeological Phase II Testing of the Weston Project (FERC No. 2325), Somerset County, Maine*. University of Maine at Farmington Archaeology Research Center. Submitted to Central Maine Power Company, Augusta.
- Cowie, Ellen R., and James B. Petersen
1999 Native American Ceramic Manufacture at the Tracy Farm Site in the Central Kennebec River Valley, Maine. *Maine Archaeological Society Bulletin* 39(2):1-42.
- Cox, Steven L.
1991 Site 95.20 and the Vergennes Phase in Maine. *Archaeology of Eastern North America* 19:135-162.
- Cox, Steven L.
1994 West Grand Project (FERC No. 2618), Forest City Project (FERC No. 2660), Report on a Phase 0 Archaeological Study, Maine State Museum, Augusta. Submitted to Kleinschmidt Associates, Pittsfield.
- Cox, Steven L.
1995a Forest City Project (FERC No. 2660), Report on a Phase I Archaeological Survey, Maine State Museum, Augusta. Submitted to Kleinschmidt Associates, Pittsfield.
- Cox, Steven L.
1995b West Branch Project (FERC No. 2618), Report on a Phase I Archaeological Survey, Maine State Museum, Augusta. Submitted to Kleinschmidt Associates, Pittsfield.
- Fitting, James E.
1968 Environmental Potential and the Postglacial Readaption in Eastern North America. *American Antiquity* 33(4):441-445.
- Foulkes, Ellen V.
1981 *Fulton Island: A Stratified Site in the Saint John River Valley of New Brunswick*. Unpublished Master's thesis, Department of Anthropology, Trent University, London.
- Heckenberger, Michael J., James B. Petersen, Louise A. Basa, Ellen R. Cowie, Arthur E. Spiess, and Robert E. Stuckenrath
1990 Early Woodland Period Mortuary Ceremonialism in the Far Northeast: A View from the Boucher Cemetery. *Archaeology of Eastern North America* 18:109-144.

- Knight, James A.
 1985 *Differential Preservation of Calcined Bones at the Hirundo Site, Alton, Maine*, University of Maine, Orono.
- Kopec, Diane
 1985 The Eddie Brown Collection of the West Grand Lake Area, Maine. *Maine Archaeological Society Bulletin* 25:3-37.
- MHPC
 1992 Contract Archaeology Guidelines. Report on file with the Maine Historic Preservation Commission.
- New England River Basin Commission
 1981 *St. Croix and Eastern Coastal River Basins Overview*. New England River Basins Commission, Boston.
- Pearson, Richard
 1970 Archaeological Investigations in the St. Andrews Area, New Brunswick. *Anthropologica* 12:181-190.
- Petersen, James B.
 1991a *Archaeological Testing at the Sharrow Site: A Deeply Stratified Early to Late Holocene Cultural Sequence in Central Maine*. Maine Archaeological Society and Maine Historic Preservation Commission, Augusta.
- Petersen, James B.
 1991b *Archaeological Investigations in the Central Kennebec River Drainage: Phase III Data Recovery at the Smith and Smith's Landing Sites, Somerset County, Maine*. University of Maine at Farmington Archaeology Research Center.
- Petersen, James B.
 1995 Preceramic Archaeological Manifestations in the Far Northeast: A review of current research. *AENA* 23:207-230.
- Petersen, James B., and Ellen R. Cowie
 2000 From Hunter-Gatherer Camp to Horticultural Village: Late Prehistoric to Historic Subsistence and Settlement in New England. Paper presented at the Sixth Natural History Conference, Albany, New York, April 2000.
- Petersen, James B., and Nathan D. Hamilton
 1984 Early Woodland Ceramic and Perishable Fiber Industries from the Northeast: A Summary and Interpretation. *Annals of Carnegie Museum* 53:413-445.

- Petersen, James B., and David E. Putnam
 1992 Early Holocene Occupation in the Central Gulf of Maine Region. In *Early Holocene Occupation in Northern New England*, edited by B.S. Robinson, J.B. Petersen, and A.K. Robinson, pp. pp. 13-61. Occasional Publications in Maine Archaeology 9.
- Petersen, James B., Brian S. Robinson, Daniel F. Belknap, James Stark, and Lawrence K. Kaplan
 1994 An Archaic and Woodland Period Fish Weir in Central Maine. *Archaeology of Eastern North America* 22:197-222.
- Petersen, James B., and David Sanger
 1991 An Aboriginal Ceramic Sequence for Maine and the Maritime Provinces. In *Prehistoric Archaeology in the Maritimes*, edited by Michael Deal and Susan Blair, pp. 121-178. Council of Maritime Premiers, Fredericton.
- Ritchie, William A.
 1965 *The Archaeology of New York State*. Natural History Press, Garden City, New York.
- Robinson, Brian S., and James B. Petersen
 1992 Introduction: Archaeological Visibility and Patterning in Northern New England. In *Early Holocene Occupation in Northern New England*, edited by Brian S. Robinson, James B. Petersen, and Ann K. Robinson, pp. pp. 1-11.
- Robinson, Brian S., James B. Petersen, and Ann K. Robinson (editors)
 1992 *Early Holocene Occupation in Northern New England*. Maine Archaeological Society and Maine Historic Preservation Commission, Augusta.
- Rutherford, E. Douglas
 1991 The Ceramic Period in New Brunswick. In *Prehistoric Archaeology in the Maritime Provinces: Past and Present Research*, edited by Michael Deal and Susan Blair, pp. 109-120. The Council of Maritime Premiers Reports in Archaeology No. 8, Fredericton.
- Sanger, David
 1975 Culture Change as an Adaptive Process in the Maine-Maritimes Region. *Arctic Anthropology* 12:60-75.

- Sanger, David
1976 The Earliest Settlements: 9000 B.C. to A.D. 1600. In *Maine Forms of American Architecture*, edited by Deborah Thompson, pp. pp. 3-14. Downeast Magazine, Camden.
- Sanger, David
1982 Changing Views of Aboriginal Seasonality and Settlement in the Gulf of Maine. *Canadian Journal of Anthropology* 2:195-203.
- Sanger, David
1986 An Introduction to the Prehistory of the Passamaquoddy Bay Region. *American Review of Canadian Studies* 16:139-159.
- Sanger, David
1987 *The Carson Site and the Late Ceramic Period in Passamaquoddy Bay, New Brunswick*. Canadian National Museum of Civilization, Ottawa.
- Sanger, David, William R. Belcher, James P. Fenton, and Maureen Sweeney
1994 *Gilman Falls: A Middle Archaic Quarry and Workshop in Central Maine*. Robert G. MacKay Archaeology Laboratory for Quaternary Studies.
- Sanger, David, William R. Belcher, and Douglas C. Kellogg
1992 Early Holocene Occupation at the Blackman Stream Site, Central Maine. In *Early Holocene Occupation in Northern New England*, edited by Brian S. Robinson, James B. Petersen, and Ann K. Robinson, pp. pp. 149-161.
- Spiess, Arthur E.
1990 *Maine's Unwritten Past: State Plan for Prehistoric Archaeology*. Maine Historic Preservation Commission, Augusta.
- Spiess, Arthur E.
1992 Archaic Period Subsistence in New England and the Atlantic Provinces. In *Early Holocene Occupation in Northern New England*, edited by Brian S. Robinson, James B. Petersen, and Ann K. Robinson, pp. 163-185.
- Turnbull, Christopher J.
1976 The Augustine Site: A Mound from the Maritimes. *Archaeology of Eastern North America* 4:50-62.
- Will, Richard, Julia Clark, Karen Mack, John Mosher, and Bonnie Newsom
2000 *Results of Phase I and Phase II Archaeological Testing of the Eastern Surplus Company Superfund Site, Meddybemps, Washington County, Maine*. Archaeological Research Consultant, Inc. Submitted to Tetra Tech NUS, Wilmington.

APPENDIX I: RESUMES OF KEY PERSONNEL

Ellen R. Cowie

Address

Archaeology Research Center
17 Quebec Street
Farmington, Maine 04938
207-778-7012
ECOWIE@MAINE.MAINE.EDU

Education

- 1999 Masters of Arts - Anthropology; University of Pittsburgh
- 1995 University of Pittsburgh; Ph.D. Candidate 5/95
Anthropology Doctoral Program.
- 1985 B.A. Anthropology, University of Maine

Professional Experience

- 1998-present **Director and Instructor**; University of Maine at Farmington Archaeology Research Center
- 1997 **Interim Director and Instructor**; University of Maine at Farmington Archaeology Research Center
- 1996 **Research Supervisor II and Instructor**; University of Maine at Farmington Archaeology Research Center
- 1995 **Co-Director**; University of Maine at Farmington Archaeological Field School
- 1994 **Teaching Fellow**; University of Pittsburgh Archaeological Field School;
- 1993 **Teaching Assistant**; University of Pittsburgh Archaeological Field School;
- 1992 **Graduate Assistant**; University of Maine; Eddington Bend and Gilman Falls projects.

- 1987-1991 **Field Director**; University of Maine at Farmington Archaeology Research Center
Directed field work and responsible for report preparation for 7 hydroelectric relicensing projects in Maine including Gulf Island Phase I and II; Bonny Eagle Phase I and II; North Gorham Phase I and II; Weston Phase II. Field Director for 2 contract projects in Vermont including Vernon Phase II and Champlain Pipeline Phase I.

- 1986 **Field Assistant**; University of Maine at Farmington, Williams Dam, Eddington Bend, and Gulf Island projects.
Field Assistant; Rochester Museum, Rochester, NY Archbald Project
Crew Member; North Carolina Preservation Office; Fort Fisher Archaeological Project.

- 1985 **Crew Member**; Boston University; Hydro-Quebec Phase I Survey.
Crew Member; University of Maine; Basin Mills Project.
Crew Member; Maine Historic Preservation Commission; Michaud Project.
- 1984 **Crew Member**; University of Maine; Pentagoet Archaeological Project.
- 1983 **Crew Member**; University of Maine; Pentagoet Archaeological Project.
Crew Member; University of Maine; Munsungan Archaeological Project.
- 1982 **Field School Student**; Southern Utah State University Archaeological Field School.

Laboratory Skills

Faunal analysis, human skeletal analysis, Native American ceramic analysis, analysis of Euroamerican artifacts.

Teaching Experience

1993-1994

Teaching Assistant and Teaching Fellow: University of Pittsburgh Anthropology Department; Assisted teaching Prehistoric Archaeology, Laboratory Methods in Archaeology; Archaeological Field School

1996-present

Instructor; Department of Social Sciences and Business; University of Maine at Farmington; one-quarter time teaching load; specific courses taught include: Prehistoric Archaeology, Maine Archaeology, Archaeology Field School; Special Topics in Anthropology-Overview of Contact Period.

Academic Awards

Teaching Fellow; University of Pittsburgh, Department of Anthropology 1994

Graduate Student Researcher; University of Pittsburgh, Department of Anthropology 1992-1993.

Publications

Cowie, Ellen R., and James B. Petersen

1999 Native American Ceramic Manufacture at the Tracy Farm Site in the Central Kennebec River Valley, Maine. *The Maine Archaeological Society* 39(2):1-42.

Cowie, Ellen R., James B. Petersen, and Bruce J. Bourque

1992 Research and Preservation at Norridgewock NHL. *Cultural Resource Management* 18:28-31.

Heckenberger, Michael J., James B. Petersen, Louise A. Basa, Ellen R. Cowie, Arthru E. Spiess, and Robert E. Stuckenrath

1990 Early Woodland Period Mortuary Ceremonialism in the Far Northeast: A View from the Boucher Cemetery. *Archaeology of Eastern North America* 18:109-144.

Cowie, Ellen R.

1990 Archaeological Investigations in the Southern Androscoggin River Valley, Maine. *Maine Archaeological Society Bulletin* 30:1-14.

Papers

Petersen, James B., and Ellen R. Cowie

2000 *Hunter-Gatherer Camp to Horticultural Village: Late Prehistoric to Historic Subsistence and Settlement in New England.* Paper presented at the Sixth Natural History Conference, Albany, New York, April 2000.

Cowie, Ellen R.

- 1999 *Contact Period Archaeology at Norridgewock*. Paper presented at Reflections on Remembering and Forgetting: Revisiting "The Original Vermontors." University of Vermont, Burlington.

Cowie, Ellen R

- 1998 *Contact Period Cultural Change at Norridgewock: An Examination of the Archaeological Evidence*. Paper presented at the 38th Annual Meeting of the Northeastern Archaeological Association, University of Maine. 1998.

Cowie, Ellen R., James B. Petersen and Nancy Asch Sidell

- 1992 *The Contact Period in Central Maine: Archaeological Investigations at Ethnohistoric Norridgewock*. Paper presented at the 32nd annual meeting of the Northeastern Anthropological Association, Bridgewater State College, Bridgewater, Massachusetts.

Cowie, Ellen R.

- 1992 *Archaeological Investigations at the Contact period Abenaki Village at Norridgewock, Kennebec River Valley, Maine*. Paper presented at the 59th Annual Meeting of the Eastern States Archaeological Federation, Pittsburgh, PA.

Cowie, Ellen R.

- 1989 *Recent Investigations in the Central Androscoggin River Valley, Maine*. Paper presented at the 54th Annual Meeting of the Society for American Archaeology, Atlanta, Georgia, 1989

Reports

Cowie, Ellen R., Robert N. Bartone, and James B. Petersen

- 2000 *Archaeological Investigations at the Tracy Farm Site (69-11 ME) in the Central Kennebec River Drainage, Somerset County, Maine*. University of Maine at Farmington Archaeology Research Center. Submitted to FPL Energy Maine LLC, Portland.

Brigham, Michael S., and Ellen R. Cowie

- 1999 *An Archaeological Phase I Survey of the Proposed Rochester Salt Sheds Project, Salt 001-100, Rochester, Windsor County, Vermont*. University of Maine at Farmington Archaeology Research Center. Submitted to Vermont Agency of Transportation, Montpelier.

Cowie, Ellen R., Jeffrey A. Williams, Richard P. Corey, Belinda J. Cox, and Robert N. Bartone

- 1999 *An Archaeological Phase IA Study of the Southern Vermont Natural Gas Corporation Proposed Natural Gas Pipeline Project, Bennington and Rutland Counties, Vermont*. University of Maine at Farmington Archaeology Research Center. Submitted to the Southern Vermont Natural Gas Corporation.

Cowie, Ellen R., and Belinda J. Cox

- 1999 *Archaeological Phase I Survey of the Redstone Investments Property in Bennington, Bennington County, Vermont*. University of Maine at Farmington. Submitted to Redstone Investments, Youngstown, Ohio.

Corey, Richard P., Hugh H. Henry, Ellen R. Cowie, and Catherine A. Quinn

1999 *Archaeological Phase II Testing of the C-6 Alignment, Southern Connector Project, MEGC-M5000(1), Burlington, Chittenden County, Vermont.* University of Maine at Farmington Archaeology Research. Submitted to the Vermont Agency of Transportation, Montpelier.

Corey, Richard P., and Ellen R. Cowie

1999 *Archaeological Phase IB Survey for the Redesigned Approach Component of the Arrowhead Mountain Lake Bridge Crossing and the Husky Injection Molding Systems, Inc., Campus Expansion, Master Plan for Buildings 2, 3, 4 and 5, Projects, Milton, Chittenden County, Vermont.* University of Maine at Farmington Research Center. Submitted to DuBois and King, Inc.

Corey, Richard P., Hugh H. Henry, Ellen R. Cowie, and Corbett McP. Torrence

1999 *An Archaeological Phase II Testing of the Underhill Proposed Bridge Improvement Project, BRS 0233(2), Underhill, Chittenden County, Vermont.* University of Maine at Farmington Archaeology Research Center. Submitted to the Vermont Agency of Transportation, Montpelier.

Corey, Richard P. Corey, Hugh H. Henry, Ellen R. Cowie, and Corbett McP. Tprrence

1999 *An Archaeological Phase II Testing of the South Royalton Proposed Bridge Improvement Project, BRZ 1444(22), Windsor County, Vermont.* University of Maine at Farmington Archaeology Research Center. Submitted to the Vermont Agency of Transportation, Montpelier.

Corey, Richard P., and Ellen R. Cowie

1998 *An Archaeological Phase I Survey of the Leeds Stumpthumpers Snowmobile Club, Lewiston to Jay Recreational Trail Project, Federal Grant NRTA #9609, Androscoggin County, Maine.* University of Maine at Farmington Archaeology Research Center. Submitted to Leeds Stumpthumpers Snowmobile Club.

Corey, Richard P., Hugh H. Henry, and Ellen R. Cowie

1998 *Archaeological Phase I Survey of the Royalton Vermont Route 14 Improvement and Bridge No. 28 Replacement Project, B.S. 0147(13), Windsor County, Vermont.* University of Maine at Farmington Archaeology Research Center. Submitted to Barnes and Jarnis, Inc., and the Vermont Agency of Transportation, Montpelier.

Corey, Richard P., and Ellen R. Cowie

1998 *An Archaeological Phase IB Survey of the Weybridge Project Area (FERC No. 2731), Addison County, Vermont.* University of Maine at Farmington Archaeology Research Center. Submitted to Central Vermont Public Service Corporation.

Corey, Richard P., and Ellen R. Cowie

1998 *Archaeological Phase II Testing and Supplemental Phase IB Survey of the Husky Industrial Park and the Arrowhead Mountain Lake Bridge Crossing Projects, Milton, Chittenden County, Vermont.* University of Maine at Farmington Archaeology Research Center. Submitted to DuBois and King, Inc.

Corey, Richard P., James B. Petersen, Ellen R. Cowie, Jack A. Wolford, and Edward C. Kitson

1997 *An Archaeological Phase I Survey and Phase II Testing of the Riley-Jay-Livermore (FERC No. 2375) and Otis (FERC No. 8277) Projects, Androscoggin, Franklin and Oxford Counties,*

Maine, University of Maine at Farmington Archaeology Research Center. Submitted to the International Paper Company and Otis Hydroelectric Company.

Cowie, Ellen R., and James B. Petersen

1992 *Archaeological Phase II Testing of the Weston Project (FERC No. 2325), Somerset County, Maine*. University of Maine at Farmington Archaeology Research Center. Submitted to Central Maine Power Company, Augusta.

Bartone, Robert N., Catherine A. Quinn, James B. Petersen, and Ellen R. Cowie

1992 *An Archaeological Phase I Survey of the Fort Halifax Project (FERC No. 2552), Kennebec County, Maine*. University of Maine at Farmington Archaeology Research Center. Submitted to Central Maine Power Company, Augusta.

Robinson, Brian S., Thomas R. Buchanan, Ellen R. Cowie, William C. Crandall, Richard B. Corey, and James B. Petersen

1992a *Archaeological Phase I Survey of the Vermont Segment of the Champlain Pipeline Project (FERC Docket No. CP98-646-000)*. Maine at Farmington Archaeology Research Center. Submitted to Champlain Pipeline, Inc., Burlington.

Robinson, Brian S., Thomas R. Buchanan, Ellen R. Cowie, Wetherbee B. Dorshow, and Catherine A. Quinn

1992b *Archaeological Phase I Survey of the Vermont Segment of the Champlain Pipeline Project (FERC Docket No. CP98-646-000)*. University of Maine at Farmington Archaeology Research Center.

Robinson, Brian S., and Ellen R. Cowie

1992 *Analysis of Faunal Remains Recovered During Phase II Testing in the Weston Project Area*. University of Maine at Farmington.

Robinson, Brian S., Ellen R. Cowie, Thomas R. Buchanan, William C. Crandall, Richard P. Corey, and James B. Petersen

1991 *Archaeological Phase I Survey of the Vermont Segment of the Champlain Pipeline Project (FERC Docket No. CP98-646-000)*. University of Maine at Farmington Archaeology Research Center.

Cowie, Ellen R., and James B. Petersen

1991 *Archaeological Phase II Evaluation Study of the Route 142 Improvement Project, Windham County, Vermont*, University of Maine at Farmington Archaeology Research Center. Submitted to the Vermont Agency of Transportation, Montpelier.

Cowie, Ellen R., and James B. Petersen

1990 *Archaeological Phase II Survey and Testing of the Bonny Eagle Project (FERC No. 2529), Cumberland and York Counties, Maine*. University of Maine at Farmington Archaeology Research Center. Submitted to Central Maine Power Company, Augusta.

Robinson, Brian S., Ellen R. Cowie, Thomas R. Buchanan, R. Scott Dillon, and James B. Petersen

1990 *A Phase I Archaeological Assessment of the Champlain Pipeline Project*. University of Maine at Farmington Archaeology Research Center.

Cowie, Ellen R., and James B. Petersen

1989 *Archaeological Phase I Survey and Phase II Testing of the Route 142 Improvement Project, Windham County, Vermont*, University of Maine at Farmington Archaeology Research Center. Submitted to Vermont Agency of Transportation, Montpelier.

Cowie, Ellen R., and James B. Petersen

1988a An Archaeological Phase I Survey and Phase II Testing of the North Gorham Project (FERC No. 2519), Cumberland County, Maine, University of Maine at Farmington Archaeology Research Center. Submitted to Central Maine Power Company, Augusta.

Cowie, Ellen R., and James B. Petersen

1988b Archaeological Phase I Survey of the Bonny Eagle Project (FERC No. 2529), Cumberland and York Counties, Maine, University of Maine at Farmington Archaeology Research Center. Submitted to Central Maine Power Company, Augusta.

Cowie, Ellen R., and James B. Petersen

1988c *Archaeological Phase II Testing of the Gulf Island/Deer Rips Project (FERC No. 2283), Androscoggin County, Maine*. University of Maine at Farmington Archaeology Research Center. Submitted to Central Maine Power Company, Augusta.

Cowie, Ellen R., James B. Petersen, and Charles Paquin

1987 Archaeological Phase I Survey of the Gulf Island/Deer Rips Project, Androscoggin County, Maine, University of Maine at Farmington Archaeology Research Center. Submitted to Central Maine Power Company, Augusta.

References:

Dr. Kathleen Allen
Anthropology Department
University of Pittsburgh
Pittsburgh, PA
15260

Dr. James B. Petersen
Anthropology Department
University of Vermont
Burlington, Vermont
05405

Dr. David Sanger
Anthropology Department
University of Maine
Orono, Maine
04469

Robert N. Bartone

Education

Binghamton University (SUNY)

Ph.D. Candidate 1998-present

M.A., Anthropology, May, 1998

University of Maine at Farmington

B.A. Anthropology/Sociology, December, 1991. *Cum Laude*

University of Vermont

1979-1983

Professional Experience

Teaching: 1995-1998, Teaching Assistant at both the University of Maine at Farmington and Binghamton University for four Anthropology courses. 1998-1999, Instructor for two anthropology courses at the University of Maine at Farmington

Project Director: 1998-present, **Research Supervisor:** 1986-1998, University of Maine at Farmington Archaeology Research Center. Director Ellen R. Cowie. Directed field work for over 30 consulting archaeology projects, including phase I, II and III investigations. Responsibilities included report preparation for the majority of these. Also involved with field work and analysis on several ongoing non-contract related research projects undertaken by UMF in both northeastern North America, the West Indies, and the Brazilian Amazon.

Assistant Research Supervisor: 1985-1986, University of Maine at Farmington Archaeology Research Center. Director: Dr. James B. Petersen. Assisted the direction of field work for consulting archaeological projects. Also involved with lab processing and artifact analysis.

Crew Member. 1984-1986, Crew member for consulting archaeological projects, primarily for the University of Maine at Farmington at Farmington (Director, Dr. James B. Petersen, and the University of Pittsburgh (Director, Dr. James Adovasio), but also for several other consulting companies.

Field School Student: 1983, Archaeological Field School at the Ewing Site, Shelburne, Vermont, University of Vermont. July-August. Director, Dr. James B. Petersen.

Publications and Presentations: 1987-present, Eight publications in professional journals and edited volumes as well as numerous presentations at professional meetings.

Reports: Authorship on 28 consulting archaeology reports, including phase I,II and III. In addition author on numerous scopes-of-work, letter reports and phase IA proposals.

Archaeological Investigations at the Tracy Farm Site (69-11 ME) in the Central Kennebec River Drainage, Somerset County, Maine (E.R. Cowie, RNB and J.B. Petersen). Submitted to FPL Energy Maine LLC, 2000.

An Archaeological Phase IA Study of the Southern Vermont Natural Gas Corporation Proposed Natural Gas Pipeline Project, Bennington and Rutland Counties, Vermont (E.R. Cowie, J.A. Williams, R.P. Corey, B.J. Cox, and RNB). Submitted to the Southern Vermont Natural Gas Corporation, 1999.

An Archaeological Phase I Survey of the Eastern Component of the Bennington Bypass Project, F109-1(4), F109-1(5) and F110-1(5), in Bennington, Bennington County, Vermont (B.J. Cox, C.A. Quinn, RNB, J.B. Petersen and H.H. Henry). Submitted to the Vermont Agency of Transportation, Montpelier, 1998.

Archaeological Phase II Testing of the Western Component of the Bennington Bypass Project, DPI 0146(1), in Bennington, Bennington County, Vermont and Hoosick, Rensselaer County, New York (B.J. Cox, C.A. Quinn, RNB, J.B. Petersen and H.H. Henry). Submitted to the Vermont Agency of Transportation, Montpelier, 1997.

Archaeological Phase III Data Recovery Excavations at the Emerson Site (27-CA-77), Sandwich, Carrol County, New Hampshire (R.P. Corey, RNB, and J.B. Petersen). Submitted to the New Hampshire Department of Transportation, 1997.

Archaeological Phase I Survey of the West Hartford Proposed Bridge Improvement Project, BTN 2004(1), Windsor County, Vermont (RNB and J.B. Petersen). Submitted to the Vermont Agency of Transportation, Montpelier, 1994.

Archaeological Phase I Survey of the South Royalton Proposed Bridge Improvement Project, BRZ 1444(22), Windsor County, Vermont (RNB and J.B. Petersen). Submitted to the Vermont Agency of Transportation, Montpelier, 1994.

Archaeological Phase II Testing of the Derby Proposed Minor Arterial Highway Project, BRF 034-3(14), Orleans County, Vermont (RNB and J.B. Petersen). Submitted to the Vermont Agency of Transportation, Montpelier, 1994.

An Archaeological Phase I Survey of the Brighton Proposed Bridge Improvement Project, BRS 0321(16), Essex County, Vermont (RNB and J.B. Petersen). Submitted to the Vermont Agency Of Transportation, Montpelier, 1994.

An Archaeological Phase I Survey of the Stockbridge Proposed Bridge Improvement Project, BRF 025-1(35), Windsor County, Vermont (RNB and J.B. Petersen). Submitted to the Vermont Agency of Transportation, Montpelier, 1994.

An Archaeological Phase I Survey of the Chester Proposed Bridge Improvement Project, BRF 025-1(35), Windham County, Vermont (RNB and J.B. Petersen). Submitted to the Vermont Agency of Transportation, Montpelier, 1994.

An Archaeological Phase I Survey of the Woodstock Proposed Bridge Improvement Project, BHS 0241(22), Windsor County, Vermont (RNB and J.B. Petersen). Submitted to the Vermont Agency of Transportation, Montpelier, 1994.

An Archaeological Phase I Survey of the Topsham Proposed Bridge Improvement Project, TH 2606, Orange County, Vermont (RNB and J.B. Petersen). Submitted to the Vermont Agency of Transportation, Montpelier, 1994.

An Archaeological Phase I Survey of the Bradford Proposed Bridge Improvement Project, RS 020-2(3), Orange County, Vermont (RNB and J.B. Petersen). Submitted to the Vermont Agency of Transportation, Montpelier, 1994.

Archaeological Phase II Testing of the Londonderry Proposed Bridge Improvement Project, BRF 013-2(8), Windham County, Vermont (RNB and J.B. Petersen). Submitted to the Vermont Agency of Transportation, Montpelier, 1994.

Archaeological Phase III Data Recovery at the Witch Gutter and Quarry Road Sites, Windham County, Vermont (RNB and J.B. Petersen). Submitted to the Vermont Agency of Transportation, Montpelier, 1994.

Archaeological Phase III Data Recovery Excavations at the Brockway Site (ME 90-3), Milo, Piscataquis County, Maine (RNB and J.B. Petersen). Submitted to the Town of Milo, 1993.

Archaeological Phase II Testing of a Portion of the Glueck Site (ME 53-31) in the Fort Halifax Boat Launch Facility Project Area, Kennebec County, Maine (RNB and J.B. Petersen). Submitted to Central Maine Power Company, Augusta, 1992.

An Archaeological Phase I Survey of the Proposed Randolph Bridge Improvement Project, BRS 0147(14), Orange County, Vermont (RNB and J. Petersen). Submitted to Vermont Agency of Transportation, Montpelier, 1992.

Archaeological Phase I Survey and Phase II Testing of the Central Maine Power Recreational Areas Project, Somerset and Kennebec Counties, Maine (RNB and J. Petersen). Submitted to Central Maine Power Company, Augusta, 1992.

History of Investigations (J.B. Petersen, RNB, and D.E. Putnam); Stratigraphy at the Smith's Landing Site (ME 69-16) (RNB and J.B. Petersen); and Cultural Features at the Smith's Landing Site (ME 69-16) (RNB and J.B. Petersen) in *Archaeological Investigations in the Central Kennebec River Drainage: Phase III Data Recovery at the Smith and Smith's Landing Sites, Somerset County, Maine* (Edited by J.B. Petersen). Submitted to Central Maine Power Company, Augusta, 1991.

An Archaeological Phase I Survey of the Proposed Vermont Electric Company (VELCO) Transformer Project, Franklin County, Vermont (RNB and J.B. Petersen). Submitted to Vermont Electric Company, Burlington, 1991.

An Archaeological Phase I Survey of the Fort Halifax Project (FERC No. 2552), Kennebec County, Maine (RNB, C. Quinn, J. Petersen, and E. Cowie). Submitted to Central Maine Power Company, Augusta, 1991.

Archaeological Phase I Survey and Phase II Testing of the Ripogenus Project (FERC No. 2572), Piscataquis County, Maine (RNB, M. Petersen, C. Quinn, T. Buchanan, and J. Petersen). Submitted to Central Maine Power Company, Augusta, 1991.

An Archaeological Phase I Survey of the Proposed Schoodic Landing Project, Medford, Piscataquis County, Maine (J. Petersen and RNB). Submitted to the Patten Land and Auction Corp., July, 1988.

Archaeological Phase I Survey and Phase II Testing of the Proposed Milo Wastewater Treatment Facilities in the Town of Milo, Piscataquis County, Maine (J. Petersen and RNB). Submitted to the Town of Milo and A.E. Hodgson Engineers, 1987.

Archaeological Phase I Survey and Testing of the Proposed Dover-Foxcroft Wastewater Treatment Facility, Dover-Foxcroft, Maine (RNB and J. Petersen). Submitted to the Town of Dover-Foxcroft, 1987.

An Archaeological Phase I Survey of the Proposed Dixfield Hydroelectric Project, Oxford County, Maine (J. Petersen, J. Oplinger, D. Putnam, and RNB). Submitted to Brown and Root Company, Inc., Boise, Idaho, 1985.

PUBLICATIONS and PRESENTED PAPERS

Preliminary Results of an Archaeological Survey in the Central Amazon (E.G. Neves and RNB). Paper presented at the 63rd Annual Meeting of the Society for American Archaeology, Seattle, Washington, 1998.

The Structures of Tanki Flip, Aruba (RNB and A.H. Versteeg). In *Proceedings of the Sixteenth International Congress for Caribbean Archaeology*, edited by Gerard Richard, in press, 1998.

Pyroclastic, Storm Surge and Saladoid Villager Deposits: The Archaeological and Geological Stratigraphy of the Trants Site, Montserrat (J.B. Petersen, RNB and D.R. Watters). In *Proceedings of the Sixteenth International Congress for Caribbean Archaeology*, edited by Gerard Richard, in press, 1998.

Saladoid Period Lithic Technology as seen from the Trants Site, Montserrat, West Indies (J.G. Crock and RNB). *Annals of Carnegie Museum*, in press, 1998.

Village and House: Toward an Understanding of Dobgiuroid Social Space at Tanki Flip, Aruba. M.A. Thesis, Department of Anthropology, Binghamton University, 1998.
The Tanki-Flip Features and Structures. In *The Archaeology of Aruba: The Tanki Flip Site*, edited by Aad H. Versteeg and Stéphen Rostain, pp 23-126. Publication of the Archaeology Museum 8 and Publication of the Foundation for Scientific Research in Caribbean Region 141, Aruba and Amsterdam, 1997 (RNB and A.H. Versteeg).

Historic Colonial Remains from Tanki Flip. In *The Archaeology of Aruba: The Tanki Flip Site*, edited by Aad H. Versteeg and Stéphen Rostain, pp 353-362. Publication of the Archaeology Museum 8 and Publication of the Foundation for Scientific Research in Caribbean Region 141, Aruba and Amsterdam, 1997 (L.E. Bulgrin and RNB).

Flaked Stone Industries at the Early Saladoid Trants Site, Montserrat, West Indies (RNB and J.G. Crock). In *Proceedings of the Fourteenth International Congress for Caribbean Archaeology*, edited by A. Cummins and P. King, pp. 124-146, 1991.

Archaeological Investigations at the Brockway Site in Central Maine (RNB, D.E. Putnam, and J.B. Petersen). *Current Research in the Pleistocene* 5:1-3, 1988.

Another Holocene Sequence and Recent Progress of the Piscataquis Archaeological Project in Central Maine (J.B. Petersen, D.E. Putnam, and RNB). *Current Research in the Pleistocene* 4:23-24, 1987.

References

Ellen R. Cowie
Archaeology Research Center
University of Maine at Farmington
Farmington, ME 04938
(207) 778-7012

Dr. James B. Petersen
Department of Anthropology
University of Vermont
Burlington, VT 05405

Bartone/6

(802) 656-3884

Dr. Eduardo G. Neves
University of Sao Paulo
Museum of Anthropology and Ethnography
Sao Paulo, Brazil

Dr. Aad Versteeg
Archaeology Center
Leiden State University
P.O. Box 9515
2300 RA Leiden
The Netherlands
Phone: 31-71-272279

Dr. Michael Heckenberger
Department of Anthropology
University of Florida
Gainesville, Florida

Dr. William Barse
KCI Technologies
Mechanicsburg, Pennsylvania 17055
(717) 691-1340

Dr. William H. Isbell
Department of Anthropology
Binghamton University (SUNY)
Box 6000
Binghamton, New York 13902-6000
(607) 777-2738

Michael Brigham

Address: Michael Brigham
Archaeology Research Center
111 South Street
Farmington, ME 04938

Education: University of Maine
Orono, Maine
B.A., Anthropology, May 1997.

POSITION:

Research Supervisor II, June 1997 to Present
Archaeology Research Center, University of Maine at Farmington, 17 Quebec Street,
Farmington, ME 04938, (207) 778-7012; Ellen Cowie, Director

Current (5/2000) Hazardous Waste Safety Training certification, National Safety Council and American Heart Association CPR certification and National Safety Council First Aid certification

DESCRIPTION OF DUTIES:

- Direct phase I and phase II excavations at multiple sites in Vermont. Identify, record and evaluate archaeological and historical resources at the sites. Supervise and train workers in all aspects of field archaeology.
- Assist and prepare technical professional reports on findings, evaluate site context and significance and, in consultation with the Director, recommend future treatment of archaeological resources and appropriate mitigation measures.
- Supervise laboratory procedures including design and implementation of lithic tool and debitage analysis systems, in consultation with other laboratory staff and field personnel. Catalog, analyze, and supervise the cataloging and analysis of all cultural remains.
- Participate in management level meetings to design and implement project strategies.
- Consult with and support Project Director and other Research Supervisors and assist in training field crew.
- Conduct archival research for the purpose of developing historic contexts; prepare project area background studies including summaries of previous archaeological investigations
- Develop, implement and maintain a database management system; prepare maps and technical drawings using *ArcView* GIS software.

Previous Professional Experience

Printing: Offset pressman, darkroom technician and photographer,
Milo Printing Co., Milo, ME.

September 1973-May 1997.

Archaeological Field Experience:

Research Supervisor II: Field Supervisor on Cheshire Site (VT-BE-235) Supplemental Phase II testing, May 1999; Clarendon Bridge Replacement Project Archaeological Phase IB Survey, June 1999; Mendon Bridge Replacement Project Archaeological Phase IB Survey, June, 1999; Groton Bridge Replacement Project Archaeological Phase IB Survey, July 1999; Barton Bridge Replacement Project Archaeological Phase IB Survey, July 1999; Swanton NH 036-1(9) Vermont Route 78 Project, September, 1999; Mendon Bridge Replacement Project Archaeological Phase II Testing, October, 1999;

Principal Investigator: Ellen R. Cowie, University of Maine at Farmington (UMF).

Research Supervisor II: Field Supervisor in Rochester Salt Sheds Archaeological Phase IB Survey, November 1998; Sleeman Site Phase II, July 1998; Cloverleaf Site Supplemental Phase III (VT-BE-233), August-October 1998.

Principal Investigator: Ellen R. Cowie, UMF.

Research Supervisor II: Bennington Wetlands Phase I Project, June 1997; Silkroad Phase III (VT-BE-33), June-July 1997; Cloverleaf Phase III (VT-BE-233), July-October 1997.

Principal Investigators: Dr. James Petersen,UMF (June 1997-August 1997), Ellen R. Cowie (August 1997-October 1997).

Field Supervisor: Gilman Falls (74-106) Link-Trench Project, September-November 1996.

Principal Investigator: Dr. David Sanger, University of Maine.

Field Worker: Phase II Testing at sites 108-36, 108-18, 108-203, 108-27 and 108-28; Bangor Hydroelectric Company's Howland Dam Impoundment Project, June-August 1996,

Principal Investigator: Dr. David Sanger, University of Maine.

Volunteer Field Worker: Tracy Farm Site (69-11), August 1995 (1 week).

Project Directors: Dr. James B. Petersen, UMF and Ellen R. Cowie, University of Pittsburgh.

Field Worker: Phase I Survey at Bangor Hydroelectric Company's Howland Dam Impoundment Project, June-July 1995,

Principal Investigator: Dr. David Sanger, University of Maine.

Field Worker: Phase II Testing at Bangor Hydroelectric Company's Medway Dam Impoundment Project, May 1995,

Principal Investigator: Dr. David Sanger, University of Maine.

Volunteer Field Worker: Research Project at the Todd Site (17-11), 1994 (2 days),

Principal Investigator: Dr. David Sanger, University of Maine.

Volunteer Field Worker: Phase III Mitigation of the Varney Farm Site (36-57), Turner, Maine. June 1994 (1 week).

Principal Investigator: Dr. James B. Petersen, UMF.

Field Worker: Phase III Mitigation at the Bob Site (74-148), Bangor Hydroelectric Company's

Stillwater Dam Impoundment Project, 1993,
Principal Investigator: Dr. David Sanger, University of Maine.

Volunteer Field Worker: Norridgewock Mission Site (69-2), Madison, Maine. July 1992 (1 week).
Project Directors: Dr. James B. Petersen, UMF and Ellen R. Cowie, University of Pittsburgh.

Field Worker: Phase III Mitigation at the Gilman Falls Site (74-106), 1990, 1991 and 1992, Bangor Hydroelectric Company's Stillwater Dam Impoundment Project,
Principal Investigator: Dr. David Sanger, University of Maine.

Field Worker: Phase III Mitigation at the Eddington Bend Site (74-8), 1989 and 1992, Bangor Hydroelectric Company's Eddington Bend Power Station Project,
Principal Investigator: Dr. David Sanger, University of Maine.

Field Worker: Phase II Testing at Site 74-107, 1990, Bangor Hydroelectric Company's Stillwater Dam Impoundment Project,
Principal Investigator: Dr. David Sanger, University of Maine.

Field Worker: Phase I Survey of Bangor Hydroelectric Company's Milford and Stillwater Dam Impoundments Project, 1988,
Principal Investigator: Dr. David Sanger, University of Maine.

Volunteer Field Worker: Phase II Testing of the Ripogenus Hydroelectric Project, Piscataquis County, Maine for Georgia-Pacific Corp. September 1988 (1 week).
Principal Investigator: Dr. James B. Petersen, UMF.

Assistant Field Supervisor: Phase II Testing at the Dump Site (74-81), 1988, Bangor Hydroelectric Company's Stillwater Dam Impoundment Project.
Principal Investigator: Dr. David Sanger, University of Maine.

Field Worker: Phase III Mitigation of the Brockway Site (90-3), for the Town of Milo, Maine. August 1987.
Principal Investigator: Dr. James B. Petersen, UMF.

Field Worker: Phase II Testing at the Blackman Stream Site (74-19), 1987, Bangor Hydroelectric Company's Proposed Basin Mills Dam Project.
Principal Investigator: Dr. David Sanger, University of Maine.

Volunteer Field Worker: Phase II Testing at the Ayers Rapids Site (74-23), 1987 (2 days), Bangor Hydroelectric Company's Proposed Basin Mills Dam Project,
Principal Investigator: Dr. David Sanger, University of Maine.

Field Worker: Phase I Survey and Phase II Testing of the Dover-Foxcroft Water Treatment Project, Dover-Foxcroft, Maine. October-November, 1986.
Principal Investigator: Dr. James B. Petersen, UMF.

Field Worker: Phase I Survey and Phase II Testing of the Milo Water Treatment Project, Milo, Maine.

Brigham/4

September-October, 1986.

Principal Investigator: Dr. James B. Petersen, UMF.

Field Worker: Phase II Testing at the Eddington Bend Site (74-8), September 1986, Bangor Hydroelectric Company's Eddington Power Station Project,
Principal Investigator: Dr. James B. Petersen, UMF.

Volunteer Field Worker: Knox Site (30-21) Research Project, 1986 (2 weeks).
Principal Investigator: Dr. David Sanger, University of Maine.

Field Worker: Phase I Survey of the Brownville Jct. Water Treatment Project, for the Town of Brownville, Maine. June 1986.
Principal Investigator: Dr. James B. Petersen, UMF.

Field Worker: Phase II Testing of the Sharrow Site (90-2D), Milo, Maine, for Maine D.O.T., May-June, 1986.
Principal Investigator: Dr. James B. Petersen, UMF.

Volunteer Field Worker: Piscataquis Archaeological Project at the Brigham Site (90-2C) in Milo, Maine. 1985.
Principal Investigator: Dr. James B. Petersen, UMF.

Volunteer Field Worker: Phase II Testing at the Collins Bridge Site (74-16), 1984 (3 days), Maine D.O.T.
Principal Investigator: Dr. David Sanger, University of Maine.

Volunteer Field Worker: Piscataquis Archaeological Project at the Brigham Site (90-2C) in Milo, Maine. September 1984.
Principal Investigator: Dr. James B. Petersen, UMF.

Reports and Publications:

- 2000 *An Archaeological Phase IB Survey of the Proposed Groton Bridge Replacement Project, TH2-9435, Groton, Caledonia, Vermont.* by Michael S. Brigham and Ellen R. Cowie. University of Maine at Farmington Archaeology Research Center. Submitted to the Vermont Agency of Transportation.
- 2000 *An Archaeological Phase IB Survey of the Proposed Clarendon BR0 1443(34) Bridge Replacement Project, Clarendon, Rutland County, Vermont.* by Michael S. Brigham and Ellen R. Cowie. University of Maine at Farmington Archaeology Research Center. Submitted to the Vermont Agency of Transportation.
- 2000 *An Archaeological Phase IB Survey of the Barton Project STP0113(58)SC, Baton, Orleans County, Vermont.* by Hutch M. McPheters, Michael S. Brigham and Ellen R. Cowie. Submitted to the Vermont Agency of Transportation.
- 1999 *An Archaeological Phase I Survey of the Proposed Rochester Salt Sheds Project, SALT 001-100, Rochester, Windsor County, Vermont.* by Michael S. Brigham and Ellen R. Cowie. University of Maine at Farmington Archaeology Research Center. Submitted to the Vermont

Agency of Transportation.

1996 The Chandler Collection, by Michael S. Brigham, *The Maine Archaeological Society Bulletin*, Vol. 36:1.

Related Qualifications

Computer Skills:

Courses (1 semester) at The University of Maine:

Introduction to Personal Computers;

Programming with Pascal and C++;

Database Management Systems Design (using Dbase III and Borland's Paradox);

Drawing with Autocad;

Proficient with:

Microsoft DOS, Microsoft Windows 3.1, Microsoft Windows 95, Microsoft Windows 98, Microsoft Access, Microsoft Office 97, AutoCAD, ArcView GIS 3.1, Adobe Photo Shop, Adobe Pagemaker, WordStar (DOS), Borland's Word Perfect (DOS), Corel Word Perfect, Borland's Quatro Pro (DOS), Corel Quatro Pro, Q&A (DOS) and Alpha III (DOS).

Professional Memberships:

Society for American Archaeology

Eastern States Archaeological Federation

Northeastern Anthropological Association

The Vermont Archaeological Society

The Maine Archaeological Society, Inc.

President: 1991, 1992 and 1993 currently: MAS Bulletin Editor

References:

Dr. David Sanger
Department of Anthropology
University of Maine
Orono, ME 04473

Dr. Michael Heckenberger
Department of Anthropology
University of Florida
Gainesville, FL 32653

Dr. James B. Petersen
Department of Anthropology
University of Vermont
Burlington, VT 05405

Ellen R. Cowie
Archaeology Research Center
University of Maine at Farmington
Farmington, ME 04938

EDWARD FRANK

188 Clover Mill Road □ Farmington, ME 04938-5009
207-778-0244 edfrank@maine.edu

RÉSUMÉ MARCH 2000

Following is a summary of some of my skills, achievements, and knowledge. I may have omitted something important, or included the unnecessary.

EMPLOYMENT

DIRECTOR OF INFORMATION TECHNOLOGY
AT THE ARCHAEOLOGY RESEARCH CENTER PRESENT
University of Maine at Farmington Farmington, ME

Duties and Responsibilities: Oversees all aspects of digitally-related information processing and hardware maintenance at the Center. Duties include Novell network management, workstation procurement, installation, maintenance, and support, database management and analysis, web site development, desktop publishing, map drafting, and artifact illustration.

WEBMASTER 1999 TO 2000
University of Maine at Farmington Farmington, ME

Duties and Responsibilities: Manage, upgrade, install, and configure Web server hardware and software. Create, organize, and revise Web pages. Process information prior to Web presentation. Manage user accounts on the server. Create server scripts as needed.

COORDINATOR OF ADMINISTRATIVE COMPUTING JUNE 1989 - 1999
University of Maine at Farmington Farmington, ME

Duties and Responsibilities: Involved with all aspects of PC hardware and software planning, procurement, deployment, and support, as well as sole administrator and technician for a Lucent Definity PBX with AUDIX voice mail. Manage the campus cable plant. Analyze telecommunication data to realize cost savings. Install, manage, and maintain the Administrative campus LAN.

HARDWARE TECHNICIAN 1988 - 1989
Freedom Data Systems Newport, NH

Duties and Responsibilities: Set up, configure, repair PCs. Install and configure pharmacy software. Provide phone support for hardware and

software. Perform minor customization of pharmacy software

PRODUCT ENGINEER

Seth Thomas Clock Company Boscawen, NH

Duties and Responsibilities: Improve product quality and desirability through design, material, or process modifications. Redesign grandfather clocks and design prototypes. Manage process flow, parts description, and costing. Apply PC software to part and process costing. Draft each part of every clock in production. Program NC machinery.

OTHER EXPERIENCE / SKILLS

Surveyor's Assistant - topographical, boundary

Sub-surface disposal system design

Programming - various languages.

Printer's Assistant - offset presses

Woodworking

Short Order Cook

Rosemary A. Cyr
RR 1 Box 1326-L
Farmington, ME 04938
(207) 778-4470 (home)
(207) 778-7020 (work)

EDUCATION

University of Maine at Farmington:

- B.A., Liberal Arts, Interdisciplinary in Political Science and Social Sciences, December 1986.
- Archaeological Field School, Phase II excavation at Dennison Hatchery Project Area, Embden, Maine, May-June 1989; Principal Investigator: Dr. James B. Petersen.
- Candidate for Bachelor of Science, Secondary Education and Special Education.
- Continuing Education courses in Anthropology and Education.

University of Southern Maine:

- Completed course in American and New England Studies Graduate Program: Historical Archaeology, Spring 1999

Professional Workshops:

- Identifying and Conserving Metal Objects, Maine Archives and Museums
- Basic Archival Workshop, Maine Archives and Museums
- An Introduction To English Ceramics, George Miller (Council for Northeastern Historical Archaeology)
- Archaeological Collections Management and Curation, National Parks Service

LABORATORY WORK EXPERIENCE

POSITION:

Laboratory Manager, September 1992 to Present
Archaeology Research Center, University of Maine at Farmington (UMF-ARC), 17 Quebec Street, Farmington, Maine 04938, (207)778-7012. Supervisor 1992-1997: Dr. James B. Petersen, Director; 1997 to Present: Ellen Cowie, Director.

DESCRIPTION OF DUTIES:

- Supervise and train laboratory personnel, review staff work performance and provide evaluation.
- Supervise and perform all laboratory procedures related to the Archaeology Research Center, including checking, problem solving and organizing field records and artifacts, artifact cataloging, analysis and curation, and preparing soils and botanicals for sediment analysis, paleo-botanical analysis and radiocarbon dating.
- Consult with and support Director, Project Directors, and field personnel in matters pertaining to generating artifact data and report preparation.
- Assisting the Director in coordinating the efforts of lab, computer and writing personnel.
- Public outreach such as public speaking, setting up displays and assisting in Maine Archaeology Week activities.
- Supervision of Photographic Assistants and managing photodocuments.

Examples of Specific Projects Include:

- Analysis of Historic Period artifacts (including eighteenth- and nineteenth-century ceramics) from the Phase III mitigation of the Lewis Site (VT-WN-238) in Norwich, Vermont.
- Analysis of Historic Period artifacts from the Brickett House site (ME 3-174) in the White Mountain National Forest, Maine. August 1994. Principal Investigator: Dr. Kathleen L. Wheeler.
- Analysis of Historic Period artifacts from approximately 30 phase I, II and III project areas with Historic Archaeological sites in Vermont and Maine. September 1994 to present.
- Execution and subsequent report of the Piscataquis Archaeological Project Field Records Preservation Project, Maine Historic Preservation Committee grant. February-April 1993.
- Analysis of Contact Period artifacts from the Norridgewock Mission site, (ME 69-2), Madison, Maine. March and April 1993.

POSITION:

Assistant Research Supervisor, January 1990 to September 1992

Archaeology Research Center, University of Maine at Farmington, 17 Quebec Street, Farmington, Maine 04938, (207)778-7012. Supervisor: Dr. James B. Petersen, Director.

DESCRIPTION OF DUTIES:

- Data preparation and processing of artifacts, soils, and carbon samples from approximately 48 phase I, II and III projects from Maine, New Hampshire and Vermont for the UMF ARC.

Examples of Specific Projects Include:

- Assembly of Iroquois Gas Pipeline Transmission System Phase II Aboriginal Ceramic data. August 1992.
- Analysis of faunal remains from the Witchgutter Site (VT-WD-72) and Quarry Road Site (VT-WD-73) Phase II mitigation in Vermont. June 1992.
- Analysis of lithic debitage and fire-cracked rock from the Witchgutter Site (VT-WD-72) and Quarry Road Site (VT-WD-73) Phase II mitigation in Vermont. April-May 1992.
- Assisting in analysis of faunal remains from sites in the Weston Phase II project area in Western Maine. November-December 1991.

POSITION:

Laboratory Technician, May 1987-January 1990.

Archaeology Research Center, University of Maine at Farmington, 17 Quebec Street, Farmington, Maine 04938, (207)778-7012. Supervisor: Dr. James B. Petersen, Director.

DESCRIPTION OF DUTIES:

- Data entry, cleaning, cataloging and analyzing artifacts, processing (water-screening, flotation, sorting) soils and carbon samples from approximately 43 phase I, II and III projects from Maine, New Hampshire, and Vermont for the UMF ARC.

Examples of Specific Projects Include:

- Analysis of lithic debitage and fire-cracked rock from the Brockway Phase III site (ME 90-3) in Central Maine. January-April 1988.
- Analysis of lithic debitage from the Williams Dam Phase III site (ME 69-14) in Western Maine. May 1987. Principal Investigator: Dr. James B. Petersen.

SELECTED FIELD EXPERIENCE

Assistant Research Supervisor: Principal Investigator: Dr. James B. Petersen, UMF-ARC

- UMF-UVM Archaeological Field School at the Varney Farm site (ME 36-57), Turner, Maine. May 1998.
- Norridgewock Mission site (ME 69-2), Madison, Maine. July 1997. Supervisor: Ellen R. Cowie, UMF.
- Phase II testing at the Lewis Site (VT-WN-238) in Norwich, Vermont. November, 1995.
- UMF Archaeological Field School (and subsequent volunteer work) at the Tracy Farm Site (ME 69-11) in Starks, Maine. July-November, 1995. Supervisor: Ellen R. Cowie, UMF.
- Norridgewock Mission site (ME 69-2), Madison, Maine. July 1994. Supervisor: Ellen R. Cowie, University of Pittsburgh.
- Phase II testing of the Messalonskee Hydroelectric Dam Relicensing Project, Kennebec and Somerset counties, Maine. July-September 1990.
- Phase II testing of the Weston Hydroelectric Dam Relicensing Project, Somerset County, Maine. May-June, October-November 1990.

Field Technician: Principal Investigator: Dr. James B. Petersen, UMF-ARC

- Phase III mitigation at the Varney Farm site (ME 36-57), Turner, Maine. May 1994.
- Sebasticook Lake Fish Weir site (ME 71-19), Newport, Maine. October 1993.
- Phase I survey of the Varney Farm Project Area, Turner, Maine. September 1993.
- Phase I survey of the Loring Air Force Base Project Area, Aroostook County, Maine. September 1993.
- Phase IB survey of the Hollis Project Area, Hollis, Maine. July 1993.
- Phase II testing of the Sandy River Hydroelectric Dam Relicensing Project, Somerset County, Maine. June 1993.
- Sebasticook Lake Fish Weir (ME 71-19), Newport, Maine. October 1992.
- Phase I survey of the Sandy River Hydroelectric Dam Relicensing Project, Somerset County, Maine. October 1992. Norridgewock Mission Site (ME 69-2), Madison, Maine. July 1992.
- Phase I and II survey and testing at Kineo Talus Slope for private landowner, Greenville, Maine. May 1992.
- Assistant Research Supervisor: Supplemental phase II testing of sites in the Messalonskee Hydroelectric Dam Relicensing Project, Kennebec and Somerset counties, Maine. August 1991.
- Phase II testing of the Central Maine Power Company proposed recreation area on the Sebasticook River, Benton, Maine. November 1990.
- Phase I survey of the Caribou Project Area, Caribou, Maine. September 1989.
- Phase II testing of the Dennison Hatchery Project Area, Embden, Maine. October-November 1988
- Phase I survey of the Hydro-Quebec Project Area in Western Maine. June-July 1988,

October-November 1987.

- Phase I survey of the Middle Dam Project Area in Oxford County, Maine. September-October 1987.
- Phase II testing of the Wyman Lake Project Area in Somerset County, Maine. July-August 1987.
- Phase II testing of the Gulf Island Project Area in Androscoggin County, Maine. June 1987.

PROFESSIONAL MEMBERSHIPS

Maine Archaeological Society
Council for Northeastern Historical Archaeology
Northeastern Anthropological Association

REFERENCES

Dr. James B. Petersen
Anthropology Department
University of Vermont
Burlington, VT 05405-0168
(802)656-3884

Dr. Jon Oplinger
Department of Soc. Sci. & Business
University of Maine at Farmington
Farmington, Maine 04938
(207)778-7435

Ellen R. Cowie
Director, Archaeology Research Center
University of Maine at Farmington
Farmington, Maine 04938
(207)778-7012

Dr. Susan Thorson
Department of Special Education
University of Maine at Farmington
Farmington, Maine 04938
(207)778-7270

GERALDINE E. BALDWIN

Archaeology Research Center
University of Maine at Farmington
Farmington, Maine 04938
(207) 778-7012
gebaldwin@maine.edu

Education:

University College London, London, UK
Masters of Arts – Institute of Archaeology, December 1987
State University of New York at Stony Brook
BA Anthropology; December 1985

Professional Experience:

Project Director, UMF Archaeology Research Center - 7/99- present
Public Education Coordinator, UMF Archaeology Research Center - 6/98-12/98
Archaeologist and Principal Investigator, Garrow and Associates, Inc. - 4/92-6-94
Research Supervisor II, UMF Archaeology Research Center – 8/89-4/91

Responsibilities as Project Director of the UMF Archaeology Research Center include oversight of archaeology field projects and supervise field personnel and logistical considerations.

Assists on administrative duties such as the preparation of scopes-of-work, budgets, research proposals, management plans and report editing and production. Coordinate and conduct public education concerns. Act as the primary editor of UMF Archaeology Research Center.

As Public Education Coordinator at the Cloverleaf site in Bennington, Vermont, my duties were to communicate with local town officials, state museums and historical societies, provide interviews with local and regional media, conduct public lectures, on-site tours and coordinate site volunteers.

Teaching Position

Prehistoric Anthropology
Department of Business and Social Sciences
University of Maine at Farmington,
Spring 2000

Professional Memberships and Positions:

Society of Professional Archaeologists, (S.O.P.A.) Certification in Field Archaeology, August 1993-1999.

Register of Professional Archaeologists, (R.P.A.) Certification in Field Archaeology, 1999- present.

Treasurer, The Maine Archaeology Society, 1999-present.

Vermont Archaeological Society, 1998-present.

Projects and Reports:

1999 With Belinda J. Cox and Ellen R. Cowie. *An Archaeological Phase I Survey of the BLS Bennington L.C. Monument Plaza Project In The Town of Bennington, Bennington County, Vermont.* UMF Archaeology Research Center, Maine. Submitted to Redstone Investment, Inc.

1994 With Robert J. Fryman, Ph.D., *Phase I Cultural Resources Survey of the 760 Acre Tract Proposed for the Development of the Suwanee Water Reclamation Facility in Gwinnett County, Georgia.* Garrow & Associates, Inc., Atlanta, Georgia. Submitted to Metcalf and Eddy, Inc., Atlanta, Georgia.

1994 With Robert J. Fryman, Ph.D., *Cultural Resources Survey of the Powder Springs Road Widening Project, Cobb County, Georgia.* Garrow & Associates, Inc., Submitted to Jordan Jones and Goulding, Atlanta, Georgia.

1994 With William F. Stanyard, Patrick H. Garrow, Jeffery L. Holland, and W. Lane Greene. *Phase I Cultural Resources Survey and Phase II Testing of the Georgia International Horse Park, Rockdale County, Georgia.* Garrow & Associates, Inc., Atlanta, Georgia. Submitted to Post, Buckley, Schuh & Jernigan, Inc., Atlanta, Georgia.

1993 With Daniel T. Elliott and Jeffrey L. Holland. *Archaeological Data Recovery in the Proposed Haig Mill Creek Reservoir, Whitfield County, Georgia.* Garrow & Associates, Inc., Atlanta, Georgia. Submitted to Golder Associates, Inc., Atlanta, Georgia.

1993 With Robert J. Fryman, Ph.D., *Phase I Cultural Resources Survey of the Spectator Areas for the 1996 Olympic Rowing and Canoeing Venues, Big Haynes Creek Reservoir, Rockdale County, Georgia.* Garrow & Associates, Inc., Submitted to EBASCO Services Incorporated, Atlanta, Georgia.

1993 *Phase II Archaeological Testing on Eight Sites in the Proposed Big Haynes Creek Reservoir Tract on Big Haynes Creek, Rockdale County, Georgia.* Garrow

& Associates, Inc., Atlanta, Georgia. Submitted to Conyers-Rockdale-Big Haynes Impoundment Authority, Conyers, Georgia.

1993 With Robert J. Fryman, Ph.D., and Jeffrey L. Holland. *Phase I Cultural Resources Survey of Fort McPherson, Fulton County, Georgia*. Garrow & Associates, Inc., Atlanta, Georgia. Submitted to B&E Jackson & Associates, Inc., Atlanta, Georgia.

1993 With Tad Britt, and Jeffrey L. Holland. Cultural Resources Investigation of the Catoosa Area Training Center for the Tennessee Army National Guard, Catoosa County, Georgia. Garrow & Associates, Inc., Atlanta, Georgia. Submitted to the Department of the Army, Nashville District, Corps of Engineers, Nashville, Tennessee.

1993 With Robert J. Fryman, Ph.D., *Cultural Resources Survey of the 5.51 Acre Tract for the 115/12 kV Sandy Plains Substation, Cobb County, Georgia*. Garrow & Associates, Inc., Atlanta, Georgia. Submitted to Oglethorpe Power Company, Atlanta, Georgia.

1992 With Robert J. Fryman, Ph.D., *Phase I Cultural Resources Survey of the Durand Mill Property, Lots 4 & 52, Dekalb County, Georgia*. Garrow & Associates, Inc., Atlanta, Georgia. Submitted to Blair & Chewning, Inc., Tucker, Georgia.

1992 With Thomas R. Baker, Ph.D., *Phase III Archaeological Data Recovery Investigations Conducted at Site 9LU43 along the Proposed Cane Creek-Juno 115 kV Transmission Line, Lumpkin, Georgia*. Garrow & Associates, Inc., Atlanta, Georgia. Submitted to Oglethorpe Power Company, Atlanta, Georgia.

1990 With Jennifer J. Robbins, John G. Crock, and James B. Petersen. *An Archaeological Phase I Survey of the Moosehead Lake Project (FERC NO. 2671), Somerset and Piscataquis Counties, Maine*. Archaeology Research Center, University of Maine at Farmington. Submitted to Central Maine Power, Augusta, Maine.

Baldwin/4

Belinda J. Cox
199 Temple Road
Farmington, Maine 04938
(207) 778-5289

PERSONAL:

Date of Birth: May 30, 1967
Marital Status: Single
Health: Excellent

EDUCATION:

Candidate for Bachelor of Arts Degree in Anthropology/Sociology from University of Maine at Farmington, 2001.
Completed 3 year drafting program at Kenneth E. Foster Vocational Technical Institute, 1985.

KNOWLEDGE AND SKILLS:

Drafting/Cartography
Surveying Techniques
Artifact Illustration
Working knowledge of Microsoft Word, Corel WordPerfect, DW3, DW4, PC-WRITE, CAD PLUS and ULTRA CAD DRAFIX Computer Programs
Map Use, Reading and Interpretation
Photography
Archaeology
Hazardous Waste Operations (Recertified 4/2000)
National Red Cross Certified First Aid

WORK EXPERIENCE:

September, 1989-present

Drafting Supervisor for University of Maine at Farmington Archaeology Research Center. Duties include preparing and supervising production of maps designed to graphically portray archaeological information.

May, 1999

Field Director on phase I survey at the proposed B.L.S. Bennington L.C. Monument Plaza Project in Vermont, for Redstone Investments in Ohio, for the University of Maine at Farmington Archaeology Research Center.

August-November, 1998

Field Director on supplemental data recovery excavations at the Cloverleaf site for the VAOT Special Projects Unit-Bennington Bypass in Vermont, for the University of Maine at Farmington Archaeology Research Center.

July-November, 1997

Research Supervisor II on phase I survey, phase II testing and phase III data recovery excavations for VAOT Special Projects Unit-Bennington Bypass project in Vermont, for the University of Maine at Farmington Archaeology Research Center.

Cox/2

November, 1996

Field Assistant on archaeological excavations of the Barnes Bay site (AG-BB1), Anguilla, West Indies. Supervisor: John G. Crock, University of Pittsburgh.

September, 1996

Research Supervisor II on combined phase III data recovery excavations and supplemental phase II testing for NHDOT Hanover, NH/Norwich, VT Ledyard Bridge project in Vermont, for University of Maine at Farmington Archaeology Research Center.

June-September, 1996

Research Supervisor II on phase I survey and phase II testing for the Vermont Agency of Transportation Special Projects Unit-Bennington Bypass in Vermont, University of Maine at Farmington Archaeology Research Center.

September-October, 1995

Research Supervisor II on phase I survey for the Vermont Agency of Transportation Special Projects Unit-Bennington Bypass in Vermont, for the University of Maine at Farmington Archaeology Research Center.

February-July, 1995

Research Supervisor II on phase III data recovery excavations at the Trants site (MS-G1), and phase I survey for the proposed Airport Expansion Project, Montserrat, West Indies, for University of Maine at Farmington Archaeology Research Center and Carnegie Museum of Natural Science, Pittsburgh.

September, 1994

Field Supervisor on phase I survey for Sunday River Skiway Corp. project and phase II testing for Bethel Station project, both in Maine, for University of Maine Archaeology Research Center.

August, 1994

Field Supervisor on phase II testing for TETC Loring Air Force Base project and phase I survey for SCS Ferland project, both in Maine, for University of Maine at Farmington Archaeology Research Center.

July, 1994

Research Supervisor I on phase III testing for White Mountain National Forest Brickett House project, in Maine, for Independent Archaeological Consulting.

May and June, 1994

Field Supervisor on phase III mitigation for MHPC Varney Farm project, in Maine, for University of Maine at Farmington Archaeology Research Center.

November, 1993

Research Supervisor I on Sebesticook Lake Fish Weir Research project and Field Supervisor on phase I survey for Southern Aroostook Solid Waste Disposal project, both in Maine, for University of Maine at Farmington Archaeology Research Center.

October, 1993

Research Supervisor I on Sebesticook Lake Fish Weir Research project and Field Supervisor on phase I survey for TETC Loring Air Force Base Cultural Resources Special Study, both in Maine, for University of Maine at Farmington Archaeology Research Center.

September, 1993

Research Supervisor I on phase I survey for VAOT Readsboro project and phase II testing for VAOT Londonderry project, both in Vermont, and Field Supervisor on phase I survey for SCS Abbott

Mills and Varney Farm projects and for TETC Loring Air Force Base Cultural Resources Special Study, all for University of Maine at Farmington Archaeology Research Center.

August, 1993

Research Supervisor I on phase II testing for VAOT Poultney-Castleton project, in Vermont, and Field Supervisor on phase I survey for SCS Abbott Mills project, in Maine, both for University of Maine at Farmington Archaeology Research Center.

July, 1993

Research Supervisor I on phase II testing for VAOT Poultney-Castleton project, in Vermont, for University of Maine at Farmington Archaeology Research Center.

June, 1993

Research Supervisor I on phase II testing for Sandy River Hydro project in Maine and VAOT Royalton project in Vermont, both for University of Maine at Farmington Archaeology Research Center.

November, 1992

Research Supervisor I on phase I survey for Bonny Eagle Schools and Dixfield Water Treatment Facility projects, in Maine, for University of Maine at Farmington Archaeology Research Center.

October, 1992

Research Supervisor I on phase I survey for Auburn Paper Recycling Facility and Sandy River Hydro projects, phase II testing for National Guard-Bog Brook project, and Seabiscuit Fish Weir Research project, all in Maine, for University of Maine at Farmington Archaeology Research Center.

September, 1992

Research Supervisor I on phase I survey for Auburn Paper Recycling Facility project, in Maine, for University of Maine at Farmington Archaeology Research Center .

July, 1992

Research Supervisor I on phase I survey for VAOT Granville, Halifax and Londonderry projects, in Vermont, for University of Maine at Farmington Archaeology Research Center.

June, 1992

Research Supervisor I for phase I survey of Anderson Gravel Pit and National Guard-Bog Brook projects in Maine, and VAOT Royalton project in Vermont, all for University of Maine at Farmington Archaeology Research Center.

October, 1991

Research Supervisor I on phase I survey for Decoster Egg Farms project in Maine and VAOT Coventry, Poultney-Castleton, Pownal and Waitsfield projects, all in Vermont, for University of Maine at Farmington Archaeology Research Center.

July, 1991-September, 1991

Archaeological Technician on phase III mitigation for Iroquois Gas Transmission System Project. Project location was western Connecticut and eastern New York working for Garrow and Associates of Atlanta, Georgia.

May, 1990-November, 1990

Research Supervisor I/Assistant Crew Chief on phase II testing of Weston Dam Project for University of Maine at Farmington Archaeology Research Center. Duties included establishing horizontal metric grids, laying out excavation units, using transit to collect data for topographic maps, drawing sketch maps, profiling units, trenches, and test pits, photodocumentation, and supervising excavation.

February, 1988-September, 1989

Research Assistant/Drafter for University of Maine at Farmington Archaeology Research Center. Duties included drafting site location maps, drainage maps, soil profiles, grain size analysis data, topographical maps, artifact density and distribution maps.

June, 1988-August, 1988

Archaeological Technician for phase II testing of Skelton Dam Project and phase I survey of Penobscot Mills Dam Project, both for University of Maine at Farmington Archaeology Research Center.

October, 1987-February, 1988

Laboratory Research Assistant for University of Maine at Farmington Archaeology Research Center. Duties included washing and sorting artifact material and generating material tables for reports.

REPORTS:

Loring Air Force Base Cultural Resources Special Study Archaeological Phase I Survey, Aroostook County, Maine (BJC, R.P. Corey, and J.B. Petersen). Report submitted to The Earth Technology Corporation, University of Maine Archaeology Research Center, 1994. 146 pp.

Archaeological Phase II Testing of Loring Air Force Base, Aroostook County, Maine (BJC, R.P. Corey, and J.B. Petersen). Report submitted to the Earth Technology Corporation, University of Maine at Farmington Archaeology Research Center, 1994. 146 pp.

An Archaeological Phase I Survey of the Sunday River Project, Oxford County, Maine (BJC and J.B. Petersen). Report submitted to the Sunday River Corporation, University of Maine at Farmington Archaeology Research Center, 1994. 20 pp.

An Archaeological Phase I Survey and Phase II Testing of the Proposed Bethel Station Project, Oxford County, Maine (BJC and J.B. Petersen). Report submitted to the Merrill Company, University of Maine at Farmington Archaeology Research Center, 1994. 31 pp.

The Varney Farm (ME 36-57): A Late Paleoindian Encampment in Western Maine (BJC and J.B. Petersen). Report submitted to the Maine Historic Preservation Commission, University of Maine at Farmington Archaeology Research Center, 1995. 37 pp.

An Archaeological Phase IB Survey of the Silver Lake Hydroelectric Project Area (FERC 11478), Addison County, Vermont (BJC, J.B. Petersen, and R.A. Cyr). Report submitted to Central Vermont Public Service Corporation, University of Maine at Farmington Archaeology Research Center, 1996. 123 pp.

An Archaeological Phase I Survey and Phase II Testing and Supplemental Survey of the Hanover, NH/Norwich, VT, Ledyard Bridge Project, Windsor County, Vermont (BJC, J.B. Petersen, J.E. Petersen, R.A. Cyr and K.L. Wheeler). Report submitted to the New Hampshire Department of Transportation, University of Maine at Farmington Archaeology Research Center, 1996 (revised 1998). 102 pp.

An Archaeological Phase I Survey of the Derby Proposed I-91 Welcome Center Project, IM 091-3(8), Orleans County, Vermont (BJC and J.B. Petersen). Report submitted to the Vermont Agency of Transportation, University of Maine at Farmington Archaeology Research Center, 1996 (revised 1998). 16 pp.

An Archaeological Phase I Survey of the Morrystown Proposed Route 100 Minor Arterial Highway Project, BRF 029-1(11), Lamoille County, Vermont (BJC and J.B. Petersen). Report submitted to the Vermont Agency of Transportation, University of Maine at Farmington Archaeology Research Center, 1996 (revised 1998). 19 pp.

Cox/4

February, 1988-September, 1989

Research Assistant/Drafter for University of Maine at Farmington Archaeology Research Center. Duties included drafting site location maps, drainage maps, soil profiles, grain size analysis data, topographical maps, artifact density and distribution maps.

June, 1988-August, 1988

Archaeological Technician for phase II testing of Skelton Dam Project and phase I survey of Penobscot Mills Dam Project, both for University of Maine at Farmington Archaeology Research Center.

October, 1987-February, 1988

Laboratory Research Assistant for University of Maine at Farmington Archaeology Research Center. Duties included washing and sorting artifact material and generating material tables for reports.

REPORTS:

Loring Air Force Base Cultural Resources Special Study Archaeological Phase I Survey, Aroostook County, Maine (BJC, R.P. Corey, and J.B. Petersen). Report submitted to The Earth Technology Corporation, University of Maine Archaeology Research Center, 1994. 146 pp.

Archaeological Phase II Testing of Loring Air Force Base, Aroostook County, Maine (BJC, R.P. Corey, and J.B. Petersen). Report submitted to the Earth Technology Corporation, University of Maine at Farmington Archaeology Research Center, 1994. 146 pp.

An Archaeological Phase I Survey of the Sunday River Project, Oxford County, Maine (BJC and J.B. Petersen). Report submitted to the Sunday River Corporation, University of Maine at Farmington Archaeology Research Center, 1994. 20 pp.

An Archaeological Phase I Survey and Phase II Testing of the Proposed Bethel Station Project, Oxford County, Maine (BJC and J.B. Petersen). Report submitted to the Merrill Company, University of Maine at Farmington Archaeology Research Center, 1994. 31 pp.

The Varney Farm (ME 36-57): A Late Paleoindian Encampment in Western Maine (BJC and J.B. Petersen). Report submitted to the Maine Historic Preservation Commission, University of Maine at Farmington Archaeology Research Center, 1995. 37 pp.

An Archaeological Phase IB Survey of the Silver Lake Hydroelectric Project Area (FERC 11478), Addison County, Vermont (BJC, J.B. Petersen, and R.A. Cyr). Report submitted to Central Vermont Public Service Corporation, University of Maine at Farmington Archaeology Research Center, 1996. 123 pp.

An Archaeological Phase I Survey and Phase II Testing and Supplemental Survey of the Hanover, NH/Norwich, VT, Ledyard Bridge Project, Windsor County, Vermont (BJC, J.B. Petersen, J.E. Petersen, R.A. Cyr and K.L. Wheeler). Report submitted to the New Hampshire Department of Transportation, University of Maine at Farmington Archaeology Research Center, 1996 (revised 1998). 102 pp.

An Archaeological Phase I Survey of the Derby Proposed I-91 Welcome Center Project, IM 091-3(8), Orleans County, Vermont (BJC and J.B. Petersen). Report submitted to the Vermont Agency of Transportation, University of Maine at Farmington Archaeology Research Center, 1996 (revised 1998). 16 pp.

An Archaeological Phase I Survey of the Morristown Proposed Route 100 Minor Arterial Highway Project, BRF 029-1(11), Lamoille County, Vermont (BJC and J.B. Petersen). Report submitted to the Vermont Agency of Transportation, University of Maine at Farmington Archaeology Research Center, 1996 (revised 1998). 19 pp.

Archaeological Phase II Testing and Supplemental Survey of the Topsham Proposed Bridge Improvement Project, TH 2606, Orange County, Vermont (BJC, J.B. Petersen, R.A. Cyr and K.L. Wheeler). Report submitted to the Vermont Agency of Transportation, University of Maine at Farmington Archaeology Research Center, 1996 (revised 1998). 64 pp.

Archaeological Phase II Testing and Supplemental Survey of the Chester Vermont Route 103 Proposed Bridge Improvement Project, BRF 025-1(35), Windsor County, Vermont (BJC, J.B. Petersen and K.L. Wheeler). Report submitted to the Vermont Agency of Transportation, University of Maine at Farmington Archaeology Research Center, 1996 (revised 1998). 53 pp.

An Archaeological Phase I Survey of the Western Component of the Bennington Bypass Project, DPI 0146(1), in Bennington, Bennington County, Vermont and Hoosick, Rensselaer County, New York (BJC, C.A. Quinn, J.B. Petersen and H.H. Henry). Report submitted to the Vermont Agency of Transportation Special Projects Unit, University of Maine at Farmington Archaeology Research Center, 1997 (revised 1999). 101 pp.

Archaeological Phase II Testing of the Western Component of the Bennington Bypass Project, DPI 0146(1), in Bennington, Bennington County, Vermont and Hoosick, Rensselaer County, New York (BJC, C.A. Quinn, R.N. Bartone, J.B. Petersen and H.H. Henry). Report submitted to the Vermont Agency of Transportation Special Projects Unit, University of Maine at Farmington Archaeology Research Center, 1997 (revised 2000). 170 pp.

An Archaeological Phase I Survey of the Eastern Component of the Bennington Bypass Project, F019-1(4), F019-1(5) and F110-1(5), in Bennington, Bennington County, Vermont (BJC, R.N. Bartone, C.A. Quinn, J.B. Petersen and H.H. Henry). Report submitted to the Vermont Agency of Transportation Special Projects Unit, University of Maine at Farmington Archaeology Research Center, 1998. 220pp.

Archaeological Phase II Testing of the Cheshire, Furnace Brook and Hadwen Sites in the Eastern Component of the Bennington Bypass Project, F019-1(5), in Bennington, Bennington County, Vermont (Michael J. Heckenberger, J.B. Petersen, BJC and M.E. Petersen). Report submitted to the Vermont Agency of Transportation Special Projects Unit, University of Maine at Farmington Archaeology Research Center, 1999. 130 pp.

REFERENCES:

Dr. James B. Petersen
Assistant Professor
University of Vermont
Anthropology Department
Williams Hall
Burlington, VT 05405-0168
Telephone: (802) 656-3884

Ellen R. Cowie
Director
University of Maine at Farmington
Archaeology Research Center
17 Quebec Street
Farmington, Maine 04938
Telephone: (207) 778-7012

G. ROBERT BRAKENRIDGE

Surficial Processes Laboratory, Department of Geography
Dartmouth College, Hanover, New Hampshire 03755

Phone: 603-646-2870

Fax: 603-646-1601

Email: Brakenridge@dartmouth.edu

EDUCATION

Ph.D.	1982	University of Arizona, Tucson, Geosciences
M.S.	1979	University of Arizona, Tucson, Geosciences
B.S.	1975	Beloit College, Wisconsin, Environmental Geology
Postdoctoral Research (1982)		Geology Dept, Geographical Institute University of Duesseldorf, West Germany

PERSONAL DATA

Date and place of birth: June 15, 1952; Milwaukee, Wisconsin
Social Security: 328-48-2781
.

PROFESSIONAL EXPERIENCE

1990-Present	Research Associate Professor , Dartmouth College (Dept. of Geography; also Adjunct, Dept. of Earth Sciences)
1991-1992	JPL/Caltech Visiting Senior Scientist (Acting Geology Program Manager) Solid Earth Sciences, NASA Headquarters, Wash., D.C.
1987-1990	Senior Research Associate , Dartmouth College
1975-Present	Geomorphological Consultant for: University of Maine-Farmington, 1988-1998 Clough Harbor and Associates, 1994 Garrow and Associates, Inc., 1990-1991 Central Vermont Public Service, 1989-1990 Berger and Associates, Inc., 1989-1990 Oklahoma Archeological Survey, 1987-1991 University of Vermont; 1983-1984 Arizona State Museum, 1982-1983 University of Tennessee, 1980-1983 University of New Mexico, 1975
1983-1987	Assistant Professor , Wright State University Department of Geological Sciences

PROFESSIONAL ACTIVITIES

NASA Land Surface Hydrology Program Panel, 1999
Panelist and Reviewer, Earth System Science Pathfinder Program, NASA, 1996
Solid Earth and Natural Hazards Review Panel, NASA Office of Earth Science, 1998
Grand Canyon Monitoring and Research Center Review Panel, 1998
Invited Speaker, FEMA/NASA Conference on GIS and Disaster Management, 1997
Panelist and Reviewer, Earth System Science Pathfinder Program, NASA, 1996
Member, NASA Earth Observation System Interdisciplinary Science Team, 1996-
Invited participant, Flood Hazards Interagency Meeting, NASA HQ, 1995
Topography and Surface Change Review Panel, NASA HQ, 1994
Airborne Research Management and Operations Working Group, JPL, 1994
Lunar and Planetary Geoscience Review Panel (NASA), 1993-1996
Landsat Program Science Committee (NASA), 1991-1992
Topographic Science Working Group (NASA), 1991-1992

Fellow, Geological Society of America; *Member*, American Geophysical Union, Association of American Geographers, American Society for Photogrammetry and Remote Sensing, American Quaternary Association

Peer Reviewer for *GSA Bulletin*, *Geology*, *Journal of Geophysical Research*, *Geomorphology*, and *Physical Geography*, 1985-present

Peer Reviewer for numerous NSF grant proposals (mainly geology and hydrology), 1984-present, and four NASA research programs, 1990-present

Co-convenor, "Floodplain Evolution Symposium", Goettingen, Germany, 1989; also Senior Guest Editor, with J. Hagedorn, of a special issue of *Geomorphology*: 4(6)

PUBLICATIONS (* denotes 1-3 page abstract)

Brakenridge, G. R., Tracy, B. T., and Knox, J. C., 1998, Orbital remote sensing of a river flood wave. International Journal of Remote Sensing, v. 19, p. 1439-1445.
Karnes, D. and Brakenridge, G. R., 1998, The Dartmouth Flood Observatory: an electronic research tool and electronic archive for investigations of extreme flood events. Geoscience Information Society Special Publication, in press.
Mertes, L.A.K., Brakenridge, G. R., Hirschboeck, K.K., Prestegard, K., and Warner, W. S., 1996, River flooding and global environmental change: a multi-sensor approach. American Geophysical Union, Union Session O4, Recent Developments in Natural Hazards Research and Technology *
Brakenridge, G. R. and Oswald, W., 1995, Geomorphological framework for satellite radar-based imaging of storm runoff, northeastern Syria. GERTEC Symposium, Jerusalem*.
Brakenridge, G. R., Knox, J. C., Magilligan, F. J., and Paylor, E., 1994. Radar remote sensing of the 1993 Mississippi Valley Flood. EOS, Transactions of the American Geophysical Union, November, 1994.
Brakenridge, G. R., 1994, Orbital Remote Sensing of the 1993 Mississippi Valley Flood. Geological Society of America Annual Meeting*
Brakenridge, G. R., 1992, Geology and Global Change. Geotimes, June, p. 5.

- Wyckoff, D.G., Carter, B.J., Dort, W., Brakenridge, G.R., Martin, L., Theler, J.L., and Todd, L.C., 1991, Northwestern Oklahoma's Burnham Site: glimpses beyond Clovis. Current Research in the Pleistocene.
- Brakenridge, G.R., 1990, The origin of fluvial valleys and early geological evolution, Aeolis Quadrangle, Mars: Journal of Geophysical Research, v. 95, p. 17289-17308.
- Brakenridge, G. R., Hofman, J.L., Carter, B.J., and Drass, R.R., 1989, Quaternary geomorphology of northwestern Oklahoma County: implications for soil geography and geoarchaeology: Annual Meeting Program and Abstracts, Association of American Geographers, p. 22.*
- Brakenridge, G.R., 1990, Quaternary geomorphology of northwestern Oklahoma County: implications for geoarchaeology. In: "A survey of archaeological resources and an evaluation of buried site potential in northwestern Oklahoma County, Oklahoma" (J. L. Hofman and R.P. Drass, Eds.), Oklahoma Archaeological Survey Report No. 36, p. 45-57.
- Brakenridge, G.R., Thomas, P.A., Conkey, L.E, and Schiferle, J., 1988, Fluvial sedimentation in response to postglacial uplift and environmental change, Missisquoi river, Vermont: Quaternary Research, v. 30, p. 190-203.
- Brakenridge, G. R., 1988, Floodplain stratigraphy and flood regime, in "Flood Geomorphology" (V.R Baker, C. Kochel, and P.C. Patton, Eds.). John Wiley and Sons, New York.
- Brakenridge, G.R., 1988, Origin of fluvial valleys and early geological history, Aeolis Quadrangle, Mars: Geological Society of America Abstracts With Program, v. 20, no. 7, p. A-76*.
- Schumm, S.A., and Brakenridge, G.R., 1988, The river response, in "North America and Adjacent Oceans During The Last Deglaciation" (W.F. Ruddiman and H.E. Wright, Eds.). Geological Society of America Centennial Special Volume K-3, Boulder, Colorado.
- Brakenridge, G.R., 1988, Origin and implications of the terminal Rancholabrean-age Lower Domebo Member, western Oklahoma: American Quaternary Association, Abstracts of the Tenth Biennial Meeting, University of Massachusetts, Amherst, p. 110.
- Mills, H.H., Brakenridge, G.R., Jacobson, R.B., Newell, W.L., Pavich, M.J., and Pomeroy, J.S., 1987, Appalachian mountains and plateaus, in "Geomorphic Systems of North America" (W. L. Graf, Ed.). Geol. Soc. of Amer. Centennial Special Volume 2, Boulder, Colorado, p. 5-50.
- Brakenridge, G.R., and Williams, D.D., 1987, Valley genesis in relation to volcanism, tectonism, and impact cratering, Aeolis Quadrangle, Mars: Geological Society of America Abstracts With Program, v. 19, no. 7, p. 598.*
- Brakenridge, G.R., 1987, Intercrater plains deposits and the origin of martian valleys: In MEVTV Workshop on the Nature and Composition of Surface Units on Mars, Lunar and Planetary Institute Technical Report 88-05, Houston, p. 31-32.*
- Brakenridge, G.R., and Schuster, J., 1986, Quaternary geology and geomorphology in relation to archeological site locations, southern Arizona: Journal of Arid Environments, v. 10, p. 225-239.
- Brakenridge, G.R., 1986, Small valley networks and the past and present distribution of subsurface volatiles, Aeolis Quadrangle, Mars: 17th Lunar and Planetary Science, Part 1, p. 82-83.
- Brakenridge, G.R., Thomas, P.A., Schiferle, J.C., and Conkey, L.E., 1986, Floodplain sedimentation, postglacial uplift, and environmental change, Missisquoi River, Vermont: American Quaternary Association, Abstracts of the Ninth Biennial Meeting.*

- Vetter, M. and Brakenridge, G.R., 1986, Hartford and Deerfield basin framework mineralogies: independent evidence for provenance, current directions, and tectonic history: Abstracts of the Annual Convention, American Association of Petroleum Geologists*
- Brakenridge, G. R., 1985, Rate estimates for lateral bedrock erosion based on radiocarbon ages, Duck River, Tennessee: Geology, v. 13, p. 111-114.
- Brakenridge, G.R., 1985, Quaternary stratigraphy and fault hazard evaluation (Discussion): Bulletin of the Association of Engineering Geologists, v. 22, p. 101-103.
- Brakenridge, G. R., Newsom, H.E., and Baker, V.R., 1985, Ancient hot springs on Mars: Origins and paleoenvironmental significance of Martian valleys: Geology, v. 13, p. 859-862.
- Brakenridge, G.R., Newsom, H.E., and Baker, V.R., 1985, Hot springs on Mars: origins and paleoenvironmental significance of small Martian valleys: Geological Society of America Abstracts With Programs, v. 17(7), p. 530*.
- Brakenridge, G.R., 1985, Discussion of: Gradational thresholds and landform singularity: Quaternary Research, v. 23, p. 417-419.
- Brakenridge, G. R., 1984, Alluvial stratigraphy and radiocarbon dating along the Duck River, Tennessee: implications regarding floodplain origin: Geological Society of America Bulletin, v. 95, p. 9-25.
- Brakenridge, G.R., 1984, Sediment storage changes in the floodplain subsystem as inferred from terraces, fluvial stratigraphy, and radiometric dates: EOS, American Geophysical Union, v. 65 (16), p. 217.*
- Brakenridge, G.R. and Schiferle, J.C., 1984, Paleohydrology and sedimentology of meandering river floodplains, Vermont: Geological Society of America Abstracts With Programs, v. 16(6), p. 453.*
- Brakenridge, G.R., 1983, Holocene fluvial stratigraphy and its application to flood frequency analysis: International Union of Geodesy and Geophysics 17th General Assembly, Abstracts With Program (Hamburg, West Germany), v. 1, p. 235*
- Brakenridge, G. R. , 1983, Late Quaternary floodplain sedimentation along the Pomme de Terre River, southern Missouri: Part II, notes on sedimentology and pedogenesis: Geologisches Jahrbuch, Series A, v. 71, p. 265-283.
- Baker, V.R. and Brakenridge, G.R., 1982, Formation of valley networks on Mars: Geological Society of America Abstracts With Programs, v. 14, p. 438.*
- Dickinson, *et al.*, 1983, Provenance of North American Phanerozoic sandstones in relation to tectonic setting: Geological Society of America Bulletin, v. 94, p. 222-235.
- Baker, V.R., Brakenridge, G. R., and Kochel, R.C., 1982, Valley networks on Mars: mapping and morphogenesis: Reports of Planetary Geology Program-1982, NASA Technical Memorandum 85127, p. 200-208.
- Hofman, J.L., and Brakenridge, G.R., 1982, Interpreting archeological materials in buried alluvial settings: a case study from Tennessee: Eleventh International Quaternary Association Congress Abstracts, Moscow, v. 2, p. 104*.
- Baker, V.R. and Brakenridge, G.R., 1982, Formation of valley networks on Mars: Geological Society of America Abstracts With Programs, v. 14, p. 438.*
- Brakenridge, G.R., 1982, Paleogeomorphic and paleohydrologic implications of top stratum/bottom stratum thicknesses along meandering rivers: Proceedings of the Eleventh International congress on Sedimentology, Hamilton, Ontario.*
- Brakenridge, G. R., 1981, Late Quaternary floodplain sedimentation along the Pomme de Terre River, southern Missouri: Quaternary Research, v. 15, p. 62-76.

- Turner, W.B., Brakenridge, G.R., and Hofman, J.L., 1981, A technique to aid in the recording and field interpretation of stratigraphic sections in archeological deposits: Journal of Field Archeology, v. 9, p. 133-136.
- Brakenridge, G.R., 1981, Alluvial stratigraphy and radiocarbon dating, Duck River, Tennessee: floodplain response to environmental change: Geological Society of America Abstracts With Programs, v. 13(7), p. 415*.
- Brakenridge, G.R., 1981, Terrestrial paleoenvironmental effects of a late Quaternary-age supernova: Icarus, v. 46, p. 81-93.
- Brakenridge, G.R., 1980, Widespread episodes of stream erosion during the Holocene and their climatic cause: Nature, v. 283, p. 655-656.
- Brakenridge, G.R., 1980, Quaternary valley development and floodplain sedimentation along the Pomme de Terre River, southern Missouri: Abstracts of Lectures, INQUA/IGCP Paleohydrology Project 158 "Symposium Franken", University of Duesseldorf*.
- Brakenridge, G.R., 1979, The impact of climatic change on floodplain sedimentation, soil formation, and eolian activity in southern Missouri: Geological Society of America Abstracts With Programs, v. 11(7), p. 393*.
- Brakenridge, G.R., 1978, Evidence for a cold, dry, full-glacial climate in the American Southwest: Quaternary Research, v. 9, p. 22-40.
- Brakenridge, G.R., 1978, The Pleistocene/Holocene climatic boundary: American Quaternary Association, Abstracts of the Fifth Biennial Meeting*.
- Brakenridge, G.R., 1978, Quaternary deposits and soils in southern Missouri, USA, and their paleoclimatic significance: Proceedings of the Tenth International Congress on Sedimentology, Jerusalem, p. 82-83*.
- Brakenridge, G.R., and Scarborough, R.S., 1977, Orographic snowlines in southern Arizona: Journal of the Arizona Academy of Sciences, v. 12, p. 52*.
- Brakenridge, G.R., 1976, Flow indices: a means to quantitatively compare seasonal mean flows in ungauged intermittent streams: Geological Society of America Abstracts With Programs, v. 8(5), p. 571*.

Resume

Home Address:

Christopher C. Dorion
79 Bennoch Road
Orono, Maine 04473
(207) 866-7806
cdorion@bangornews.infi.net

Business Address:

C.C. Dorion Geological Services
79 Bennoch Road
Orono, Maine 04473
(207) 866-7806
(207) 866-8663 FAX
(207) 944-4302 Cellular
cdorion@bangornews.infi.net

Training:

1983. B.A. degree, Spanish, Franklin & Marshall College, Lancaster, Pennsylvania.
1996. M.S. degree, Geological Sciences, University of Maine, Orono.
1997. Certificate of Training, Wetland Delineator Program.
1999. OSHA 40 hour Hazardous Waste Operations certification.

Employment:

Fall, 1990. Teaching Assistant, Department of Geological Sciences, University of Maine.
Taught Physical Geology lab and recitation lectures.

Summer, 1991. Conducted field research in western and northern Sweden through
Stockholm University. Examined modern glacial environments at the Tarfala
Research Station.

1991-1995. Research Assistant, Institute for Quaternary Studies, University of Maine.
Developed an updated model of deglaciation in eastern and central Maine.
Developed lithofacies analysis of the De Geer Sea transgressive and regressive
phase deposits. Defined the late- to post glacial paleoenvironments of northern
Maine based on lake sediment cores.

1993-1995. Advised 6 Quaternary geology graduate students in the field.

Summer, 1993. Site geologist, Maine State Museum. Deciphered the geologic setting
and paleoenvironmental conditions at the time of burial of a *Mammuthus*
primigenius from Scarborough, Maine.

Summer and Fall, 1993. Field geologist, Maine Geological Survey. Investigated
surficial deposits in the Passamaquoddy Bay region and also northeastern
Aroostook County.

1995-1996. Field trip leader for numerous Quaternary field trips to central and eastern Maine for The Friends of the Pleistocene, Quaternary Institute at the University of Maine, Cooperative Extension, Soil Conservation Service - Washington County, and the Geological Society of Maine.

Fall and Winter, 1994-1995: Field geologist, National Science Foundation, Antarctica. Mapped glacial geologic features and collected associated rocks in a project to reconstruct former ice thicknesses of the West Antarctic Ice Sheet.

1995-1996. Various contract work for the Maine Geological Survey.

1997-2000: Contract work:

- Northeast Geophysical Services, Bangor, Maine.
- New Hampshire Preservation Commission archeology work under Dr. Richard Boisvert, Concord, New Hampshire.
- Maine Geological Survey, Augusta, Maine.
- Geoarcheology Research Associates for the Columbia Gas Millennium Project under Dr. Joseph Schuldenrein, Riverdale, New York.
- Archeological Research Consultants for hydrodam licensing under Dr. Richard Will, Ellsworth, Maine.
- Emery and Garrett Groundwater, Geophysical investigation, Meredith, New Hampshire.
- Moyses Environmental Services, Wetland delineation and soil mapping, Bangor, Maine.

Publications

Dorion, C. C., 1996, An updated high resolution chronology of deglaciation and accompanying marine transgression in Maine. M.S. Thesis, Department of Geological Sciences, University of Maine, Orono, 147p.

Dorion, C. C., Balco, G. A., Kaplan, M. R., Kreutz, K. J., Wright, J. D., and Borns, H. W., Jr., manuscript submitted: Stratigraphy, paleoceanography, chronology, and environment during deglaciation of eastern Maine.

Hoyle, B. G., Fisher, D. C., Dorion, C. C., Churchill, L. L., Borns, H. W., Jr., and Nelson, R. E., in preparation, Late Pleistocene *Mammuthus primigenius* from coastal Maine.

Thompson, W. B., Fowler, B. K., Flanagan, S. M., and Dorion, C. C., 1996, Recession of the late Wisconsinan Ice Sheet from the northwestern White Mountains, New Hampshire: *in* Van Baalen, M. R. (ed.), New England Intercollegiate Geological Conference guidebook for field trips in northern New Hampshire and adjacent regions of Maine and Vermont, p. 203-234.

- Thompson, W. B., Fowler, B. K., and Dorion, C. C., 1999, Deglaciation of the northwestern White Mountains, New Hampshire: *Geographie Physique et Quaternaire*, v. 53, p. 59-77.
- Weddle, T. K., Lowell, T. V., and Dorion, C. C., 1994, Glacial geology of the Penobscot River basin between Millinocket and Medway, *in* Hanson, L. S. (ed.), *New England Intercollegiate Geological Conference guidebook for field trips in north-central Maine*, p. 193-212.

Professional Organizations

Josselyn Botanical Society
Geological Society of Maine
Geological Society of America
Society for Sedimentary Geology
Maine Association of Professional Soil Scientists, affiliate member
Soil Science Society of Northern New England, associate member
Fieldtrip leader for New England Intercollegiate Geological Conferences, University of Maine at Orono, and other groups.

VITA

NANCY ASCH SIDELL

Address: 46 Heath Street
Oakland, ME 04963

Telephone: (207)465-3090
Email: nsidell@mint.net

Education:

Foxcroft Academy, Dover-Foxcroft, ME
B.S., University of Chicago (Botany), 1968
M.S., University of Michigan (Botany), 1973

Professional Experience:

Research Assistant, Ethnobotanical Laboratory, University of Michigan, 1970-1971

Director, Archeobotanical Laboratory, Center for American Archeology, Kampsville, Illinois, 1971-1986

Coordinator, Emergency Services and Disaster Agency, Village of Kampsville, 1983-1986

Flood Hazard Mitigation Coordinator and Grant Manager, Village of Kampsville, 1985-1986

Archeobotanical Consultant, Center for American Archeology, 1986-1987

Floodplain Management Field Advisor, Tri-County Regional Planning Commission, Morton, Illinois, 1987-1988

Hazard Mitigation Specialist, Reservist, Federal Emergency Management Agency, Region V, Chicago, 1987-1988; Region I, Boston, 1988-Present

Archeobotanical Consultant, self-employed, 1988-Present

Publications:

- 1972 Paleoethnobotany of the Koster Site: The Archaic Horizons. With D.L. Asch and R.I. Ford. *Illinois State Museum, Reports of Investigations*, No. 24.
- 1975 Plant Remains from the Zimmerman Site - Grid A: A Quantitative Perspective. With D.L. Asch. In "The Zimmerman Site: Further Excavations at the Grand Village of the Kaskaskia," by M.K. Brown, pp. 116-120. *Illinois State Museum, Reports of Investigations*, No. 32.
- 1977 Chenopod as Cultigen: A Re-evaluation of Some Prehistoric Collections from Eastern North America. With D.L. Asch. *Mid-Continental Journal of Archaeology*, Vol. 2, No. 1, pp. 3-45.

- 1978 The Economic Potential of *Iva annua* and Its Prehistoric Importance in the Lower Illinois Valley. With D.L. Asch. In "The Nature and Status of Ethnobotany," ed. by R.I. Ford, pp. 300-341. *University of Michigan, Museum of Anthropology, Anthropological Paper*, No. 67.
- 1978 Plant Remains from Frog City: A Havana Site in Southern Illinois. With D.L. Asch. In "Final Report on Archaeological Investigations at Frog City and Red Light: Two Middle Woodland Period Sites in Alexander County, Illinois," by L.G. Santeford and N.H. Lopinot, pp. 125-133. *Southern Illinois University, Center for Archaeological Investigations, Research Paper*, No. 6.
- 1979 Woodland Subsistence and Settlement in West Central Illinois. With D.L. Asch and K.B. Farnsworth. In *Hopewell Archaeology: The Chillicothe Conference*, ed. by D.S. Brose and N. Greber, pp. 80-85. Kent State University Press, Kent, Ohio.
- 1980 The Dickson Camp and Pond Sites: Middle Woodland Archaeobotany in Illinois. With D.L. Asch. In "Dickson Camp and Pond: Two Early Havana Sites in the Central Illinois Valley," by A.-M. Cantwell, pp. 152-160. *Illinois State Museum, Reports of Investigations*, No. 36.
- 1981 Archeobotany of Newbridge, Carlin, and Weitzer Sites -- The White Hall Components. With D.L. Asch. In *Faunal Exploitation and Resource Selection: Early Late Woodland Subsistence in the Lower Illinois Valley*, by B.W. Styles, pp. 275-291. Northwestern University Archeological Program, Evanston, Illinois.
- 1984 Accelerator Radiocarbon Dating of Evidence for Prehistoric Horticulture in Illinois. With N. Conard and others. *Nature*, Vol. 308, No. 5958, pp. 443-446.
- 1985 Archeobotany. With D.L. Asch. In "Deer Track, a Late Woodland Village in the Mississippi Valley," ed. by C.R. McGimsey and M.D. Conner, pp. 44-120. *Center for American Archeology, Technical Reports*, Vol. 1.
- 1985 Archeobotany. With D.L. Asch. In "The Hill Creek Homestead and the Late Mississippian Settlement in the Lower Illinois Valley," ed. by M.D. Conner, pp. 115-170. *Center for American Archeology, Research Series*, Vol. 1.
- 1985 Archeobotany. With D.L. Asch. In "Smiling Dan: Structure and Function at a Middle Woodland Settlement in the Illinois Valley," ed. by B.D. Stafford and M.B. Sant, pp. 327-401. *Center for American Archeology, Research Series*, Vol. 2.
- 1985 Archeobotany. With D.L. Asch. In "Massey and Archie: A Study of Two Hopewellian Homesteads in the Western Illinois Uplands," by K.B. Farnsworth and A.L. Koski, pp. 162-220. *Center for American Archeology, Research Series*, Vol. 3.
- 1985 Prehistoric Plant Cultivation in West-Central Illinois. With D.L. Asch. In "Prehistoric Food Production in North America," ed. by R.I. Ford, pp. 149-203. *University of Michigan, Museum of Anthropology, Anthropological Papers*, No. 75.

- 1985 Archeobotany of the Campbell Hollow Archaic Occupations. With D.L. Asch. In "The Campbell Hollow Archaic Occupations: A Study of Intrasite Spatial Structure in the Lower Illinois Valley," ed. by C.R. Stafford, pp. 82-107. *Center for American Archeology, Research Series*, Vol. 4.
- 1986 The Site and Excavations (with M.D. Conner and D.L. Asch) and Analysis of Plant Remains (with D.L. Asch). In "Cypress Land: a Late Archaic/ Early Woodland Site in the Lower Illinois River Valley," by M.D. Conner, pp. 6-25, 60-72. *Center for American Archeology, Technical Reports*, Vol. 2.
- 1986 Archeobotany of the Woodland Period Occupations. With D.L. Asch. In "The Woodland Occupations of the Napoleon Hollow Site in the Lower Illinois Valley," ed. by M.D. Wiant and C.R. McGimsey, pp. 427-512. *Center for American Archeology, Research Series*, Vol. 6.
- 1986 Archeobotany of the Buffalo, Wet Willie, and Fall Creek Sites. With D.L. Asch. In "Early Late Woodland Occupations in the Fall Creek Locality of the Mississippi Valley," ed. by D.T. Morgan and C.R. Stafford, pp. 105-115. *Center for American Archeology, Technical Reports*, Vol. 3.
- 1987 Middle Woodland and Historic Indian Archeobotany of the Naples-Abbott Site (Tabbycat and Smith Areas), Scott County, Illinois. With D.L. Asch. In "Archeological Testing of the Naples-Abbott Site: Smith and Tabbycat Areas, Scott County, Illinois," by B.D. Stafford, pp. 88-107. *U.S. Army Corps of Engineers, St. Louis District, Historic Properties Management Report*, No. 35.
- 1988 Archaeological Plant Remains: Applications to Stratigraphic Analysis. With D.L. Asch. In *Current Paleoethnobotany: Analytical Methods and Cultural Interpretations of Archaeological Plant Remains*, ed. by C.A. Hastorf and V.S. Popper, Chapter 6. The University of Chicago Press.
- 1990 Botanical Remains from Wyandotte Cave, Southern Indiana. With D.L. Asch. In "The Prehistoric and Early Historic Archaeology of Wyandotte Cave and Other Caves in Southern Indiana," by P.J. Munson and C.A. Munson, pp. 90-91. *Indiana Historical Society, Prehistory Research Series*, Vol. VII, No. 1.
- 1992 Archeobotany. With D.L. Asch. In "Early Woodland Occupations at the Ambrose Flick Site in the Sny Bottom of West-Central Illinois," ed. by C.R. Stafford, pp. 177-293. *Center for American Archeology, Research Series*, Vol. 10.
- 1992 Early Evidence of Maize Agriculture in the Connecticut River Valley of Vermont. With M.J. Heckenberger and J.B. Petersen. *Archaeology of Eastern North America*, Vol. 20, pp. 125-149.
- 1995 Fire on the Plains: Paleoenvironmental Data from the Hedden Site. With Arthur Spiess, John Mosher and Kathleen Callum. *The Maine Archaeological Society Bulletin*, Vol. 35, No. 1, pp. 13-52.

- 1996 Mid-Holocene Evidence of *Cucurbita* sp. from Central Maine. With J.B. Petersen. *American Antiquity*, Vol. 61, No. 4, pp. 685-698.
- 1996 Prehistoric Agricultural Systems in the West Branch of the Susquehanna River Basin, A.D. 850 to A.D. 1350. With John P. Hart. *Northeast Anthropology*, Vol. 51, Fall issue, pp. 1-30.
- 1997 Additional Evidence for Early Cucurbit Use in the Northern Eastern Woodlands East of the Allegheny Front. With John P. Hart. *American Antiquity*, Vol. 62, No. 3, pp. 523-537.
- 1999 Prehistoric Plant Use in Maine: Paleoindian to Contact Period. In *Current Northeast Paleoethnobotany*, edited by John P. Hart. New York State Museum, Bulletin 494, pp. 195-226.

Technical Reports/Limited Distribution Reports:

- 1972 Productivity of *Iva annua* in Relation to Soil Type in Calhoun and Greene Counties, Illinois. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report*, No. 3.
- 1973 A Study of Archaic Plant Remains from Selected Koster Site Horizon 6 Features. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report*, No. 5.
- 1975 Plant Remains from Albany, an Early Weaver Site in Whiteside County, Illinois. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report*, No. 8
- 1976 Paleoethnobotany of the Koster Site: An Interim Report. With D.L. Asch. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report*, No. 10.
- 1976 Plant Remains from Helton Mound 22, Greene County, Illinois. With D.L. Asch. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report*, No. 15.
- 1976 John Roy Site: Preliminary Archeobotanical Report. In "An Archeological Survey of Flood Control Structures # 6-7, 9-11, 12B, & 13-16 and Associated Floodpool Zones in the McKee Creek Drainage, Brown and Adams Counties, Illinois," by K.B. Farnsworth, Appendix II. *Foundation for Illinois Archeology, Contract Archeology Program, Report of Investigations*, No. 27. Submitted to USDA Soil Conservation Service, IDOC Contract No. 50761107.
- 1977 Plant Remains from a Middle Woodland Garbage Pit in Licking Co., Ohio. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report*, No. 20.

- 1977 Plant Remains from Shaver, a Late Woodland Site in La Salle County, Illinois. With D.L. Asch. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report, No. 21.*
- 1978 Plant Remains from the Judson College Site (Late Archaic/Early Woodland), Elgin, Illinois. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report, No. 22.*
- 1978 Plant Remains from a Middle Woodland Feature at the Harness-28 Site, Ross Co., Ohio. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report, No. 24.*
- 1978 The Context and Significance of Koster Site Maize. With D.L. Asch. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report, No. 26.*
- 1979 Archeobotany of Jug Run Site in Pike County, Illinois: Results of FAP-408 Phase II Investigations. With D.L. Asch. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report, No. 31.*
- 1979 Archeobotany of Kuhlman (A Multicomponent Site in Pike Co., Ill.): Results of FAP-408 Phase II Investigations. With D.L. Asch. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report, No. 32.*
- 1980 Archeobotany of Napoleon Hollow, a Multicomponent Site in Pike County, Illinois: Initial Report. With D.L. Asch. In "Napoleon Hollow Interim Report," ed. by M.D. Wiant, pp. 136-165. *Foundation for Illinois Archeology, Contract Archeology Program, Report of Investigations, No. 76.*
- 1980 Archeobotany of Campbell Hollow, an Archaic and Late Woodland Site in Scott Co., Ill. (Regional Setting and Results of FAP-408 Phase II Investigations). With D.L. Asch. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report, No. 41.*
- 1981 Archeobotany of Ambrose Flick. With D.L. Asch. In "Ambrose Flick, an Early Woodland Site in the Mississippi Valley," by C.R. McGimsey, pp. 69-102. *Foundation for Illinois Archeology, Contract Archeology Program, Report of Investigations, No. 61.* Submitted to Illinois Department of Transportation.
- 1981 Archeobotany of Mortland Island, an Early Late Woodland Site in Calhoun County, Illinois. With D.L. Asch. In "Test Excavations and Evaluation of the Mortland Island Site, a Prehistoric White Hall Phase Encampment on the Illinois River, Calhoun County, Illinois," by A.L. Koski. *Foundation for Illinois Archeology, Contract Archeology Program, Report of Investigations, No. 105.* Submitted to U.S. Army Corps of Engineers, St. Louis District.
- 1981 Feces of Wyandotte Cave, Crawford County, Southern Indiana. With D.L. Asch. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report, No. 42.*

- 1981 Examination of Selected Plant Remains from Hovey Lake Site (12PO10), Southern Indiana. With D.L. Asch. *Northwestern University Archeological Program, Archeobotanical Laboratory, Report*, No. 43.
- 1981 Vegetation. With D.L. Asch. In "Archeological Reconnaissance of a Proposed Soyland Power Cooperative Electrical Power Generating Complex Encompassing 5 Square Kilometers of Dissected Bluffs and Uplands Adjacent to the Illinois River, Pike County, Illinois," by H. Hassen, pp. 5-13. *Foundation for Illinois Archeology, Contract Archeology Program, Report of Investigations*, No. 111. Submitted to Plantec Corporation, Jacksonville, Florida.
- 1983 Vegetation. With D.L. Asch. In "Archeological Investigations along the Lower Illinois River Floodplain: Cultural Resource Surveys of the Hartwell and Nutwood Levee and Drainage Districts, Jersey and Greene Counties, Illinois," by H. Hassen and J.M. Batura, pp. 15-35. *U.S. Army Corps of Engineers, St. Louis District, Cultural Resource Management Report*, No. 4.
- 1983 Prehistoric Horticulture in Illinois: Accelerator Radiocarbon Dating of the Evidence. With N. Conard and others. *University of Rochester, Nuclear Structure Research Laboratory*, No. 275.
- 1983 An Archeological Overview and Management Plan for the Newport Army Ammunition Plant, Vermillion County, Indiana. With B.D. Stafford and others. Submitted to National Park Service, U.S. Department of the Interior.
- 1983 Archeological Plant Remains from Mound City National Monument, Ross County, Ohio. With D.L. Asch. *Center for American Archeology, Archeobotanical Laboratory, Report*, No. 52.
- 1983 The Modern Climate, Plant Resources, Animal Resources, and Paleoenvironment of Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Northeastern Ohio. With D.L. Asch. *Center for American Archeology, Archeobotanical Laboratory, Report*, No. 53.
- 1983 The Modern Climate, Plant Resources, Animal Resources, and Paleoenvironment of Savanna Army Depot, Jo Daviess and Carroll Counties, Northwestern Illinois. With D.L. Asch. *Center for American Archeology, Archeobotanical Laboratory, Report*, No. 55.
- 1983 The Modern Climate, Plant Resources, Animal Resources, and Paleoenvironment of Iowa Army Ammunition Plant, Des Moines County, Southeastern Iowa. With D.L. Asch. *Center for American Archeology, Archeobotanical Laboratory, Report*, No. 56.
- 1983 The Modern Climate, Plant Resources, Animal Resources, and Paleoenvironment of Badger Army Ammunition Plant, Sauk County, Southwestern Wisconsin. With D.L. Asch. *Center for American Archeology, Archeobotanical Laboratory, Report*, No. 57.
- 1983 Carbonized Plant Remains from Late Woodland Sites in the Delaware Water Gap National Recreation Area, Sussex and Warren Counties, Northwestern New Jersey.

- With D.L. Asch. *Center for American Archeology, Archeobotanical Laboratory, Report, No. 58.*
- 1983 The Modern Climate, Plant Resources, Animal Resources, and Paleoenvironment of Indiana Army Ammunition Plant, Clark County, Southern Indiana. With D.L. Asch. *Center for American Archeology, Archeobotanical Laboratory, Report, No. 59.*
- 1983 The Modern Climate, Plant Resources, Animal Resources, and Paleoenvironment of Jefferson Proving Ground, Jennings, Ripley, and Jefferson Counties, Southeastern Indiana. With D.L. Asch. *Center for American Archeology, Archeobotanical Laboratory, Report, No. 60.*
- 1983 The Modern Climate, Plant Resources, Animal Resources, and Paleoenvironment of Twin Cities Army Ammunition Plant, Ramsey County, Southeastern Minnesota. With D.L. Asch. *Center for American Archeology, Archeobotanical Laboratory, Report, No. 61.*
- 1983 The Modern Climate, Plant Resources, Animal Resources, and Paleoenvironment of Joliet Army Ammunition Plant, Will County, Northeastern Illinois. With D.L. Asch. *Center for American Archeology, Archeobotanical Laboratory, Report, No. 63.*
- 1985 Vegetation. With D.L. Asch. In "An Archeological Survey along the Eastern Floodplain of the Lower Illinois River: Cultural Resource Survey of Selected Portions of the Meredosia and Meredosia Lake Drainage and Levee Districts, Scott, Cass and Morgan Counties, Illinois," ed. by H. Hassen, pp. 9-19. *U.S. Army Corps of Engineers, St. Louis District, Cultural Resource Management Report, No. 19.*
- 1985 Botanical Samples from 20SA581 (Weber I, Michigan). With D.L. Asch. *Center for American Archeology, Archeobotanical Laboratory, Report, No. 69.*
- 1985 Archaeobotany. With D.L. Asch. In "Final Report of Archaeological Investigations at the Oak Forest Site (11Ck53), Cook County, Illinois," by J.A. Brown, pp. A1-A41. *Northwestern Archaeological Center, Contribution, No. 2.*
- 1985 Inventory of State Endangered and Threatened Plant Species, Fall Creek to Kinderhook Bluffline Transect, FAP-408, Adams and Pike Counties, Illinois. *Center for American Archeology, Archeobotanical Laboratory, Report, No. 72.*
- 1987 The Elizabeth Site (Pike Co., Illinois): Archeobotany of the Submound 6 Middle Archaic Occupation. With D.L. Asch. *Center for American Archeology, Archeobotanical Laboratory, Report, No. 76.*
- 1987 Archeobotany of Buckshaw Bridge, an Archaic Site in Brown County, Illinois. With D.L. Asch. *Center for American Archeology, Archeobotanical Laboratory, Report, No. 77.*
- 1988 Plant Remains from the Gulf Island Project Sites, Maine. Submitted to the Archaeology Research Center, University of Maine at Farmington.

- 1988 Plant Remains from the Wyman Project Sites, Maine. Submitted to the Archaeology Research Center, University of Maine at Farmington.
- 1988 Plant Remains from 74-91 and 74-106, Ceramic Period Sites on the Penobscot River at Milford, Penobscot Co., Maine. Submitted to Department of Anthropology, University of Maine at Orono.
- 1988 Plant Remains from the Wittmer Site (36.17), a Paleoindian site in Wayne, Kennebec Co., Maine. Submitted to Maine Historic Preservation Commission.
- 1988 Plant Remains from the Middle Woodland Component of Site 53.36, Waterville, Kennebec Co., Maine. Submitted to Maine Historic Preservation Commission.
- 1989 Plant Remains from Site 69-5, a Middle Woodland Site on the Kennebec River at Solon, Somerset Co., Maine. Submitted to Maine Historic Preservation Commission.
- 1989 Plant Remains from the Ripogenus Dam Project, Piscataquis Co., Maine. Submitted to Archaeology Research Center, University of Maine at Farmington.
- 1989 Plant Remains from the Penobscot Mills Project in central Maine. Submitted to Archaeology Research Center, University of Maine at Farmington.
- 1989 Archeobotany of the Marlin Miller Site: A Weaver Site in Hancock County, Illinois. Submitted to Archeological Research Lab, Western Illinois University.
- 1989 Plant Remains from Brockway, a Stratified Site in Milo, Piscataquis Co., Maine. Submitted to Archaeology Research Center, University of Maine at Farmington.
- 1989 Plant Remains from Sharrow, a Stratified Site in Milo, Piscataquis Co., Maine. Submitted to Archaeology Research Center, University of Maine at Farmington.
- 1989 Plant Remains from Skitchewaug (VT WN-41), a Stratified Site in the Connecticut River Valley near Springfield, Vermont. Submitted to Archaeology Research Center, University of Maine at Farmington.
- 1989 Plant Remains from a Stratified Site (#4) on Kingsbury Stream in Abbott, Piscataquis Co., Maine. Submitted to Maine Historic Preservation Commission.
- 1989 Carbonized Plant Remains from the Late Archaic Components at the Hunter Farm Site, in Sagadahoc County, Maine. Submitted to the Maine Historic Preservation Commission.
- 1989 Botanical Analysis of Radiocarbon Samples and Analysis of Carbonized Plant Remains (Appendix V, 23 pages) and Archeobotany of Early Fall Site (ME 7-13), a Late Woodland Site in the Bonny Eagle Project Area: Results of Phase I and Phase Investigations (Appendix VI, 34 pages). In "Archaeological Phase II Survey and Testing of the Bonny Eagle Project (FERC No. 2529), Cumberland and York Counties, Maine, Volume II, by Ellen R. Cowie and James B. Petersen. Archaeology Research Center, University of Maine at Farmington.

- 1990 Archaeobotany of the Ft. Halifax Site (53.35), Kennebec Co., Maine. Submitted to the Maine Historic Preservation Commission.
- 1992 Plant Use by Norridgewock Indians: A Comparison of the Historic and Archaeological Records. A report submitted to the University of Maine at Farmington, Archaeology Research Center, for inclusion in the Weston Project Phase II Report. 29 pages, 8 tables.
- 1992 Archaeobotany of Sites 294A-25-2 and 294A-AF2-1 in the Housatonic River Valley. A report submitted to Garrow & Associates, Inc., for inclusion in the Iroquois Gas Transmission System Phase III Report. 26 pages, 10 tables, 2 figures.
- 1992 Archaeobotany of Fivemile Dam Site (130-10-1) in the Middle Mohawk River Valley. A report submitted to Garrow & Associates, Inc. for inclusion in the Iroquois Gas Transmission System Phase III Report. 19 pages, 6 tables.
- 1992 Plant Remains from the Isle of Shoals Project, William Pepperrell Site (ME 226-62). Submitted to New England Studies, University of Southern Maine, Portland.
- 1993 Carbonized Plant Remains from Site ME 16.229. Submitted to the Maine Historic Preservation Commission.
- 1993 Archaeobotany of Cotiga Mound (46MO1) on the Tug Fork, Mingo County, West Virginia. A report submitted to GAI Consultants, Inc., for inclusion in the Cotiga Mound Phase III Report. 46 pages, 17 tables.
- 1993 Plant Remains from the Hedden Site (ME 4.10). Submitted to the Maine Historic Preservation Commission.
- 1993 Carbonized Plant Remains from a Late Archaic Hearth from Site 53-38. Submitted to the Maine Historic Preservation Commission.
- 1993 Archaeobotany of Sites 27.59 & 27.60 in the Town of Warren, Knox County, Maine. Submitted to the Maine Historic Preservation Commission. 23 pages, 10 tables, 2 figures.
- 1993 Carbonized Plant Remains from the Roylton Project, Site VT-WN-188, and the Poultney-Castleton Project, Site VT-RU-217. Submitted to the Archaeology Research Lab, University of Maine at Farmington.
- 1993 Carbonized Plant Remains from the Bog Brook Site (ME 33-6). Submitted to Archaeology Research Lab, University of Maine at Farmington.
- 1993 Plant Remains from a Red Paint Grave at the K.I. Ochre Site. Submitted to the Maine Historic Preservation Commission.
- 1993 Seeds from a Possible Privy at the Hale Site (ME 307-06) in Newcastle. Submitted to Timothy S. Dinsmore.

- 1994 Site 74-148: Carbonized "Seed" Remains. Submitted to Robert G. MacKay Archaeology Laboratory, University of Maine, Orono.
- 1994 Carbonized Plant Remains from Table Land Site (MHA #4256). Submitted to Archaeology Research Center, University of Maine at Farmington.
- 1994 C-14 Samples from the Fred Carty Collection. Submitted to the Robert S. Peabody Museum of Archaeology, Phillips Academy, Andover, MA.
- 1994 Selected Plant Remains from the Bain Site, Yarmouth, Nova Scotia. Submitted to Department of Anthropology, University of Maine, Orono.
- 1995 Archaeobotany. Chapter 12 in *Archaeological Investigations at the Memorial Park Site (36CN164), Clinton Co., PA*, by GAI Consultants, Inc., pp. 445-460. Submitted to the U.S. Army Corps of Engineers, Baltimore District.
- 1995 Archaeobotany of the Hedden Site (ME 4.10). Submitted to the Maine Historic Preservation Commission. 24 pages.
- 1995 Carbonized Plant Remains from Red Paint Graves. Submitted to Archaeology Research Center, University of Maine at Farmington.
- 1995 Carbonized Plant Remains from Site ME 38.53. Submitted to Archaeological Research Consultants, Inc., Ellsworth, ME.
- 1996 West Virginia Sites (GAI-534-89): Carbonized Plant Remains. Submitted to GAI Consultants, Inc. 4 pages.
- 1996 AOT Johnson Phase I: Carbonized Plant Remains from Site VT T1-1. Submitted to the Archaeology Research Lab, University of Maine at Farmington.
- 1996 Norridgewock Mission Floral Remains. Submitted to the Archaeology Research Lab, University of Maine at Farmington. 10 pages
- 1996 Moorehead Project Plant Remains. Submitted to the Archaeology Research Lab, University of Maine at Farmington. 10 pages.
- 1996 Analysis of Sheepscot River Fish Weir Stake. Submitted to the Maine Historic Preservation Commission.
- 1996 Archeobotany of Little Ossipee North Site (ME 7.7): Late Woodland and Early Archaic Components. Submitted to Archaeological Research Consultants, Inc., Ellsworth, ME. 9 pages.
- 1997 Analysis of C-14 Samples from Four Maine Sites: Quartz Scraper (ME 36.29), Flagstaff Lake (ME 84.53), Esker (ME 86.12) Chan (ME 177.2). Submitted to Archaeological Research Consultants, Inc., Ellsworth, ME.

- 1997 Cheshire Site (VT-BE-235): Plant Remains from Features. Submitted to the Archaeology Research Lab, University of Maine at Farmington.
- 1997 Floral Remains from International Paper Project Sites. Submitted to the Archaeology Research Lab, University of Maine at Farmington.
- 1997 Rumford Project Sites 49.20, 49.24, 49.25, 49.27, and 49.28: Charcoal Samples. Submitted to University of Southern Maine, Gorham, ME.
- 1997 Varney Farm Site (ME 36.57): Charcoal Identifications. Submitted to the Archaeology Research Lab, University of Maine at Farmington.
- 1997 Tranquility Farm Site (ME 44-12A): Carbonized Plant Remains from Flotation. Submitted to the Abbe Museum, Bar Harbor, ME.
- 1998 Rowe Site (VT-CH-738): Plant Remains from Features. Submitted to the Archaeology Research Lab, University of Maine at Farmington.
- 1998 Botanical Samples from West Virginia Sites, GAI Project No. 91-534-89. Submitted to GAI Consultants, Inc., Monroeville, PA.
- 1998 Archeobotanical Analysis of Feature 7, Spring Site (31AN60), Anson County, North Carolina. Submitted to TRC Garrow Associates, Inc. 7 pages.
- 1998 Broome Tech Floral Remains. Prepared for the Public Archaeology Facility at Binghamton University. 27 pages.
- 1999 Sites 5.06, 23.25, 39.4, 52.10, 52.16, 130.66, 142.36 Floral Remains: Tabular Summary. Submitted to Archaeological Research Consultants, Inc., Ellsworth, ME.
- 1999 Cloverleaf Site (VT-BE-233) Plant Remains. Submitted to the Archaeology Research Lab, University of Maine at Farmington.
- 1999 Silk Road Site (VT-BE-33) Plant Remains: Tabular Summary. Submitted to the Archaeology Research Lab, University of Maine at Farmington.
- 1999 Site ME 54.19: Feature 1 Floral Remains. Submitted to Deborah B. Wilson, Archaeological Consultant, Boothbay Harbor, ME.
- 1999 ME 37.55: Feature 1 Floral Remains. Submitted to the Maine Historic Preservation Commission, Augusta.
- 1999 ME 41.75: Feature 1 Floral Remains. Submitted to the Maine Historic Preservation Commission, Augusta.
- 1999 Indian Island Charcoal Samples. Submitted to Archaeological Research Consultants, Inc., Ellsworth, ME.

- 1999 ME 130.3A: Feature 1 Floral Remains. Submitted to Archaeological Research Consultants, Inc., Ellsworth, ME.
- 1999 Plus Site Floral Remains. Prepared for the Public Archaeology Facility at Binghamton University. 17 pages.
- 1999 Broome Tech Floral Remains: the Transitional Horizons. Prepared for the Public Archaeology Facility at Binghamton University. 25 pages.
- 1999 Broome Tech Floral Remains: Transitional to Late Woodland. Prepared for the Public Archaeology Facility at Binghamton University. 87 pages.
- 1999 Couse Goat Site (SUBi-1657) Floral Remains. Prepared for the Public Archaeology Facility at Binghamton University. 13 pages.
- 1999 Bryant Barker Tavern Site (ME 307-029) Floral Remains. 2 pages.
- 1999 Pearl Street Site: Seed Remains. Prepared for New York State Museum, Albany, NY. 4 pages.
- 1999 Sites 36.63, 36.64, 38.11, 85.4 Floral Remains: Tabular Summary. Submitted to the Maine Historic Preservation Commission, Augusta.
- 1999 Sites 8.19, 8.20, 13.50, 13.51 Floral Remains: Tabular Summary. Submitted to Deborah B. Wilson, Archaeological Consultant, Boothbay Harbor, ME.
- 2000 Meddybemps Site Feature 1 Floral Remains: Tabular Summary. Submitted to Archaeological Research Consultants, Inc., Ellsworth, ME.
- 2000 Site 5.06: Carbonized Plant Remains and Modern Vegetation Study. Submitted to Archaeological Research Consultants, Inc., Ellsworth, ME.
- 2000 Kearney Site (SUBi-1976) Floral Remains. Prepared for the Public Archaeology Facility at Binghamton University. 8 pages.
- 2000 Raish Site (SUBi-1465) Floral Remains. Prepared for the Public Archaeology Facility at Binghamton University. 7 pages.
- 2000 Tracy Farm Floral Remains. (Revised) Submitted to the Archaeology Research Lab, University of Maine at Farmington. 62 pages.
- 2000 Park Creek I Site (SUBi-1463) Floral Remains. Prepared for the Public Archaeology Facility at Binghamton University. 10 pages.
- 2000 Park Creek II Site (SUBi-1464) Floral Remains. Prepared for the Public Archaeology Facility at Binghamton University. 17 pages.
- 2000 Clark I Site (ME 52.16) Floral Remains: Tabular Summary. Submitted to Archaeological Research Consultants, Inc., Ellsworth, ME.

- 2000 Site 16.2 Floral Remains: Tabular Summary. Submitted to the Maine Historic Preservation Commission, Augusta.
- 2000 Westheimer and Parslow Field Sites Floral Remains: Tabular Summary. Submitted to The New York State Museum, Albany, NY.
- 2000 Rumford Phase III (ME 49.27, 49.28) and Spiller Farm (ME 4.13) Sites Floral Remains: Tabular Summary. Submitted to The University of Southern Maine, Gorham.
- 2000 Lamb Site (SUBi-1643) Floral Remains. Prepared for the Public Archaeology Facility at Binghamton University. 12 pages.
- 2000 Wilson Bypass (NC 31WL37) Floral Remains. Prepared for TRC Garrow Associates, Inc. In progress.

Papers and Presentations at Professional Meetings and Conferences:

- 1971 The Koster Site -- East Field, A Study of Late Woodland Plant Subsistence Strategies. With R.I. Ford. Society for American Archaeology, Norman, Oklahoma.
- 1975 Woodland Subsistence: Implications for Demographic and Nutritional Studies. With B.L. Whatley. American Association of Physical Anthropologists, Denver, Colorado.
- 1976 Paleoethnobotanical Roundtable: Origins of Agriculture in Eastern North America. Society for American Archaeology, St. Louis, Missouri.
- 1978 The Economic Potential of *Iva annua* and Its Prehistoric Importance in the Lower Illinois River Valley. With D. L. Asch. Midwest Archaeological Conference, Bloomington, Indiana.
- 1979 Archeobotany of the Koster Site: The Early and Middle Archaic Occupations. With D.L. Asch. Society for American Archaeology, Vancouver, B.C.
- 1979 Comments on Carlston Annis Subsistence Analysis. In symposium "Natural and Cultural Processes in the Formation of an Archaic Shell Midden on the Green River, Kentucky." Southeastern Archaeological Conference, Atlanta, Georgia.
- 1980 Analytical Methods of the Northwestern University Archeobotanical Laboratory. Ethnobotany Workshop, Society for Economic Botany, Bloomington, Indiana.
- 1980 Early Agriculture in Westcentral Illinois: Context, Development, and Consequences. With D.L. Asch. School of American Research, Advanced Seminar on "The Origins of Plant Husbandry in North America," Santa Fe.
- 1980 Archaic Subsistence in Westcentral Illinois. With D.L. Asch. Society for Economic Botany, Bloomington, Indiana.

- 1982 A Chronology for the Development of Prehistoric Horticulture in Westcentral Illinois. With D.L. Asch. Society for American Archaeology, Minneapolis, Minnesota.
- 1982 Middle Woodland Archeobotany of Westcentral Illinois. With D.L. Asch. Midwest Archaeological Conference, Cleveland, Ohio.
- 1982 Ambrose Flick and Bushmeyer: Excavations at Two Early Woodland Sites in the Mississippi River Floodplain, Pike County, Illinois. With D.T. Morgan, C.R. McGimsey, and D.L. Asch. Early Woodland Conference, Center for American Archeology, Kampsville, Illinois.
- 1983 Accelerator Radiocarbon Dating Tests Evidence for Early Horticultural Developments in Illinois. With D.L. Asch. Midwest Archaeological Conference, Iowa City, Iowa.
- 1984 Prehistoric Plant Gathering, Tending, and Cultivation in Westcentral Illinois. With D.L. Asch. Conference commemorating the opening of "Peoples of the Past," Illinois State Museum, Springfield, Illinois.
- 1985 Archeological Plant Remains: Applications to Stratigraphic Analysis. With D.L. Asch. Society for American Archaeology, Denver, Colorado.
- 1986 Middle Woodland Archeobotanical Variability in Westcentral Illinois. With D.L. Asch. Conference on "Emergent Horticultural Economies of the Eastern Woodlands," Center for Archaeological Investigations, Southern Illinois University, Carbondale.
- 1986 Archaeological Botany of the Napoleon Hollow Middle Woodland Occupations. With D.L. Asch. Midwest Archaeological Conference, Columbus, Ohio.
- 1992 The Contact Period in Central Maine: Archaeological Investigations at Ethnohistoric Norridgewock. With Ellen R. Cowie and James B. Petersen. Northeastern Anthropological Association, Bridgewater, Massachusetts.
- 1996 Prehistoric Plant Use in Maine: Paleoindian to Contact Period. New York Natural History Conference IV, Albany, NY.
- 2000 Paleoethnobotanical Indicators of Subsistence and Settlement Change in the Northeast. The New York Natural History Conference VI, Albany, New York.

Professional Memberships:

American Quaternary Association
Maine Archaeological Society, Board of Directors
Endowed Publication Fund Committee
Society for American Archaeology