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ARCHAEOLOGICAL INVENTORY AND EVALUATION AT EXXON MINERALS COMPANY, CRANDON PROJECT SITE IN FOREST COUNTY AND LANGLADE COUNTY, WISCONSIN

by

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ABSTRACT

Great Lakes Archaeological Research Center, Inc., Reports of Investigations No. 107, Archaeological Inventory and Evaluation at Exxon Minerals Company, Crandon Project Site in Forest and Langlade Counties, Wisconsin, details an archaeological survey of approximately 400.65 hectares (990 acres). The survey was conducted in relation to anticipated developments by Exxon Minerals Company. Prefield and field investigations resulted in the discovery of 10 previously unrecorded sites. Nine of these were historic and one prehistoric.

Preliminary evaluations were provided for all of the sites encountered and management recommendations were provided for each site. Two prehistoric sites (one previously reported) were subjected to test excavations. The results of these investigations confirmed that 47-Fr-121 and 47-Fr-143 are eligible for the National Register of Historic Places. However, it should also be noted at the outset that neither 47-Fr-121 nor 47-Fr-143 are threatened by the proposed developments.

The prehistoric sites investigated reflect a single component Lakes Phase occupation (Salzer 1969,1974) with relatively dense concentrations of diagnostic artifacts and, more importantly, three distinct concentrations of apparent storage pits whose origins are still visible on the surface, a unique phenomenon.

TABLE OF CONTENTS

Table of Contents (continued)

LIST OF FIGURES

List of Figures (continued)

List of Figures (continued)

LIST OF TABLES

LIST OF APPENDICES

(Appendices under separate cover)

INTRODUCTION

On July 17, 1981, GLARC Inc. entered into a contractual agreement with Exxon Minerals Company to conduct an archaeological survey of areas being considered for development at the Crandon Project Site in Forest and Langlade counties, Wisconsin (Figure 1). The objectives of this survey were to locate, and assess through preliminary evaluation, archaeological sites which may be affected by the proposed development. As such, the work performed under this contract supplements the archaeological investigations conducted by Beloit College in 1977 and 1978 (Salzer and Birmingham 1978).

The work executed under this contract is designed to fulfill agency requirements for compliance with the various state and Federal legislative mandates relating to historic and archaeological preservation and conservation. Specifically, these efforts were directed to comply with the National Environmental Policy Act of 1969 (NEPA), Executive Order 11593, 36 CFR 63, and the National Historic Preservation Act of 1966.

The investigations were initiated and directed by Dr. David F. Overstreet, Principal Investigator. Ms. Linda A. Brazeau served as both field and laboratory supervisor and assisted with report preparation under the direction of the Principal Investigator.

The investigations consisted of three primary phases: prefield research, field work, and laboratory analysis and report preparation. Prefield archive and literature search commenced in late July of 1981 and was conducted by the

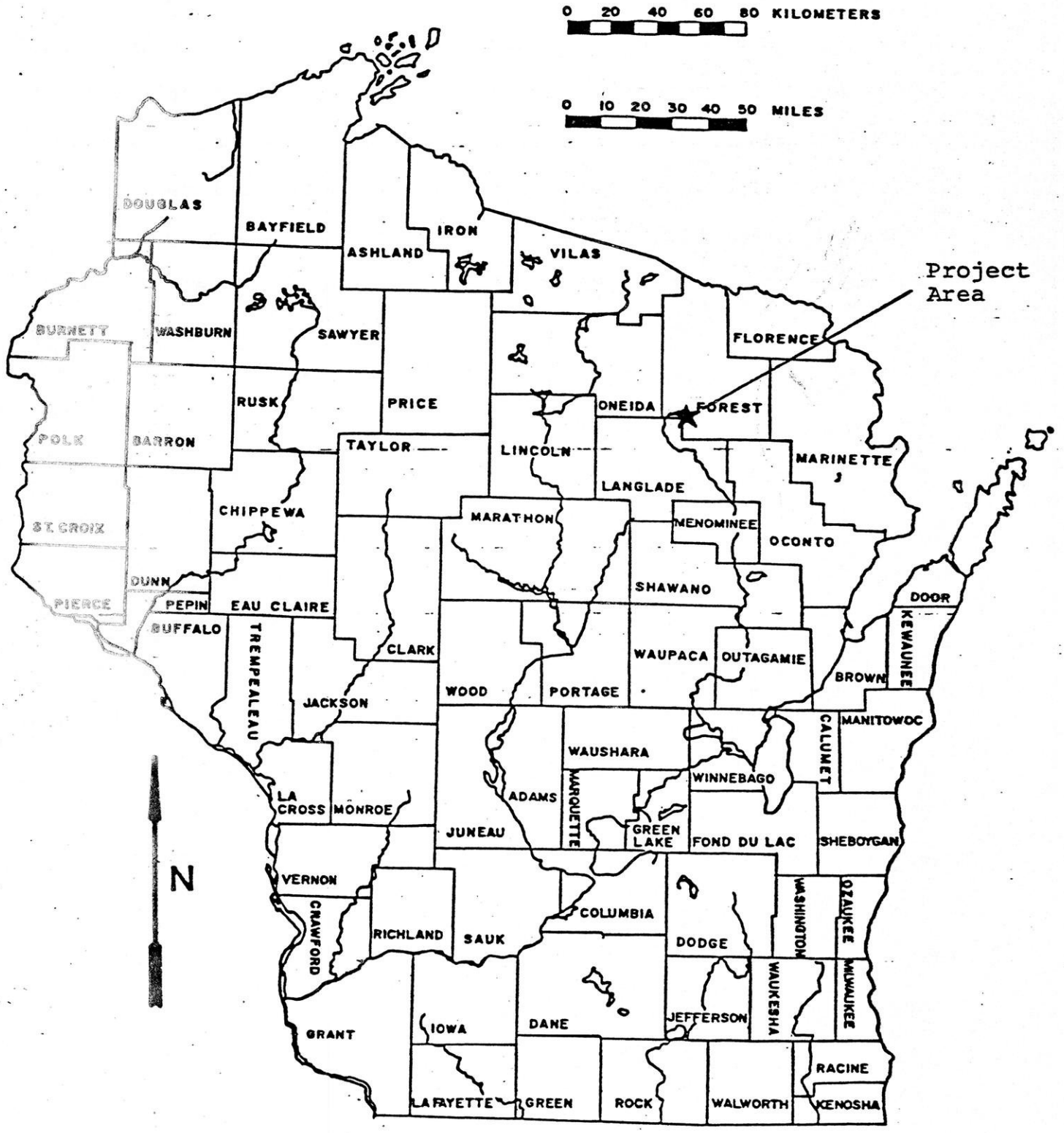


Figure 1: Project area location, Forest and Langlade Counties.

Principal Investigator and field supervisor. Previously reported archaeological sites and historic sites in the region were pursued during this search. From August 1 through October 30, 1981, personnel from Great Lakes Archaeological Research Center, under the direction of the field supervisor, conducted archaeological field investigations involving both inventory and evaluation procedures.

This report contains relevant background information concerning the Crandon Project area and the environmental setting, a discussion of the methods and techniques of investigation, the results of investigation including prefield and field research and a description of cultural resources identified. The report concludes with a statement on the significance of and recommendations for protection and management of these cultural resources.

Objectives

The primary objective was to locate and assess the prehistoric and historic archaeological sites encountered during the course of survey of parcels designated for potential impact as a result of proposed developments at the Crandon Project Site.

A second objective was to provide Exxon Minerals Company with recommendations regarding the preservation and conservation of cultural resources identified. These recommendations relate to protective and/or mitigative measures which may be adopted by Exxon Minerals Company in compliance with previously cited legislative mandates.

Project Area

The project area encompasses 10 parcels of land totaling 1040 acres in Forest and Langlade Counties. These 10 parcels were arbitrarily designated as Parcels "A" through "J" by the field supervisor for reference (Figure 2). However, due to project modifications the size and configuration of the project area was reduced. Following modifications, the survey area encompassed eight parcels of land totaling approximately 990 acres and thereby eliminating parcels A,J, and a portion of H (see hatched area in Figure 2) for proposed survey.

The eight parcels designated for survey adjoin the three parcels surveyed by Beloit College in 1977 and 1978 (Salzer and Birmingham 1978).

Specifically, the project area is located in portions of the following sections (Figures 3, 4, and 5): Sections 1 and 2, T34N, R12E, Langlade County; Section 36, T35N, R12E, Forest County; Sections 4 and 5, T34N, R13E, Forest County; and Sections 20, 29, 31 and 32, T35N, R13E, Forest County.

A discussion of the archaeological investigations conducted in each of the survey parcels is included in the Results of Investigation, Field Research.

Environmental Setting

The project area is located in the southwestern section of Forest County and in the northeastern section of Langlade County. Specifically, the survey areas are parcels contiguous with the units surveyed by Beloit College in 1977 and 1978.

Please refer to pocket map.

Figure 2: Configuration of survey parcels.

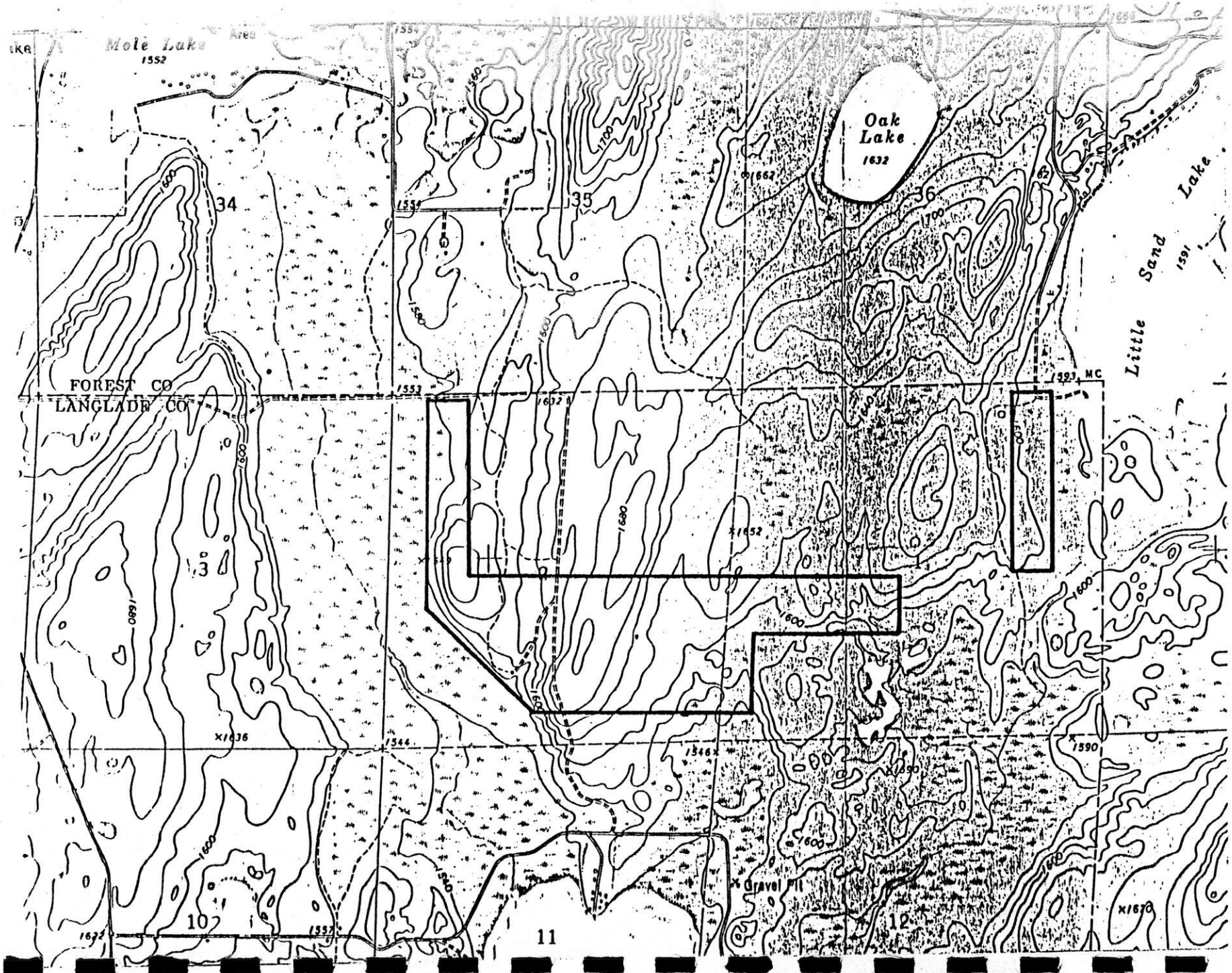


Figure 3: Project Area, Sections 1 and 2, T34N, R12E, Langlade County.

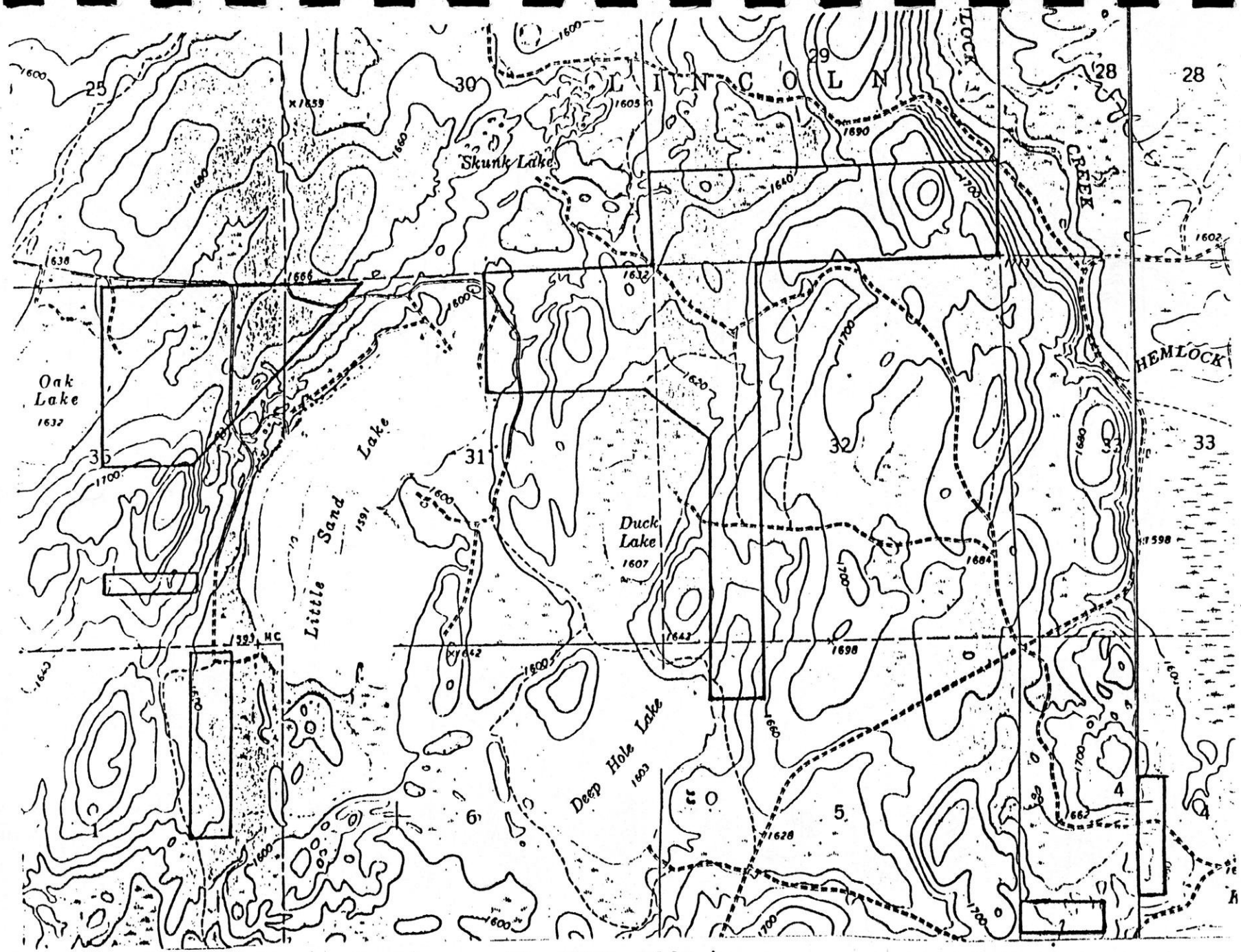


Figure 4: Project Area; Sections: 36, T35N, R12E
4 and 5, T34N, R13E
29, 31 and 32, T35N, R13E.

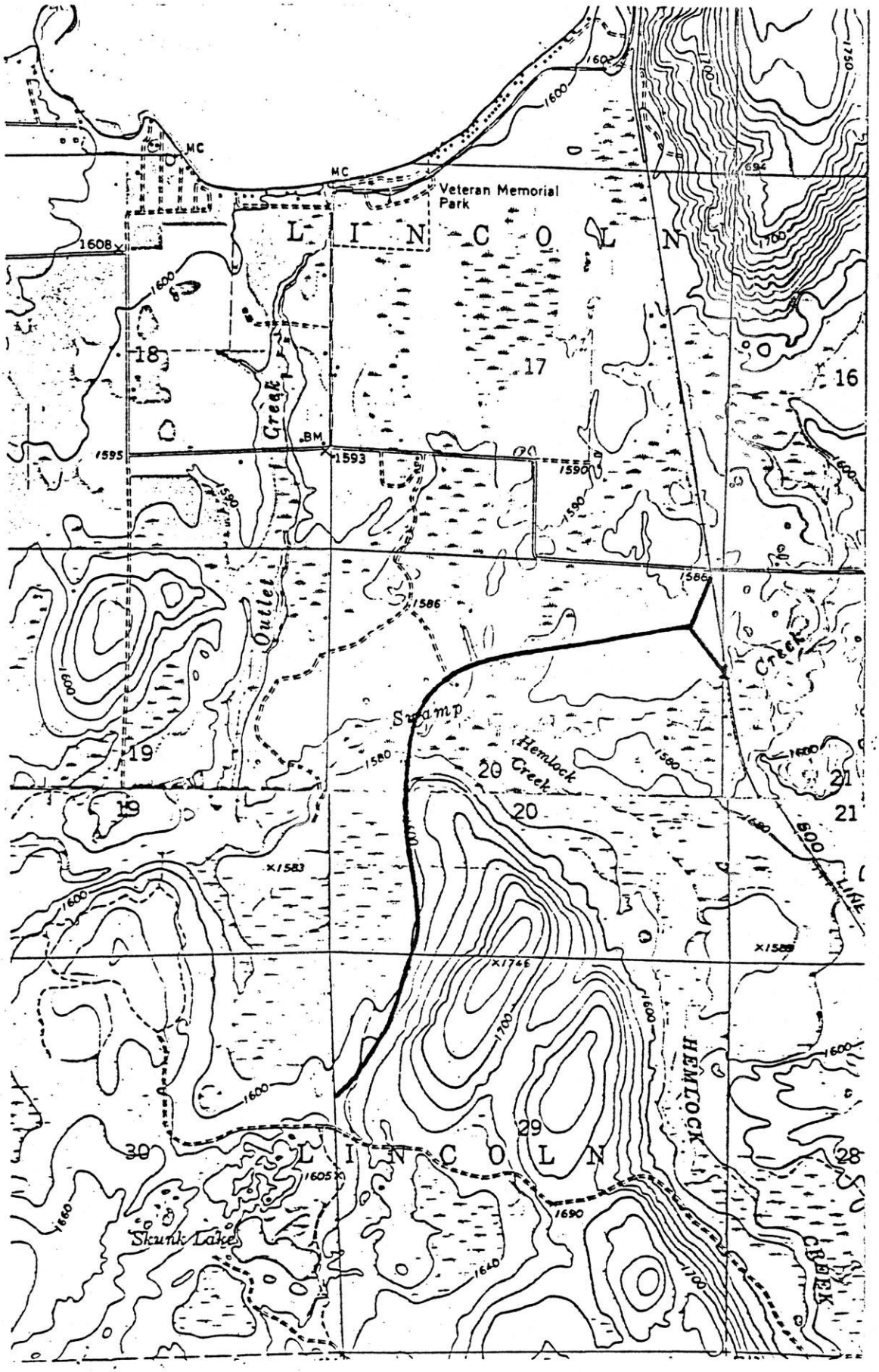


Figure 5: Project Area, Sections 20 and 29, T35N, R13E.

Inasmuch as a comprehensive description of the physical setting of the Exxon mining area is provided by Salzer and Birmingham (1978), a cursory review is presented here to provide an environmental framework for these archaeological investigations. Specifically discussed are those environmental features which affect archaeological survey methods and techniques.

While the contemporary environment of the project area does not necessarily represent the same environment which sustained prehistoric populations, a discussion of the physical setting serves, as Salzer and Birmingham suggest:

> to provide us with a crude tool to measure the former environmental conditions in which man operated . . . . Those factors of environment which serve to distinguish this area from others in the state in the present, probably also served to distinguish it in the past (1978:7).

Thus, the ensuing discussion not only provides an environmental framework for these investigations, but also serves as a framework for interpreting environmental features which played an integral role in aboriginal occupation of the area.

Geology

The project area is situated within the peneplain of the Northern or Lake Superior Highland physiographic province (Figure 6). According to Martin (1932:367-428), and Paull and Paull (1977:71-96), the Northern Highland is the product of a series of physically altering processes which included volcanism, inundation, uplift, sedimentation, and erosion. As such, prior to the formation of the peneplain, the region

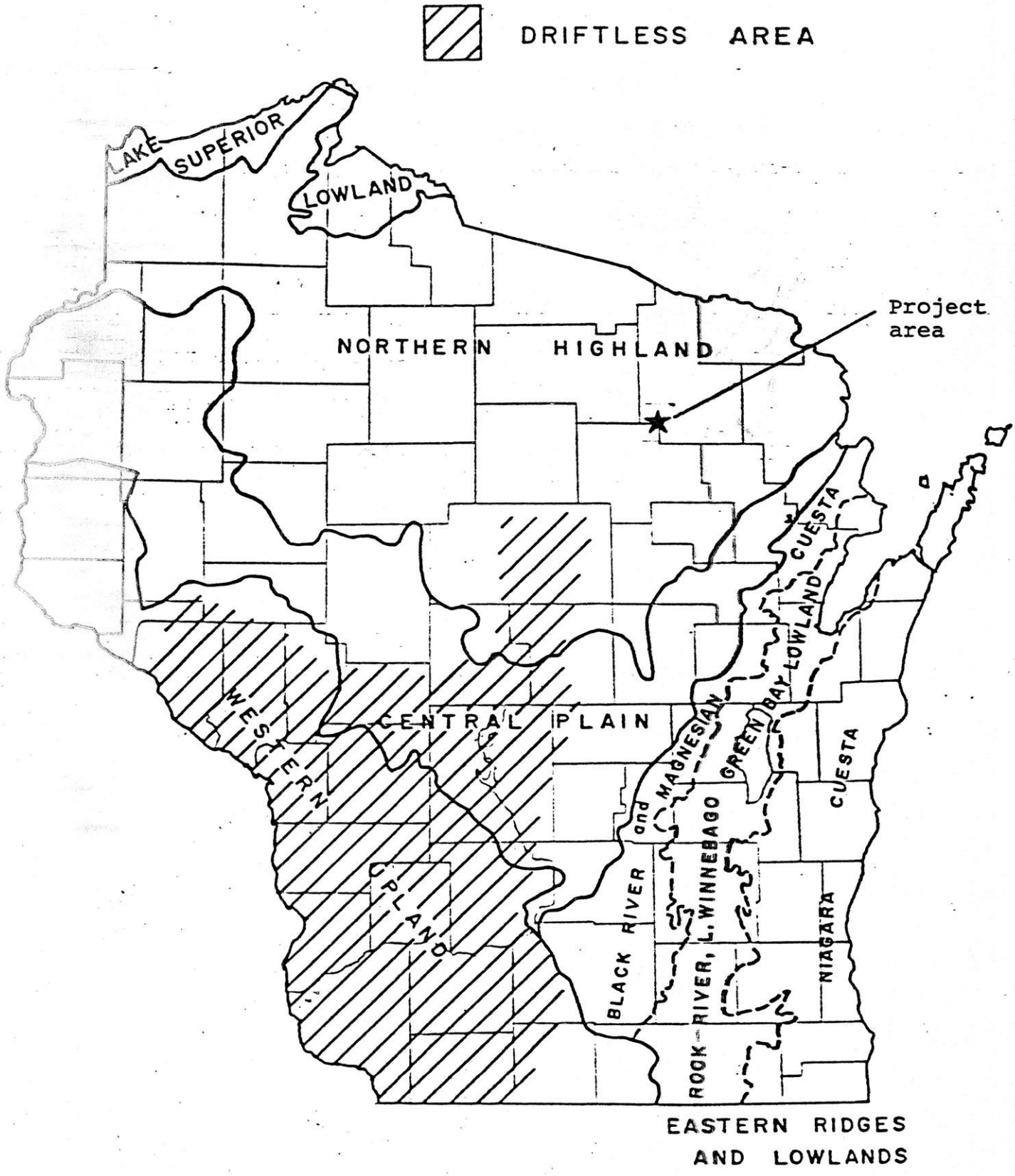


Figure 6: Physiographic Provinces of Wisconsin
(after Martin 1932)

exhibited mountainous topography that was created by volcanic action and that was subsequently modified into a plain through sedimentation and extensive erosion occurring over a considerable period of time.

The bedrock is a part of the pre-Cambrian Laurentian Shield and is presently known to be buried as deeply as 820.2m (250 feet) below deposits of more recent origin. The bedrock is composed of undifferentiated igneous and metamorphic rocks including granite, gneiss, schist, gabbro, diorite, rhyolite, and local concentrations of quartz, slate, iron, and quartzite. Also, as discussed by Paull and Paull (1977), copper deposits are incorporated in the bedrock.

> This is Copper Country, where deposits of native copper occur in greater abundance than anywhere else in the world. The mineral bonanza here was discovered, mined, and utilized nearly 4000 years ago . . . (1977:91).
>
> The native copper deposits occur in the Middle Keweenawan Portage Lake Series . . . . This formation, with at least 400 individual lava flows and some interbedded conglomerate, dips an average of 40 degrees northwest toward the center of the Lake Superior syncline. Although the relics of mining activity extend along the outcrop belt of the Portage Lake for 90 miles, almost all of the copper production came from a 30 mile stretch from Painesville to Eagle River (1977:92).

The significance of the regional lithology lies in the availability of these materials to aboriginal populations for tool manufacture. It is probable, as Salzer and Birmingham (1978) suggest, that bedrock was a secondary source of raw material for lithic tools and that the primary source was glacial debris:

> In fact, the most likely sources of raw material for stone industries comes from the various rocks

> which were incorporated in the glacial deposits and currently are exposed in the bottoms and banks of streams and rivers (1978:8).

The predominant lithic resources utilized include quartz derived from granite bedrock and available in great quantity as glacial or river cobbles, quartzite from pre-Cambrian outcrops, and various fine grained igneous rocks from the Huronian iron deposits in Florence County and the Keweenaw iron range in the Upper Peninsula of Michigan. Copper, acquired as float copper or mined aboriginally, was an important material utilized in aboriginal tool manufacture. The importance of this metal to the prehistoric occupants of the region is emphasized by Drier and DuTemple (1961) who report that the prehistoric people were well aware of the presence of copper and "we now know that practically no mine operating or having been worked was not without its prehistoric workings" (1961:28).

Worthy of note is that the material preferred by aboriginal tool makers throughout eastern North America, chert, is not contained in the local bedrock deposits. It probably was transported into the area from the closest available source which outcrops near Monico, in Oneida County (Murskey, personal communication), approximately 32km (20 miles) west of the project area (Venditti 1973).

Topography

The contemporary topography of the project area is the product of glaciation. Northeastern Wisconsin was subject to three major stages of glacial advance during the Pleistocene. The final state, or Wisconsinan, had the most pronounced effect

on the area. This was the result of several fluctuations in the position of the ice front of the Langlade lobe of the Wisconsinan. These fluctuations, or substages, of the Woodfordian (ca. 22,000 to 12,500 years ago) figured prominently and structured the physiography of the area. Thus local topography is primarily controlled by glacial deposits overlying glacially eroded bedrock. Simpkins et al (1979) discuss the nature of the topography:

> Major bedrock obstructions do not play a role in the formation of landforms in the Langlade lobe but minor bedrock highs have local effects on the glacial forms in Forest County.

They further describe the topographic features of glacial origin:

> When glacial ice stood at the Summit Lake moraine, most of Forest County was presumably within the "active zone" of the ice sheet (Sugden and John 1976) and landforms of the drumlin zone (Fig. 2)(Nelson and Mickelson 1977) were produced. These elongate hills are concentrated in drumlinized uplands which are common throughout the county.
>
> Two major landforms other than the drumlins characterize the landscape in Forest County: 1) ice-contact features and 2) landforms composed of outwash. These landforms, which were deposited near the retreating ice margin, have step-wise relationships to each other in the landscape. Ice contact features, such as kame terraces, often abutt the drumlinized uplands and are always at elevations intermediate between the drumlin summits and outwash in the valley floor (Simpkins et al 1979).

Characteristic in the project area then, is a glacially produced irregular topography where local relief is variable and mean elevations range from 472.5 to 539.6m (1550 to 1770 feet) above sea level.

While it provided a readily available source of raw ma-

terial for aboriginal stone tool manufacture, glaciation eliminated any evidence of prehistoric occupation prior to 12,500 years ago in northeastern Wisconsin. But as Salzer and Birmingham (1978) suggest:

> For the present, however, we have no evidence to indicate the presence of prehistoric man in northeastern Wisconsin prior to or during the Valderam (Salzer 1974a), although big game hunters are known to have occupied the southern one-half of the state at that time (1978:10).

Soils

The soils of the project area have developed from glacial till and drift, and organic deposits. Hole (1976) has noted that "since glaciation, soils have formed from these materials under shifting continential climatic zones and biotic communities" (1976:46), with the biotic factors being the most significant influence in soilscape formation.

Mineral soils developed over glacial drift generally occur in upland settings and organic soils occupy low, wet swampy areas and shallow depressions and kettle holes in the uplands. Sand and gravel soils are characteristic of glacial outwash deposits and clay and silty soils are typical in areas of glacial till. Peats and mucks are associated with lowland organic deposits. According to Hole (1976), the soil associations within the project area include:

> Kennan and associated loams over brown sandy glacial till. a. The hilly to undulating Kennan, Iron River, and Pence loams, Vilas sand, and peat, association. b. The rolling to undulating Kennan, Iron River, and Pence loams, and peat, association.

In the project area mor soils composed of raw litter and humus mat are found under hemlock stands and mull soils com-

posed of mineral soil and incorporated humus are typical under stands of sugar maple. Additionally, boulders and rock are distributed over the land surface and incorporated in the soil.

Drainage

The drainage pattern of the project area is typical of a glaciated region. Characteristic of the glacially deranged pattern is the abundance of rivers and streams, lakes, swamps, and marshes. Lakes and swamps were formed as kettle holes, depressions in ground moraines, damming of preglacial drainage by debris, and depressions scoured in bedrock.

The lakes and swamps provided a habitat for wild rice (Zizania aquatica) which repeatedly was exploited as a food resource by aboriginal populations (Jenks 1900).

Furthermore the waterways undoubtedly served as routes of transportation and communication for both prehistoric and historic occupants of the area. Transportation routes were probably established northwest to the Highland Lake district, and to eastern and southcentral Wisconsin via the Wolf and Fox River systems.

Vegetation

According to Webb and Bryson (1972) and Webb (1974), northern Wisconsin has experienced several major climatic changes over the past 10,000 years which have affected the vegetation.

Gish (1976) conducted a palynological study which presents

a model of post-Pleistocene forest succession that is applicable to the project area. Data used to support her regional vegetational model were primarily derived from pollen samples taken at the Robinson site (47-On-27) on Lake Nokomis and substantiated with samples from other sites in the Highland Lakes District. Based on these data Gish has arrived at the following scheme of forest succession.

During the period from 18,000 to 9000 B.C., land which was exposed as the Wisconsinan glacier retreated was colonized by a boreal-conifer forest dominated by white spruce (Picea glauca) and balsam fir (Abies balsamea). This forest community was established on a periglacial herb tundra dominated by grass and lichen. Between 9000 and 7800 B.C. a climatic change ushered in a warming trend. During this period increasing numbers of white pine (Pinus strobus), red oak (Quercus borealis), and white birch (Betula papyrifera) brought an end to the former community. From approximately 7800 to 6400 B.C. continued warming and dryness resulted in an increase of jack pine (Pinus banksiana) and/or red pine (Pinus resinosa) at the expense of spruce. Between 6400 B.C. and 1500 B.C. increased precipitation gave rise to the dominance of white pine, birch, and hemlock (Tsuga canadensis). As a result of natural succession of species, sugar maple (Acer saccharum) gradually replaced white pine in areas and thus established the general vegetational pattern witnessed by the first European immigrants.

The project area is situated in the northern conifer-hardwood forest (Figure 7). According to Curtis (1959) three

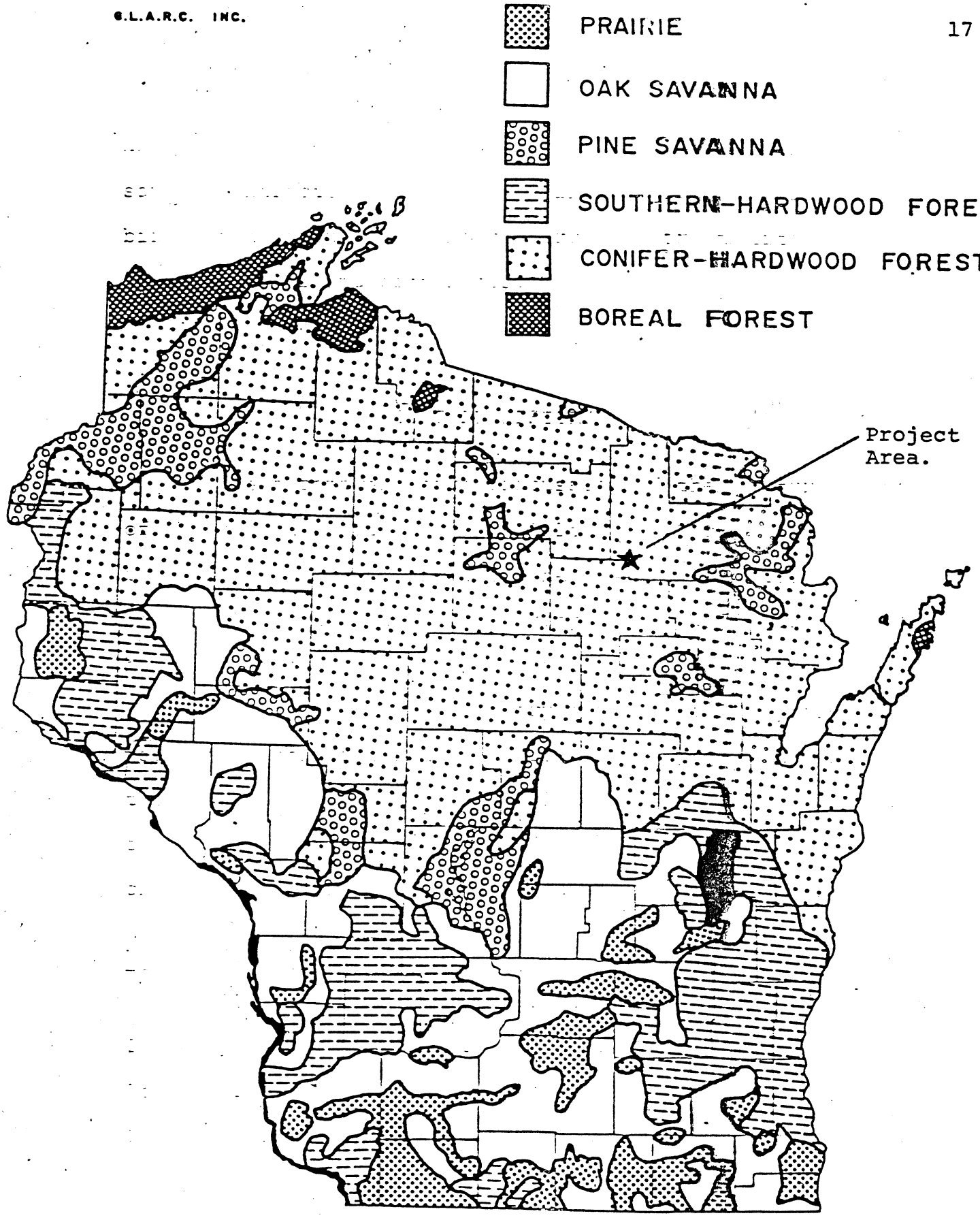


Figure: 7 Major Plant Communities of Wisconsin *circa* 1840 (after Curtis 1959)

distinct communities compose the conifer-hardwood forest: the northern mesic forest, the northern xeric forest, and the northern lowland forest. The latter two communities have two recognized segments identified on the basis of species composition reflecting sensitivity to soil moisture content.

The dominant species of the northern mesic forest include sugar maple, yellow birch (Betula lutea), and hemlock. The three dominant arboreal species in the dry segment of the northern xeric forest are jack pine, red pine, and white pine. Less common species in this segment include aspen (Populus sp.) and white oak (Quercus alba). In the dry mesic segment, white pine, red maple (A. rubrum), and red oak are dominant and lesser species include white birch, sugar maple, hemlock and red pine. The two segments of the northern lowland forest are: the wet segment including the tamarack (Larix taricina)-black spruce (Picea mariana)-bog forests and the white cedar (Thuja occidentalis)-balsam fir (Abies balsamea) conifer swamps, and the wet mesic segment dominated by the black ash (Fraxinus nigra) yellow birch-hemlock hardwood swamps (Curtis 1959:221).

These plant communities provide various habitats within which exist abundant floral and faunal resources that were potentially exploited by aboriginal occupants of the area.

Reconstructions of presettlement vegetation utilize data derived from the original field notes and plat of the U.S. land surveyors (see Appendix A for example). Prior to the logging era and white settlement, the project area was contained within the northern mesic forest. Two of the dominant species of

this community, maple and birch, were sources of raw material known to have been exploited by historic Indian groups. Maple sap was extracted and processed into sugar by Indians and birch bark was used in the construction of utilitarian items such as canoes and containers.

CULTURE HISTORY

Since a comprehensive discussion of the culture history of the region is contained in Salzer and Birmingham (1978), a brief review as summarized in the Culture Resource Overview of the Nicolet National Forest (Bruhy et al, 1979), is presented here as a frame of reference for the reader.

The ensuing culture history employs a temporal-cultural model of reconstruction which is generally accepted in both the professional and avocational communities. This model outlines the proposed nature of human adaptation to the changing environment as witnessed at regionally known sites.

PaleoIndian Period

While early man had emigrated to the New World at least by 20,000 years ago, it is likely, based upon recent archaeological investigations that man did not occupy the Upper Great Lakes until the close of the Pleistocene.

In keeping with traditional archaeological terminology the earliest occupants of the Upper Great Lakes region are referred to as PaleoIndians. Archaeological evidence suggests that

PaleoIndians were nomadic bands of hunters and gatherers whose subsistence was dependent initially on Pleistocene megafauna, including mammoth, bison, and caribou; later, smaller game as well as wild flora were utilized.

A recognized difference in the material culture of these people has resulted in an Early and Late PaleoIndian classification. It is the Late PaleoIndian or Aqua-Plano (Quimby 1960) tradition that represents the first human occupancy of the Highland Lakes district. This occupation is associated with climatic and concomitant floral and faunal changes. In the Highland Lakes District, Salzer (1969, 1974) has defined, on the basis of recovered diagnostic lithic material, two sequential late PaleoIndian phases: the Flambeau Phase, relatively dated between 7000 and 6000 B.C., and the Minocqua Phase dated between 6000 and 5000 B.C.

Archaic Period

While evidence suggests that Late PaleoIndian occupation in the Highland Lakes District may have persisted until as late as 5000 B.C., dramatic change in material culture appeared in some areas by 9000 B.C. Change in the tool assemblage reflects a shift in subsistence strategy in response to change in floral and faunal associations caused by milder climatic conditions. Stylistic variation in the Archaic tool assemblage provides the basis for subdivision of this period into Early, Middle, and Late stages.

Archaic populations consist of nomadic bands of hunters and gatherers who seasonally exploited a diverse set of re-

sources. The earliest known Archaic occupation in northern Wisconsin has been identified by Salzer (1969, 1974) as the Squirrel River Phase. This occupation has been tentatively assigned to the period from 6000 to 5000 B.C. Based upon material recovered from a single site it has been suggested (Salzer 1974) that a generalized pattern of exploitation of a wide range of species, including small and large mammals, fish, birds, and varied flora, was practiced by this occupation.

Late Archaic manifestations in the region provide evidence for increased population as well as continued cultural diversity. Prominently associated with the Late Archaic are the development of elaborate ceremonial mortuary practices and the appearance of a copper tool industry. This cultural pattern which developed by 2000 B.C.has been referred to as the "Old Copper Culture." Sites identified as such areprimarily cemeteries where multiple interments are accompanied by annealed copper tools such as crescents, awls, knives, and ornaments. Late Archaic habitation sites have been identified by Salzer (1974) and labeled Burnt Rollways Phase.

Woodland Period

The transition from Archaic to Woodland periods most likely occurred over a prolonged period of time. The Woodland period (1000 B.C. to 400 A.D.) is characteristically associated with the appearance of ceramic technology.

In northern Wisconsin the earliest Woodland occupation is the Nokomis Phase dated to the first two centuries A.D. (Salzer

1969,1974). Ceramic assemblages associated with this phase include both Early Woodland Black Sand pottery as well as the typically diagnostic Lake Nokomis Trailed pottery. According to Salzer the Nokomis Phase represents "an increase in aggregate population size, more intensive utilization of the area, a heavy reliance on trade for exotic ceramic and lithic raw material, and an important copper industry" (1974:49). Evidence suggests that Early-Middle Woodland populations in northern Wisconsin were composed of groups of extended families practicing a fishing-hunting and gathering mode of subsistence at seasonally occupied villages primarily along rivers, and in some cases, lakeshores.

Similar to the Nokomis Phase is the North Bay culture (Mason 1966) of the Green Bay-Door County area of northeastern Wisconsin.

The adaptive patterns of these cultural manifestations have been described by Fitting (1970:98) as "Lake Forest Middle Woodland" and identified by Mason (1967) as "northern tier" Middle Woodland, thus differentiating it from the Hopewellian "southern tier" Middle Woodland complex in the Lower Great Lakes region.

During the Late Woodland period, circa A.D. 600 to 1600, two cultural developments occur in northern Wisconsin. The Heins Creek culture (Mason 1966) developed from the North Bay culture in the Green Bay area.

The Nokomis phase evolved into the Late Woodland development described as the Lakes Phase (Salzer 1974). This cultural manifestation is pertinent to this study. Diagnostic

artifacts serving to identify Lakes Phase include small triangular projectile points fashioned primarily from quartz, and cord-impressed pottery with cord-wrapped stick decoration. Lakes Phase developments begin around 200 A.D. and continue until approximately 1400 A.D. Salzer provides the following description of Lakes Phase sites:

> Sites with components of this phase are numerous and include habitation units varying greatly in size and abundance of debris. Some of the components cover less than an acre while others range up to more than forty acres in extent. Many sites have thick, rich midden accumulations, while others consist only of a thin scatter of debris. Although some 35 components can be identified among the 82 sites located, 11 of the 12 sites tested produced Lakes Phase materials. Eighty per cent of the known sites are found in lacustrine situations, with eastern lakeshores, lakeshores near outlets, peninsulas, and islands being preferred (1974:49).

With respect to Lakes Phase subsistence and settlement it is likely that these populations practiced adaptive patterns similar to those described as early historic Chippewa patterns. The Chippewa coalesced in large settlements during warm seasons when resources were readily available and dispersed into smaller groups during cold seasons when food resources decreased in availability. Given the similarity of subsistence strategies between the Lakes Phase populations and the Chippewa, i.e., fishing, hunting and gathering, coupled with the variability in size of contemporaneous Lakes Phase sites, it can be suggested that larger Lakes Phase sites represent warm season settlements and smaller sites represent cold season settlements.

According to Salzer the Lakes Phase in northern Wisconsin terminated about A.D. 1400:

> The available data suggest that the Lakes Phase peoples emigrated from the north-central Wisconsin area at some time around A.D. 1400-1600, and it is likely that they moved to the shores of Green Bay and in some manner replaced the local Heins Creek Culture (1978:17).

Another cultural complex of the Late Woodland period is the Oneota, or Upper Mississippian manifestation. This complex developed in the southeastern section of the state. The occurrence of Oneota grit or shell-tempered pottery at Lakes Phase sites has been interpreted as the result of trade (Salzer 1974). It is likely that Oneota occupation in the region is not intense because Oneota adaptive patterns were not suited to the environment of northern Wisconsin. Oneota subsistence is based on mixed hunting, fishing and maize horticulture. The latter activity was restricted by poor soils and a short growing season. The occurrence of Oneota in northern Wisconsin has also been addressed by Overstreet (1976) who believes that major Oneota villages dispersed hunting and trading parties that interacted with non-Oneota groups.

Historic Period

The Historic period began with the contact between Aboriginal populations and European missionaries and traders which in northern Wisconsin occurred by the middle of the seventeenth century.

The Fur Trade Era which began during the first quarter of the seventeenth century not only promoted contact between Europeans and aboriginal populations, but also generated geo-

graphical displacement and sociopolitical alignments amongst northeastern Woodland Indian groups. Specifically, as a result of the Iroquoian attempt at domination of the fur trade, several Lower Great Lakes tribes emigrated into the Upper Great Lakes region. Joining the native Wisconsin tribes--Winnebago, Menominee, and Eastern Sioux--were the Huron and Ottawa, Miami, Peankashaw, Wea, and associated groups; Kickapoo, Mascoutin and Kitchigame; Fox and Sauk; Illinois; Chippewa, Potawatomi; and later the Brothertown; Stockbridge-Munsee; and Oneida.

Throughout the seventeenth and eighteenth centuries continual movement of these groups in Wisconsin was associated with sociopolitical alignments of tribes in response to the French-British power struggle for control over the fur trade.

By the second decade of the nineteenth century, America controlled the fur trade. American policy toward Indians involved treaties establishing tribal reservations. During the first half of the nineteenth century the American government continually defaulted on these treaty agreements. By 1850 Indians in Wisconsin were either evicted to reservations west of the Mississippi River or confined to small tribal reservations.

While the logging era in Wisconsin began as early as the 1830s, intensive logging activity in northern Wisconsin did not occur until after the Civil War. Initial exploitation of the timber resource was limited to pine. Some of the best stands of white pine in the world were found in northern Wisconsin. The initial logging activities were restricted to timber adjacent to lakes and streams which were used as a means

of transporting the pine logs to the mills. Some of the first lumber companies active in the area were Fox and Helms, Hurley and Burns, Edwards and Clinton, and Menominee Bay Shore.

The industry generated economic opportunity and gave rise to the settlement of northern Wisconsin. Concomitant with industrial and economic growth was the influx of European immigrants.

Railroads established by the turn of the century allowed full exploitation of timber resources. At the time numerous lumber firms, such as Holt Company, Oconto Company, Paine Lumber Company, Sawyer-Goodman, and Connor Company, were operating. By the end of the first quarter of the 20th century the pineries had been exhausted and hardwoods were exploited. The logging industry realized a decline. With this decline the area witnessed an influx of settlers lured by land speculators who offered to sell parcels of stumpland or cut-over as prime farmland. But, as many of these settlers realized, farming proved to be an economic disaster in this area since the land was generally unproductive, markets were inaccessible, and transportation was poor.

METHODS AND TECHNIQUES OF INVESTIGATION

The methods and techniques employed during the course of archaeological inventory and evaluation vary with regional and local conditions, and reflect the specific orientations of a particular archaeologist. The investigations carried out under this contract are commensurate with the established

professional standards and agency requirements for compliance to items of both Federal and State legislation relating to historic and archaeological preservation and conservation. In Wisconsin, these standards and requirements are contained in the document approved November 1980 by The Wisconsin Archaeological Survey and by the Office of Historic Preservation, State Historical Society of Wisconsin, entitled "Wisconsin Archaeological Survey Guidelines for Conservation Archaeology in Wisconsin."

In this case the investigations were conducted in two distinct phases: prefield research and field investigations. Each phase had specific objectives and required distinctly different methods and techniques.

The ensuing discussion details the methods and techniques employed in each phase of investigation.

Literature and Archives Review

Pre-field research entailed a literature and archives search. A review of the literature, as well as the archives and file systems, served to both update and contribute to the information contained in the Salzer and Birmingham 1978 report.

Published literature sources which were consulted included: The Wisconsin Archeologist, a quarterly journal which has been continuously published since 1901; The Wisconsin Magazine of History, the journal of the State Historical Society of Wisconsin; The Wisconsin Historical Collections which consist of 20 volumes published between 1903 and 1920; Bulletins of

the Public Museum of the City of Milwaukee, some of which provide reports on archaeological investigations in the region; and other non-serial publications such as local and county histories, and regional prehistories. The latter sources are referenced in the appended bibliography.

Unpublished sources which were reviewed are represented in four different formats: serial entry file systems; map files; manuscript files, and survey reports.

Two serial entry file systems were consulted. The first file system is the Wisconsin Archaeological Site Codification File housed in the Office of the State Archaeologist at the State Historical Society of Wisconsin. This file system represents an inventory of reported prehistoric and historic sites. The site file cards contain locational and descriptive data, as well as information regarding the location of collected cultural material and literature references. Entries in this file date from the middle nineteenth century and are continually added. The second serial file consulted is the Historic Preservation Inventory File housed in the Historic Preservation Division of the State Historical Society of Wisconsin. This file system lists structures which have been identified as possessing architectural or historical significance as well as archaeological sites.

Four map files were examined: the Charles E. Brown Archaeological Atlas; the Bernstein map file, the Trygg map file, and the original land survey records and maps. The Charles E. Brown Atlas records on county plat maps the general locations of prehistoric and historic sites which were

reported to Brown during his long tenure at the State Historical Society of Wisconsin and as editor of The Wisconsin Archeologist. In this map file, sites are identified as villages, camps, workshops, pictographs, sacred springs, garden beds, corn hills, mounds and mound groups, Indian trails and rockshelters. The Bernstein map file consists primarily of data obtained from original land survey records but also includes information from local oral traditions and documented histories and from recent publications. The Trygg map file constitutes a composite map of United States Land Surveyor's original plats and field notes. These maps indicate the year in which the township survey was conducted as well as improvements and features such as mills, houses, buildings, Indian sugar camps, agricultural fields, and trails and roads. As such, these maps summarize the observations of the government land surveyors. The shortcomings of this file reside in the variable observations made by particular surveyors, and as well in the small scale, 6.35mm (0.25 inch) equal to 1.6km (one mile), which prohibits detail. The original land survey records and maps, copies of which are housed at the State Historical Society of Wisconsin, provide detailed information on presettlement vegetation and topography.

Manuscript files researched include the Charles E. Brown manuscript file which consists of approximately 50 years of correspondence and reports regarding archaeological and historical sites. These manuscripts are organized by county and are housed in the Office of the State Archaeologist. In this same office is a county file system which contains reports,

photographic records and correspondence some of which details the results of test excavations conducted by the staff of the State Historical Society in conjunction with the highway archaeological program.

Unpublished survey reports include those which have been performed under contract or grant for Federal, State, and municipal agencies, or for private industry. A bibliography of contract reports is on file in the Office of Historic Preservation.

Finally, the local repositories visited were Forest and Langlade County Courthouses. Documents consulted at these repositories include local government records, such as tax rolls and land deeds, as well as corporate records.

Field Inventory and Evaluation

Inventory

The methods and techniques of archaeological inventory are determined primarily by ground cover conditions, i.e., the amount of exposed ground surface and/or vegetation cover. In this case the designated survey areas, with one minor exception, exhibit heavy vegetation cover. In an effort to ensure both systematic and adequate coverage of the designated parcels, three inventory techniques were implemented during the course of field survey. The following techniques were used as locational devices with which to ascertain the presence or absence of archaeological deposits.

1. Shovel Testing

Shovel testing or shovel probing is a simple subsurface

technique employed in areas where the ground surface is obscured by vegetation. Shovel probing is a standard, professionally accepted technique and is recognized as such in the Wisconsin state guidelines for archaeological surveys (Wisconsin Archaeological Survey 1980).

Shovel probing has been defined and utilized in various ways by different investigators. Here, shovel probing is defined as the excavation of a small hole, 35 to 45cm (13.8 to 17.7 inches) in diameter to a depth of 45 to 55cm (17.7 to 21.6 inches). In all instances shovel test holes were excavated to a depth sufficient to observe sterile undisturbed subsoil. During the excavation of these shovel probes, the contents of each was passed through 6.35mm (0.25 inch) hardware cloth. This procedure enhances the reliability of the shovel test technique by allowing for close examination of shovel probe contents and recovery of minute artifactual materials which might otherwise be missed. After examination of shovel probe contents, the soil stratigraphy exposed in each hole was noted and it was immediately backfilled.

As agreed upon through the contract governing these investigations, archaeological survey was accomplished by means of shovel testing in a series of transects to provide for maximum coverage of accessible land areas. It was also proposed that intervals between shovel test transects be established at 10m and the direction and distance between transects be maintained with a compass. Furthermore, shovel probes were to be conducted a 10m intervals along each transect. This methodology was open to modification in the event archaeologi-

cal materials were encountered. In that case, close interval sampling was recommended.

Finally, shovel probing was to be conducted in all survey areas not previously disturbed. Visual inspection or reconnaissance (walk-over) survey was proposed for areas previously disturbed and in low, wet areas.

Prior to initiation of shovel testing, the number of transects and the number of probes per transect required for complete survey coverage was calculated for each parcel and/or survey unit. The direction of shovel test transects was maintained with a compass. To prevent cross-cutting transect lines, the first and last transects of a series were marked by flagging the first and last shovel probes. Also, flagging was placed at regular intervals within the last transect as a distance reference between that transect and the first transect of the next series.

During the course of the survey, modification in shovel testing strategy occurred in response to local topographic conditions, drainage, vegetation, and previous impact. Specifically, this modification involved increasing intervals to 15m (49.2 feet) between and/or within transects. It should be noted that 15m (49.2 feet) has been generally accepted as the standard intervals for woodland survey (Midwest Woodland Survey Conference 1975,1977,1978). When the aforementioned conditions precluded shovel probing, visual inspection was conducted. A discussion of the specific survey methodology employed in each parcel is detailed in the following section on Results of Investigation.

Shovel testing procedures were also modified when archaeological materials were encountered. In this case intervals were decreased to provide intensive or "saturation" coverage to determine the nature and areal extent of cultural materials. When a shovel probe produced cultural debris or other evidence, additional probes were excavated in a predetermined pattern around this probe. This procedure involves halving the distance between shovel probes to 5m(16.4 feet). Eight additional probes were placed at 5m intervals from the productive probe in cardinal and intercardinal directions (see Figure 8). If additional material was recovered in these probes, the procedure was repeated until the periphery of the site had been determined.

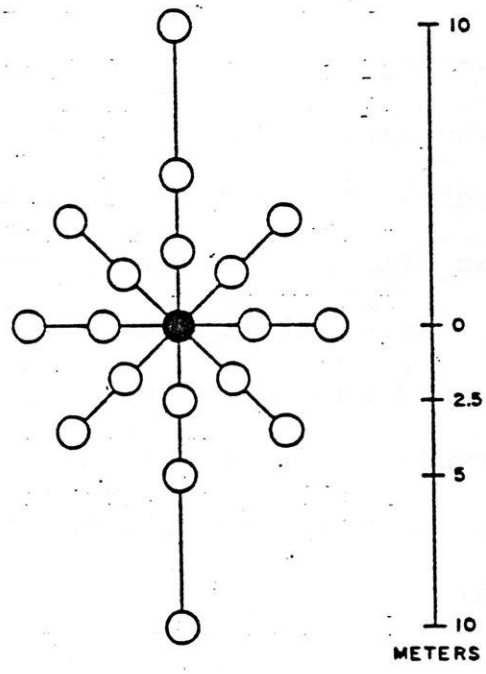


Figure 8

2. Reconnaissance Survey

In areas where topography, drainage, vegetation and previous impact precluded shovel testing, a reconnaissance survey,

as defined in 36 CFR 66, was conducted. Specifically these areas included: (1) swamp, bog, or other poorly drained areas where soil would not pass through 6.35mm (0.25 inch) mesh hardware cloth; (2) areas with a slope in excess of 45 degrees; (3) areas which had recently been clearcut and in which sapling density restricted movement. In this case reconnaissance survey involved a systematic walk-over, or pedestrian survey, wherein portions of the survey areas were subject to visual inspection along the established transects. Visual inspection was directed to surficial features such as foundations, pits, historic debris, and disturbed habitat plant species which may reflect past occupation and/or utilization of a particular area.

3. Surface Collection

This technique was successfully employed only in areas that manifest significant amounts of exposed ground surface such as cultivated fields or erosional surfaces. In this case systematic surface collection involved visual inspection of the exposed ground surface along transects established at 5m (16.4 feet) intervals. This technique was implemented during survey of sections of the potential railroad route which were under cultivation.

Evaluation

Archaeological sites encountered during the course of inventory were evaluated to determine site eligibility in terms of the specific criteria for inclusion on the National Register

of Historic Places. The criteria for evaluating archaeological sites for the National Register of Historic Places are explicit:

National Register Criteria of Evaluation

The quality of significance in American prehistory, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

1. That are associated with events that have made a significant contribution to the broad patterns of our history; or

2. That are associated with the lives of persons significant in our past; or

3. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

4. That have yielded, or may be likely to yield, information important in prehistory or history.

The method of evaluation was the deployment of formal 2x2m (6.6x6.6 feet) test excavation units and a 1x8m (3.38x 26.24 feet) trench. The test units and trench were excavated in arbitrary 10cm (3.94 inch) levels in the case of the former, and as cultural stratigraphy allowed in the latter case. The excavations were conducted with skimming shovels and trowels, and backdirt was passed through 6.35mm (0.25 inch) mesh screens. Soil samples of cultural features were extracted and processed in the laboratory by means of flotation. Charcoal samples were also taken for C^{14} dating. Photographic records as well as planviews and profiles were made of the excavation units. A detailed discussion of the site evaluation is con-

tained in the Results of Investigation, Field Research, Evaluation.

RESULTS OF INVESTIGATION

Archive and Records Review

The results of archives and records review are presented below.

Since the mid-nineteenth century, studies focusing on the prehistory and history of northcentral and northeastern Wisconsin have been conducted. The following discussion provides a brief review of these previous investigations. Consequential to these investigations is an inventory of prehistoric and historic sites. Included in the following summary is an inventory of prehistoric and historic sites which are located proximally and regionally to the project area.

Previous Investigations

As early as the mid-1800s the first site descriptions of Lac Vieux Desert were written by Thomas Cram and Increase Lapham. A century later, an ethnographic study of an aboriginal community living on the shores of Lac Vieux Desert was conducted by Kinietz (1947).

During the first half of the twentieth century several archaeological studies were conducted in northern Wisconsin by both amateur and professional archaeologists. The first archaeological survey in the region was executed by Schumacher and Glaser (1913). Site data were also gathered during this

period through the work of Albright (1902), Winn (1924), Brown (1924), and Barrett and Skinner (1932).

The first extensive archaeological survey, the North Lakes Project, was conducted by R.J. Salzer from 1964 to 1968. As a result of this study, a tentative culture history for the Northern Lakes Region, which includes Vilas, Oneida, Iron, Price, Lincoln, Langlade, and Forest counties as well as Gogebic County in Michigan, was established. In 1968 Salzer expanded his research to include a survey of the Pike, Pine, and Popple rivers (Salzer 1972). In 1973 and 1974 Salzer and Peters (1974,1975) surveyed the shores of 17 lakes located on the Eagle River and Florence Ranger districts of the Nicolet National Forest. As a result of this survey, not only were archaeological survey and site location techniques refined but 70 prehistoric sites and one historic site were located.

Archaeological surveys of several parcels in Florence, Forest, Langlade, Oconto, and Oneida counties were conducted by J. Fitting (1976a,b,c,d,e,f,g) who identified a number of historic sites but did not locate any prehistoric sites.

From 1978 to 1981, GLARC, Inc., conducted several cultural resources study programs for the U.S. Forest Service in the Nicolet National Forest. These programs encompassed both archaeological reconnaissances and archaeological evaluations. The projects conducted by GLARC, Inc., include: an overview of the cultural resources on the Nicolet National Forest (Bruhy et al 1979); an evaluation of three prehistoric sites on Butternut and Franklin Lakes (Bruhy and Wackman 1980); an archaeological survey and evaluation in the Blackjack Springs Wilderness

Area (Wackman 1979); a cultural resource survey of 8498.6ha (21,000 acres) of proposed undertakings (Wackman and Musil 1980); a cultural resource survey and evaluation of two historic sites in the Laona Ranger District (Van Dyke 1980); a cultural resource survey of 21,827.6ha (53,936 acres) of proposed undertakings (Wackman and Birmingham 1981); and an evaluation of a late nineteenth century logging camp (Overstreet 1982). As a result of these investigations, numerous prehistoric and historic sites including Indian villages, trading posts, logging camps, home/farmsteads, and CCC camps have been reported. A numerical breakdown of sites recorded in the Nicolet National Forest during the course of these investigations is included in the following inventory.

Most relevant to this study are the investigations in the vicinity of Exxon's proposed Crandon project conducted by Salzer and Birmingham (1978) which serves as the precursor to this study. Sites located during the course of the 1978 study are also included in the ensuing inventory.

INVENTORY OF PREHISTORIC AND HISTORIC SITES

This inventory includes prehistoric sites, historic aboriginal sites, and historic sites of white settler affiliation. These sites were reported as a result of both the initial investigations conducted by Beloit College, and the investigations conducted in the Nicolet National Forest by GLARC,Inc, cited above. This list represents a partial inventory of sites located in sections with close proximity to the project area and is portrayed in Tables 1 and 2.

Table 1: Prehistoric and Historic Aboriginal Sites

Forest County: T35N, R12 and 13E
T34N, R11, 12 and 13E
T36N, R12E

Source	State Number	Township/ Range	Section	Type
S-3, Brown Atlas	47-Fr-1(?)	T35N,R13E	N½,SW¼, Sec. 11	Mounds
Brown Atlas		T35N,R13E	NW¼,SW¼,Sec. 11	Garden beds
S-4,Brown Atlas		T34N,R13E	SE¼, Sec. 11	Campsite
S-7, Brown Atlas		T35N,R13E	NE¼,SE¼, Sec.22	Campsite
S-8, Brown Atlas		T34N,R13E	SW¼,NE¼, Sec. 28	Campsite
S-9, Brown Atlas		T34N,R13E	SW¼,NE¼, Sec. 28	Enclosure
SHSW	47-Fr-1	T35N,R13E	N½,SW¼, Sec. 11	Garden beds
S-5, SHSW	47-Fr-4	T35N,R13E	NW¼,NW¼, Sec.14	Bolder mortar
S-6,S-10,Brown Manuscripts	47-Fr-5	T35N,R13E	On shared line between Secs. 14 and 15	Chippewa village
S-11,Brown Atlas	47-Fr-6	T35N,R13E	Sec. 22	Chippewa village
S-12	47-Fr-7	T35N,R13E	Sec. 11	Chippewa village
SHSW	47-Fr-8	T35N,R13E	Sec. 2	Cemetery, Potawatomi graves
S-14	47-Fr-9	T36N,R12E	Sec. 17	Village, dance ground
S-15	47-Fr-116	T35N,R12E	NE¼,NE¼,NW¼, Sec. 34	Habitation
S-16	47-Fr-117	T35N,R12E	NW,SW¼,Sec.27	Habitation, cemetery
S-17	47-Fr-118	T35N,R13E	NE¼,SW¼,SW¼ Sec. 6	Mounds
S-18	47-Fr-119	T35N,R12E	SW¼,SW¼,NW¼ and SW¼,NE¼, NW¼ Sec.26	Habitation, cemetery
S-20	47-Fr-120	T34N,R13E	SE¼,NW¼,Sec.20	Habitation
GLARC	47-Fr-121	T35N,R12E	SW¼,NW¼,NE¼ Sec. 36	Habitation
GLARC	47-Fr-143	T35N,R12E	SW&SE¼,NW¼ NE¼,Sec. 36.	Habitation

Table 1 (continued)

Source	State Number	Township/ Range	Section	Type
Langlade County				
S-2	47-Lg-2	T34N,R11E	NW¼, Sec. 11	Cemetery
SHSW	47-Lg-5	T34N,R12E	NE¼, Sec. 34	Mound
S-1	47-Lg-7	T34N,R11E	N½, Sec. 2	Campsite
S-19, SHSW	47-Lg-18	T34N,R12E	SE¼,NW¼, Sec. 14	Mounds
S-21, SHSW	47-Lg-20	T34N,R12E	NW¼,SW¼, Sec. 12	Habitation
SHSW	47-Lg-21	T34N,R12E	NE¼,SE¼, Sec.25	Habitation/ Cemetery
SHSW	47-Lg-22	T34N,R12E	SW¼, Sec. 13	Mounds

Table 2: Historic Sites

Forest County: T35N,R12,13 and 14E
T34N,R13 and 14E

Source	State Number	Township/ Range	Section	Type
Wackman, Birmingham (1981)	Forest Service 09-06-04-038	T34N,R14E	SW¼,NW¼ NE¼, Sec. 3	Logging camp
Wackman, Birmingham(1981)	Forest Service 09-06-05-019		NE¼,SE¼,NE¼ Sec. 1	Logging camp Connor Camp 16 (?)
Wackman,Musil (1980)			Center, Sec. 4	Bay Shore Old Cp Grade
Wackman,Musil (1980)			SE¼,SW¼,SE¼ Sec. 9	Fisher's Camp #2
Wackman,Musil (1980)			SE¼,SW¼,SW¼ Sec. 10	Connor Camp #25
Wackman,Musil (1980)			SE¼,N½W,SW¼ Sec. 20	Connor Camp #18
Wackman, Musil (1980)			SW¼,NE¼,NW¼ Sec. 6	Indian Cemetery
Wackman, Musil (1980)			SW¼,SW¼,NE¼ Sec. 17	Logging Camp
Wackman, Musil (1980)			NE¼,NW¼,NE¼ Sec. 29	Logging Camp (Jones #6)
Salzer, Birmingham (1978)		T35N,R11E	NE¼,NE¼, Sec. 24	Logging Camp
Salzer, Birmingham (1978)		T35N,R12E	SE¼,NE¼,NE¼ Sec. 25	Logging sleigh
CEB Atlas			Sec. 27	Trading post
Salzer, Birmingham (1978)			NW¼ ,NE¼,SE¼ Sec. 35	Popple peeling camp (?)
Salzer, Birmingham (1978)			SE¼,NW¼,SE¼ Sec. 35	Historic midden
Salzer, Birmingham (1978)			NW¼,NE¼,SE¼ Sec. 35	Popple peeling camp
Salzer, Birmingham (1978)			NW¼,NE¼,SW¼ Sec. 35	Clearing

Table 2 (continued)

Source	State Number	Township/ Range	Section	Type
Salzer, Birmingham			Sec. 26	Log building
Salzer, Birmingham (1978)		T35N,R13E T36N(?)	3/4 mile south of NE corner of Lake Metonga	Trading post
Salzer, Birmingham (1978)		T35N,R13E	Sec. 17 & 18	Trading post
Wackman, Birmingham (1981)	Forest Service 09-06-05-504	T35N,R14E	SW¼,NE¼,SE¼ Sec. 13	Logging camp
Wackman,Musil (1980)			NW¼,NW¼,NE¼ Sec. 3	Logging camp Connor Camps #10 and #11
Wackman,Musil (1980)			Sec. 26, running NW/SE	Connor RR grade
Wackman,Musil (1980)			SW¼,SE¼,SW¼ Sec. 29	Logging camp
Wackman,Musil (1980)			NW¼,NW¼,NW¼ Sec. 32	Logging camp-Jones
Wackman,Musil (1980)			NE¼,SW¼,SE¼ Sec. 35	Logging camp-Jones
Wackman, Musil (1980)			N½,Sec. 36	Logging camp Connor Camp #18
Wackman,Musil (1980)			N½,Sec. 36	Logging Camp Connor Camp #20
Wackman,Musil (1980)			SW¼,NE¼,NW¼ Sec. 4	Logging Camp Connor Camp #36
Wackman,Musil (1980)			SE¼,NE¼,SW¼ Sec. 7	Indian fish dam/trail crossing
Wackman,Musil (1980)			SW¼,NE¼,SW¼ Sec. 17	Logging camp
Wackman,Musil (1980)			NE¼,NE¼,SE¼ Sec. 36	Logging Camp, Connor Camp #16
SHSW	47-Fr-113	T35N,R13E	NE¼,SE¼,NW¼ and NW¼,SW¼,NE¼ Sec. 24	CCC Camp

Results of Investigation

Field Inventory

This section relates the results of the field inventory. The discussion includes a thorough description of the physical setting of the specific parcels and survey units, and details the methods and techniques of field inventory. The results of survey in Parcels B through I are discussed and recommendations are offered.

Parcel B

Location and Description

Parcel B encompasses 6.15ha (15.2 acres) in the eastern ½ of the SW of the SE¼,NW¼, and the eastern ½ of the NW¼ and SW¼ of the NE¼,SW¼, Section 4,T34N,R13E, Forest County. This parcel is rectangular and is bisected by a former logging road which trends east-west (Figures 2 and 9).

Physical Setting

Topography

Glacial deposits constituting a ground moraine control the topography of this parcel. Throughout most of the area the ground surface is undulating and extreme slope occurs in the northeast quadrant of the parcel (Figure 10). Local relief is approximately 22.9m (75 feet). Soils are loams developed over brown sandy glacial till.

Vegetation

The vegetation throughout most of Parcel B is typical of the northern Mesic Forest community, the dominant species being

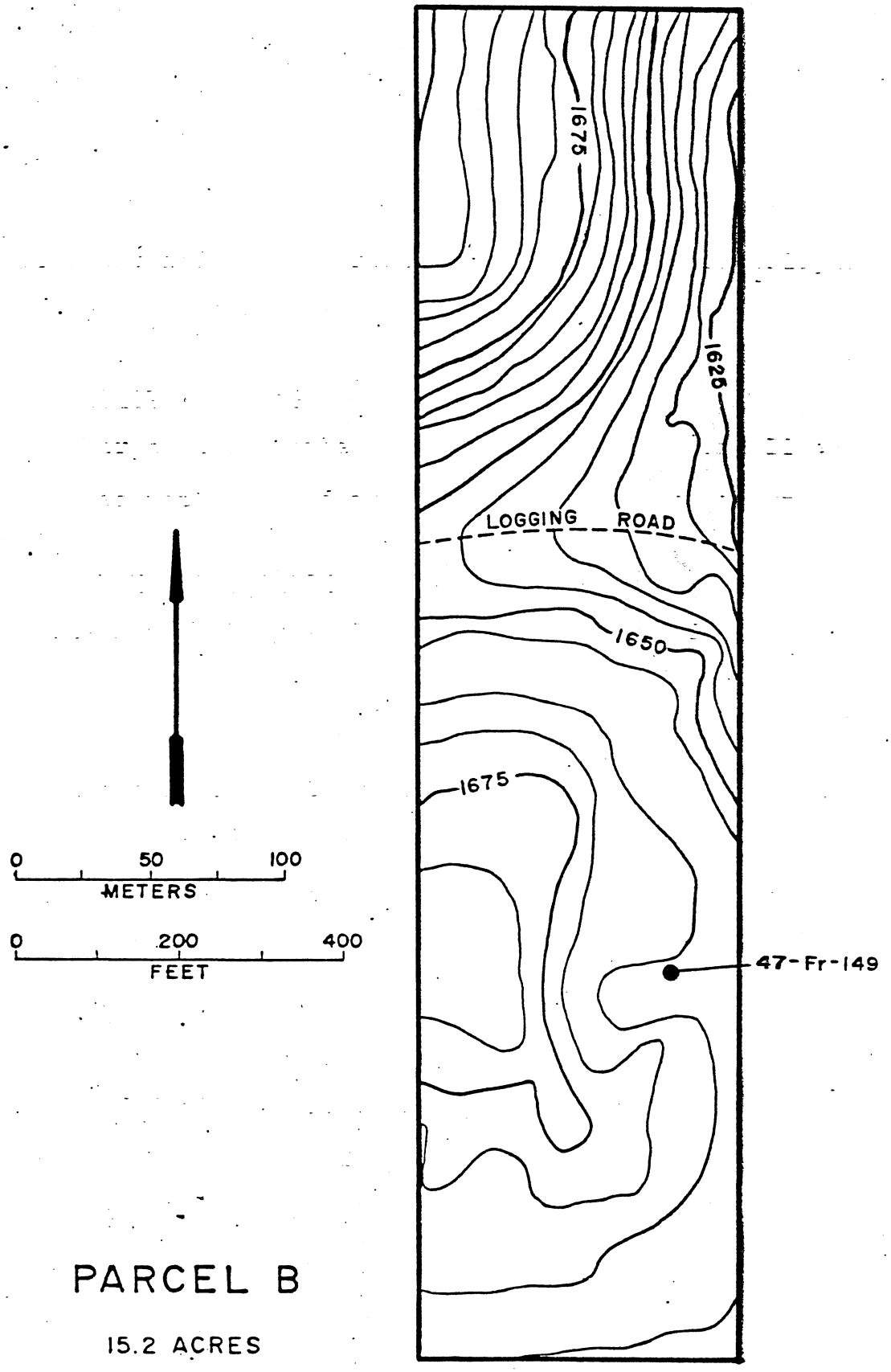


Figure 9: Parcel B, Section 4, T34N, R13E, Forest County.

Slope in northeast portion of parcel B

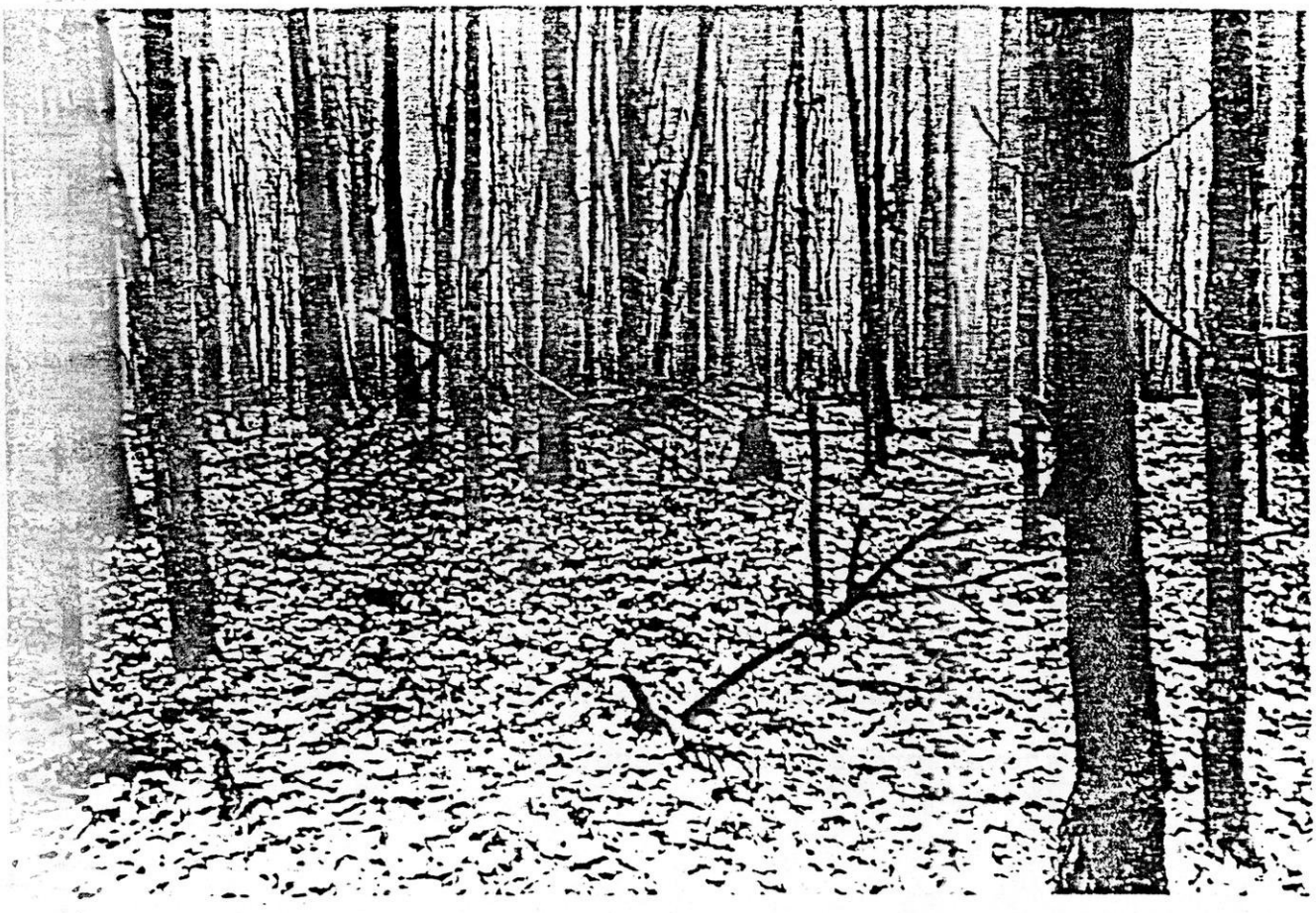


Figure 10: Parcel B (lower illustration is of flat portion at south end of parcel).

sugar maple and white birch. Species characteristic of the northern lowland forest community comprise the vegetation in the swamp west of and extending into the west central portion of Parcel B, south of the logging road. Here, balsam fir, white cedar and black spruce predominate. A groundlayer of Labrador tea and sphagnum moss is present.

Present Land Use

Other than a single test boring site (Figure 11), this parcel has not suffered modification from any modern activities.

Survey Methodology

The methodology employed during survey of this parcel is consistent with that previously outlined in this report.

Systematic shovel testing of Parcel B was accomplished through a series of 12 transects maintained at 10m (32.8 foot) intervals. The transect series were conducted on a north-south axis established from the aforementioned logging road. Shovel probes were deployed at 10m (32.8 foot) intervals within each transect. Deviation from this strategy occurred in response to variability in local topography, i.e., extreme slope, and drainage, i.e., swamp edge, which precluded continual deployment of shovel probes. Consequently, not all transects contained the same number of shovel probes. Localized areas, not shovel probed for specified reasons along the transects, were visually inspected. During the survey of Parcel B 444 shovel probes were executed.

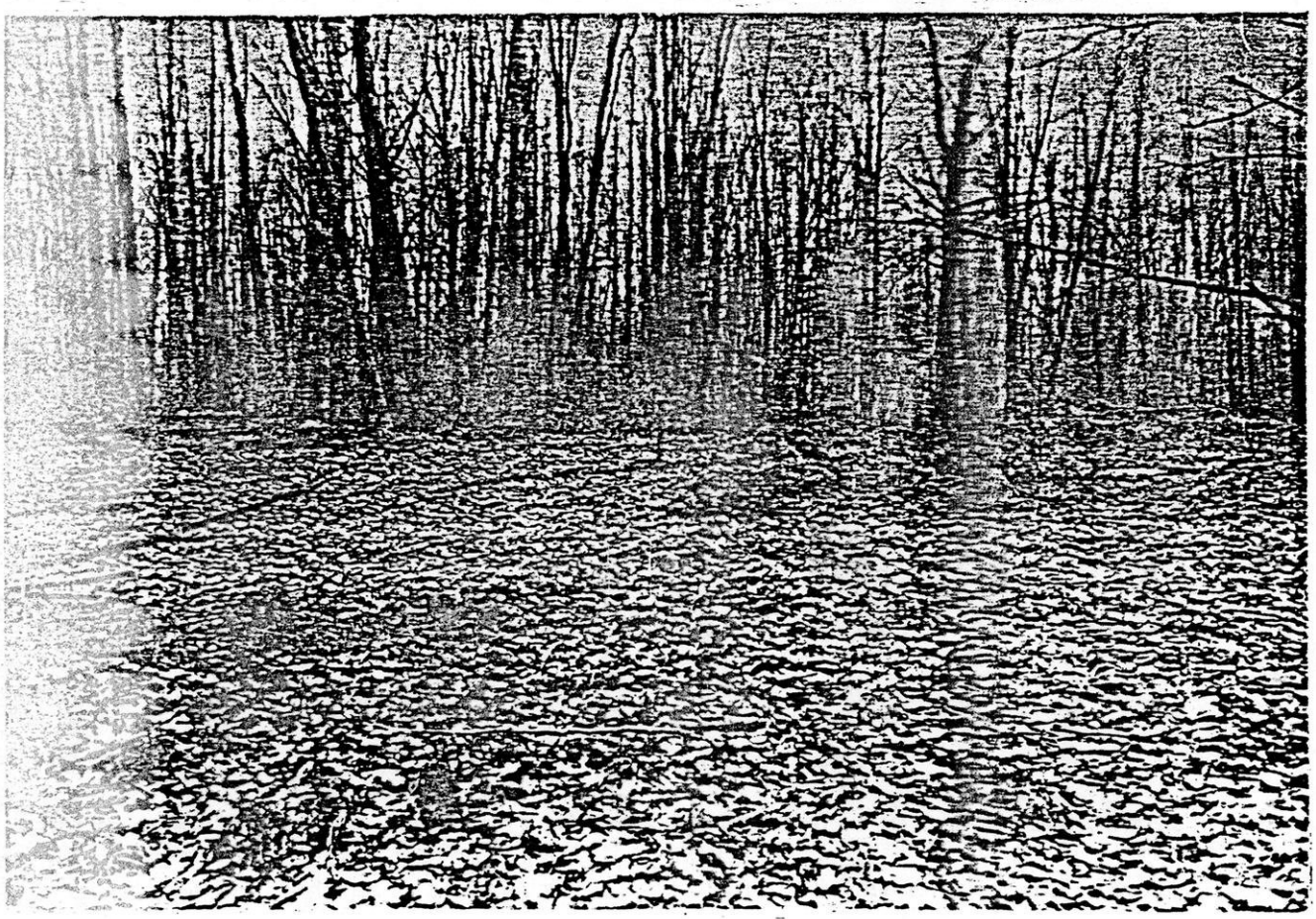


Figure 11: Parcel B, test boring site.

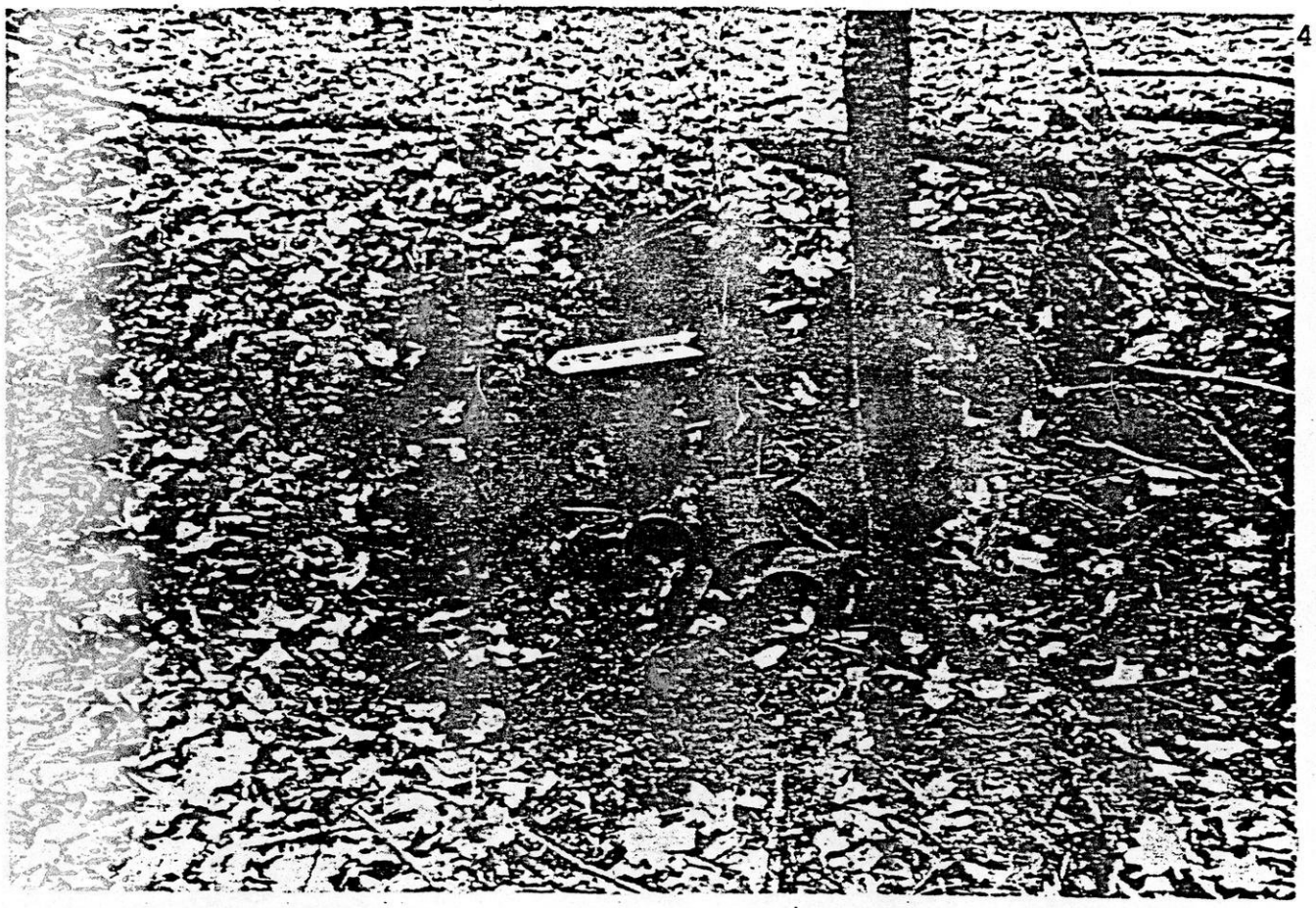
Results

47-Fr-149: Parcel B Midden

The only cultural material recovered was historic refuse. Rusty metal containers and wire cable were encountered in three small concentrations which are localized within an area approximately 15 m^2 (49.2 square feet) (Figures 12 and 13). Parcel B midden, 47-Fr-149, as it has been recorded in the Wisconsin Archaeological Site Codification File, is located in the NW¼, NE¼, SW¼ of Section 4, T34N, R13E. The midden is situated in a natural depression approximately 30m^2 (98 square feet) and located approximately 167m (547 feet) south of the logging road. The following inventory of artifacts was taken at the three concentrations: Concentration A: 9 No. 10 cans (6 1/2 lbs to 7 lbs 5 oz), 2 pieces of wire cable; Concentration B: 1 no. 2 1/2 can (1 lb 13 oz), 1 No. 2 1/2 can (1 lb 13 oz), 1 picnic can (10 1/2-12 oz), 1 20 oz. can, 1 2 lb can; Concentration C: 1 No. 10 can, 1 No. 2 1/2 can. A representative sample of these containers was removed from the site for purposes of identification (see Appendix D).

All of these containers were subjected to heating as evidenced by the burned areas on the can exteriors. Although there are no identifying labels, it is likely that these were food cans since all had been perforated or partially opened on one end and completely opened on the opposite end. The former condition presumably would allow for pressure to escape during heating and the latter would accommodate removal of the heated contents.

Given the presumed function, these containers are not in-



Concentration A

Concentration B

Figure 12: Parcel B midden, concentrations A & B.

Figure 13: Parcel B midden, Concentration C.

terpreted as associated with maple sap or berry collecting activities, but rather are more probably associated with logging activities. The presence of wire cable would support the latter contention as would the land deeds (Appendix E) which indicate prolonged ownership by a lumber company. Since the cans are of the modern variety and given the size of the existing tree stand, it is likely that this material dates to the second quarter of the twentieth century.

Recommendations for Parcel B

Site 47-Fr-149 is interpreted as a midden associated with logging operations in the area. This activity has been tentatively assigned to the second quarter of the twentieth century. A representative sample of metal containers and wire cable has been recovered from the site area and no additional evidence of human activity was encountered. We contend that the site contributes no significant information about twentieth century logging operations and therefore it is recommended that no further investigations are necessary at the site. Furthermore, no additional investigations are warranted in Parcel B.

Parcel C

Location and Description

Parcel C is rectangular and consists of 6.5ha (16 acres) in the NE¼ and NW¼ of the SW¼, SW¼, Section 4, T34N, R13E, Forest County (Figures 2 and 14).

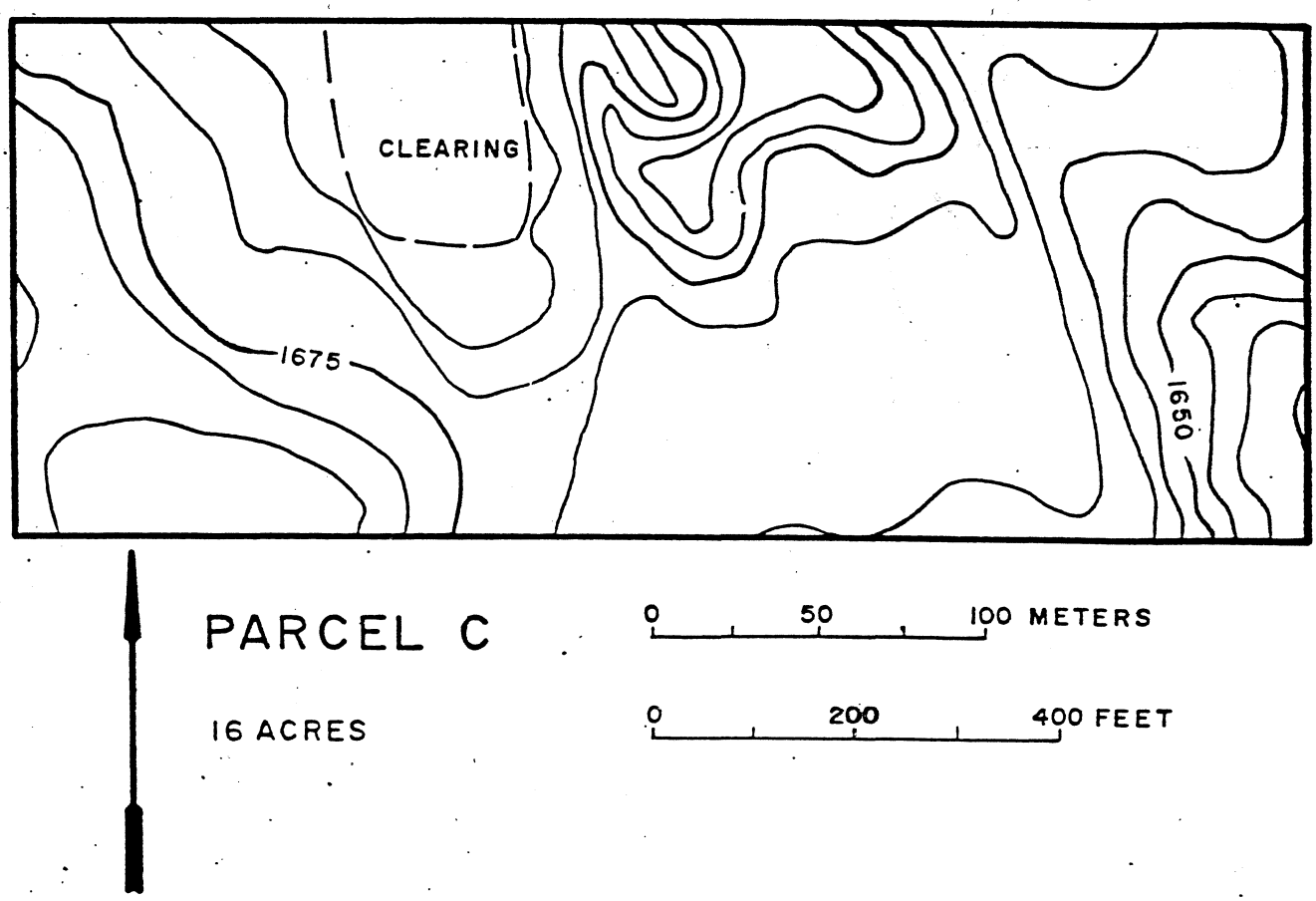


Figure 14: Parcel C, Section 4, T34N, R13E, Forest County.

Physical Setting

Topography

Generally the topography here is slightly undulating (Figure 15). A restricted area in the north central section is extremely irregular, having knolls and depressions as well as surficial boulders and poorly developed soils. Immediately west of this area is a lower lying, highly pitted clearing which is contiguous with the crescent-shaped swamp north of this parcel (Figure 15). Also, a small wet depression is located in the south central section of the parcel. Local relief is 17m (56 feet).

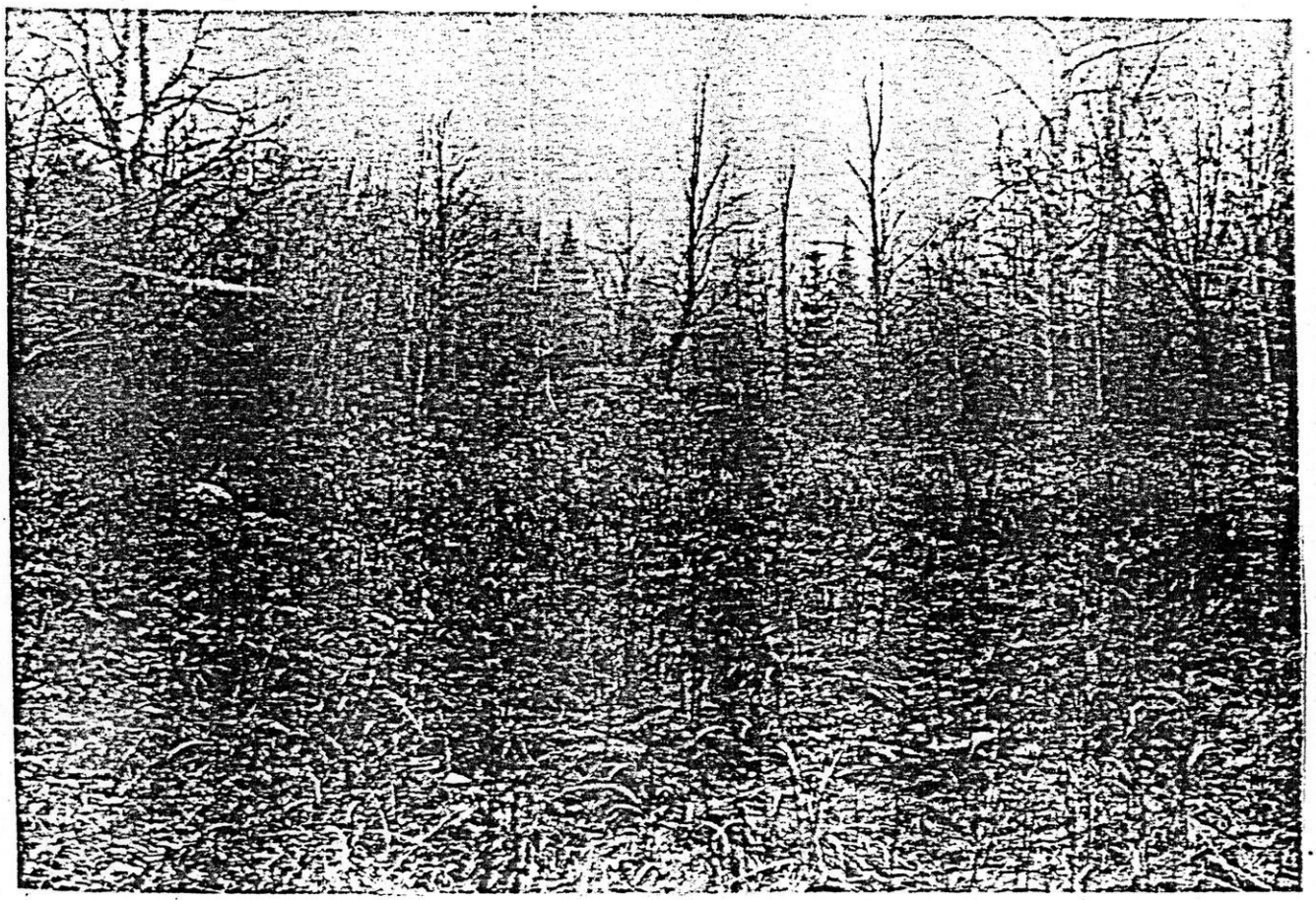
Soils are consistent with the topography and include loams and sandy loams over glacial till.

Vegetation

The vegetation grades from predominantly sugar maple and white birch in the southern margins, to mixed basswood, yellow birch, and maple in the northern margins. Alder, elm, and basswood are found in the wet depression. Vegetation in the clearing consists primarily of grass with scattered shrubs.

Present Land Use

A single test boring site is located in the southwest corner of Parcel C. The only other disturbed area encountered was the clearing. The absence of trees coupled with the highly irregular, pitted ground surface suggests modification, not necessarily recent in occurrence. No other evidence for previous disturbance was observed.



Pitted Clearing

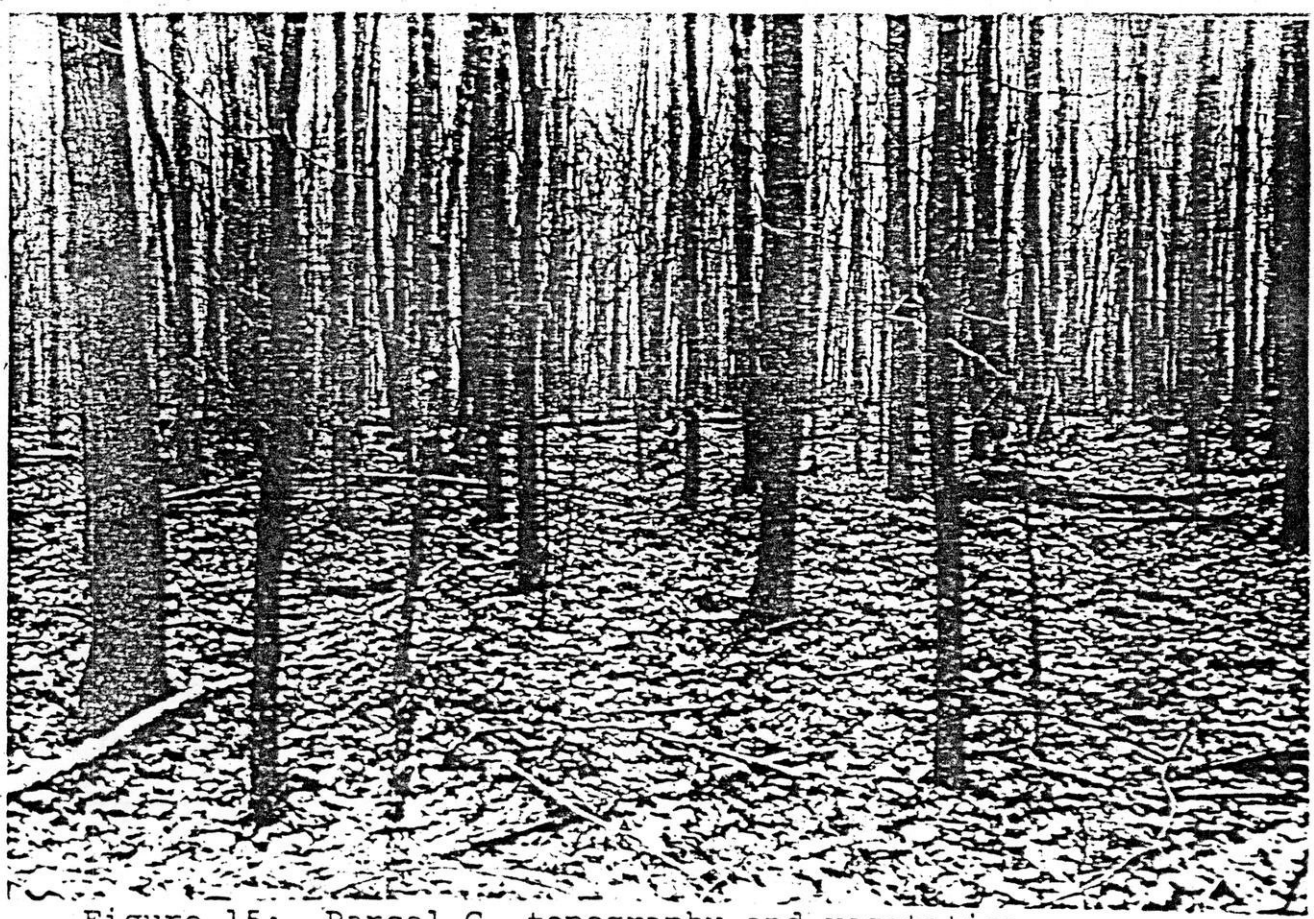


Figure 15: Parcel C, topography and vegetation.

Survey Methodology

Shovel probing was implemented in this parcel. A series of 12 transects maintained at 10m (32.8 foot) intervals on an east-west axis allowed for complete survey coverage. Shovel probes, a total of 342 for the parcel, were dug continuously within transects as topographic conditions permitted. Additionally, an intensive walk-over using a metal detector supplemented shovel probing in the clearing.

Results

No cultural material was recovered nor was evidence for prehistoric or historic occupation encountered during the course of survey in Parcel C. It should be noted, however, subsequent to the intensive walk-over of the cleared area, it was determined that this area had been disturbed as a result of borrowing activities associated with the construction of two old logging roads adjacent to the east and west sides of the clearing.

Recommendations for Parcel C

Since no evidence for prehistoric or historic occupation was encountered during the course of survey of Parcel C, it appears that proposed developments here will have no impact on cultural resources.

Parcel D

Location and Description

Parcel D is rectangular and encompasses 5ha (12.4 acres) in the NW¼ and NE¼ of the SW¼, SE¼, Section 36, T35N, R12E, Forest County (Figures 2 and 16).

Physical Setting

Topography

Situated in what is described as a drumlinized upland area, this parcel is characteristically undulating (Figure 17). Relief ranges from 495 to 515m (1625 to 1690 feet) for a difference of 20m (65 feet) in local elevation. Soils are essentially similar to those in Parcels B and C, although in this area more gravel is incorporated in the soil. Surficial rocks and boulders are also prevalent here. At the western boundary there are several interconnected wet depressions.

Vegetation

Throughout this parcel the vegetation consists primarily of white birch with some sugar maple and a relatively dense understory of bracken fern.

Present Land Use

The only evidence of previous disturbance is the presence of a gravel pit at the southeast corner of the parcel. It was apparent during field investigations that extraction operations at the gravel pit had ceased some time in the recent past.

Survey Methodology

Total survey coverage was accomplished by means of a series

PARCEL D

12.4 ACRES

0 50 100 METERS

0 200 400 FEET

Figure 16: Parcel D, Section 36, T35N, R12E, Forest County.

Figure 17: Parcel D, vegetation and topography.

of 12 transects established at 10m (32.8 feet) intervals maintained in an east-west direction. In this case the interval between shovel probes within each transect was 15m (49 feet). This interval was realized in the discrepancy between the calculated number of probes required per transect and the number actually deployed. It was attributed to topographic irregularity which created pacing error. In Parcel D 312 shovel probes were executed.

Results

During the course of survey in this area, no cultural material was recovered.

Recommendations for Parcel D

Based upon the negative results of the archaeological survey, it is determined that proposed developments in Parcel D will have no adverse effect on cultural resources, hence, no further investigations are recommended.

Parcel E

Location and Description

Parcel E comprises approximately 15ha (37 acres) located in the W½ of the NE¼ and SE¼ of the NE¼, Section 1, and in the N½ of the NW¼, NE¼, SE¼, Section 1, T34N, R12E, Langlade County (Figures 2 and 18).

Physical Setting

Topography

The ground surface of Parcel E, which is situated in a

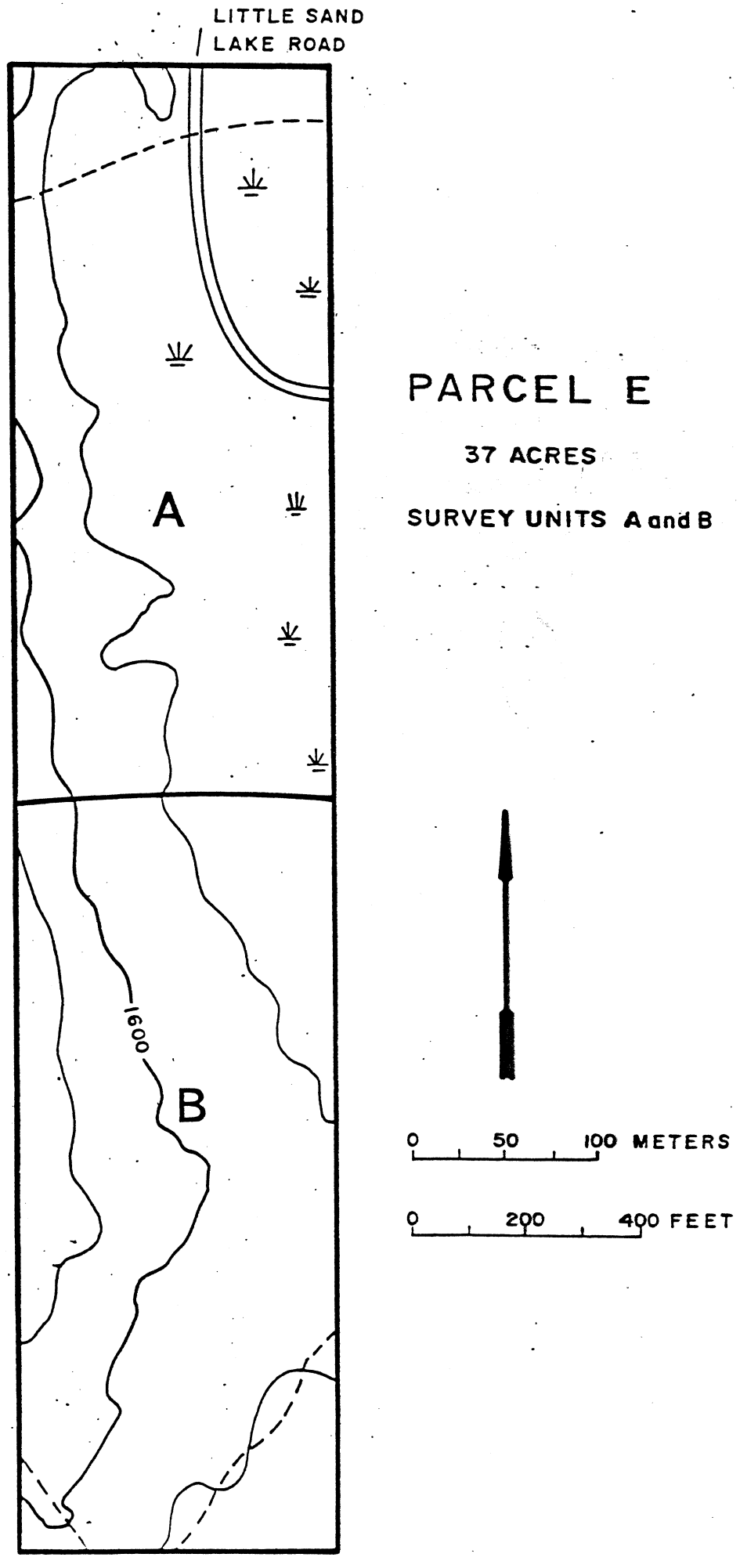


Figure 18: Parcel E, Section 1, T34N, R12E, Langlade County.

glacial outwash area, is typically pitted and drainage is poor. The terrain slopes slightly from west to east and local relief is negligible at 3m (10 feet) (Figure 19). Soils include loams and sandy loams having poor to moderately developed humus.

Vegetation

Maple and birch are the dominant species while beech, basswood and poplar occur less frequently. As a result of selective cutting, aspen saplings have regenerated and are very dense in a few scattered localized areas and near the southern margins of the parcel.

Present Land Use

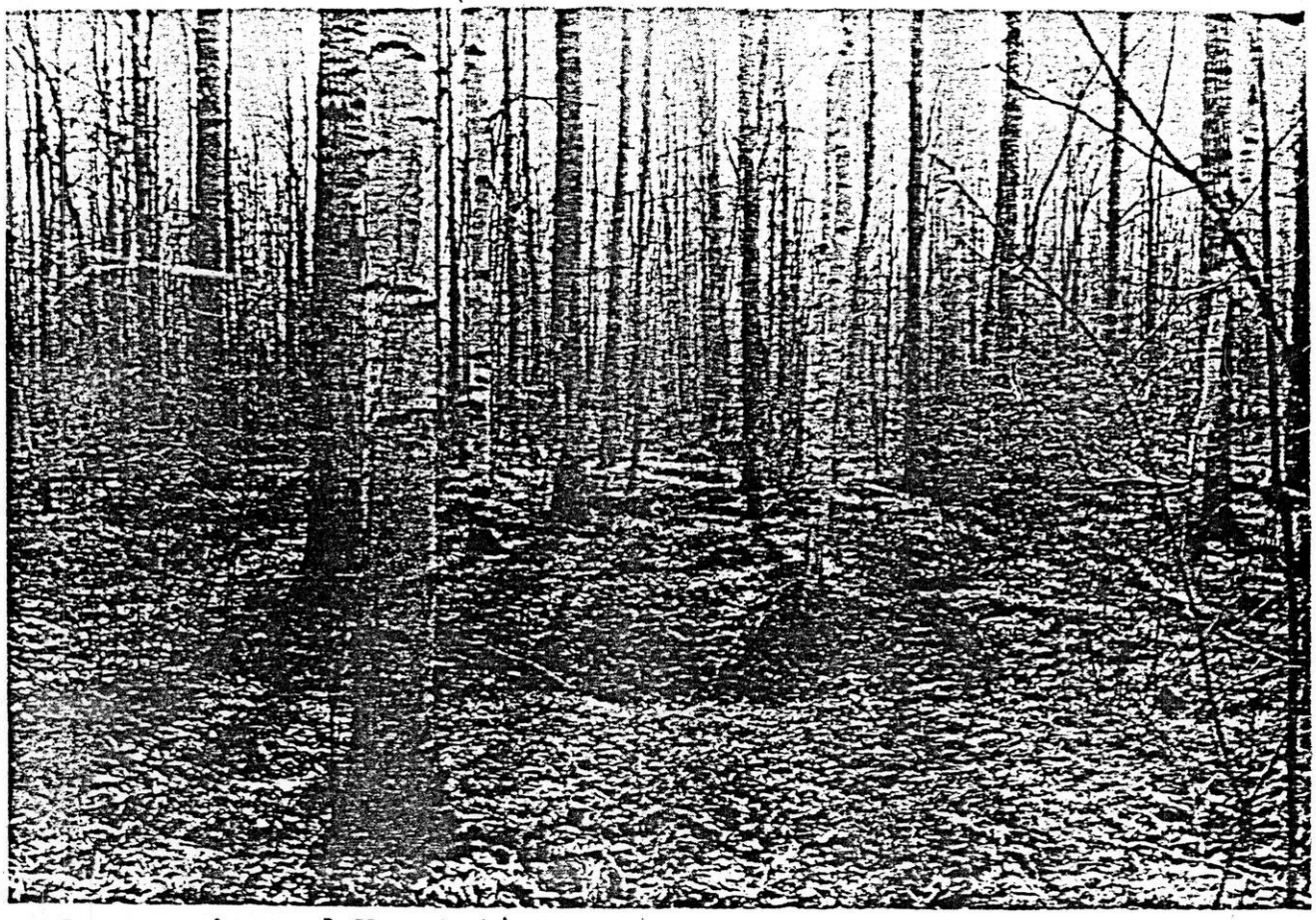
No recent land modification, other than selective cutting activities, was evident in Parcel E.

Survey Methodology

At the time archaeological survey of Parcel E was initiated, access was restricted to the northern half of the parcel which is privately held. Consequently, the parcel was divided into two units, A and B, which were surveyed on separate occasions.

Survey Unit A

Survey Unit A encompasses the northern half of Parcel E. The ground surface gently slopes east and drainage varies from fair in the western half to poor in the eastern half. Vegetation consists primarily of maple and birch (Figure 19) which in the southern portion is interspersed with beech, basswood, and aspen thickets. A marsh is parallel to and extends into the eastern section of the survey unit (Figure 19).



Topography and Vegetation

Wet, low-lying area

Survey was initiated in the northwest corner where transect series were established on a north-south axis. A series of eight transects maintained at 10m (32.8 foot) intervals and 208 shovel probes executed at 15m (49 foot) intervals were deployed in the survey of the western half of the unit. Since wet conditions in the eastern half of the unit precluded shovel testing, this section was subjected to visual inspection.

Survey Unit B

The ground surface in Unit B is similar to that in Unit A but is more pitted in the eastern section. Vegetation is primarily maple with scattered birch, oak, aspen, and balsam fir. An aspen thicket dominates the southern portion.

Survey procedure involved shovel probing at 15-meter intervals within six transects established at 10-meter intervals and maintained along a north-south axis. During the course of survey, 156 shovel probes were excavated. Areas omitted from shovel probing but subjected to visual inspection include the aspen thicket and the low, wet pitted eastern section.

Results

No evidence for prehistoric or historic occupation in this parcel was encountered during survey.

Recommendations

Since no cultural material was recovered or evidence for prehistoric or historic occupation encountered, no further investigations are recommended.

Parcel F

Location and Description

Parcel F represents a potential railroad route approximately 2km (1.8 miles) in length and 61m (200 feet) in width and encompasses 19.9ha (49 acres). The route is contained within the following quarter sections from north to south: NE¼ and SE¼ of the NE¼, NE¼ Section 20; SW¼ of the NE¼, NE¼ Section 20; SW¼ and SE¼ of the NW¼, NE¼ Section 20; SE¼ of the NE¼, NW¼ Section 20, NW¼ of the SE¼, NW¼ Section 20; SE¼ of the SW¼, NW¼ Section 20; NE¼ and SE¼ of the NW¼, SW¼ Section 20; NE¼ and SE¼ of the SW¼, SW¼ Section 20; and the NE¼ and SE¼ and SW¼ of the NW¼, NW¼, Section 29; and the NW¼ of the SW¼, NW¼ Section 29, T35N, R13E, Forest County (Figures 2 and 20).

Physical Setting

Topography

Swamp Creek bisects the potential railroad route which traverses both pitted outwash and drumlinized upland areas.

The area of pitted outwash is essentially that section of the potential route north of Swamp Creek. Generally this area is low, wet, and exhibits small scale irregularity or cradle-knoll microtopography. This cradle-knoll microtopography is the product of numerous storm induced tree throws. Soils are poorly developed and typically are of the mor variety. Boulders and rocks are scattered throughout the area. The area is dissected by two small streams and swamp-like conditions are prevalent. Local relief is only 7.6m (25 feet).

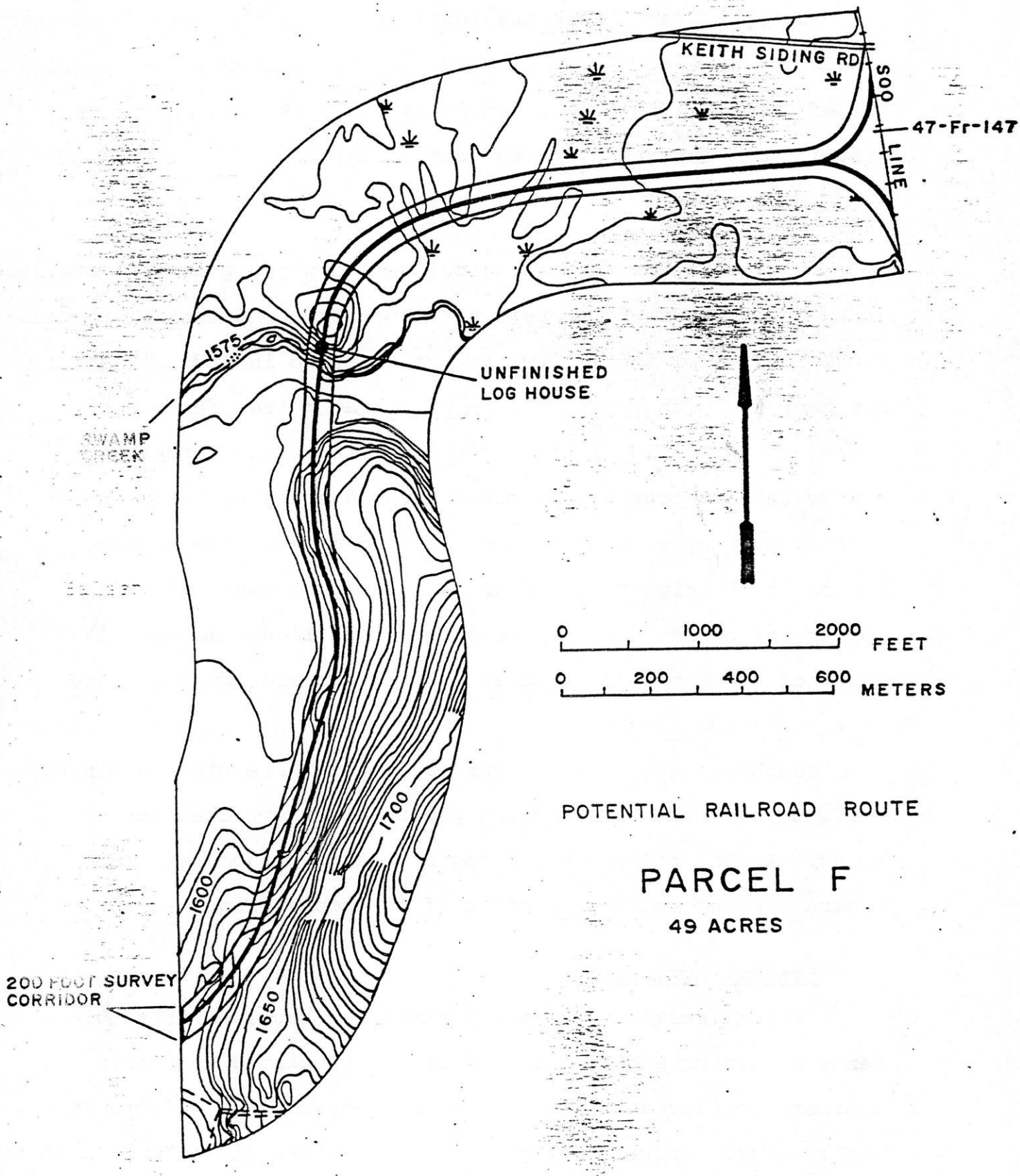


Figure 20: Parcel F, Sections 20 & 29, T35N, R13E, Forest County.

South of Swamp Creek the route parallels the western slope base of a drumlin. Topography is slightly irregular and local relief is 15.2m (50 feet). Boulders and rocks are common and gravel is incorporated in the loamy soils.

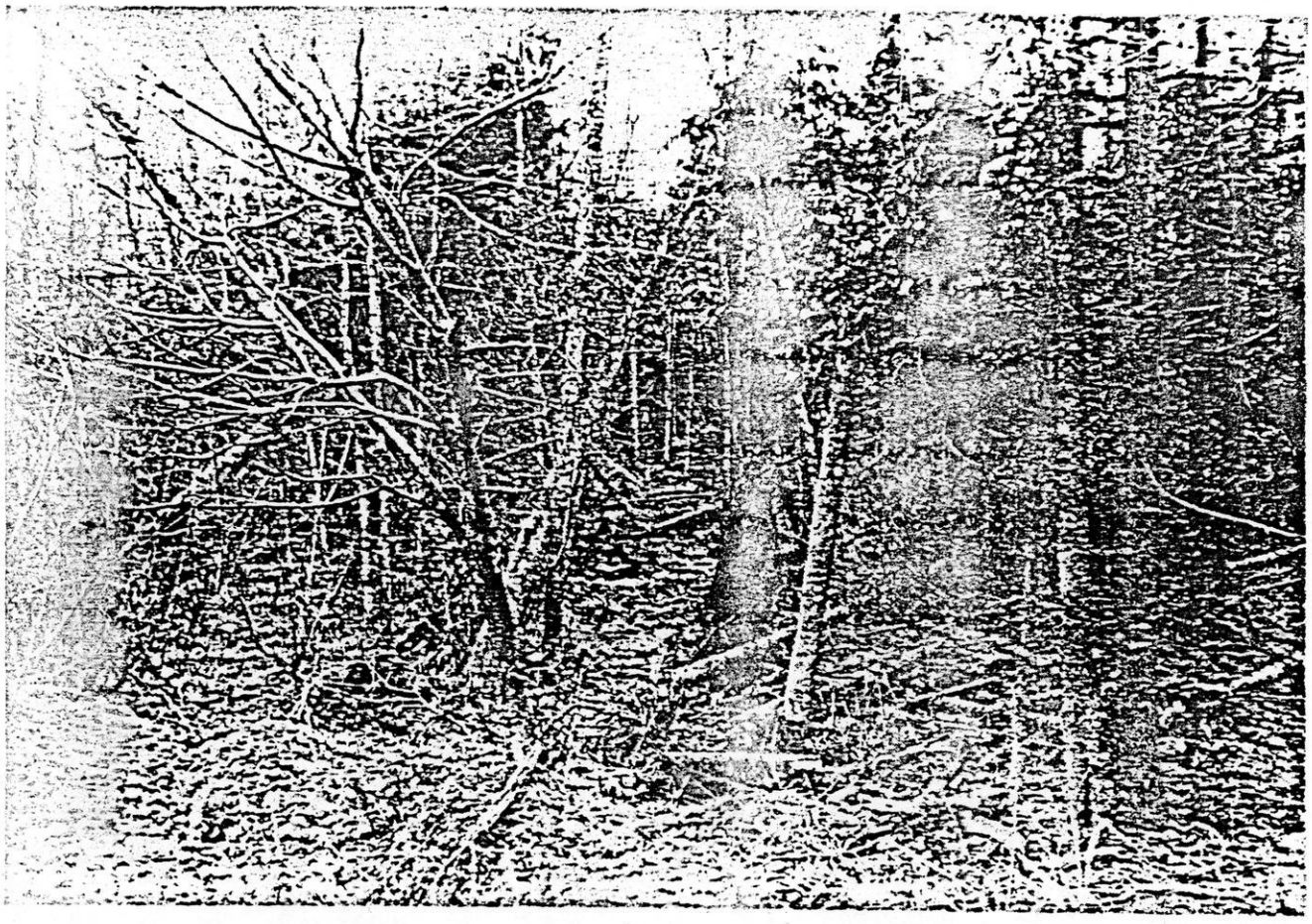
Vegetation

The vegetation in this parcel reflects topographic anomalies. North of Swamp Creek in areas of swamp-like conditions, approximately 6.37m (21 feet), the species observed include balsam fir and hemlock, with a groundlayer of labrador tea, ferns and mosses (Figure 21). In a single, isolated, low, wooded area the vegetation consists of mixed hardwoods and conifers including balsam, elm, alder, poplar, and birch. The species common in the higher wooded areas are maple, basswood, birch, poplar and balsam fir. Approximately 426 linear meters (1397 feet) of right-of-way is under cultivation and crops include oats, potatoes, and hay.

South of Swamp Creek sugar maple and white birch dominate, while balsam fir, basswood and poplar are restricted to low areas. A poplar thicket created by clearcutting activities occurs at the southern terminus of the route (Figure 22).

Present Land Use

Several sections along the potential route exhibit evidence of disturbance. The activities associated with this apparent modification are clearcutting operations (Figure 21) and farming. Approximately 608 linear meters (1994 feet) have been previously modified.



Balsam fir thicket and swamp

Clear-cut

Figure 21: Parcel F, topography and vegetation

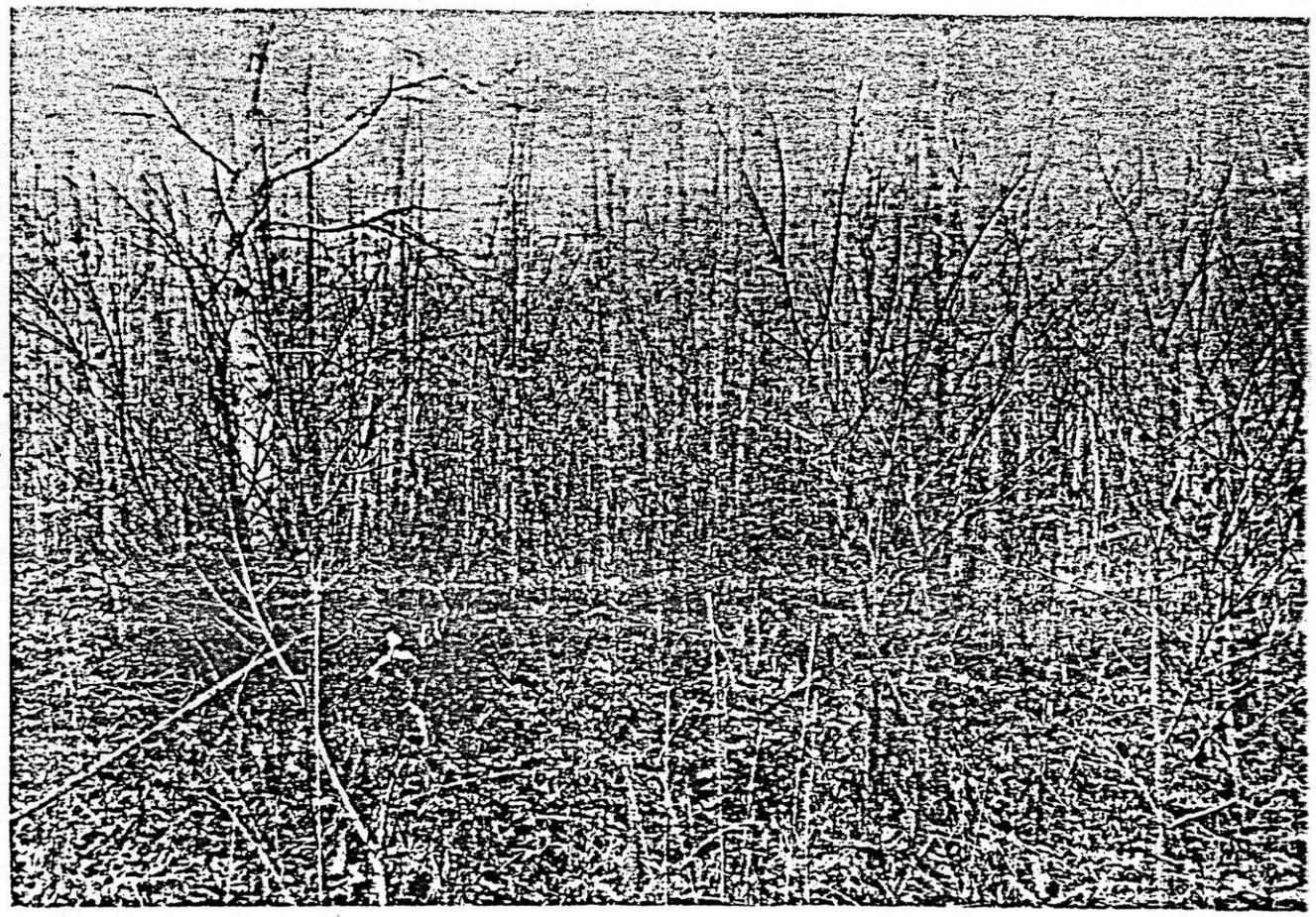


Figure 22: Parcel F, Poplar thicket.

Survey Methodology

The potential railroad route is 2km (1.8 miles) long and 61m (200 feet) wide. To facilitate controls in survey, the route was divided into two survey units, with Swamp Creek serving as the dividing line. In each unit survey was conducted by means of a double series of three transects. Each transect series was established on either side of the right-of-way centerline. Survey was initiated at either the southern or northern terminus of each unit and proceeded toward Swamp Creek, where the reverse procedure began. This methodology allowed for total coverage of the right-of-way.

Survey along transect series involved the implementation of different techniques in response to varying conditions of topography, drainage, and ground cover. Surface collection was restricted to areas of exposed ground surface, i.e., cultivated fields. Approximately 350 linear meters (1148 feet) of right-of-way was subject to surface collection. Shovel probing was conducted along 1628 linear meters (5340 feet) of the potential route. Selective shovel probing and walk-over survey was implemented along approximately 1004 linear meters (3293 feet) of right-of-way in areas of swamp-like conditions, pitted topography, and previous impact. Intensive shovel probing, wherein intervals between probes were reduced to 5m (16.4 feet), was conducted within that section of the right-of-way situated on the terrace above Swamp Creek.

Results

Two locations of human activity were encountered in Parcel

F. The first of these represents a remnant of a contemporary log structure. Local informants suggested that the building was never completed and thus, never occupied. Depicted in Figure 23, the structure is not considered to possess any historical or architectural significance. The second locus is somewhat equivocal. Locally, the area is known as Keith Siding and appears to have been related to the Wisconsin and Northern Railroad (now the Soo Line). A small amount of historic debris was collected from an oat field south of Keith Siding road and immediately west of the Soo Line tracks.

As indicated in Figure 23, there are no structural features apparent at the time of the survey. As well, inspection of detailed aerial photographs failed to provide enlightenment. This is perplexing as local informants indicated that the siding was an active community between 1910 and 1929 and consisted of a railroad station, warehouse, general store, post office, and several houses. Presently this site is a cultivated field having no evidence other than twentieth century garbage to document the presence of a former town. Archival search has been frustrating in that we are unable to precisely locate Keith siding.

Recommendations

From the information at our disposal we are unable to recommend that any further investigations be conducted in the project area. Finally, no further recommendations are made for investigations in Parcel F.

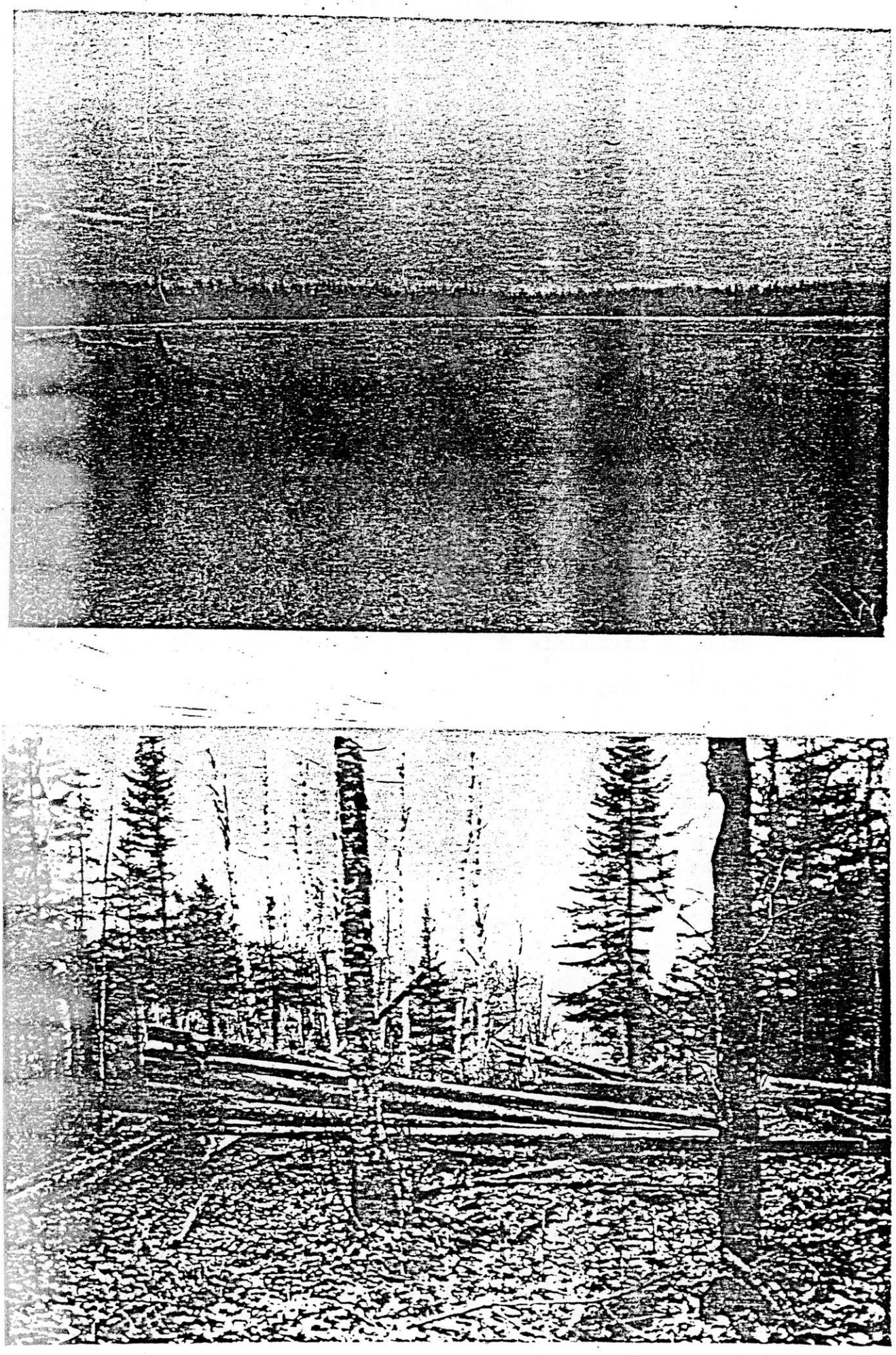


Figure 23: Parcel F, lower; log house, upper; Keith Siding.

Parcel G

Location and Description

Parcel G consists of 62.7ha (155 acres) contained in portions of the following sections: NW¼, NE¼, and SW¼ of the SE¼, NE¼, and the NW¼, NE¼, SW¼ of the NE¼ Section 36, T35N, R12E, and the NW¼, NE¼, and SW¼ of the NW¼, NW¼, Section 31, T35N, R13E, Forest County (Figures 2 and 24). Sand Lake Road and Little Sand Lake Road cut through this parcel.

Physical Setting

Topography

The topography of this parcel is controlled by two glacial features, a drumlinized upland and outwash, both of which contribute to local ground variability. The terrain is level to moderately undulating with localized areas of kettle-knoll relief and slope. Relief in the parcel is 20m (66 feet). Soils vary with local topographic conditions and consist of loams and sandy loams developed over glacial till and mor soil over boulders and rock.

The northeast corner of Oak Lake as well as the inlet of this lake are contained within this parcel.

Vegetation

Throughout most of this parcel sugar maple and white birch are the dominant species (Figure 25). Balsam fir and hemlock were commonly found on wet, low areas, and poplar, immature birch and bracken fern were observed in areas of previous disturbance associated with clearcutting activities (Figure 25).

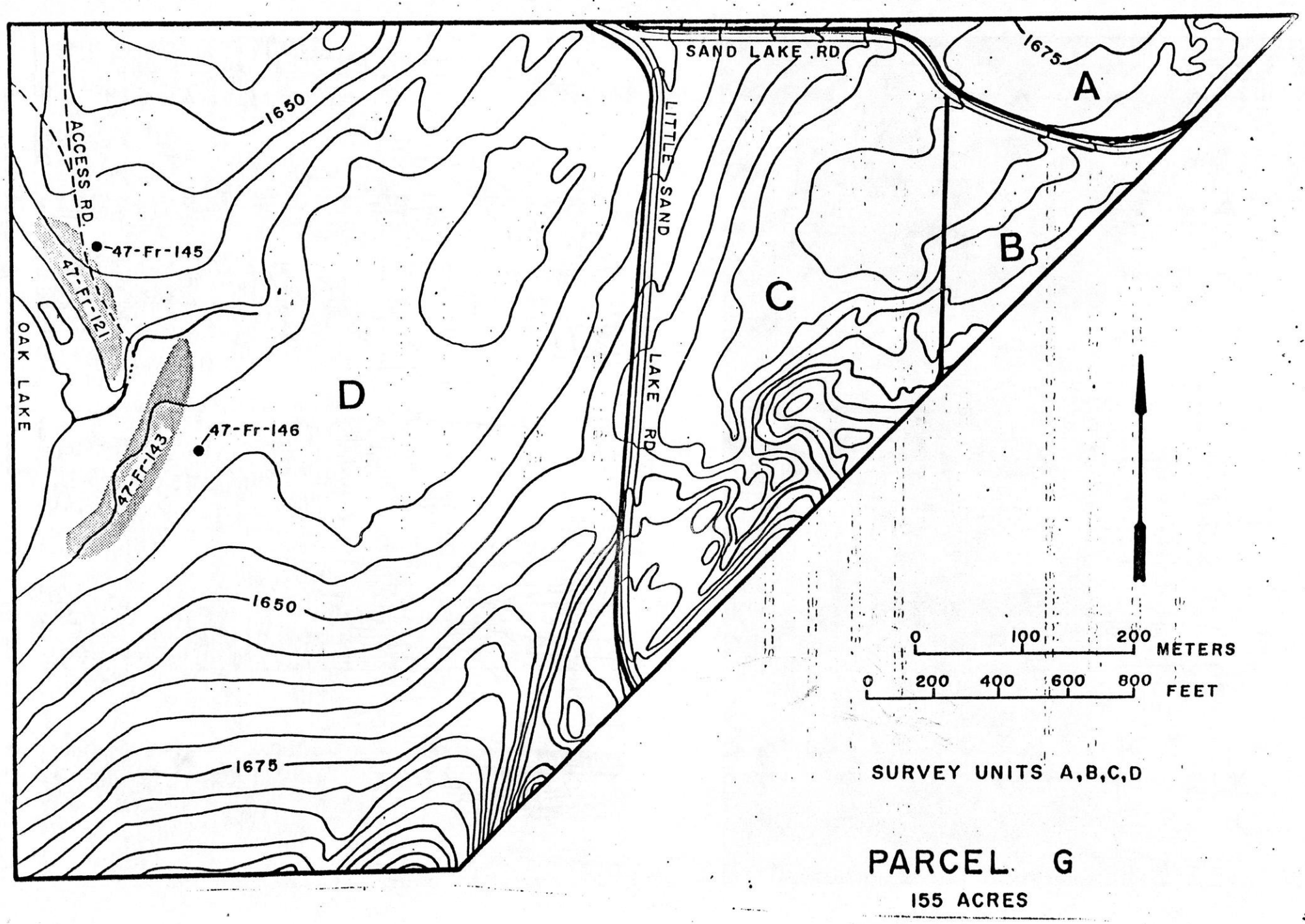
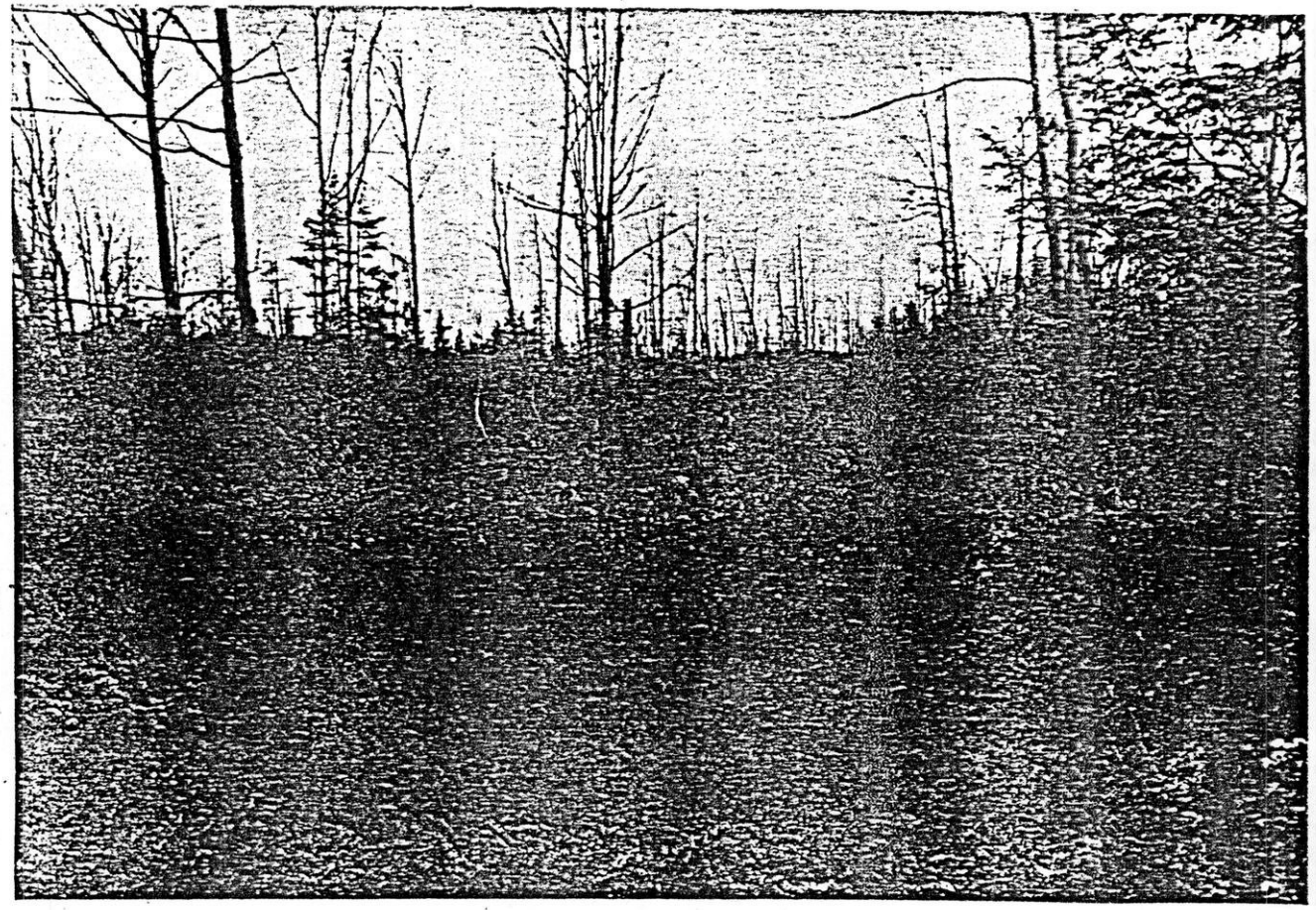


Figure 24: Parcel G, Section 36, T35N, R12E & Section 31, T35N, R13E, Forest County.



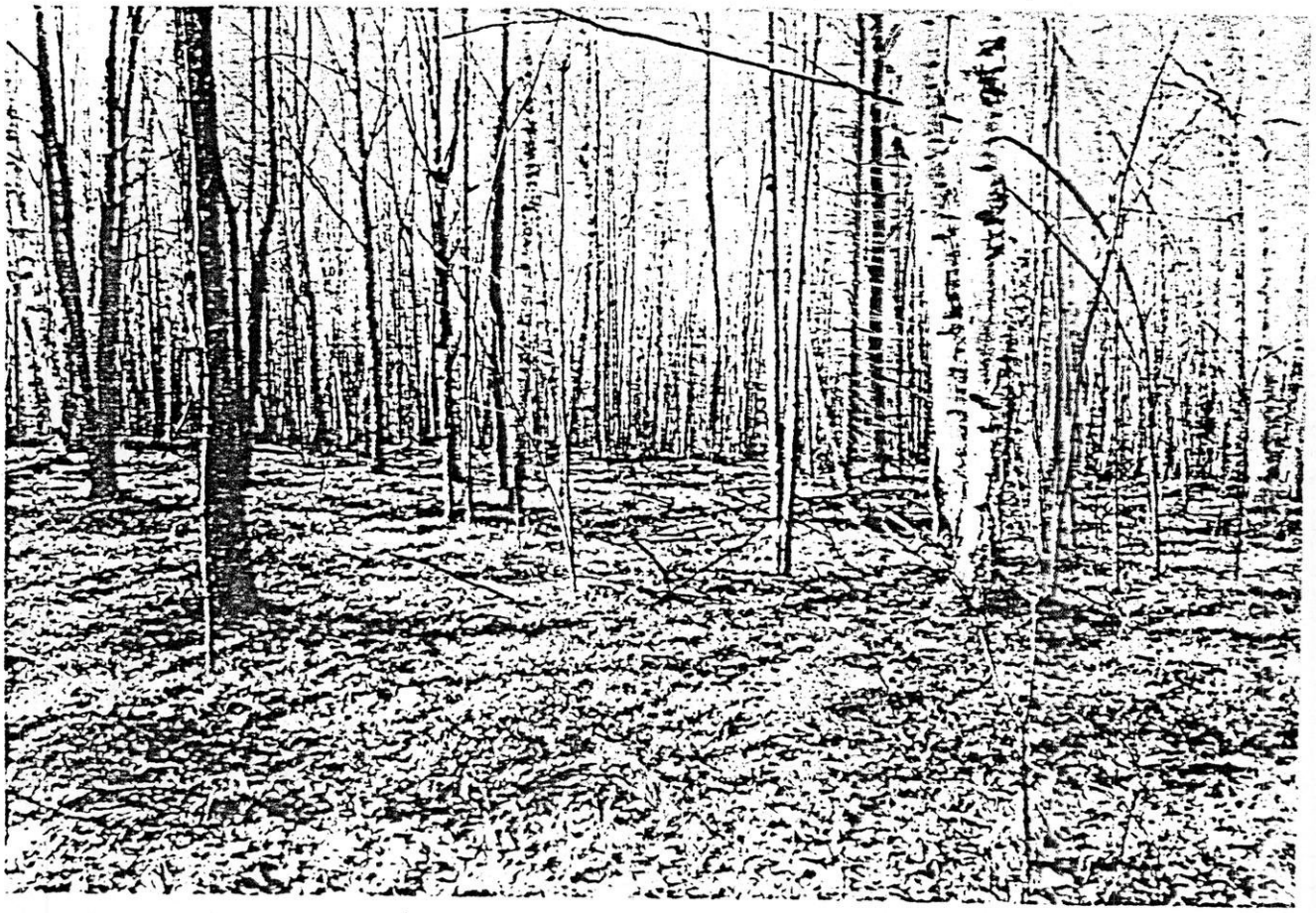


Figure 25: Parcel G, upper; Clear-cut, lower; vegetation and topography.

Present Land Use

The areas presently disturbed are restricted to two residential properties, one of which serves as the field station for Exxon Minerals Company. Areas previously disturbed as the result of clear-cut activities now exhibit dense immature secondary growth.

Survey Methodology

To facilitate field investigations, this large parcel was divided into more manageable survey units. These arbitrarily selected survey units were of convenient size to allow for strict control over shovel probe transects.

Parcel G was divided into four survey units identified as Units A through D. In the following section the survey methodology employed in Units A and B is discussed conjointly while Units C and D are treated separately.

Survey Units A and B

Survey Units A and B are located in the northeast corner of Parcel G (see Figure 24). These units form a triangular section, the boundaries of which are the north and northeast parcel boundaries, and a former logging road and Little Sand Lake Road on the west. These units encompass approximately 6 hectares (15 acres) of land.

Ground surface is moderately level and vegetation consists of sugar maple and white birch.

During the course of systematic shovel probing, eight transects containing a total of 160 shovel probes and 26 transects containing 254 shovel probes were deployed in Units A and

B, respectively.

Survey Unit C

Survey Unit C consists of approximately 10.1ha (25 acres) located west of the previous units and bounded on the north and west by Sand Lake and Little Sand Lake roads, respectively, and by the parcel boundary on the south (Figure 24).

The topography in this survey unit varies from slightly undulating in the northern half to highly irregular, kettle-knoll relief in the southern half. Sugar maple and white birch are the dominant species and immature popple occurs at the extreme southern margin of the unit.

Total survey coverage was realized by means of 35 east-west transects. In this case intervals of 15m(49 feet) between transects reflect pacing error attributable to topographic irregularity and avoidance of private property. A total of 453 shovel probes were deployed.

Survey Unit D

Survey Unit D encompasses approximately 46.5ha (115 acres) located south of Sand Lake Road and west of Little Sand Lake Road and bounded on the west and south by the parcel boundaries (Figure 24).

Variability in ground surface characterizes this survey unit. Moderately undulating conditions exist in both the northwest corner of the southern one-third of the unit and extreme slope occurs at the southeast margins. The predominant vegetation of these areas is sugar maple and white birch. From the northeast corner extending into the central section

is a relatively wet, low area through which the inlet of Oak Lake flows, northeast to southwest. This area is pitted and rocky and has little soil development. Hemlock, balsam fir, black ash, alder, and popple are the dominant species. The apparent disturbance in this area is related to former clear-cut operations.

Survey of this unit was initiated at the northwest corner where the first transect was established 20 meters (65.6 feet) south of Sand Lake Road. This distance allowed for avoidance of the previously disturbed area adjacent to the road. Survey transects were maintained on an east-west axis at 15m (49 foot) intervals. Again this interval reflects slight procedure modification in response to problems generated by local topographic, hydrologic, and floristic conditions. Continual shovel probing was executed within transects where conditions permitted, whereas selective shovel probing was conducted in low wet areas having poor soil development, in areas of extreme slope, and in areas previously clearcut. A total of 45 transects and 1486 shovel probes were dug in surveying this unit.

Results

During the course of survey of Units A,B, and C, no evidence for prehistoric or historic occupation was encountered.

However, survey of Unit D resulted in the recovery of cultural material, and surficial evidence associated with two prehistoric sites, 47-Fr-121 and 47-Fr-143, and two historic sites 47-Fr-146 and 47-Fr-147. Each of these sites is discussed below.

47-Fr-121: Oak Lake #1

This site was first reported by Salzer and Birmingham (1978) as locus 4853. They reported the recovery of a single quartz flake, a kaolin pipe fragment, window glass, and stove parts.

Given the intensive investigation carried out under this scope of work, 47-Fr-121 is interpreted here as solely representing prehistoric occupation and all historic material in the immediate area is associated with 47-Fr-145, Exxon Structure and Midden #1.

Oak Lake #1, or 47-Fr-121 as it is recorded, is located on the northeast side of Oak Lake, in the SW¼, NW¼, NE¼, of Section 36, T35N, R12E. The site is situated on the north side of the inlet approximately 50m (164 feet) from the shoreline (Figure 26). An access road to Oak Lake from Sand Lake road bisects the site area and has disturbed a portion of the site (Figure 26). Shovel testing coupled with surface collection confirmed the site location. Although intensive shovel testing, as prescribed for site areas (see Methods and Techniques) was conducted, site boundaries could not be conclusively determined. The site is approximately 75m (246 feet) NW/SE x 35m (115 feet) NE/SW.

Cultural material recovered during inventory consists of lithic artifacts including flakes and cores manufactured from both quartz and chert (see Appendix F).

47-Fr-143: Oak Lake #2

Oak Lake #2, or 47-Fr-143 as it has been recorded, represents a prehistoric site located along the northeast

Undisturbed area of 47-Fr-121, Oak Lake #1

Access road disturbance at 47-Fr-121.

Figure 26: Parcel G, Unit D, 47-Fr-121.

corner of Oak Lake, south of the inlet. This site is situated in the SW¼ and SE¼, NW¼, NE¼ of Section 36, T35N, R12E (Figure 24).

Oak Lake #2 consists of 43 prehistoric circular pits and associated occupation area (Figure 27). Based upon the distribution of pits and tentative determination of occupation area, the site is approximately 150m (492 feet) NE/SW x 50m (164 feet) E/W.

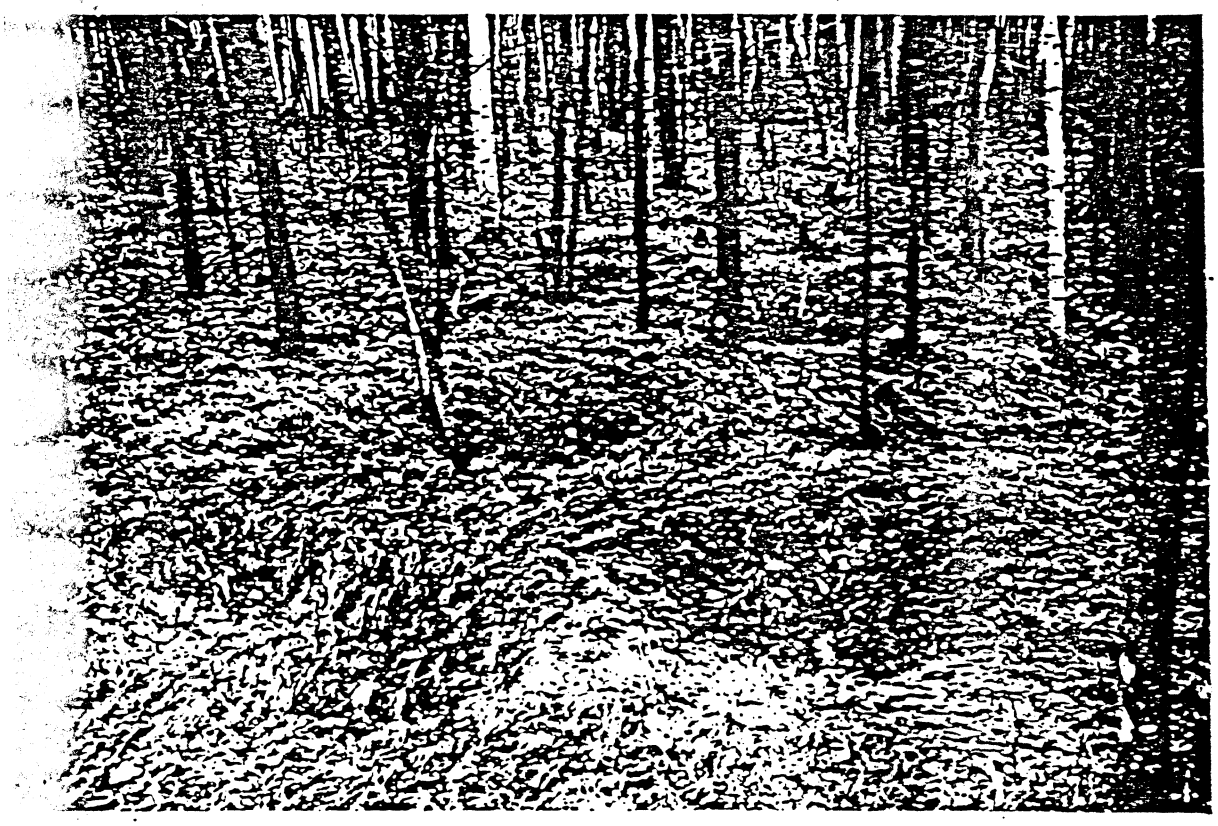
During the course of inventory both ceramic and lithic materials were recovered. Shovel probes yielded a few grit-tempered cordmarked sherds and chert flakes, as well as fire-cracked rock (see Appendix C).

47-Fr-145: Exxon Structure and Midden #1

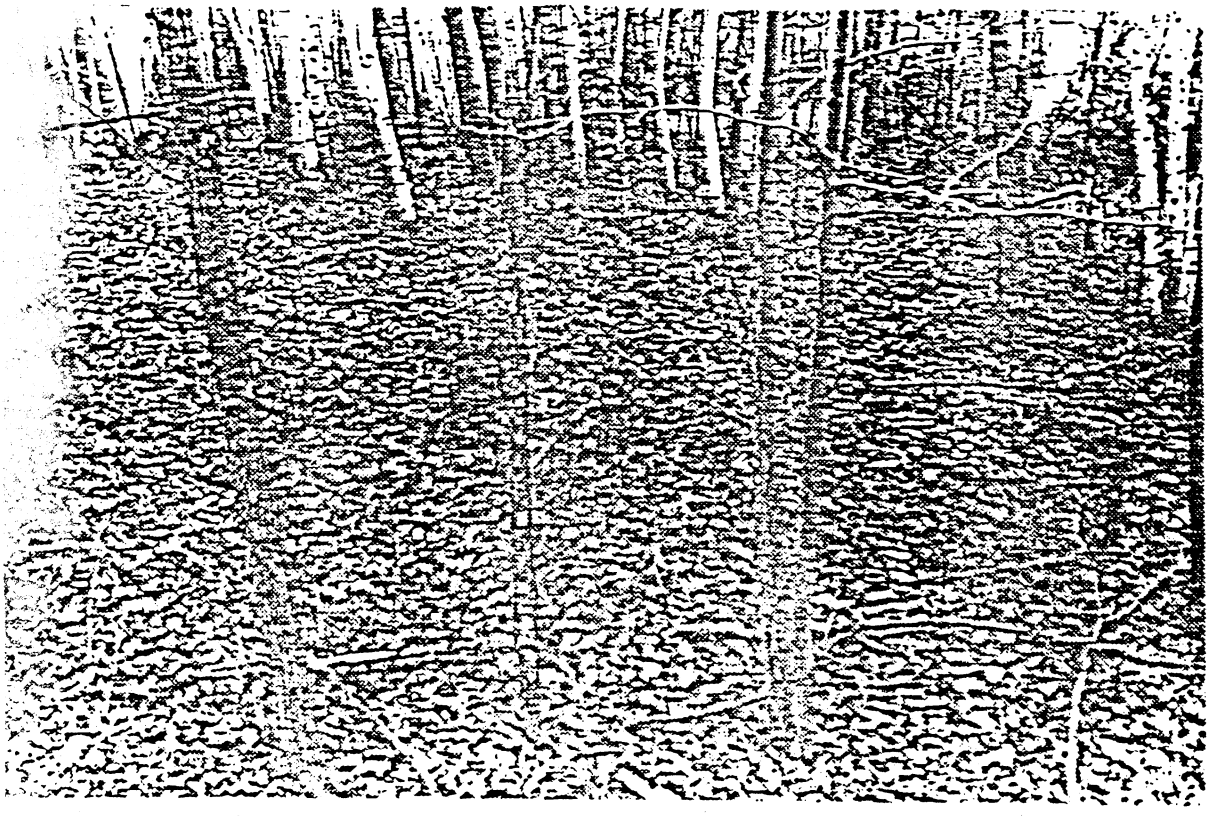
This historic site, recorded as 47-Fr-145, consists of two surficial features: a foundation of a structure, and an associated midden or refuse dump.

The foundation is located approximately 75m (246 feet) from the northeast shore of Oak Lake and 30m (98 feet) northeast of the access road on the northwest side of the inlet. This site is immediately northeast of 47-Fr-121 and is adjacent to an old road which is barely discernible. Specifically, the site is located in the NW¼, SW¼, NE¼ of Section 36, T35N, R12E.

The foundation is actually a berm constructed of ground borrowed from pits adjacent to the structure. The berm, which varies in width, provided insulation along the outside base of the superstructure. No remnants of the superstructure



-143, Prehistoric pits



47-Fr-143, Habitation area, southwest of pits
igure 27: Parcel G, Unit D, 47-Fr-143.

remain. The foundation is approximately 9m (29.5 feet) N/S x 6m (20feet) E/W. The east wall of the foundation was indiscernible. A circular pit approximately 2m (6.5 feet) in diameter is located in the southwest corner inside the structure (Figures 28 and 29). Two borrow pits were located on both the north and south sides of the foundation. Parts of a Franklin stove and fragments of barbed wire were found along the south berm. Undoubtedly not associated with, but located near, the structure is a barbeque grill of the rectangular stand variety popular during the 1960s.

The associated midden is located approximately 55m (180 feet) east of the foundation (Figure 30). An inventory of artifacts in the midden includes the following:

metal beer bottle case (Citizen Brewing Co. of Antigo, circa 1899-1920)
two 50-gallon drums (1 makeshift stove)
one 25-gallon drum (makeshift stove)
wire cable
stove pipe
five galvanized buckets
white glazenware
eight wagon wheels (hubs and rims)
six "tobacco lunch pails"
11 tin cans
stoneware jug
bottle glass (quart milk bottle)
round kerosene can
gas can
tin cup and bowl
tin tea can, A&P
brown crockery
metal dry sink
one goodyear truck tire 32x6
ceramic pipe tile
two wooden barrel hoops

Several of the artifacts recovered from the midden were datable (see Appendix D). Based upon these items it appears that the midden served as a refuse dump over an extended period

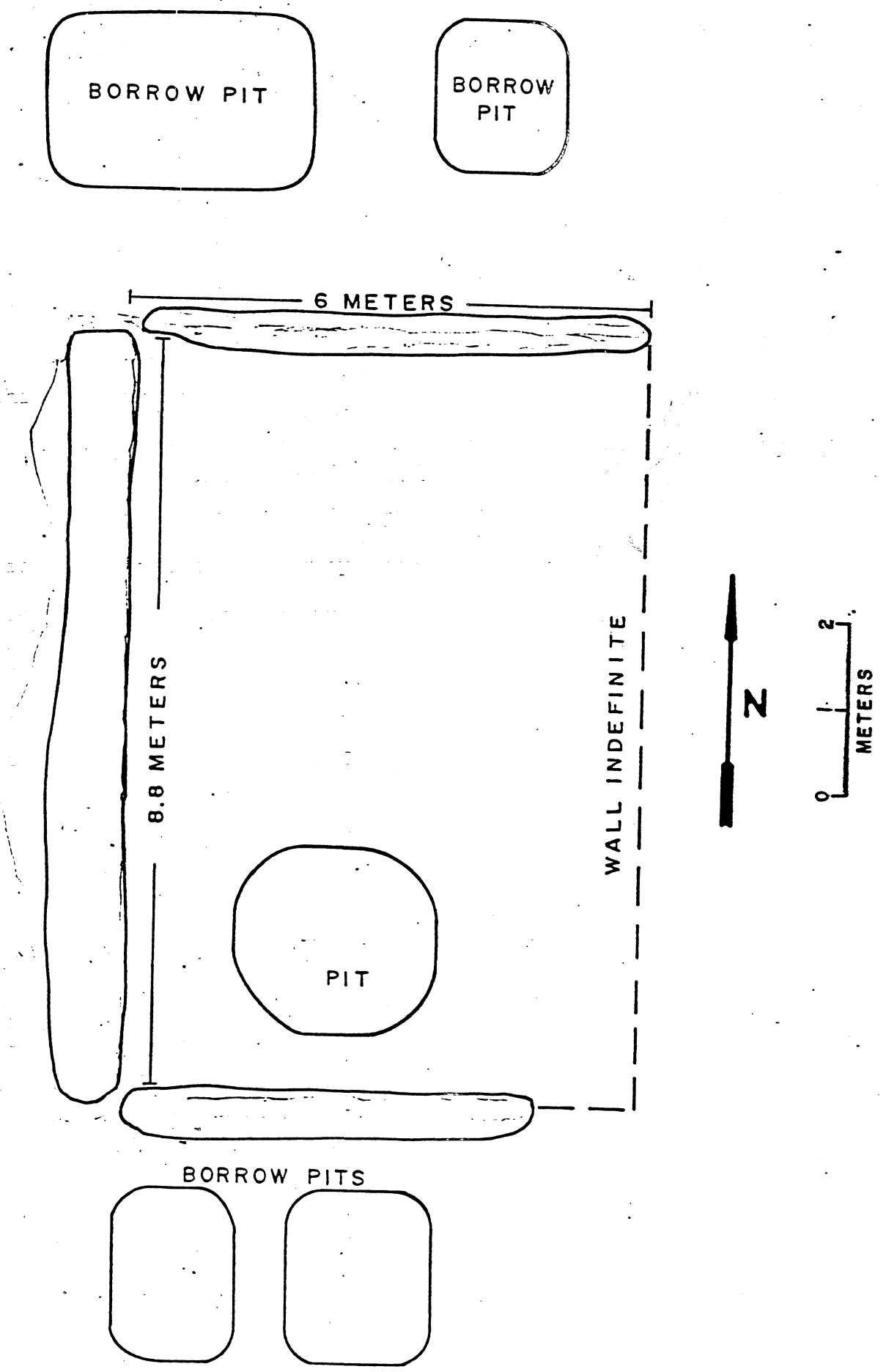


Figure 28: Parcel G, Unit D, 47-Fr-145, plan view.

Figure 29: 47-Fr-145, structural remnants and franklin stove.

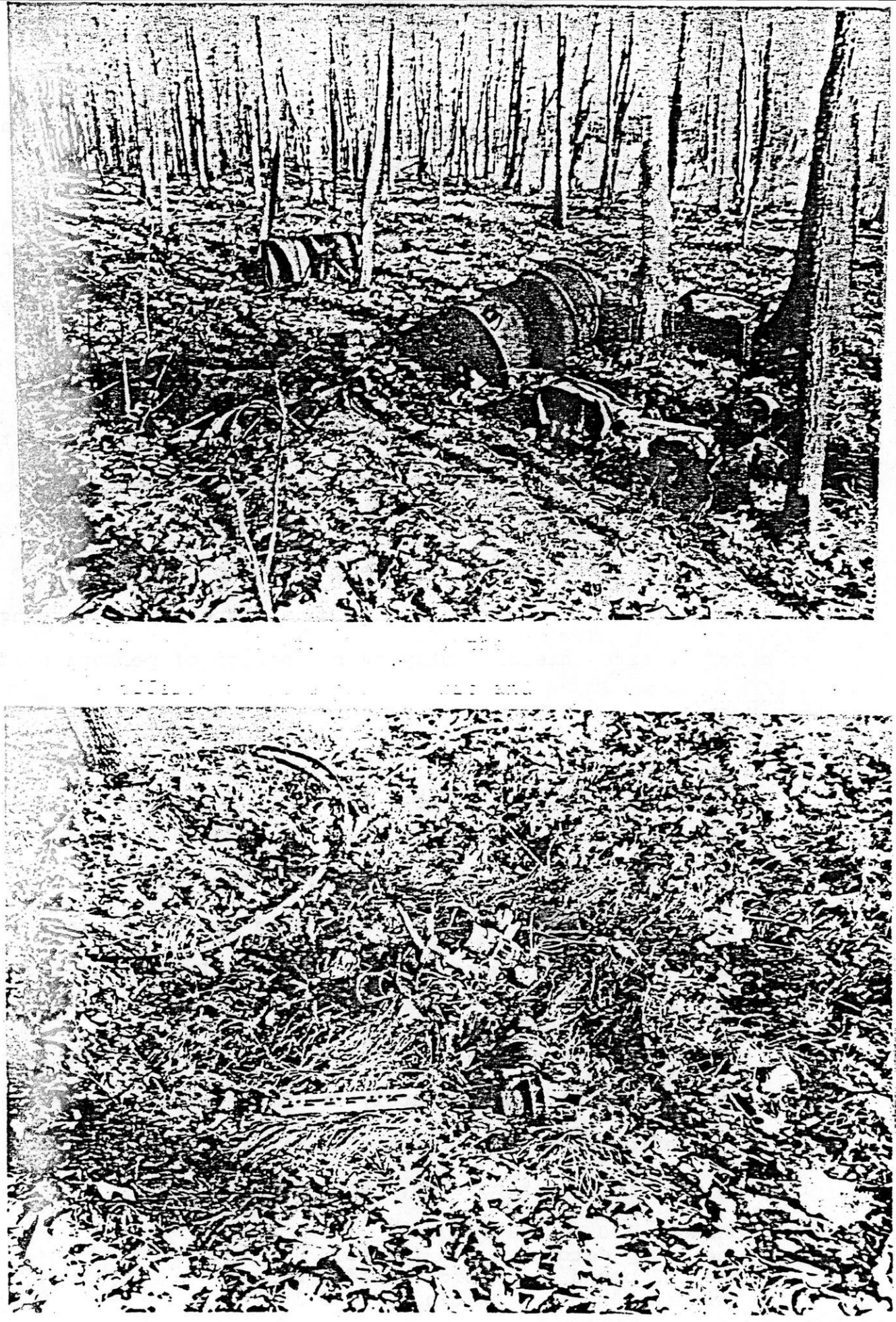


Figure 30: Midden associated with structure, 47-Fr-145.

of time. A few items such as the brewery case, "tobacco" cans, wagon wheels, and tea can probably predate 1920, while the metal drums and rubber tire postdate 1920.

A review of the tax rolls and land deeds (see Appendix G) for the 16ha (40 acre) tract within which 47-Fr-145 is located, failed to provide specific information concerning ownership and construction of the structure.

Finally, it should be mentioned that at this juncture it has not been conclusively demonstrated that the midden and structure represent the same occupation. However, a comparative analysis of materials recovered would seem to suggest contemporaneity of the structure and midden, and the latter serving as a refuse site intermittently over a period of perhaps half a century.

47-Fr-146: Exxon Structure #2

This historic site also consists of a foundation of a structure located in the NW¼, SW¼, NE¼ of Section 36, T35N, R12E. The foundation, or berm, is located approximately 100m (328 feet) east of Oak Lake and 50m (164 feet) south of the inlet (Figure 24).

The berm is approximately 9m (30 feet) E/W x 5m (16 feet) N/S. A circular pit approximately 2m in diameter is located in the interior west side. From this pit the following inventory of material was recovered,

one No. 300 can (14-16 oz)
one Ivory detergent can (12 oz)
one 1/2 pound Hills Bros. coffee can
one Dinty Moore stew can (1 1 /2 lbs)

four screw-top glass jars
one bean
one Salada peanut butter
two unidentifiable

Whether this refuse was associated with occupation of the structure or represents some later dumping is presently undetermined. Again the tax rolls and land deeds (see Appendix) did not yield information on ownership or construction of his structure.

Recommendations for Parcel G

Since no evidence for prehistoric or historic occupation was encountered in survey units A,B, and C of Parcel G, it as been determined that no further archaeological investigaions are required. However, the following recommendations e offered for the prehistoric and historic sites located in rvey unit D of Parcel G.

47-Fr-121: Oak Lake #1
47-Fr-143: Oak Lake #2

Since it was specified in the scope of work that archaeological sites encountered during the course of inventory will be evaluated to determine site significance and eligibility in terms of the specific criteria for inclusion on the National Register of Historic Places, Oak Lake #1 and #2 were subject to preliminary evaluation procedures. These procedures involved selective and judicious deployment of test excavation units in the designated site areas. A discussion detailing the evaluation of these sites is contained in the section entitled Evaluation.

47-Fr-145: Exxon Structure and Midden #1
47-Fr-146: Exxon Structure #2

A preliminary evaluation of these historic sites was realized through a records search which involved a review of tax rolls, land deeds and plat maps dating from the original land surveys (see Appendix A) in 1864 to 1935. As a result of this research no specific information with respect to ownership or construction of these structures was obtained. Furthermore, the association of the structures and materials recovered at each site remains dubious. Finally, the function of these structures and their internal features (pits) have not been determined through this preliminary evaluation.

Therefore it is recommended that in an effort to identify these structures and associated features, in terms of association, temporal placement, function, and significance, additional evaluation and recovery be conducted should the proposed developments directly impact both 47-Fr-145 and 47-Fr-146.

Parcel H

Location and Description

Parcel H consists of 169ha (418 acres) of land located in parts of the following sections: the SE¼ and SW¼ of the SE¼ and the SE¼ and SW¼ of the SW¼, Section 29, T35N, R13E; the NE¼ and the NW¼ and the N½ of the NW¼ and NE¼ of the SW¼ and SE¼ of the NE¼, Section 31, T35N, R13E; the NW¼ and SW¼ of the NW¼ and the NE¼ and SE¼ of the NW¼ and SW¼ of the SW¼, Section 32, T35N, R13E; and the NE¼ and N½ of the SE¼ of the NW¼, NW¼, Section 5, T34N, R13E, Forest County (Figures

2 and 31).

Physical Setting

Topography

As in Parcel G the landform in Parcel H is controlled by a drumlin landscape-ground moraine and outwash. The terrain is variable throughout the parcel and ranges from moderately undulating in the west and north central sections, to extreme slope in the northeast corner, and low swamp-like areas in the northeast, central and southern sections. It appears that the wet lowland located in the central section of this parcel served as a post-glacial drainageway. Duck Lake and the large swamp surrounding it are located immediately south of the parcel boundary and the latter extends marginally into Unit F. Elevations range from 540 to 488m (1770 to 1600 feet) for a difference of 52m (170 feet) local relief. Soils conform to local topography and are predominantly loams over glacial till in areas of substantial relief, and mor and organic soils in low areas.

Vegetation

The vegetation in this parcel varies with topographic and hydrologic conditions. Sugar maple and white birch are dominant species in upland settings. In lowland areas, which are comparatively numerous in this parcel, species commonly encountered include hemlock, alder, ash, popple, elm and yellow birch, cedar swamp and bog also occur in this parcel. Stands of immature maple, basswood, and poplar, as well as raspberry

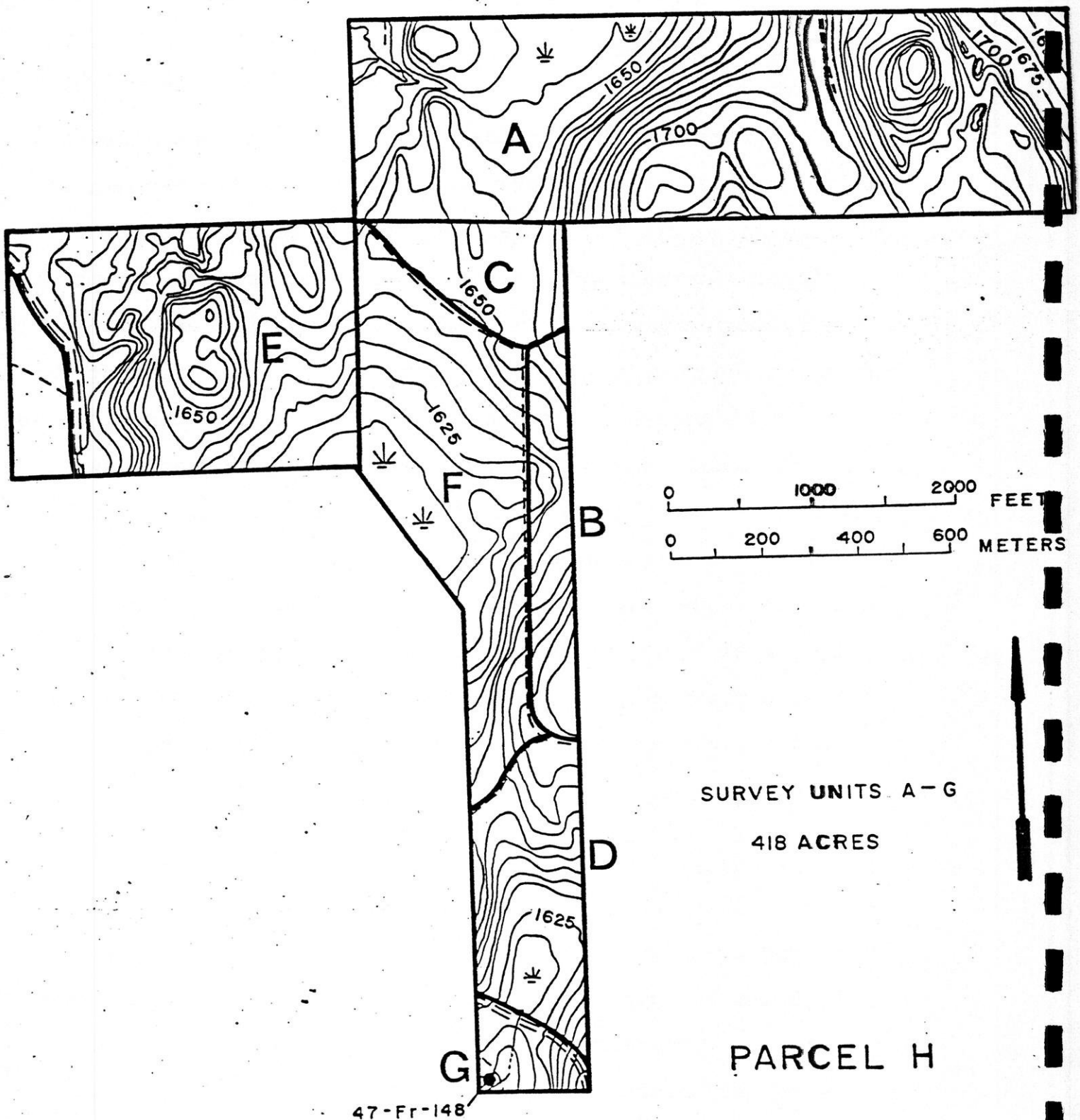


Figure 31: Parcel H, Section 29, 31, & 32, T35N, R13E and Section 5, T34N, R13E, Forest County.

and blackberry occur in areas previously disturbed. Grass glades interspersed with hemlock, balsam fir and cedar were also observed.

Present Land Use

At present this parcel exhibits secondary vegetation growth. The areas previously modified include two drill sites and several small clearcuts.

Methodology

The methodology implemented in this parcel resembles that employed in Parcel G. That is, Parcel H was divided into convenient survey units which allowed for greater control of survey technique. The seven survey units were again arbitrarily selected and designated as Units A through G (Figure 31). The methodology utilized in these units is discussed below.

Survey Unit A

Unit A consists of 64ha (158 acres). It is a rectangular shaped unit forming the northern section of Parcel H (Figure 31).

Ground surface in this unit varies from hilly in the northeast (Figure 32) and eastern margins to moderately and slightly undulating and low in the central and north central sections, to irregular at the western margins. In areas of greater relief, sugar maple and white birch are dominant species. Pitted, rocky, wet, low areas contained stands of immature popple mixed with alder, ash, as well as hemlock, balsam, yellow birch, and maple. A cedar swamp extends into the north

Figure 32: Parcel H, slope in Unit A.

central section of the unit.

Survey of Unit A commenced at the northeast corner. Since the southern boundary of the unit was marked, transect series were established on a north-south axis. Shovel probing within transects was both continuous and selective as dictated by topographic conditions and drainage. Extreme slope, swamp, and rocky wet lowlands required selective probing and visual inspection. Transect intervals were maintained at 15m (49 feet), often with great difficulty given the variability in ground surface. Accounting for probing selectivity, a total of 2888 shovel probes were completed.

Survey Unit B

Survey Unit B is a rectilinear unit consisting of approximately 8ha (19 acres). It is located on the eastern boundary of Parcel A and bordered on the west, north, and south by an old logging road (Figure 31).

The ground surface is very irregular, pitted and rocky throughout, and wet and low in some areas. Soil development is poor in this area. An intermittent drainage which flows west into Duck Lake bisects the unit. Vegetation is composed primarily of immature maple and birch as well as hemlock and balsam fir.

Since the unit appeared, on the basis of environmental factors, to have little, if any, potential for harboring occupation areas, a 15m (49 foot) interval between and within shovel probe transects was selected as adequate survey coverage. Four transects were oriented on a north-south axis, and the

first and last of which were located within 50m (49 feet) of the east/west boundaries of the unit. Given the aforementioned conditions, shovel probing was selectively conducted. In this unit 224 shovel probes were executed.

Survey Unit C

Survey Unit C is situated south of Unit A and north of Unit B. The boundaries of this irregularly shaped unit are found on the north by the section line between Sections 29 and 32, on the south and west by a logging road and on the east by the parcel boundary (Figure 31). This unit also is pitted, rocky, wet and low, and has little soil development (Figure 33). Vegetation consists of hemlock and balsam fir interspersed with glass glades, as well as immature maple and birch.

Total survey coverage in this unit was realized through a series of 36 transects established at 10m (33 foot) intervals on a north-south orientation. Shovel probing within these transects was conducted at 10m (33 foot) intervals on both a continuous and selective basis as ground conditions warranted. Within this unit 486 shovel probes were dug.

Survey Unit D

This survey unit is situated south of units B and F, between the logging road on the north and Sand Lake Road on the south and between the east and west parcel boundaries (Figure 31).

The ground surface in Unit D ranges from moderately undulating in the southeastern margins to pitted, rocky, wet lowland throughout most of the remaining unit. A swamp

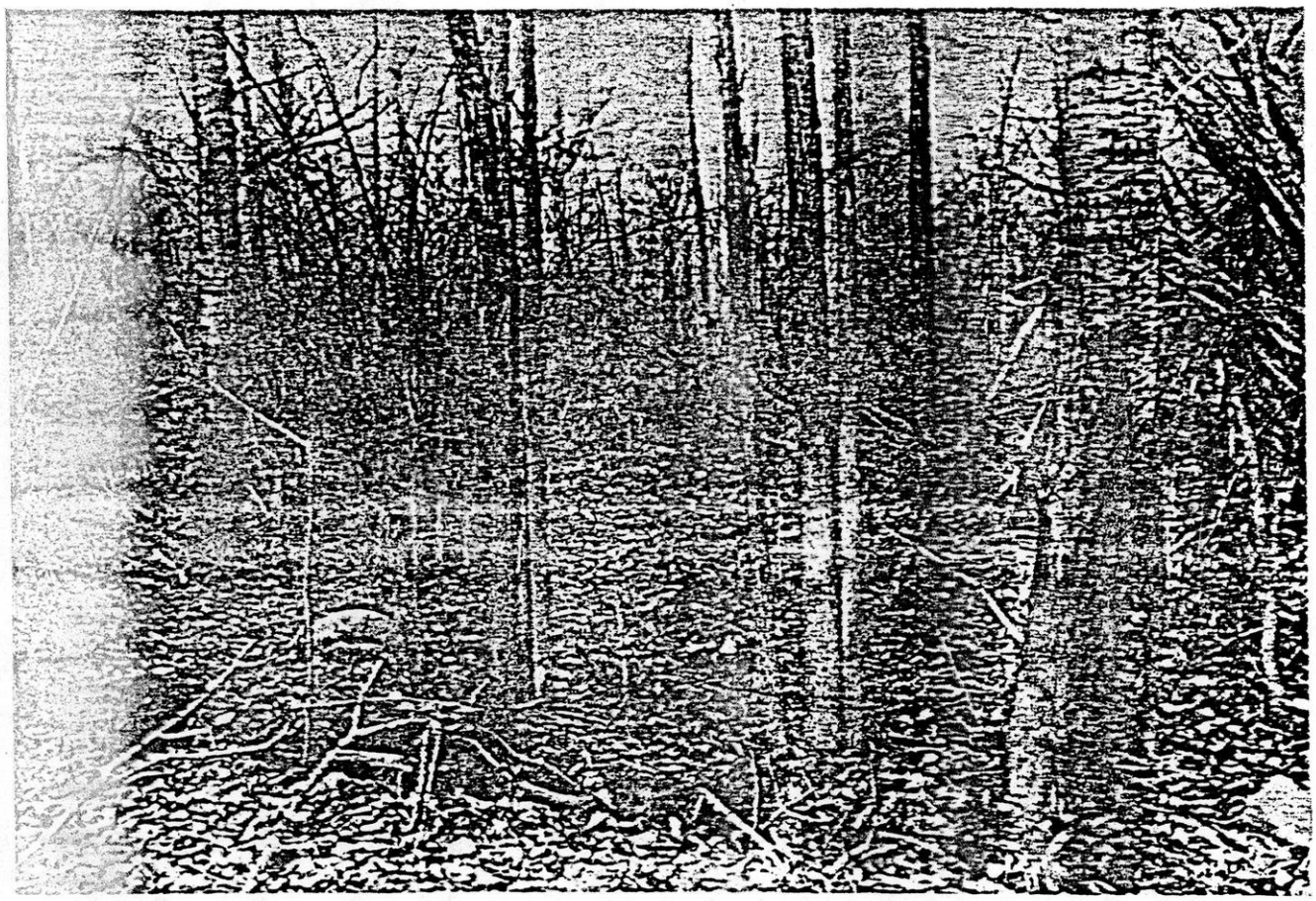


Figure 33: Parcel H, Unit C; pitted, rocky, wet lowland.

extends from the southern border, through the central section, to the western margins of this unit (Figure 34). Maple dominates in areas of high relief, whereas immature poplar and maple, and hemlock interspersed with grassy glades are common in lowland areas. The latter areas appear to have been previously disturbed, possibly as a result of logging activities.

Survey was initiated at the southeast corner, and transects were established on a north-south axis. Shovel probing became selective in response to topographic irregularity. Since the central section of the unit was swamp and rocky wet lowland which precluded continual shovel probing, this area was subject to visual inspection. Shovel probing, again on a selective basis, was conducted parallel to the western margins of the unit. During the course of survey, eight transects and 322 shovel probes were deployed.

Survey Unit E

This survey unit comprises the western extension of Parcel H. The boundaries of Unit E are formed by Sand Lake Road on the west, the section line between Sections 31 and 32 on the east, the section line between Sections 30 and 31 on the north, and on the south, the southern boundary line of the parcel (Figure 31).

The ground surface throughout much of this unit is moderately undulating with rocky lowland near the eastern margins, and kettle and knoll relief in the northwest corner. Vegetation consists of sugar maple and birch.

Archaeological survey of Unit E was accomplished by means

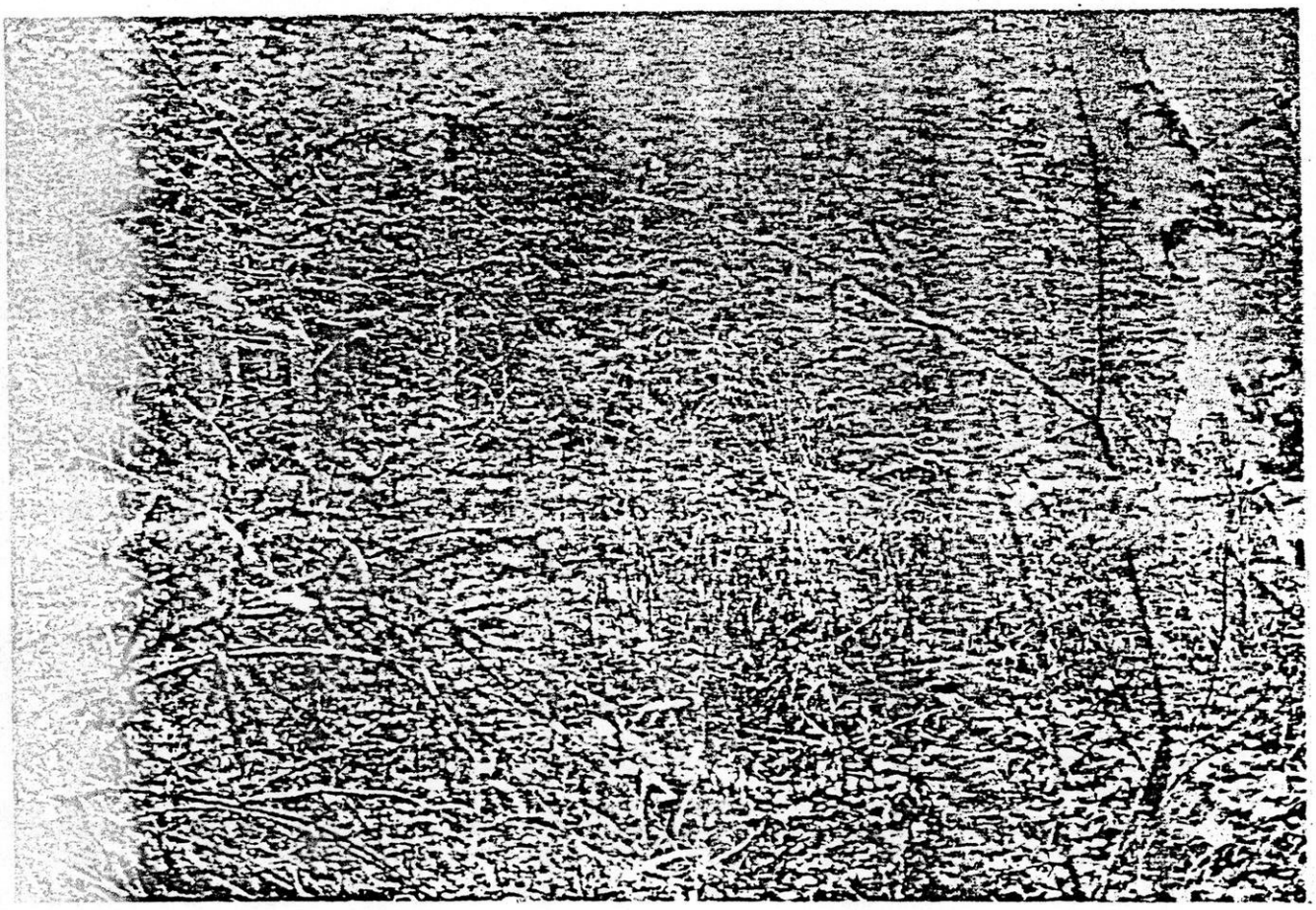


Figure 34: Parcel H, Unit D; swamp.

of 28 transects maintained on a east-west axis at 15m (49 foot) intervals and 916 shovel probes executed at 15m (49 foot) intervals. Again these intervals as well as the selectivity in shovel probing are a response to local topographic variability.

Survey Unit F

Survey Unit F is an irregularly shaped area bounded on the west by Unit E, on the north by the logging road, Units C and B on the east, and on the south by Unit D. The southwest limits are marked by the parcel boundary (Figure 31).

The predominant landscape in this unit is rocky, pitted, wet lowland which represents a marginal extension of the swamp surrounding Duck Lake to the south. The ground surface near the southern margins of the unit has more relief and is slightly undulating. The vegetation encountered in the wet lowland includes hemlock and balsam fir interspersed with grassy glades (Figure 35), as well as dense stands of immature maple and popple with some basswood and beech, and a ground cover of ferns. At the southern margins mature maple is prevalent.

Given the aforementioned conditions which precluded shovel probing, only the southern and eastern margins of the unit were subjected to testing procedures. Selective shovel probing was conducted along a series of nine transects of varying length resulting in a total of 240 probes. That area not shovel probed was visually inspected.

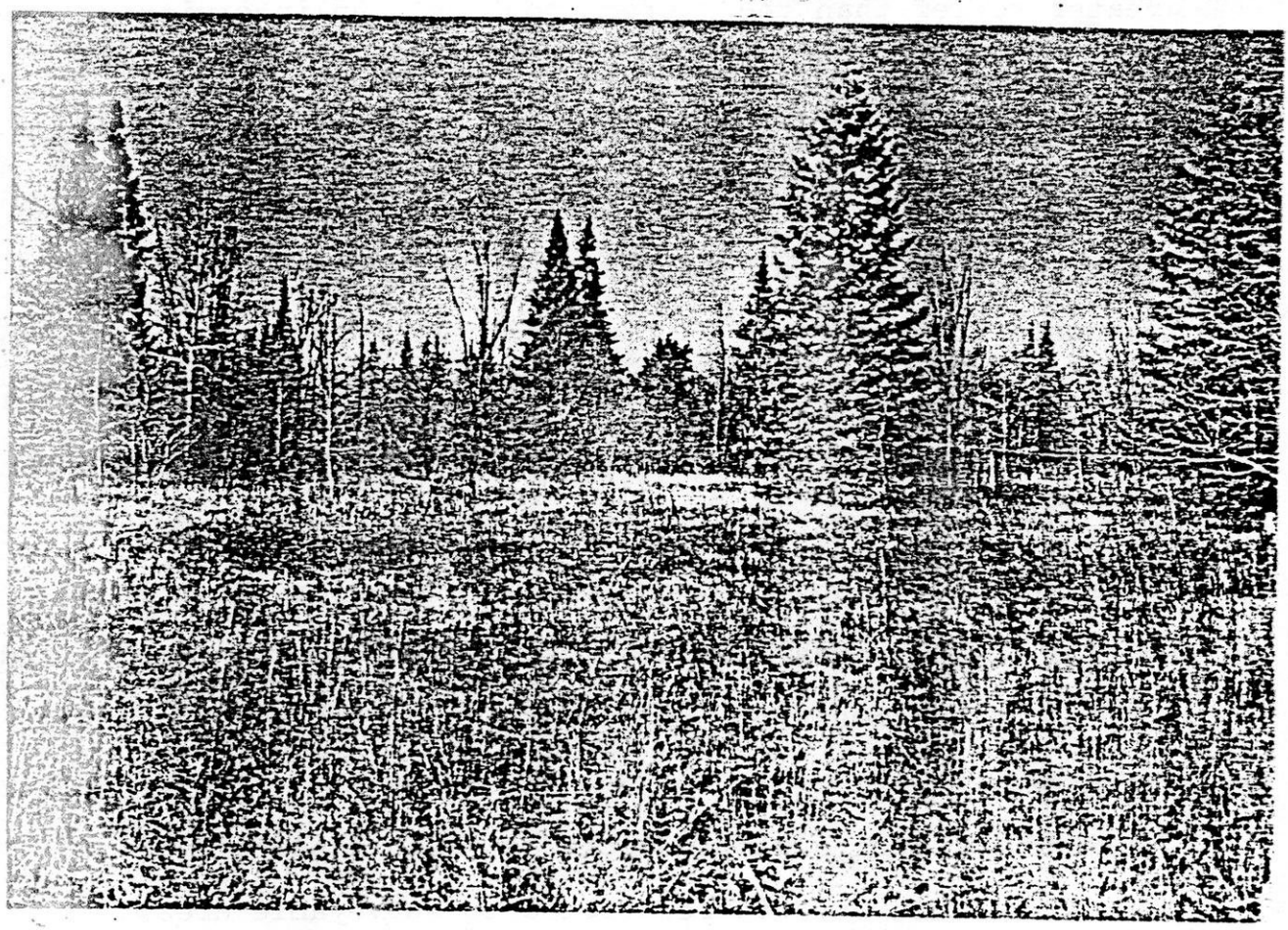


Figure 35: Parcel H, Unit F; open, grassy glades.

Survey Unit G

Unit G is located at the southern tip of Parcel H and includes that area south of Sand Lake Road.

Generally the eastern section of this unit exhibits greater relief than the western portion. An intermittent drainage flowing south from the swamp in Unit D bisects Unit G, and enters Deep Hole Lake at its northeast corner. The area adjacent to, and for the most part west of, this drainage is rocky lowland. Two exceptions to this condition exist in the southwest corner of the unit where there appears to be a former beach terrace, and along the extreme western margin. Vegetation in the eastern and extreme western sections and in the southwest corner is sugar maple and white birch. Lowland areas contain dense stands of popple, elm, and alder (Figure 36). Much of the low area, especially that adjacent to the drainage and in the northwest corner appears to have been previously disturbed.

Shovel probing was conducted on both a selective and intensive basis but was restricted to surveyable areas. A series of six transects was established in an east-west direction at 15m (49 foot) intervals. Probing was selective in pitted, rocky lowland and previously disturbed areas. Intensive shovel probing was executed along the former beach terrace since it appeared as an area of high potential for harboring prehistoric occupation. Intensive procedures involved a reduction of the shovel probe interval to 5m(16 feet). A total of 128 shovel probes were deployed throughout Unit G.

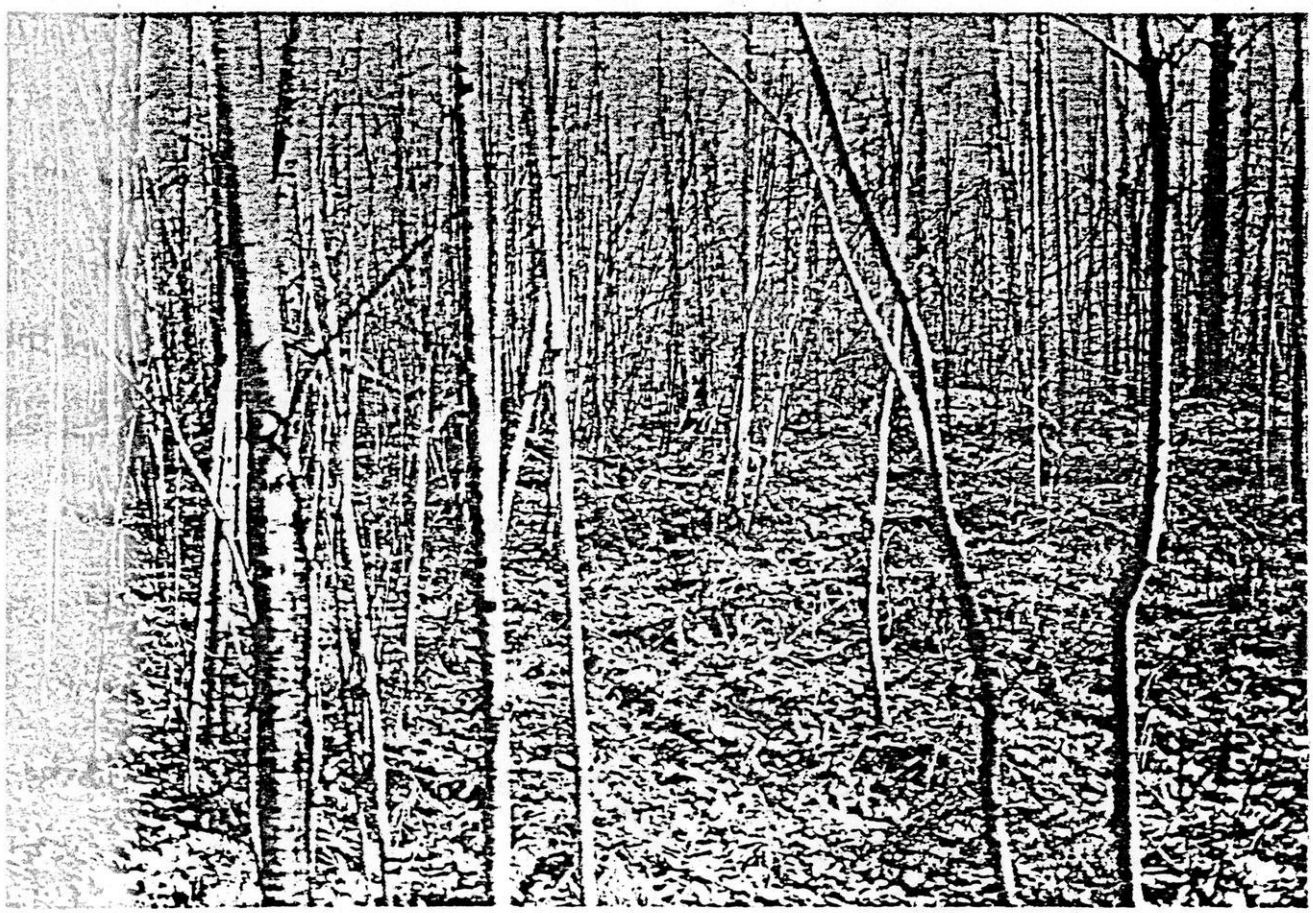


Figure 36: Parcel H, Unit G; cutover with sapling regeneration.

Results

The only cultural material encountered during the course of the inventory of Parcel H was historic debris found in Survey Unit G. This material has been identified as the Deep Hole Lake midden.

47-Fr-148: Deep Hole Lake Midden

This historic site consists of a midden and several associated features (Figure 37) located in the SE¼, NW¼, NW¼ of Section 5, T34N, R13E. The site is situated on a terrace approximately 50m (164 feet) from the northeast shore of Deep Hole Lake, on the north side of an intermittent drainage flowing into the lake (Figure 31).

Three concentrations of historic material comprise the midden. An inventory of artifacts and approximation of size was taken at each concentration. Concentration A was localized within an approximate $2m^2$ area (10.75 square feet)(Figure 38). Contained in this concentration were:

eight No. 10 cans
sheet metal
11 No. 300 cans
wire cable
one rubber boot
pieces of ironstone ware
one 4 oz prescription bottle embossed with Sloan's Liniment (circa 1905-1920).

Concentration B contained an assortment of approximately 145 cans, 5 bottles of various sizes, one tumbler, and fragments of ironstone ware. The numbers of items inventoried were determined solely on the basis of visual inspection and thus can be taken only as approximations. It is likely that

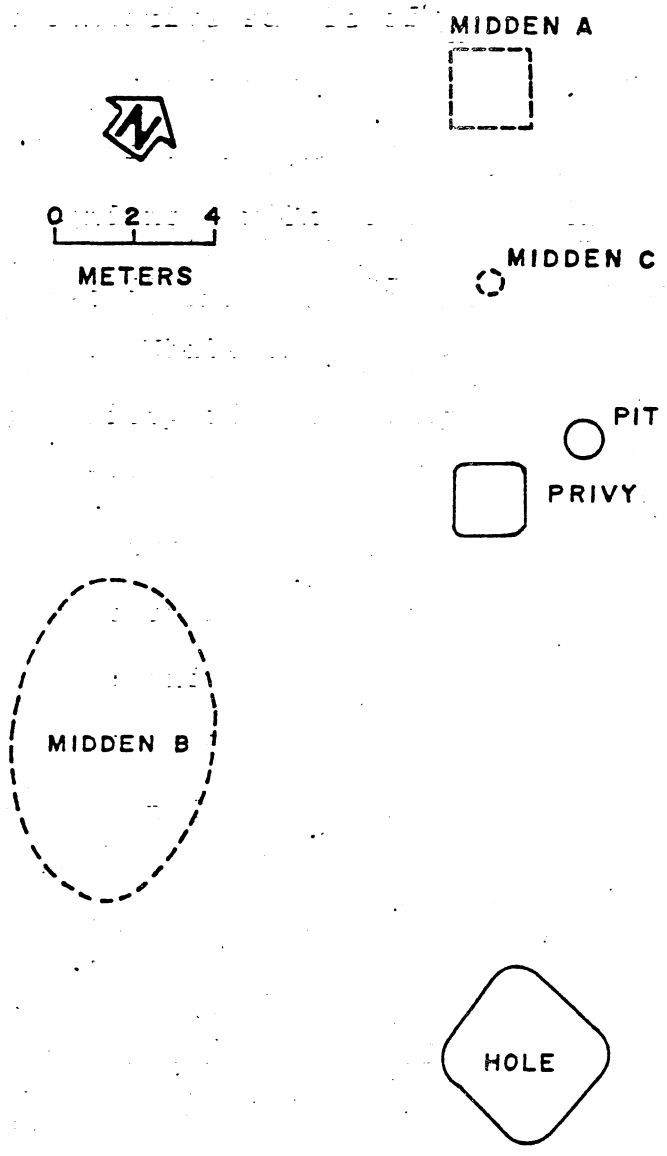
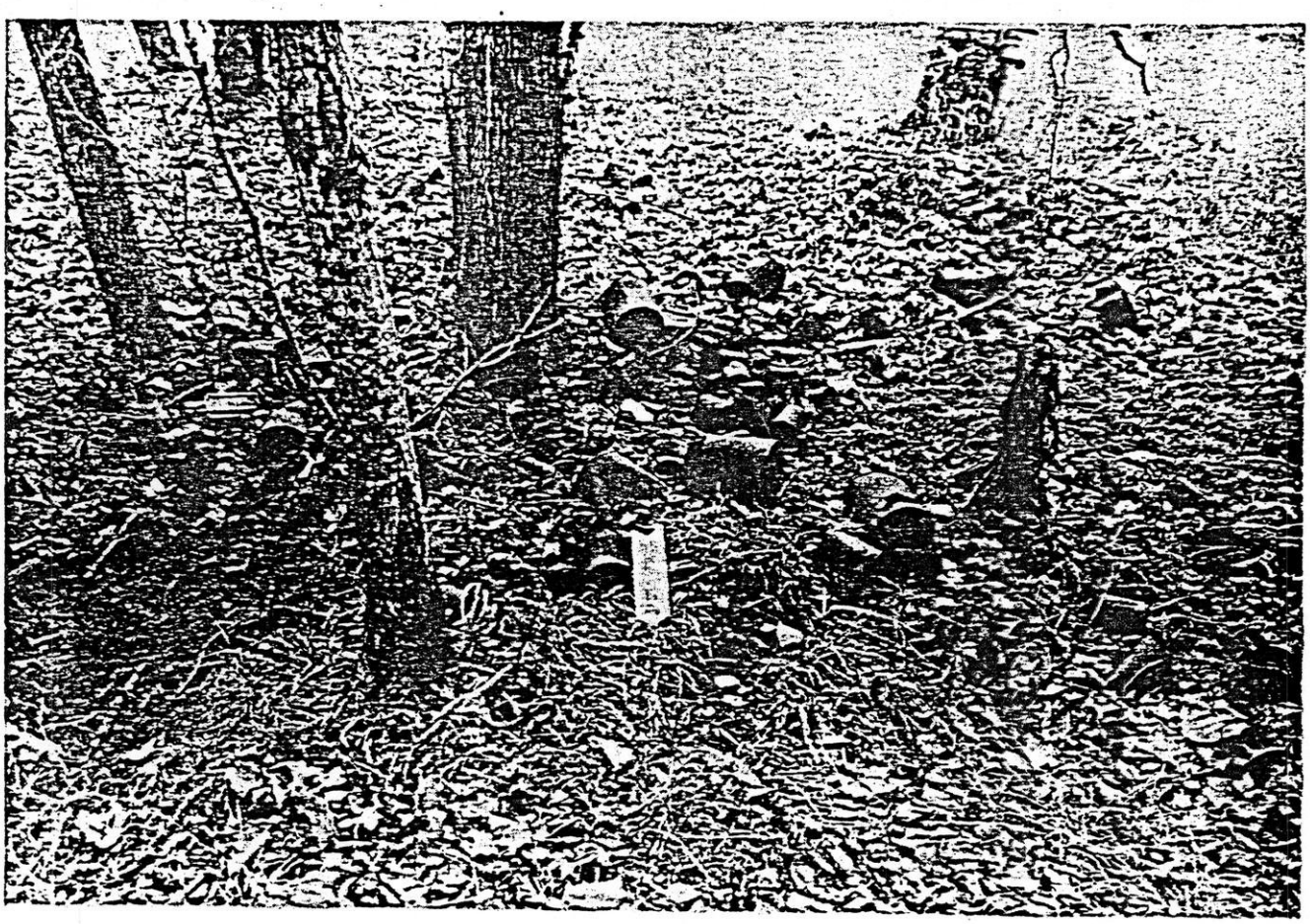
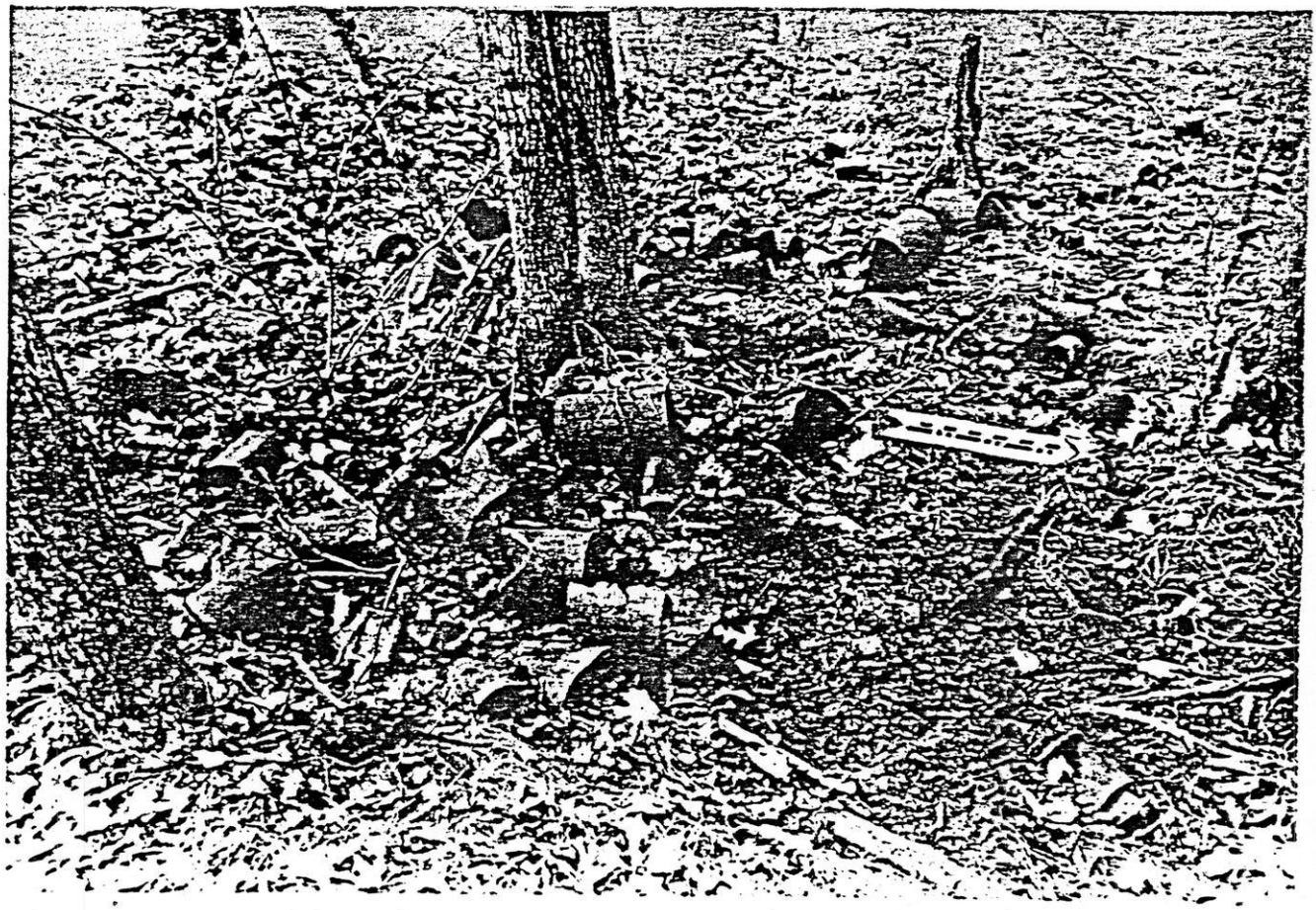


Figure 37: Parcel H, Unit G, 47-Fr-148, Deep Hole Lake middens.



47-Fr-148, Concentration C



47-Fr-148, Concentration A

Figure 38: Parcel H, Unit G, 47-Fr-148, midden concentrations.

more items exist beneath the surficial debris and leaf litter. The material was distributed within a minimum area of 5x4m (208 square feet) and a maximum area of approximately 5m (16 feet) N/S x 9m (30 feet) E/W (Figures 37 and 38).

A representative sample of these materials was recovered from the site for the purpose of laboratory identification. The types of cans found in the midden include: solder-top folded seam condensed milk cans, pre-1932; No. 10 cans; No. 300 and No. 303 cans (16-17 oz.); No. 2 1/2 cans; picnic cans; and 46 oz cans. While there were no labels, these cans probably contained a variety of food items including condensed milk, fruit, vegetables, soups, pork and beans, and meat products.

The bottle types include one paneled prescription bottle (embossed Tanlac on base); one 2 oz. drugstore bottle; two 1-quart bottles; and one green glass crown cap bottle. Generally all of these bottles date circa 1905-1915.

Concentration C contained one old gas can, wire cable and one No. 10 can.

Surficial features associated with midden concentrations A, B, and C, include:

a possible privy, 2m (6.5 feet) in diameter and 80cm (31.5 inches) in depth
a circular pit of undetermined function, 1m (3.28 feet) in diameter and 40cm (15 inches) in depth
a square depression approximately 4.4m (14.4 feet) in width and 1.2m (3.9 feet) in depth (see Figure 37).

No additional features were noted; however, it appears that the adjacent area has suffered some modification which may have disturbed other features.

Recommendations for Parcel H

Since no evidence for prehistoric or historic occupation was encountered in survey units A,B,C,D,E, and F, it has been determined that proposed developments here will have no adverse impact on cultural resources. The following recommendations are made with respect to survey unit G.

47-Fr-148

A preliminary evaluation involving a records search of tax rolls, land deeds (Appendix E), and plat maps failed to provide substantive data pertinent to site identification and function.

The site is located adjacent to a former narrow gauge railroad right-of-way. A depot serving this railroad was formerly located approximately 0.4km (0.25 mile) east of the southeast side of Deep Hole Lake which is actually a misnomer of "depot."

According to the land deeds, ownership of the 16ha (40 acre) tract was initially held by Chicago and Northwestern Railway Company and later by Underwood Venier. While it cannot be stated conclusively, a plausible interpretation is that the site may represent a temporary rail camp of a lumber company.

Should the proposed developments directly impact on 47-Fr-148, it is recommended that further evaluation procedures involving excavation and recovery be conducted in an effort to determine site significance.

Parcel I

Location and Description

Parcel I encompasses 115ha (284 acres) located in parts of the following sections: the E½ of the NW¼ and SW¼ and W½ of the NE¼ and SE¼, NW¼, NW¼ Section 2; the E½ of the NW¼ and SW¼ and W½ of the NE¼ and SE¼, SW¼, NW¼ Section 2; the E½ of the NW¼ and the NE¼ and SE¼ of the NW¼, SW¼ Section 2; the NE¼ of the SW¼ Section 2; the NW¼ and NE¼ of the SE¼, SW¼ section 2; the NW¼ and NE¼, of the SE¼ Section 2; and the N½ of the SW¼ and SE¼, SE¼ section 2, T34N, R12E Langlade County; the NW¼ and NE¼ and N½ of the SW¼ and SE¼ of the NW¼, SW¼ Section 1; the NW¼ and NE¼ and N½ of the SW¼ and SE¼ of the NE¼, SW¼ Skction 1 and the W½ of the NW¼ and SW¼ of the NW¼, SW¼ Section 1, T34N, R12E, Langlade County (Figures 2 and 39).

Physical Setting

Topography

The topography of the parcel reflects a drumlin landscape on a ground moraine. As expected, the ground surface throughout the parcel is undulating with localized and hilly and wet lowland areas. Areas of extreme slope occur predominantly in the west and southwest sections, and minimally in the west central section. Wet lowlands are found in the northwest corner of the northern extension, and in the eastern section. Two intermittent drainages, serving swamps north of the parcel, flow southerly through the eastern extension of the parcel and feed into wetland pockets there. Surficial boulders and rock are scattered throughout the parcel, and

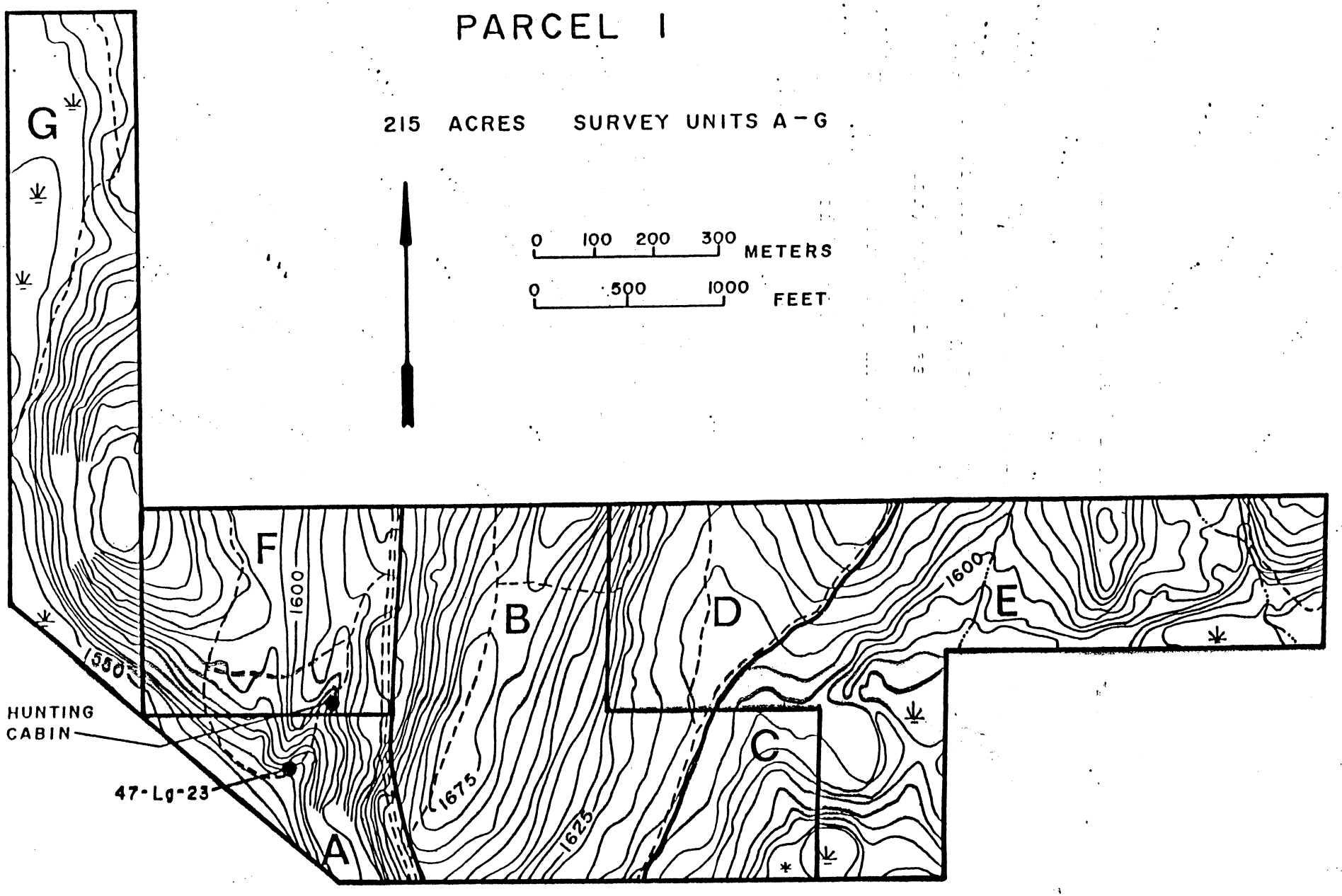


Figure 39: Parcel I, Sections 1 & 2, T34N, R12E, Langlade County

loams over glacial till, mor, and organic soils are characteristic. Local relief is 39m (129 feet).

Vegetation

The wet lowland area in the northwest corner is the edge of an expansive swamp located west of the parcel. In this area the vegetation is typical of northern lowland forest communities, including species such as hemlock, balsam fir, black spruce and tamarack. The two prevalent species encountered in the pitted, rocky, wet lowland areas in the eastern section, and on the eastern and western slopes and slope bottoms in the central and western sections are hemlock and balsam fir. In areas of higher relief in the central and north central sections, the vegetation consists of sugar maple, white birch and basswood interspersed with oak and sparse maple understory.

Present Land Use

Secondary vegetation growth covers the entire parcel and is particularly dense with saplings in a few areas recently clearcut. The only other evidence of modern disturbance other than the logging activities are a single test drilling site and a seasonally used hunting cabin.

Survey Methodology

Given the substantial size of this parcel it was divided into manageable units to accommodate systematic survey. Seven survey units identified as A through G were arbitrarily selected. Survey procedure executed in each unit is discussed below.

Survey Unit A

Survey Unit A is located in the southwest corner of Parcel I. The boundaries of the unit are formed on the west and south by the parcel border, on the east by a logging road, and on the north by the Jacobson property line (Figure 39).

Unit A is hilly with local relief greater than 30.5m (100 feet). The terrain exhibits extreme downslope to the west (Figure 40). Vegetation consists of maple, birch, ash, and poplar, as well as hemlock, balsam fir and white pine. Heavy bear activity in this area is inferred from the great quantity of scats.

Given the extreme topographic conditions which precluded shovel probing, the methodology employed was walkover survey. The area was subject to visual inspection along 15 transects maintained at 15m intervals in a north to south direction.

During the course of survey, cultural material and evidence for historic occupation was encountered in Unit A. A discussion of this site is included in the Results Section.

Survey Unit B

The boundaries of this unit are formed by a logging road on the west, an old road on the east, and by the parcel boundaries on the north and south (Figure 39).

The ground surface from west to east slopes upward gently on the south end to steeply on the north end, is level in the central section and slopes downward continuously to the eastern border. Soils are sandy loams with gravel and scattered boulders. The vegetation consists primarily of maple,

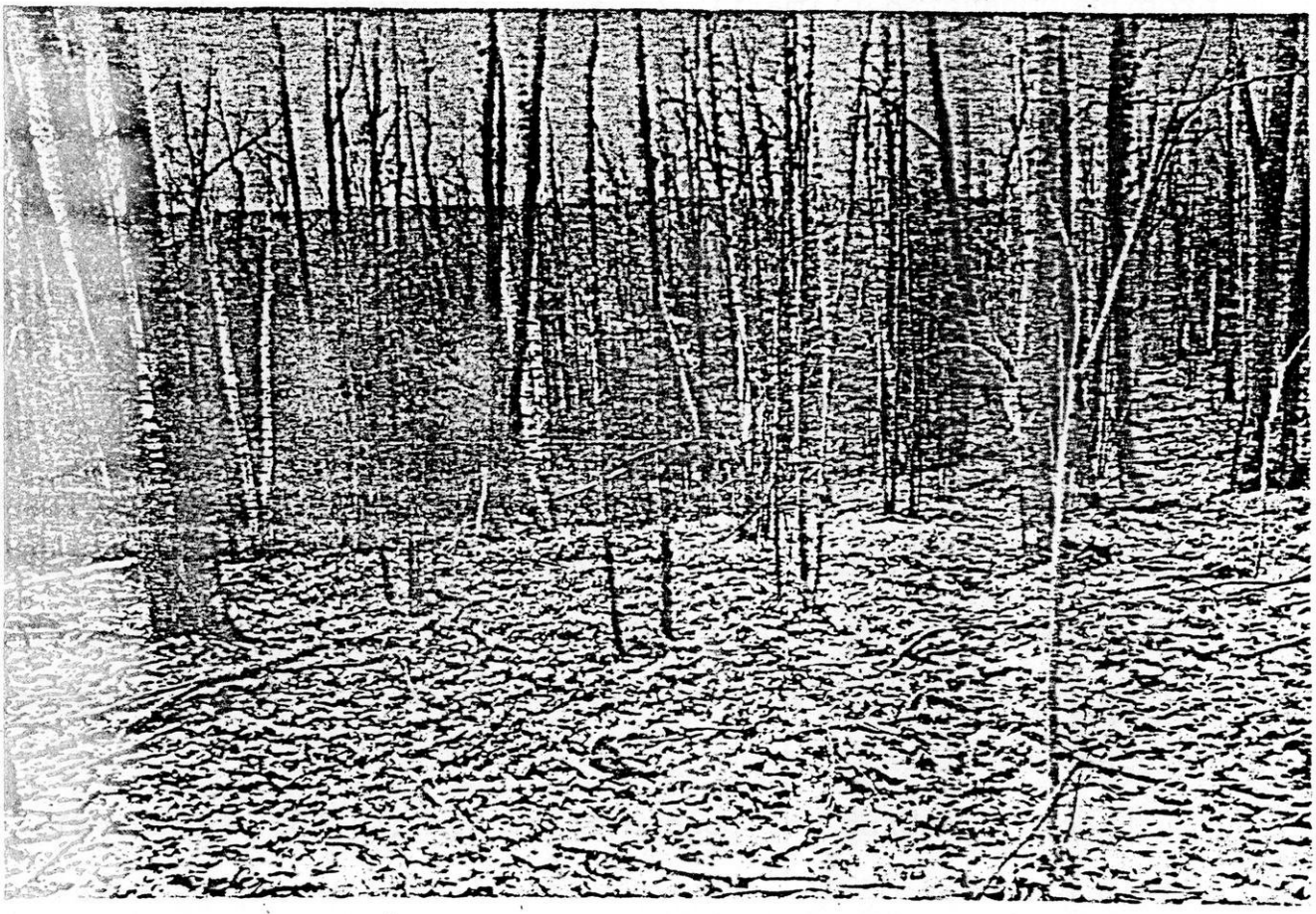


Figure 40: Parcel I, Unit A, west trending downslope.

birch and basswood with maple understory and oak occurring in the north central portion. Hemlock and balsam were commonly found along the eastern margin of this unit.

Archaeological survey was accomplished through shovel probing conducted primarily on an intensive basis although selectivity in probing was exercised in areas of slope. Shovel probes were deployed at 10m (33 foot) intervals within 36 transects established on an east-west axis at 15m (49 foot) intervals. A total of 940 shovel probes were excavated.

Survey Unit C

Unit C is located east of Unit B. The ground surface is relatively low, irregular and continually slopes downward from west to east. At the southeast corner is a small swamp. Soils are loams and clayey loams with gravel. The vegetation includes maple, birch, hemlock and balsam fir and a groundcover of grass and ferns.

Shovel probing was conducted at 15m (49 foot) intervals within a series of 16 transects established on an east-west axis at 15m (49 foot) intervals. A total of 208 shovel probes were deployed during the course of survey.

Survey Unit D

The boundaries of Unit D are formed by Unit B on the west and south, by the parcel boundary on the north and by a northeast-southwest trending logging road on the east (Figure 39).

Generally the terrain is level to slightly undulating but moderate slope occurs along the western margin. Gravel is incorporated in the loamy soil. Dominant species are maple

and balsam fir interspersed with birch, poplar, and oak.

Survey of Unit D was accomplished through shovel probing at 10m (33 foot) intervals within a series of 20 north-south transects established at 15m (49 foot) intervals. As a result, 528 shovel probes were dug.

Survey Unit E

The northern, eastern, and southern boundaries of Unit E coincide with the parcel boundaries and the western boundary of the unit is formed by Units C and D (Figure 39).

In general, the terrain in Unit E is undulating. Near the western margin the ground surface is level and somewhat pitted. Moderate slope interrupted by two intermittent drainages and swamp characterizes the ground surface in the eastern and southern extensions of the unit. Soils in areas of higher relief include loams and sandy loams, whereas in low areas, soils are poorly developed clayey loams with gravel and rock. Boulders are scattered throughout the unit. In the southern extension in areas of higher relief, mixed maple and poplar saplings dominate but are interspersed with scattered mature maple, birch, and hemlock. Balsam fir, cedar, and tamarack comprise the species of the low wetlands and swamp. Elsewhere in the unit mature maple and birch dominate and hemlock is more common in the western section. Low wetland species are confined to the southeast margin of the eastern extension.

Shovel probing in Unit E was conducted in both continuous and selective bases in response to drainage and local topographic conditions. Selective probing and visual inspection

were employed in areas of slope, swamp, and rocky lowland.

Survey in the southern extension involved selective probing and visual inspection within 12 north-south transects maintained at 15m (49 foot) intervals. The same procedure was conducted in the remaining section of the unit where 15 east-west transects served in survey coverage. During the course of survey in Unit E, 503 shovel probes were excavated. Adjacent to the intermittent drainage near the eastern margins is a clearing. Intensive probing and visual inspection did not reveal any evidence of former occupation.

Survey Unit F

The boundaries of this square unit are formed by Unit B on the east, Unit G on the west, Unit A on the south, and the parcel boundary on the north (Figure 39).

The ground surface is undulating and moderate slope occurs along the western, eastern, and southern margins. A narrow, rocky, wet depression trending north-south bisects the unit. Soils include loams and clayey loams over glacial till. The vegetation consists primarily of balsam fir with some maple and birch interspersed. A hunting cabin is located along an old logging road near the boundary between Units F and A (Figure 39).

Survey of this unit was accomplished through selective shovel probing and visual inspection. These techniques were dictated by the presence of slope, extremely dense vegetation, and wet soil conditions. Shovel testing was more or less continuous in the northwest corner of the unit where the ground surface was relatively level. During the course of survey a

total of 23 transects maintained at 15m (49 foot) intervals along a north-south axis and 120 shovel probes were executed.

Survey Unit G

Survey Unit G is the rectilinear northern extension of the parcel. The western boundary of this unit coincides with the parcel boundary (Figure 39).

The terrain in the southern half of the unit exhibits moderate to extreme slope with a localized, relatively level, high area along the eastern margin. Here, an area has been disturbed as the result of drilling activities. The northern half slopes down to a swamp on the west. An intermittent drainage flowing east-west bisects the unit and drains into the aforementioned swamp. Soils are poorly developed loams with gravel and rocks. The vegetation consists primarily of balsam fir interspersed with cedar, poplar, birch, and red and white pine. Alder, white cedar, black spruce, and tamarack were prevalent in the swamp.

Selective shovel probing and walkover served as the techniques employed during the course of survey. The area shovel probed was restricted to that small level section parallel with the eastern border. The remaining portion, consisting of either slope or swamp, was subject to walkover. Survey was conducted along 10 north-south transects maintained at 15m (49 foot) intervals. A total of 60 shovel probes were deployed at 15m (49 foot) intervals within and between transects.

Results

During inventory no evidence of prehistoric or historic occupation was encountered in Survey Units B,C,D,E, and G. However, historic cultural material and features were found in Unit A, and a structure was encountered in Unit F.

47-Lg-23: Parcel I Logging Camp

In survey Unit A, a complex of historic features and historic material was encountered at the apex of an old logging road spur (Figure 39). The site represents an early twentieth century logging camp located in the NW¼, SE¼, SW¼ of Section 2, T34N, R12E, Langlade County.

The features which have been identified include three structures, a root cellar, and a pump house (Figure 41). Historic debris was scattered over the entire site area. Two structures (berms) identified as 1 and 2, may actually represent a single large structure such as a bunkhouse and dining room separated by a dingle. However, the dingle area has been disturbed by what appears to have been a road. It thus remains difficult to identify Structures 1 and 2 as a single large structure or two smaller structures. At the southwest corner of Structure 2 several old stove parts were lying on the berm exterior. Together the structures are approximately 18.5m (61 feet) in length and 13m (43 feet) in width. Structure 3, which also is a berm feature, is approximately 7.5x5m (24.6x 16.4 feet). The interior contained a metal bucket, a galvanized wash tub and six No. 10 cans. The root cellar was constructed into the hillslope and is approximately 3x4m (9.8x13.1 feet).

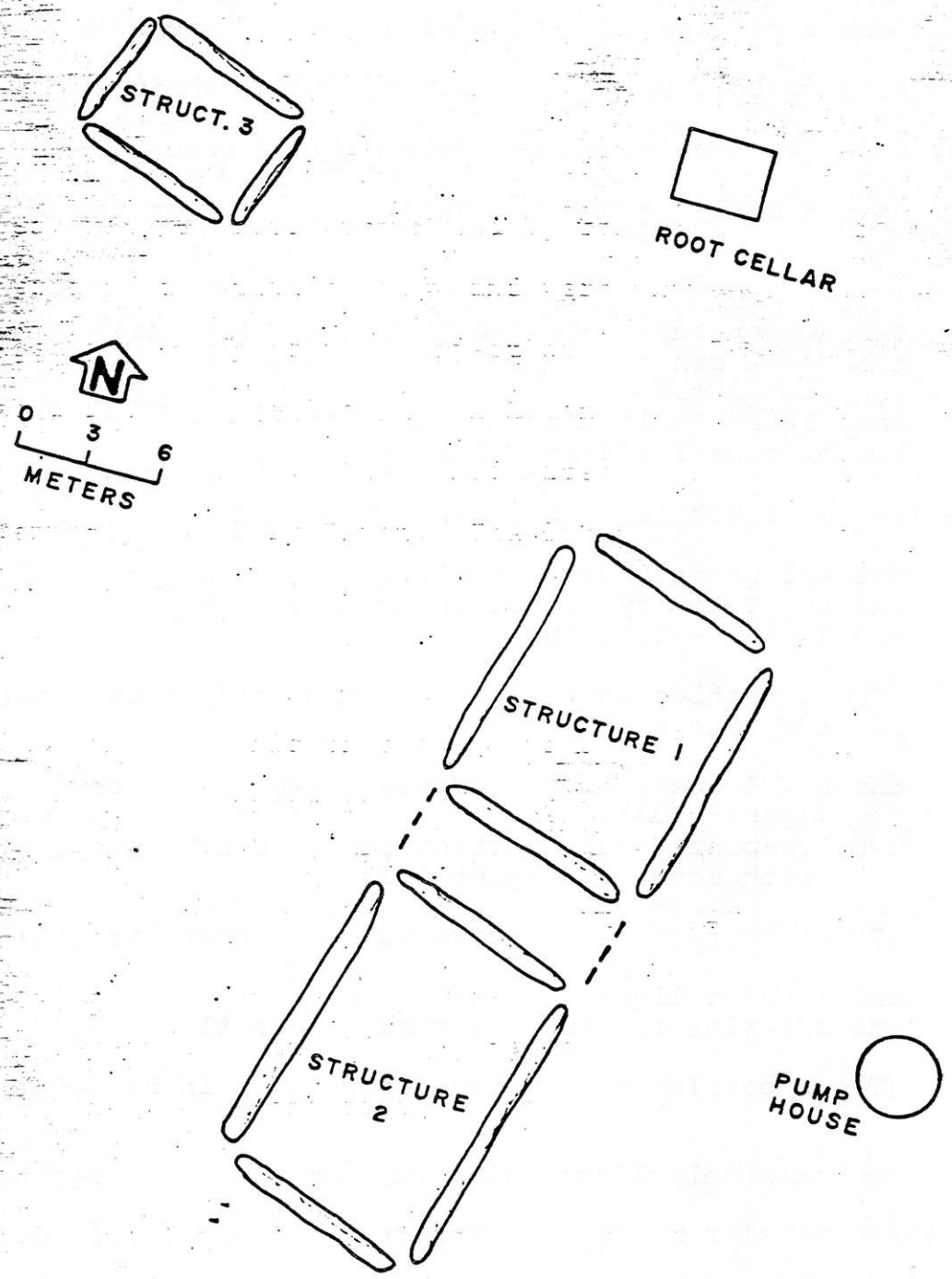


Figure 41: Parcel I, Unit A, 47-Lg-23.

It contained numerous No. 10 cans. The pumphouse is 3m (9.8 feet) in diameter. Adjacent to the pumphouse were two barrel hoops and a portion of a pump with a manufacturer's mark of Kelly-How-Thompson Co., Duluth, Minn. Historic debris scattered over the site area consisted primarily of assorted cans and bottles. A small sample of cans collected from the site includes:

one solder-top condensed milk can, No. 1 tall (pre-1932)
one No. 2 can
one No. 10 can
one "lunch pail" can
two beer cans (Pabst and Blatz)

The sample of bottles which were collected includes:

one 4/5 quart brown glass liquor bottle (post-1932)
one Log Cabin syrup bottle (marked 30¢)
one 2-pint glass jug

(These bottles were recovered from different locations in the site area.)

three 4/5 quart liquor bottles (two with screw tops) (post-1933)
two 1/4-pint Liquor bottles (one brown, one clear glass with screw top (post-1933)

(These bottles were recovered in or near Structure 1.)

one 1-quart liquor bottle (broken)
one 1/2 pint rectangular cork top bottle

(These bottles were recovered near or in Structure 2.)

Approximately 120m (394 feet) south of the logging camp is the partial remains of a structure of undetermined function (Figure 42). An association between this feature and the logging camp cannot presently be established.

While no additional features were encountered during inventory, the possibility of more structures at this site

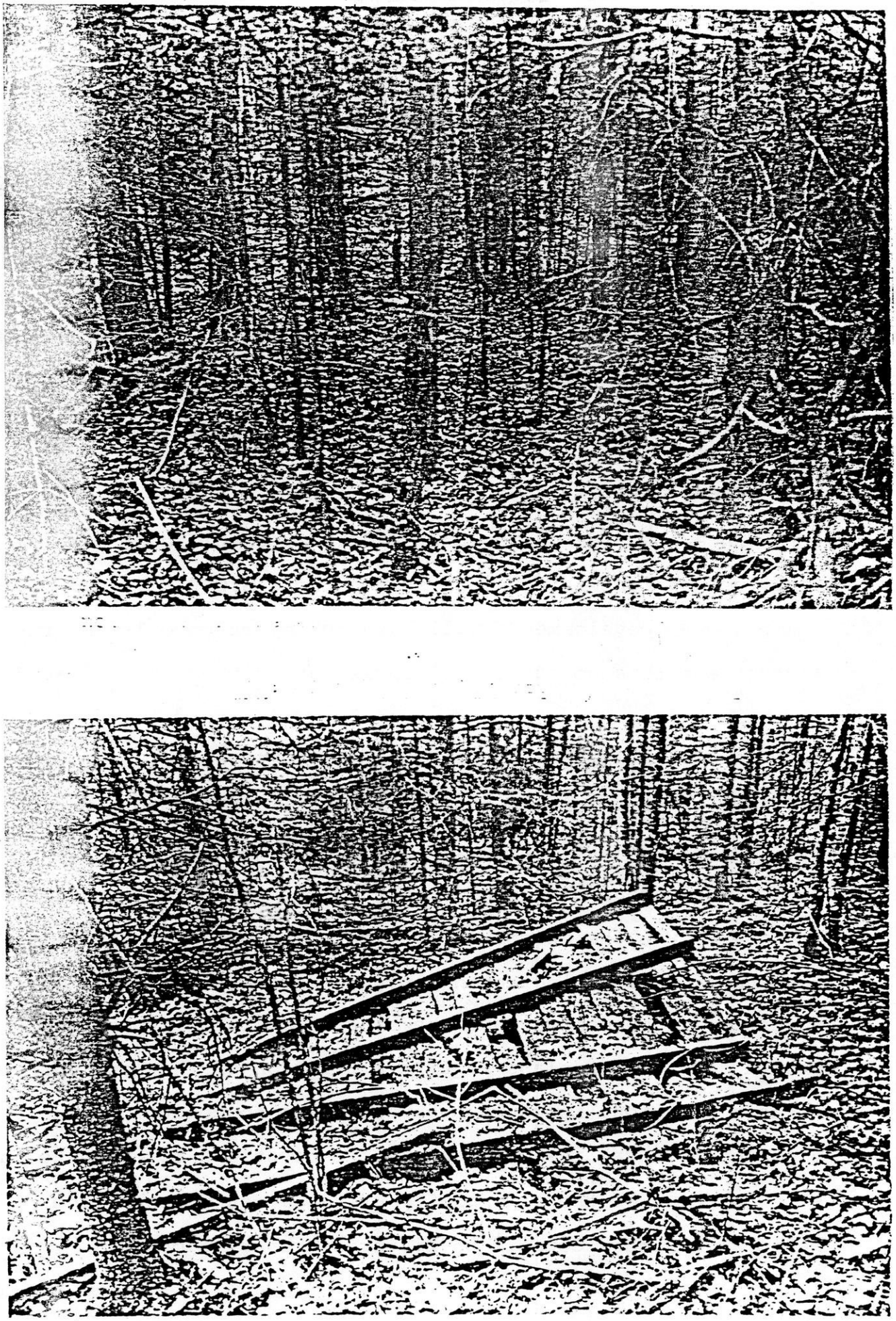


Figure 42: Upper, structure 1 at 47-Lg-23; Lower, more recent structure not related to 47-Lg-23.

does exist. Such features are easily obscured by the dense vegetation and ground cover including high grass and berry bushes, characterizing this disturbed area.

During survey of Unit F a structure was located north of the logging camp on the same logging road spur. The structure appears to be a seasonal hunting cabin which is currently used. In size the structure is approximately $30m^2$ (323 square feet). Various modern items are strewn about the structure.

Recommendations for Parcel I

Since no evidence for prehistoric or significant historic occupation was found in survey Units B,C,D,E,F, and G, the proposed developments will have no impact on cultural resources and thus no additional investigations are recommended in these areas.

In Unit A, however, the discarded rubbish including cans and bottles are, for the most part, post-1930 refuse. On the other hand, a few of the items are of pre-1930 origin. It seems likely that the camp dates from the post-pineries or hardwoods era, yet the meagre earlier cultural material could be remains from late nineteenth century logging activities. As a result, we recommend that the site be avoided if possible. Should development plans require alteration of the land surface at this location, it would be appropriate to conduct more thorough archival research and test excavations to evaluate the site in terms of the eligibility criteria set forth by the National Advisory Council on Historic Preservation.

HISTORIC SITES LOCATED OUTSIDE OF THE PROJECT AREA

On August 26, 1981, accompanied by Mr. Howard Lewis, and Mr. Douglas Kincaid of Exxon Minerals Co., Mr. Gregg Egtvedt of the Department of Natural Resources (D.N.R.), and the field crew investigated several sites located outside of the project area. These sites were noted by D.N.R. personnel during the course of a wetlands study and were examined because of their close proximity to the project area. Of the following sites, the first two are located on Exxon property previously surveyed by Beloit College. The third site is located on land not presently owned by Exxon. The locations of these sites are noted in Figure 43.

47-Fr-144: Skunk Lake Structure and Midden

This historic site consists of a foundation (berm) of a structure, an associated midden, and privy (Figure 44) located in the SE¼, NW¼, SE¼ of Section 30, T35N, R13E, Forest County. The site is situated on the west side of Skunk Lake on a point of land which protrudes into the lake. It is located immediately east of an old logging road.

The dimensions of the berm are approximately 13m E/W x 7.5m N/S (42.6x24.6 feet). The berm is not easily discernible given the thick cover of vegetation including a large spruce, dense saplings and grass mat (Figure 45). A cream-colored furnace brick with the name Strasburg and one screw top glass jug with a loop handle were found in the interior of the structure.

Figure 43: Sites located outside the immediate project area.

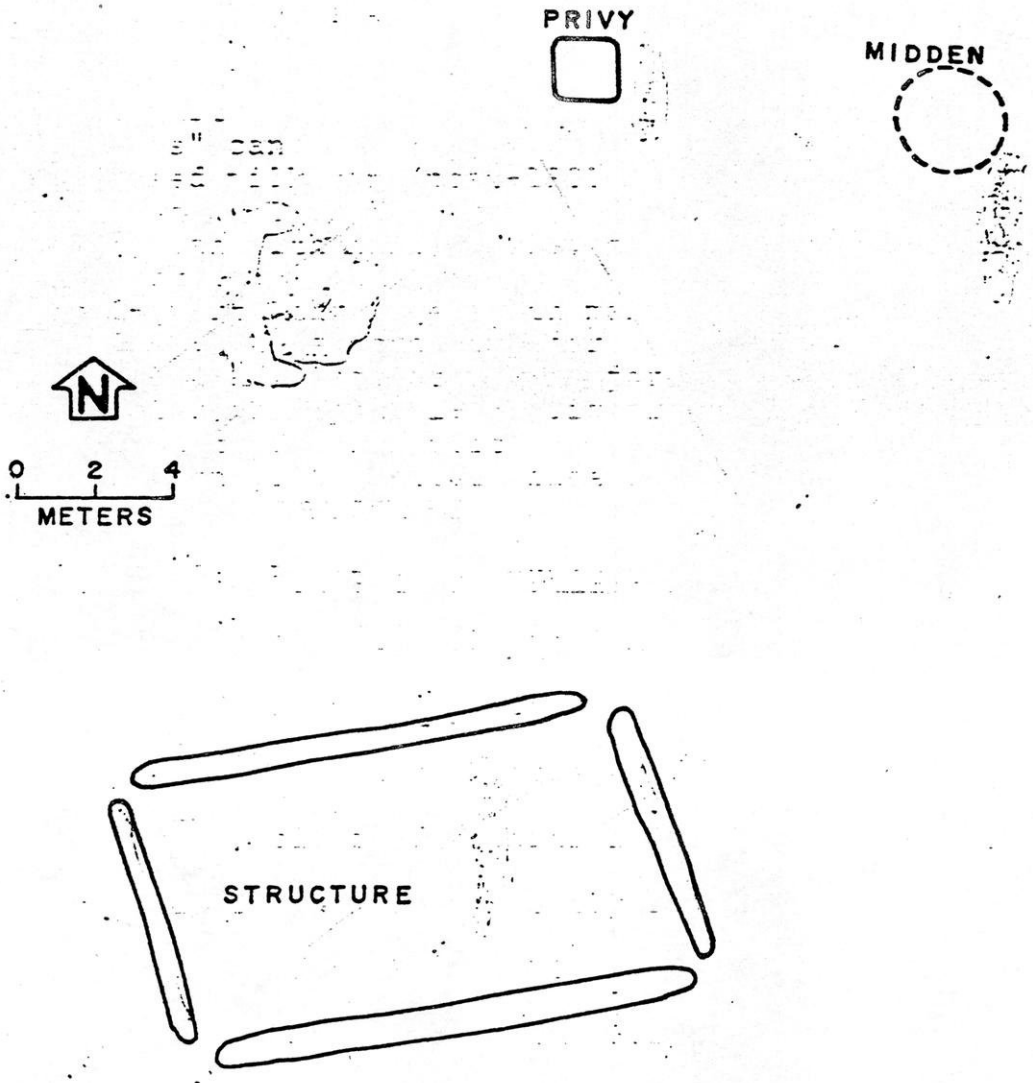


Figure 44: Plan view, Skunk Lake Structure and Midden, 47-Fr-144.

Figure 45: 47-Fr-144, upper-structure, lower - privy.

The structural remains of what appears to have been a privy is located north of the structure (Figure 44). Contained in the midden (Figure 46) to the east were the following items:

sheet metal
stove part
"thermos" can
condensed milk can (post-1931)
top of a Coleman lantern
one #2 can with nail handle, open top and perforated bottom
one 2-quart Kerr wide-mouth mason jar with prune pits
one 8 oz. glass screw-top jar
one 1 1/4 qt glass screw-top jar
one 4/5 quart (post-1933) liquor bottle
one 1-pint liquor bottle
one broken glass bottle (size indeterminant)

47-Fr-150: Plant Site Structure and Midden

This historic site is located near the northwest corner of the proposed plant site in the SW¼, NW¼, SW¼ of Section 30, T35N, R12E, Forest County (Figure 43).

The site consists of a partial foundation of a structure, the east wall of which is presently indiscernible. The existing berm is approximately 11m NE/SW x 7m NW/SE (36x23 feet). An interior pit approximately 1m (3.28 feet) deep is situated near the southwest corner of the structure (Figure 47). A sample of artifacts in the midden which was partially buried includes:

ten No. 10 cans
approximately 100 condensed milk cans: assorted No. 1 talls and small (pre-1932)
one tin pudding pan
one 1-cup coffee pot
1 Acme flour sifter
one cocoa tin
one barrel hoop
braided wire
window glass
one broken hurricane glass

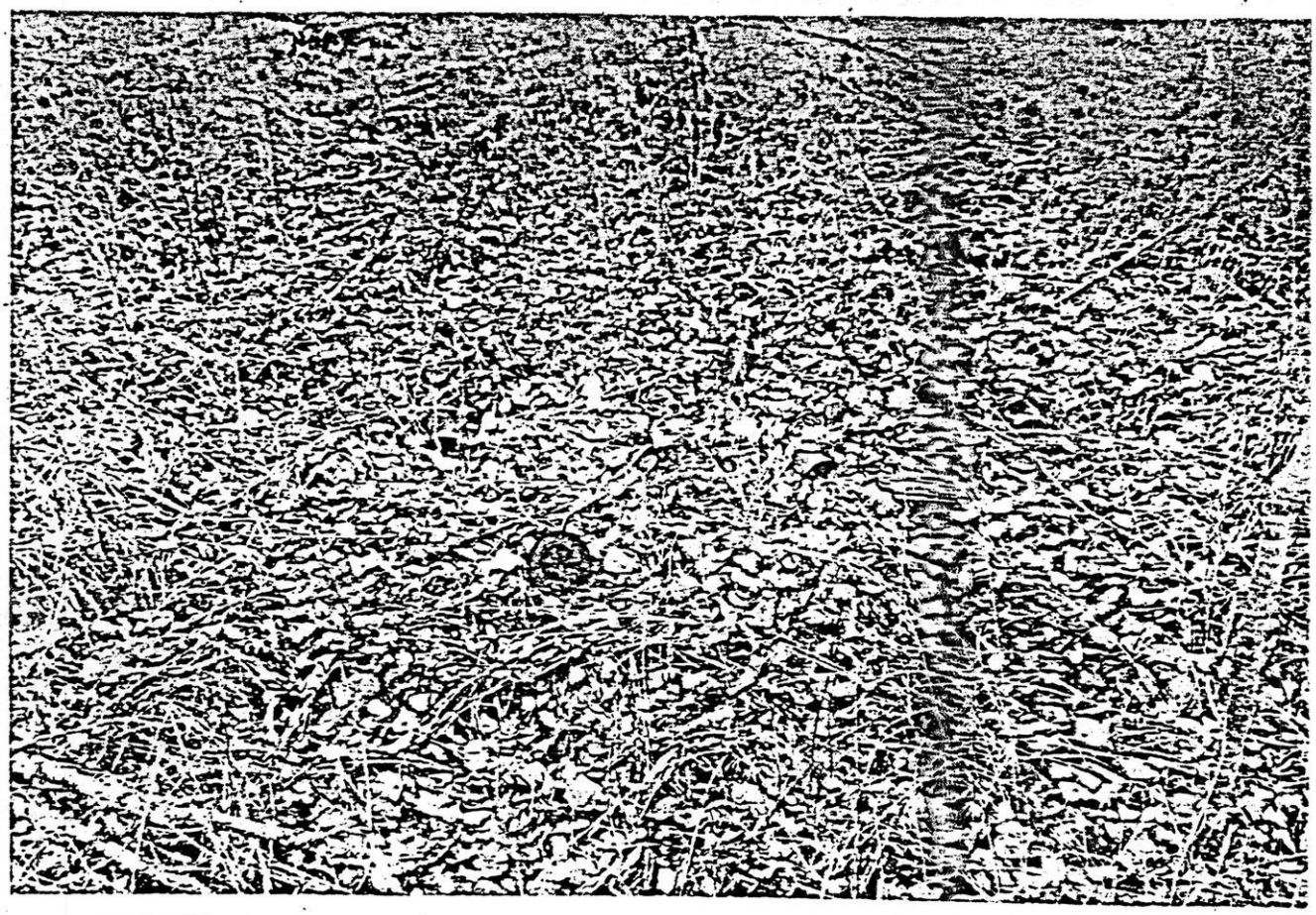


Figure 46: 47-Fr-144, midden.

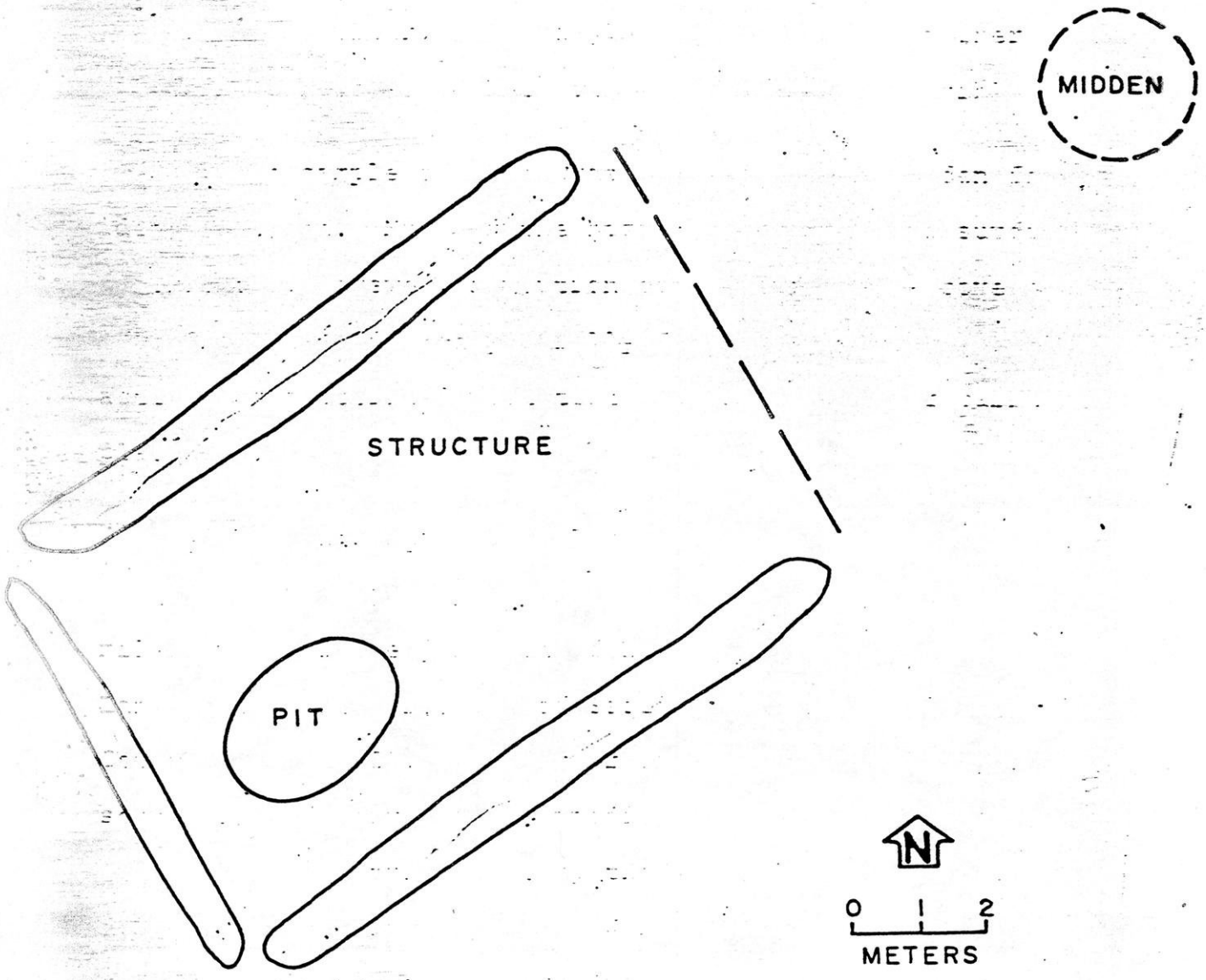


Figure 47: 47-Fr-150, Plant Site Structure and Midden.

Figure 48: 47-Fr-150, midden.

three broken bottles
one top to baking powder can reads: "True Height Can" Guaranteed KG
one broken plate, white ironstone (burned)
one oval clear, pressed glass salt/sugar container
one broken crock, brown and white ware
burned butchered bone (unidentifiable mammal rib)

Only a sample of items was taken from the midden for identification. Much of the historic material was surficially distributed; however, a portion of the midden was covered.

The site had been partially disturbed by earth moving activities associated with test drilling and power cable placement.

47-Fr-151: Berry Lane Logging Camp

This logging camp is located approximately 0.47km (0.75 miles) west of the junction of Hemlock Lake Road and Berry Lane in the NE¼, NE¼, SW¼ of Section 29, T35N, R13E, Forest County (Figure 43). The former camp is in a clearing on the south side of Berry Lane, immediately east of a large swamp.

Several features make up the site including: one large structure approximately 31m E/W x 9m N/S (102x30 feet); one rather small structure approximately 8.5m E/W x 10.3m N/S (28x34 feet); a root cellar approximately 3.5m^2 (38 square feet) and 2m deep (6.5 feet) with an entrance 3m (10 feet) long; nearby is a midden approximately 5m^2 (54 square feet); and a pumphouse which measures approximately 4.5m^2 (48 square feet) with a 16.4m (5 foot) pipe exposed (Figure 49).

The midden contains an assortment of cans of various sizes the most prevalent being No. 10 cans and condensed milk cans.

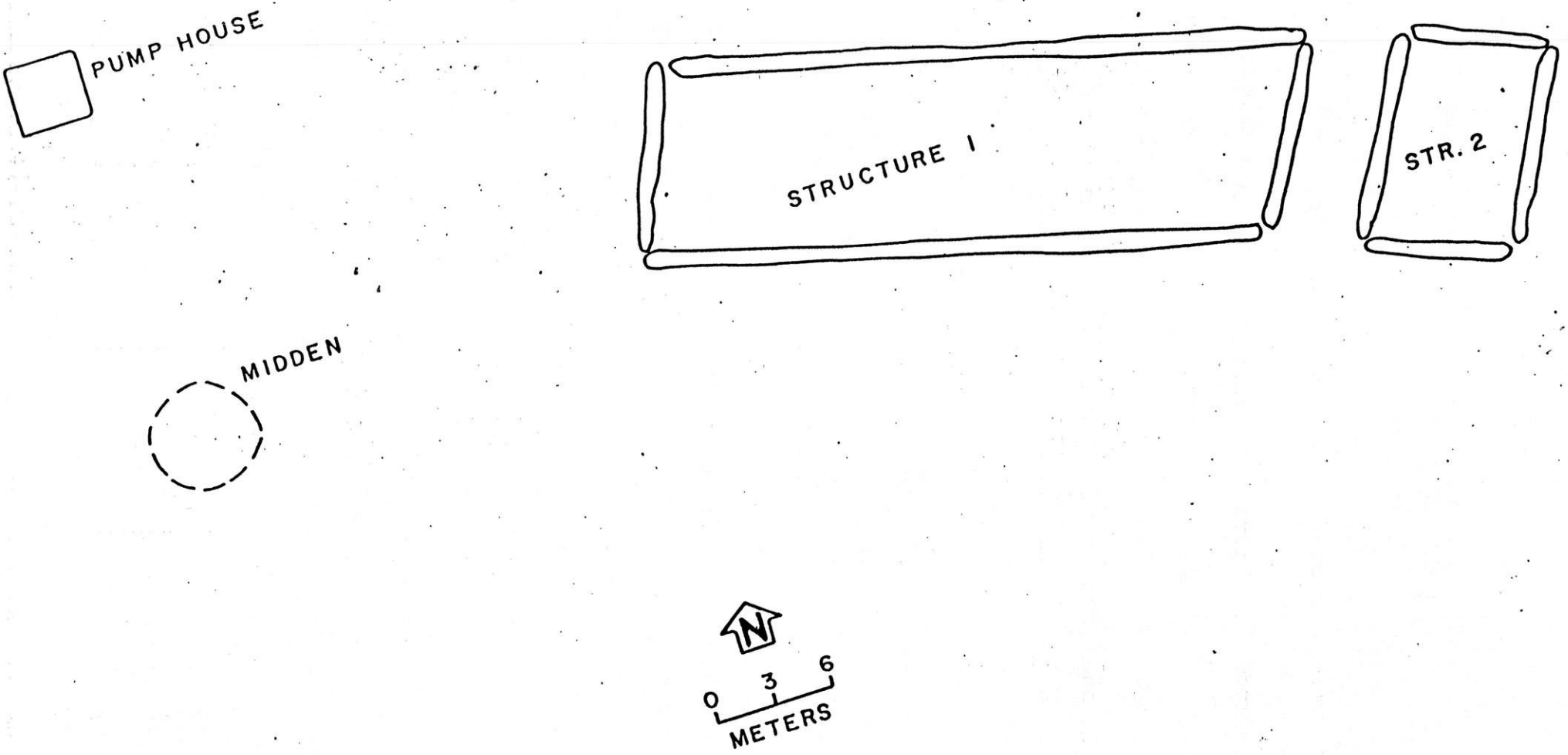
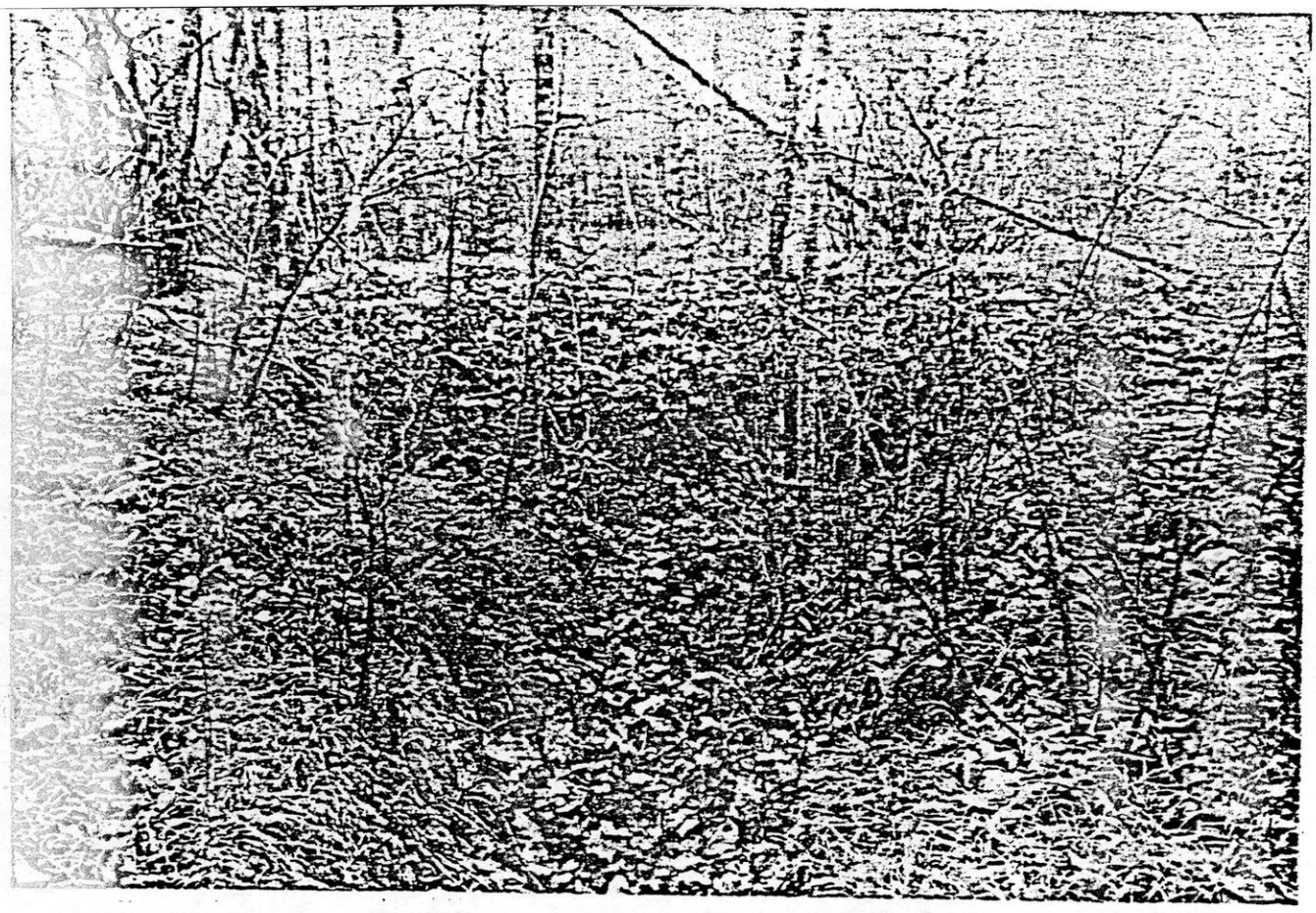


Figure 49: 47-Fr-151, Berry Lane Logging Camp.



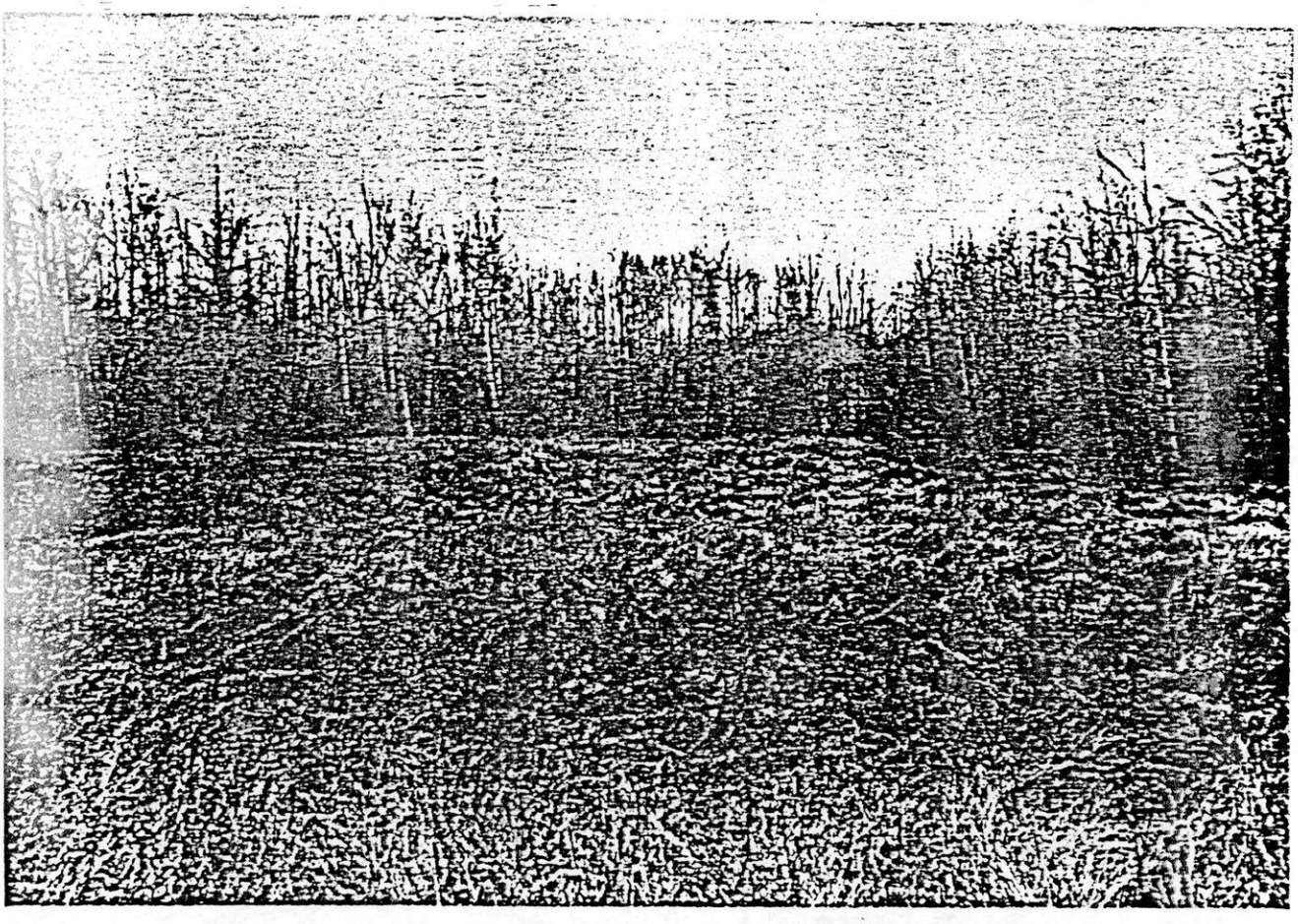
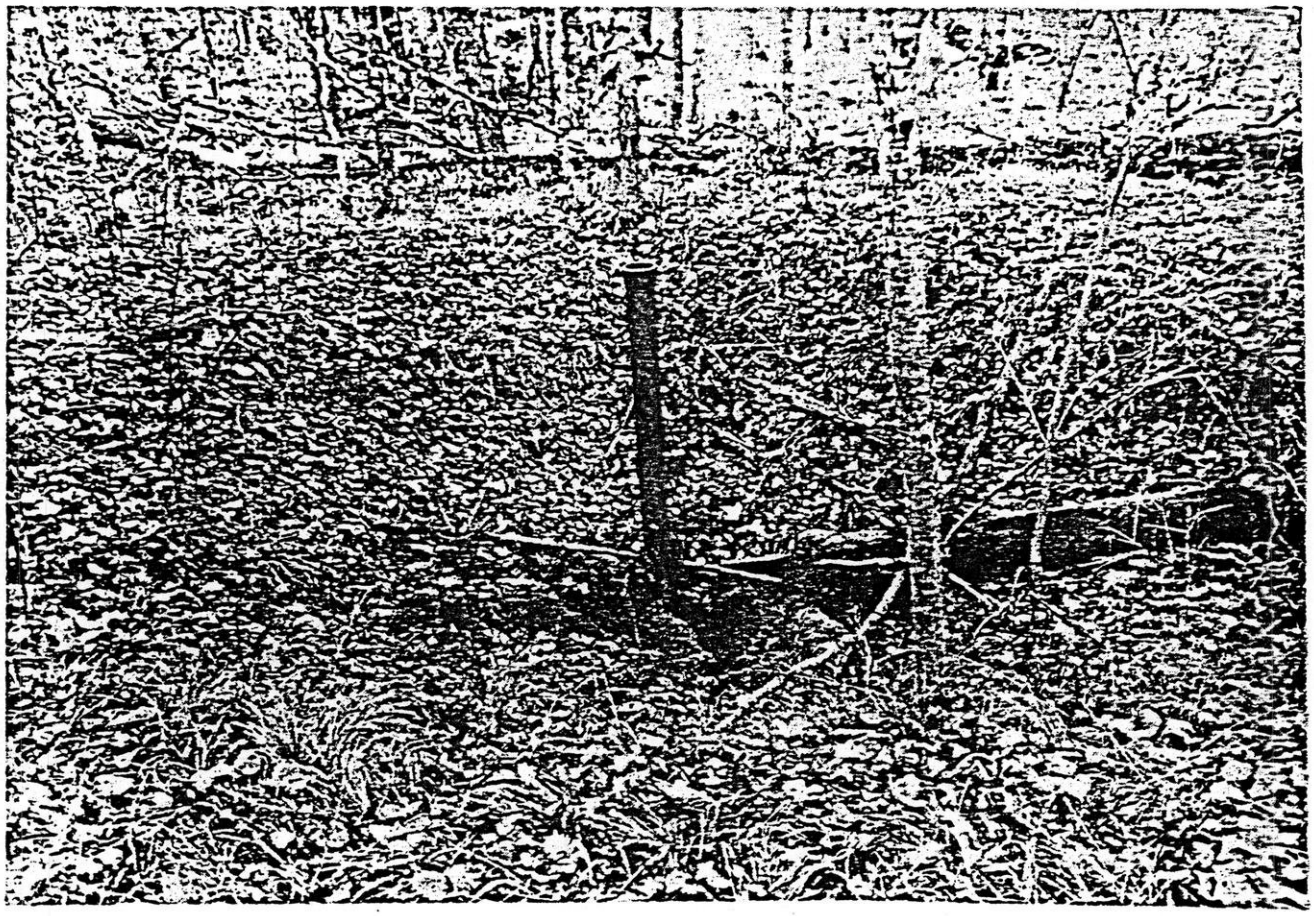


Figure 50: 47-Fr-151, upper; root cellar, lower; structure 1.



47-Fr-151, pump house.

47-Fr-151, midden.

Figure 51: Additional features at 47-Fr-151.

Recommendations

47-Fr-144: Skunk Lake Structure and Midden

It appears on the basis of historic material recovered from the midden that the former structure on Skunk Lake post-dates 1933. A review of the land deeds and tax rolls (Appendix E) failed to provide information specific to construction, ownership, and function of this structure.

On the basis of the investigations, both field and archival, that indicates a late date for the site, it is not likely to yield information of historical significance. It is therefore recommended that no additional investigations be conducted.

47-Fr-150: Plant Site Structure and Midden

It appears, based upon the historic material recovered from the midden, that the site was occupied during the first quarter of the twentieth century. No specific information concerning ownership and function of the structure was contained in the land deeds and tax rolls (Appendix E).

Our failure to determine ownership, time of occupation, or function of this site through analyses of tax rolls and deed records makes it difficult to argue for historical significance of 47-Fr-150. The cultural debris sampled from the midden is indicative of a 1920s occupation, although it is not clear as to whether this was a farmstead or one of the ubiquitous hardwood camps. In addition, owing to the previous disturbance at the site, we would recommend no further investigations be conducted at the site.

47-Fr-151: Berry Lane Logging Camp

As mentioned, this site presently is not located on Exxon Minerals Company property and therefore no further investigations are warranted.

ARCHAEOLOGICAL EVALUATIONS FOR NATIONAL REGISTER ELIGIBILITY

As previously noted the prehistoric sites, 47-Fr-121 and 47-Fr-143, which were encountered during the course of inventory were subjected to evaluation procedures. These procedures were authorized by Exxon Minerals Company even though they did not anticipate disturbance of the area adjacent to Oak Lake where the sites are located. The limited test excavations and laboratory analyses of cultural materials, soil samples, and radiocarbon assay of charcoal from archaeological contexts were agreed upon by GLARC, Inc. and Exxon.

Several major questions were addressed during the evaluation. The first of these was to determine the extent to which 47-Fr-121 had been disturbed by past land-use activities. The site had been bisected by an early access road, a pond had been excavated between the archaeological deposit, and a field visit indicated that earth moving activities had been conducted. Thus, a major line of inquiry regarding 47-Fr-121 was: did the site contain areas that had not been disturbed so that the integrity was intact?

A second aspect of the evaluation of 47-Fr-121 was to determine the period of occupancy and to identify the pre-

historic culture(s) manifest in the material remains. Finally, we sought to determine whether the earlier recovered historic remains reflected historic occupation at 47-Fr-121, or, if the reported clay pipe fragments were perhaps from the nearby 47-Fr-145 (Salzer and Birmingham 1978).

Similar concerns were directed to 47-Fr-143 which is located to the south of 47-Fr-121, across the outlet of a small creek. At 47-Fr-143, several clusters of circular depressions had been noted during the inventory. Closer inspection and removal of recent forest litter revealed that many of these depressions were, in fact, purposefully constructed pits of unknown origin. Thus, in addition to the questions of context, culture history, potential for floral and faunal remains, we sought to determine if the pits were associated with the immediately adjacent habitation area, south of the concentration of pits. As well, even though refuse and storage pits are not unique architectural features at either historic era or prehistoric archaeological sites, it is extremely rare to encounter such pits where their origins are still obvious on the surface. In the overwhelming number of cases, the origins of such architectural features have been disturbed by agricultural activities or other more recent land-use.

Finally, we were concerned about the functions these pits might have had if they did reflect prehistoric behavior. Should they be determined to be prehistoric ricing pits they would be quite novel. As well, if they served in either of the aforementioned functions contexts we sought information regarding what was stored, or in the case of refuse disposal, the

likelihood of dense concentrations of diagnostic artifacts was a possibility.

Both of the Oak Lake sites, which represent the only evidence for prehistoric occupation in the specific project area, are located in survey Unit D of Parcel G on the northeast side of Oak Lake. The sites here have been treated as separate occupations and thus have been assigned different site codification numbers.

Prior to evaluating each site a grid which encompassed both sites were established from an arbitrary datum surveyed into a Forest County ½ section marker between Sections 25 and 36, T35N, R12E (Figure 52).

47-Fr-121: Oak Lake Site #1

Site 47-Fr-121 is located on the north side of the inlet to Oak Lake approximately 50m(492 feet) east of the shoreline.

Two 2x2m (6.6x6.6 foot) test units were established in the site area as it was determined through shovel testing. Test Unit I, 25-27E, 28-30S, was placed over a productive shovel probe and a second test unit at coordinates 27-29E, 44-46S was located in an area which appeared to have been previously disturbed by road grading activities. The rationale guiding this latter placement was to allow for a determination of intensity of previous impact,

Test Unit I was first selected for excavation. Excavation was conducted in arbitrary 10cm (3.9 inch) levels. Vertical control was maintained by ground elevation readings taken from

Figure 52: Site Map.

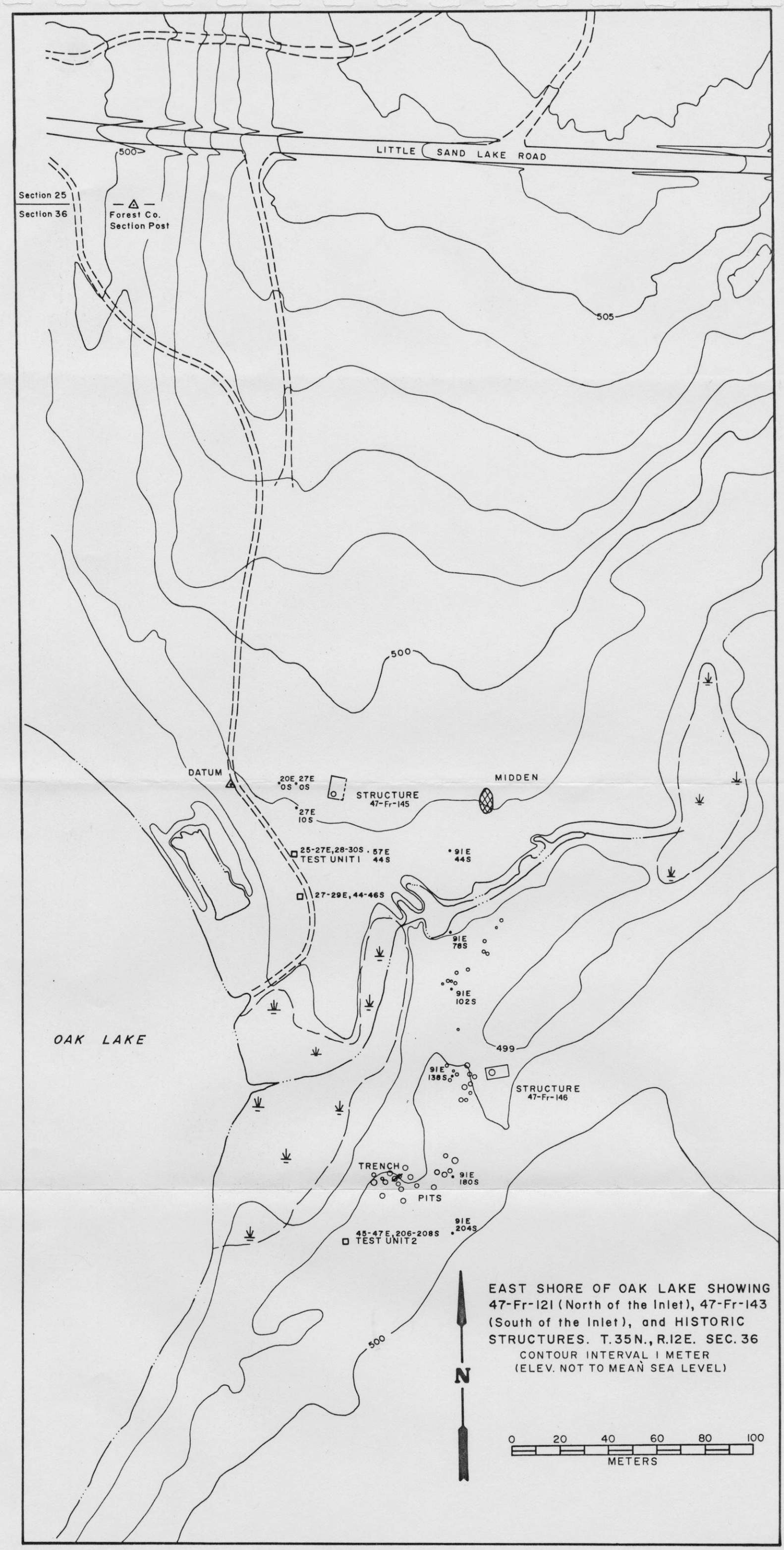


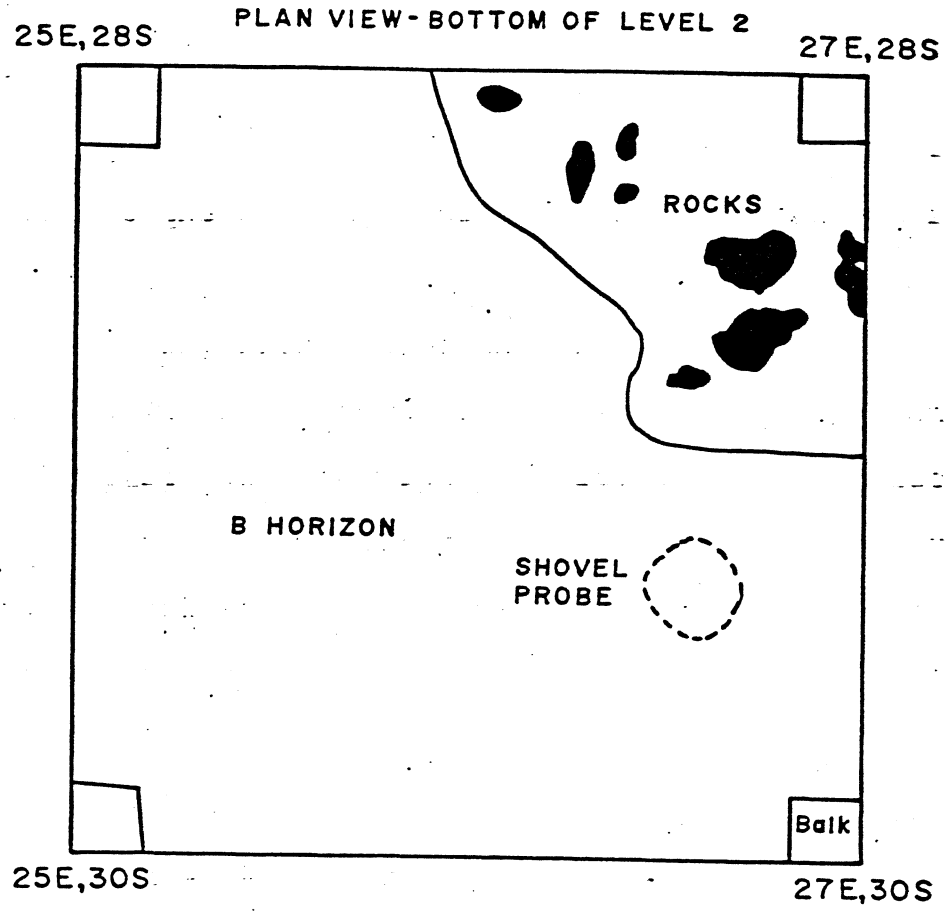
Figure 52: Site Map.

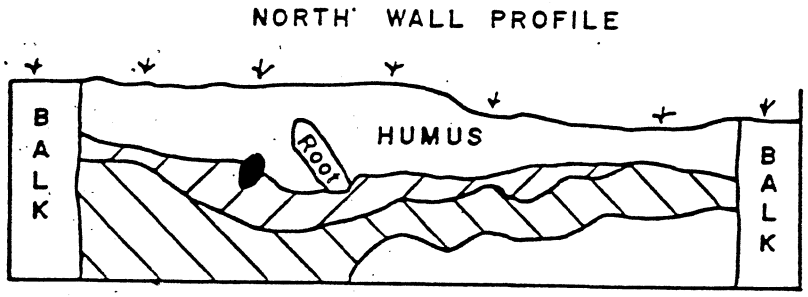
surface level at the northwest corner of the unit. Inventories of cultural materials recovered during excavation are attached to this report as Appendices C and D.

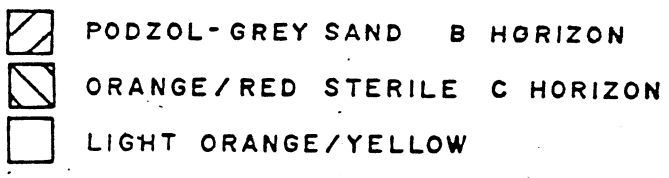
Level 1, humus to 10cm (3.9 inches) below surface, contained both historic and prehistoric material including pieces of a rusted metal container and chert and quartz flakes and rough rock.

In Level 2, 11-20cm (4.3-7.8 inches) below surface, historic material was found only in the upper level portion. At this level, a large quantity of lithic material was recovered from the eastern half of the unit, particularly near the east wall and in the southeast quadrant. The lithic material consists of chert flakes, as well as quartz flakes, projectile points, wedges, and cobbles and associated shatter. Burned bone was recovered from the northern half of the unit. Three small sherds of pottery, one of which is a rim, were also found in this level. At the bottom of Level 2 grey podzol soil, representing the B horizon, was evident throughout the unit except in the northeast corner (Figure 53). In the northeast corner a dark brown/black stain appeared at the bottom of Level 2. Rough rock was concentrated within the stained area. This stained area may represent a subsurface feature in situ, but more likely it is a continuation of the A horizon as a profile of the north wall seems to indicate (Figure 53). Soil samples were extracted from Level 2 for laboratory analysis.

At Level 3, 21-30cm below surface, the orangish/reddish soil of the C horizon is essentially sterile with the exception







47 - Fr - 121

Figure 53: Plan View and Profile, Test Pit 1.

of two chert flakes and a single quartz flake, the source of which undoubtedly is the B horizon.

It appeared on the basis of the quantity and quality of cultural materials recovered from test excavation unit 1, coupled with the natural stratigraphy, that the proposed undisturbed portion of 47-Fr-121 was indeed not disturbed. It was thus determined that additional excavation was unnecessary to secure a determination of eligibility for 47-Fr-121, and given the number of diagnostic artifacts recovered from undisturbed contexts, no additional units were excavated. The diagnostic materials consisting of triangular quartz projectile points and cordmarked grit-tempered ceramics are definitive of a Lakes Phase occupied as defined by Salzer (1969). A detailed discussion of the cultural material recovered during excavation is included in the Laboratory Analysis section.

47-Fr-143: Oak Lake Site #2

Site 47-Fr-143 is located on the south side of the inlet to Oak Lake (Figure 52). The site consists of 43 prehistoric circular pits and associated occupation area.

Excavation strategy in the occupation area of 47-Fr-143 was the same as that used at 47-Fr-121. A single test excavation unit, test Unit 2, 45-47E, 206-208S, was established over six productive shovel probes. Excavation was again conducted in arbitrary 10cm (3.9 inch) levels and vertical control was maintained by ground level readings taken from surface level at the northwest corner of the unit.

Level 1, 0-10cm (3.9 inches) below surface, consisted of

black sandy soil representing the humus. Cultural material recovered from this level through screening included chert flakes, quartz flakes and cores, grit-tempered cordmarked pottery sherds, and rough rock. The distribution of this material at the bottom of Level 1, as well as two areas of differential soil staining is illustrated in Figure 54. The stain extruding from the south wall of the unit was mottled white sand which appeared to contain ash. The stain extruding from the east wall was mottled white sand which also appeared to contain ash, adjoined by a dark black, greasy, organic stain. A soil sample was extracted from this stain for laboratory analysis.

Level 2, 11-20cm (4.3-7.8 inches) below surface, consists of grey mottled sand representing the B soil horizon. While excavating the first 5cm (1.97 inches) of Level 2, an abundance of pottery sherds was recovered from the northeast corner and center of the unit and a large quantity of chert and quartz artifacts was found along the west wall. The stain which extruded from the east wall at the bottom of Level 1 was no longer apparent at 15cm below surface. In the lower 5cm of Level 2, only a few artifacts were recovered from the eastern one-third of the unit. At the bottom of Level 2 (Figure 54), the stain extruding from the south wall was dark red/brown compact sand that appeared burned. Surrounding this dark stain was another, lighter in color and less compact. The stained area was designated Feature 2. Given the compact nature of the sand and the color of the stain, Feature 2 has tentatively been identified as a hearth despite the absence of

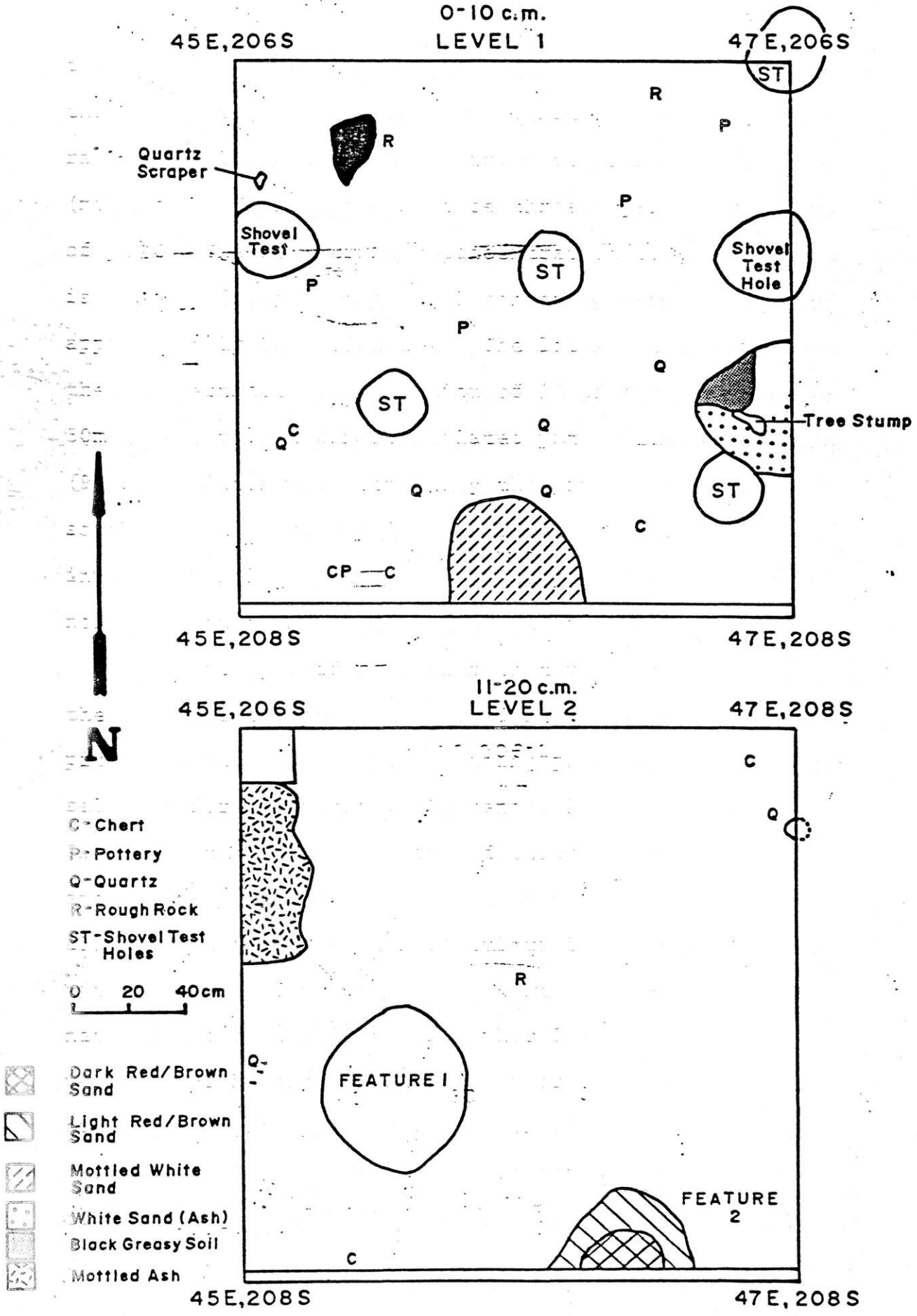


Figure 54: Plan views, Test Unit 2, 47-Fr-143.

fire-cracked rock. A soil sample of Feature 2 was extracted for laboratory analysis. Along the west wall near the northwest corner of the unit was a mottled white stain which appeared to contain ash. Another stain was discernible in the southwest quadrant of the unit at the bottom of Level 2. This black, greasy, circular stain was designated Feature 1. Burned bone, pottery, and quartz flakes were recovered from this feature. In profile, Feature 1 appears as a basin-shaped pit (Figure 55). In profiling Feature 1, half of the soil was fine screened in the field using 4mm (1/16 inch) hardware cloth, and half was removed for laboratory soil analysis. No specific function was inferred for pit Feature 1.

Level 3, 21-30cm below surface, consists of orange/brown sand representing the culturally sterile C soil horizon. A single sherd was recovered from a root disturbance in this level. No other cultural material was recovered. At the bottom of this level, a profile was made of the west wall of the unit (Figure 55).

Based upon the excavation of a single test unit it is clear that 47-Fr-143 harbors in situ cultural deposits and thus has contextual integrity and National Register eligibility.

Cultural material recovered during excavation of this portion of the site, particularly the pottery, suggests a Late Woodland cultural affiliation. This material is discussed in the following section.

Prior to conducting excavation, 43 pits at 47-Fr-143 were mapped with a transit. The distribution of these pits is illustrated in Figure 56. The pits vary in size, having diame-

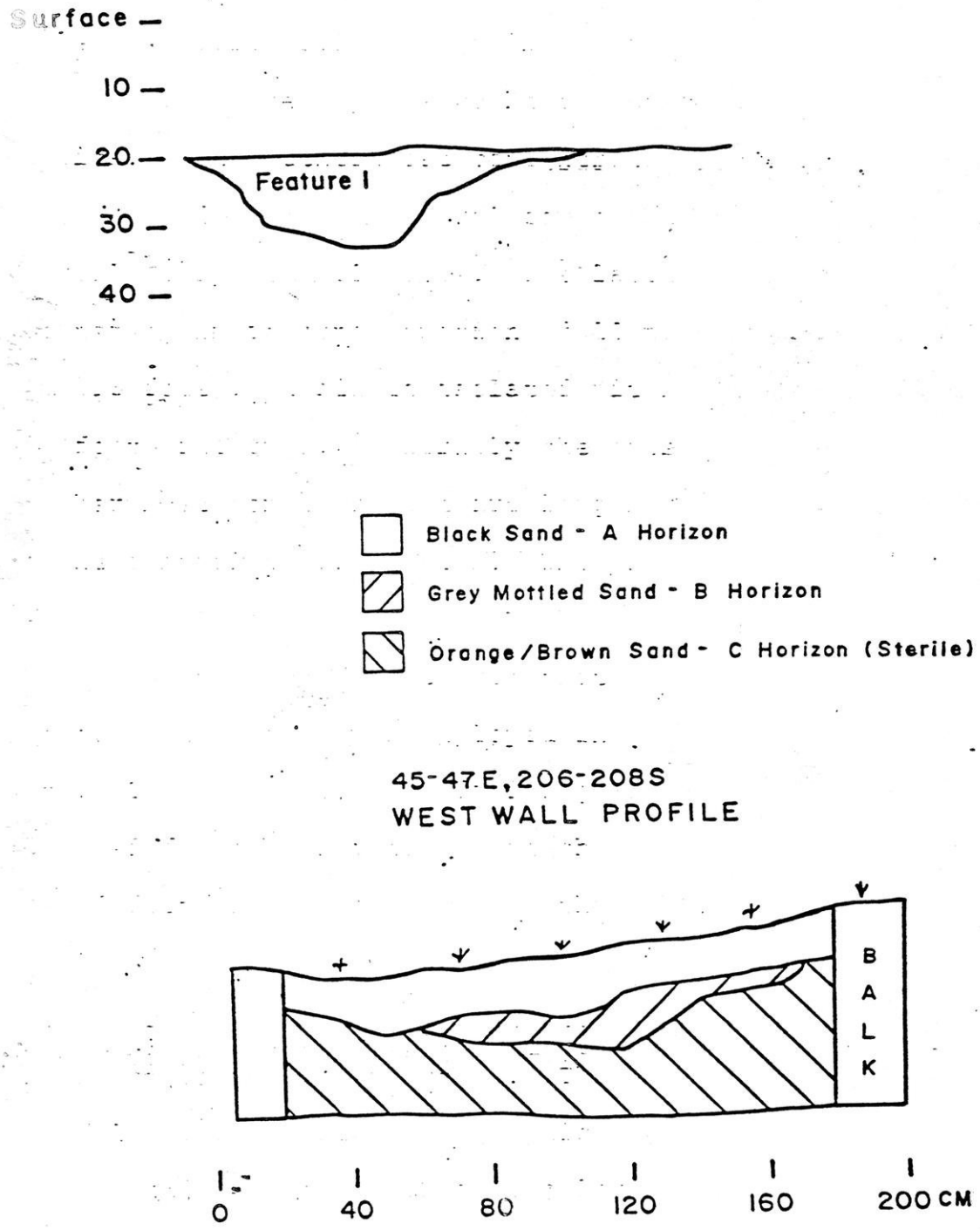


Figure 55: Profiles, Pit Feature 1, and west wall, Test Unit 2, 47-Fr-143.

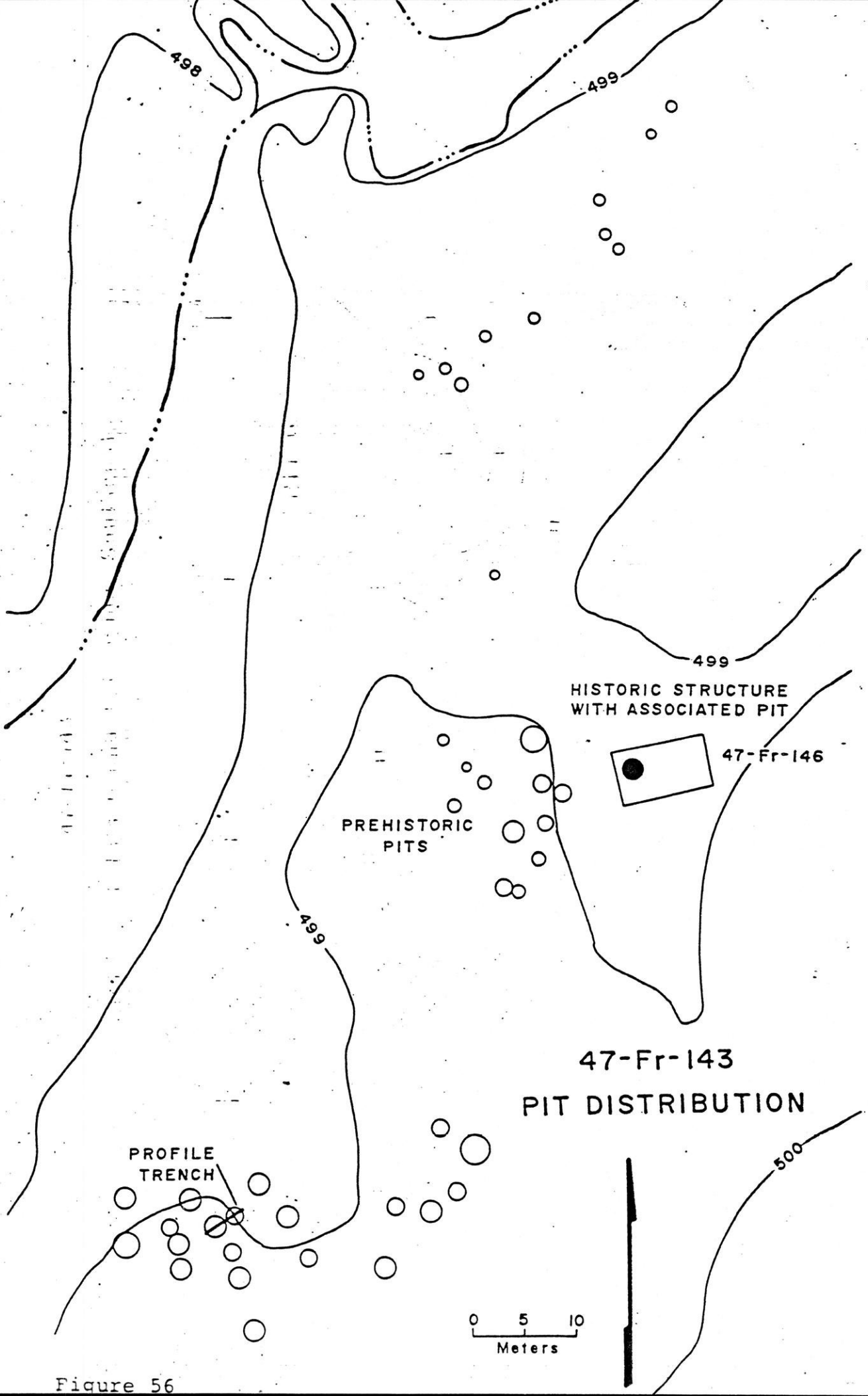

498
499
499
HISTORIC STRUCTURE
WITH ASSOCIATED PIT
47-Fr-146
PREHISTORIC
PITS
499
47-Fr-143
PIT DISTRIBUTION
PROFILE
TRENCH
500
0 5 10
Meters

Figure 56

ters which range from 2.3m (7.5 feet)(maximum), few attain this size, to 80cm (31.5 inches)(minimum) and depths which range from 1.2m (3.9 feet)(maximum) to 25cm (9.8 inches) (minimum). There appears to be three separate concentrations of pits. The southernmost concentration composed of 20 pits is separated from the central concentration of 12 pits by approximately 20m (65 feet). The latter is separated from the northernmost concentration of 10 pits by approximately 30m (98 feet). A single isolated pit is located in the 30m (98 foot) interval. Generally the pits contained in the southernmost concentration are larger and deeper than those in the central concentration. The pits contained in the northernmost concentration are the smallest and most shallow.

A strategy different from that used in the evaluation of the occupation area was employed in the excavation of these pits. In this case, two adjoining pits, Nos. 6 and 8, were selected for excavation. A trench, 1m wide (3.28 feet) and 8m (26 feet) long was excavated through the center of Pits 6 and 8 to expose a profile of the pits. This profile would allow for a determination of cultural affiliation as well as pit function and construction. The trench was excavated by natural and cultural stratigraphic levels. Pit episodes which were marked by changes in soil color were excavated as cultural stratigraphy allowed. Depth readings were taken from surface level at the southeast corner of the trench. Profiles of Pits 6 and 8 are illustrated in Figures 57 and 58.

In profile, pit stratigraphy revealed utilization and construction episodes. Both pits originally were excavated

47-Fr-143

Profiles of Pits 6 and 8 Looking Southeast

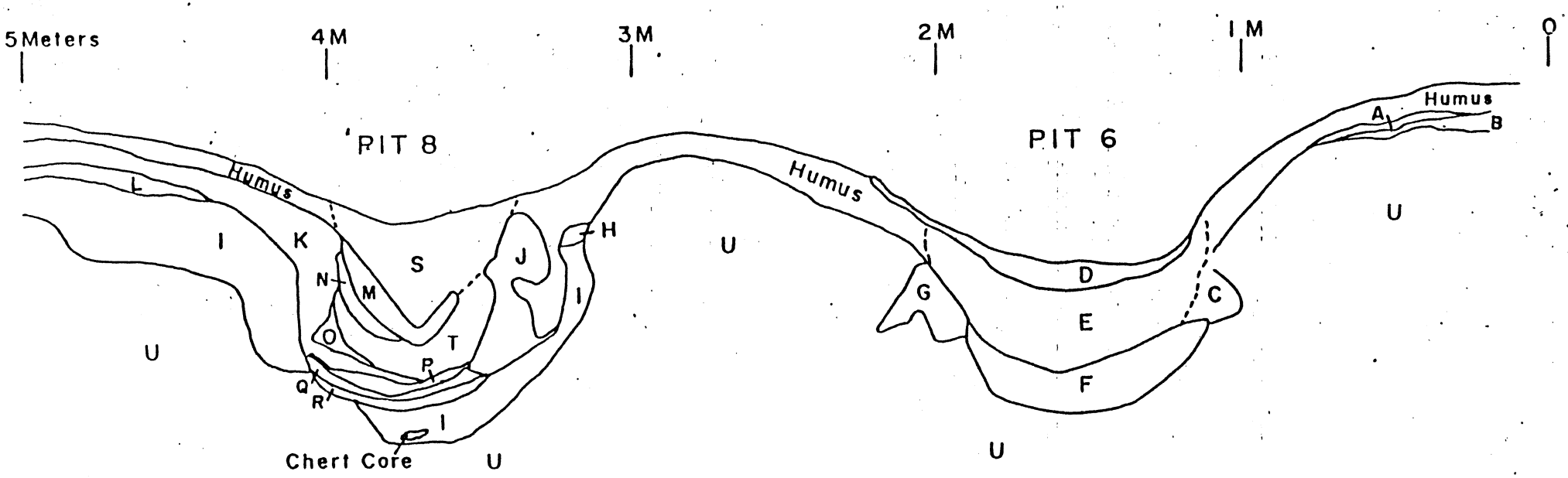


Figure 57: Profiles, Pits 6 & 8, 47-Fr-143.

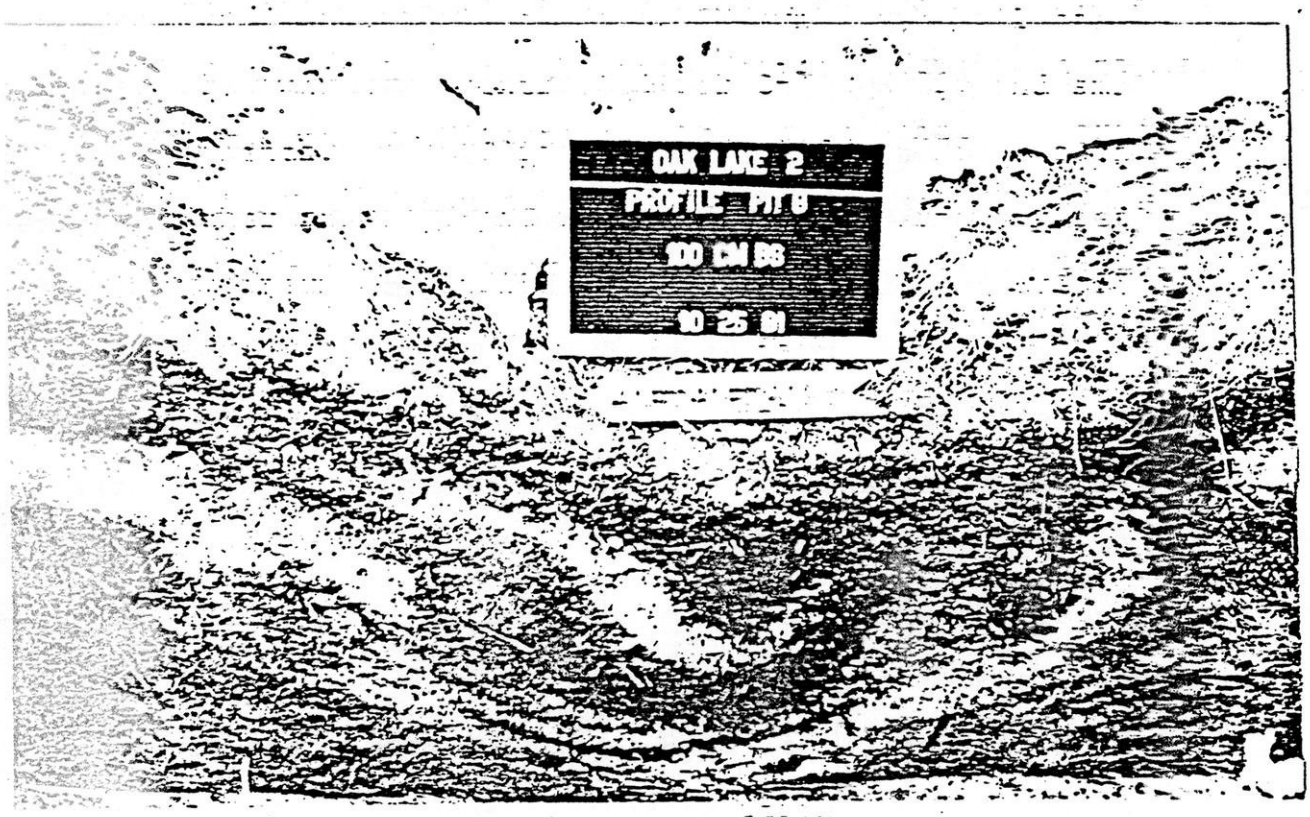


Figure 58: Photo-profile, Pit 8, 47-Fr-143

into the C soil horizon representing culturally sterile orange/brown sand with gravel developed from glacial outwash.

According to cultural stratigraphy, Pit 6 appears to be a simply constructed basin-shaped pit. At the base of Pit 6, 110cm (43 inches) below ground surface, is a lens of grey/white sand which contains ash and charcoal flecks. With the exception of a tiny chert flake, this lens was culturally sterile. Above this lens is pitfill composed of black sandy soil containing organic matter. Cultural material consisting solely of lithic artifacts, including chert flakes and a bipolar core or wedge was recovered from the pitfill. This chert closely resembles some of the chert from Test Unit 2 at 47-Fr-143. Soil samples were taken from both lenses as well as from the adjoining humus at the upper sides of the pitfill. A sample of charcoal was extracted from the base of the pitfill and submitted for C^{14} dating.

The construction of Pit 8 is more complex than Pit 6 although it too appears to be basin-shaped. At the base of Pit 8, a depth of 120cm (47 inches) below ground surface, is a soil lens (I, Figure 57) composed of grey-white sand containing ash. Incorporated in this lens and exposed in the profile (Figure 57) was a chert core. The chert flakes recovered from Pit 6 as well as some of the artifacts from Test Unit 2 are quite similar in color and composition to this chert core. This core is the only artifact recovered from the bottom lens. Above this lens was a series of alternating lenses containing charcoal (R and P, Figure 57). A charcoal sample from lens R was extracted and submitted for C^{14} dating. The lenses of black soil are

separated by a lens of brown soil. These alternating lenses appear to represent different stages of pit use. A lens on each side of the pitfill (K and J, Figure 57) consists of brown/orange soil and appears to be pit spoil associated with pit construction. These lenses partially seal lens P. Lens T (Figure 57) consists of dark brown/black soil containing charcoal, which was extracted for C^{14} dating, and small quartz fragments. Lens T is probably pitfill and as such represents another stage of pit use. Lens T is partially separated from the uppermost pitfill by Lenses N and M (Figure 57). Lens M consists of white/grey soil containing ash and Lens N is mottled grey soil which apparently represents a leached zone. Lens S is the uppermost pitfill consisting of black soil. The boundaries separating the humus from Lens S and this lens from Lens T were not easily discerned given the similarity of color and texture of these lenses.

Based upon this preliminary test excavation at 47-Fr-143, the following tentative observations have been made. The complex stratigraphic sequence observed in profile of Pit 8 suggests that four distinct stages of pit use occurred. On the other hand, the simple stratigraphy of Pit 6 suggests singular use of the pit. Moreover, the cultural material recovered from the pits suggests that they are associated with the adjoining occupation area. However, while information concerning the construction and cultural affiliation of Pits 6 and 8 has been acquired through excavation, the function of these pits is presently inconclusive.

Finally, it cannot at this juncture, be conclusively stated that the remaining pit clusters, those north of the two tested during our investigations, are associated with the occupation area to the south of Pits 6 and 8. These limitations notwithstanding, all of the excavation units, shovel probes, and surface collections yielded evidence only of Lakes Phase occupation. The problem of associations between the areas of activity identified at 47-Fr-121 and 47-Fr-143 can only be resolved with more intensive excavations.

Laboratory Analyses

Analytical procedures in the laboratory consisted of four primary tasks. First, all recovered artifacts were cleaned and catalogued by site provenience. Complete tabulations of historic and prehistoric artifacts are presented in Appendices E and F of this report. Second, soil samples extracted in the field were returned to the laboratory for flotation and/or dry screening in an attempt to recover small (heavy fraction) cultural materials and to separate carbonized floral remains for identification by a qualified ethnobotanist. Third, radiocarbon samples were submitted to the Radiocarbon Lab, Climatic Research Center, University of Wisconsin-Madison for assay. Fourth, the lithic and ceramic assemblages were analyzed, following cleaning and catalogue procedures to provide insights regarding occupational history as well as differential activities at 47-Fr-121 and 47-Fr-143.

Floral Remains

Sixteen soil samples were extracted from specific provenience units and carbonized remains were segregated from the soil matrix both by flotation and dry-screening techniques. The carbonized remains consisting of small fragments of burned bone, carbonized (and contaminant non-carbonized) seeds, and wood charcoal were submitted for identification to Ms. Judith Smith, Wausau, Wisconsin. Ms. Smith conducted graduate studies at the University of Wisconsin-Milwaukee and the University of Michigan at Ann Arbor and has had extensive experience in ethnobotanical research in North America and in Mexico.

Faunal remains were in very low frequency and were characteristically smashed, perhaps for manufacture of bone grease, rendering identification negligible. However, significant numbers of both uncarbonized and carbonized plant remains were identified by Ms. Smith. For the most part the carbonized floral remains that can be identified as seeds derive from disturbed habitat species. These include significant frequencies of various berries (Rubrus spp.) and two different species of cherries, pin cherry (Prunus pennsylvanica) and a larger cherry (Prunus sp. cf. serotina). The presence of berries and cherries is to be expected and their occurrence is commonplace in both the archaeological record as well as in ethnohistorical sources.

That these fruits were utilized as a food resource by the occupants of the Oak Lake sites is not open to dispute. However, to argue that their incorporation in archaeological contexts results from storage activities would be easily

questioned. Rather, it is more plausible that the incorporation of these seeds in the pits at Oak Lake reflect the season in which the pits were left open. In fact, even though the identified carbonized seeds from the sites do not provide specific evidence of the function of the pits, the data can be used to generate inferences regarding the function of these architectural features. We would submit that the occurrence of these summer season species of berries and cherries can be used to reinforce a storage function for the pits. It is possible that the pits were used for the winter storage of grains, e.g., corn or rice.

In the Upper Great Lakes the pattern of population dispersal, often in single family units, during winter months is common. As well, coalescence during the spring, to take advantage of newly concentrated resources such as spawning fish is equally commonplace. Grains, or other food resources which had been stored, could then be recovered to support a more dense concentration of population engaged in spring activities. Of course this conclusion is hasty based upon our small sample. Nonetheless, the identified species of seeds do indicate that these pits had been opened by early summer and the remains then incorporated in the pits.

The wood charcoal identified by Ms. Smith is also worthy of some comment. During the excavations of Pits 6 and 8 it was very difficult to separate recent (historic) litter which had been deposited on top of prehistoric horizons. Statistically, the arboreal species identified from the pit fill are climax species such as white pine (Pinus strobus) and are

indicative of a pre-logging occupation. Today, of course, the site is in a transitional state with hardwoods as the dominant arboreal species.

A complete tabulation of the botanical remains from 47-Fr-121 and 47-Fr-143 is attached as Appendix G of this report.

Radiocarbon Assay

As indicated previously in this report, wood charcoal samples were taken from both Pits 6 and 8 at 47-Fr-143 and were submitted to the Radiocarbon Laboratory, Center for Climatic Research at the University of Wisconsin-Madison. The results of these dates are tabulated below:

> WIS-1339, wood charcoal from Pit 6 associated, in a dark organic fill lens, with lithic debitage. A date of 750 ± 70 radiocarbon years: A.D. 1200.
>
> WIS-1340, wood charcoal from Pit 8, lens of organic material situated above a large chert core. A date of 830 ± 70 radiocarbon years: A.D. 1120.

Both WIS-1339 and WIS-1340 are gratifying for their narrow range, the determination of the pits at 47-Fr-143 as unequivocally prehistoric, and as testimony for a Lakes Phase construction of these architectural features. Both dates are consistent to those reported by Salzer (1974) for the Shannon and Robinson sites in the North Lakes District.

Lithic Assemblage

Stone tool manufacture was a major activity, as represented in our small samples, at both 47-Fr-121 and 47-Fr-143. The tools and associated waste and raw materials were classi-

fied in 11 primary categories. These include: projectile points, wedges, bipolar cores, split bipolar cores, non-bipolar cores, utilized/retouched flakes, pressure/percussion flakes (either decortication or non-decortication), blade shatter flakes (decortication or non-decortication), flat-sided shatter flakes (decortication or non-decortication), blocky shatter flakes (decortication or non-decortication), and indeterminate shatter (decortication or non-decortication).

The significant frequences of bipolar cores, various forms of shatter, and the so-called "wedges" are indicative of an on-anvil technique of manufacture. This technique, so common in the Upper Great Lakes, has often been interpreted as a response to limited availability of raw materials to produce stone tools. Quartz cobbles, readily available in the glacial outwash are found along lake shores and stream beds. The on-anvil technique, which in turn yields a large amount of shatter, is employed to produce smaller "flakes" which are then modified into tools.

In addition to the employment of quartz cobbles in the on-anvil technique, residents of the Oak Lake sites also employed a core and flake technique. The large core found in Pit 6 and debitage from similar materials indicates that at least two distinct techniques of stone tool manufacture are represented in our meagre assemblage. The grey cherty material utilized has not, as yet, been pin-pointed regarding its source location. Archaeological consultants have suggested that the materials may be exotic and have their origins in the

Gunflint outcrops in northern Minnesota and Canada. However, a plausible alternative suggestion is that the source is a localized outcrop of Precambrian rock in nearby Monico in Oneida County.

The third major source of raw material is the local glacially deposited cobbles and pebbles of quartzite and chert. A few flakes in the assemblage are derived from this source. A few quartzite flakes may have their origins at Silver Mound, a well known quarry site in Jackson County, Wisconsin. The latter flakes, however, are statistically no more significant than the single basalt flake which is likely a hammerstone spall.

The most commonly occurring tools at the Oak Lake sites are the small triangular projectile points manufactured from local quartz. A sample of these artifacts, frequently associated with Lakes Phase sites, is portrayed in Figure 59.

Tabulations for artifact classes and provenience information are provided in Appendices E and H.

Ceramic Assemblage

The sample of ceramics from our limited test excavations is small. However, by contrast with other prehistoric sites in the region the yield per excavated 2x2m (6.6x6.6 foot) square is ample.

The homogeneous ceramic sample from the two excavation units, 1 and 2 (no ceramics were recovered from the 8x1m (3.28 x 26 foot) trench which bisected the Pits 6 and 8) probably represents no more than a few vessels. However, the thin-walled

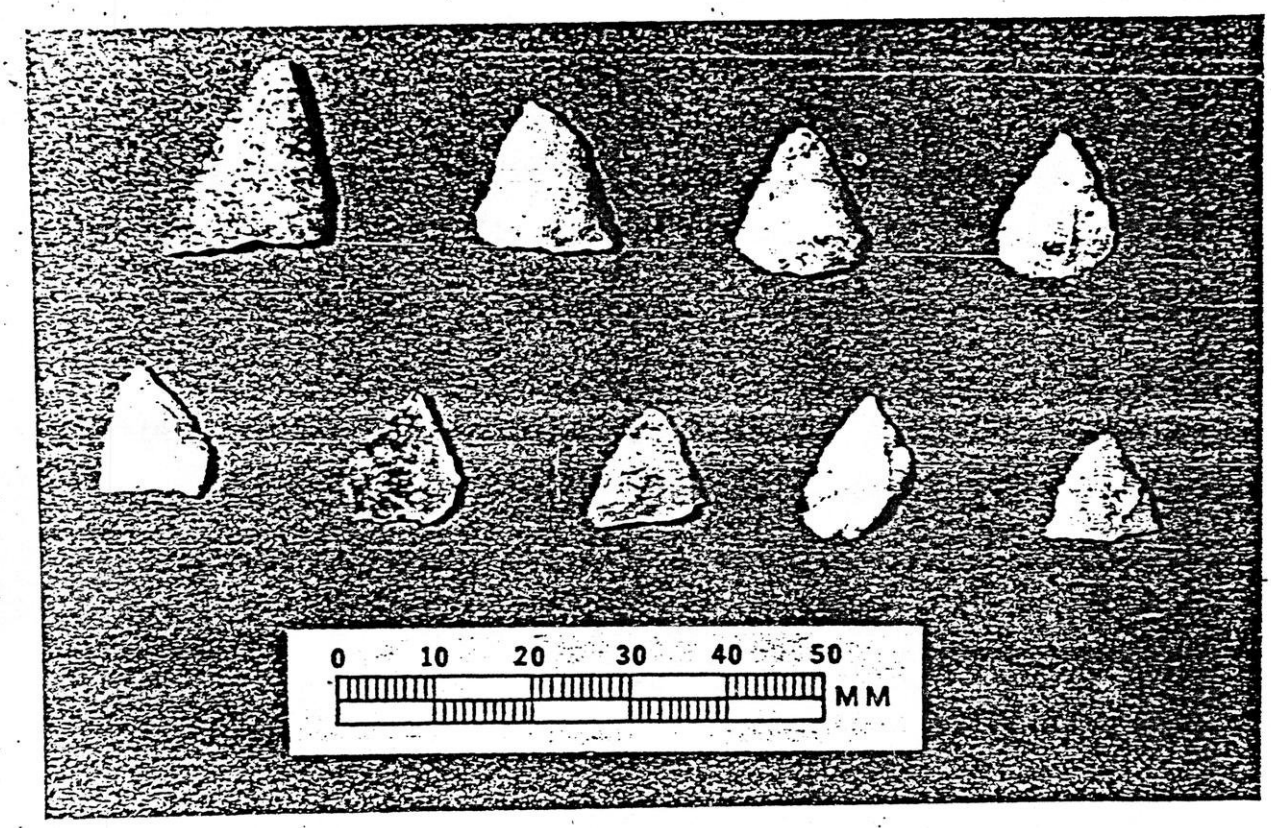


Figure 59: Small triangular quartz projectile points.

cordmarked vessels decorated with cordage, as evidenced by a single rimsherd, is remarkably consistent with Salzer's definition of Lakes Phase pottery:

> Lakes Phase ceramic technology focuses on a series of relatively thin-walled, grit-tempered, cord-marked jars decorated on the upper rim with impressions of either twisted cords or cord-wrapped sticks. Stratigraphy documents a trend from simple rim forms early in the sequence to complex collared forms later on (1974:49).

A sample of sherds from 47-Fr-143 is represented in Figure 60. Pottery frequencies by excavation level and unit are provided in Appendix E.

SUMMARY AND RECOMMENDATIONS

From July through December, 1981, Great Lakes Archaeological Research Center, Inc. conducted literature and records search, field inventory of approximately 400ha (990 acres), provided preliminary assessments of several historic sites, and conducted test excavations at two prehistoric sites to determine eligibility of those sites for the National Register of Historic Places.

Ten previously unrecorded sites were encountered and were, in turn, incorporated within the Wisconsin Archeological Codification File which is housed in the Office of the Wisconsin State Archaeologist. Site maps and photographic records have been completed for these sites and selective collections were made at historic sites for the purpose of providing a preliminary functional interpretation of the sites as well as to

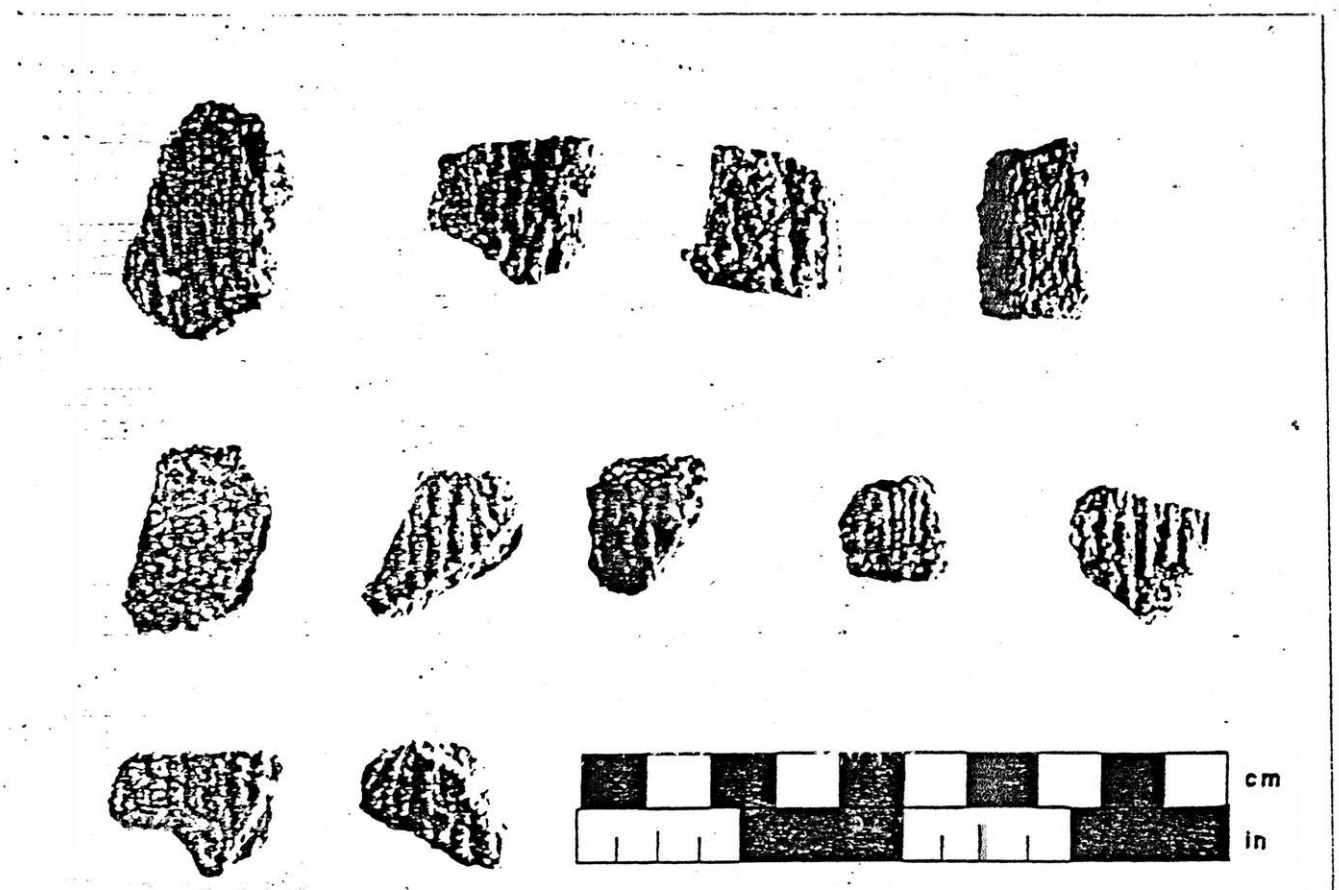


Figure 60: Ceramics from 47-Fr-143.

determine site chronology. Copies of the executed codification cards are presented in Appendix H.

In several cases, owing to a lack of archival information or identification as recent historical phenomena, it has been recommended that no further investigations be conducted. These sites include: 47-Fr-149 located in Parcel B, 47-Fr-147 located in Parcel F, and sites 47-Fr-144, 150, and 151, all of which are located outside of the immediate project boundaries.

Four historic sites, following preliminary evaluation via field checks and archival investigations are considered potentially significant from historical and archaeological perspectives. Two of these are located within the area of the Oak Lake prehistoric sites and have been reported at 47-Fr-145 and 47-Fr-146. These historic sites consisting of structural remnants and middens should not cause management difficulties as they are not located in an area currently anticipated for development. However, should such plans be developed, 47-Fr-145 and 47-Fr-146 would require more intensive investigations to determine their eligibility for the National Register of Historic Places.

Archival and field investigations produced equivocal data for site 47-Fr-148, located in survey Unit D of Parcel H. Should earth altering activities be anticipated at this locus, it is recommended that more intensive investigations be conducted to seek a determination of eligibility for 47-Fr-148.

Records research as well as field checks failed to resolve the nature of a site recorded as 47-Lg-23. Both post-1930s and pre-1930 cultural remains were recovered from

this apparent logging camp. As well, one of the structures (structure 1 and 2) with its open area or "dingle" between the buildings may reflect a pineries era occupation as this building style was common during the late nineteenth century logging camp operations. As a result, we recommend that, should major alteration of the landscape be anticipated at this location, additional investigations be conducted to determine both the antiquity and function of 47-Lg-23.

Two prehistoric sites, 47-Fr-121 and 47-Fr-143, have been subjected to test excavations, and cultural materials and remains recovered from the site(s) have been analyzed. The Oak Lake prehistoric sites are an extremely unusual phenomenon for several reasons. First, the now documented architectural features, pits of probable storage function in some cases, still have their origins unobscured by past land-use. This provides archaeologists with a unique opportunity to record complete episodes of construction, use, and abandonment of a major feature. In addition, artifact densities are high and the site appears, based on preliminary investigations, to harbor only Lakes Phase materials. Thus, 47-Fr-121 and 47-Fr-143 represent the remains of a single prehistoric culture with little opportunity for disturbance through admixture.

Another major potential of the site, even though our analyses were not very dramatic, is the recovery of floral remains. The two pits which were excavated were obviously subjected to burning with substantial amounts of ash, wood charcoal, and carbonized plant remains. This allowed for the

establishment of very tight chronological controls of these features and has fostered a seasonal interpretation for site habitation.

Fortunately, the Oak Lake sites are not threatened by current development plans and Exxon Minerals Company actually far exceeded their responsibilities by authorizing the evaluation procedures. There can be little doubt that -Fr-121 and 47-Fr-143 are eligible for the National Register of Historic Places. Should plans for development be modified in the future, it would be appropriate to develop a management plan for these highly significant prehistoric occupation areas.

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