McMASTER UNIVERSITY

THE CULTURE HISTORY OF KIRKLAND LAKE DISTRICT, NORTHEASTERN ONTARIO

by

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A THESIS

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ABSTRACT

In this thesis the culture history of the 5,633 square mile Kirkland Lake District of Northeastern Ontario is examined. Drawing upon archaeological materials amassed during two years of fieldwork involving description and analysis of three major archaeological sites along with supporting evidence from ethnology and ethnohistory, an attempt has been made to delineate a cultural-chronological sequence extending from the historic era back to circa 4500-5000 B.C.

To this end, four cultural phases representing three separate cultural traditions are defined. These are the Abitibi Narrows and Mattawan phases of the Shield Archaic Tradition, the Eastern Laurel phase of the Laurel Tradition, and the Duncan Lake phase representing a terminal Woodland Northern Algonquin Tradition.

Five basic research problems are initially posed by the author for the area, and all five are answered positively in this thesis. Several, however, clearly require further research in the future. By delineating the various cultural phases and cultural chronology of this district in northeastern Ontario, this thesis has laid the foundations for future archaeological and ethnohistorical work in this previously unknown part of Northern Ontario.

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During the 1972 field season, the writer worked alone; but the success of the 1973 excavations is due largely to the crew members who worked very hard even though it was the end of a long field season. To Margaret Bertulli, Robert Hamilton and Alexander (Sandy) Dodds, a special thanks is extended for a job well done. Robert Hamilton also aided in the laboratory analysis.

I first became interested in the Algonquian speaking peoples of Canada at an early stage of my academic career. The person largely responsible for developing this latent interest was Professor Rosaline M. Vanderburgh of Erindale

College, University of Toronto. It is through her excellent teaching and encouragement that the writer owes much of his ethnohistorical outlook and approach to the Northern Algonquins, especially the Ojibwa peoples. While at Erindale College, the writer also received much guidance from Dr. Albert Mohr in all aspects of archaeological field and laboratory methods. At Erindale, too, I was fortunate to receive excellent encouragement from Mr. Bill Finlayson, with whom I worked in 1971 at the Donaldson site.

Too, I gained valuable field experience during an archaeological survey of part of the Niagara Escarpment for Mr. Peter Storck, now Assistant Curator in the office of the Chief Archaeologist, Royal Ontario Museum.

Largely through the encouragement of Dr. Edward S. Rogers, Curator of Ethnology, Royal Ontario Museum, the writer was given a mandate in 1972 to undertake a survey for the Swastika (now Kirkland Lake) District of the Ontario Ministry of Natural Resources. During the same year at McMaster, Dr. E. S. Roger's graduate ethnology class considerably deepened the writer's understanding and comprehension of the ethnology and ethnohistory of Northern Algonquian peoples as a whole.

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Mr. Ridley was the first archaeologist ever to work in northeastern Ontario, and, in respectful recognition, this thesis is dedicated to him.

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INTRODUCTION

Little is known of the past culture history within the 5,633 square mile Kirkland Lake District of Northeastern Ontario (Fig. 1). Today this district, part of the Northern Administrative Region of the Ontario Ministry of Natural Resources, includes among its inhabitants northern Algonquians.

This thesis is an attempt to reconstruct certain aspects of the culture history of the area, drawing upon the evidences of archaeology, ethnohistory and ethnology. Each of these lines of anthropological inquiry yields useful information for developing an integrated interpretation of material culture, subsistence and settlement patterns extending from circa 5000 B.C. to present.

Throughout the thesis, five basic research problems are inherent; they are:

1. Who were the first occupants of the area?

2. Did the Shield Archaic culture evolve from Northern Plano peoples?

3. As there appears to be two or more separate archaic components represented in the area, which component relates to the northerly-derived Shield Archaic peoples? Do the other components relate to more southerly-derived archaic peoples?

4. Were the earliest ceramacists part of the Laurel Tradition or Point Peninsula? If one assigns them to Laurel, are there differences between this eastern expres-

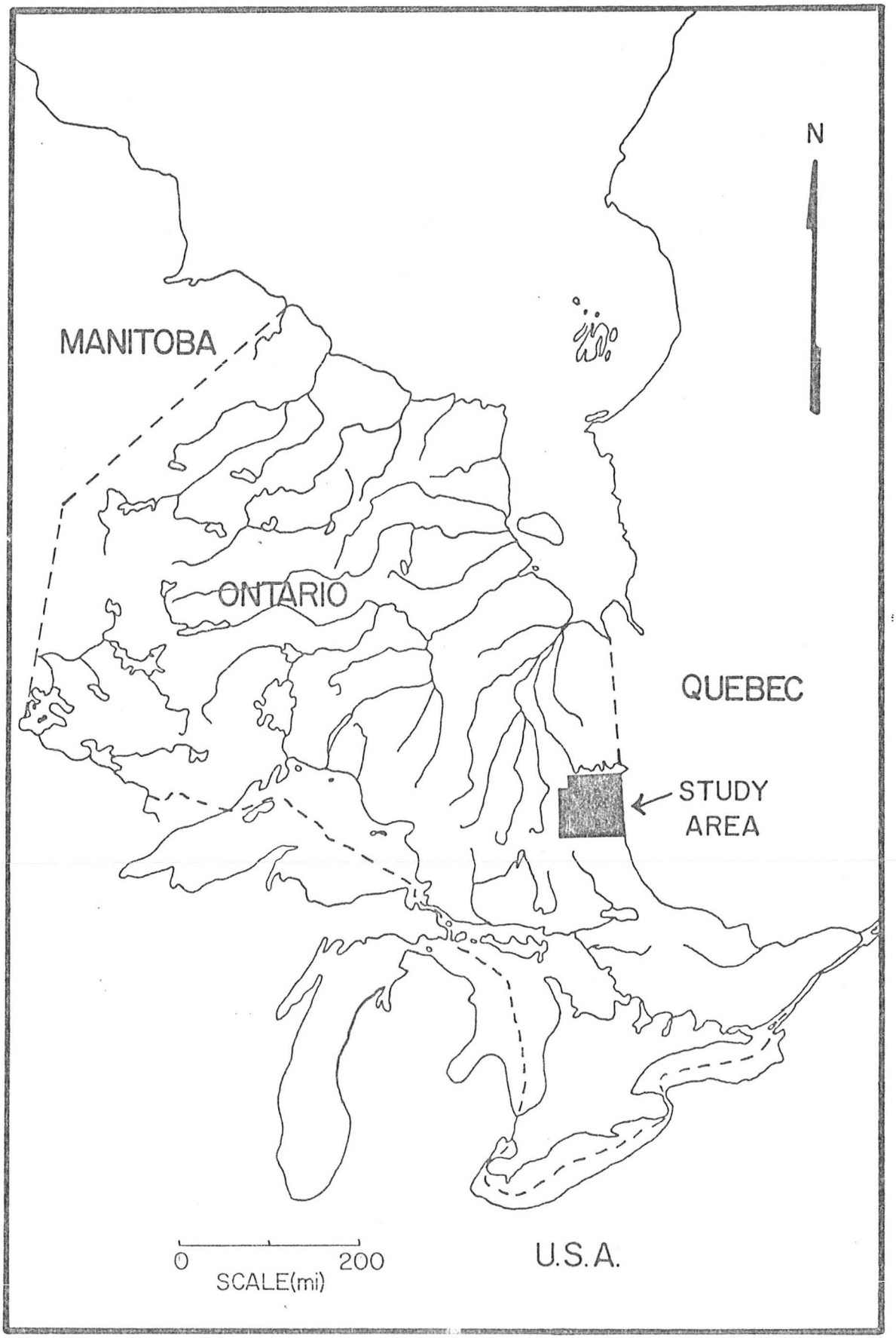

FIG. 1. General location of the study area in Ontario.

sion as compared to the western Laurel components described by J. V. Wright?

5. Is there a prehistoric terminal Woodland Tradition that can be linked to historic northern Algonquin peoples? If so, is it sufficiently unique to justify creating separate, named cultural phases for prehistoric northern Algonquin peoples in order to differentiate the prehistoric northern Algonquin peoples from the prehistoric Ojibwa and Cree.

Towards answering the first and second questions, it is pertinent that Wright (1970: 43) believes the Shield Archaic to be derived from a "late Paleo-Indian (Plano Tradition) cultural base in the eastern Northwest Territories". He also believes that the temporally succeeding Laurel Tradition is at least partially derived from the preceding Shield Archaic (Wright 1970: 44). Perhaps most important, Wright (ibid) believes that "Plant and animal reoccupation of land freed by the retreating Laurentide ice permitted northern Plano-Shield Archaic hunters to expand, particularly in an easterly direction". He uses this hypothesis to postulate and explain cultural homogeneity across the eastern boreal forest, and implies that a sloping time scale from west to east would follow from such a migration. This hypothesis implies that the first ancestors of the present-day Algonquin of Eastern Canada were immigrants from the west, particularly from the eastern Northwest Territories. Wright suggests this diffusion is at least partially related to the presence of caribou (Wright 1970: 44), and migrations may have resulted as a consequence of general climatic cool-

ing in Keewatin District around 1550 B.C. or 1250 B.C., and lasting until 0 A.D. Such cooling is believed to have forced the northerly forest margin southward from present limits, thereby effecting caribou population shifts as well (Wright 1972: 78).

With regard to the last three questions, paucity of data has precluded any definite theory, but various hypotheses are offered herein. Indeed, hypotheses concerning all of the five basic research questions are tested in this thesis with differential degrees of success.

Little archaeological work had been done in the Kirkland Lake District prior to the writer's 1972-73 surveys and excavations. Farther to the north on Lake Abitibi, which comprises part of the northern boundary of the Kirkland Lake District, Mr. Frank Ridley (1954; 1956; 1958; 1966), during the years from 1954 to 1962, undertook pioneering archaeological surveys and excavations which resulted in the location of archaic, middle woodland, terminal woodland and historic sites. Subsequently, just to the south of the Kirkland Lake District, Mr. Dean Knight (1969; 1971; 1972) excavated on the Montreal River where it enters Lake Timiskaming. Mr. Knight's 1969-1972 surveys and excavations produced materials of the circa 3000-2000 B.C. period, as well as middle woodland occupations dating circa 200 B.C. - 700 A.D.

Dr. J. V. Wright made a brief trip through the area in 1968, locating one site (CkGx-1) at Kap-Kig-Iwan Provincial Park. Subsequently he has incorporated several surface col-

lections from areas surrounding Kirkland Lake District into his Shield Archaic monograph.

The first ethnologist ever to visit the general area of study was Frank G. Speck in the summer of 1913. His 1915 report on "Family Hunting Territories and Social Life of Various Algonquin Bands of the Ottawa Valley" provides the only ethnological data available for these people. To the north on Lake Abitibi, John T. MacPherson's (1930) unpublished manuscript is an exhaustive study of the Abitibi Algonquins. Further ethnological data on these people are available through the efforts of W. H. Jenkins (1939). Together these three authors provide the total professionally-gathered ethnological data available for the Kirkland Lake District.

In order to examine the five basic research questions previously posed, a great deal more information was clearly needed than that which was available from previous work. The first step to gather necessary data occurred during July 10 to September 1, 1972, when the writer carried out a general survey for the Ontario Ministry of Natural Resources to locate as many prehistoric and historic sites as possible within the boundaries of the 5,633 square mile Kirkland Lake District. The results of this survey yielded forty-three new prehistoric and eleven historic sites. Of these sites, three major ones were selected for archaeological excavation in August and September, 1973.

The sites selected for excavation (Fig. 2) were: Smoothwater Lake (CiHd-1); Duncan Lake IV (Pickerel Point)

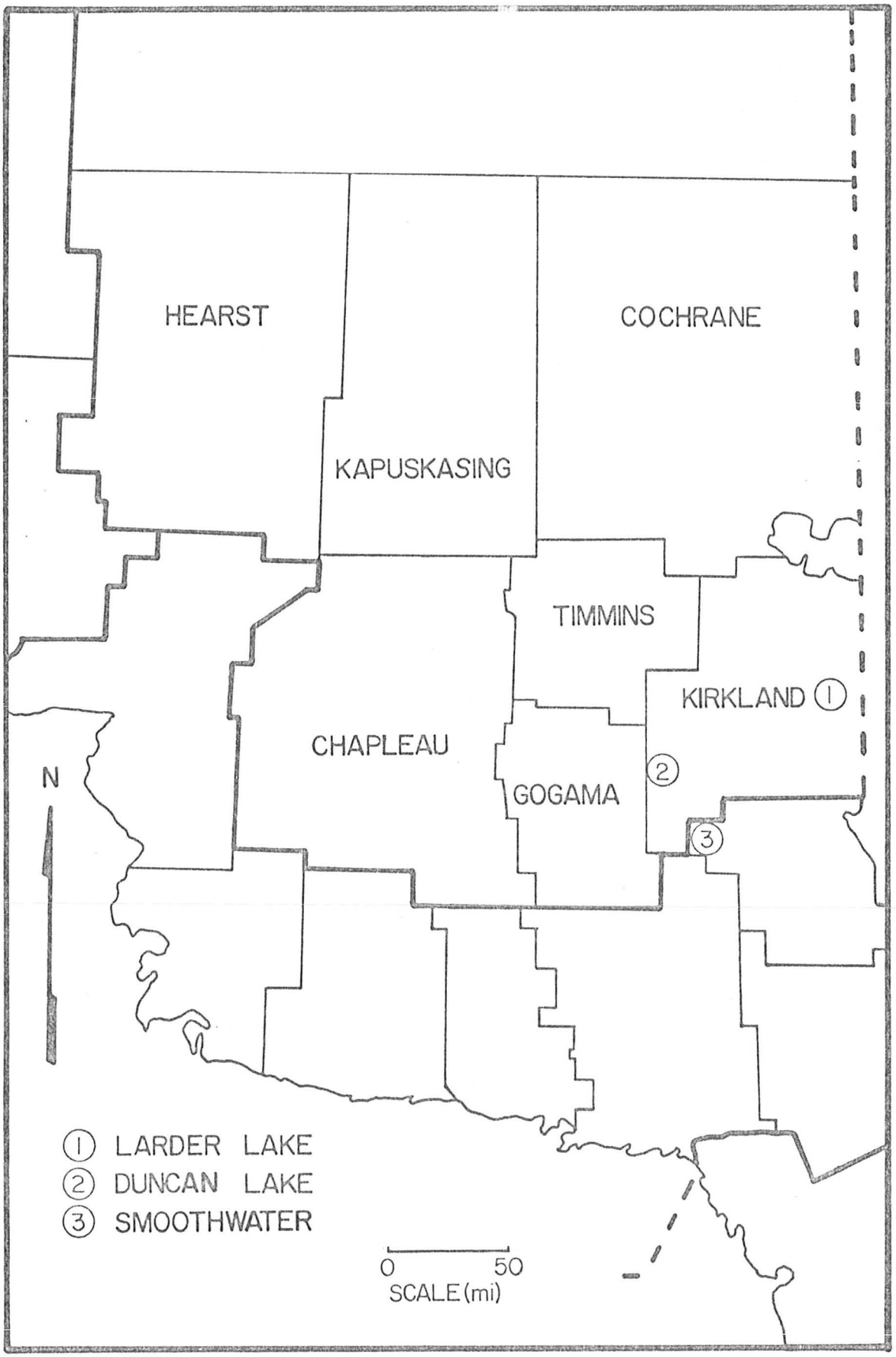

FIG. 2. Administrative districts of the northern region, showing archaeological sites.

(CiHf-2), and Pearl Beach (Larder Lake) (DaGv-1).

Unfortunately, excavatable sites of the early historic period were not forthcoming despite diligent surveys to this end. In some respects, this was unexpected, as such sites have been found to the south on Lake Nipissing (Ridley 1954), and to the north at Lake Abitibi (Ridley 1964). Faced with this paucity of early historic data, applications of the Direct Historic Approach are considerably hampered. An attempt to partially fill this historic period is effected from the available ethnological and ethnohistorical sources.

Analysis of the prehistoric components follows standard archaeological procedures, and allows definition of material, settlement, and subsistence economic patterns (systems). Less amenable to interpretation are inferences regarding specific ethnic identifications or reconstructions of past social organization.

Altogether, four cultural phases were identified representing three archaeological traditions covering the period from 3000 B.C. to 1600 A.D. (Table 46). Specific details concerning these 5,000 years of human cultural history are presented in this thesis beginning with an overview of the ecological and socio-cultural factors and then proceeding on to descriptive archaeological data. In the final chapters, answers to the basic research problems previously presented are examined and further hypothesis offered. Too, an area culture chronology is defined.

2

ECOLOGICAL PERSPECTIVE: THE POST-GLACIAL AND MODERN ENVIRONMENTS

Glacial Aspects. The post-glacial period begins with the ice retreat from the North Bay area which occurred circa 9000-8000 B.C. Allowing 640 years for ice retreat to the study area, the minimum date for the beginning of deglaciation of the Kirkland Lake District is estimated at circa 8000 B.C. (Terasmae and Hughes 1960: 1446; Terasmae 1962: 4), with the final deglaciation by 5000 B.C. (Terasmae 1962: 37).

In the Kirkland Lake District, the ice retreat was towards James Bay and meltwaters were impounded between the retreating ice front and the height of land (Fig. 1). A minimum water depth of 300 feet has been established (Prest 1970: 733) for the impounded body of water named Lake Barlow-Ojibway. This large lake did not cover all of the Kirkland Lake District (Fig. 3), and certainly varied in both levels and shorelines throughout its history (Baldwin 1958: 7). A maximum depth reached by the lake is estimated at 870 feet, but this level is not well represented (Glew 1973: 5). More stable levels are represented at 760 feet and 660-foot depths with a rapid drop indicated between the two levels (Glew 1973: 6). The last stable (Barlow-Ojibway Lake) level at 660 feet dropped rapidly to the present Lake Timiskaming level (Glew 1973: 6) which lies 585 feet above mean sea level.

Although there were rapid fluctuations in Barlow-Ojibway's

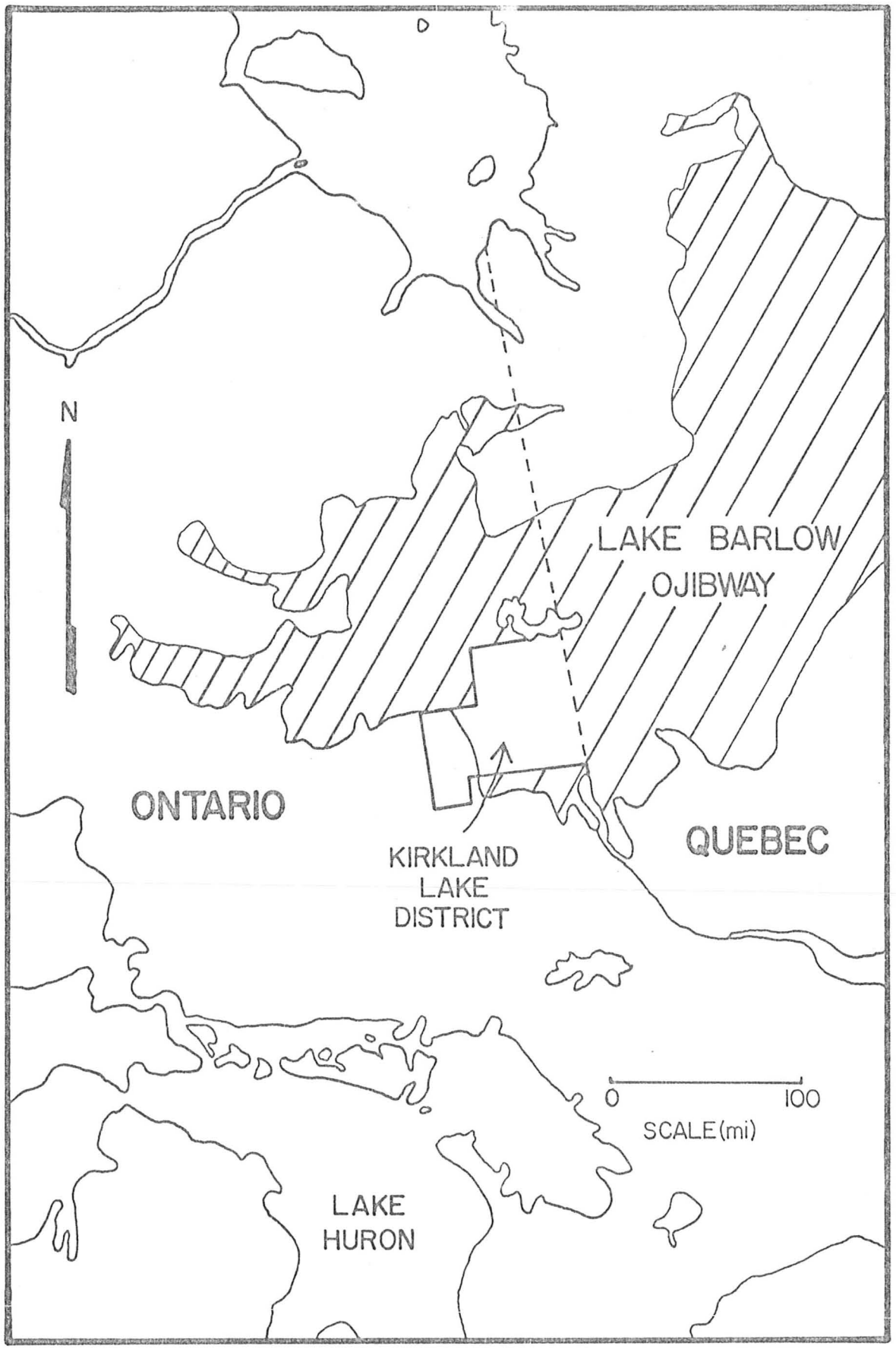

FIG. 3. Area of maximum glacial Lake Barlow-Ojibwa.

water levels, drainage of the lake took at least 2,000 years, as evidenced from the time of deposition of varve one at the mouth of the Montreal River until attainment of the Cochrane maximum (Terasmae and Hughes 1960: 1446). Thus, a minimum date for final drainage of the lake is circa 4000 to 5000 B.C. (Terasmae 1962: 37)(Table 1). During its time, Lake Barlow-Ojibway laid down major bottom deposits which have been recorded by Lovell and Caine (1970). The final drainage of the lake exposed the modern geological and topographical features of the area.

For archaeological purposes, land forms at or above the 660-foot level along the shore of the extinct lake would be best suited for investigation of early Plano peoples.

Geology. The area of study lies within the Canadian Shield. This geological and topographical feature has been divided by geologists into several provinces based on the structural trends and folding of rock formations (Douglas 1970: 44). The Kirkland Lake-Larder Lake area is part of the Abitibi sub-province within the larger Superior province. A minimum thickness of 16,000 feet is reported for the Timiskaming sedimentary group of rocks comprising greywacke, shale, conglomerate and trachytic flows, and tuffs (Douglas 1970: 62).

Of interest to the archaeologist is the fact that pebbles of chert, jasper and iron formation are reported to be more abundant in the conglomerate of the Larder Lake area than in the Timiskaming series of rocks further south in the

TABLE 1. Glacial Chronology.

Time	Event	Climate	Flora
9000-8000 B.C.	Opening of North Bay outlet	Ice covered	Destroyed
8000-7000 B.C.	Retreat of ice to Montreal River at south of Swastika District	Arctic	
7000-5000 B.C.	Glacial Lake Barlow-Ojibway present	Arctic and sub-arctic	Boreal forests on south shore of glacial lake
5000-4000 B.C.	Lake Barlow-Ojibway drains	Sub-arctic	
4500 B.C.	Cochrane ice re-advance in a restricted area only		
4000-3000 B.C.	Stabilization of drainage	Warming period	Great Lakes forests
3000 B.C.-present	Modern drainage systems	Cooling of climate to present climatic conditions	Boreal forest with a few Great Lakes species in sheltered areas

Cobalt area (Douglas 1970: 62). The conglomerate clearly represents a potential source of raw material for aboriginal tool manufacture.

Regarding chert sources, the unusual chert bearing geological formation found around Smoothwater Lake and on the Lady Evelyn River is of major importance. First reported and described by provincial geologist, W. H. Collins in 1917 as

> ...a ultra-fine-grained quartzite closely resembling chert. It is thinly and regularly stratified. The individual layers are all from ½" to 3 or 4 inches thick and vary in colour through various shades of grey and green. (Collins 1917: 72).

Collins mentions that this formation is not found elsewhere in the whole of Northeastern Ontario region, but that "the writer found the same cherty quartzite on the north shore of Lake Huron". A thickness of about 200 feet as well as a sedimentary origin for the formation was postulated by Collins (1917: 73) for this formation.

Much more recently, Card et al (1973) have reported on this area for the Mines Branch of the Ontario Ministry of Natural Resources. The rocks occurring on the shores of Smoothwater Lake have been correlated to the Gordon Lake formation of the Bruce Mines area. These consist of a

> ...sequence of thinly bedded sandstone, argillite, chert and chert breccia, which are coloured in various shades of white, grey, brown, green and black....chert beds averaging less than 1" in thickness and chert breccia consisting of angular to rounded chips of chert in a sandstone or argillite matrix comprise 20% of the formation. (Card et al 1973: 37-38).

The authors feel that the chert if

> ...probably not a true chert, that it is chemically

> precipitated microcrystalline quartz and chalcedony, but rather is composed of very fine grained detrital quartz, mica and chlorite. (Card et al 1973: 38).

In regards to soils, four different profiles have been distinguished. They include those characteristic of the Brown Forest, Grey Wooded, Podzol and Dark Grey Gleisolic soil groups (Boyle et al 1966: 5-6).

Topography. The area is characterized by two different topographical expressions. One is the upland Shield country, while the other comprises the gently rolling clay plain laid down as bottom deposit from glacial Lake Barlow-Ojibway.

The upland areas have been called the Abitibi Uplands by Bostock (1970: 16). Other authors refer to the area as the Gogama Sandy Upland, and separate this area from the Cochrane Clay Plain further north (Putnam 1952: 296). The greater part of the Uplands lies between 900 and 1,200 feet above mean sea level (Bostock 1970: 16).

Localized descriptions of the uplands within the study area are provided by the many geological surveys. Collins (1913: 7) described the uplands as a hummocky and rocky plain elevated 1,000 feet above sea level, whereas Rickaby (1932: 3) described the relief as being low with hills seldom over 100 feet high. In the Tyrrell-Knight Township area, near the Duncan Lake site, hilly and irregular shaped hills and long ridges predominate (Graham 1932: 20). For other localized sections, esker-delta sand complexes are reported (Lovell 1972: 2). On the extreme eastern edge of

the Kirkland Lake District, in the vicinity of the Pearl Beach site, the characteristic features are numerous lakes and muskegs separated by low ridges and rounded knobs of rocks with interspersed areas of sand, gravel and clay, with the general elevation being between 900 and 1200 feet above sea level (Wilson 1912: 12).

The second major physiographic feature, the Cobalt plain, is composed of flat lying palaeozoic limestone, dolomite and shale (Bostock 1970: 16). This area is also known as the Little Clay Belt and forms part of the Great Clay Belt which stretches about 600 miles long by 260 miles wide in a crescentic-shaped body parallel to James Bay, but outside the James Bay lowlands (Baldwin 1958: 5). The Little Clay Belt tract, with depths of clay over 100 feet (Lovell and Caine 1970), is a bottom deposit of post-glacial Lake Barlow-Ojibway (Glew 1973: 1).

Thus, two major landforms dominate the Kirkland Lake District. One is the sandy and rocky upland Shield with its low hills and ridges; the other is a gently undulating clay plain laid down by glacial lake deposits.

Changing Flora. Presently, the major plant species of the Kirkland Lake District include jackpine, black spruce and mixed forest typical of the boreal forest (Baldwin 1958; 1959; 1962). Some small outliers of the Great Lakes-St. Lawrence forest type persist, although many of these species are at their far northern limit.

But this present floral condition did not always exist.

Palynological studies show "...that forest grew on the south shore of the Lake (Barlow-Ojibway) though the Northern shore may have been glacier ice." (Terasmae 1962: 37). It seems probable that the preglacial flora was destroyed by the Laurentide ice mass and that plants remigrated into the glacial lake basin (Baldwin 1958: 41). Not only did this migration of plants into this area follow roughly the Ottawa Valley to Lake Timiskaming (Hills 1962: 49), but at the close of the post-glacial warm period (hypsithermal interval), stands characteristic of the Great Lakes-St. Lawrence forest type probably covered most of the Kirkland Lake area (Hills 1962: 52). The present-day forest species appear to have become established circa 3000 B.C. (Table 1).

Faunal Resources. To date, no complete documented study of the fauna of Kirkland Lake District has been undertaken.

Much of the following is taken from the Fish and Wildlife files, Ministry of Natural Resources, Swastika, and from personal observation. It reflects modern population only, and in the case of avian fauna, only those species thought to have dietary significance are included. Future faunal analyses from archaeological sites should aid greatly in determining the aboriginal utilization of fauna.

Table 2 summarizes 23 species of mammals currently known to inhabit the Kirkland Lake District. Many still provide important dietary resources for the resident native peoples, particularly moose, while others are an important trapping commodity. From the archaeological faunal analyses presented

TABLE 2. Mammals of Kirkland Lake District.

Species		Distribution
Alces americana	Moose	Abundant
Odocoileus virginianus	Deer	Rare
Ursus americanus	Bear	Common
Canis lupus	Timber wolf	Common
Canis latrans	Brush wolf	Common
Vulpes fulva	Fox	Abundant
Lynx canadensis	Lynx	Common
Martes americana	Marten	Common to rare
Martes pennanti	Fisher	Common to rare
Mustela erinea	Weasel	Common
Mustela vison	Mink	Common
Lutra canadensis	Otter	Common to rare
Mephitis mephitis	Skunk	Common
Castor canadensis	Beaver	Abundant
Ondatra zibethica	Muskrat	Common
Marmota monax	Woodchuck	Common
Lepus americanus	Rabbit	Common
Tamias striatus	Chipmunk	Common
Tamiasciurus hudsonicus	Red squirrel	Common
Blarina brevicauda	Mole shrew	Common
Peromyscus maniculatus	Deer mouse	Common
Clethrionomys gapperi	Red-backed mouse	Common
Erethizon dorsatum	Porcupine	Rare

in Appendix A, it is known that beaver, moose, porcupine and muskrat were prehistorically important.

There is reason to believe that the moose population has increased recently due to the fact that the majority of the forest stands today are second-growth logged areas which create ideal browse for moose. As of 1971, the estimated moose population was 3,024 animals, with a density of 0.566 moose per square mile (Ontario 1972). The beaver population was also high, with a density of beaver colonies from 0.2 to 3.0 per square mile (Gardner 1972: 1-2).

Deer are rare in this area, although the writer encountered one during the course of his 1972 work near the Larder River. It seems probable that woodland caribou were present in this region (there is none today) as they are mentioned by Miller (1901: 223), one of the first scientist-explorers into this unknown, unmapped region in 1901. Banfield (1961: 74) also places caribou in this area on his map of woodland caribou distribution towards the end of the nineteenth century. It is possible that, at one time caribou were, in fact, the dominant cervid in the Kirkland Lake District (Simkin 1965: 5), but archaeological and palaeo-zoological evidence has yet to demonstrate this.

Fish, too, provide an important subsistence element for occupants of the Kirkland Lake District, and Table 3 tabulates ten of the major native species. Almost all are available on a year-round basis, depending, of course, on varying procurement techniques.

TABLE 3. Fish species of Kirkland Lake District.

Species		Lake/River System
Stizostedion vitreum	Pickerel	All
Esox lucius	Pike	All
Salvelinus namaycush	Lake trout	Smoothwater Lake
Catostomus commersonii	Suckers	All
Prosopium cylindraceum	Whitefish	Blanche River and Larder River
Lota Lota lacustris	Burbot	All
Micropterus dolomieu	Bass	Lake Timiskaming and Blanche River
Acipenser fulvescens	Sturgeon	Lake Timiskaming and Blanche River
Perca flavescens	Perch	All
Aplodinotus grunniens	Drum	Lake Timiskaming and Blanche River

Whereas pike, pickerel, suckers and sturgeon ascend the major streams in large numbers for spring spawning, the whitefish make a fall run in the Larder and Blanche Rivers. Presumably, these different spawning seasons would be the best periods to trap, spear or angle for fish.

Of avafauna, only two resident species (Table 4) are deemed of sufficient subsistence significance to be included here. Notable, both are upland game birds. Substantial quantities of ducks and geese pass through the area in the spring and fall migrations. However, no duck or geese re-

mains have yet been recovered from archaeological faunal remains. One incidence of Bonasa umbellus (ruffed grouse) occurred at the Pearl Beach site.

TABLE 4. Resident birds of Kirkland Lake District.

Species	
Bonasa umbellus	Ruffed grouse
Canachites canadensis	Spruce grouse

Climate. Increasing palynological studies indicate that climate has changed since the last glacial retreat in northeastern Ontario. Terasmae (1962: 37) believes that an initial post-glacial arctic to sub-arctic climate persisted until circa 4000 B.C., when there was a warming period (Table 1). This was followed by more cooling temperatures, probably akin to present climatic conditions. It seems clear that many more northeastern Ontario pollen profiles will have to be built up and compared before we can attain anything more than generalized trends for the palaeo-climate of the study area.

Currently, Chapman and Thomas (1968: 58) delineate three separate climatic regions for the Kirkland Lake District. They encompass the Northern Clay Belt to the north, the Height of Land and the Timiskaming Clay Plain (Table 5).

Snow-cover data for the winter of 1970-71 are available for the Montreal River Basin at the Mistinikan Dam. This station is at an elevation of 1,050 feet above sea level.

The snow depths recorded (Canada 1972: 23) are as follows:

January 20.3"

February 28.5"

March 32.9"

April 36.1"

TABLE 5. Kirkland Lake District climatic regions.

	Timiskaming	Height of Land	Northern Clay Belt
Altitude (feet above sea level)	600-1000	1000-1600	700-1000
Mean annual temperature (F°)	36	34	34
Mean annual minimum temperature (F°)	-35	-45	-40
Mean date of last frost in spring	June 10	June 15	June 8
Mean date of first frost in fall	Sept. 13	Sept. 2	Sept. 7
Mean annual frost-free period	96	80	92
Start of growing season	Apr. 27	May 5	May 7

3

SOCIO-CULTURAL PERSPECTIVE

This chapter is not intended to present a definitive ethnography or ethnohistory of the Kirkland Lake District, but rather, it is intended as an introductory overview of the native peoples historically residing in the region. Documented data as well as limited but informative personal interviewing constitute the sources utilized.

Contemporary Indians (1950 to 1973). Presently, the native peoples of the District are classified by the Canadian Government as mixed Ojibwa and Cree (Canada 1970: 13). The only registered band in the Kirkland Lake District today is the Matachewan Band (Fig. 4), a mixed band of Ojibwa and Cree numbering some 135 persons, located on a reserve of 10,276 acres (Canada 1970: 15; Ontario 1970a: introduction).

Located to the south of the District is the Bear Island or Temagami Band, a predominately Ojibwa reserve of 160 persons (Canada 1970: 15; Ontario 1970: introduction). Because the Bear Island people traditionally utilized the Kirkland Lake District (Speck 1915), they have been included in this chapter.

Too, the Abitibi Dominion Band and the Abitibi Ontario Band now located near Amos, Quebec, and sometimes on Lake Abitibi, are traditionally connected with our area of study to the south (MacPherson 1932; Jenkins 1939).

Just outside the District, on Lake Timiskaming, there is

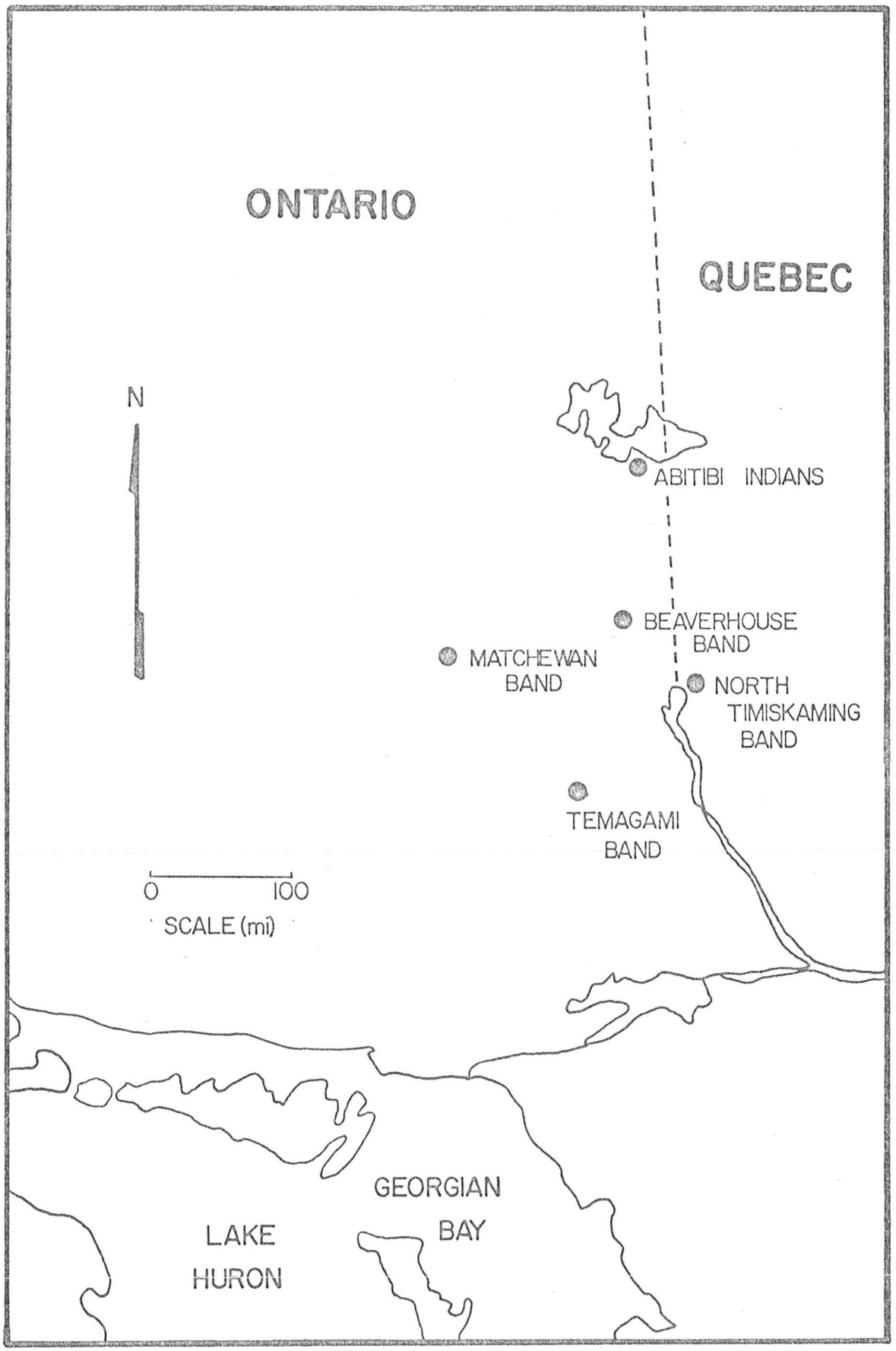

FIG. 4. Indian bands of northeastern Ontario, 1973.

a band of Algonquins numbering, in 1970, 384 people (Canada 1970: 9). These are the Timiscimi (Temiscamiques, Timiskaming Indians) first mentioned in the Jesuit Relations in connection with the Abitibis, Abitibi, Outurbi and several other bands. Clearly, early historic reference indicates that they are not recent immigrants into the area like the Bear Island and Mattachewan Ojibwa. Speck (1915: 13), speaking of the Timiskaming Algonquins, said that these people "regarded as belonging to their own dialect and cultural group, the Lake Abitibi Indians, the Mattawa Indians and various bands along the Ottawa River". Both these references suggest that if the Direct Historic Approach is to be successfully applied, then ideally it must begin with historic sites of the Timiscimi Algonquins. They are the earliest historically documented group in the region, while the Ojibwa and Cree represent more recent arrivals (Speck 1915: 11,13).

European Settlement (1901 to 1950)

This period marks the beginning of the first serious European attempts to utilize the agricultural potential of the "Little Clay Belt". True, lumbering pursuits appeared during the late 1800's, but this was not permanent settlement. Mining, however, becomes important in the first decade of this century following the silver discoveries at Cobalt. This is also the period during which most of the ethnographic and settlement studies were undertaken (Table 6).

TABLE 6. Ethnohistorical sources for Kirkland Lake District.

Band/Dialect	Group	Author	Date	Occupation
Beaverhouse (sub-band)	Ojibwa	W.G. Miller	1911	Geologist
Temagami	Ojibwa	F.G. Speck	1915	Ethnologist
Timiskaming	Algonquin	F.G. Speck	1915	Ethnologist
Abitibi	Algonquin	J.T. MacPherson	1930	Ethnologist
Abitibi	Algonquin	W.H. Jenkins	1939	Ethnologist

The Beaverhouse Band. This settlement is at least 100 years old. Apparently, some of the original inhabitants came from North Timiskaming, Temagami, Sturgeon Falls and Abitibi Bands. The present population has been reduced to the three permanent dwelling units of Isaac Mathias, Lucy Mathias (Mother) and Eddy James (Colquhoun 1972).

Rapidly declining, this settlement may soon cease to exist. As recently as 1962, there were sixteen adults associated with this settlement and, during that year, these sixteen individuals had a total income of only $5,533. broken down as follows: trapping, $2,400.; timber, $2,009; welfare, $1,110. (Waldriff 1962).

An elderly resident, aged 65 years, told the present writer that his father came to Indian Point on Beaverhouse Lake from the band at Temagami. Isaac built his first cabin at the age of fourteen and traded at the Hudson Bay Company until 1928, when he traded in Kirkland Lake. His mother, who was ninety-two years old in 1972, had lived on Beaver-

house Lake all her adult life. The small cemetary at the settlement had 72 graves in 1972.

Willet G. Miller, Provincial Geologist, visited Beaverhouse Lake in 1901 and observed three "Indian Cabins" spread out along the shoreline. He also mentioned a cabin on an island in the lake (Miller 1901: 222). This island is interpreted as the location of the Howard Lake II site (DbGw-1) (Pollock 1972: 20). Miller further mentioned an Indian burying ground on this island, which probably means that the present graveyard on Indian Point is post 1901 in age. As well, another graveyard located on nearby Victoria Lake (DbGx-1)(Pollock 1972: 48) is probably related to the Beaverhouse Band, although it may be even earlier than the island cemetary.

It is interesting to mention Miller's (1901: 223) account of a trail on the nearby sand plains. He states that, "A trail was followed southward which became very indistinct about two miles from the lake on account of numerous caribou trails branching off from it". Although this single account does not confirm the presence of woodland caribou in 1901, it does raise the possibility of their presence.

The canoe route from Lake Timiskaming up the Blanche River to the Misema River or Larder River and thence to Beaverhouse, Howard and Verna Lakes, then up the Magusi River over the Height of Land to Lake Abitibi, is a seldom-mentioned alternate route to Lake Abitibi. More popular is the route on the Quebec side.

The Temagami Ojibwa. The people at Temagami told Frank G. Speck (1915: 11,13) that "their ancestors came from Pawatin (at the rapids) near Sault Ste. Marie and that the original Temagami band consisted of twelve families". Speck (1915: 13) relates as well that,

> These people are part of a steady northward drift of Ojibwa-speaking tribes from the Great Lakes. The vanguard of this migration seems to be the northerly extending bands at Matachewan post and Flying post.

Precisely when the Ojibwa arrived in the area is uncertain, but Speck listed the chiefs of the band as far back as 1800, the "time of the white man's coming" (1915: 22).

In his brief discussion of social organization, Speck (1915: 17) mentioned that clan groupings were recognized and characterized by animal totemic names. Descent was recognized through the father and marriages took place only outside the clan.

It seems certain that these people were in fact immigrants into this area in the late 1700's or early 1800's. This late migration has led various authors (e.g., Hickerson 1970) to erroneously suspect that northeastern Ontario was unoccupied prehistorically.

During the summer of 1972, I was able to visit the Bear Island Reserve, home of the Temagami Ojibwa. I had a lengthy discussion with an elderly resident who is about 60 years old. Alex has trapped and guided all his life in the area, and used to travel about seventeen miles to his trapline with a 3 or 4 dog-sled team; he always took his wife with him.

They often cooked bannock on a stick and used the dogs to hunt beaver. Fish were netted through the ice. In the spring, he always travelled at night when the crust was hard. Alex said that the traplines never became depleted of game, and large game such as moose was divided among the band.

A second interview was held with another resident, an 87-year old Cree from Quebec. Tom claims to have come to Bear Island in 1901, and he made two trips to James Bay in 1910 via Lady Evelyn Lake, Gowganda Lake, Grassy River, to the Mattagami River and thence to James Bay. Tom used a 5-dog team to haul his sled, and says he could carry a 300-pound pack by means of a tumpline. Tom said he had poled canoes up rapids, traded at Bear Island, bootlegged beaver to Quebec, and always came out from the trapline at Christmas. Lake trout were caught on set lines and moose were always divided; the last one he shot in 1969 was divided among all the families on Bear Island. One of Tom's most poignant comments was "young men don't bother with trapping anymore".

The Matachewan Ojibwa. The Matachewan Band represents an expansion of the Temagami Band northward during the early 1800's. The band never seems to have numbered more than a dozen families and has always been closely associated with the Hudson Bay Company post, "Fort Matachewan" (Speck 1915: 1; Anonymous n.d.).

A young band member with whom I worked in 1972 is from

the Matachewan Band. He said his mother still had recipes for aboriginal paints and some band members had found archaeological artifacts north of Kirkland Lake. Mike has shot moose and netted fish on the reserve, but, in general, seems to be unaware of the history and prehistory of his people, although he is interested in learning about his people's past.

The Abitibi Indians. John T. MacPherson (1930: 7) considered the Abitibi Band to be "an off-shoot of the Ojibway Indians....some writers believe they sprung from a common base southwest of Lake Superior....", but MacPherson also mentioned that "the casual observer would have difficulty in detecting the difference between the Abitibi and the neighbouring Cree" (MacPherson 1930: 7).

Prior to 1939, this band occupied a hunting territory of 148 miles wide and 160 miles long, comprising some 22,400 square miles (Jenkins 1939: 2). Jenkins (ibid) mentions that the Abitibi "are bounded on the west by the Ojibway, on the north by the Cree, on the east by the Montagnais, and on the south by the Timiskaming Algonquin". Jenkins clearly did not wish to assign a dialect or language grouping to the Abitibi. The Abitibi are mentioned for the first time in the Jesuit Relations of 1640. They appear again in the Relation of 1660 in connection with a raid by Iroquois (Orr 1921: 26).

Others have associated the Abitibi with the Têtes de Boule (Orr 1921-22: 26). Clearly, there is a relationship

according to Orr (1921-22: 26) between the Têtes de Boule, Timiscamings and the Abitibi. Speck (1915: 13) also mén-tions that these people (the Timiskamings and Abitibi) con-sider themselves to be of the same culture and dialect grouping.

It is possible that Têtes de Boule in this case repre-sents various Algonquin bands of the Ottawa River. It seems from the evidence that the Abitibi are most closely related to the Algonquin speaking peoples and that the Direct His-toric Approach for this area must begin with historic Algonquin sites (as these people represent the prehistoric archaeology).

Apparently, the Abitibi during early historic times lived for the most part in conical wigwams and had definite hunting territories (MacPherson 1930: 8). With regard to their social organization, MacPherson says that there was little recognition of social bonds in 1930 apart from the family unit. Too, at that time even the oldest band mem-bers had no knowledge of totemic clans (MacPherson 1930: 8).

Of material culture, even in 1930 the Abitibi still oc-casionally used bone and flint knives as well as wooden spoons and plates of birch bark (MacPherson 1930: 35). For hunting, the Abitibi used a fairly long bow with an arrow headed by flint. Small game and waterfowl were shot with bone-tipped arrows, while blunt arrows were used for par-tridge (MacPherson 1930: 38-39).

As previously mentioned, sites of the early historic

Abitibi should prove immensely valuable in trying to apply the Direct Historic Approach. Frank Ridley (1966: 42) has located such sites on Lake Abitibi, namely: the Ghost River Garden site, the Ghost River Island site; and the Abitibi River Point site. The Ghost River Garden site is located on a promontory at the mouth of the Ghost River, where Ridley excavated 475 square feet (Ridley 1966: 34).

Too, Thomas E. Lee (1965) has excavated historic materials on the Quebec side of Lake Abitibi. His Louis and Iroquoian Point sites at the mouth of the Duparquet River are helpful in establishing the nature of some of the historic acculturation in this region. From Table 7, it is apparent that existing historic samples remain scanty, particularly with regard to aboriginal items. What is needed are sites of the protohistoric era (Noble 1971b), when the effects of European acculturation are minimal.

The following Table 7 lists the European and historic aboriginal items recovered during these investigations, as well as late prehistoric tool assemblages (Table 8).

The Timiskaming Algonquin. Situated on the northeast shore of Lake Timiskaming and numbering 211 persons in 1911, was the band Speck described as the "Timiskaming Algonquin". They were a modified cultural group due to contact with their Ojibwa neighbours at Bear Island, Lake Temagami (Speck 1915: 2). Speck (1915: 3) also mentioned that these people considered themselves to be most closely connected to the Lake Abitibi "Bluewater Peoples", and the Mattawa and

TABLE 7. Items of European and aboriginal manufacture from archaeological sites on Lake Abitibi, during historic period.

Item	Reference
Glazed bone china decorated with red and blue floral designs	Ridley (1966: 35-36)
White clay pipe stems and a pipe bowl marked with a raised letter T	
Fragments of brass vessels	
Iron clasp knife	
Table cutlery	
Large iron fish hook with spatulate tip	
European gun flint	
Small football-shaped white glass beads	
Clasp knife	Lee (1965: 29,41)
Small, white football-shaped glass beads	
Very small beads of porcelain and glass	
Broken glass rod bead	
Laminate scrapers	Ridley (1966: 42)
Simple incised pottery rimsherds	
Ground bit celt	
Criss-crossed designed pottery of Iroquoian type	Lee (1965: 41)
Inferior stone work	
Absence of projectile points	

TABLE 8. Late prehistoric tool assemblages from Lake Abitibi.

Item		Reference
Ground celts		Ridley (1966: 43)
Miscellaneous laminate end scrapers		
Side scrapers		
Rectanguloid scrapers		
Small to medium side-notched points		
Pottery patterned on that of the Hurons		
to the south, namely:	Lalonde designs	
	Lalonde high collar	
	Oblique designs	
Lalonde high collar ware		Lee (1965)
Castellations on pots		(Figure 1, p. 41)
Small end scrapers		
Uniface flake blades		
Bifaces		

Ottawa River Algonquin bands. The Timiscimi, Temiscaminques Temiskaming Indians (Rogers 1969: 39) are likely the original inhabitants of the area during terminal Woodland times.

According to Speck, the basic social unit among the Timiscami was the family. Although animal totems existed among them, Speck (1915: 6-7) thought they were due to the influence of the neighbouring Ojibwa. Speck was mainly con-

cerned with family hunting territories, a social phenomenon now believed to be post contact in origin.

Of some importance are the material culture items collected by Speck in 1913, and presently stored in the Ethnology Division of The National Museum of Man, Ottawa. Table 9 presents a partial listing of some of the more representative artifacts in the collection. Speck also collected from an archaeological site near the old Hudson Bay Company's fort at the point of land in the North Timiskaming settlement. The items included stone scrapers, two stone arrowheads, stone hammers or pounders, numerous chips and unfinished artifacts, a grooved stone club, and chipped blade which were turned over to Harlan I. Smith.

The English Fur Trading Period (1821 to 1901). During this time, the Hudson Bay Company had gained a virtual monopoly over the fur trade in the Kirkland Lake area. Posts were operating at Fort Timiskaming, Bear Island and Fort Matachewan. Fort Timiskaming was first taken over by the Hudson Bay Company in 1821, and afterwards it was known as Timiskaming House until finally abandoned in 1901 (Mitchell 1969: 18).

Fort Matachewan on the Montreal River was established in 1865 in response to competition from a man named Duchas, a free fur trader from Nipissing (Anonymous n.d.). The Duchas brothers are again mentioned in 1878-9, as trading at both Matachewan and Temagami. The post never seems to have done very well, and in 1908, there were only about 100 Indians in the vicinity of the post with only twelve adult

TABLE 9. Material culture artifacts of the Timiskaming Algonquins, circa 1913.

Catalogue No.	Item
III L 97	Toboggan
III L 143	Two tops (child's toys)
III L 144	Three net floats
III L 155	Net sinker stone (10 needed for net)
III L 142	Four net needles (two types)
III L 149	Two mesh blocks
III L 182	Two cradle boards
III L 184	Two pairs of snowshoes
III L 129-136	Eight wooden spoons, one from Abitibi band
III L 160	Two wooden snowshoe needles
III L 161	Three bone snowshoe needles (from deer, bear and lynx bones)
III L 156	Small set for partridge
III L 186	Cedar bow
III L 138	Bone headed feathered arrow
III L 141	Crooked knife
III L 98-109	Decorated birchbark baskets
III L 28	Fire drill
III L 145	Caribou or moose bone skin scraper
III L 189	Rush mat or rushes and cedar bark strings
III L 165	Bone fish hook
III L 151	Cup and ball game (wooden pin and cedar twig bundle)
III L 167	Rabbitskin blankets
III L 187	Stone pipe

hunters among them. The post was finally closed in 1920, and with it the Post Manager, Stephen Lafrican, retired after a total of 53½ years of service with the company (Anonymous n.d.).

The Bear Island Post on Lake Temagami, an offshoot of Fort Timiskaming, was first established in 1831. It did not operate continuously. The main purpose of the post was to contain the opposition of the free traders and it is apparent that the number of Indians trading there varied greatly. In 1853, only two families traded at the Bear Island Post (Wallace 1954: 13).

The Hudson Bay Company did not move into the area until its merger with the Northwest Company in 1821. Prior to 1821 the trade in Timiskaming was conducted by Canadian Traders and the Northwest Company. Timiskaming was the headquarters for the trade and had been, since its construction in 1764, at the foot of Lake Timiskaming (Mitchell 1969: 18).

In 1863, the Oblate Order of the Roman Catholic Church built a mission on the Ontario side of the narrows across from Fort Timiskaming (Mitchell 1969: 22). Parts of the structure are still visible today. This choice of location near the Fort was not without reason as there must have been large numbers of native peoples in the vicinity of the post. Too, the post would have provided some protection from any hostile action on the part of the natives.

The Canadian Fur Trading Period (1760 to 1821). Not long after the Conquest of Quebec in 1760, various traders

arrived on Lake Timiskaming. One of the first was Richard Dobie, a Scot from Montreal. He sold the post at Timiskaming to James Grant around 1776, but they later became partners (Mitchell 1969: 18).

The Northwest Company was involved at an early time in the area. In 1786, they licensed Desrivieres and Beaubien to Temiscaminque with eight canoes and goods worth £1200 (Davidson 1918: 26). It is impossible from the record to say whether these men were connected with or in opposition to Dobie and Grant above.

The fort at Lake Timiskaming reached its greatest sphere of influence around the year 1804. What records there are show that in 1802, the Fort Timiscaming country had six posts, one partner (in the Northwest Company), six clerks and interpreters, as well as eighteen common men (Davidson 1918: 280).

One of the major figures in the Timiskaming trade, AEneas Cameron, had arrived only a few years previously in 1788, from the Parish of KirkMichael in Scotland, the same parish as James Grant. AEneas was the first of a long line of Camerons who came to dominate the fur trade at Timiskaming for nearly a hundred years (Mitchell 1967: 19; Wallace 1954: 6).

During the summer of 1794, George Gladman of the Hudson Bay Company visited Fort Timiskaming and described the post.

> The Houses stand on a Point on the E^{t} side stretching into the Lake on a high Situation, another point projects from the opposite side making a narrow Channel only ¼

mile across, thro' which a Strong Current runs to the S° ward. The Houses consist of a Wholesale and Retail Warehouse, a House for a Master and Clerks and another for Men all at right Angles within Pallisadoes. Ten or Twelve Yards higher up on the Point there are two other commodious dwelling Houses one for the Master and the other Mr Grant's in which they reside, these are very neatly fitted up, with printed Cotton Curtains, the Walls neatly papered and plastered but all on one Floor -besides these they have some detached Buildings as a Smith's Forge, (they have an Armourer constantly here who makes all the Ironwork for their Trade, Barrs of Iron come up in the bottoms of their Canoes without much inconvenience) also a very complete Ice House, A Magazine but all in irregular situations, around these are several detached spots of Garden Ground, but the Land is poor, & nothing appears likely to come to Perfection but Potatoes, which are uncommonly productive here, many Bushels are thrown about around their Houses, tho' they say they give great quantities to the Indians and are now feeding Hogs with them, these besides Poultry are all their live stock. -They have other Dwelling Houses for the Winter, (this situation being too bleak and open) about half a Mile behind the Point to the S°ward, of their Trade I can gather little Information, all the Furrs I saw would not amount to 1000 MBeaver, in Beaver, Otter, Cats, and many Musquash, but as the large Canoes are returned to Montreal some time since much must have gone down by them, as all the Posts Ere that had lodged the principal part of their Collections here, there are no Indians about to form any Calculations of the Furrs collected at this particular Post. -The Land all round the Lake is high barren Rocky and has a very unfavourable appearance for Provisions, Pidgeons I understand are sometimes pretty plentiful, for about 3 Weeks in Summer, the season for them is about commencing now, there are very few Rabbits to be got, the Fish which are very scarce to be got here are Pike and Perch principally, but the chief Dependance of the Canadians is on the Provisions they bring up from Montreal, Indian Corn and Grease is served out regularly to the Men each Day, and also some Pease, but Pork, Flour, Salt &c. they must buy, if they want it. Port is 3 Livres p. pound, Flour 2, Mr Cameron the Master here assured me they had not four Pounds at the End of the Year to pay to any Man in their Service. But the Clerks are exempted from any Expence, either for Food or Clothing. There are 3 of the large Montreal Canoes lying here which are about 36 Ft long, 2½ deep, and 6 Wide in Midships, carry 70 Bales, Bags, and Kegs each, and are navigated by 8 Men. -Mr Grant and Mr Cameron received us with great civility, gave me two Apartments for myself and People. -They keep an excellent Table and entertained me with Madeira and London Bottled Porter (Wallace 1954: 6)

The following year the posts became formally part of the Northwest Company.

The French Fur Trade and the Iroquois Wars (1650 to 1760). The first mention of Indians in the area is found in the Jesuit Relations of 1640 and again in the Relation of 1660 (Orr: 1921: 26). Here it is recorded that the Abitibi and a band of Algonquins visiting them were ambushed by an Iroquois war party who slaughtered many of them (Orr 1921-22: 26). Chauvergnerie was of the opinion that the Abitibi in his time (1736) were able to send 120 warriors against the enemy (Orr 1921-22: 26).

In 1669, the Abitibi united with the Timiscamings and fought on the side of the French. In 1691, they opposed the English general Schuyler who attacked them (Orr 1921-22: 26).

From the Jesuit Relations (1959 Vol. 18, 229) and current ethnohistoric research (Heidenreich 1971, Rogers 1969: 39), a list of early groups can be identified within and adjacent to the Kirkland Lake District (Fig. 5). They include the following:

1. Nipissings (Nipisiriniens)
2. Timiskaming Indians (Temiscimi, Temiscaminques)
3. Outimagami (Temagami)
4. Ouachegami
5. Mitchitamou
6. Abitibi (Abitibis, Outurbi)

The first permanent European presence in the study area was a post established on an island in the mouth of the

Montreal River in 1679. This post has since eroded away (Mitchell 1969: 18). It was still extant, however, in 1689, when the Chevalier de Troyes visited the area enroute to attack the English on James Bay. De Troyes first encountered Timiskaming Indians during May, 1689, on the Ottawa River, "four canoes filled with natives from Timiskaming...bringing us news of the Frenchmen who were there" (Kenyon and Turnbull 1971: 51). Apparently, these native people were on their way to Montreal to trade. Proceeding on to Lake Timiskaming, De Troyes met fourteen Frenchmen at the Compagnie du Nord post, as well as some Nipissing Indians. In subsequent trecks around the lake, he mentioned four native cabins (tents?) at two different locations along the lake, as well as some natives he met on an island one league from the foot of the lake (Kenyon and Turnbull 1971: 56-7).

Recently, Heidenreich (1971) has provided us with a map (Fig. 5) showing the distribution of Northern Algonquin bands based on information derived from the Jesuit Relations and other contemporary sources (Heidenreich 1971: Map 24). Although location of the groups is only approximate, this information, none the less, gives a good idea of Northern Algonquin Band distribution during the period from 1615-1640 A.D. From this geographical distribution, one can conclude that the prehistoric peoples of Kirkland Lake District are the ancestors of the historic Timiscimi and Abitibi Northern Algonquin Bands.

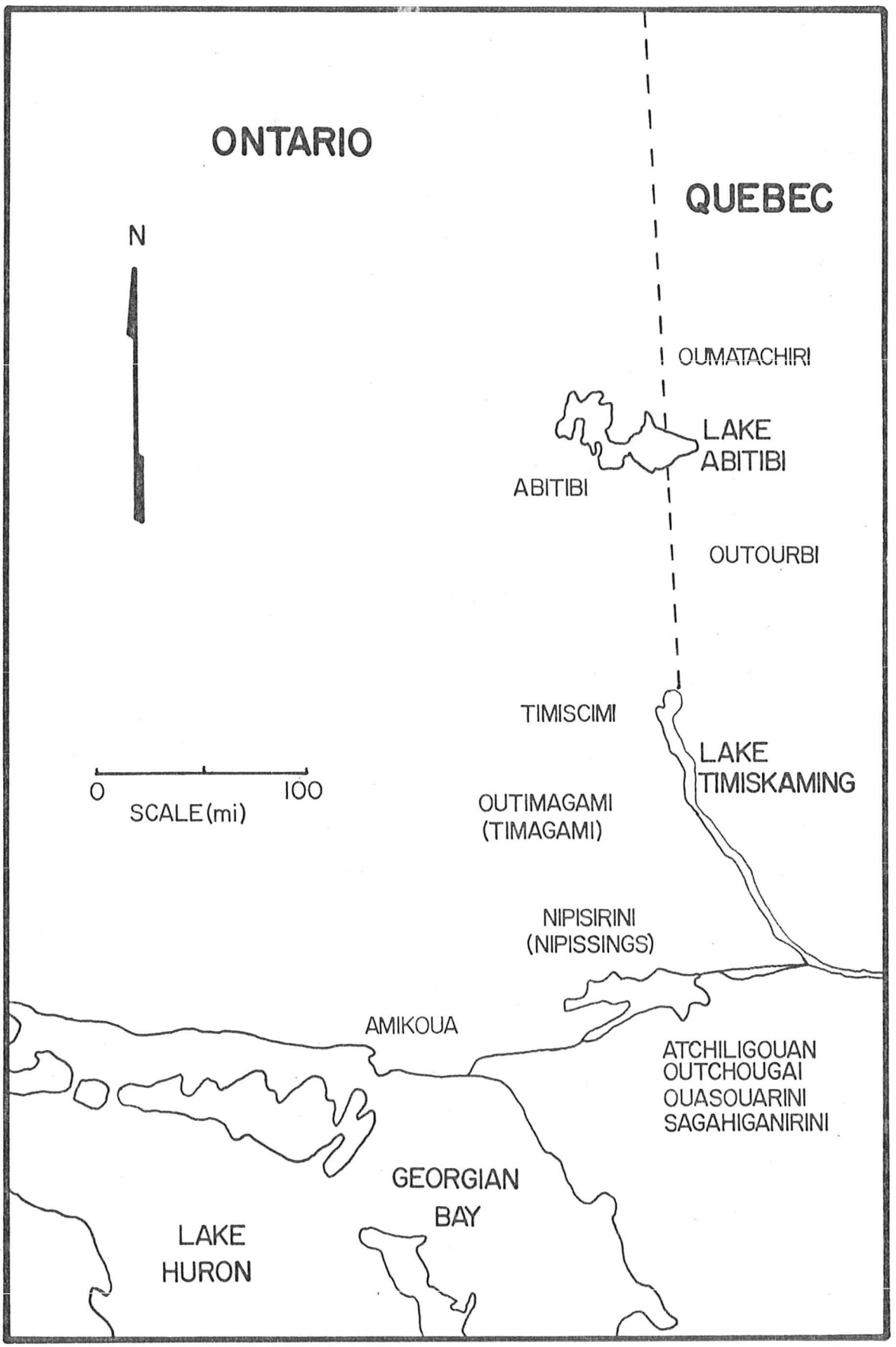

FIG. 5. Northern Algonquin groups (1615-1640 A.D.).

Clearly, this documentation indicates a fairly heavy occupation of the lake in the 1680's, and one may surmise that some of these people represented refugees from the sporadic but certainly intimidating Iroquois raids. The Lake Timiskaming post was apparently destroyed by just such an Iroquois raid in 1688, and was only re-established at a different location in 1764 (Mitchell 1969: 18). The object of the Iroquois raids may have been to disrupt the former Huron trading routes in the Timiskaming area. One such route passed to the east of the area utilizing the Sturgeon and Abitibi Rivers, while the other turned right at the north end of Lake Timiskaming towards the Quebec country (Hunt 1940: 8-9).

It seems apparent that the Iroquois raids caused considerable disruption to the local inhabitants, and, as a result, considerable blending of various Algonquian speaking groups can be expected in the post 1650 period. This blending, while important ethnographically, constitutes an important inhibiting factor for effective application of the Direct Historic Approach.

4

ARCHAEOLOGICAL SITE DESCRIPTIONS

Archaeological surveys conducted by the writer during 1972-3 located a total of fifty-five previously unreported archaeological sites in Kirkland Lake District. Of these, the three major sites described in this thesis were selected for excavation and analysis.

Survey Methods. The survey procedure used in the Kirkland Lake District was to transverse the shoreline of lakes and rivers looking for suitable habitation areas. Suitable sites may be found on terraces near shores with a sandy beach, on sand banks, within sheltered bays, on points of land, or on islands. Many of the sites were found to be in use as present-day campsites.

The 1972-3 archaeological survey commenced along the present major waterways: the East and West Montreal Rivers; the Montreal River as far south as Matachewan; the Blanche, Englehart, Larder and Misema Lake and River systems. Material definitely attributable to prehistoric occupations was found on virtually all major waterways and lakes.

Whenever a concentration of materials was found, for instance on a beach or a bank, the area behind was tested by means of one foot, two-foot, or five-foot test squares. The three major sites in this thesis--the Smoothwater Lake site, the Duncan Lake site and the Pearl Beach site on Larder Lake--were found this way. In some cases, the beach may be devoid of aboriginal traces, but materials can be found on

a terrace behind the beach.

In the field, photographs were taken of all sites, and field notes were made on standardized forms.

Large sites are usually located near rich faunal and floral resources. However, topography exerts a dominating influence in that sandy terraces about eight feet above high water level were favoured. Where the physical landscape and ecological factors are favourably associated, major sites are located.

All sites located in 1972 were recorded on Department of Mines and Technical Surveys maps (1:50,000 scale). Usually, each site was given a local name, as well as registered in the Borden (1952) system of site designation. This nationally-applied scheme is based upon the latitude-longitude co-ordinates of a given site with each of the letters in the designation representing respective degrees and minutes. Sites are numbered consecutively as they are found and reported.

SMOOTHWATER LAKE I SITE (CiHd-1)

This site (Figs. 2, 6) is situated on the central eastern shore of Smoothwater Lake in Corley Township, Kirkland Lake District.

As a lake, Smoothwater is a large body of extremely clear water with a surface area of 2,186 acres. Depths range to a maximum of 290 feet, but average 105 feet (Ontario 1958). The following fish are present: lake trout (Salvelinus namaycush), white sucker (Catostomus commersonni)

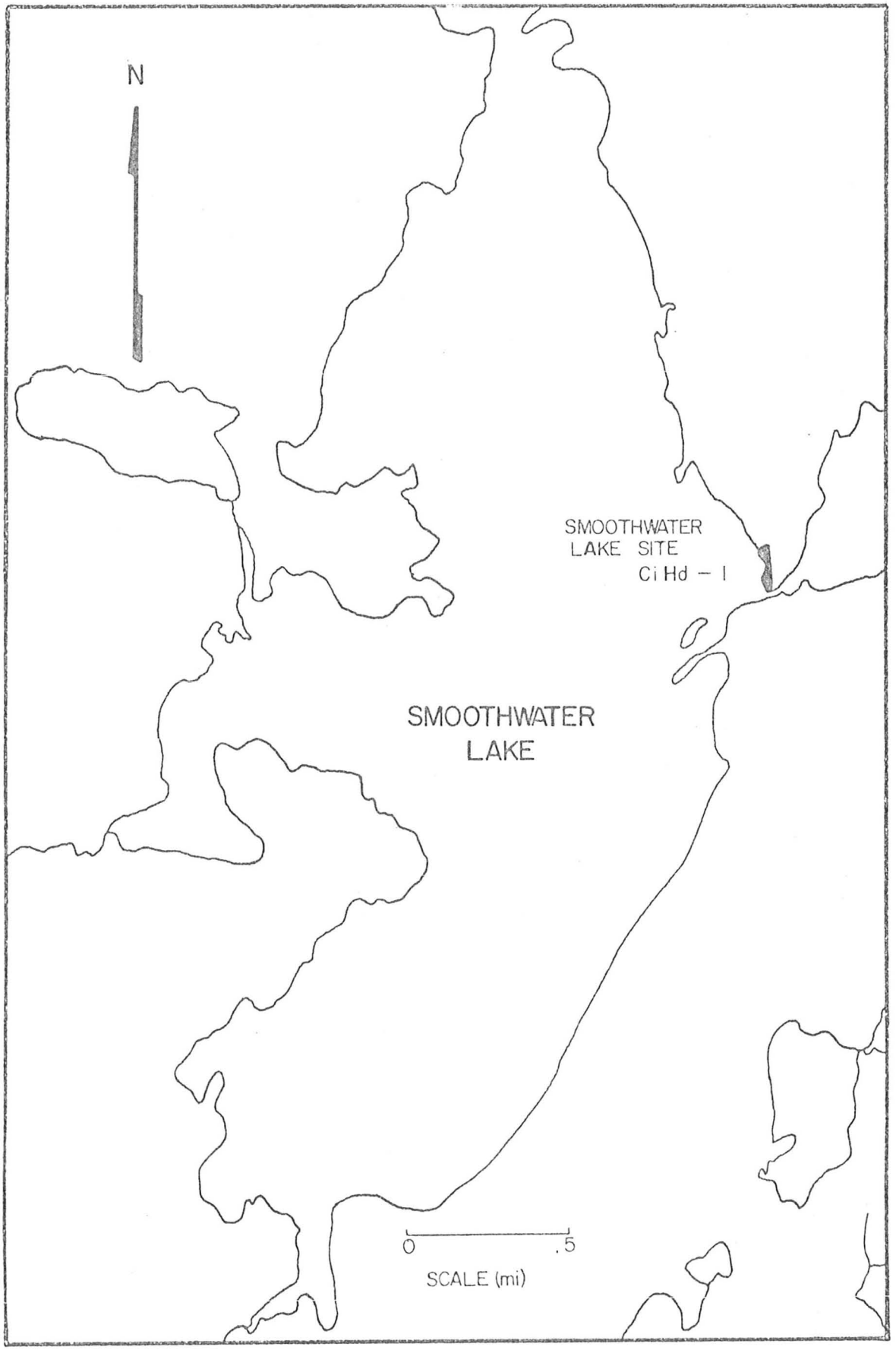

FIG. 6. Map of the Smoothwater Lake site.

lake whitefish (Coregonus clupeaformis), burbot (Lota lota), lake chub (Couesius plumbeus), eastern trout perch (Percopsis omiscomaycus) (M.N.R. Lake Survey Data: 1958).

This lake is rather rough at times, with waves of two to three feet being not uncommon. To the front of the site are several islands, and these, plus the fact that the beach is located in a shallow bay, provide a certain amount of protection and calm water for fishing. The lake itself is extremely clear and deep, and is very sterile with little aquatic vegetation. No pike or yellow perch are present, and only white suckers and lake trout up to 30 pounds are taken here. The area immediately in front of the site, with its clean sandy bottom and depths of 8 to 12 feet, is a noted spawning ground for the lake trout population. Until recent years, much of the lake trout spawn for the provincial fish hatchery at Hill's Lake was taken from this area during early spring (Jim Gardner: personal communication).

Smoothwater Lake is the headwaters of the East branch of the Montreal River which eventually empties into the Ottawa River. One of the first scientist-explorers in the area was geologist Robert Bell who, in 1875, ascended the Sturgeon River (which flows into Lake Nipissing), and thence to the Stull Lake-Scarecrow Lake system to Smoothwater Lake (Collins 1917: 5; Card et al 1973: 4). W. H. Collins, himself an early explorer in the area, followed a different route and commented that "The East branch (of the Montreal

River) virtually originates in Smoothwater Lake, a fine body of much clearer water than any to be seen farther downstream." (Collins 1913: 19). Another access is from Lake Temagami via the Lady Evelyn River and a series of portages. Thus, Smoothwater Lake is accessible from three separate drainage systems.

Present flora and fauna around Smoothwater Lake are probably altered due to lumbering operations carried out during the 1930's and 1940's. On the north end of the beach, several foundations and the remains of a horse stable relating to the logging operations remain, although they are well hidden to the casual observer. Elsewhere in the forest, remains of corduroy roads are found, fine stands of very mature red pines, as well as, second-growth jackpine and birch trees. Moose were seen by the field party in 1973 and bear in 1972. Generally speaking, the area does not seem to be overly abundant with game.

Lying in an imposing setting, Smoothwater is regarded by many as one of the most scenic lakes in northeastern Ontario. A number of high hills and ridges surround this magnificently clear body of blue-green water with a sandy bottom; the effect is to produce scenery of a type rarely encountered in this section of the boreal forest.

Indeed, the micro-environment of Smoothwater Lake has a mystic quality to it recognized by the Temagami Ojibwa of the Bear Island Band. They described for Speck three locations for separate legends on the lake, namely: (1) the

lion's cave where the flood first began; (2) where Nebec fell down the ledge; and (3) snake portage. As only four such locations for legendary events were given to Speck, on a map covering many thousands of square miles, the supernatural importance of Smoothwater Lake is clearly recognizable.

Archaeological Excavations and Stratigraphy. The archaeological site (CiHd-1) is situated on a beach approximately 1600 feet long (Fig. 6). This beach, primarily wave and water built, is derived in large part from a sand bank occupying the backshore area. The bank ranges from a height of 8 feet above the foreshore flats at the southern end, to a height equal to or lower than the beach proper at the northern end. During 1972 and 1973, the width of the beach exposed has varied from 25 to 50 feet, depending upon water levels. The main area of the site is concentrated atop the higher portions of the bank at the south end of the beach, where 100 feet distant is a short portage (100 yds.) to Marina Lake. Due to wave erosion, the beach itself has produced numerable artifacts, many made from quartzite and local Gordon Lake Formation cherts.

During 1972, the site was extensively surface collected and tested. No major excavations were conducted, however, until the following year. The 1973 excavations were concentrated on the area behind the bank (Fig. 7), where copious amounts of flakes and artifacts had been found eroding during the 1972 survey. The vegetation was very dense and

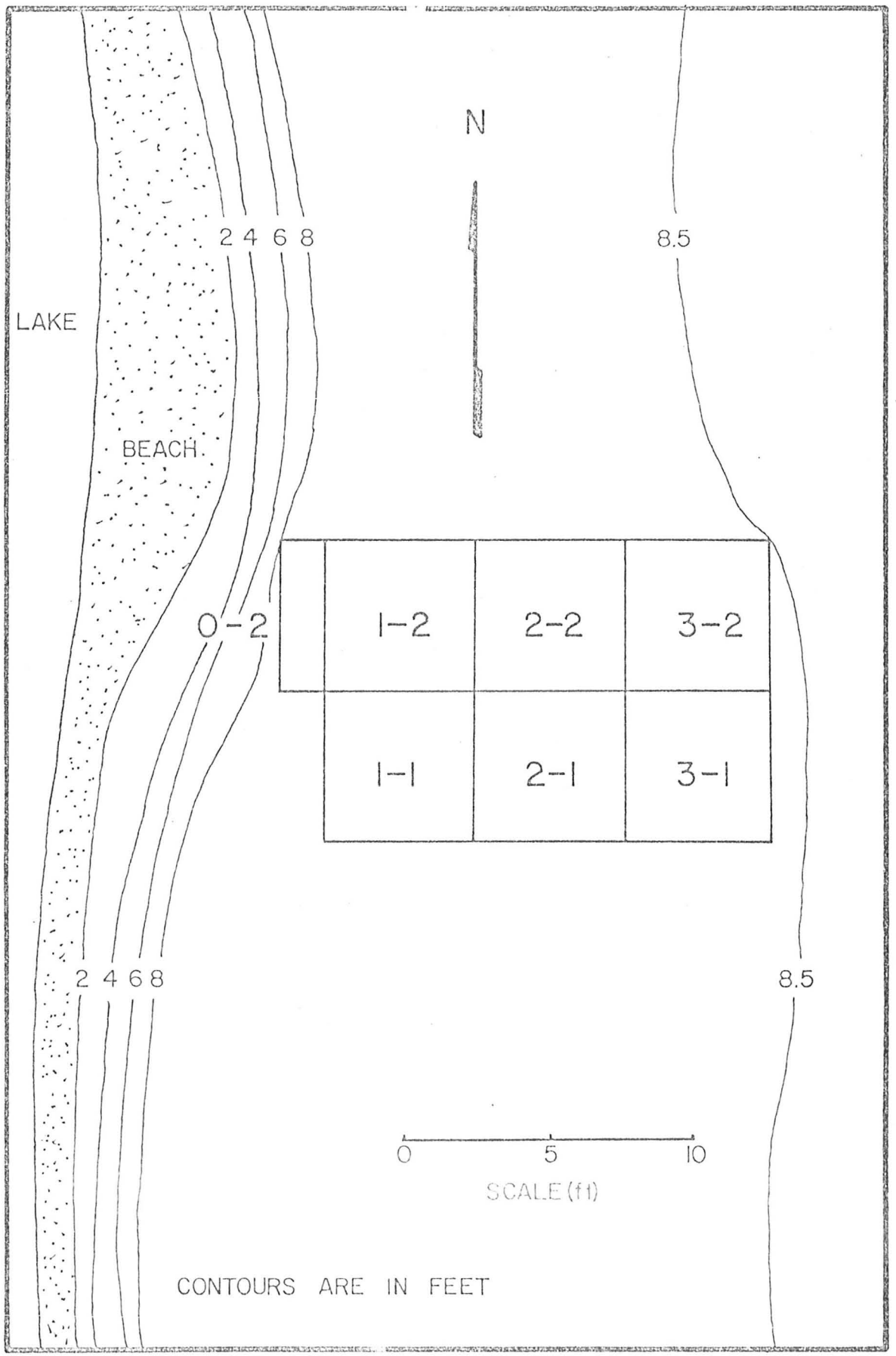

FIG. 7. Excavated units at Smoothwater Lake, 1973.

the field party was fortunate to have the aid of a nearby camper, Mr. Lloyd Anderson, who helped to clear some of the small dense shrubs with his chainsaw. No large trees were destroyed by the excavation; but the poor ground conditions restricted the number of 5-foot squares that could be excavated in the time available.

Due to the heavy humus and root cover plus the sharply undulating soil strata (Fig. 8), the site was excavated in arbitrary 3-inch levels. Although the site is stratified culturally, physically the artifactual materials are contained in a single stratum of grey sand, with some materials having been moved upwards into the topsoil and humus through frost and root action.

The presence of a lanceolate point, as well as, a Laurel potsherd on the bottom 6- to 9-inch level (Fig. 11) illustrates the high degree of mixing possible due to tree falls, root and frost action on boreal forest sites. Due to the poor rate of soil formation in mature conifer stands which still cover part of the site area, soil layers are thin. The possibility for meaningful vertical stratigraphy is almost impossible under these conditions. On such sites the horizontal stratigraphy may be much more useful for separating the cultures involved. The 1973 excavation predominately represents a late Shield Archaic (circa 1000 B.C.) station, with a very small sample of materials relating to the Laurel Tradition. The Laurel side-notched points are particularly good indicators of the evolution of the Shield

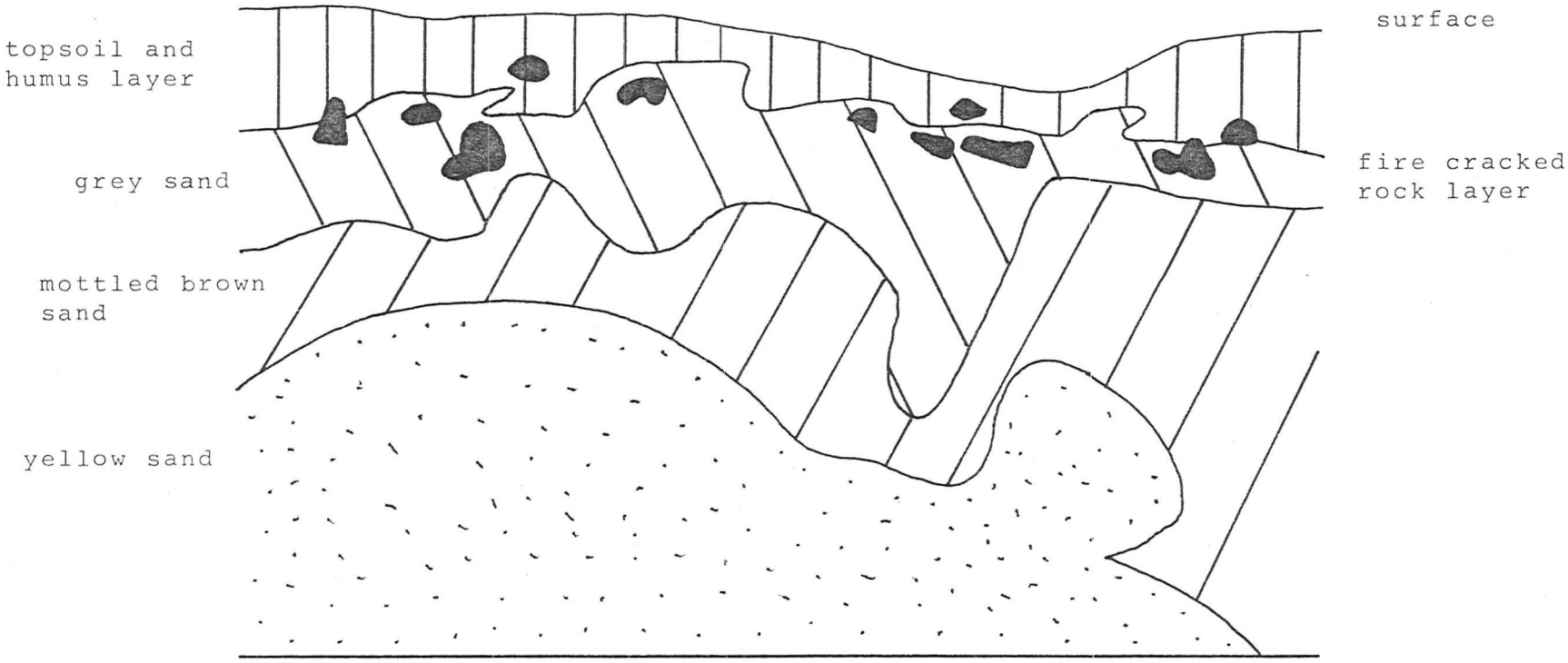

Fig. 8 Smoothwater Lake, west wall profile A square 0-2
Scale: 6" - 5"

Archaic culture into Laurel.

Features. Within level one, a large oval hearth about 32 x 20 inches wide and 9 inches deep contained 30 pieces of fire-cracked rock averaging 2 inches in size. Projectile points, cores of green Gordon Lake chert, bifaces and chert debitage were associated in and near this hearth (Fig. 9). A second burnt area, a linear trough-shaped structure, was only recognizable in the second 3- to 6-inch level. It appears to represent a series of several poorly-defined hearths. The artifacts found within these features indicate that it is coeval with the previous hearth. There is a possibility that such poorly-defined linear hearths represent smoking fires placed under a fish drying rack. This linear hearth at the deeper 6- to 9-inch level separated into three shallow weak expressions of burnt areas (Fig. 11), containing no artifacts. These areas represent the bottom of the hearths located in the previous 3-inch levels.

Certainly intriguing but hypothetical is a feature of large spaced rocks that may represent a tent ring (Fig. 12). The large rocks that comprise the ring were plotted on the upper 3-inch level and thence removed, even though several extended into the second 3-inch level. In hypothesizing this feature, data from all levels were considered and three main criteria were used in reconstructing it. The rocks are all over 5 inches in diameter, a central hearth is present, and eleven of the seventeen projectile points excavated were concentrated within this rock feature at

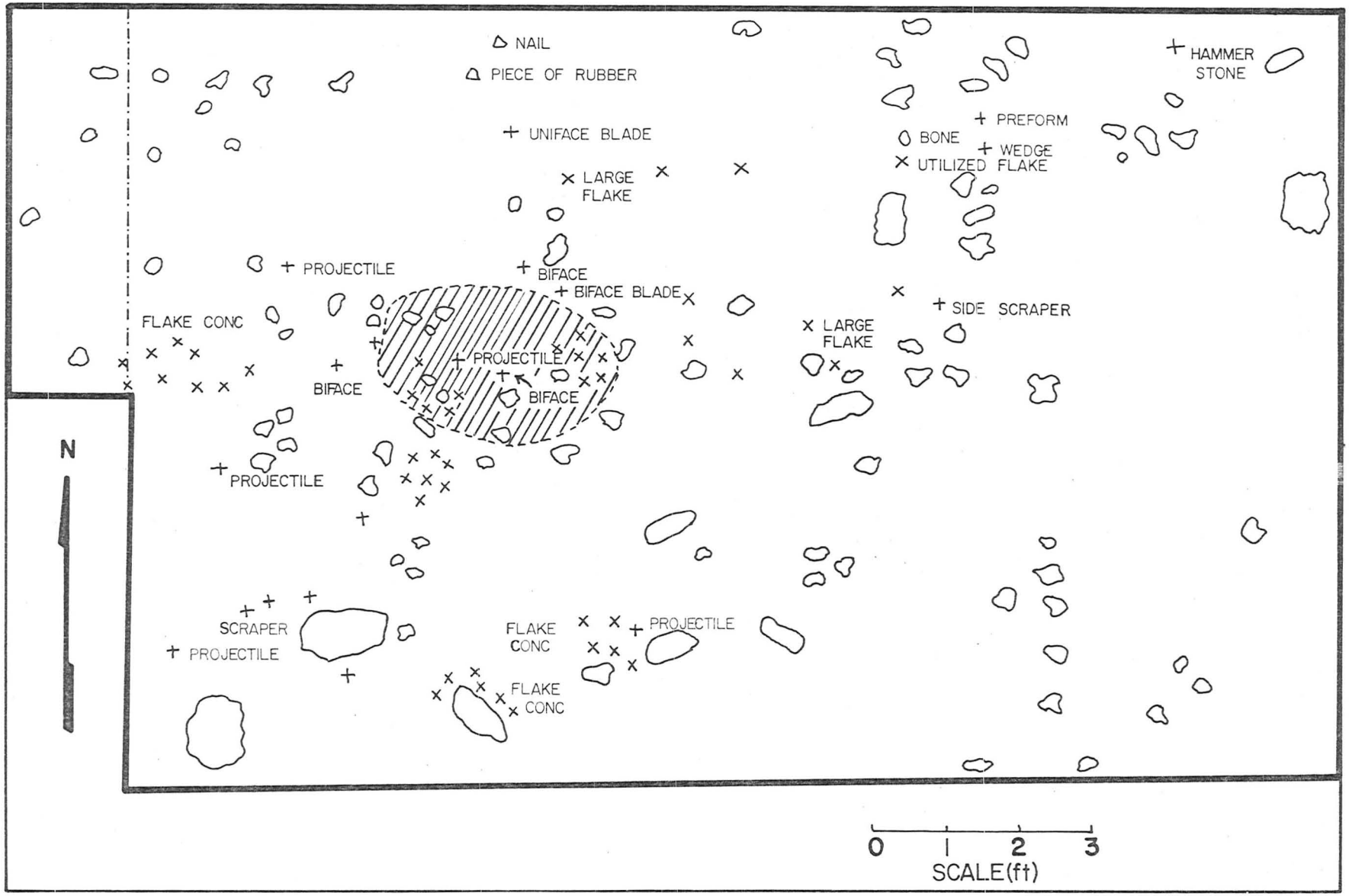

FIG. 9 Floor plan of excavations, Smoothwater Lake, (0 - 3').

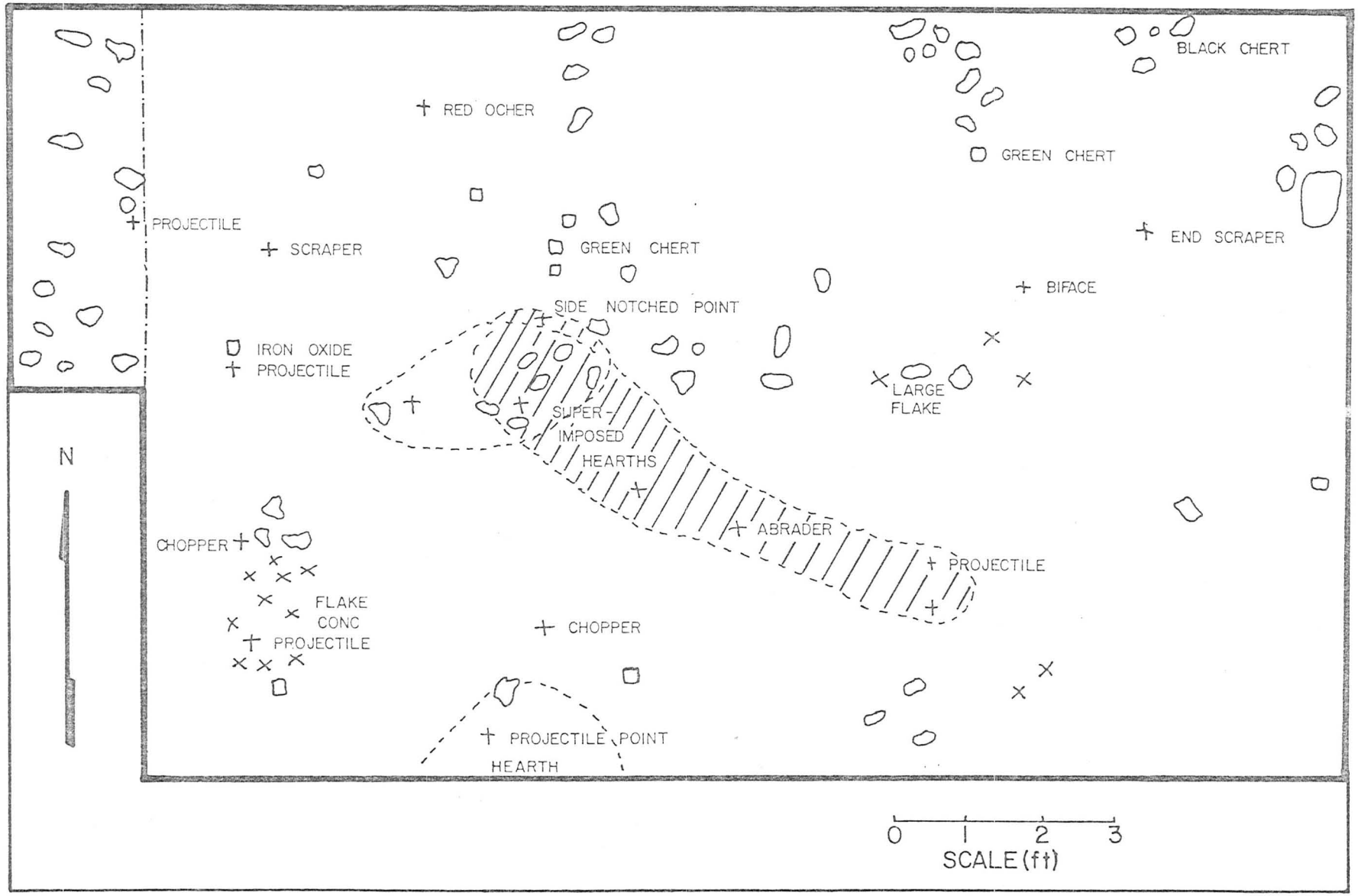

FIG. 10 Floor plan of excavations, Smoothwater Lake, (3 - 6")

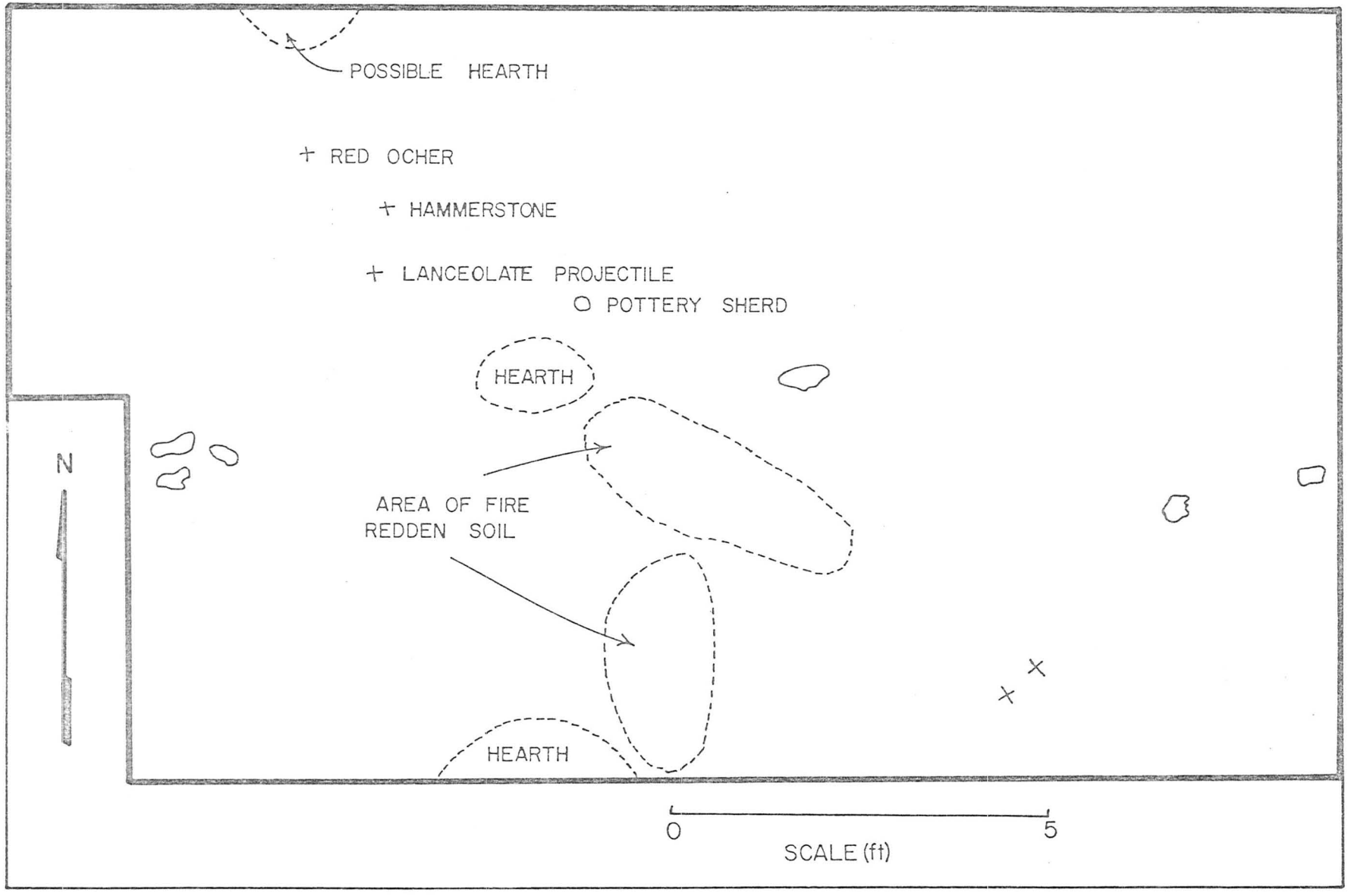

FIG. 11. Floorplan of excavations, Smoothwater Lake, (6-9").

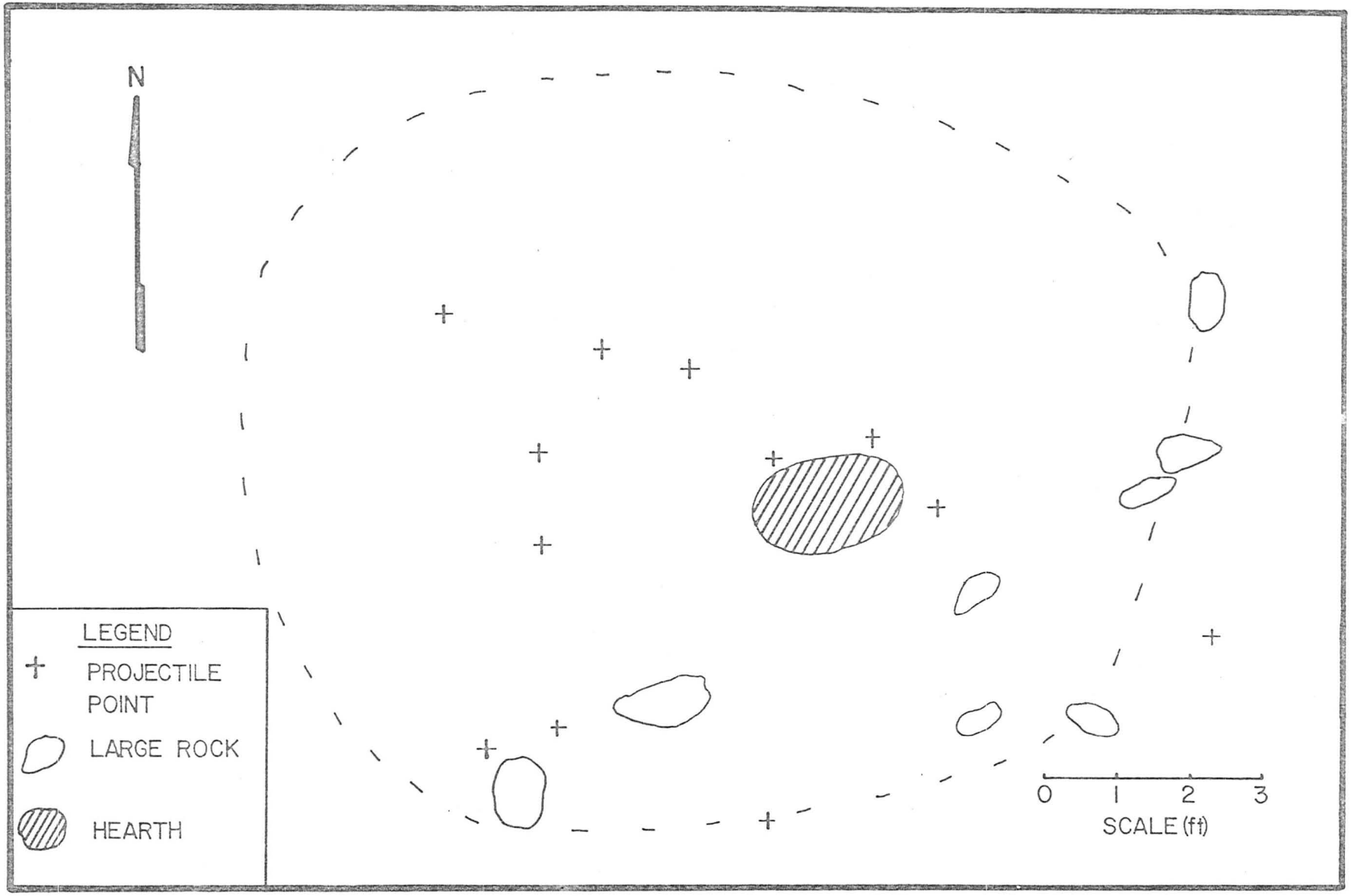

FIG. 12. Possible archaic stone feature (CiHd-1).

CiHd-1. These points all pertain to the late Shield Archaic period. This tent ring appears very similar in size to those suggested at the God's Lake site, Manitoba (Wright 1970: 32).

TABLE 10. Key to floorplans at Smoothwater Lake (CiHd-1).

Symbol	Feature or Item
△	Modern artifact
+	Aboriginal artifact
○	Pottery
×	Flake
□	Core
⬭	Fire-cracked rock
o	Bone
▨	Hearth

Artifact Descriptions

Of a total 1,688 specimens recovered from CiHd-1, lithics clearly predominate, particularly flakes. Undoubtedly, this skews the tool kit sample, but large lithic recovery is a "fact of life" in the northern boreal forest, where bone and other perishable artifacts are rarely preserved.

Table 11 presents a breakdown of the total artifacts surface collected and excavated at the Smoothwater Lake site.

When flakes, cores, red ochre and historic European items are excluded, the finished aboriginal artifact inventory clearly indicates that projectiles, bifaces and choppers

TABLE 11. Artifact totals from CiHd-1.

Item	No.
Surface collected	
Rim sherds	2
Projectile point	1
End scraper	1
Drill	1
Ovoid biface	1
Utilized flake knife	1
Wedge	1
Hammerstone	1
Ovate chopper	1
Adze	1
Net sinker (?)	1
Uniface	1
Ovoid preform	1
Small core	1
Excavated	
Flakes	1,611
Cores	23
Projectile points	17
Biface blades	7
Bifacial choppers	5
European artifacts (late historic)	3
End scrapers	2
Side scraper	1
Hammerstone	1
Decorated sherd	1
Red ocher (nodule?)	1
Flake knife	1
TOTAL	1,688

are most numerous (Table 12).

TABLE 12. Artifact Classes at CiHd-1.

Class	No.
Broken projectiles	8
Side-notched points	6
Stemmed points	2
Lanceolate points	2
Bifaces and portions	8
Bifacial choppers	6
Preforms	5
End scrapers	3
Rim sherds	3
Unifaces	2
Hammerstones	2
Flake knives	2
Side scrapers	1
Adze	1
Wedge	1
Drill	1
Ovoid preform	1
TOTALS	54

Projectile Points. A total of 17 excavated projectile points recovered include 10 complete specimens, six tip fragments and one basal fragment. Also a single point tip of green chert was recovered from the surface. Metric data for all projectiles are given in Table 13.

TABLE 13. Projectile points, CiHd-1.

Variety	Length (cm)	Body Width	Thick-ness	Weight (gm)	Base Width (cm)	Shoulder Width (cm)	Stem Width (cm)	Neck Width (cm)	Notch Width (cm)	Notch Depth (cm)	Material of Manufacture
Lanceolate	4.0	2.1	.7	6.0	1.7						Rhyolite
Lanceolate	7.1	3.0	1.2	21.0							Green chert
Stemmed	6.5	1.85	.75		1.1	1.8	1.2	1.1			Green chert
Stemmed	3.5	1.6	.5	2.5	1.1	1.6	1.1				Green chert
Stemmed base only	2.5	1.8	.6		1.0	1.2	1.3	1.15			Grey chal-cedony
Side-notched	4.0	1.75	.55		1.2	1.7	.9				Grey chal-cedony
Side-notched	3.1				1.0	1.7		.8	.9	.25	Black chert
Side-notched	3.8	1.75	.6	4.9	1.5	1.7	1.3	1.05	.8	.3	Grey chert
Side-notched	4.25	1.45	.35			1.3		1.05	.6	.15	Green chert
Side-notched	4.25	1.95	.8	5.7	1.5	2.0	1.1	1.0	.65	.25	Black chert
Side-notched	4.5	1.9	.55	4.9	1.65	1.95		.9	.9	.3	Grey chert

Continued..

TABLE 13 (Continued)

Variety	Length	Body Width	Thick-ness	Weight	Base Width	Shoulder Width	Stem Width	Neck Width	Notch Width	Notch Depth	Material of Manufacture
Tip	5.6	2.75	.75								Green chert
Tip	2.3	2.6	.8	4.8							Green chert
Tip	2.6	2.0	.7	2.8							Green chert
Tip	2.15	1.75	.45	2.0							Grey rhyo-lite
Tip	2.2	2.0	.25	1.0							Pink chal-cedony
Tip	1.85	1.6	.65	1.9							Rhyolite
Tip	4.5	3.15	.9	10.75							Green chert

The two lanceolate points recovered (KL1004, KL1006, Fig. 38: 1,3) vary in their metrics. One is derived from level 1 and the other from level 3.

Three stemmed points excavated include two complete forms and one basal fragment (Fig. 38: 2,10,11). Two (KL1000, KL1011) are made from local green chert, and the other (KL1009) from grey chalcedony. The large specimen (2) is core derived and exhibits percussion flaking along the edges producing a sinuous profile.

The six side-notched points recovered are all core derived except for one (KL1003 Fig. 38: 8) which is flake derived. They exhibit varying degrees of workmanship. Mean measurements are given in Table 13. There is definitely some overlap with Laurel side-notched points, exhibiting the late nature of this archaic component.

Scrapers. Two end scrapers were excavated. One (KL1022, Fig. 38: 17), made from a platform flake of beige chalcedony, still has a remnant percussion bulb and percussion rings at the proximal end. The distal end has been retouched to form a scraping face 1.75 cm. long and .4 cm. high. Length is 2.45 cm., width 2.0 cm., thickness .5 cm. and weight 2.5 gm. The other end scraper (KL1021, Fig. 38: 18) is somewhat smaller, approaching thumbnail size, but the length of scraping face is the same 1.75 cm., with a height of .3 cm. Length is 1.75 cm., width 1.8 cm., thickness .35 cm., and weight 1.5 gm.

A single side scraper (KL1023, Fig. 38: 20) was recovered from level 1. Manufactured from a very large percussion

flake 4.9 cm. in length, the flake retains a striking platform .85 x .45 cm. in size, and shows evidence of preparation prior to detachment. The scraping face has a height of .3 cm., width 2.45 cm., thickness .8 cm. and weight 8.5 gm. An end scraper of beige chert (S1086, Fig. 37: 2) was recovered from the surface of the site. It is 2.67 cm. long, 2.4 cm. wide and 7.8 cm. thick. Weight is 5.72 gm., length of scraping face 2.2 cm. and height of scraping face .8 cm.

Drill. (Surface) A single drill of green chert (S1076, Fig. 37: 3) was recovered from surface. Crudely made from local Gordon Lake formation chert, this implement shows use-wear on its distal end indicating its probable function. Length is 3.8 cm., width 1.9 cm., thickness .9 cm. and weight 5.75 gm.

Ovoid Biface Fragment. (Surface) This fragment (S1079, Fig. 37: 4), which appears to be part of a large ovoid-shaped tool, is manufactured from a beige and grey chert. Length is 4.7 cm., width 2.0 cm., thickness 1.1 cm. and weight 10.8 gm.

Utilized Flake Knife. (Surface) This utilized flake shows well defined polishing and striations from use. Evidence of thermal alteration is also present on the form of several "potlids".

Wedge. (Surface) This well defined wedge fragment of white quartzite (S1093, Fig. 37: 6) shows characteristic bipolar crushing and battering. Length is 5.2 cm., width 2.1 cm., thickness 1.1 cm., and weight 13.4 gm.

Ovoid Preform. (Surface) This ovoid preform (S1090, Fig. 37: 7) is manufactured from local chert. No metrical data are available.

Small Core. (Surface) This small block core of green Gordon Lake Chert (S1052, Fig. 37: 8) is 5.3 cm. long, 3.8 cm. wide and 2.5 cm. thick. Weight is 68.4 gm.

Possible Net Sinker. (Surface) This possible net sinker (S1054) is manufactured from greywacke and shows two distinct notches. Metrical data are: length, 6.6 cm.; width, 6.0 cm.; thickness, .9 cm.; and weight 48.1 gm.

Percussion Flake. (Surface) One large percussion flake is illustrated (S1055, Fig. 37: 12). It is composed of green chert from the local Gordon Lake formation.

Assorted Flakes. (Surface) Numerous flakes, representative of the ones surface collected both from the beach and bank areas, are shown in Fig. 37: 14.

Ovate Bifacial Chopper. (Surface) This ovate tool (S1067, Fig. 37: 13) has been designated as a chopper rather than a blade because of its thickness of 2.5 cm. It has been water tumbled and is made from local green chert of the Gordon Lake formation. Metrical data are: length, 9.1 cm.; width, 6.7 cm.; and weight, 161.8 gm.

Percussion Flaked Adze (Icepick?). (Surface) This well manufactured tool (S1066, Fig. 50: 1) is made from a distinctive green quartzite--an unusual material for this area. Found at the water's edge, it nevertheless does not show an undue amount of water tumbling. The possibility that this

implement was used as an icepick cannot be discounted, and evidence of crushing and use-wear is present. Metrical data are: length, 18.0 cm.; width, 9.1 cm.; thickness, 3.9 cm.; and weight, 714.0 gm.

Hammerstone. (Surface) One large hammerstone (S1069) of reddish quartzite was recovered from the beach area. This tool has been partially sharpened by large percussion flaking. Length is 16.0 cm., width 8.0 cm., thickness 6.2 cm. Weight is 1502.7 gm., making this quite a heavy implement.

Uniface. (Surface) A single uniface blade (S1068) was recovered from the surface of the site in 1972. Manufactured from green chert, it is 9.7 cm. long, 6.0 cm. wide, 2.1 cm. thick, and weighs 147.7 gm.

Bifaces. A total of three complete bifaces and four fragments were recovered (Table 14). None of the specimens, however, is well defined except for a pointed ovate one (Fig. 39: 1). Generally, this category of artifact is rather amorphous, as it seems that form selection was random in nature. Two blunt-nosed specimens (Fig. 39: 7,8) stand out, however, for both are manufactured from local green chert and are worked on three sides, with the fourth side being broken off in each case. These bifaces could possibly have been used as knives, for hinge-fracturing on the sinuous edges indicates use-wear.

Preforms. Five artifacts classed as preforms were identified. Of these, two (Fig. 39: 5,13) may represent aborted

TABLE 14. Bifaces, CiHd-1.

Biface	Catalogue Number	Length (cm)	Width (cm)	Thickness (cm)	Weight (gm)	Material of Manufacture
Complete	KL1017a	4.1	3.1	.8	11.0	Green chert
Complete	KL1025	3.5	2.2	.8	6.9	Rhyolite
Complete	KL1018	3.4	2.2	.9	7.0	Rhyolite
MEAN		3.66	2.5	.83	8.3	
Fragment	KL1017b	4.1	3.1	.8	11	Green chert
Fragment	KL1017	3.8	3.1	1.0	9	Green chert
Fragment	KL1020	6.4	3.8	1.0	18.0	Chert
	KL1024					
Fragment	KL1049	3.6	2.4	.6	3.9	Chert
AVERAGE		4.47	3.10	.85	10.47	

attempts at manufacturing lanceolate points. Another ovate preform (Fig. 39: 11) is quite common on Shield Archaic sites. These tools possibly served as a general-purpose implement or biface before being further refined into a more specialized artifact, such as a projectile point. For metrical data see Table 15.

One ovoid bifacial knife (Fig. 39: 4) was recovered and is worked on all sides. Although small, this may have served a chitho-like function. KL1016 has a length of 5.3 cm., width of 3.8 cm., thickness of 2.2 cm., and weight of 22.0 gm.

Uniface Blade. (Fig. 40: 1). Only one uniface blade, derived from a large flake of greywacke, was recovered. Length is 11.8 cm., width 6.4 cm., thickness .9 cm., and weight 87.0 gm.

Flaked Bifacial Choppers. Five specimens were recovered, two of local green chert and three of grey rhyolite. They exhibit various shapes and sizes but are all percussion flaked and show signs of use. No evidence of pecking or grinding is present. Metrical data are given in Table 16.

Hammerstone. (KL1044, Fig. 41: 4). One hammerstone of quartzite was recovered. Length is 7.5 cm., width 4.4 cm., thickness 3.4 cm., and weight 165.0 gm.

Tables 17 and 18 present flake data and core data from Smoothwater Lake.

Ceramics. Three items of ceramic ware were recovered from Smoothwater Lake. One badly fragmented sherd (KL1042,

TABLE 15. Preforms, CiHd-1.

Artifact Type	Catalogue Number	Length (cm)	Width (cm)	Thickness (cm)	Weight (gm)	Material of Manufacture
Preform	KL1070	4.7	3.2	1.1	13.0	Rhyolite
Lanceolate preform	KL1052	5.5	3.3	1.5	24.0	Rhyolite
Lanceolate preform	KL1031	5.1	2.5	1.2	13.0	Rhyolite
Ovoid preform	KL1019	5.3	3.2	1.1	17.0	Rhyolite
Preform	KL1027	3.7	3.0	1.3		Rhyolite
AVERAGE		4.86	3.04	1.24	16.75	

TABLE 16. Flaked bifacial choppers, CiHd-1.

Artifact Type	Catalogue Number	Length (cm)	Width (cm)	Thickness (cm)	Weight (gms)	Material of Manufacture
Flaked bifacial chopper	KL1082	10.0	6.8	3.1	210.0	Green chert
Flaked bifacial chopper	KL1035	12.1	5.5	2.9	237.0	Green chert
Flaked bifacial chopper	KL1049	11.5	5.5	3.3	253.0	Rhyolite
Flaked bifacial chopper	KL1066	8.4	5.5	2.9	123.0	Rhyolite
Flaked bifacial chopper	KL1036	8.2	5.8	3.2	172.0	Rhyolite
AVERAGE		10.04	5.82	3.08	199.0	

TABLE 17. Flake data, CiHd-1.

Sample size:	74	
Metrical attributes:	Average length	3.2 cm.
	width	1.9 cm.
	thickness	.6 cm.
	weight	10.3 gm.
Other attributes:	Decortation flake	4-7%
	Percussion bulb	4-7%
	Striking platform	16-28%
	Average width of platform	.3 cm.
	Average length of platform	1 cm.

TABLE 18. Core data, CiHd-1.

Material of manufacture	Rhyolite	Chert
Catalogue number	KL1037	KL1030
Maximum length	5 cm.	7.1 cm.
wdith	3.1 cm.	5 cm.
thickness	2.5 cm.	4.6 cm.
weight	25 gm.	113 gm.
Number of striking platforms	1	2
Diameter of striking platforms	1.5 cm.	1.5 cm.
Number of flake scars	3	6
Maximum length of flake scars	3.6 cm.	3.9 cm.
Maximum width of flake scars	1.7 cm.	2.5 cm.

- Fig. 38: 21) was recovered, probably representing a portion of a straight-walled pot just below the rim. What decorations that remain represent a linear stamp technique. This sherd, 7.5 cm. thick, can be assigned to the Laurel Tradition.

Two partially destroyed rim sherds (S1108, S1109, Fig. 37: 10,11), found on surface, are both grit-tempered, medium brown wares. Some faint evidence of an unidentifiable decoration is visible on the lip only.

DUNCAN LAKE SITE (PICKEREL POINT) (CiHf-2)

This site (Fig. 13) is located on Duncan Lake in Tyrrell Township.

Duncan Lake, a medium-sized body of dark brown water, lies at a height of 1,100 feet above sea level and has a surface area of 2,795 acres. The perimeter of the lake is 63.5 miles. Depths range from a maximum of 132 feet, but average 24.7 feet. The water is near neutral with a pH value of 7.2. Duncan Lake drains into the Ottawa River via the Montreal River system.

The following fish species are present in the lake: yellow pickerel (Stizostedion vitreum vitreum); northern pike (Esox lucius); yellow perch (Perca flavescens); lake whitefish (Coregonus clupeaformis); lake herring (Coregonus artedii); white sucker (Catostomus commersonni). (M.N.R. Lake Survey Data: July 1966 August 1969).

The microenvironment predominantly represents a fishing station, with pickerel and pike being the dominant species

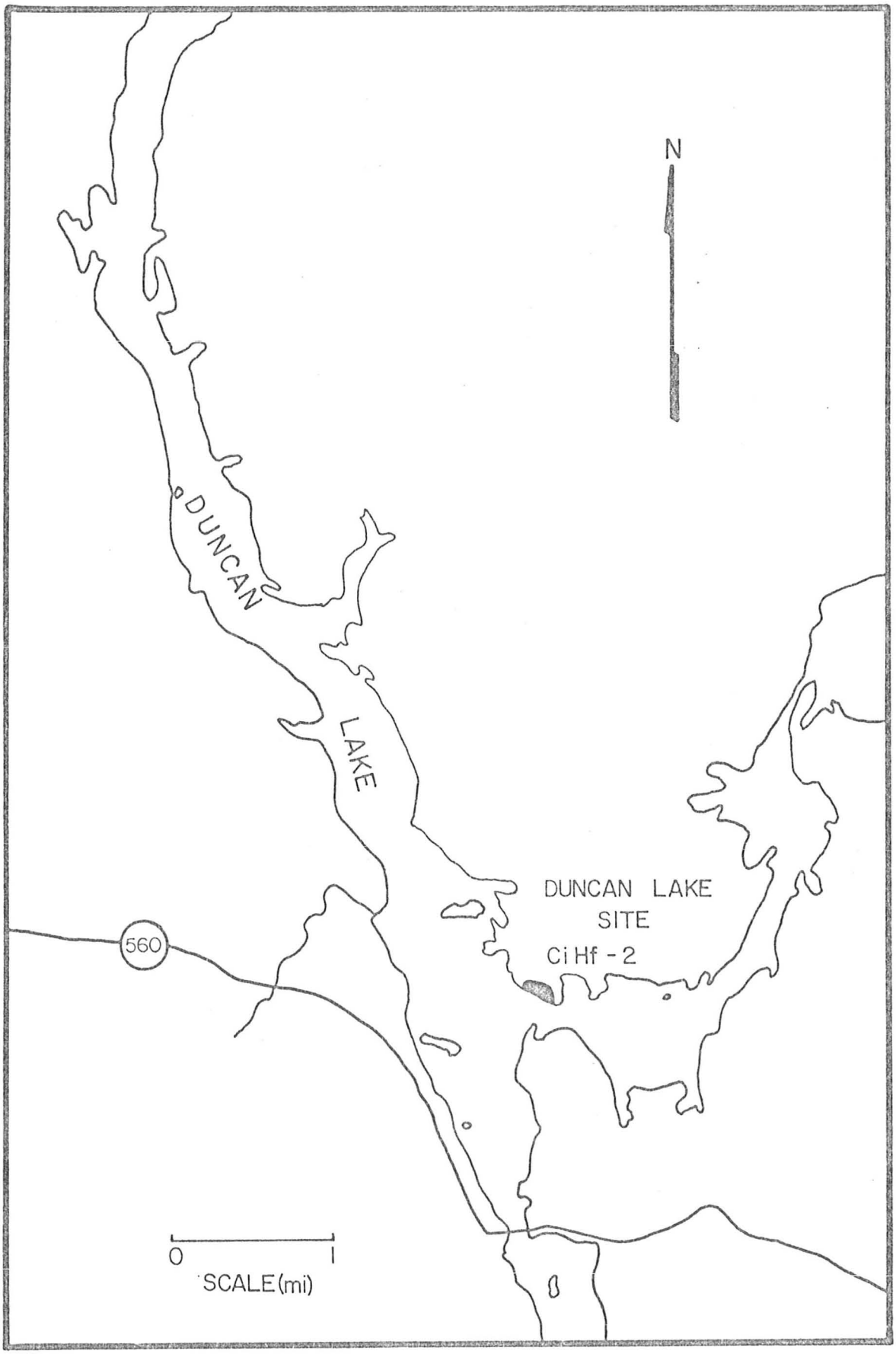

FIG. 13. Map of the Duncan Lake site.

present. Other animals found today in the area are all typical of the region except that painted turtles are only found occasionally (Jim Gardner: personal communication, MNR Swastika) and formerly, white tailed deer were present in much greater numbers (Collins 1913: 21).

One of the first explorations of the Montreal River was done by Duncan Sinclair and A. G. Forrest, who transversed with chain and transit "the whole length of the Montreal River and the greater part of its East and West branches" (Collins 1913: 3).

According to Collins, the part of Duncan Lake where the site is situated lies along a contact between sediments (conglomerate, greywacke, etc.) and Nipissing diabase (Collins 1913: 14). Too, several high asymmetrical ridges of diabase are encountered parallel to the shorelines of Duncan Lake (Collins 1913: 13).

Other authors have commented upon the fact that Duncan Lake "follows the margin of a sill (of diabase) for many miles" and "block-faulting has caused a number of ridges in the vicinity" (Graham 1932: 30-31). In addition, Graham (1932: 31) points out the presence of numerous north-south trending eskers, some of which rise 30 feet above the surrounding country. These may have been utilized by prehistoric inhabitants.

During the early decades of this century, this area was the general vicinity of the family hunting territory for a group from the Bear Island Band at Temagami (Speck 1915).

During the 1940's, Jim Pierce (now deceased) lived at the narrows and said that, as a young man during the late 1800's, he traded at Mattawa. Other Indians from Temagami frequently visited the area and as many as thirty camped on the lower portion of the lake at any one time (Ralph Pollock: personal communication).

Archaeological Excavations and Stratigraphy

The archaeological site CiHf-2 is located on the north shore of the lake where it turns on its westward course (Fig. 14). The lake is quite narrow at this point and, despite the presence of a dam a few miles downstream which has raised the water level about 5 feet, there is still a slight current in the narrows. Pickerel Point, a rocky prominence immediately across from the site, which gives the name to the site, is so called due to the excellent fishing found at the narrows (Ralph Pollock: personal communication).

The site is located on a narrow ridge of fine powder sand having a very low backshore area. Thus, the area for occupation is severely restricted. At one time, this "spit" of sand may have been about 8 feet above the high water mark, similar to the two other major sites in this report. The present bank is very steep due to the continuous process of erosion. The site is covered with jackpine trees as well as very dense cover of alder and hazel shrubs. These made excavations difficult.

During 1972, the site was tested by means of several test pits along the sandy ridge. Very little material was found

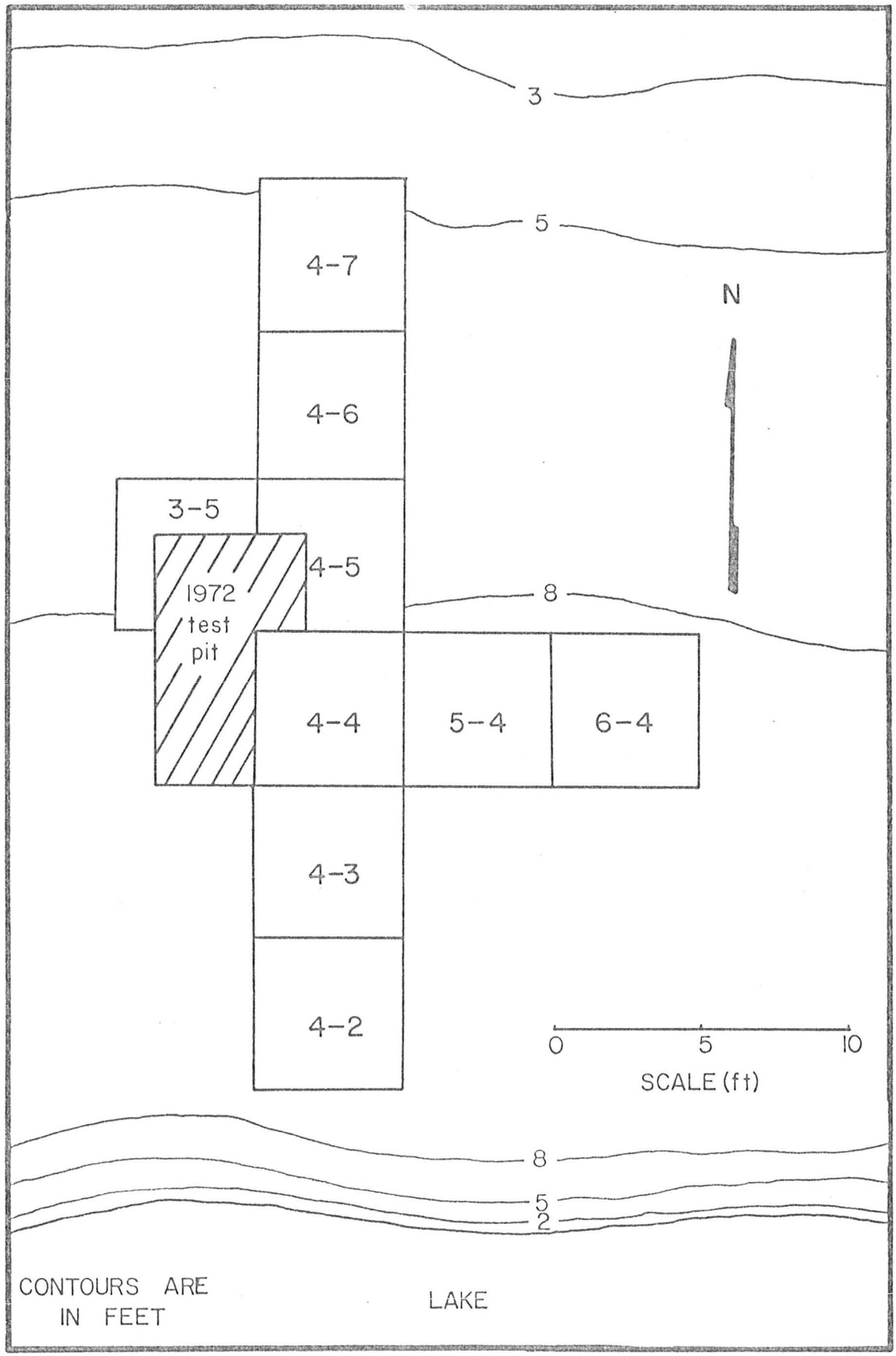

FIG. 14. Excavated units, Duncan Lake site.

on the surface due to the dense vegetation cover and the steep eroding bank.

The 1973 excavations, which consisted of 225 square feet, were conducted in the vicinity of the most productive test pit in 1972 (see Fig. 14). Small shrubs were very dense on the site and made excavations difficult to the 6-inch level due to the number of roots present.

Stratigraphy. The site is relatively homogeneous, culturally consisting of approximately 80 per cent Late Woodland Northern Algonquin materials, 10 per cent Laurel Tradition artifacts, and 10 per cent historic European items. The available evidence indicates that this is predominately a Late Woodland site, dating circa 1200 A.D. The associated Laurel artifacts demonstrate the late persistence and evolution of the Laurel Tradition into regional Late Woodland complexes.

This site was excavated in 5-foot squares and vertically in arbitrary 3-inch levels. The complex soil layers (Fig. 15) made excavation by natural soil layers all but impossible. The topsoil or humus layer varied in depth from 2 to 8 inches, but averaged around 4 inches deep (Figs. 15, 16).

The upper 3-inch level produced a number of historic items that may relate to the Temagami Ojibwa occupation of the site during the early 1900's.

Below this was a layer of brown organic soil (Fig. 19) which contained burnt areas (Fig. 15) and fire-reddened sand layers (Fig. 16). The vast majority of artifacts and fire-cracked rock occurred in this brown organic layer.

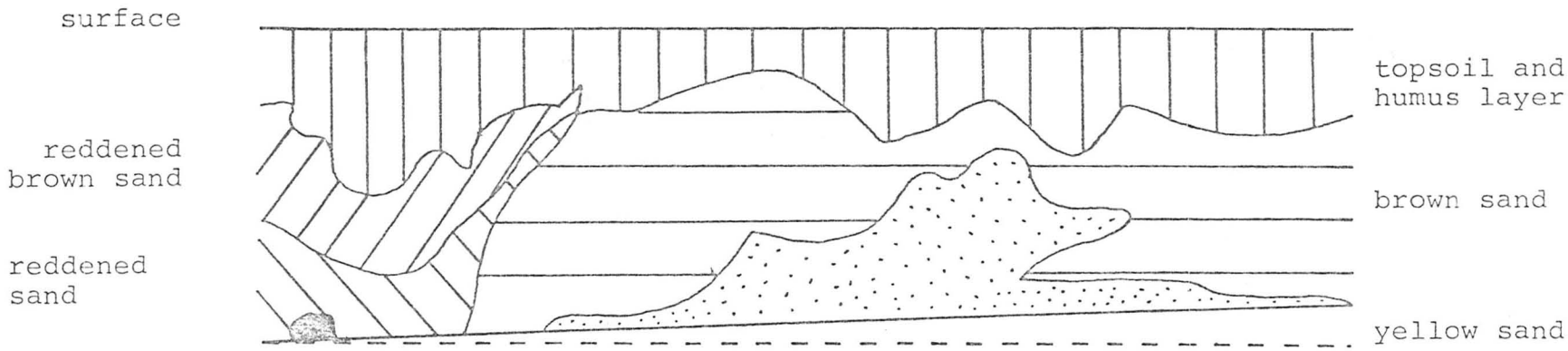

FIG. 15 Duncan Lake, profile of east wall, square 5-4
Scale: 6" = 5'.

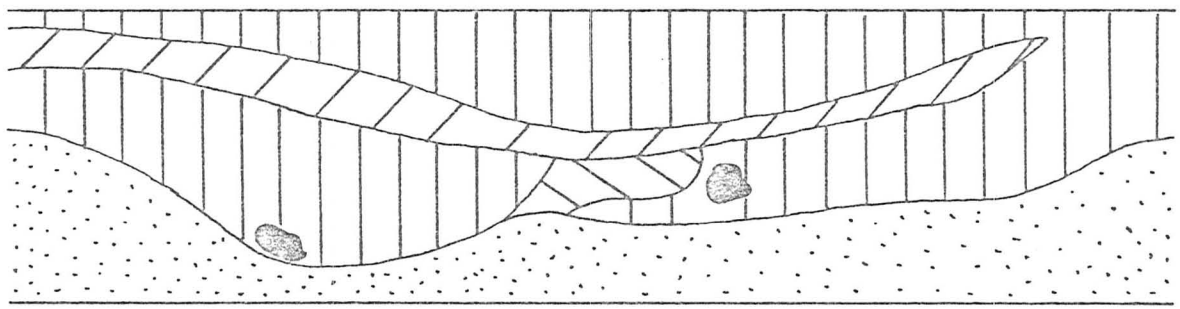

FIG. 16 Duncan Lake, profile of west wall square 4 - 6
Scale: 6" = 5'

The next soil layer was a fine yellow sand which comprised the subsoil. It was encountered from the 6-inch level and deeper. At a depth of 9 inches, only sterile subsoil remained except for feature two (Fig. 17) and an area of tree-fall disturbance (Fig. 20). The artifacts recovered from all the soil levels show no apparent cultural differentiation, with similar greywacke bifaces, ceramics and projectiles all occurring in two or more levels. It should be noted that bone preservation was confined to the second and third 3-inch levels and that within these levels bone fragments were only found in the immediate vicinity of former hearth or burnt areas.

Features. The main feature at the site (Feature 2-square 4-5) was a roasting pit, a feature that extended well into the subsoil. This feature first was recognized at a depth of 4 inches, and it extended to a depth of 16 inches. The top of the feature was covered by an extreme quantity of diabase fire-cracked rock with an average size of 2 inches. Somewhat larger pieces were found within the feature itself. Feature fill consisted of black and brown sand, easily defined in contrast to the yellow subsoil. A side-notched point, large greywacke flake chopper and calcined bone was associated. The outline of the pit is shown on the floor plan of the 6 to 9 inch level (Fig. 20). Fig. 17 gives a representative cross-section of this feature. It was readily apparent during the excavation that this pit was a prepared feature in that it was first dug out and then deliberately

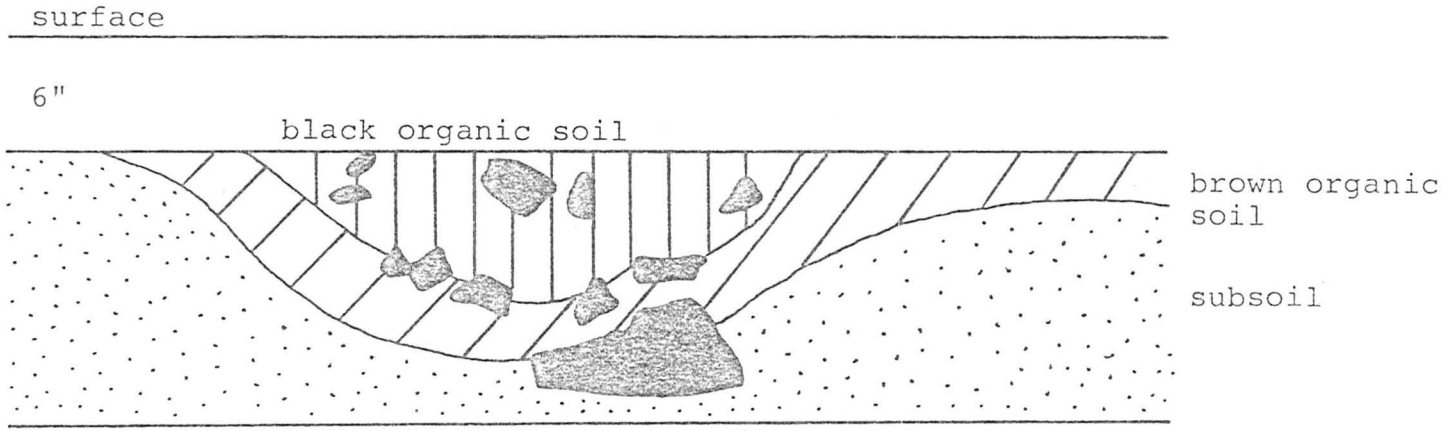

FIG. 17. Duncan Lake Site, roasting pit, feature two. Scale: 6" = 5'.

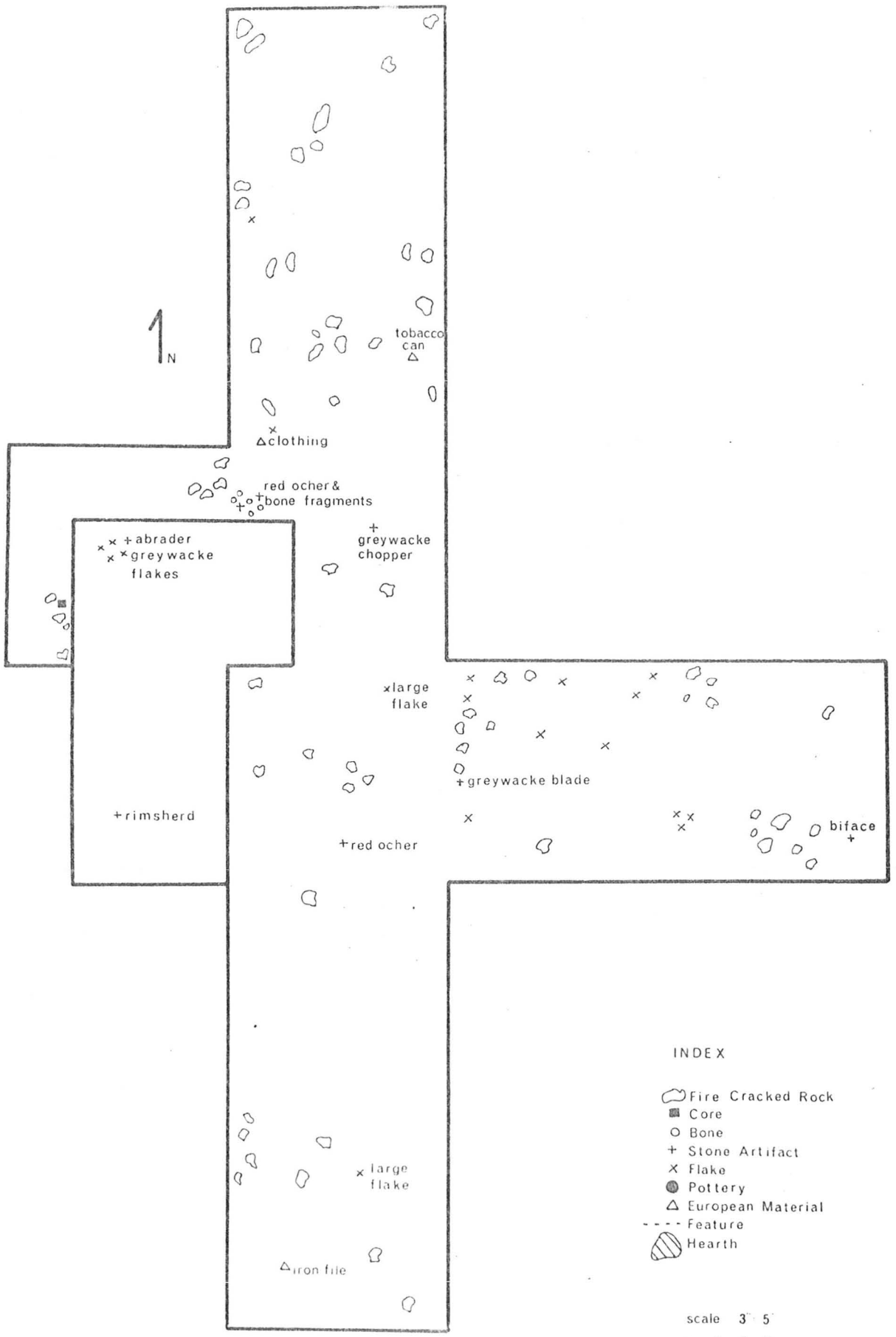

FIG. 18. Floorplan of excavations, Duncan Lake (0-3").

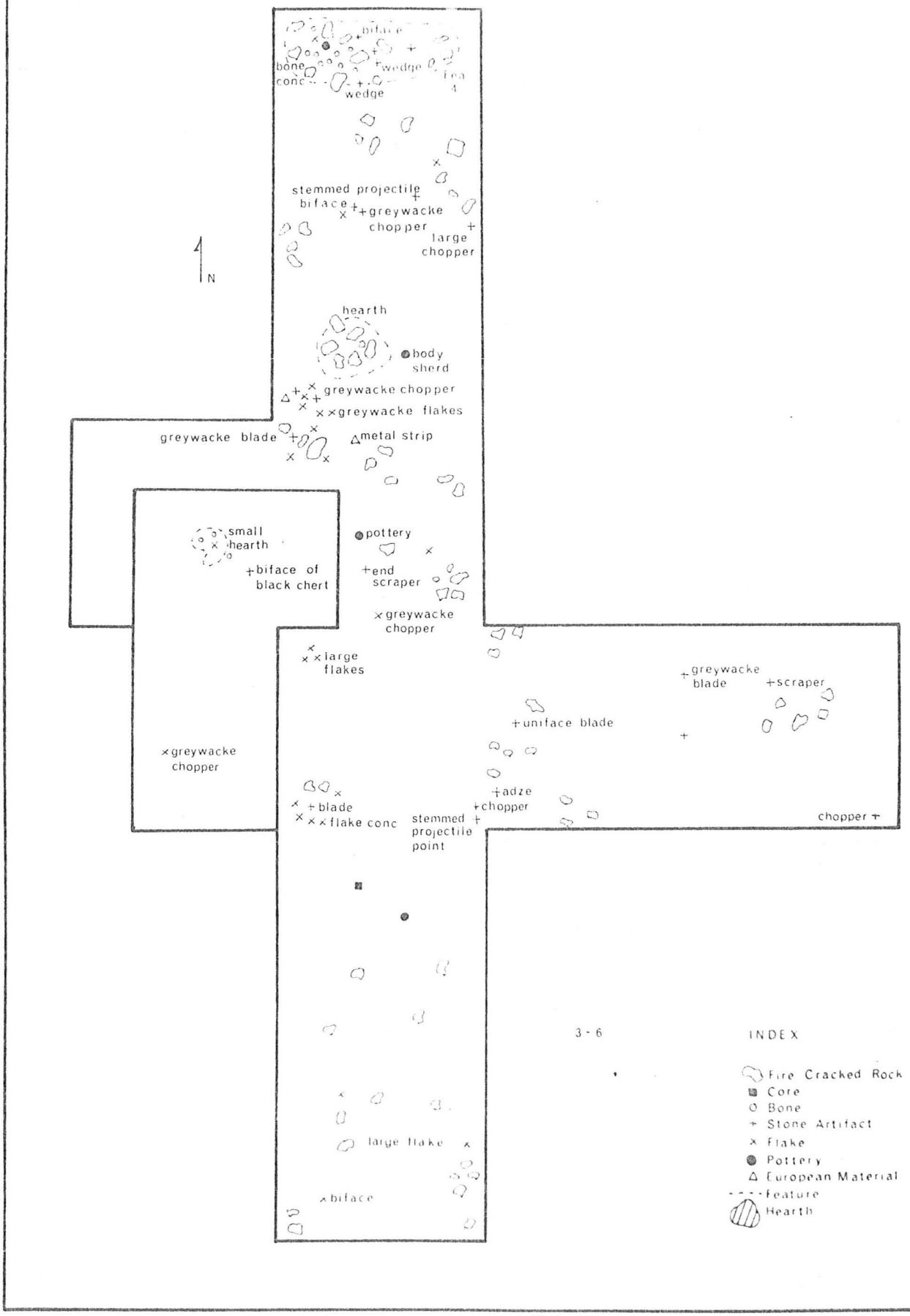

FIG. 19. Floorplan of excavations, Duncan Lake (3-6").

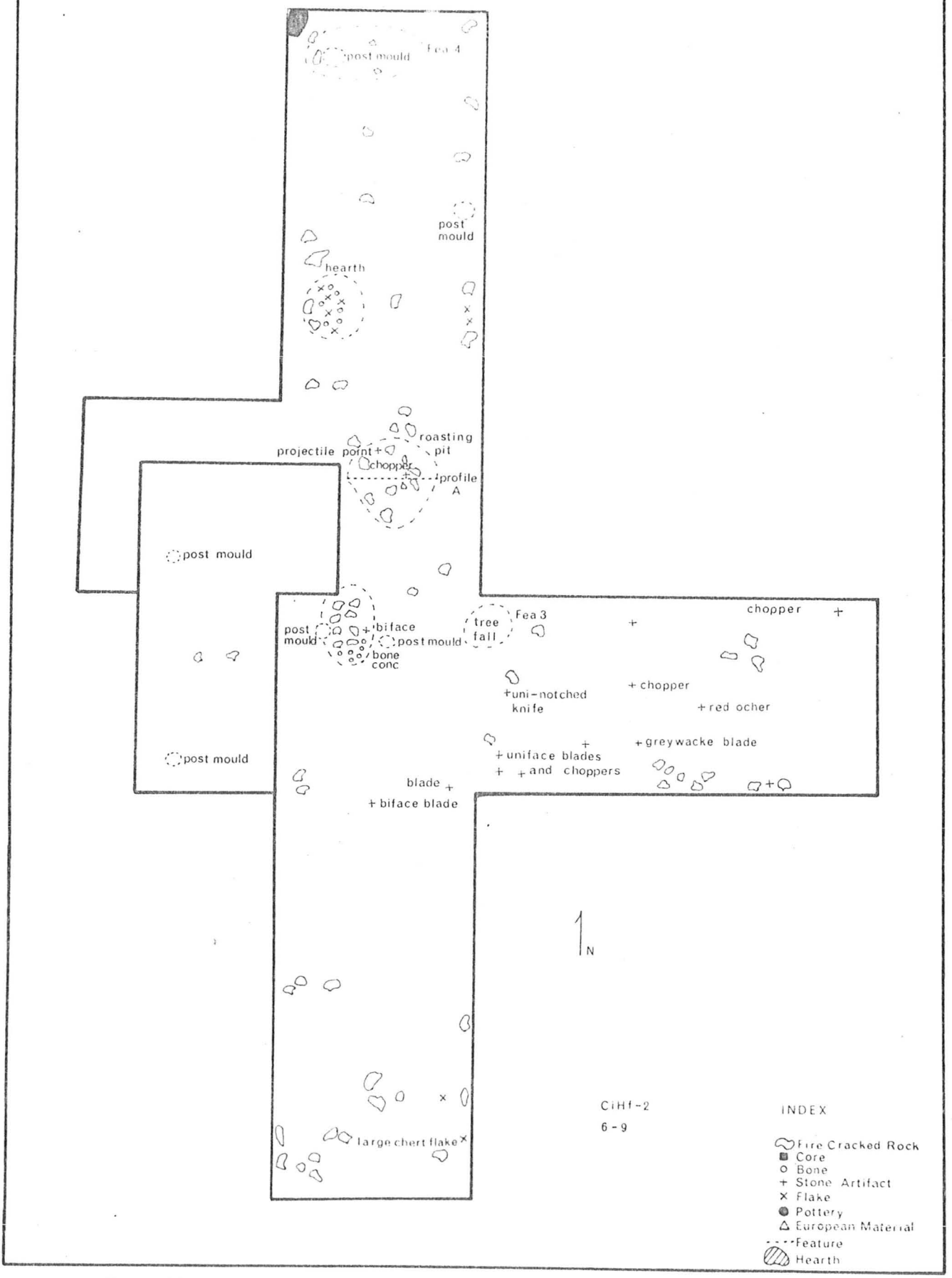

FIG. 20. Floorplan of excavations, Duncan Lake (6-9").

lined with larger than average stones.

Feature 3, which extended to a great depth, represents a tree fall, located at the boundary between squares 4-4, and 5-4, and is depicted in Figure 20.

Feature 4 was a large concentration of fire-cracked rock, bones and black organic soil in square 4-7 (Figs. 19, 20). This may have been a food processing or refuse area as several wedges, bifaces and pottery sherds were associated. There was a heavy pavement of fire-cracked rock associated with this feature.

Artifact Descriptions.

Of a total 1,980 specimens recovered from CiHf-2, lithics represent the largest class of artifacts recovered. Notable, however, are the 512 bone fragments recovered, allowing for some recovery of subsistence data.

Table 19 presents a breakdown of the total artifacts collected and excavated at the Duncan Lake site.

With flakes, cores, red ocher and historic European items excluded, Table 20 clearly indicates that unifacial greywacke flake tools, bifaces, projectiles, wedges, end scrapers and rim sherds are the most numerous aboriginal artifacts. As only one complete biface was recovered and the remainder represent portions, the status of bifacial implements in this "tool kit" must remain conditional.

Projectile Points. Two stemmed (Fig. 44: 1,3) and one semi-corner-notched point (Fig. 44: 2) were recovered during the excavations. The stemmed points are core derived

TABLE 19. Artifact totals from Duncan Lake (CiHf-2).

Item	No.
1972 test pits and surface	
Rim sherd	1
Greywacke abrader	1
Biface fragment	1
Unifacial greywacke chopper	1
Ovoid preform	1
Uni-notched knife	1
Excavated	
Flakes	1,413
Bone fragments	512
Cores	9
European material	6
Body sherds	5
Soil samples	5
Unifacial greywacke flake tools	5
Biface blades	4
Projectiles	3
Wedges	2
End scrapers	2
Other stone artifacts	8
TOTAL	1,980

TABLE 20. Artifact classes at CiHf-2.

Class	No.
Unifacial greywacke flake tools	6
Biface and portions	5
Projectiles	3
Rim sherds	2
Wedges	2
End scrapers	2
Bifacial greywacke tool	1
Decorated body sherd	1
Unifacial ovoid blade	1
Grooved abrader	1
Celt	1
Scraper plane	1
Flake knife	1
Greywacke abrader	1
Ovoid preform	1
Uni-notched knife	1
TOTAL	30

from a poor quality grey chert and are rather thick. This suggests the possibility that they may be knives, but no evidence of wear is observable. The notched point is flake derived from a greyish chalcedony showing some signs of thermal alteration. Metrical data are presented in Table 21.

TABLE 21. Projectile Points, CiHf-2.

Variety	Catalogue Number	Length (cm)	Width	Thick-ness	Weight (gm)	Base Width	Shoulder Width	Stem Length	Neck Width	Notch Depth	Notch Width
Stemmed	KL1127	3.9	1.7	.4	3.9	1.1	1.5	.7	1.0		
Stemmed	KL1128	4.45	2.75	.8	9.1	1.35	2.6	1.1	1.3		
Corner notched	KL1126	3.8	2.38	.8	7.0	1.95	2.4	1.0	1.2	.75	.35
AVERAGE		4.05	2.26	.66	6.66	1.46	2.16	.93	1.16	.75	.35

The two stemmed points were recovered from the 3 to 6-inch level and the notched point from the lowest or 6 to 9-inch level.

Scrapers. (Fig. 44: 4,5). Two end scrapers were recovered. One (KL1187) is triangular in outline and has a scraping face of 1.9 cm., with a height of .4 cm. It is derived from a flake of grey chert that shows signs of thermal alteration. Part of the scraping face has broken off. The length is 1.6 cm., width 1.9 cm., thickness .6 cm., and weight 1.6 gm. The other (KL1267) is a rectangular scraper of black chalcedony. Scraping face is 2.1 cm. with a height of .4 cm. It is manufactured from a percussion flake with a remnant striking platform .95 x .25 cm. in size, and percussion bulb. Length is 2.4 cm., width 2.2 cm., thickness .6 cm., and weight 3.4 gm.

Bifaces. One complete specimen was recovered (KL1225, Fig. 44: 13) made of grey chert. Length is 6.4 cm., width 4.0 cm., thickness 1.2 cm., and weight 33.5 gm. The tool is actually manufactured from a large percussion flake, and a striking platform 2.75 x .65 cm. is present. Some use-wear and retouching is evident along the edges and dorsal surface, the ventral side being unifacial in nature. As well, three fragments of biface blades were recovered. One fragment (S1205, Fig. 43: 2) was recovered from the 1972 testing operations. This implement of an unusually lustrous black chert is part of a larger tool. Metrical data: length, 2.1 cm.; width, 3.9 cm.; thickness, 1.0 cm.; and weight, 7.48 gm.

Wedges. Two wedges were identified during the analysis. One of these (KL1223, Fig. 44: 7) is made from a grey chalcedony. It is very well defined, having an identifiable striking platform and exhibits bi-polar crushing and hinge fracturing on all sides. Length is 2.1 cm., width 2.0 cm., thickness .95 cm., and weight 5.3 gm. The other wedge (KL1224 Fig. 44: 6) is made from a light grey chert and it, too, exhibits characteristic bi-polar crushing. Both were found associated with feature 4 containing many bone fragments. Length is 2.35 cm., width 2.1 cm., thickness .9 cm., and weight 4.0 gm.

Flake Knife. (KL1270 Fig. 45: 4). A flake knife made from a unifacial flake of greywacke is 5.9 cm. long, 3.8 cm. wide, .3 cm. thick, and weighs 8.0 gm.

Uni-notched Knife Fragment. (Test pit) Uni-notched knives have been found by the writer at two other locations; one in a late Woodland context at the CkHf-8 Penassi Lake site and a single specimen surface collected from the Pearl Beach site (DaGv-1). This particular tool (S1223, Fig. 43: 6) shows well defined crushing in the single notch and, as well, use-wear along the working edge. Manufactured from greywacke, the tool is 6.2 cm. long, 3.7 cm. wide, 5.0 cm. thick, and weighs 16.75 gm.

Unifacial Ovoid Blade. (KL1152, Fig. 47: 2). A blade of greywacke shows rough retouching along two faces. This thin .5 cm. piece of greywacke may have been hafted in the manner of a semi-lunar knife. Length is 8.8 cm., width 7.9

cm., and weight 40.0 gm.

Ovoid Preform. (Test pit) This ovoid tool (S1219, Fig. 43: 5) has been chipped from greywacke. As it is rather thick for a functioning blade (1.8 cm.), perhaps it was destined for further reduction in thickness as this material fractures readily along horizontal planes. Metrical data are: length, 6.5 cm.; width, 6.2 cm.; thickness, 1.8 cm.; and weight, 7.8 gm.

Grooved Abrader. (KL1240 Fig. 47: 1). A piece of grey slate has a well worked linear central depression showing numerous scratches and polishing. Unfortunately, it is broken in the middle. Similar type implements have been found on late Woodland sites in areas to the north (Pollock 1973). Length is 8.7 cm., width 7.9 cm., thickness .5 cm., and weight 54.5 gm.

Greywacke Abrader. (Test pit) This abrader (S1231 Fig. 43: 3) shows well defined polishing and striations on its surface revealing its function.

Large Greywacke Flake Tools. (Figs. 45: 5,6; 46: 1,3; 47: 3,4). These tools are distinctive in this area, being present on numerous sites throughout the region. Generally they are made from large platform flakes or "bust-offs" of greywacke, an altered sedimentary rock that comes in various colours, the predominant colour being a dull green greyish material. Many still have remnant platforms attached. Specimen KL1158 (Fig. 47: 4) has a platform 6.1 x 1.1 cm. in size. Two broad categories exist: those which are pri-

marily unifacial in nature; and those which show bifacial retouching from percussion flaking. Edge treatment consists of hinge fracturing, which also serves to resharpen the implement as this material is much softer than cherts or quartzites. The function these artifacts played in the tool kit was probably that of butchering tools for large game, but the possibility of other uses such as fish scalers and cleaners cannot be overlooked. Most of the greywacke used is from local sources that eventually will be identified. Some better quality greywacke may have been transported over fairly long distances, however, and further research may clarify the dimensions of this local trade as well as locating quarry sites. Metrical data for the specimens recovered are given in Table 22.

Celt-like Tool. (KL1249, Fig. 46: 2). One celt-like tool with a graving spur on one end was recovered. This object, made from a block of greywacke, has only been worked at one end, the working face being 5.0 cm. in length. Length is 16.2 cm., width 4.3 cm., thickness 1.1 cm., and weight 121.0 gm.

Unifacial Greywacke Flake Chopper. (Test pit) This tool (S1234, Fig. 43: 4) has not been purposefully shaped to any extent and represents random use of a convenient-sized flake. It is manufactured from greywacke. Metrical data are: length, 10.7 cm.; width, 5.5 cm.; thickness, 9.0 cm.; and weight 13.2 gm.

Ceramics. Two rimsherds and one decorated body sherd were recovered. One rimsherd (KL1141 Fig. 44: 8) is a

TABLE 22. Greywacke flake tools, CiHf-2.

Artifact Type	Catalogue Number	Length (cm)	Width (cm)	Thickness (cm)	Weight (gm)	Material of Manufacture
Large flake chopper	KL1273	16.8	8.9	.7	52	Greywacke
Large flake chopper	KL1158	9.9	8.2	2.1	124	Greywacke
Large flake chopper	KL1266	9.8	6.6	.5	41	Greywacke
Unifacial flake chopper	KL1275	9.9	5.5	.9	60	Greywacke
Unifacial flake chopper	KL1212	11.8	5.1	1.0	102.5	Greywacke
Bifacial chopper	KL1202	11.9	8.0	2.1	192.0	Greywacke
AVERAGE		11.68	7.05	1.21	95.25	

light buff colour and has a straight rim profile. One punctate is present, rectangular in form, and measures .7 x .3 cm. in size. Distance between punctates is 1.1 cm. and they are .55 cm. from the top of the lip. The thickness of the rim is .85 cm. Tempering is unusual in that rather large angular pieces some .55 x .25 cm. in size predominate. Another rimsherd (S1217 Fig. 43: 1) was recovered from the test pit area in 1972. This grit tempered, medium brown ware is decorated with pseudo-scallop shell impressions on the rim and lip. Below these are a row of dentate stamp impressions. Several punctates are present. These are spaced closely together, which may be an indication that this sherd occurs late in the Laurel Tradition.

The decorated body sherd (KL1140 Fig. 44: 9) represents a different vessel from the rim sherd and is a lighter buff colour. It is .7 cm. thick, and faint traces of what appears to be linear stamping are present. Fine striations or "channelling" present on the interior suggests that the interior was smoothed over.

Red Ocher. (Test pit) Two fragments representative of the various pieces of red ocher (paint stone) recovered are illustrated (Fig. 43: 7).

Representative Flakes. (Test pit) Two large greywacke flakes representative of their size range are illustrated in Fig. 43: 8,9, and small, assorted thin flakes are illustrated in Fig. 43: 10. The chipping detritus from this site was generally dominated by greywacke flakes. Chert flakes,

when found, were small and thin. Cores were relatively scarce. From this it would appear that quality chert was a scarce commodity at this site. Thin flakes are common on Laurel sites in the Lake Superior region.

TABLE 23. Flake data, CiHf-2.

Sample size:	74	
Metrical attributes:	Average length	3.5 cm.
	width	2.35 cm.
	thickness	.6 cm.
	weight	6.85 gm.
Other attributes:	Decortation flake	7
	Percussion bulb	3
	Striking platform	20
	Average width of platform	.55 cm.
	Average length of platform	2.3 cm.

PEARL BEACH SITE (DaGv-1)

This site (Fig. 21) is located in McFadden Township, part of the Kirkland Lake District of the Northern Administrative Region of the Ontario Ministry of Natural Resources.

The Pearl Beach site is on Larder Lake, a large body of light brown water with a surface area of 9,151 acres. The perimeter of the lake is 45.75 miles. The lake attains a maximum depth of 110 feet. The water level is controlled by a dam on the Larder River.

As 75 per cent of the shoreline is rock covered as op-

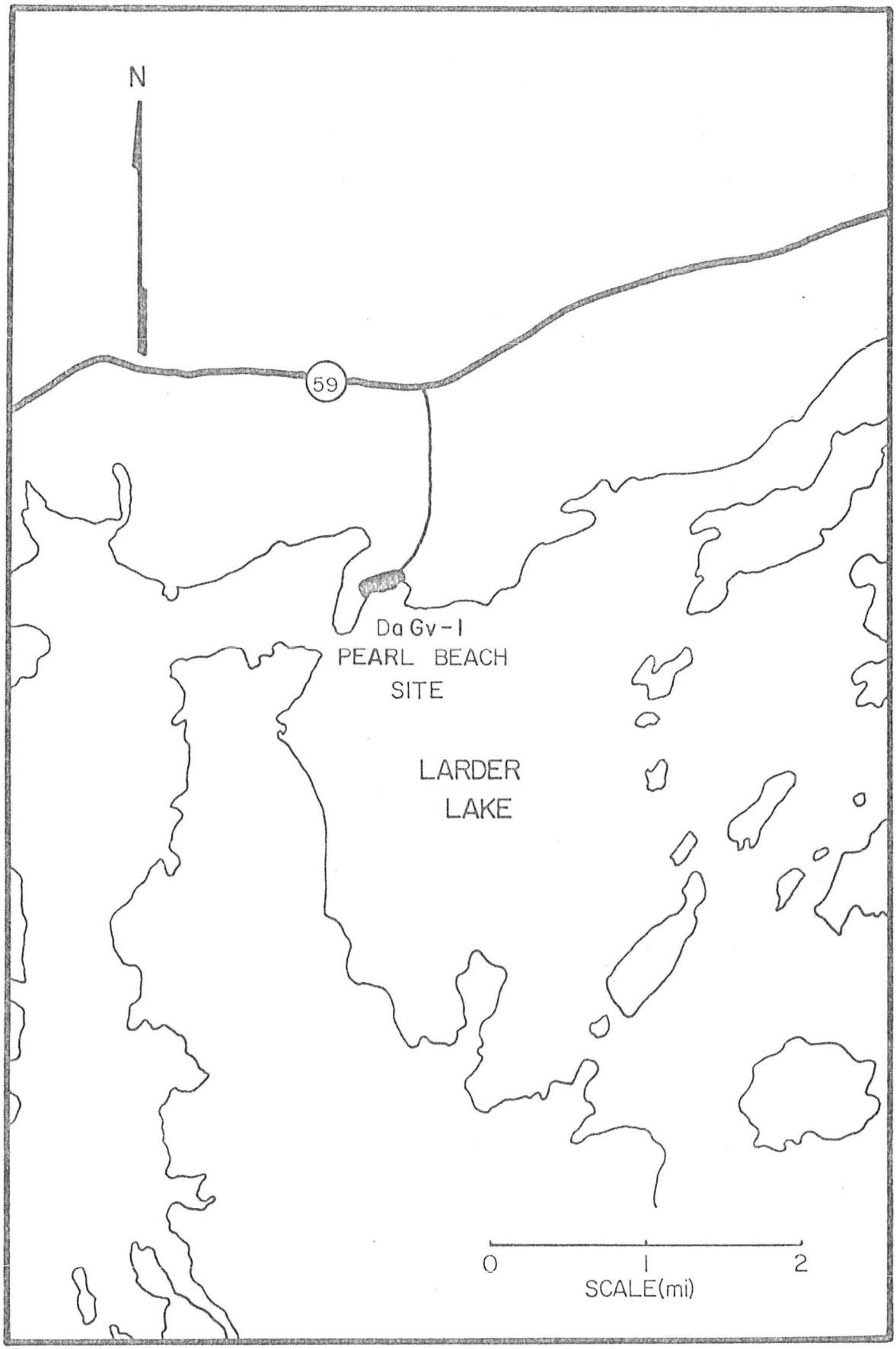

FIG. 21. Map of the Pearl Beach site.

posed to 10 per cent sand-covered shorelines, the areas of potential excavatable archaeological sites are severely restricted. Too, the raised water level has flooded many of the sand areas known to contain archaeological materials.

The dominant fish species are: lake trout (Salvelinus namaycush); and northern pike (Esox lucius) (M.N.R. Lake Survey Data June 1969).

The narrows nearby the DaGv-1 site are the best fishing places on the lake for lake trout (George LaRocque: personal communication).

Vegetation of the site consists mostly of alders and hazel shrubs growing in dense thickets. A few white spruce are also present. The area appears to have undergone second growth with the timber (pulp and a few logs) removed perhaps a decade ago. Mature timber (perhaps red pine) covered this site for most of its existence. Indications supporting this are the thin humus cover and poor rate of soil formation, as shown in the archaeological excavations.

One of the first explorers in the Larder Lake area was Willet G. Miller in 1901, who reached the lake by travelling up the Blanche River from Lake Timiskaming then along the Abitibi Branch (now called Larder River) to Lake Present (now called Larder Lake) (Miller 1901: 214-19). From Larder Lake, Miller portaged into the Misema River chain and back to the Blanche River. It should be noted that Misema River can be used to reach Lake Abitibi to the north.

Morley E. Wilson (1912) mentions another canoe route from Larder Lake that connects with the well known canoe

route from North Timiskaming to Lake Abitibi via Lac Des Quinze, Lake Opasatika, etc. The canoe route from Larder Lake connects with the latter.

> Lake Opasatika can be reached from either Wendigo (Lake) or Larder (Lake) through the canoe route which connects with the eastern extremity of Raven Lake. There are two branches to this route, indicated on the map, a northern one leading from Wigwag Lake to Klock bay, and a southern one leading to Atikameg bay. (Wilson 1912: 5).

Thus, at least three different canoe routes existed connecting Lake Timiskaming and the Ottawa River to Lake Abitibi which lies on the arctic watershed. Only the Quebec route via Lac Des Quinze is well known, however, and this route has been postulated for the epic journey of the Chevalier de Troyes in 1686 on his way to James Bay (Kenyon and Turnbull 1971: Map). It seems likely to the writer, however, that the route consisting of the Blanche and Larder Rivers to Larder Lake, thence to Opasatika Lake may have been used. This view is supported by Wilson (1912: 6):

> It seems certain that the French in going from Timiskaming to Abitibi followed the East or Abitibi Branch of the Blanche River to Labyrinth Lake, (Larder Lake?) instead of the now well known route by way of Lac Des Quinze and Lake Opasatika.

The question of De Troyes' route will only be answered after further investigations. The important fact is that the Larder Lake area is easily accessible both from areas to the south on the Ottawa drainage system and from Lake Abitibi, north of the height of land. One then would expect to find similarities in the archaeological assemblages.

Archaeological Excavations and Stratigraphy

The DaGv-1 archaeological site is located at the only na-

tural beach on the lake, Pearl Beach (Fig. 22). This 800-foot long sand beach is found just to the east of the narrows on the north shore of the lake (see Fig. 21). The beach itself is situated in a shallow bay and is protected from the north winds in the back by a high, gravel rocky ridge. Further evidence of the protected nature of the site was observed during the field operations when it would be frequently windy and raining on the lake less than one mile away, the area of the site would be free of rain and fairly calm.

Due to the dam on the lake, the water level has been raised several feet. The present bank, which is about four feet above the high water mark, is eroding because of these unnaturally high levels. Many artifacts can be found in the water some fifteen feet from the present shoreline, and in depths of two to three feet. However, shifting sands frequently cover the bottom, so much so that underwater areas where artifacts were collected in 1972 were covered with silt in 1973 (W. C. Noble: personal communication).

The site is discontinuous along the 800-foot length, with the majority of cultural remains being concentrated on the eastern portions of the site. Fire-cracked rock and numerous artifacts can be found, however, at most locations. Erosion and recreational uses have exposed many features and artifacts along the bank. The beach itself contains many flakes, etc., but it is not very wide; its width varying from two to twelve feet between the bank and the water.

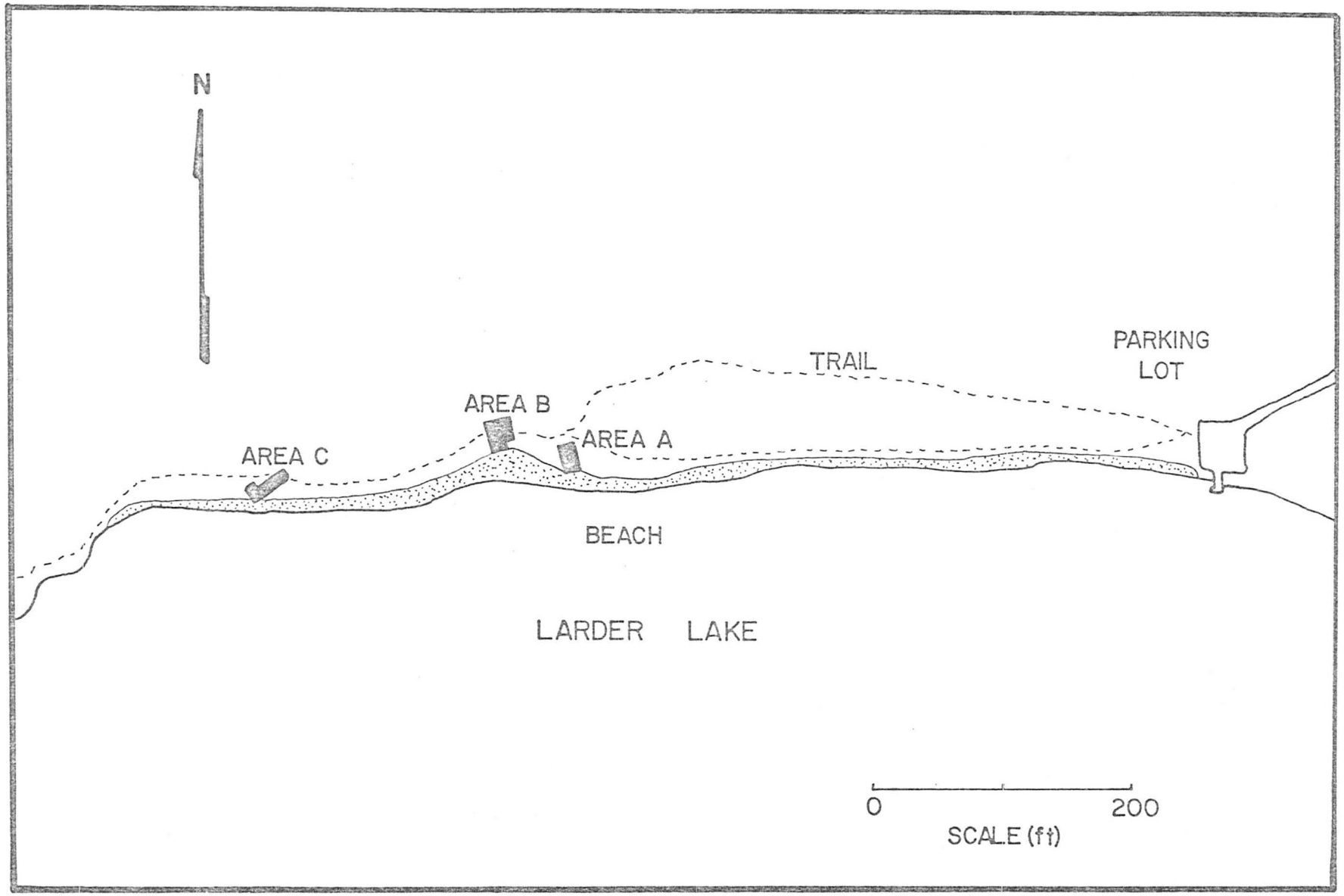

FIG. 22. Pearl Beach site, general map of excavations.

The 1972 surface collection showed that DaGv-1 was a multi-component site containing cultural materials relating to Shield Archaic, Laurel and Late Woodland occupations. Although it was possible to seriate much of this material in the laboratory, excavations were clearly needed to establish precise details about the aboriginal occupation of this site. Partially on the basis of surface collections in 1972 and test pits in 1973, three separate areas A, B and C were selected for excavation (see Fig. 22). Aid in selecting the most suitable areas came from Dr. William C. Noble of McMaster University, who visited the site and kindly sent the author a sketch map indicating the results of his investigation.

Stratigraphy

Due to the size and uniformity of the suitable habitation area at DaGv-1, substantial horizontal stratigraphy is present. That different aboriginal groups had utilized separate sections of the shoreline for their campsites was apparent from the excavations. Too, some vertical stratigraphy was present in the form of circa 1920 European items in the humus layer. Some overlapping of the horizontal stratigraphy was also evident as a slight mixture of cultural materials was present in all three excavated areas.

In actual fact, the three excavated areas at DaGv-1 represent culturally three separate excavations. Area A contained 80 per cent terminal Woodland, 10 per cent Shield Archaic and 10 per cent Laurel materials. Area B was pre-

dominately a Laurel station with a small Shield Archaic component. Area C was predominately (60%) an early Shield Archaic component with a sizable portion (30%) relating to a late Laurel or terminal Woodland occupation.

As each of these areas is considered to be a separate excavation, details of the stratigraphy, features and artifacts will be presented separately.

Area A. (Fig. 23). This area was selected on the basis of the 1972 testing operations. The site was first brushed out and then a transit was used to lay out a grid system of 5-foot squares. Excavation was in arbitrary 3-inch levels. Although this is a multi-component site, the vertical stratigraphy showed no cultural differentation, materials from the humus zone being identical to those recovered in the bottom level. The vast majority of the artifactual material was recovered from a thin, black organic layer immediately below the humus layer and above a grey soil layer (Fig. 26). The writer believes that this black layer represents the main occupation floor with some materials having travelled upwards through frost, root action and tree falls. Some of the artifacts have been pushed down but many more have been displaced upwards. This mixture of artifacts is found on many sites containing thin layers of boreal forest soils. Below the grey soil was sterile orange-brown subsoil.

Features Area A: Feature one, squares 16-5, 16-4, was a large hearth with an associated artifact dispersion fan. This feature (Figs. 27, 28) contained a concentration of

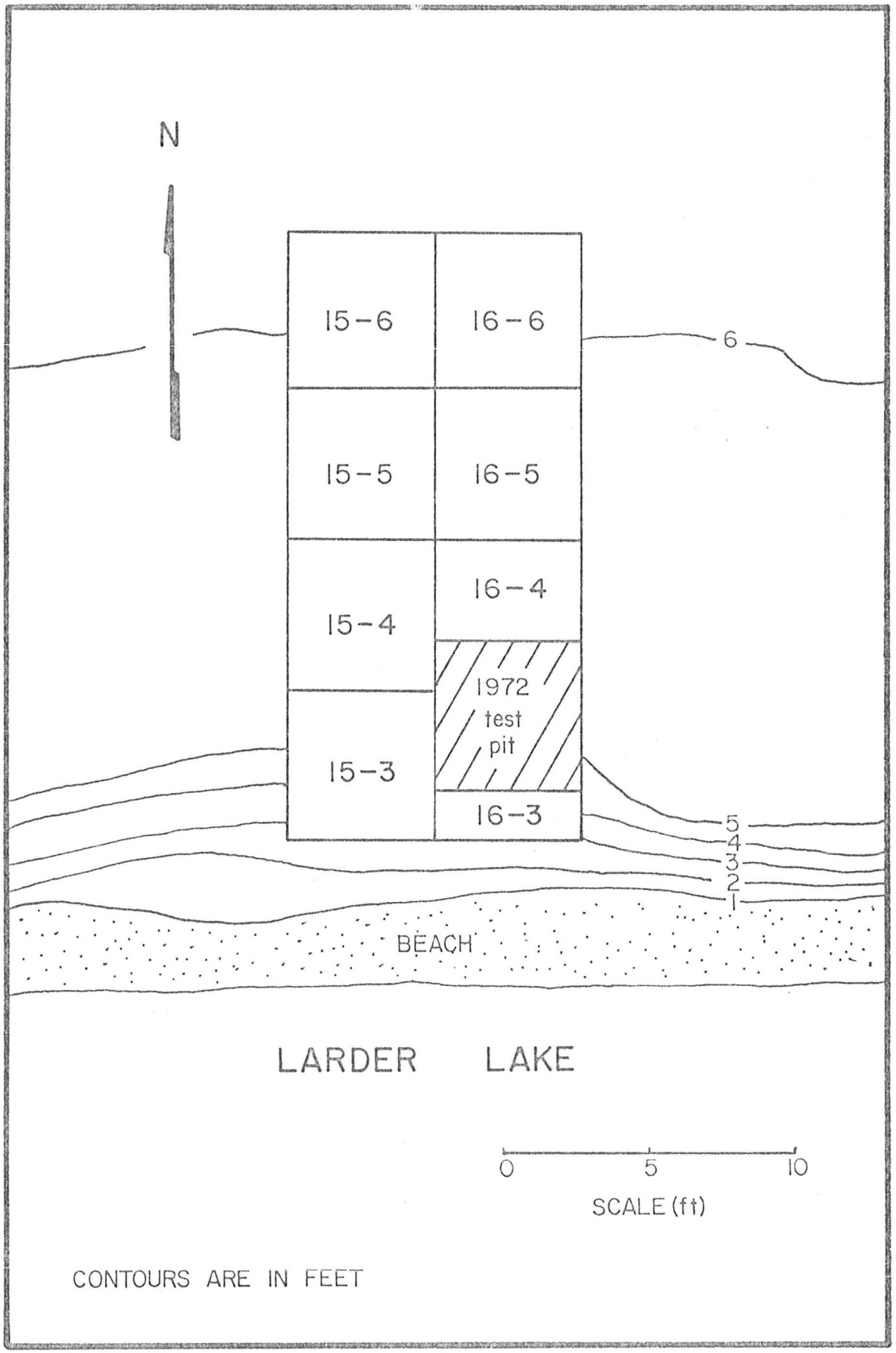

FIG. 23. Excavated units, area A, Pearl Beach.

carbonized and calcined bone, many flakes and fire-cracked rocks. Feature fill was red sand with lenses of ash or greyish-black soil. It terminated at a depth of 6 inches.

Several other minor burnt areas are present as shown on the floor plans. One of these (Fig. 28) contained a concentration of red ocher.

Area B. (Fig. 24). This area was excavated on the recommendation of Dr. William C. Noble, who had already brushed out this portion of the site. Using a transit, eight 5-foot squares were laid out as suggested by Dr. Noble. Again, at this location the vertical stratigraphy showed no cultural differentation. The stratigraphy was somewhat complex due to tree falls (see Fig. 29) and various hearths and ash pits (Figs. 30, 31). This station was productive of artifacts from both the 0 to 3-inch and 3 to 6-inch arbitrary levels, with slightly more artifacts being recovered from the upper level. This site had large quantities of fire-cracked rock. The majority of the Laurel ceramics were situated in a dispersion fan around a hearth in the north-central part of the excavation (Figs. 32, 33). The Shield Archaic artifacts were associated with a tree-fall feature at the west-central part of the excavation. A profile of this feature is given in Figure 29.

Features Area B. One of the most visible features in area B was feature two in square 1-8 (Figs. 32, 33). This feature was elevated about 6 inches above the surrounding surface and was about 72 inches long by 56 inches wide;

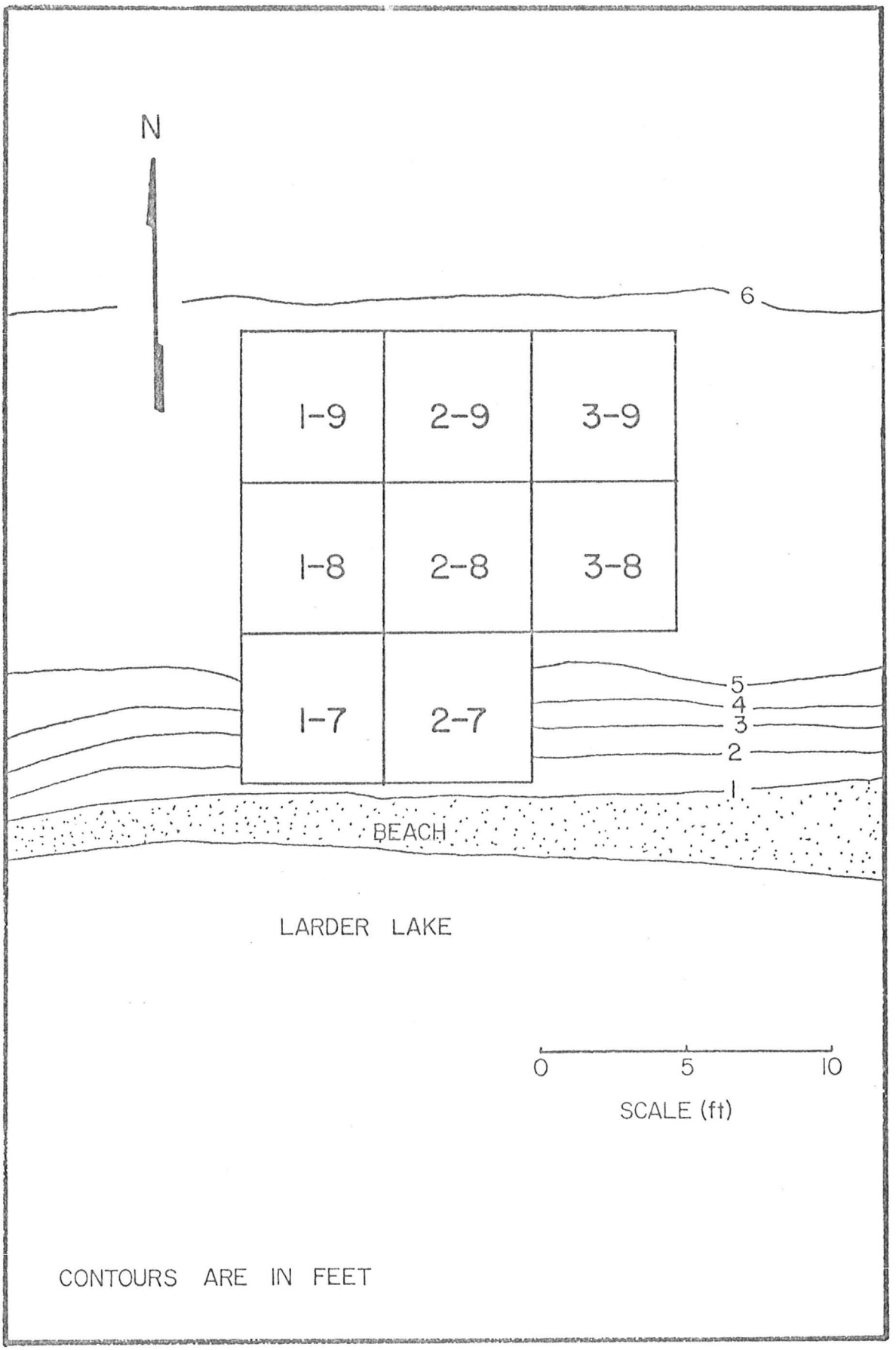

FIG. 24. Excavated units, area B, Pearl Beach.

maximum depth was 14 inches. One side of this feature (east) had a great deal of ash and dark organic material (Fig. 29). The west side was predominately sterile subsoil, although artifacts were present, including a large corner-notched point (Fig. 56: 1). This feature most likely represents a tree fall. Profile A gives a cross-sectional view of the feature. This feature contained some Shield Archaic materials, although the large point is attributed to the Laurel Tradition.

Feature three in squares 2-8 and 1-8 was a hearth recognized at a depth of 2 inches below the surface. This feature represented in cross-section by profile B (Fig. 30) was associated with an ash pit containing smaller than average fire-cracked rock as well as copious bone and pottery.

Feature six was another ash pit excavated in square 3-8. See profile C (Fig. 31) for a representative cross-section.

Two other small hearths or areas of fire-reddened soil comprise the remaining two features located.

Area C. (Fig. 25). This area was also excavated on the advice of Dr. William C. Noble. It proved to be the most disturbed area at Pearl Beach and in some sections the humus layer had been entirely destroyed, especially the most easterly squares. Evidence of a former building was present in this area. Some soil stratigraphy remained in the westerly excavated squares which produced the vast bulk of the artifacts recovered (Fig. 34). As shown in Figure 34,

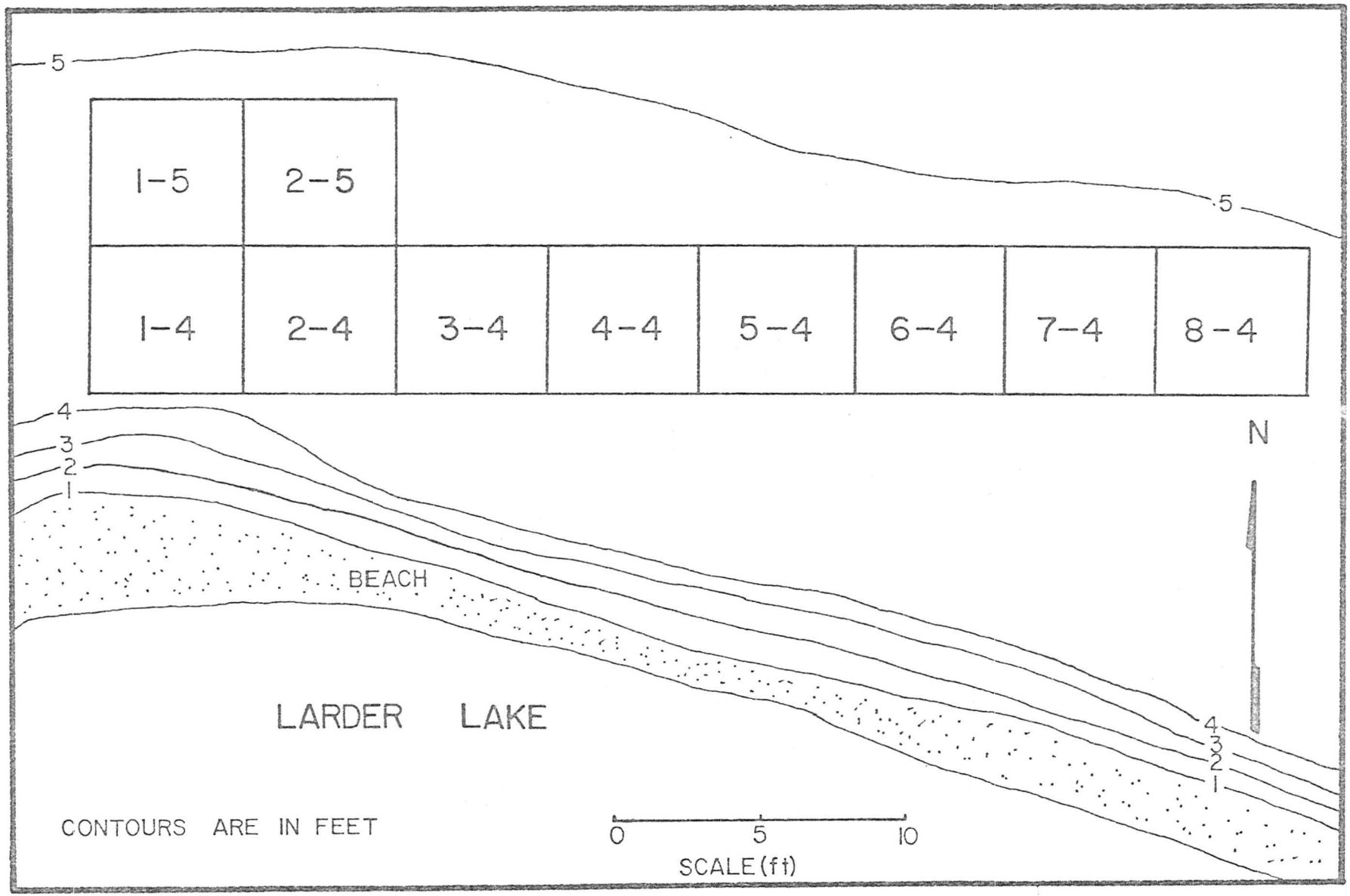

FIG. 25. Excavated units, area C, Pearl Beach.

there was a thin, surface humus layer that decreased towards the east. The main or occupation layer was a thin, sloping, black organic stratum overlaid by grey-brown soil and underlain by a grey layer. As at areas A and B, the artifacts showed no apparent cultural stratigraphy. It appears that there is a single occupation stratum, with materials having moved vertically upwards and downwards. In the easterly portions of the excavation, these soil profiles disappeared completely and an extremely thin layer of moss and humus rested directly on the subsoil. Evidence of European disturbances on this area was provided by a layer of old boards and tarpaper covered by a humus layer. It is readily apparent that even a small amount of activity can destroy the humus layer and soil profiles at these sites. This may be another factor in causing mixing on aboriginal boreal forest sites. That is a cultural stratum deposited by Shield Archaic peoples would be eradicated by later Laurel occupants. In this case, a European occupation has destroyed the aboriginal living floor, and caused some horizontal displacement of artifacts.

Features Area C. Feature one was a natural depression in square 4-4 (Fig. 36) filled with many hundreds of flakes, mostly percussion in origin, and relating to the Archaic era.

Feature two, in squares 4-4 and 5-4, consisted of a hearth and associated ash pit. This feature, recognized at a depth of 3 inches, contained an adze, scraper and hammerstone.

Feature three, in square 1-4, was recognized as a hearth

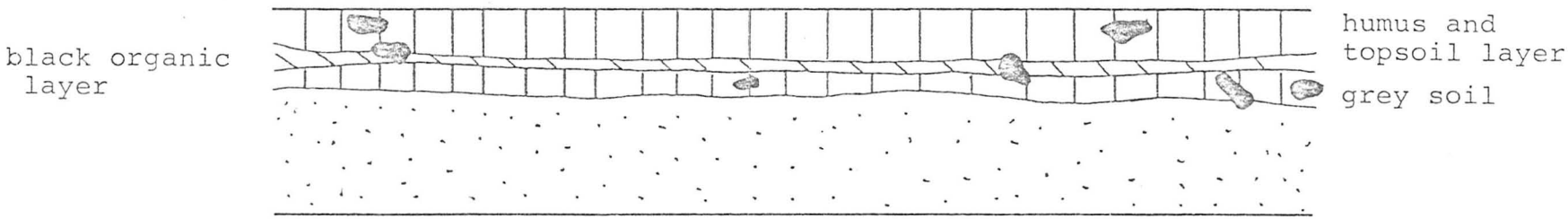

FIG. 26 Area A profile, west wall, square 16-6
scale - 6"=5'

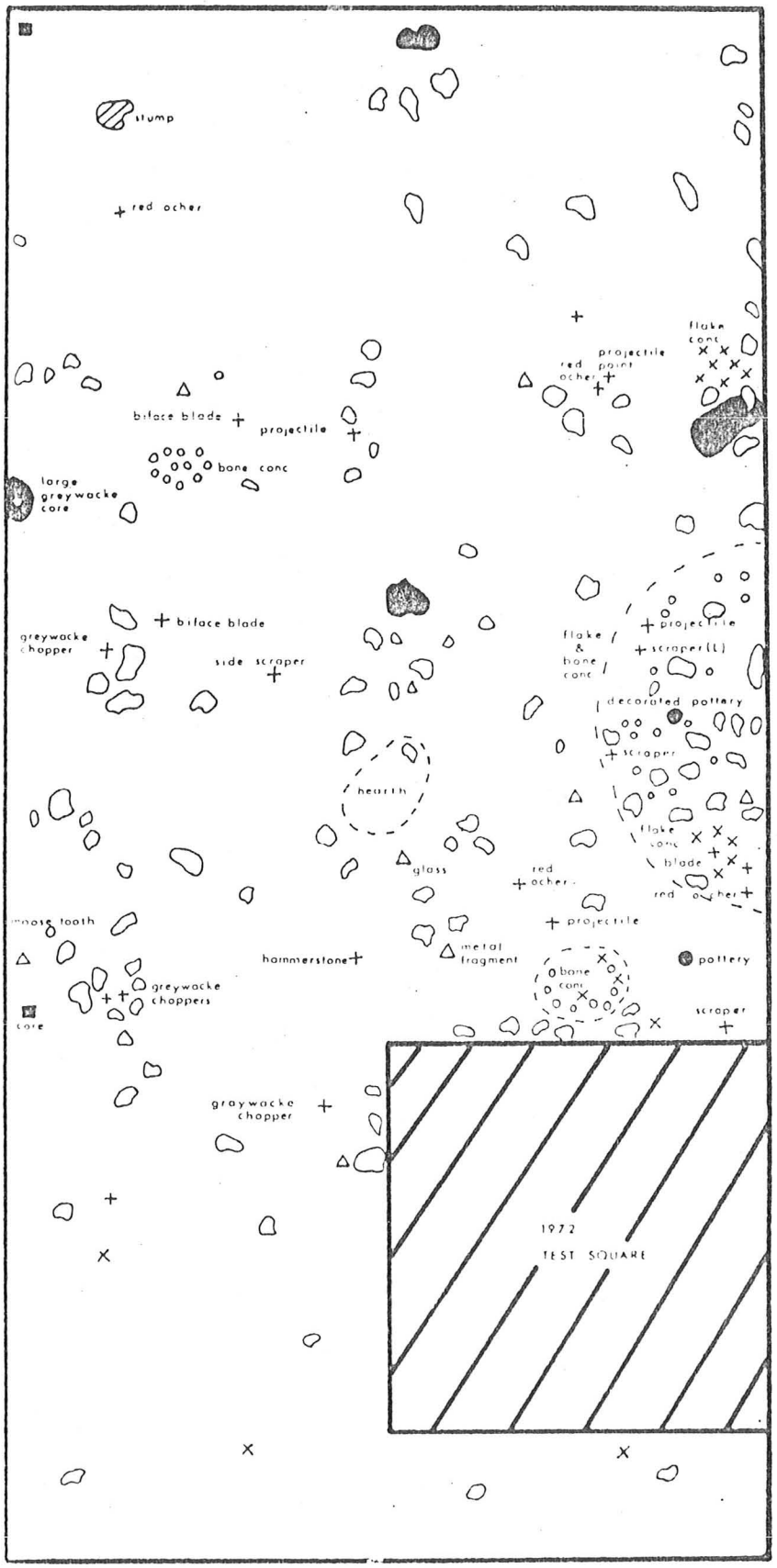

FIG. 27. Floor Plan, area A (0-3"). Scale: 2 1/8" = 5'.

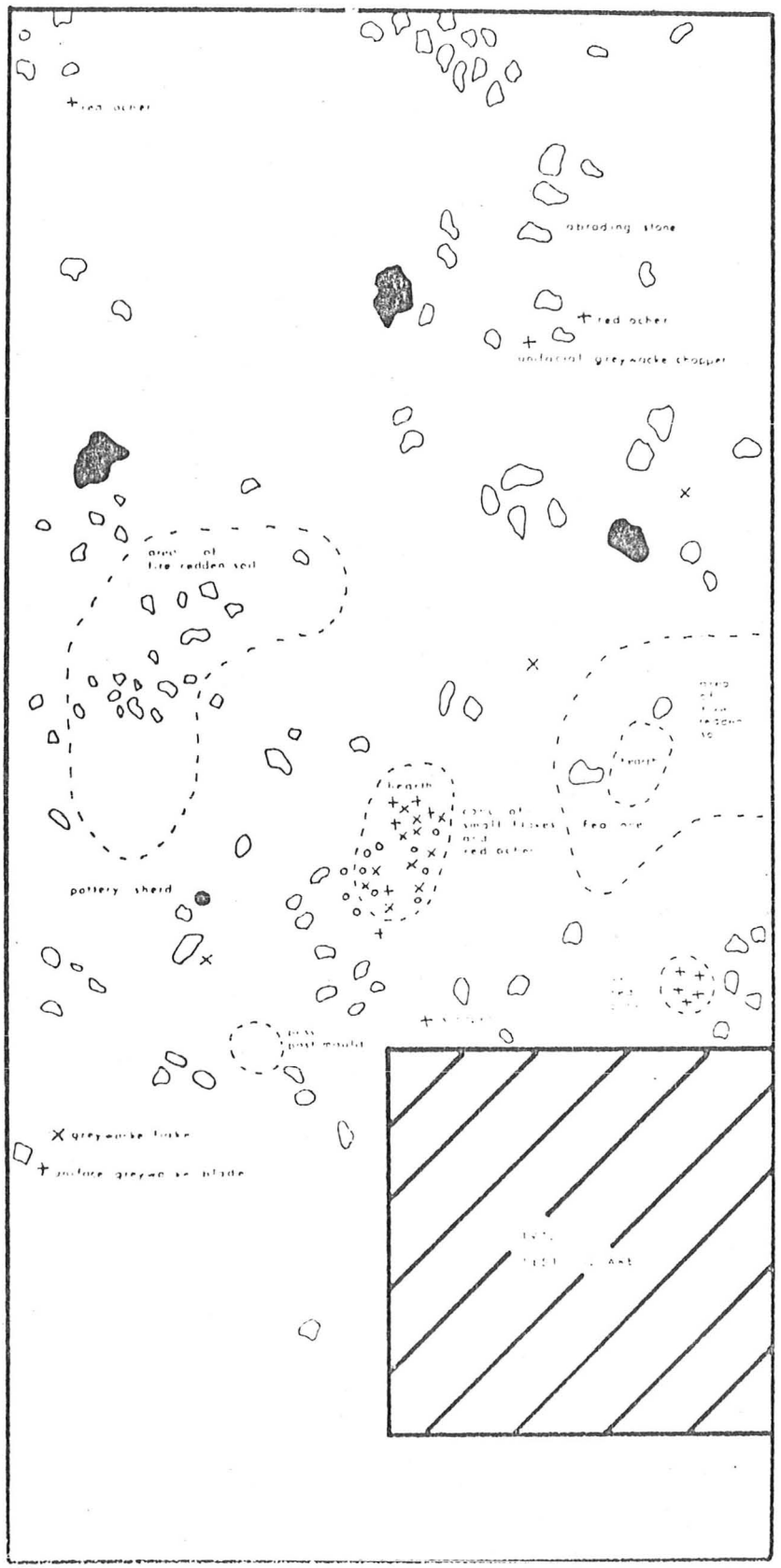

FIG. 28. Floor Plan, area A (3 - 6"). Scale: 2 1/8"=5'.

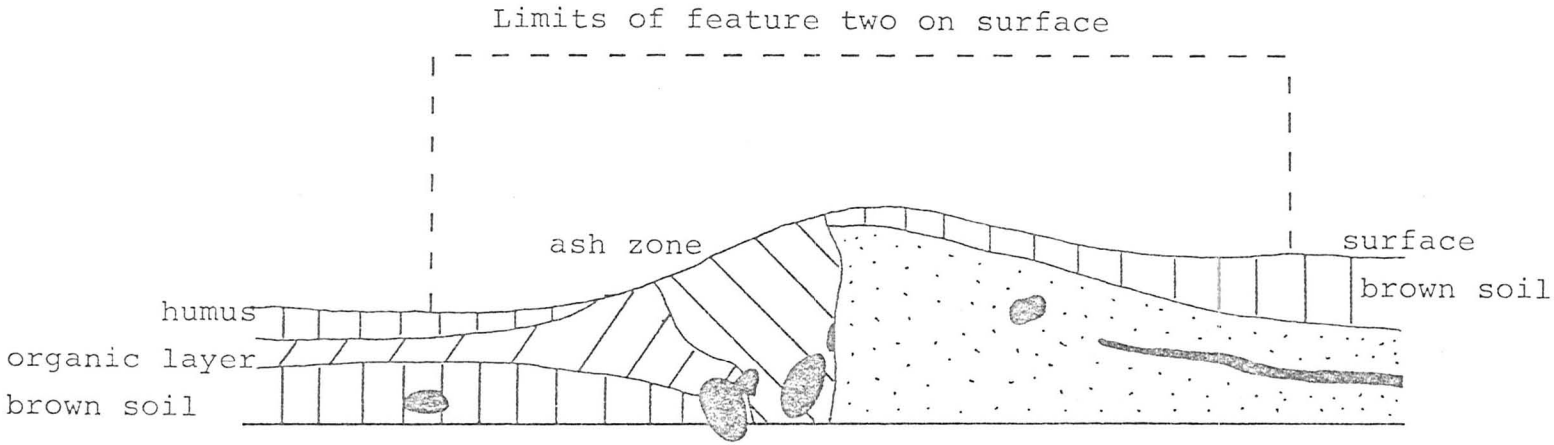

FIG. 29 Area B profile, south wall square 1-8, profile A
scale: 6" = 5'

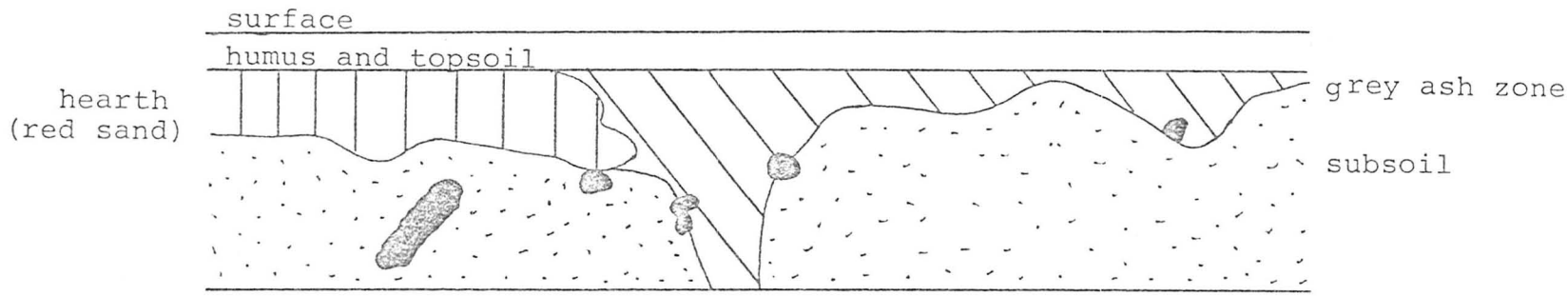

FIG. 30 Area B profile, north wall, square 2-8, profile B
Scale: 6" = 5'

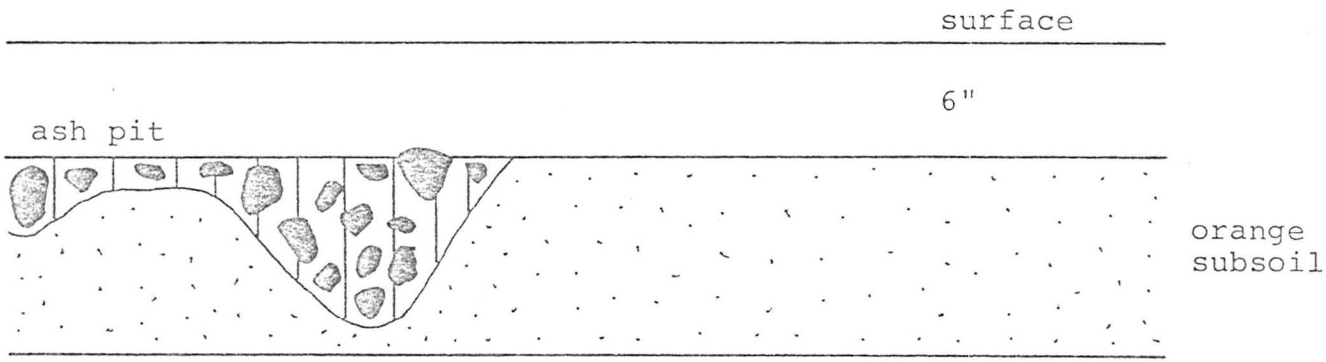

FIG. 31 Area B profile, square 3-8, profile C.
Scale: 6" = 5'

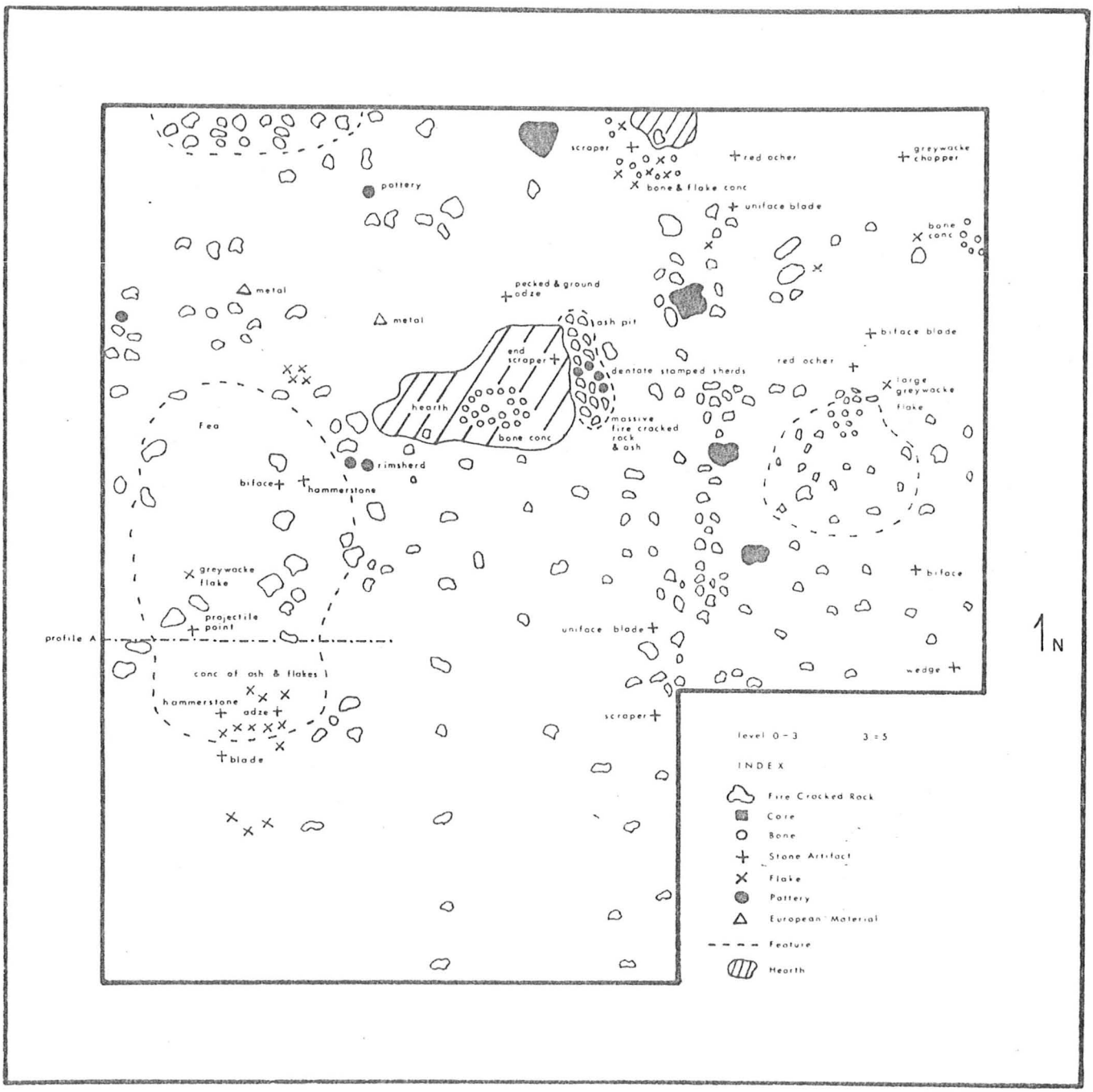

FIG. 32. Floor plan, area B (0-3").

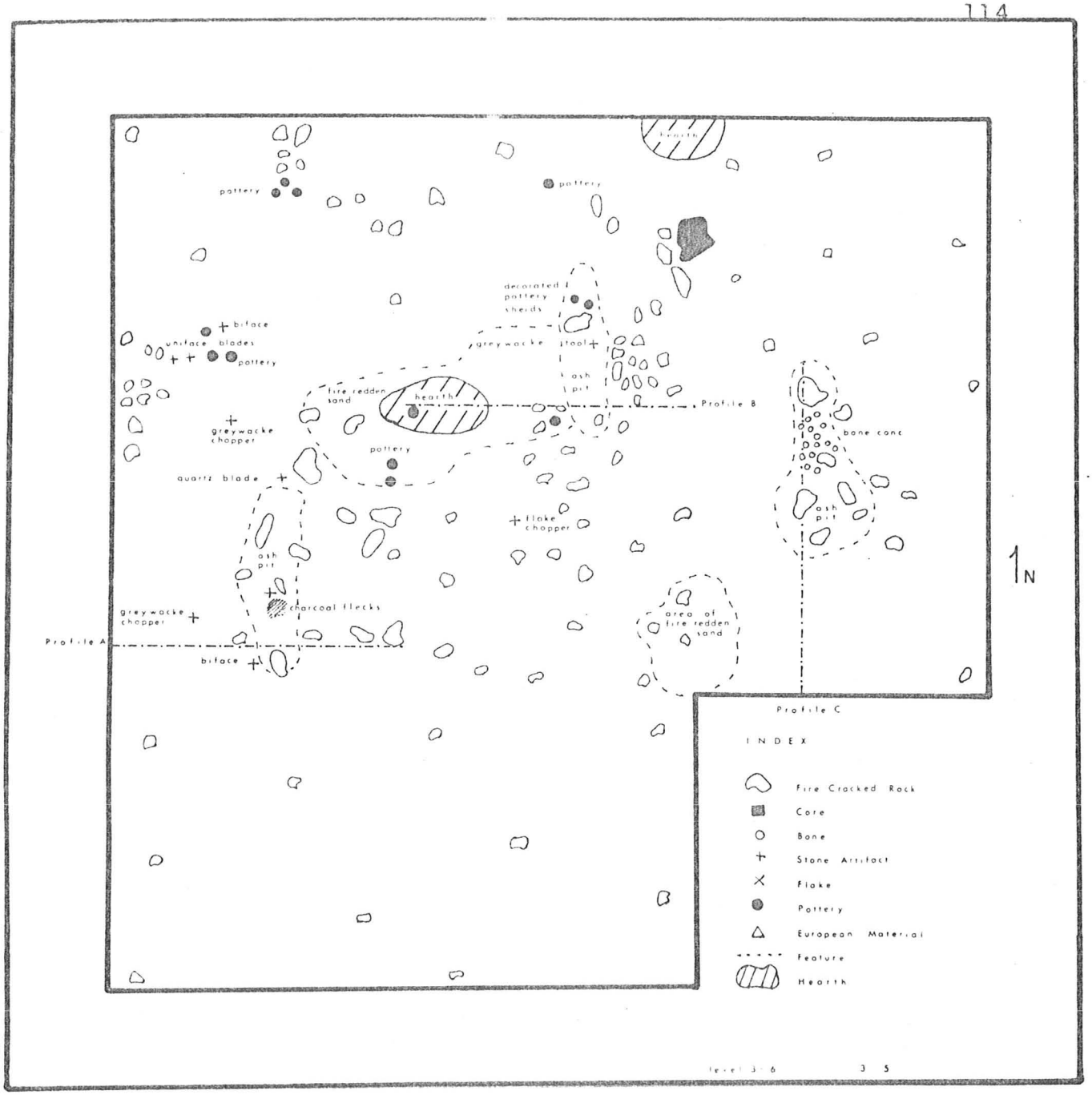

FIG. 33. Floor plan, area B (3-6").

at a depth of 3 inches. This hearth had associated bone and ash concentrations and contained greywacke flake tools.

Feature four, located in square 1-5 (Fig. 36), was well defined as a hearth in the 3 to 6 inch level. This oval-shaped feature contained pieces of red ocher as well as concentrations of carbonized and calcined bone. Nearby were large cores of greywacke, a projectile point and a crude adze.

Several other burnt areas were also identified.

Summary. The soil profile at DaGv-1 for all three excavated areas consists of a thin humus layer underlain by a dark brown organic layer (present at areas B, C). The next layer comprises a black organic occupation layer of fire-cracked rock and artifactual materials, underlain by a grey sand stratum. Below this an orange-brown subsoil is encountered. Although horizontal stratigraphy along the 800-foot length of the site is readily apparent, no vertical cultural stratigraphy was observable at any of the excavated stations. The writer feels that this is due to the thinness of soil layers in the boreal forest. These are easily destroyed by concentrated human activity (see area C description) either during aboriginal or European times. Too, natural factors such as frost action, tree roots and tree falls combine to destroy fragile soil layers and mix cultural materials through time and space.

Artifact Descriptions

Of a total 8,876 specimens recovered from DaGv-1, lithics and bone fragments predominate.

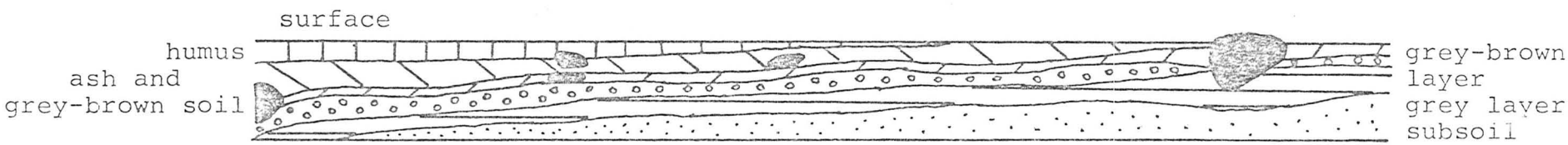

FIG. 34 Area C profile, north wall, square 1-4
scale: 6" = 5'

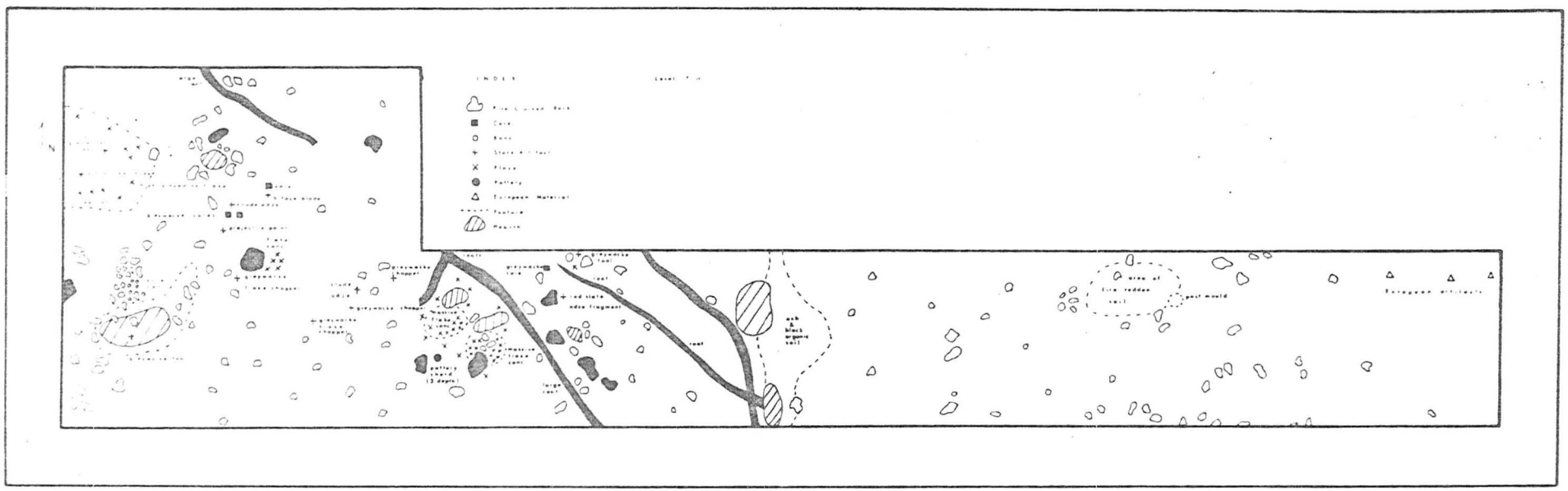

FIG. 35. Floor plan, area C (0-3").
Scale: 1 1/8" 5'.

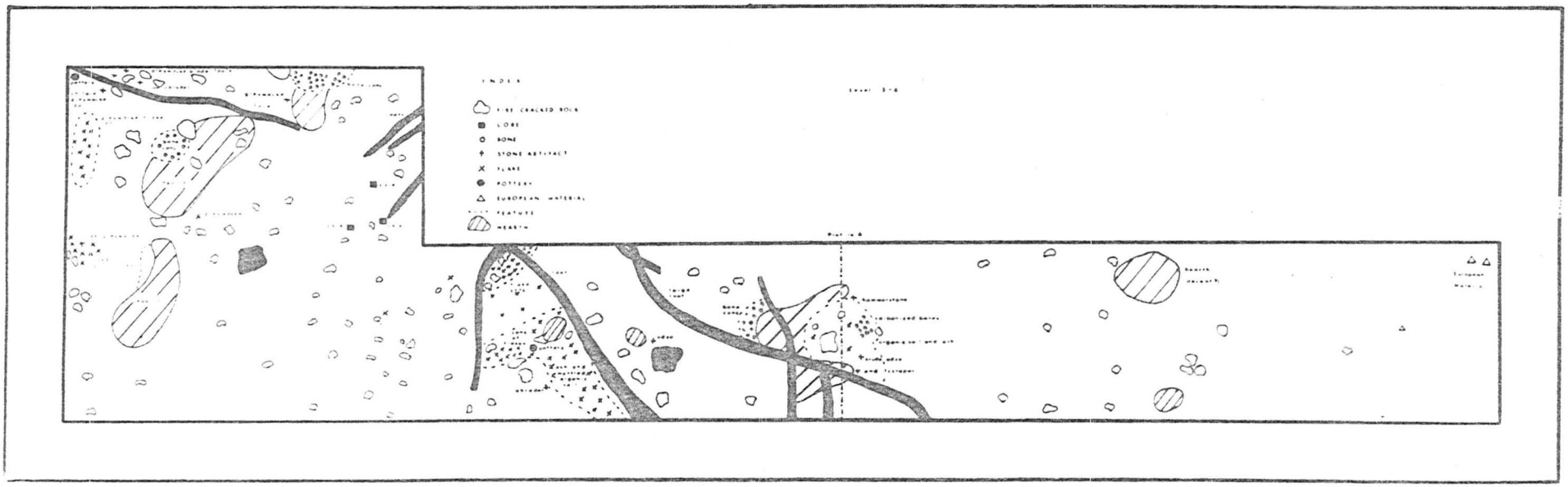

FIG. 36. Floor plan, area C (3-6").
Scale: 1 1/8" = 5'.

Table 24 presents a breakdown of the total artifacts surface collected and excavated at the Pearl Beach site on Larder Lake.

Only the artifacts from excavated areas are presented in Table 25, as the surface specimens would tend to skew the data. For comparison, the artifact classes from the surface collection are readily available in Table 24. When flakes, cores, red ocher, bone fragments and European items are excluded, the aboriginal artifact inventory clearly indicates that decorated pottery sherds, unifacial greywacke flake tools, end scrapers and projectile points dominate, followed by biface blades, adzes and abraders. However, as the above artifacts represent three separate cultural components, a more detailed breakdown is needed. Thus, for area A, a Late Woodland component, projectile points, end scrapers and abraders dominate. In area B, a Laurel component, decorated pottery sherds, end scrapers, adzes and unifacial greywacke flake tools are most numerous. For area C, a predominately Shield Archaic station, unifacial greywacke tools, bifaces, bifacial greywacke tools, and adzes are most numerous.

Due to the horizontal stratigraphy represented at this site, the following artifact descriptions are divided by excavation unit and surface respectively. Because the cultural components within each excavation unit are not reflected in the vertical stratigraphy, specific vertical provenience data are not given in the artifact descriptions.

TABLE 24. Artifact totals from DaGv-1.

Item	No.
Surface collected	
Flakes	2,000
European material	85
Bone fragments	50
End scrapers	11
Projectiles	5
Large bifaces	4
Large greywacke flake choppers	4
Small bifaces and portions	3
Uniface blades	3
Small unifaces	2
Bifacial core chopper	1
Celt	1
Uni-notched knife	1
Bi-pointed uniface blade	1
Utilized flake	1
Chipped ulu	1
Large core	1
Pick	1
Thumbnail scraper	1
Hammerstone	1
Rim sherd	1
Excavated	
Flakes	4,643
Bone fragments	1,635
Red ocher	131
European material	79
Cores	49
Pottery sherdlets	40
Decorated sherds	21
Soil samples	21
Body sherds	17
End scrapers	14

Continued

TABLE 24. Continued

Item	No.
Unifacial greywacke flake tools	12
Projectile points	9
Chipped bifacial greywacke tools	5
Rim sherds	2
Other miscellaneous lithic artifacts	20
TOTAL	8,876

TABLE 25. Artifact classes at DaGv-1, excavated areas only.

Class	Area A	Area B	Area C	Total	%
End scrapers	4	4	2	10	11.23
Unifacial greywacke flake tools	1	3	8	12	13.48
Projectile points	6	1	2	9	10.11
Decorated pottery sherds	1	19	1	21	23.59
Chipped bifacial greywacke tools		1	4	5	5.61
Abraders	5		1	6	6.74
Biface blades	1	1	4	6	6.74
Adzes		3	3	6	6.74
Large end scrapers	2	1		3	3.37
Side scrapers	1	1		2	2.24
Wedges		2		2	2.24
Preforms			2	2	2.24
Rim sherds			2	2	2.24
Ovoid blades		2	1	3	3.37
TOTALS	21	38	30	89	99.94

Area A

Projectile Points. Four complete points and two tip fragments were recovered. The three side-notched points are rather crudely made, two are core derived and one is made from a flake. The quartzite point (KL1353, Fig. 53: 2) has distinctive side notches with some crushing visible in the notches. The point of brown-black chert (KL1346, Fig. 53: 1) is worked on both faces and has a sinuous edge. No evidence of notch or base grinding is present. The flake-derived point (KL1287, Fig. 53: 4) is made from grey chert and still shows some of the decortation layer. Although worked on both sides, this point may be a uni-notched knife. In the absence of use-wear on the edges, however, it has been placed with the projectiles.

A single sub-triangular point (KL1283, Fig. 53: 3) of grey chert has pressure retouch on all sides. This core-derived point shows some signs of thermal alteration in the form of small "potlids". The two fragmentary point tips (KL1364, KL1385, Fig. 53: 5,13) are both made from a green chert. If complete, they would represent much larger specimens than the other complete points. It should be noted, however, that one of the above (Fig. 53: 13) appears to have broken during manufacture and it may ultimately have been manufactured into a biface or some other implement rather than a projectile point. Metrical data are provided in Table 26.

Scrapers. Four end scrapers (Fig. 53: 6,7,8,9), two large end scrapers (Fig. 53: 10,11) and one combination end

TABLE 26. Projectile points, DaGv-1, area A.

Variety	Length (cm)	Width	Thick-ness	Weight (gm)	Base Width (cm)	Shoulder Width (cm)	Stem Length (cm)	Neck Width (cm)	Notch Width (cm)	Notch Depth (cm)	Material of Manufacture
Side-notched	3.95	2.2	5.5	4.6	1.85	2.2		1.35	.55	.3	White quartzite
Side-notched	3.6	1.75	.6	4.7	1.45	1.85	1.2	1.0			Brown-black chert
Side-notched	3.55	1.8	.6	3.1	1.45	1.55		1.2	.5	.25	Grey chert
AVERAGE	3.70	1.91	2.23	4.13	1.58	1.86	1.2	1.18	.52	.27	
Sub-triangular	3.5	1.85	.55	3.1	1.75						Grey chert
Tip only	3.6	2.8	7.5	7.4							Green chert
Tip only	3.0	2.25	.55	4.8							Green chert
AVERAGE	3.36	2.30	2.86	5.10	1.75						

and side scraping tool (Fig. 53: 12) were identified. The four "average size" end scrapers (KL1396, KL1348, KL1297, KL1298) are all flake derived, with two still retaining part of the striking platform and a percussion bulb. Metrical data are given in Table 27. The two large end scrapers (KL1347, KL1386) are both worked on the dorsal surface and are not obviously flake derived. These larger scrapers, both of which appear to have been hafted, are well made in contrast to the random flake specimens. Metrical data are given in Table 27. The end and side combination tool (KL1286) is derived from a large percussion flake and is heavily patinated; some indication of thermal alteration is also present.

Ceramics. Only one decorated sherd (Fig. 53: 18) was recovered from the excavations. This sherd, .75 cm. thick, is decorated with a dentate stamp motif. Use of dentate stamp decoration increases from early to late in the Laurel Tradition (Wright 1967: 100). This sherd could be assigned to the Laurel Tradition but dentate decoration may extend into the Late Woodland era in this region of Ontario. One other sherdlet recovered is .5 cm. thick. This pottery is tempered with very small pieces of granite or feldspar. Colour is a brown-buff.

Large Greywacke Flake Tools. Four unifacial greywacke flake tools were identified (Fig. 54: 1,2; Fig. 55: 4,5), and one bifacial tool (Fig. 54: 2). Although one of the unifacial blades (Fig. 54: 1) is actually made from a green

TABLE 27. Scrapers, DaGv-1, area A.

Variety	Catalogue Number	Length	Width	Thickness	Weight	Scraping Face			Form Variety	Material of Manufacture
						Length	Height	Angle		
End	KL1396	1.35	2.65	.4	2.4	2.5	.3	80°	triangular	brown chalcedony
End	KL1348	1.6	2.4	.45	2.4	2.4	.4	80°	triangular	
End	KL1297	2.1	2.0	.45	1.9	2.0	.45	85°	triangular	red banded chert
End	KL1298	2.1	1.85	.45	2.5	2.1	1.5		triangular	grey chert
AVERAGE		1.78	2.22	.43	2.30	2.25	.66			
Large end	KL1347	4.1	3.2	.65	11.9	3.2	.4	60°	rectangular	green chert
Large end	KL1386	3.45	2.65	.7	8.7	2.4	.2		rectangular	green chert
AVERAGE		3.77	2.92	.67	10.30	2.80	.30			

chert, it is identical in form and manufacture to the greywacke items. This chert "bust off" retains a striking platform 5.7 x .6 cm. and shows pressure retouch and use-wear on the working face, which is 7.0 cm. in length. One of the greywacke tools (KL1313, Fig. 55: 5) has a working face of 7.6 cm. and retains a striking platform 7.6 x .0 cm. in size. The third tool (KL1356, Fig. 55: 4) has a platform 6.4 x 1.1 cm. in size and contains a negative bulb of percussion with definite percussion tension lines visible.

Too, one bifacially worked greywacke tool was recovered. Although no striking platform remains, the impact zone of a percussion blow used to create the tool is visible. As the composition of the greywacke is variable, this tool seems to represent some of the more altered greywacke, and appears to have a greater hardness and poorer cleavage. This may account for the necessity of the bifacial retouch. Metrical data are given in Table 28.

Celt. (KL1354, Fig. 55: 1). One celt was obtained. It is made from a heavily altered black slate which has been patinated on one side to a yellow-green colour. This material is not local in origin. Polishing and striations are visible on the bit face, 4.5 cm. in length. Retouching is present on all three sides, the proximal end being absent through breakage. Length is 11.5 cm., width 4.4 cm., thickness 1.5 cm., and weight 86.2 gm.

Utilized Flake. (KL1397 Fig. 53: 14). One utilized flake of grey chert was recovered. Length is 4.4 cm., width 3.0 cm., thickness .9 cm., and weight 11.1 gm.

TABLE 28. Greywacke flake tools, DaGv-1, area A.

Artifact Type	Catalogue Number	Length (cm)	Width (cm)	Thickness	Weight (gm)	Material of Manufacture
Large unifacial grey-						
wacke flake tools	KL 1284	8.4	6.1	1.5	86.0	green chert
	KL 1313	10.0	7.0	.85	62.7	greywacke
	KL 1356	8.25	7.5	1.3	86.0	greywacke
AVERAGE		8.88	6.86	1.21	78.23	
Greywacke bifacial						
tool	KL 1285	8.8	6.1	1.9	82.0	greywacke
AVERAGE		8.8	6.1	1.9	82.0	

TABLE 29. Abraders, DaGv-1, area A.

Artifact Type	Catalogue Number	Length	Width	Thickness	Weight	Material of Manufacture
Abrader	KL1316	12.9	6.3	1.5	160.0	shale
Abrader	KL1400	9.6	3.5	1.7	91.0	shale
Abrader	KL1376	7.3	3.9	.8	37.0	greywacke
Abrader	KL1365	12.9	6.25	1.9	220.7	?
Abrader	KL1320	3.3	2.8	4.5	8.6	?
AVERAGE		9.20	4.55	2.08	103.46	

TABLE 30. Flake data, DaGv-1, area A.

Sample size:	47	
Metrical attributes:	Average length	3.4 cm.
	width	2.4 cm.
	thickness	.6 cm.
	weight	9.7 gm.
Other attributes:	Decortation flake	8-17%
	Percussion bulb	1-2%
	Striking platform	20-42%
	Average width of platform	.4 cm.
	Average length of platform	1.0 cm.

Punch or Perforator. (KL1333 Fig. 53: 15). One punch was recovered and appears to be made from an altered sedimentary rock, although use-wear and patination makes material identification difficult. Length is 5.0 cm., width 2.2 cm., thickness .8 cm. and weight 9.5 gm.

Abraders. A total of five abraders were identified. Two of these (Figs. 53: 16; 54: 3) are made from pieces of slate and show polishing, rubbing and other signs of use-wear. A third implement (Fig. 55: 4) is bar-like in appearance and polishing is confined to the ventral surface. The last two items are rather amorphous objects as regards the exact type of function they were designed for (Fig. 55: 3). Although one is not illustrated, they are almost identical in shape and size. Objects similar to these have been located on other sites. The thick dulled edges on these tools seem

to preclude the possibility of a cutting or scraping function, but perhaps the edges were used for some abrading function, although slight evidence exists of polishing on the body of the artifacts as well. Metrical data for all five abrading tools are given in Table 29 (p. 128).

Area B

Projectiles. One large corner-notched point was recovered (KL1419, Fig. 56: 1). This lance point shows delicate retouching along the edges with slightly larger flakes removed from the body. Absolutely no evidence of edge, base or notch grinding is present. Length is 9.0 cm., width 3.5 cm., thickness .75 cm., and weight 28 gm. The base, which is dove-tailed, is 2.25 cm. in width; shoulder width is 3.3 cm., stem length is 1.9 cm., and neck width is 1.6 cm. The well pronounced notches have a depth (average) of .47 cm. and a width of .35 cm. Material of manufacture is a grey-black banded chert and does not appear to be of local origin.

Scrapers. A total of four complete end scrapers was recovered from area B (Fig. 56: 5,6,7,9). Two of these are random flake scrapers. One (KL1509, Fig. 56: 7) retains a percussion bulb and the other (KL1466) has both a percussion bulb and a striking platform, 1.1 x .45 cm. in size. The other scrapers, both made of quartz, have their proximal ends removed through breakage, but they, too, appear to be flake derived. Metrical data are presented in Table 31.

One large end scraper (KL1514, Fig. 56: 4) was recovered with a scraping face 3.4 cm. long and .5 cm. high. It is

TABLE 31. Scrapers, DaGv-1, area B

Variety	Catalogue Number	Length	Width	Thickness	Weight	Scraping Face			Form Variety	Material of Manufacture
						Length	Height	Angle		
End	KL1449	2.2	2.6	.5	3.8	2.6	.65	70°	rectangular	quartzite
End	KL1466	2.6	2.9	.6	4.5	2.9	.5		triangular	brown chert
End	KL1509	2.4	2.1	.5	2.9	1.8	.4	80°	rectangular	grey chert
End	KL1411	2.75	2.5	1.5	4.4	2.0	.4		sub-triangular	white quartzite
AVERAGE		2.48	2.52	.77	3.90	2.32	.48			

made from pink chalcedony and has been partially destroyed through thermal alteration. Even this large specimen is flake derived, having a well defined bulb of percussion and a striking platform 1.0 x .4 cm. in size. It is 4.8 cm. long, 3.4 cm. wide, .7 cm. thick, and weighs 13.7 gm. One side scraper of black chert (KL1512, Fig. 56: 8) shows signs of thermal alteration. This flake-derived tool has a scraping face of 1.75 cm. and a height of .2 cm. It is 4.2 cm. long, 2.0 cm. wide, .75 cm. thick, and weighs 4.5 gm.

Ceramics. Area B produced by far the greatest amount of ceramics recovered from the Pearl Beach site. Only two rim sherds, however, were recovered. One (Fig. 57: 1) has a thickness of .9 cm. and a straight profile that thins slightly towards the lip. The lip itself is fairly flat, but rises slightly to the exterior surface. Decoration is obscured due to surface deterioration but would appear to be a dentate stamp. Most of the other large sherds (Fig. 57: 2,3,4) belong to this same vessel. A large sherd (Fig. 57: 5) is the only one recovered with a large chevron pattern just barely visible. Decoration technique is dentate stamp. Two sherds from a different vessel (Fig. 57: 6,7) are only partially stamped with a pseudo-scallop shell decoration. They are 1 cm. thick.

A more complex decoration is represented by a sherd (Fig. 57: 8) which is .95 cm. thick. This complex decoration appears to have been made with a double-headed stamp applied in a push-pull fashion.

The remaining sherds (Fig. 57: 9,10,11) are all rocker stamped, and in the case of No. 9, an unstamped space is visible. In addition, sherd No. 11 exhibits predominately rocker stamp decoration but at the extreme right the rocker stamp merges into a dentate stamp. These three sherds average .75 cm. in thickness.

Another rimsherd (not illustrated) is severely deteriorated. This sherd comes from a thinner vessel, being .55 cm. thick. This rimsherd has a slight outward flare and the lip is decorated with pseudo-scallop shell technique. This technique is predominately early and decreases through time in the Laurel Tradition (Wright 1967: 121).

Flake Knife. (KL1414, Fig. 56: 11). This artifact, manufactured from grey chert, has been deftly worked to form a small 2.0 cm. sinuous-edged cutting face. It is 2.9 cm. long, 2.0 cm. wide, .45 cm. thick, and weighs 3.0 gm.

Wedges. (Fig. 56: 12,13). Two artifacts have been assigned to this class. Of these, No. 13 (KL1514) is the best example, showing well defined bi-polar crushing. It is 2.9 cm. long, 2.25 cm. wide, .8 cm. thick, and weighs 3.8 gm. Material of manufacture is a reddish-grey chert.

In regards to the other specimen (KL1511, No. 12), although it shows some bi-polar crushing, it is not well defined. Metrical data are: length, 2.25 cm.; width, 2.0 cm.; thickness, .8 cm.; and weight, 4.0 gm. Material of manufacture is grey chert.

Utilized Flake. (KL1513, Fig. 56: 10). One utilized

flake was recovered from the excavations, having a working face 3.3 cm. long. Use-wear, however, is not well pronounced. The length is 3.4 cm., width 2.25 cm., thickness .6 cm., and weight 4.8 gm. Material of manufacture is grey chert.

Micro Blade. This small unifacial blade (KL1533) is only .9 cm. wide and 2.7 cm. long. Thickness is .3 cm., weight 1.0 gm. It appears to be flake derived, but has been retouched on three sides to form a small rectangular blade. Very fine pressure retouching has been applied, producing a rather steep working edge ranging from .1 cm. to .2 cm. in height.

Large Pecked Adze. (KL1420, Fig. 58: 1). This artifact has been heavily patinated and it is difficult to ascertain the material of manufacture. Technology consists of pecking and grinding. This has produced a tapering symmetrical object that is in sharp contrast to the crude workmanship involved in the greywacke choppers. The bit face is 5.45 cm. long. The proximal end shows distinct battering and pecking. After pecking into shape the artifact was ground and polished to a smooth surface. Weathering has partially destroyed this surface on one side, however. The length is 19.9 cm., width 5.75 cm., thickness 2.8 cm., and weight 458.2 gm.

Small Adze Fragments. (Fig. 56: 2,3). Portions of two small adzes were recovered. They are both made from the same material, although they definitely represent separate artifacts. This material appears to be a type of altered

slate not common locally. Both have been highly polished. The bit face on KL1523 (2) is 4.0 cm. long. Length is 6.2 cm., width 4.5 cm., thickness 1.1 cm., and weight 49.0 gm. Metrical data for KL1525 (3) are: length 7.8 cm.; width 4.4 cm.; thickness .45 cm.; and weight 21.7 gm.

Hammerstones. Two specimens were recovered. One recovered during the excavations shows an extreme amount of battering on its polar ends (KL1409, Fig. 58: 3). It would appear to represent a waterworn cobble, almost a perfect spherical shape, that has been utilized extensively. In wear pattern, shape and colour (brown) it is an excellent example of this aspect of the tool kit found at the site. The length is 9.3 cm., width 8.2 cm., thickness 5.0 cm., and weight 609.0 gm.

Lanceolate Bifacial Greywacke Blade. (KL1434, Fig. 59: 2). This broken blade appears to have had a rough lanceolate shape when complete. It is made from a black greywacke that has patinated to a dark green colour. It is bifacially worked with percussion flaking and some edge retouch. Evidence of use is provided by hinge fracturing and crushing on the edges. Length is 10.0 cm., width 5.3 cm., thickness .8 cm., and weight 37 gm.

Ovoid Unifacial Greywacke Blades. (Fig. 59: 3). Two percussion-derived flakes of greywacke have been retouched to an ovoid unifacial blade. The illustrated specimen (KL1527) is 6.3 cm. long, 5.4 cm. wide, 1.0 cm. thick, and weighs 31.5 gm. The other blade, heavily patinated to a

creamy brown colour, shows a great deal of use-wear in the form of crushing and hinge fracturing. Catalogue number KL1454 is 8.2 cm. long, 6.1 cm. wide, 1.0 cm. thick, and weighs 39.8 gm.

Greywacke Utilized Flake. (KL1528, Fig. 59: 4). This percussion-derived, blade-shaped flake shows evidence of slight use on a working face 7.6 cm. long. Length is 9.2 cm., width 3.8 cm., thickness .9 cm., and weight 26.0 gm.

Bifacially Chipped Greywacke Chopper. (KL1526, Fig. 59: 1). This artifact shows an unusually high degree of workmanship; too, it has been retouched to form a rough rectangular shape. As well, this artifact appears to be core derived rather than being a simple retouched "bust-off" flake, as are the majority of the greywacke tools. It is 11.3 cm. long, 10.9 cm. wide, 2.0 cm. thick, and weighs 240 gm.

Large Greywacke Flake Tools. (Figs. 58: 2; 59: 5,6). These tools are not as large or well defined as those at area C. As with the greywacke tools found at other sites, a wide range of sizes and shapes is represented as well as extent of use-wear and retouch. In general, the flake tools found at area B do not show a great deal of use-wear, indicating the random use made of these tools. Specimen KL1458 retains a striking platform and percussion bulb. The platform is 9.2 cm. long and 2.0 cm. wide. Too, artifact KL1460 has a clearly-defined percussion impact scar. These clearly illustrate the "bust-off" nature of these artifacts.

TABLE 32. Greywacke flake tools, DaGv-1, area B.

Artifact Type	Catalogue Number	Length	Width	Thickness	Weight	Material of Manufacture
Large unifacial flake chopper	KL1504	18.75	8.6	.85	215.0	greywacke
Large unifacial flake chopper	KL1458	15.1	8.9	1.55	99.5	greywacke
Flake tool	KL1459	11.2	8.0	1.6	110.0	greywacke
Unifacial flake tool	KL1433	13.1	6.2	.6	85.4	patinated greywacke
Flake tool	KL1460	10.8	7.1	.9	60.0	greywacke
AVERAGE		13.79	7.76	1.10	113.98	

Metrical data are given in Table 32.

TABLE 33. Flake data, DaGv-1, area B.

Sample size:	74	
Metrical attributes:	Average length	4.0 cm.
	width	2.7 cm.
	thickness	.6 cm.
	weight	8.4 gm.
Other attributes:	Decortation flake	6-8%
	Percussion bulb	1%
	Striking platform	15-20%
	Average width of platform	.4 cm.
	Average length of platform	1.6 cm.

Area C

Projectile Points. Two projectile points were recovered during the excavations at area C. Of great interest is the heavily patinated projectile point KL1544 (Fig. 60: 1). This specimen bears a remarkable resemblence to the Acasta Lake point type described by Wm. C. Noble (1971: 104,120). The form of this point is simply a lanceolate point with the addition of side notches. Even more interesting is that its size falls within the range of the Acasta Lake point type. This presents a problem of major proportions if one is to accept an Acasta Lake typing for this projectile, for the Acasta Lake site is dated at 5020±360 B.C. (Noble 1971: 104), and is located in the central District of MacKenzie.

Metrical data are as follows: length, 6.35 cm.; width, 2.4 cm.; thickness, .75 cm.; weight 11.0 gm. Base width is 1.8 cm., shoulder width 2.05 cm., stem length 1.65 cm., neck width 1.55 cm., notch height .4 cm., and notch depth .25 cm. Material of manufacture is a heavily-patinated grey-white chert with a smear of brown coloured material on one side of the base. It is bifacially chipped and has a sinuous edge. No evidence of edge or base grinding is present. Although the point may not be related in any way to the Acasta Lake complex, its form and association with large bi-pointed and crude uni-pointed plano-convex quartzite implements suggest an early cultural complex for this geographical locality; a date of 3-4000 B.C. does not seem unreasonable.

A second projectile point (KL1591, Fig. 60: 2) consisting of a base portion of a side-notched point was also recovered. This point, manufactured from a grey quartzite, has a "dove-tailed" base.

Scrapers. Two end scrapers were recovered from area C. Specimen KL1664 (Fig. 60: 6) has a scraping face 2.2 cm. long with a height of .2 cm. It is made of white-grey chert and is 3.0 cm. long, 2.01 cm. wide, .5 cm. thick, and weighs 27 gm. A second end scraper, KL1638 (Fig. 60: 4), has a scraping face 1.8 cm. long and .4 cm. high. It is flake derived from a piece of brown chert, being 1.8 cm. long, 2.1 cm. thick, and 1.1 cm. wide; weight is 2.6 gm. Although both are flake derived, the former specimen, KL1664, is especially interesting in that the striking platform is located adjacent to the scraping face rather than being located at

the proximal end of the tool. The platform is .5 cm. long and .15 cm. wide.

Ceramics. Only one decorated sherd was recovered from area C (Fig. 60: 3). This sherd is 5.5 cm. thick and is decorated with a pseudo-scallop shell motif. One other sherdlet is .6 cm. thick. Both are a uniform buff colour characteristic of all the pottery at this site.

Biface Blades. A total of five biface blades were identified. These are as follows: KL1615 (Fig. 60: 7), KL1616 (Fig. 60: 8), KL1580 (Fig. 60: 5), KL1568 (Fig. 60: 11), KL1622 (Fig. 60: 12). All of these artifacts are broken to various extents. Two are very thin flake-derived artifacts, while KL1580 and KL1615 represent core-derived bifacial tools. Metrical data are given in Table 34.

Utilized Flake. (KL1617, Fig. 60: 13). A large flake of white patinated chert shows evidence of random use. It is 5.4 cm. long, 4.2 cm. wide, .8 cm. thick, and weighs 13.0 gm.

Linear Flake. KL1604, Fig. 60: 10). A ridged flake of buff-coloured chert is 5.4 cm. long, 3.2 cm. wide, .35 cm. thick, and weighs 7.2 gm.

Hammerstone. (KL1589, Fig. 61: 4). A single hammerstone was recovered. It is made from a dense volcanic rock and shows pronounced battering at one end. It is 9.3 cm. long, 4.8 cm. wide, 3.9 cm. thick, and weighs 264.0 gm.

Adzes. Three adzes in various stages of manufacture and quality were recovered. These are: KL1587 (Fig. 61: 1), KL1575 (Fig. 61: 2) and KL1586 (Fig. 61: 3). Material of

TABLE 34. Biface blades, DaGv-1, area C.

Artifact Type	Catalogue Number	Length	Width	Thickness	Weight	Material of Manufacture
Biface blade (broken)	KL1616	2.75	2.25	.6	5.6	greywacke
Biface blade	KL1568	6.9	4.4	.6	19.8	greywacke
Biface blade (Lanceolate broken)	KL1615	15.6	3.4	.1	14.0	brown chert
Biface blade (broken)	KL1580	4.1	3.8	1.1	25.0	brown chert
Biface blade	KL1622	6.9	4.45	.4	15.6	grey chert
AVERAGE		7.25	3.66	.56	16.0	

manufacture appears in all cases to be an altered slate or greywacke. Specimen KL1587 has a bit face 4.2 cm. wide and, although the surface has deteriorated through weathering, evidence of grinding and polishing remains. Similar evidence is present regarding KL1575. Specimen KL1586 seems to represent an adze in the process of manufacture. Crude attempts at shaping are evident but little or no development of the bit face has been attempted. Metrical data are provided in Table 35.

Core Implements of Quartzite, Greywacke and Altered Sedimentary Rocks. These artifacts are distinguishable from other tools located during the excavations because they represent a class of large chopping-cutting tools that are core- rather than flake-derived. Several different types can be distinguished. Generally they could be classed as flaked bifacial choppers.

Uni-pointed Bifacial Implement. (KL1651, Fig. 63: 5). This tool is very similar to those recovered by Frank Ridley (1964) at Lake Abitibi and generally assigned to the Shield Archaic. There is a well-defined sinuous edge to this artifact and the body has been shaped by rough but skilful percussion blows.

Broken Core Chopper. (KL1558, Fig. 63: 4). This artifact represents a broken core tool, perhaps one in the primary stages of manufacture as only the beginnings of a unifacial side are evident. It seems likely that the piece

TABLE 35. Adzes, DaGv-1, area C.

Artifact Type	Catalogue Number	Length	Width	Thickness	Weight	Material of Manufacture
Adze	KL1587	8.5	4.4	1.1	81.0	greywacke
Adze (preform)	KL1586	13.6	4.8	1.5	140.0	greywacke
Adze (fragment)	KL1575	9.0	5.65	1.0	94.0	greywacke
AVERAGE		10.36	4.95	1.20	105.00	

broke during the manufacturing process and was abandoned. Metrical data are presented in Table 36.

Crude Adze or Pick. (KL1599, Fig. 63: 1). This artifact is bifacially percussion flaked from a greenstone-like sedimentary rock having a rather coarse grain. Heavy battering is visible along the edges and at the distal end where a possible bit face of 5.4 cm. is available. Some highly polished areas are visible on one face, these may represent the original surface or more likely are a result of use. This would indicate that the edges not the end were the primary working faces of the artifact. For metrical data, see Table 36.

Preforms. Preform (1) (KL1539, Fig. 63: 2) is an important find which shows the process and technology involved in manufacturing a plano-convex unifacial pointed tool. First it appears that a large core or block of raw material was chipped in a crude cylindrical form. Then, using percussion flaking, a unifacial side was chipped out. This unifacial side then served as a striking platform from which alternate flakes were removed, producing a sinuous edge. Finally, the plano or dorsal side was trimmed down. Metrical data are given in Table 36.

Preform (2) (KL1547, Fig. 63: 3) shows a core chopper in the process of being manufactured. Technique here seems to be a case of bifacial percussion blows directed alternately from the dorsal and ventral surfaces to produce a sinuous-edged cutting tool. See Table 36 for metrical data.

TABLE 36. Greywacke core tools, DaGv-1, area C.

Artifact Type	Catalogue Number	Length	Width	Thickness	Weight	Material of Manufacture
Core preform (1)	KL1639	11.3	5.0	4.3	181.5	altered greywacke
Uni-pointed biface	KL1651	11.5	5.2	2.6	142.9	quartzite
Core preform (2)	KL1547	9.4	5.6	3.2	164.8	altered greywacke
Broken core chopper	KL1558	5.8	6.1	3.6	160.6	altered greywacke
AVERAGE		9.50	5.47	3.42	162.45	

Ovoid Bifacial Greywacke Blade. (KL1556, Fig. 62: 4). A single specimen is reported. Large percussion flakes have been removed from both the dorsal and ventral surfaces. Length is 6.9 cm., width 5.7 cm., thickness .7 cm. and weight 34.0 gm.

Uni-pointed Bifacial Greywacke Blade. (KL1621, Fig. 62: 2). This single specimen has been bifacially percussion flaked. Evidence of use-wear is present in the form of crushing and hinge fracturing on both edges. It is 11.0 cm. long, 4.2 cm. wide, 1.2 cm. thick, and weighs 60.5 gm.

Chipped Greywacke Ulu. (KL1576, Fig. 61: 5). Two other similar tools to this were recovered during my 1972 survey (Pollock 1972). In all cases, these were not true ulus as the dominant manufacturing method is percussion and retouch flaking rather than grinding. Wear patterns, however, suggest that these implement served a ulu-like function and were hafted along the straight upper edge. The specimen recovered is manufactured from a large greywacke percussion "bust-off" flake and retains a striking platform 10 cm. long and .65 cm. wide forming the back. Metrical data are: 10.5 cm. long; 5.7 cm. wide; .9 cm. thick; and weighs 67.4 gm.

Bi-pointed Uniface Greywacke Blade. (KL1557 Fig. 62: 1). This was the only artifact of this type recovered from excavations, but at least one other has been surface collected at this site (Fig. 51: 1). It is heavily patinated and rather crudely percussion flaked. Hinge fracturing and

crushing are present. Metrical data are as follows: length, 11.7 cm.; width, 2.94 cm.; thickness, 1.15 cm.; and weight, 44.2 cm.

TABLE 37. Flake data, DaGv-1, area C.

Sample size:	82	
Metrical attributes:	Average length	4.5 cm.
	width	2.5 cm.
	thickness	.8 cm.
	weight	13.1 gm.
Other attributes:	Decortation flake	1-1%
	Percussion bulb	0
	Striking platform	36-44%
	Average width of platform	.4 cm.
	Average length of platform	1.2 cm.

Large Greywacke Flake Tools. Eight artifacts assignable to this category were recovered from the excavations at area C. These tools exhibit a great variety of form and size indicating their random nature of manufacture. Virtually all are the product of "bust-off" flakes. Many retain the original striking platform with its impact cone and percussion rings and stria. All show use-wear through numerous hinge fractures and crushing on the variable working faces. These tools were likely used for many purposes, but one would suggest a butchering or fish cleaning function. Perhaps, also, they served as preliminary scraping and fleshing tools in the processing of hides and food ma-

terials. Of the eight recovered, four are illustrated: KL1545 (Fig. 64: 2); KL1602 (Fig. 64: 1); KL1570 (Fig. 62: 3,5). Metrical data are given in Table 38.

Surface Collections

Projectile Points. One complete point, 2 basal fragments and one projectile tip were recovered from the beach surface and submerged portions of this site during 1972. The large side-notched point (S1351, Fig. 48: 1) is made from an unusual green silicious material resembling an altered greywacke. The form is very atypical. The point is of a rather uniform thickness, body flaking consisting of broad flake scars. The edges have been finely retouched to form a slightly sinuous profile. The deep notches show similar signs of retouch, although no grinding is discernible. The base has undergone basal thinning. This point does not fit any description of known point types, and, thus, must either represent a new form or else represents simply an aberration. A single basal fragment of a stemmed point was recovered (S1253, Fig. 48: 2) made from grey rhyolite; it has been severely water tumbled. It appears, however, to have been broken during manufacture due to its thickness and unfinished appearance. A basal section of a "dove-tailed" point (S1252, Fig. 48: 3) of milky-white quartzite was recovered from the submerged portion of the site. Due to wear by water tumbling, it is impossible to make any technological inferences. The tip of a point of green chert completes the 1972 surface collection for projectile points. Metri-

TABLE 38. Greywacke flake tools, DaGv-1, area C.

Artifact Type	Catalogue Number	Length	Width	Thickness	Weight	Material of Manufacture
Large unifacial flake chopper	KL1601	16.3	11.0	2.2	350.6	greywacke
Large unifacial flake chopper	KL1546	12.7	9.3	1.4	171.7	greywacke
Large unifacial flake chopper	KL1545	16.8	13.1	2.2	511.6	greywacke
Large unifacial flake chopper	KL1602	18.45	9.8	1.7	381.5	greywacke
Large unifacial flake chopper	KL1629	20.3	13.1	1.65	587.4	greywacke
Large unifacial flake chopper	KL1650	16.2	5.9	1.35	183.0	greywacke
Large unifacial flake chopper	KL1570	11.6	7.6	1.5	123.0	greywacke
AVERAGE		16.05	9.97	1.71	329.82	

cal data are given in Table 39.

Projectile Point Tip.(KkI682 , Fig. 51: 4). A single finely-made projectile point tip of grey quartzite was recovered. Edge treatment consists of very fine pressure flaking. It is 1.75 cm. long, 1.6 cm. wide, .35 cm. thick and weighs 1.0 gm.

Scrapers. Five small end scrapers (less than 10 gm. in weight), three large end scrapers and one ovoid stemmed scraper were recovered during surface reconnaissance of the site in 1972. The five small end scrapers (Fig. 48: 9,10, 11,12,13) are all flake derived of various cherts and chalcedonies. Metrical data are given in Table 40. The three large end scrapers (Fig. 48: 5,6,8) are excellent specimens of Shield Archaic tools. Nevertheless, they are all flake derived of a banded chert, a grey chert and quartzite respectively. All show some evidence of dorsal retouch, and No. 5 has a remnant striking platform 1.4 cm. long by .3 cm. wide attached. Of particular interest is the ovoid scraper (Fig. 48: 7) which has been broken off at its stem. Stem width at the break is 1.9 cm. wide by 1.7 cm. thick. Material appears to be a grey chert that has patinated to a cream colour. Extensive retouch is evident on the dorsal surface. Metrical data for all the above are given in Tables 40 and 41.

An end scraper of banded chert, recovered during 1973, has a scraping face 2.7 cm. long and 4.5 cm. high. It is flake derived (Fig. 51: 3) and shows dorsal retouch. Metrical data are: length, 3.1 cm.; width, 2.7 cm.; thickness,

TABLE 39. Projectile points, DaGv-1, surface.

Variety	Catalogue Number	Length	Width	Thickness	Weight	Base Width	Stem Length	Material of Manufacture
Side-notched	S1251	7.9	4.3	8.0	28.27	3.9		quartzite greywacke
AVERAGE		7.9	4.3	8.0	28.27	3.9		
Stemmed (base only)	S1253	5.2	2.7	1.0	15.68	1.45	1.45	grey rhyolite
Side-notched (base only)	S1252	3.0	2.7	.5	5.92	2.4		
Tip only	S1291	1.8	2.0	.65	2.35			green chert
AVERAGE		3.33	2.46	.71	7.98	1.92	1.45	

TABLE 40. Scrapers, DaGv-1, surface.

Variety	Catalogue Number	Length	Width	Thick-ness	Weight	Scraping Face		Form Variety	Material of Manufacture
						Length	Height Angle		
End	S1292	3.0	2.5	.6	3.95	2.3	.5	triangular	grey chert
End	S1293	2.3	2.1	.8	4.11	2.1	.65	rectangular	white-grey chert
End	S1285	2.0	2.3	.55	2.21	2.3	.5	triangular	black chalcedony
End	S1294					2.55	4.0	triangular	
End	S1295	2.1	2.55	.7	4.13	2.0	4.5	rectangular	green chert
AVERAGE		2.35	2.36	.66	3.60	2.25	2.03		

TABLE 41. Large end scrapers, DaGv-1, surface.

Variety	Catalogue Number	Length	Width	Thick-ness	Weight	Scraping Face Length	Scraping Face Height	Form Variety	Material of Manufacture
Large end	S1257	5.7	4.0	.9	20.59	3.8	.85	rectangular	banded chert
Large end	S1256	3.8	3.9	1.0	15.75	3.8	1.4	rectangular	pale grey chert
Large end (broken)	S1259	2.4	4.1	1.0	12.8	3.8	.9	rectangular	white quartzite
AVERAGE		3.96	4.0	.96	16.38	3.8	1.05		
Ovoid, stemmed	S1254	3.3	3.4	1.4	14.8	3.1	.8	ovoid	grey chert
AVERAGE		3.3	3.4	1.4	14.8	3.1	.8		

5.5 cm.; and weight, 4.8 gm.

Large Biface Blades. Three biface blades were surface collected. One specimen (Fig. 48: 14) is made from green chert which has patinated to a creamy-white colour on the surface. The general shape and dimensions of this tool are those which are common on a number of sites in the area. Another implement (Fig. 48: 15) is made from an unusual grey quartzite. Although rare, this grey quartzite is also found on the Montreal River system to the west. One edge has been retouched to form a working face 5.7 cm. in length. A third biface (Fig. 48: 16) is manufactured from greywacke and shows percussion flaking on both faces. The edges have been retouched and are slightly sinuous in profile. Some attempt has been made to thin this tool at one end. (Table 42)

An excellent example of a biface blade with an incipient stem (Fig. 51: 2) was recovered from the water's edge. Heavily patinated and water tumbled, it originally appears to have been a piece of green chert bifacially worked with a sinuous edge profile. Metrical data are: length, 6.7 cm.; width, 3.9 cm.; thickness, 1.4 cm.; and weight 25.8 gm. Catalogue number is KL1677.

Biface Blade Fragment. (KL1680, Fig. 51: 7). A bifacial tool fragment has a cutting face 5.3 cm. long and is manufactured from green chert. Length is 5.4 cm., width is 3.3 cm., thickness is .6 cm. and weight is 11.7 gm.

Chipped Semi-lunar Blade or Ulu. (KL1671, Fig. 51: 8). This distinctive implement has been found elsewhere in the

TABLE 42. Biface blades, DaGv-1, surface.

Artifact Type	Catalogue Number	Length	Width	Thickness	Weight	Material of manufacture
Biface blade	S1262	7.2	4.3	1.7	55.6	grey quartz
Biface blade	S1264	7.4	4.7	1.4	43.17	greywacke
Biface blade	S1250E	4.5	3.1	2.5	32.4	quartz
AVERAGE		6.36	4.03	1.86	43.72	

area (Pollock 1972). This particular tool has been shaped by chipping a piece of slate which had been detached by a single percussion blow. The remnant striking platform measures 3.1 cm. long, 1.5 cm. thick. The working face, 12.0 cm. in length, shows a great deal of hinge fracturing and crushing extending as much as 1.3 cm. back from the working edge. This tool was found to the west of area C excavated in 1973. It is 12.8 cm. long, 7.2 cm. wide, .5 cm. thick, and weighs 61.7 gm.

Uniface Blade. (KL1687, Fig. 51: 9). This unifacial blade of an unidentified material has patinated to a golden-brown colour. The edge opposite the working edge, which is 7.85 cm. in length, is rather thick, making it easy to hold in the hand. It is 8.4 cm. long, 3.8 cm. wide, 1.1 cm. thick, and weighs 36.0 gm.

Bi-pointed Unifacial Blade. (KL1678, Fig. 51: 1). This blade, manufactured from greywacke, has a working face on either side. Although hinge fracturing is present, the artifact has been water tumbled making inferences difficult. Metrical data: length, 9.9 cm.; width, 3.4 cm.; thickness, .9 cm.; and weight, 28.0 gm.

Large Greywacke Flake Choppers. Four large "bust-off" or flake combination scraping-cutting-butchering-fish cleaning tools were recovered. Two of these (S1246, Fig. 49: 1; S1247, Fig. 49: 2) are illustrated. These tools have generally well defined striking platforms and use-wear is typically indicated by crushing and hinge fracturing due to

the relative softness of the material of manufacture. Metrical data for this class of tools distinctive to the area are given in Table 43.

Bifacial Core Chopper. (S1245, Fig. 50: 3). This bifacial core tool is manufactured from greywacke. It is the only tool of its type recovered from the site. It can be assigned to area C; the area where, in 1973, the oldest artifacts were found during excavations. Similar core tools were found in the lower levels of Abitibi Narrows site by Frank Ridley (1964). This particular artifact has been shaped primarily by large percussion blows, and has a well-defined sinuous edge. Some writers refer to these artifacts as "turtle cores" or "turtle core choppers". Metrical data are: length, 16.0 cm.; width, 8.0 cm.; thickness, 3.2 cm.; weight, 573.7 gm.

Celt. (S1248, Fig. 50: 3). This celt has been pecked and ground into shape. Only the bit end has been recovered. This tool is significant for it represents one of two celts that have been pecked and ground into the same general shape from the site. The other celt was recovered from the 1973 excavations in area B. Roughly plano-convex in cross-section, evidence of heavy use-wear and polishing is present on the ventral side. Metrical data are: length, 14.2 cm., (broken) width 6.0 cm.; thickness, 3.8 cm.; and weight 500.1 gm. Material of manufacture is undetermined.

Small Biface Blades. Two small biface blades were recovered. One specimen (S1282) is a tabular bifacial tip

TABLE 43. Large greywacke flake tools, DaGv-1, surface.

Artifact Type	Catalogue Number	Length	Width	Thickness	Weight	Material of manufacture
Large unifacial flake chopper	S1246	18.4	9.5	2.2	494.9	greywacke
Large unifacial flake chopper	S1247	13.7	9.6	2.1	340.0	greywacke
Large unifacial flake chopper	S1243c	10.1	8.8	1.8	229.25	greywacke
Large unifacial flake chopper	S1266	10.6	6.2	.7	58.2	greywacke
AVERAGE		13.20	8.52	1.70	280.58	

fragment of green chert. It is 3.2 cm. long, 2.7 cm. wide, .7 cm. thick, and weighs 6.7 gm. Another bifacial fragment (S1281) represents the tip of a cylindrical implement of brown chert. It is 2.6 cm. long, 2.6 cm. wide, 1.6 cm. thick, and weighs 9.4 gm.

Small Unifacial Blade. One small unifacial blade was obtained. It is of a creamy-brown chert and has a working edge of 4.1 cm. This tool, except for the extremely low angle of its working face, could be classed as a side scraper.

Uniface Blade Fragment. (KL1679 Fig. 51: 6). A unifacial blade fragment of greywacke has a curved working face 4.7 cm. in length. It is 5.1 cm. long, 4.0 cm. wide, .8 cm. thick, and weighs 16.7 gm.

Uni-notched Knife. (S1263). A uni-notched knife of grey slate was recovered during 1972. This artifact shows use polish and edge crushing. It is 8.7 cm. long, 4.5 cm. wide, 1.0 cm. thick, and weighs 42.25 gm.

Linear Flakes, Unifacial Flake Knives and Microblades. Several linear flakes which have been utilized as unifacial flake knives are present in the surface collection. One specimen (S1261) is manufactured from quartzite and is 5.4 cm. long, 1.9 cm. wide, and .7 cm. thick. Weight is 9.0 gm. One end has been retouched to form a working face .9 cm. long, while the proximal end terminates in a striking platform .3 cm. wide and 1.1 cm. long.

Too, several small microblade-like tools are present,

although many seem to represent utilized flakes. None is deliberately retouched.

Utilized Flake. (KL1672 Fig. 51: 5). One utilized flake of patinated chert is 3.4 cm. long, 2.5 cm. wide, .6 cm. thick, and weighs 5.4 gm.

TABLE 44. Flake data, DaGv-1, surface.

Sample size:	110	
Metrical attributes:	Average length	4.3 cm.
	width	2.9 cm.
	thickness	.8 cm.
	weight	no figures given
Other attributes:	Decortation flake	14-12%
	Percussion bulb	28-25%
	Striking platform	34-30%
	Average width of platform	.6 cm.
	Average length of platform	2.6 cm.

Cores. Several cores (not illustrated), especially of greywacke, were collected.

Red Ocher. Numerous pieces of red ocher were surface collected in 1972, mainly from the vicinity of area A excavated in 1973.

Large Greywacke Core. (KL1723 Fig. 52: 1). One of the largest cores recovered to date came from the surface of the site in 1973. This greywacke core, which weighs over 10 lbs., has had at least 6 large flakes removed. Average widths of these flakes are 6.1 cm., 4.7 cm., 5.2 cm., 6.0 cm., 4.6 cm.,

and 4.0 cm. The core is 17.2 cm. long and 15.9 cm. wide by 9.3 cm. thick. The remaining platform measures 7.4 x 8.8 cm. It should be noted that this core is uni-polar, that is all flake removal has been done from one end of the core only.

The following artifacts (not illustrated) were collected by Dr. Wm. C. Noble from the surface of the Pearl Beach site in August 1973, and kindly loaned to the writer for study.

Pick. (KL1699). An unusual tool was collected from feature 2 in area B excavated in 1973. This pick-like implement is 26.5 cm. long, 4.4 cm. wide and averages 1.7 cm. thick. A chipped bit face 3.0 cm. wide is present at one end. The tool is unifacial on the ventral side and is plano-convex in cross-section. Some evidence of use-wear is present along the lateral edges in the form of spall flakes and hinge fracturing. This raises the possibility that this tool also functioned as a draw-knife or plane or especially as a beamer for hide working. Weight is 275 gm.

Uniface Blades. Two unifacial blades roughly rectangular in outline were recovered. Specimen KL1708 is made from a retouched percussion flake which has been retouched to form a working face 7.1 cm. long. Length is 7.5 cm., width 5.4 cm., thickness .9 cm., and weight 34 gm. Specimen KL1700 is also made from a large flake, this time of greywacke. Evidence of use is visible in the form of hinge fracturing and crushing on three sides. Length is 7.8 cm., width 4.9 cm. and thickness 7.5 cm. Weight is 34.5 gm. This artifact

was also recovered from the surface of feature 2 in area B excavated in 1973.

Scrapers. Two scrapers were recovered from the surface by Dr. Noble in August. One of these (KL1705) is a small thumbnail scraper; the smallest recovered from the site. Made of a brown chalcedony, this flake-derived tool has a small platform .7 cm. long by .2 cm. wide at its proximal end. The distal end terminates in a working face 1.3 cm. wide and 3.5 cm. high. Length is 1.5 cm., width 1.45 and thickness .4 cm. Weight is 1 gm. A second scraper (KL1706) is manufactured from a grey chert which has been water tumbled. Flake derived, it has a scraping face 3.2 cm. long and 1.6 cm. high. Length is 2.8 cm., width 3.2 cm., and thickness 5.5 cm. Weight is 6 gm.

Hammerstone. (KL1698). One hammerstone of a green volcanic rock shows well defined pitting and use on both polar ends and along one side. Length is 7.1 cm., width 6.55 cm., thickness 4.5 cm., and weight 328.5 gm.

Rimsherd. (KL1704). One partially destroyed rimsherd was recovered that is a grit-tempered light brown ware. The lip is .5 cm. wide and thickness averages .9 cm. The exterior decoration is almost completely destroyed, but may be pseudo-scallop shell or dentate stamp. Dr. Noble would assign this sherd to the Laurel Tradition.

5

ARCHAEOLOGICAL ANALYSIS AND DISCUSSIONS

Archaeologists have divided the past into various time periods. In Ontario, the overall periods are known as the Palaeo-Indian, the Archaic, the Middle Woodland, the Late (Terminal) Woodland and the Historic eras. Different cultural traditions are found in various regions during the same time periods, and in Kirkland Lake District the following cultures were found, as presented in Table 45.

TABLE 45. Cultures found in Kirkland Lake District.

Time	Era	Culture/Tradition
1650 - present	Historic	Historic Algonquins
1000 - 1650	Terminal Woodland	Northern Algonquins
200 B.C. - 500 A.D.	Middle Woodland	Laurel
2000 - 800 B.C.	Archaic	Shield Archaic
3000 B.C. - ?	Archaic	Shield Archaic

As cultural units represented by archaeological sites are extremely variable in time and geographical distribution, archaeologists have devised certain basic descriptive terms to show the basic time-space interrelationships between large numbers of archaeological sites. The three basic terms used in this report are component, phase (complex) and tradition. An archaeological component is equivalent to a single cultural representation (i.e., a site): however, if the site was stratified, each stratigraphic layer if significantly different in time or cultural content from the

others would be a separate component. If several, culturally similar components were found to be distinctive within a region, this grouping of components representing a geographical area would be called a phase. Thus, a phase represents a regional-orientated culture within a relatively short temporal span. The highest level of cultural description in Ontario archaeology is the tradition. For the purposes of this thesis, tradition is used in the same sense as that defined by MacNeish (1964: 16), Wright (1966: 14; 1967: 2), and Noble (1971: 104), namely:

> ...a tradition is a distinct way of life reflected in the diagnostic material culture of a series of generically related complexes (phases), which persist through appreciable time and across space. In specific cases, the tradition may conceivably develop from a fusion of several traditions, and it may also give rise to a number of closely related historic groups. (Noble 1971: 104).

Table 46 presents the components, phases and traditions found in Kirkland Lake District. In addition, some hypothetical or postulated traditions and phases are listed below. These are included in the discussions because of two factors: (a) they are either represented in nearby geographical areas which had an influence on the area of study, or (b) they are too weakly represented or defined within the limits of the present data to be presented as definitely occurring in Kirkland Lake District.

A short description and definition of each will be presented, beginning with the two postulated cultural traditions.

TABLE 46. Chronology of analysable sites in Kirkland Lake District.

Time	Tradition	Phase	Component(s)
1750-present	Ojibwa and Cree	Temagami	Matachewan Lake Temagami
1650-present	Historic Algonquians	North Temiskaming	North Temiskaming Ghost River
1000 A.D.-1650 A.D.	Northern Algonquins	Duncan Lake	Duncan Lake Pearl Beach Area A
300 B.C.-500 A.D.	Laurel	"Eastern" Laurel	Area A, B, C, Pearl Beach. Some Laurel present at Smoothwater and Duncan Lake sites.
2000 B.C.-800 B.C.	Shield Archaic	Mattawan	Smoothwater Lake site
3000 B.C.-2000 B.C.	Shield Archaic	Abitibi Narrows	Pearl Beach, Areas B, C and surface
*4000 B.C.-3000 B.C.	Laurentian Archaic		Surface finds, lower level of the Montreal River site.
*5000 B.C.-4000 B.C.	Northern Plano		Pearl Beach, Area C

* hypothetical or postulated for this area.

THE NORTHERN PLANO TRADITION

This tradition has been defined in part by Harp (1961: 52-3), Irving (1968), Noble (1971: 104-5), and Wright (1972: 75-8; 1973: 168). Unfortunately, these definitions are based on materials that are geographically distant from the study area. Generally the origins of this tradition are thought to lie in the northern plains (Noble 1971: 105). J. V. Wright believes that the subsequent adaptation of these people from bison hunting to caribou hunting represents a "long term and expanding adaptation relative to glacial retreat and not a simple switch from bison hunting to caribou hunting" (Wright 1972: 76). As Noble and Wright disagree over the concept of two separate Plano expressions in central Keewatin District (Wright 1972: 76), and pending resolution of the problem, we will present the currently available evidence.

At the Acasta Lake quarry/habitation site (LiPk-1) in the central District of Mackenzie, W. C. Noble reports classic Agate Basin points along with side-notched Acasta Lake points, bulbous stemmed Kamut points as well as stemmed and incipient stemmed points. Too, large quantities of uni- and bipointed biface blades were recovered with a plan-convex cross-section, manufactured from a white, possibly thermally-treated quartzite; as well, large stemmed scrapers were recovered. Characteristic features included buried pit hearths (Noble 1971: 104-5). The Acasta Lake site has been radiocarbon dated at 5020 B.C. $\pm$ 360 years (Noble 1971: 104).

At the Grant Lake site (KkLn-2) excavated by J. V. Wright in 1973, over 400 Agate Basin artifacts were recovered from within scattered tent rings. These included projectile points, scrapers, knives, chipped and ground adzes, circular chithos, bifacially flaked wedges, flake knives and serrated edge scrapers or saws (Wright 1973: 168). No radiocarbon dates are yet available for this component.

It is interesting to note that, to the east in the Province of Quebec, Charles A. Martijn (1969: 312,318,324-27) has defined a late plano tradition complex (phase) called the Temiscamic Comples, "an apparently late manifestation of the Plano Tradition" which may have "originally developed as a basic subsistence pattern of woodland caribou hunting in the Great Lakes area of northern Ontario" (Martijn 1969: 327). Further intensive research is needed to substantiate the Northern Plano phase in Kirkland Lake District. In any case, one would expect that dates for this phase would fall much later than those to the northwest, perhaps around 4500 B.C.

THE LAURENTIAN TRADITION

The Laurentian Tradition has been defined as:

> ...an extensive Archaic cultural continuum, widely spread throughout northeastern North America, with its major area of development and diffusion within southeastern Ontario, southern Quebec, northern New England, and northern New York. Its most diagnostic traits, occurring in considerable morphological variety, comprise the gouge; adz; plummet; ground slate points and knives, including the semi-lunar form or ulu which occurs also in chipped stone; simple forms of the bannerstone; a variety of chipped-stone projectile points, mainly

> broad-bladed and side-notched forms; and the barbed bone point. (Ritchie 1965: 79-80).

Two phases of Laurentian are present in the Ottawa Valley to the south. (It should be noted that the Kirkland Lake District comprises the northernmost headwaters area of the Ottawa River in Ontario; namely, the Blanche and Montreal River systems draining into Lake Timiskaming.) The two Laurentian phases found on the lower Ottawa River are the Vergennes and Brewerton phases. Brewerton, dating circa 2500 B.C. (Fitzhugh 1972: 9), does not penetrate into the area of study. The possibility of a weak early Vergennes occupation or influence, however, is a distinct possibility. This is especially so because

> Laurentian seems to have coexisted with the Shield Archaic to the North, with a zone of intersection overlapping the two provinces (Wright n.d.) and with the Maritime Archaic on the East (Fitzhugh 1972: 9).

Too, an early Vergennes-like horizon is present to the south at the Allumette Island-1 site on the Ottawa River (Fitzhugh 1972: 11).

Just to the south of the Kirkland Lake District, Dean Knight reports two Archaic occupations for the Montreal River site (CgCu-1).

> The lowest one is characterized by large crude bifacial tools of shaly-slate, a number of different types of scrapers, a few broken projectile points of argillite and some unifacial cutting tools. The second Archaic occupation...is characterized by tools and chopping debris of yellow quartzite and shale, a number of projectile points, scrapers and unifacial cutting tools. (Knight 1969: 13).

The lower level of the Montreal River site has been dated at 3080±180 B.C. (Knight: no pagination). Knight (1969: 13)

reports, "large bifacial tools of shaly slate, a number of different types of scrapers, a few broken projectile points of argillite and some unifacial cutting tools". Elsewhere, in a verbal address, Knight (Oct. 1969: presentation to the O.A.S.) mentioned that a conical copper spear point, a copper chip and wedges were found on the lower levels. Many of the crude choppers have intensive pecking on them (Knight: personal communication). On the basis of the copper point, the intensive pecking and the projectile point types, the writer sees some affinities to an early Vergennes phase as defined below.

Dates for an early Vergennes have been suggested as falling around 4000 B.C. and predating the ground slate-gouge industry of Laurentian (Funk 1966: 260). Characteristic tools of the later Vergennes phase, falling around 4000-3000 B.C., are:

> ...large rather crudely chipped, side-notched Otter Creek points with an otherwise generalized chipped tool inventory and a ground stone component consisting of picks, rod-shaped tools, celts, gouges, ulus, stemmed or serrated stemmed slate points. Copper tools became increasingly important as this complex proceeds west up the Ottawa River. (Fitzhugh 1972: 11).

Evidence that the Laurentian Tradition persisted in the area to the south is available from a radiocarbon-14 date of 2750 B.C. from the Morrison Island-6 site on the Ottawa River, assignable to the Brewerton phase of Laurentian (Kennedy 1967: 114).

In the Kirkland Lake District, definite sites relating to a Laurentian Archaic occupation are lacking; the evi-

dence that is available is based on surface finds and ecological factors. Perhaps the dominant supporting evidence comes from palynological studies. Hills (1962: 52) has postulated that at the time of draining of the glacial lake bed around 4000 B.C., a warmer climate prevailed during this post-glacial hyperbissal period. During this time the area was covered by a Great Lakes Forest type that had migrated into the area from the south via the Ottawa Valley. It is logical to assume that along with plant migration Great Lakes forest adapted peoples would be able to enter the area. One would expect, too, that occupation would be concentrated on what is known locally as the "little clay belt". This generally flat clay plain occupies a valley running from New Liskeard to Kirkland Lake, a distance of about 60 miles, and is about 30-40 miles across. It is excellent farm land and is surrounded by the less hospitable Shield country. The Laurentian occupation seems to be restricted to the clay plain and nearby areas. Here, conditions most closely resemble those of southern Ontario. Already preliminary investigations have revealed a ground and polished gouge measuring 17.9 cm. in length, 6.7 cm. in width, and having a groove depth of 2.0 cm. This implement fits into J. V. Wright's (1960: 126) Class II type of gouge found in southern Ontario. The groove or hollowed-out portion of the tool in this instance runs the entire length of the tool. This artifact was recovered from the Jack Edwards site (ClGx-3), which is located on the clay

plain in Kirkland Lake District.

The writer feels that occupation by later phases of Laurentian (i.e., Brewerton) is not feasible because of cooling climatic conditions circa 3000 B.C., and subsequent re-occupation of the area by boreal forest vegetation.

THE SHIELD ARCHAIC TRADITION

James V. Wright first coined and defined the phrase "Shield Archaic" in the early 1960's. Wright was fortunate in that he had come into contact with Shield Archaic materials as early as 1956, when he spent a week excavating the Abitibi Narrows site with Frank Ridley (1958: 3). However, it was William A. Ritchie who first defined the Shield Archaic (this is what Wright told him in 1964) in print as

> ...a group of bifacially chipped core artifacts, comprising ovate and lanceolate blades, end and side scrapers, and possible choppers, usually made of quartzite or chalcedony. Side-notched points and retouched flake knives and scrapers occur on some of these sites. (Ritchie 1965: 80).

The next definition that appears in print is reported by Clyde Kennedy who says that,

> In a discussion of the MN6 site materials (Morrison's Island-6 site, Ottawa River) James V. Wright commented that they were not at all comparable to materials of what he terms the Shield Archaic. The latter is characterized by bifaced blades, end scrapers, Raddatz side-notched projectile points, straight based lanceolate projectile points, broad and corner-notched projectile points, and the virtual absence of stone grinding. There are some copper artifacts in the Shield Archaic--awls, fish hooks and abundant hammered nodules. (Kennedy 1967: 112).

In his first published definition, Wright defined the Shield Archaic as

> ...a widespread stone tool complex characterized by biface and uniface blades, lanceolate and side-notched projectile points, a wide range of scraper varieties, crude chopping and scraping-cutting tools and a paucity or absence of stone grinding. (Wright 1968: 57).

This definition has been used by others (Hurley and Kenyon 1970: 109; Hlady and Kucera 1971: 206) as the standard definition of the Shield Archaic.

By 1970, Wright had made some further comments on the Shield Archaic sites which he used for his still unpublished monograph. We are told that all eleven sites are dominated by three artifact classes: scrapers; biface blades; and projectile points, in that order. The general temporal trends are an increase in the projectile point and scraper frequencies and a decrease in the biface blade frequencies. Projectile point trends are represented by a decrease in lanceolate points and a corresponding increase in side-notched points. The scraper varieties appear to reflect a more regional character. Large end scrapers (over 10 gm.) for example, increase-decrease or simply decrease while small end scrapers generally increase through time. Wright also mentiones that of 778 stone items involved in the eleven sites, only 16 specimens had been in any fashion shaped by grinding (Wright 1970: 42-43).

The average percentage for the three dominant artifact classes on eleven Shield Archaic sites are given by J. V. Wright in his Shield Archaic monograph. These are: scrapers, 41.6 percent; bifaces, 25.8 percent; and projectile points, 16.3 percent.

In an important comment on the Rush Bay Shield Archaic quarry site, Hlady and Kucera (1971: 207) consider that, "the high incidence of platform flakes seems to be an important trait in Shield Archaic Sites". Frank Ridley (1966: 15) also reports on the Abitibi Narrows site that, "unmodified Levallois flakes, each with a facetted striking platform or butt are so numerous that no count was made".

In the Lake Superior Region, copper tools are much more important and evidence of burial ceremonialism is present.

Other possible common themes or chronologized indications in the Shield Archaic may be:

(1) A decrease through time in the overall size range of stone tools, especially scrapers and projectile points. This may be partially a function of switching from quarried quartzites to nodular cherts and jaspers from glacial drift deposits.

(2) Future detailed studies of scraper attributes such as degree of curvature of the scraping face, working face height, length and angle, as well as material of manufacture may prove scrapers to be reliable chronological indicators.

(3) Local variations or implements may be added to the overall Shield Archaic tool kit. An example are the large bifacial and unifacial scraping-cutting-chopping tools of greywacke found in Kirkland Lake District. These seem to have a great persistance through time and extend into later Woodland periods. On later sites, however, the ten-

dency is definitely away from bifacially-chipped greywacke tools to simple large "bust-off" flakes, which are then used in a relatively unmodified state.

I have gone to considerable lengths to trace a development of a definition for Shield Archaic. Despite the fact that the definitions previously presented do use consistent and valid archaeological descriptions of material culture, these are only the tip of the iceberg. It is readily apparent that the previous definitions are woefully inadequate as a definition of a culture that stretches spatially from Keewatin District, N.W.T., to Cape Breton Island, Nova Scotia, over 3,000 miles of space and 3,000 years of time.

The collections used to define the Shield Archaic by Wright are not homogeneous by any means. Wright would use a temporal and raw material source argument for example, to explain the great differences between the large quartzite industry at the Aberdeen site in the Keewatin District of the Northwest Territories and the rather small tool chert and chalcedony assemblage at the Frank Bay site on Lake Nipissing. In some respects this comparison in visual terms alone is astounding; and, considering the time depth involved and the different ecological environments, leads one to question seriously the validity of the Shield Archaic concept on any grounds whatsoever.

If one is to retain the term "Shield Archaic" in any form, it will have to be in specific reference to more re-

gional phases.

Indeed, the possibility of parallel development, or independent development in addition to diffusion of some traits is indicated.

The Abitibi Narrows and Mattawan Phases

Sufficient differences exist within the Archaic era in Kirkland Lake District to formulate two distinctive phases within the Shield Archaic in Kirkland Lake District. In both cases, the phase names are taken from a type site located outside the study area. In the following discussion, the origin, dating, settlement pattern, economy and tool kits of each will be discussed.

The Abitibi Narrows Phase

Named after the Abitibi Narrows site on Lake Abitibi to the north of Kirkland Lake District (Ridley 1966), this phase is represented at Pearl Beach in Kirkland Lake District.

Technological definition. The tool kit of this phase consists of large percussion-flaked plano-convex predominately quartzite implements, large biface blades, ovate blades, leaf-shaped bifaces, predominately large crescentic end scrapers (over 10 gm.), some small end scrapers, bifacial core chopping tools (turtle cores), core-derived lanceolate and stemmed projectile points. These implements are predominately percussion flaked, and a low incidence of flake-derived tools is indicated (Ridley 1958, 1966; Pollock 1972, 1973).

TABLE 47. Some characteristic artifacts of the Abitibi Narrows phase.

Artifact	Figure	Component
Projectile	48:2	Pearl Beach, surface 1972
Scrapers	48:5,6	Pearl Beach, surface 1972
Bifaces	48:14,15,16	Pearl Beach, surface 1972
	51:2	Pearl Beach, surface 1973
Core chopper	50:2	Pearl Beach, surface 1972 Area C
Bi-pointed plano-convex unifaces	51:1	Pearl Beach, surface 1972
	62:1	Pearl Beach, Area C
Adze	63:1	Pearl Beach, Area C
Plano-convex preforms	63:2,3	Pearl Beach, Area C
Uni-pointed plano-convex biface	63:5	Pearl Beach, Area C
Greywacke choppers	64:1,2	Pearl Beach, Area C

Time Depth. The length of time this phase persisted is unknown due to a lack of data, especially radiocarbon-14 dates. Only further research will clarify this problem. However, a temporal span from 3000 to 2000 B.C. does not seem unreasonable.

Outside Relationships. Frank Ridley saw relationships between the Abitibi Narrows phase and the quartzite industry at Shequiandah. As the latter has not yet been analysed and is a multi-component site, the writer feels this option is still open but will require further research to demonstrate any concrete connection.

To the east, Charles A. Martijn relates the A and B phases of the Wenopsk complex to the lower levels of the Abitibi Narrows site, but the connection is more a chronological than artifactual connection (Martijn 1969: 335). Dean Knight (1971), too, does not see any connections between the Archaic components at the Montreal River sites and the Lake Abitibi materials, although some similarities exist in regards to scrapers and projectile points. In summary then, the Abitibi Narrows phase represents an unique and discreet expression of the Shield Archaic Tradition.

The Abitibi Narrows phase represents the first extensive occupation in Kirkland Lake District.

The Mattawan Phase

This phase is named after the Mattawan stratum at the multi-component Frank Bay site on Lake Nipissing, to the south of Kirkland Lake District (Ridley 1954). This phase is represented in Kirkland Lake District by the Smoothwater Lake site (CiHd-1). It should be noted that a viable and historically used canoe route exists between Lake Nipissing and Smoothwater Lake via the Sturgeon River.

Ridley (1954: 42-43) reports the following artifact types from Mattawan stratum at the Frank Bay site excavation, 1954.

> ...trianguloid points, lanceolate points, notched triangular points, stemmed points, corner removed points, side-notched points, knives of narrow leaf shape and round end, ovate knives, stemmed end scrapers, small crescentic end scrapers, semi-circular side scrapers, side scrapers, small retouched random flakes.

Byers reports a date for the Mattawan stratum of 920±300 B.C. (Byers 1959: 253).

Due to the possibility of mixing of the strata at Frank Bay, I would delete the trianguloid projectile points from this list and add medium sized, side-notched points with expanding convex bases, sometimes called "dove tailed bases".

Technological Definition. The Mattawan phase consists of lanceolate, stemmed, and expanding convex based side-notched points, with small end scrapers, leaf-shaped biface blades, ovate bifaces, side scrapers, chipped bifacial core choppers and small retouched random flakes. (Table 48)

Settlement Pattern. Both the Frank Bay and Smoothwater sites are located in bays on and/or behind sandy beaches. The height of the Frank Bay site is seven feet above the present water level; this is identical to the Smoothwater site. At the Smoothwater site, a possible tent ring is proposed, measuring approximately 10 x 12 feet with a central hearth. This is the first reported house structure for the Shield Archaic in Ontario.

Economy. Unfortunately, there was no bone preservation at the Smoothwater site. However, using the economy of the following Woodland periods, one would surmise that a trend to heavier reliance on small game and fishing begins during Mattawan times.

Time Depth. With only one radiocarbon-14 date available for the phase at 920±300 B.C. (Byers 1959: 253), one can only state that this is a terminal Archaic phase.

TABLE 48. Some characteristic artifacts of the Mattawan phase.

Artifact	Figure	Component
Projectile points	38:1-16	Smoothwater 1973
Scrapers	38:17-19	Smoothwater 1973
Side scraper	38:20	Smoothwater 1973
Leaf-shaped biface	39:4	Smoothwater 1973
Ovoid preform	39:11	Smoothwater 1973
Lanceolate preform	39:13	Smoothwater 1973
Chopper, adzes	40:1-4	Smoothwater 1973
Bifacial core chopper	41:1,2	Smoothwater 1973
Bifacial core chopper	37:13	Smoothwater 1972
Ovoid preform	37:7	Smoothwater 1972
Wedge	37:6	Smoothwater 1972
Round ended biface blades	37:7,8	Smoothwater 1972

Outside Relationships. Ridley (1966: 44) did not attribute any of the components found at Lake Abitibi to the Mattawan phase, but did suggest that some of the artifacts in the lowest zone of the Ghost River Island site may pertain to this phase.

Farther east, in Quebec, Phase C of the Wenopok complex is deemed to contain "Mattawan-like traits" (Martijn 1969: 341).

Thomas E. Lee's (1965: 42) survey of Lake Abitibi produced some artifacts from Zone 2 and 3 of the Louis site that he relates to the Mattawan phase.

From this brief overview, it appears that the Mattawan phase may represent a much more widespread culture than the preceding Abitibi Narrows phase. Continuities from the Mattawan phase to later cultures are also evident. Rip retouch is present at Frank Bay; this is a flaking technique where the flake is simply pressed against an anvil stone and numerous spalls removed to form an edge (J. V. Wright: personal communication). The presence of this trait on later Laurel sites demonstrates the similarities between Mattawan and Laurel flint-knapping technology. Too, Frank Bay is dominated by small end scrapers, a characteristic feature of the following Laurel Tradition.

THE LAUREL TRADITION

The Laurel Tradition was first defined by Lloyd A. Wilford, who established the Laurel focus as the single focus of the Rainy River Aspect on the basis of excavations

of burial mounds at Pike Bay and the Smith and McKinistry mounds of Minnesota (Wilford 1941). More recently, J. V. Wright (1967: 97) has defined the most characteristic traits of the Laurel Tradition as: sherds, scrapers, paintstone nodules, copper flakes, linear flakes, biface blades, projectile points, abraders, copper beads, net sinkers, ceramic wastage and copper nuggets.

The five main ceramic decorative techniques are: pseudo-scallop shell, dragged stamp, linear punctate, dentate stamp and absence of decoration. Laurel peoples were riverine orientated towards major lakes and streams; sites show a great deal of variation in size from very small stations to those covering quite a large area (Janzen 1968: 102).

In regards to ceramics, Laurel represents "a ceramic assemblage which derives its decorative element from a common attribute pool" (Janzen 1968: 102). As ceramics are presently the most diagnostic artifacts of the Laurel Tradition, Janzen's statement is of importance. Studies have shown that, depending on geographical area, one or more of the following ceramic traditions have a dominent influence on Laurel. These ceramic traditions are the Hopewell culture, Saugeen focus and Point Peninsula. To a large extent the latter two cultures represent pottery traditions rather than well defined cultural entities. With more data becoming available, it is increasingly evident that there was a great deal of interaction between these respective ceramic traditions and Laurel. Indications are that the Laurel, Saugeen and Point

Peninsula peoples were all strongly influenced by the Hopewell culture of Ohio.

In regards to subsistence, the writer agrees with Janzen (1968: 109) that "the basic cultural element of these groups are probably strongly directed toward exploitation of and adaptation to, a Lake Forest ecological zone". Alan Tyyska (personal communication) has, in fact, suggested the term "Great Lakes Co-Prosperity Sphere" to describe this ecological model. Then, Laurel represents a particular adaptation to the more northern biotic zones in the Great Lakes area, one which expands into southern sections of the boreal forest zone. At the same time, Laurel peoples interacted to a greater or lesser extent with the Hopewell, Saugeen and Point Peninsula peoples depending on geographical location.

Further work on the non-ceramic aspects of all these cultures is needed to formulate more complete cultural models. It is the writer's feeling that lithic attributes will eventually prove to be as useful as ceramics in separating contemporaneous woodland groups.

Temporal Trends. Several attributes may indicate temporal trends within the Laurel Tradition. In regards to ceramics, Wright (1967: 99) has proposed that "bossing either exterior or interior or both, is a late Laurel ceramic attribute relative to the non-boss producing encircling punctates". Furthermore,

> There is a steady decrease in the distance of the encircling line of punctates below the lip and a marked

> increase in the distance between individual punctates. Finally the vertical length of the punctates becomes greater through time. (Wright 1967: 100-101)

In regards to decoration,

> ...pseudo scallop shell decreases from early to late; dragged stamp remains relatively constant; linear punctate, dentate stamp and absence of decoration, increase from early to late. (Wright 1967: 100)

Another temporal trend in Laurel may be an increasing incidence of end scrapers, with a corresponding decrease through time of side scrapers (Janzen 1968: 101; Wright 1967: 104). Other relevant factors in Laurel are the dominance of small convex based, side-notched projectile points, with convex body edges, although small stemmed points do occur. Larger points are also present; these may represent either lance heads or a ceremonial-religious function. Biface blades are generally small and ovate, acuminate or triangular in shape. Linear hammerstones are present in some components (Wright 1967: 102; Pollock 1973). The vast majority of Laurel sites are concentrated on the rivers and lakes of the major drainage systems in a given geographical area. Subsequently, a great dependence on fishing is hypothesized along with small mammal hunting. The high incidence of scrapers as opposed to projectile points on Laurel sites may support this assumption.

In summary, Laurel peoples represent a riverine orientated culture, ecologically adapted to the Northern Great Lakes Forest-Southern Boreal Forest Zone, following a fish and small mammal economy. Depending on their geographical location, Laurel peoples interacted with other contempora-

neous groups, which in turn produced regional variations or phases within the Laurel Tradition. At the same time, internal cultural change took place within the Laurel Tradition itself. These two factors--external influence and internal change--have produced in the Kirkland Lake District and the Ottawa Valley such a regional phase called "Eastern" Laurel.

The Eastern Laurel Phase

Eastern Laurel can be defined partly because of geographical factors alone. Thus, in Ontario, "Eastern" Laurel would begin at Manitoulin Island, thence east along the French and Mattawa Rivers to the Ottawa River and north ending at Lake Abitibi. North of the height of land, Eastern Laurel would be confined to the Moose River drainage basin. Some sites of the Eastern Laurel phase are listed below.

The foot of the Sheguiandah site on Manitoulin Island (Wright 1967).

The Killarney site (Ritzenthaler and Quimby 1962).

The Frank Bay site on Lake Nipissing (Ridley 1954).

The Buck Lake No. 2 site (BiGu-2) near Huntsville (Stothers 1973).

The Montgomery Lake 2 site (M2) on the Petawawa River (Mitchell, Croft, Butler, Cowthorn 1970).

The Montreal River site on the Montreal River where it enters Lake Timiskaming (Knight 1971).

The Pearl Beach site on Larder Lake (Pollock 1972, 1973).

The De Troyes Island site on Lake Abitibi (Ridley 1956).

Technological Definition. Dominant Eastern Laurel ceramic motifs are pseudo-scallop shell, dentate stamp, and dragged stamp. Laurel side-notched points and stemmed points are common. Lithics demonstrate the forms and manufacturing techniques found on "Western" Laurel sites. Considerably less copper is present. Too, adzes, picks, and large "bust-off" spall tools are more common on Eastern sites. There are abundant red ocher nodules, a high frequency of end scrapers and a lack of pipes on Eastern Laurel sites. Much stronger affinities to the Point Peninsula culture are indicated. Further research is needed to define this relationship in discrete terms. (Table 49).

Settlement Pattern. These are essentially a riverine-orientated peoples. The vast majority of sites occur on the major lakes and rivers of prominent drainage basins, such as the Ottawa and Moose Rivers.

Time Depth. A C-14 date of 180±280 B.C. has been obtained for the Laurel component at the Montreal River Site (Knight 1971).

Relationships. As discussed previously, Eastern Laurel is strongly influenced by Point Peninsula to the south. This is reflected at Frank Bay on Lake Nipissing where there is a blending of Laurel and Point Peninsula ceramic characteristics (Janzen 1968: 107; Wright 1967: 110-11). Too, at least in the Kirkland Lake District, the following terminal Woodland era develops directly out of the preceding Eastern Laurel phase.

TABLE 49. Some characteristic artifacts of the "Eastern" Laurel phase.

Artifact	Figure	Component
Drill (?)	37:3	Smoothwater, surface 1972
Sherds	37:10,11	Smoothwater, surface 1972
Rim sherd	38:21	Smoothwater, 1973 excavations
Rim sherd	43:1	Duncan Lake, surface 1972
Adze	50:3	Pearl Beach, surface 1972
Chipped ulu	51:8	Pearl Beach, surface 1973
Projectile	56:1	Pearl Beach, area B
Adzes	56:2,3	Pearl Beach, area B
Scrapers	56:4,5,6,7	Pearl Beach, area B
Wedges	56:12,13	Pearl Beach, area B
Dentate stamped, pseudo-scallop shell rocker stamped and complex stamped sherds	57	Pearl Beach, area B
Adze	58:1	Pearl Beach, area B
Hammerstone	58:3	Pearl Beach, area B
Adze	61:1	Pearl Beach, area C
Chipped ulu	61:5	Pearl Beach, area C

THE NORTHERN ALGONQUIN TRADITION

Evidence that much of northeastern Ontario and the Ottawa Valley area was occupied in the early historic period by Algonquian speaking peoples known as Algonquins has previously been presented. Here it becomes useful to follow the Direct Historic Approach as developed by Stewart (1942).

Methodologically, the Direct Historic Approach involves the elementary logic of working from the known to the unknown. First, sites of the historical period are located. These are preferably, but not necessarily, those of identifiable tribes. Second, the culture complexes of the sites are determined. Third, sequences are carried backward in time to protohistoric and prehistoric periods and cultures (Steward 1942: 337; Wright 1968: 96).

Utilizing the Direct Historic Approach, one would then assign the late or terminal Woodland period in the Kirkland Lake District to a prehistoric phase of the Northern Algonquin peoples. As the distribution of Northern Algonquin peoples (see Fig. 5) is much greater than just the area of study, the writer proposes a Kirkland Lake District phase name for these people. Should future research in other geographical areas show a similar cultural assemblage, then this phase name could be raised to a tradition.

The Duncan Lake Phase

Type Site: Duncan Lake (Pickerel Point site).

Associated Component: Pearl Beach site, Larder Lake Area A.

Technological Definition. One of the most diagnostic elements and one which is unique to the area is the presence of large "bust-off" or spall tools of greywacke. Some of these have been further chipped into ovoid blades or celts. The vast majority, however, are utilized in a relatively un-

modified state. Striking platforms on these flake tools do not show any form of core preparation. The percussion technique used in working this relatively soft but locally abundant material uses large quantities of debitage on the sites. Uni-side-notched knives, grooved abraders, weakly side-notched, stemmed and triangular projectile points are present. Red ocher nodules, abundant small (less than 10 gm.) end scrapers, small biface blades usually rectilinear or leaf shaped, and wedges comprise the lithic tool kit of the prehistoric Northern Algonquins. Ceramics are predominantly a medium brown grit-tempered, relatively thin-walled ware, showing affinities to the preceding Laurel Tradition. Because of the small samples recovered to date, consisting largely of partially destroyed sherds, no definitive comments on decorative technique can be made. It would seem that plain globular vessels are present with perhaps cord-wrapped stick decoration on the rim only. Punctates are also present on some sherds.

Settlement Pattern. Settlement pattern follows closely that set by the preceding Eastern Laurel phase. Terminal Woodland or Duncan phase sites are more frequent and show a greater density. While the major sites are located on sand banks that are about 8 feet above the high water mark, at about 20-mile intervals along the larger waterways, numerous small camp sites can be located at a variety of camping locations. Position and type of these "overnight" camps varies depending upon local conditions. Among the archaeological

TABLE 50. Some characteristic artifacts of the Duncan Lake phase.

Artifact	Plate	Component
Projectiles	44:1,2,3	Duncan Lake, 1973
Projectiles	53:1,2,3,4	Area A Pearl Beach
End scrapers	44:4,5	Duncan Lake, 1973
End scrapers	53:6,7,8,9	Area A Pearl Beach
Large end scrapers	53:10,11	Area A Pearl Beach
Small bifaces	43:2	Duncan Lake, surface 1972
	44:10,11	Duncan Lake, 1973
Wedges	44:6,7	Duncan Lake, 1973
Biface blade	44:13	Duncan Lake, 1973
Greywacke flake tools	45:2,3,4,5, 6,7	Duncan Lake, 1973
Greywacke flake tools	55:4,5	Area A Pearl Beach
Greywacke tools	46:1,2,3	Duncan Lake, 1973
Greywacke flake tool	54:1,2	Area A Pearl Beach
Ovoid Greywacke blade	47:2	Duncan Lake, 1973
Ovoid preform	43:5	Duncan Lake, surface 1972
Grooved abrader	47:1	Duncan Lake, 1973
Uni-notched knife	43:6	Duncan Lake, surface 1972
Red ochre nodules	43:7	Duncan Lake, surface 1972
Celt	55:1	Area A Pearl Beach
Celt	46:2	Duncan Lake, 1973

features present on Duncan phase sites are excavated roasting pits or hearths (see Fig. 19). Too, there are abundant fire-cracked rocks on these sites.

Time Depth. This phase is estimated to have followed rather closely behind Laurel and, therefore, a time span of over 800 years is indicated from 800 A.D. to 1650 A.D.

Relationships. From evidence to the north on Lake Abitibi (Ridley 1964) and Fushimi Lake (Pollock 1973c), it appears that Iroquois ceramics were being used by Northern Algonquins from circa 1400 A.D. into the Historic period. The Duncan Lake site predates this period. Too, from the writer's extensive work on the Moose and Abitibi drainage basins to the west and north (Pollock 1973: a,b,c,d) it is possible to say that the previously discussed prehistoric Duncan phase does not extend beyond the area indicated for Northern Algonquin occupation during early Historic times (see Fig. 5). On the westerly portions of the Moose River, a related but significantly different terminal Woodland assemblage has been found at Fushimi Lake on the Pivabiska River. This the writer assigns to a Moose River Cree phase (Pollock: 1973c). Further south on the Moose River, Blackduck focus sites were located that can be assigned to Ojibwa peoples (Pollock 1973d). At still another location, Nagagamisis Lake, a site relating to the Clearwater Lake phase or Selkirk focus Cree was located (Pollock 1973b). Thus, the writer feels that the evidence increasingly indicates that the pan-Algonquian culture of historic times with its professed homogeniety is not sub-

stantiated by the archaeological record. Indeed, the writer feels that not only will subsequent research isolate the prehistoric Cree, Ojibwa, Algonquin and other Algonquian groups, but that within each of these broad classifications, sub-groups (i.e., Moose River Cree) will emerge as discrete cultural entities. Thus, further archaeological work combined with ethnohistorical and ethnological studies should throw exciting new light on the culture history of the Northern Algonquins.

THE HISTORIC ERA

Since a brief overview of the known ethnohistorical and ethnological data has previously been given in Chapter 4 of this thesis, it will not be repeated here. The writer would like to point out, however, that additional ethnohistorical and ethnological data are urgently needed for Northern Algonquins, especially in Ontario.

6

CONCLUSION

This research has been much more rewarding than the writer first believed due to the number of cultures and the time depth involved in the prehistoric occupation of the study area. Indeed, the writer had been told by local residents before beginning research that the area had not been occupied prehistorically. This did not prove to be the case, as four phases of three traditions were located, excavated and analysed. One phase, Duncan Lake, represents a culture and an archaeological assemblage not previously defined. Too, the work on the other three phases has refined and delineated these cultures far beyond anything previously attempted by other researchers for northeastern Ontario.

Further light has been shed on the five basic questions that helped define the problem-orientated nature of this thesis (see page one). In regards to the first question, the evidence shows that the first occupants of the area were Shield Archaic peoples of the Abitibi Narrows phase.

As to the second question, only negative data are available and further research is needed to answer it.

As regards the third question, it is possible to say that both archaic components in Kirkland Lake District--the Abitibi Narrows phase and the Mattawan phase--represent northerly-derived Shield Archaic peoples, but that the Abitibi Narrows phase is a much earlier phase that predates the later Mattawan culture.

Evidence in regards to the fourth question showed that, while the earliest ceramicists were indeed Laurel peoples, a significant difference exists to formulate an "Eastern" Laurel phase. This "Eastern" Laurel phase was shown to have significant relationships to the contemporaneous Point Peninsula culture of southern Ontario.

Question five proved to be the most rewarding of all, as the data from this thesis were used to define an archaeological phase for prehistoric Northern Algonquin peoples. The Duncan Lake phase was shown to be a discrete archaeological entity, and preliminary investigations indicate that it is quite separate from the prehistoric archaeological assemblages of other Algonquian groups such as the Ojibwa and Cree.

It is hoped that this thesis will stimulate additional research on the Northern Algonquian peoples of Ontario in order that the complete culture history of these peoples can be delineated.

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APPENDIX A

FAUNAL ANALYSES

The bone identifications presented here were undertaken by Mr. Jim Burns (1973), who deserves much credit for his patience and perseverance in dealing with the fragmentary and deteriorated condition of the faunal sample. It is readily apparent that bone preservation on the Duncan and Pearl Beach sites only occurs when the bone has been boiled, heated or burned. This condition for bone preservation is found only in hearth areas, where the faunal fragments are often encountered in the soil layers immediately above a hearth, or in the lower hearth levels overlying fire-reddened sand.

The following tables were synthesized from the data supplied by Jim Burns for the Duncan Lake and Pearl Beach sites.

As is clearly evident, there is an overwhelming reliance on beaver by the prehistoric peoples of Kirkland Lake District. The writer feels, however, that additional variables may be operating in this incidence to bias the data. While, no doubt, these economies were relying very heavily upon beaver for subsistance, some cultural practices may have favoured the retention of beaver bones on archaeological sites in the area. As previously discussed, only burned or boiled bones are preserved. Perhaps beaver was cooked by boiling or roasting whole over the fire; this would ensure that many bones were burned or preserved in contrast to animals that were butchered prior to cooking. Too, many beaver bones are

TABLE 51. Faunal identifications from Duncan Lake (CiHf-2).

Species	No. of Identifications	% of Sample
Beaver	34	77.27
Muskrat	2	4.54
Turtle	2	4.54
Northern pike	1	2.27
Sucker	1	2.27
Pickerel	1	2.27
Dog (possibly wolf)	1	2.27
Moose	1	2.27
Cervidae	1	2.27
TOTALS	44	99.97

TABLE 52. Faunal identifications from Pearl Beach (DaGv-1).

Species	No. of Identifications	% of Sample
Area A		
Beaver	67	84.81
Moose	7	8.86
Porcupine	4	5.06
Rodentia	1	1.26
TOTALS	79	99.97
Area B		
Beaver	36	90.00
Moose	2	5.00
Porcupine	1	2.50
Grouse	1	2.50
TOTALS	40	100.00
Area C		
Beaver	29	100.00

too small to be split open for the marrow and, thus, may have been left by humans and dogs alike where they fell near the hearth. It is known, too, that certain taboos existed regarding the disposition of large mammal bones (Speck 1915), which may account for their relative absence. Also, incomplete burning of these larger bones would not allow for their preservation.

In conclusion, then, the writer feels that the faunal sample of identifiable bones on sites in Kirkland Lake District is culturally biased towards preservation of beaver bones. The cultural practice that caused this are hypothesized to be: (1) roasting of whole beaver carcasses over a fire; (2) boiling of complete beaver carcasses and subsequent disposition of same near the hearth, perhaps on an ash pit.

From the analysis, it appears that all portions of the beaver skeleton are represented at the two sites. This would lend support to the theory that beaver after skinning were not disarticulated, but were cooked in a relatively unbutchered state.

Due to the fragmentary and deteriorated condition of the bone, it is not possible to make definitive comments on skinning, disarticulation or bone processing techniques at these sites. Several longbone splinters of moose or other mammalian species from area A, Pearl Beach, may attest to splitting of bones to obtain marrow. Also from area A, a transverse process from a caudal vertebra shows cut marks

medially and dorsally. This could relate to butchering or bone marrow extraction.

The Duncan Lake (CiHf-2) faunal sample contained two sub-adult beaver as well as turtle carapace fragments, fish and muskrat. The writer would favour a spring-summer occupation for this site. At the Pearl Beach site (DaGv-1), there were four sub-adult beavers recovered. A sub-adult porcupine was recovered from area B. The writer would favour a summer-fall occupation for area B and area A, with area C undecided due to lack of data.

APPENDIX B

RADIOCARBON DATING

Two radiocarbon samples were sent to Mr. James Buckley of Teledyne Isotopes for dating. Both samples consisted of carbonized and calcined bone fragments. Due to a lack of suitable material, these samples were below the 400 gram minimum dry sample weight recommended by the laboratory. This resulted in so little collagen being recovered that the result was a less than value for both samples.

Sample One: One hundred and eighty grams of carbonized and calcined bone fragments were collected from Area A of the Pearl Beach Site DaGv-1. Isotope's sample number 1-7873. The sample was associated with a hearth and ash pit. This gave an age in years B.P. of greater than 480. Thus, a minimum date for the occupation of Area "A" of Pearl Beach site is 1494 A.D.

Sample Two: Ninety-one grams of carbonized and calcined bone fragments were collected from the Duncan Lake Site CiHf-2. Isotope's sample number 1-7874. All material was from the 3"-6" or 6"-9" levels.

The resulting date was an age in years B.P. of greater than 520. Thus, a minimum date for the occupation of the Duncan Lake site is 1454 A.D. This certainly indicates the site to be prehistoric in nature. The writer estimates the actual age of the site to be anywhere from 800 A.D. to 1400 A.D.

FIG. 37. Smoothwater Lake (CiHd-1) 1972, surface collection.

1. Projectile point tip
2. End scraper
3. Drill
4. Biface blade fragment
5. Utilized flake
6. Wedge
7. Preform
8. Small core
9. Possible net sinker
10. Sherd
11. Rim sherd
12. Utilized flake
13. Water-tumbled chopper
14. Assorted flakes

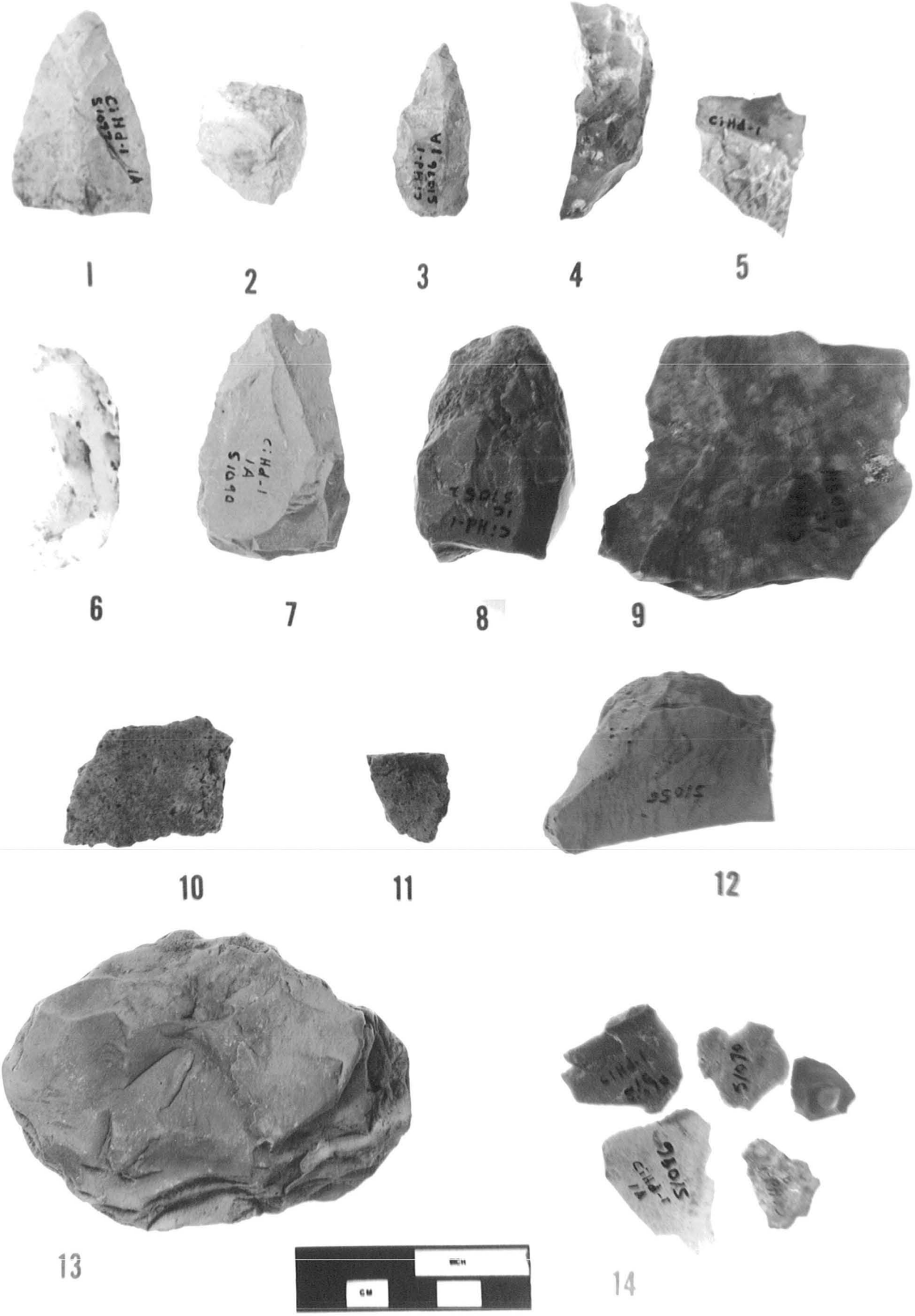
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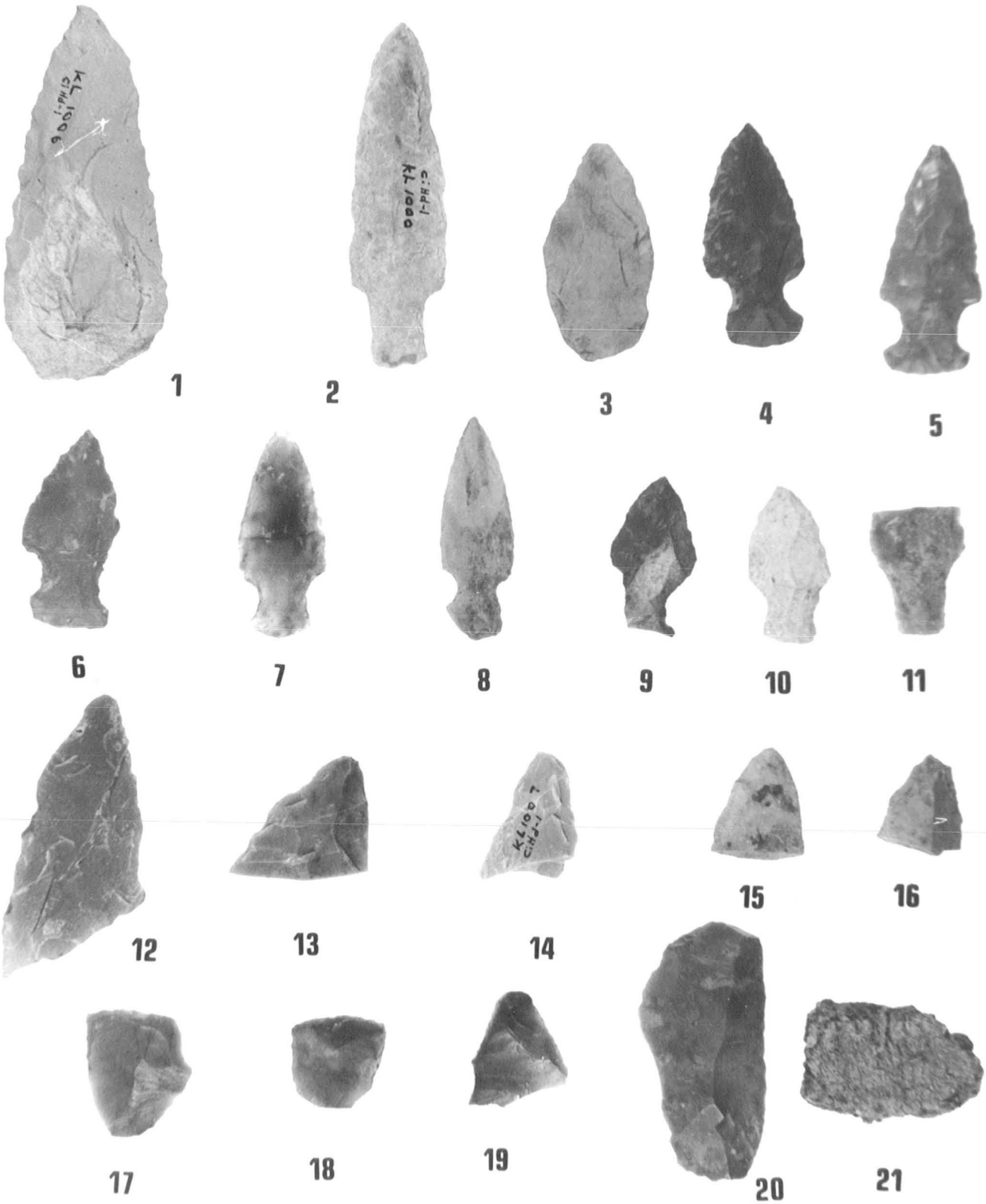
FIG. 38. Smoothwater Lake (CiHd-1) 1973 excavation.

1. Lanceolate point
2. Stemmed point
3. Lanceolate point
4. Side-notched point
5. Side-notched point
6. Side-notched point
7. Side-notched point
8. Side-notched point
9. Side-notched point
10. Stemmed point
11. Stemmed point
12. Broken point
13. Broken point
14. Broken point
15. Broken point
16. Broken point
17. End scraper
18. End scraper
19. Broken point
20. Side scraper
21. Rim sherd, linear stamp decoration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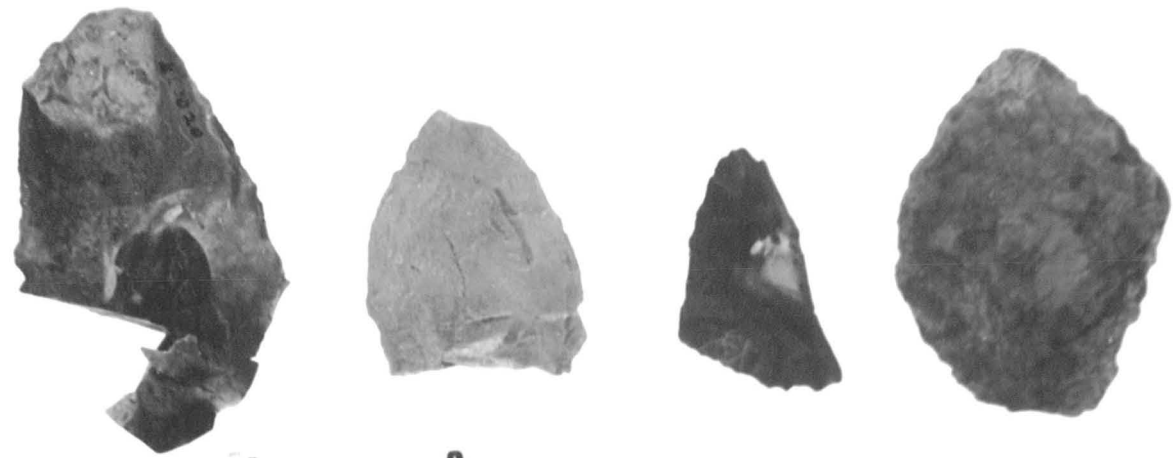
mm 1 2 3 4 5 6 7 8 9 10

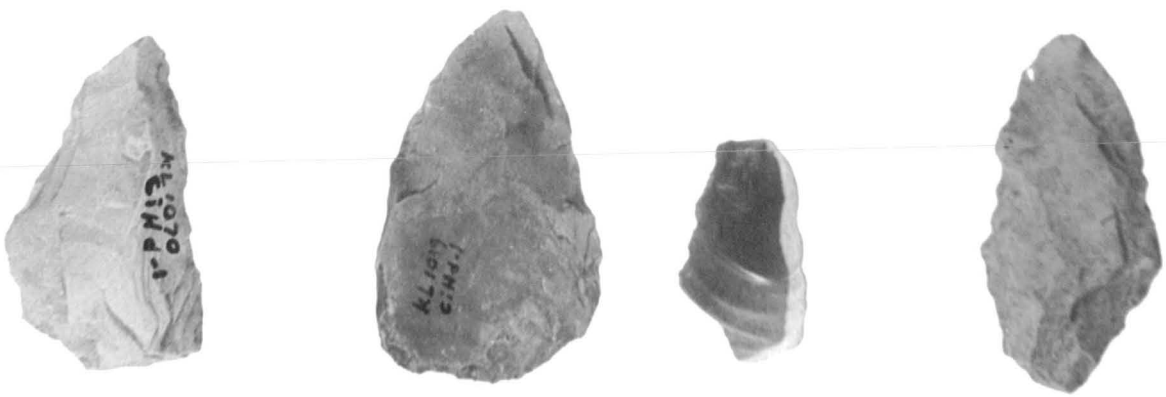
FIG. 39. Smoothwater Lake (CiHd-1) 1973 excavation.

1. Ovoid biface blade
2. Biface blade
3. Biface blade fragment
4. Ovoid bifacial knife
5. Lanceolate preform
6. Biface blade
7. Biface blade
8. Biface blade
9. Preform
10. Lanceolate preform
11. Ovoid preform
12. Flake knife
13. Lanceolate preform



1 2 3 4

5 6 7 8 9



10 11 12 13

FIG. 40. Smoothwater Lake (CiHd-1) 1973 excavation.

1. Unifacial flake chopper
2. Flaked bifacial chopper
3. Flaked bifacial chopper
4. Flaked bifacial chopper

1

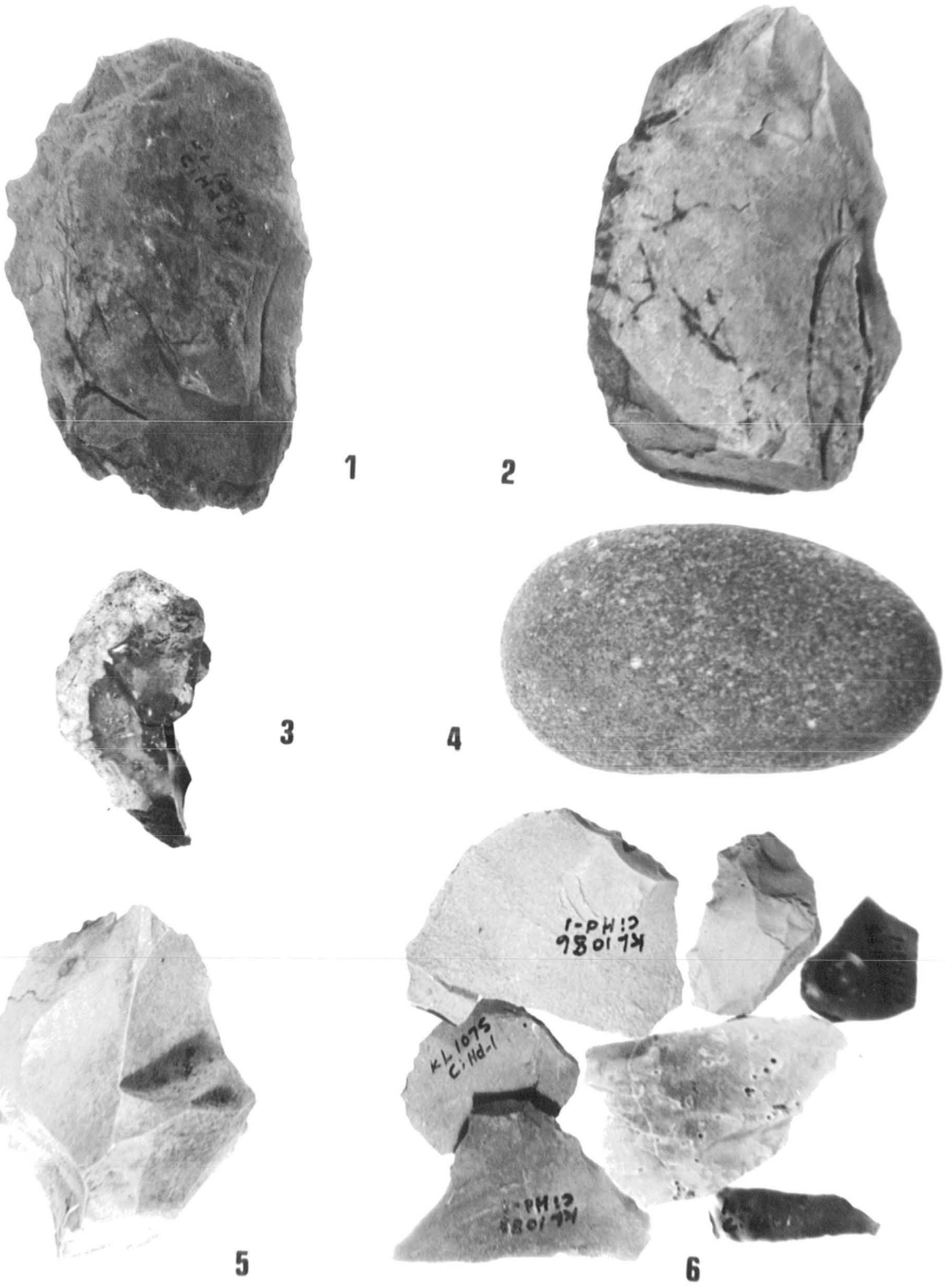
2

3

4

FIG. 41. Smoothwater Lake (CiHd-1) 1973 excavation.

1. Flaked bifacial chopper
2. Flaked bifacial chopper
3. Core
4. Hammerstone
5. Core
6. Assorted flakes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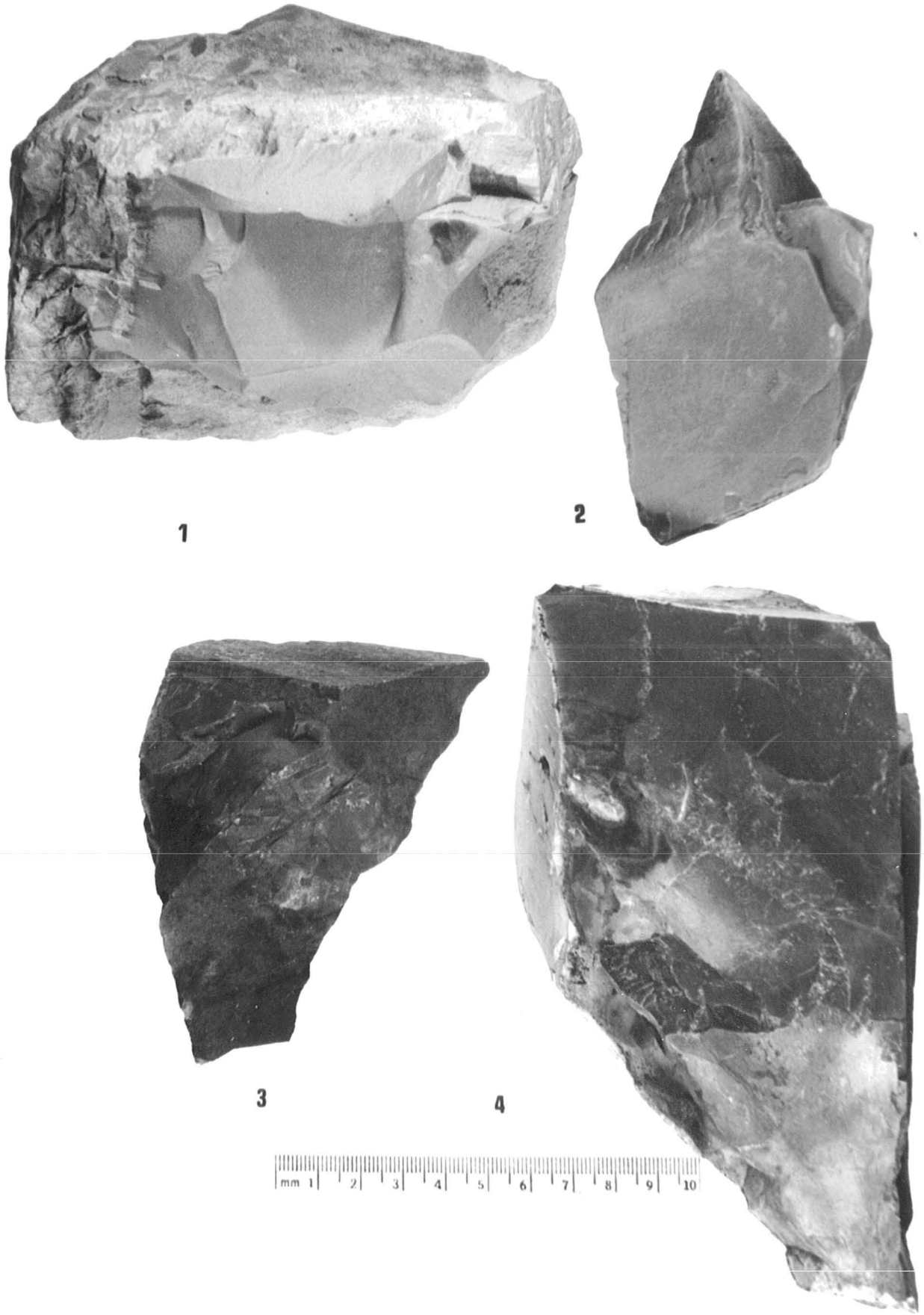
mm 1 2 3 4 5 6 7 8 9 10

FIG. 42. Smoothwater Lake (CiHd-1) 1973 excavation.

1. Core
2. Core
3. Core
4. Specimen of Gordon Lake chert from outcrop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mm 1 2 3 4 5 6 7 8 9 10

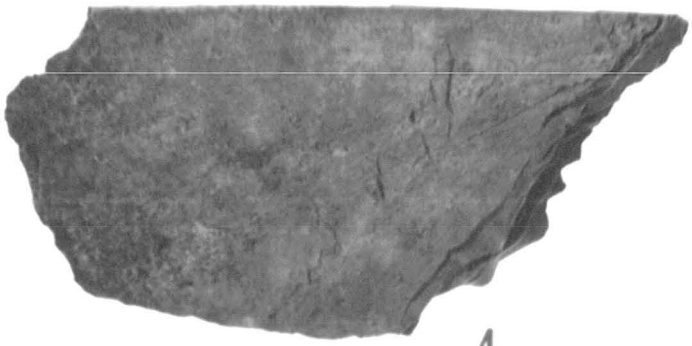
FIG. 43. Duncan Lake (CiHf-2) 1972, surface and test pit.

1. Psuedo-scallop shell rim sherd
2. Biface blade fragment
3. Abrader
4. Unifacial flake chopper
5. Ovoid preform
6. Uni-notched blade
7. Red Ocher nodules
8. Flake
9. Flake
10. Assorted flakes

1

2

3



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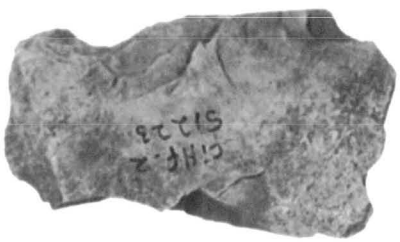

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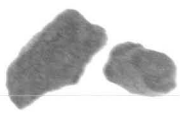

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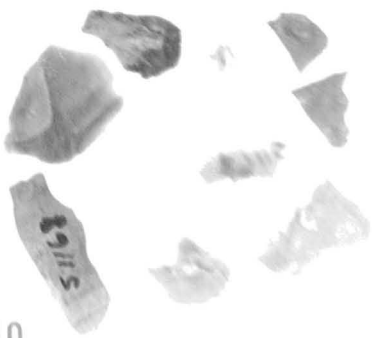

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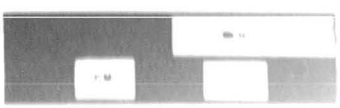
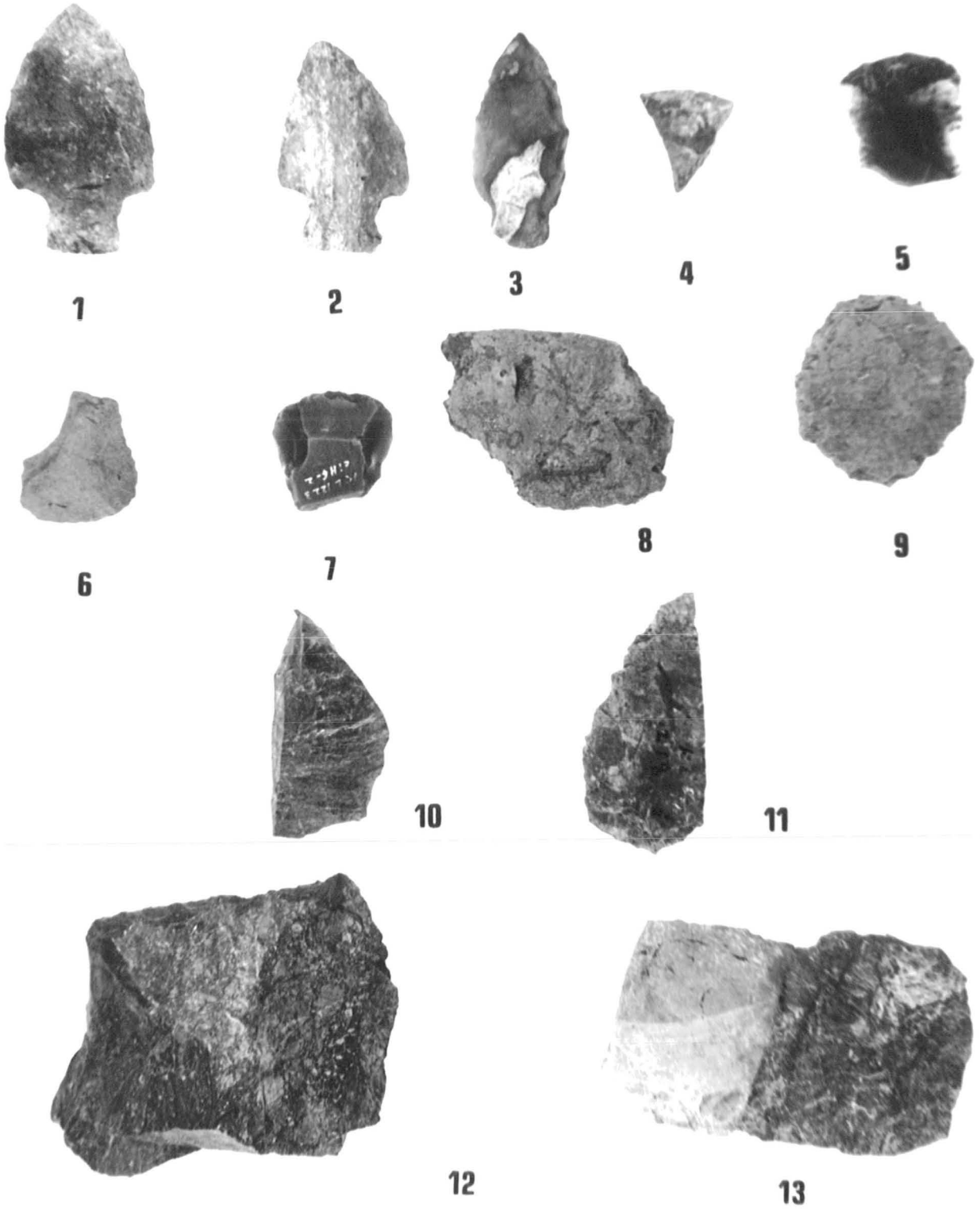


FIG. 44. Duncan Lake site (CiHf-2) 1973 excavations.

1. Stemmed point
2. Semi-corner notched point
3. Stemmed point
4. Scraper
5. Scraper
6. Wedge
7. Wedge
8. Rimsherd undecorated
9. Decorated body sherd
10. Biface
11. Biface
12. Scraper plane
13. Biface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mm 1 2 3 4 5 6 7 8 9 10

FIG. 45. Duncan Lake site (CiHf-2) 1973 excavations.

1. Utilized flake
2. Worked flake, greywacke
3. Worked flake, greywacke
4. Flake knife
5. Greywacke flake tool
6. Greywacke flake tool
7. Utilized greywacke flake
8. Assorted flakes

1

2

3

4

5

6

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FIG. 46. Duncan Lake site (CiHf-2) 1973 excavations.

1. Large greywacke flake tool
2. Celt-like tool
3. Large greywacke flake tool

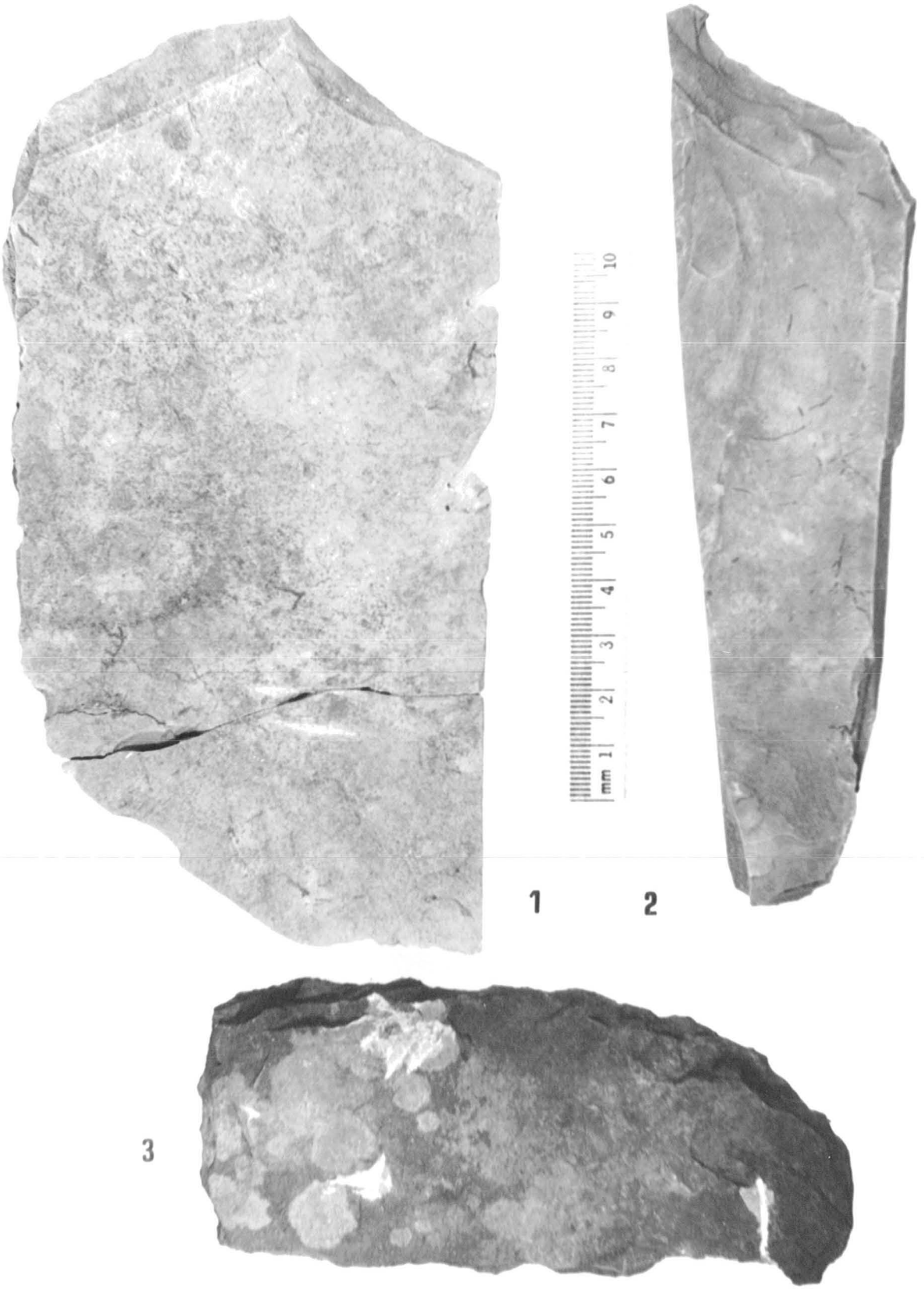
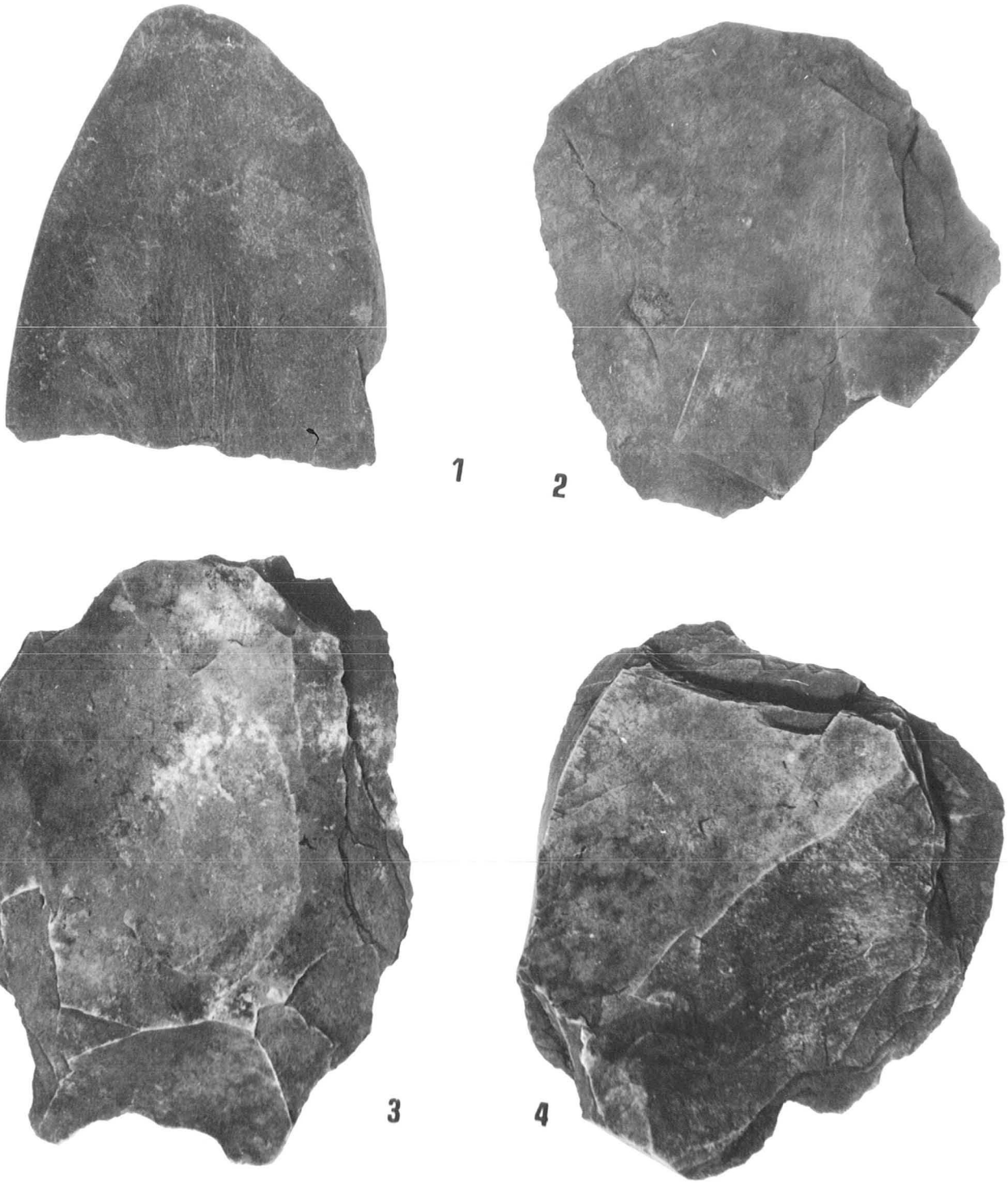

mm 1 2 3 4 5 6 7 8 9 10
1
2
3

FIG. 47. Duncan Lake site (CiHf-2) 1973 excavations.

1. Grooved abrader
2. Ovoid greywacke blade
3. Greywacke flake tool
4. Greywacke flake tool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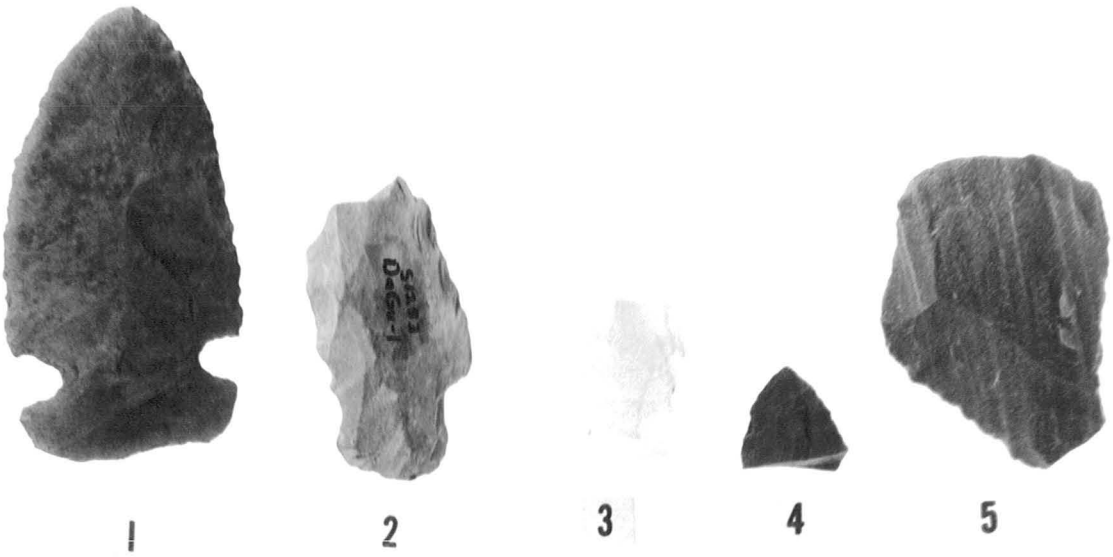
mm 1 2 3 4 5 6 7 8 9 10

FIG. 48. Pearl Beach site (DaGv-1) 1972, surface collection.

1. Side-notched projectile point
2. Stemmed point
3. Side-notched projectile point
4. Projectile point tip
5. Large end scraper
6. Large end scraper
7. Ovoid stemmed scraper
8. End scraper
9. End scraper
10. End scraper
11. End scraper
12. End scraper
13. End scraper
14. Biface blade
15. Biface blade (grey quartzite)
16. Uniface blade (?)



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14 15 16

FIG. 49. Pearl Beach site (DaGv-1) 1972 surface collection.

1. Large greywacke flake tool

2. Large greywacke flake tool

1

2

FIG. 50. Smoothwater Lake (CiHd-1) and Pearl Beach (DaGv-1) 1972 surface collections.

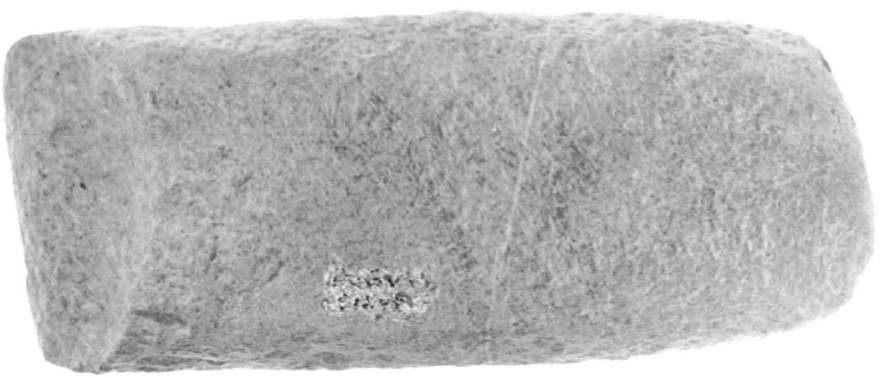
1. Quartzite chopper (Smoothwater Lake)

2. Greywacke bifacial core tool (Pearl Beach)

3. Pecked and ground celt (Pearl Beach)

1 2

3



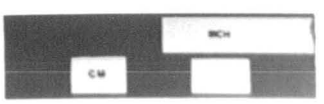
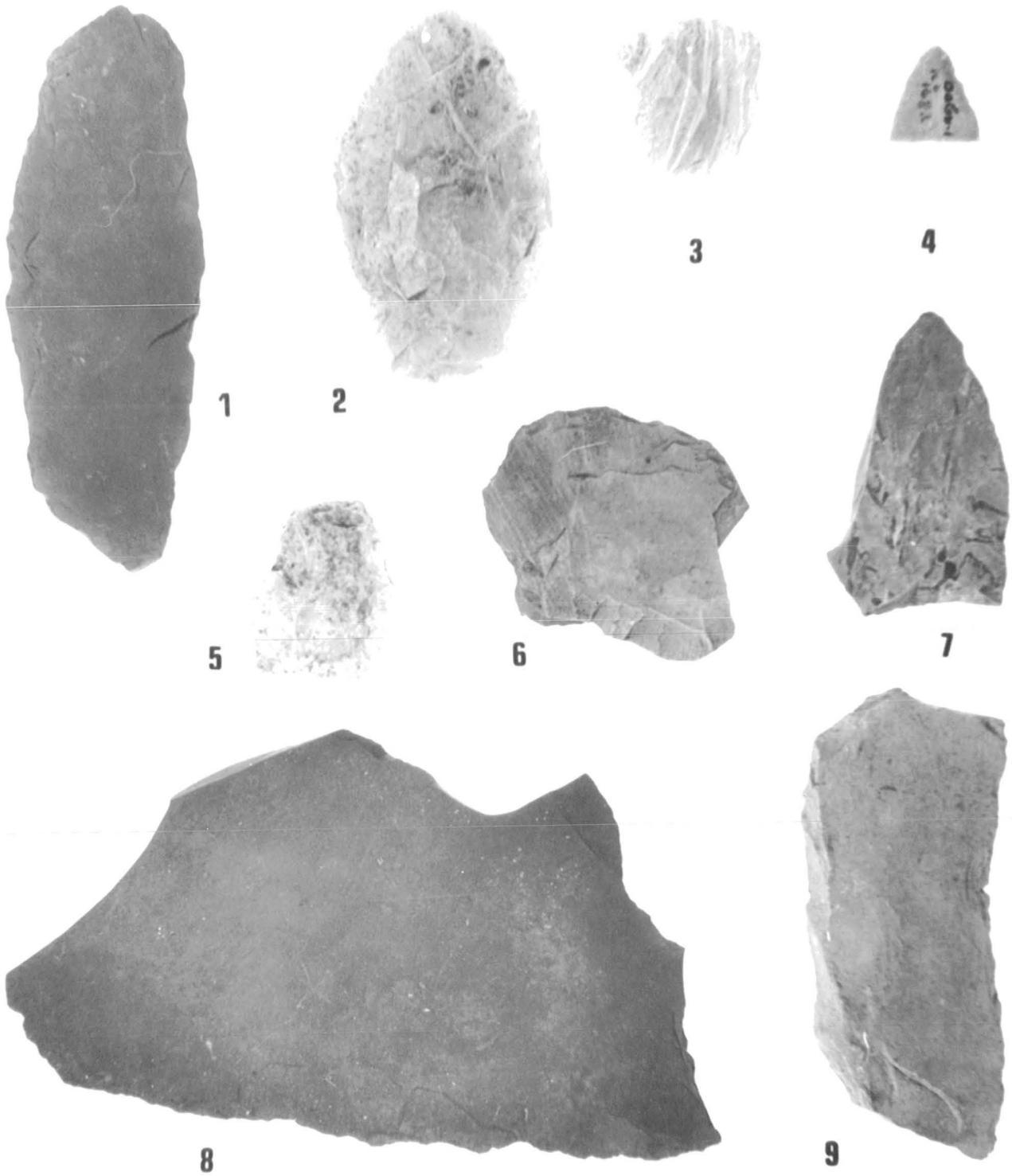


FIG. 51. Pearl Beach site (DaGv-1) 1973, surface collection.

1. Bi-pointed unifacial greywacke blade
2. Ovoid blade, partially stemmed
3. End scraper
4. Projectile point tip
5. Utilized flake
6. Uniface blade fragment
7. Biface blade fragment
8. Chipped greywacke ulu-like implement
9. Uniface blade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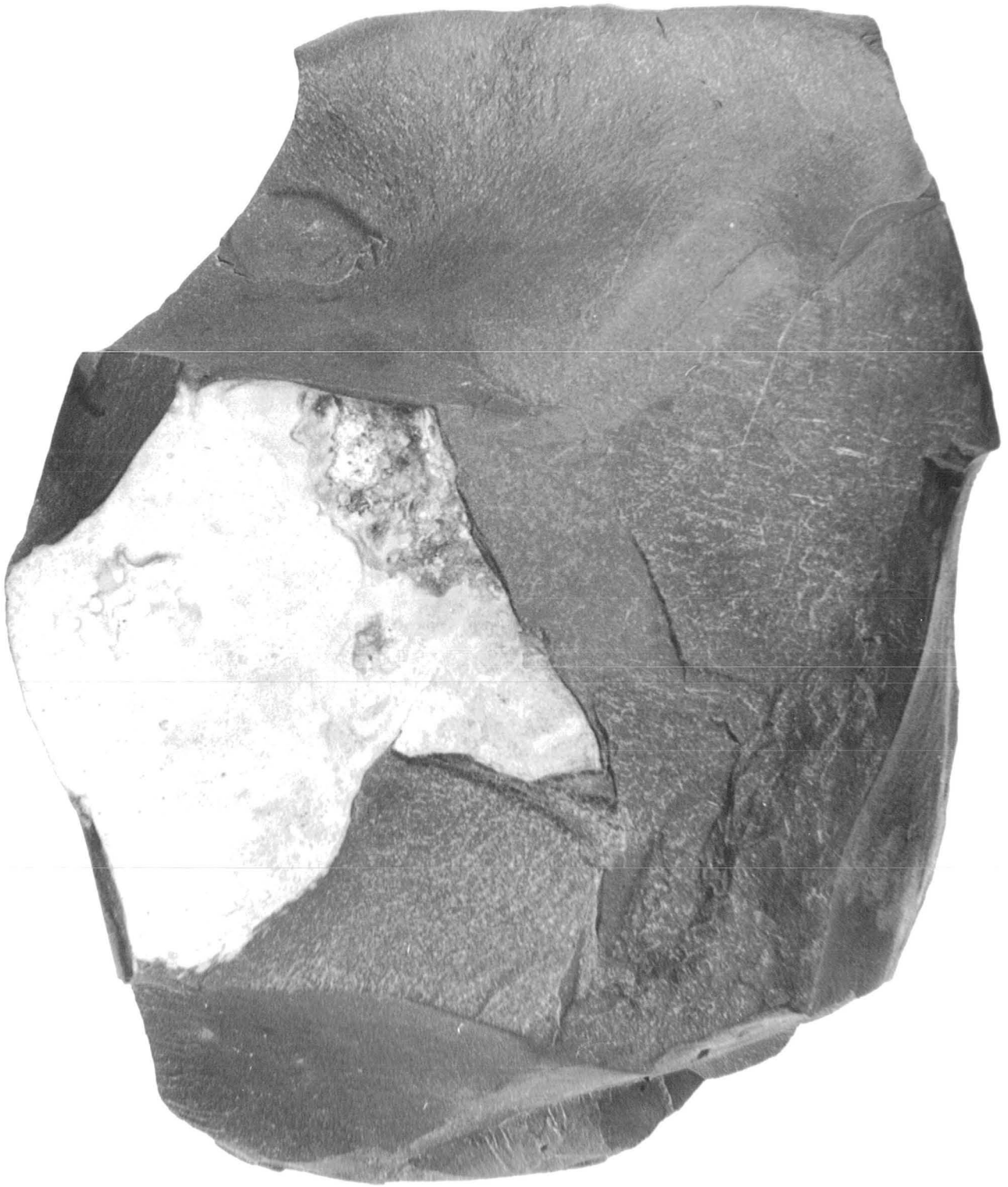
mm 1 2 3 4 5 6 7 8 9 10

FIG. 52. Pearl Beach site (DaGv-1) 1973, surface collection.

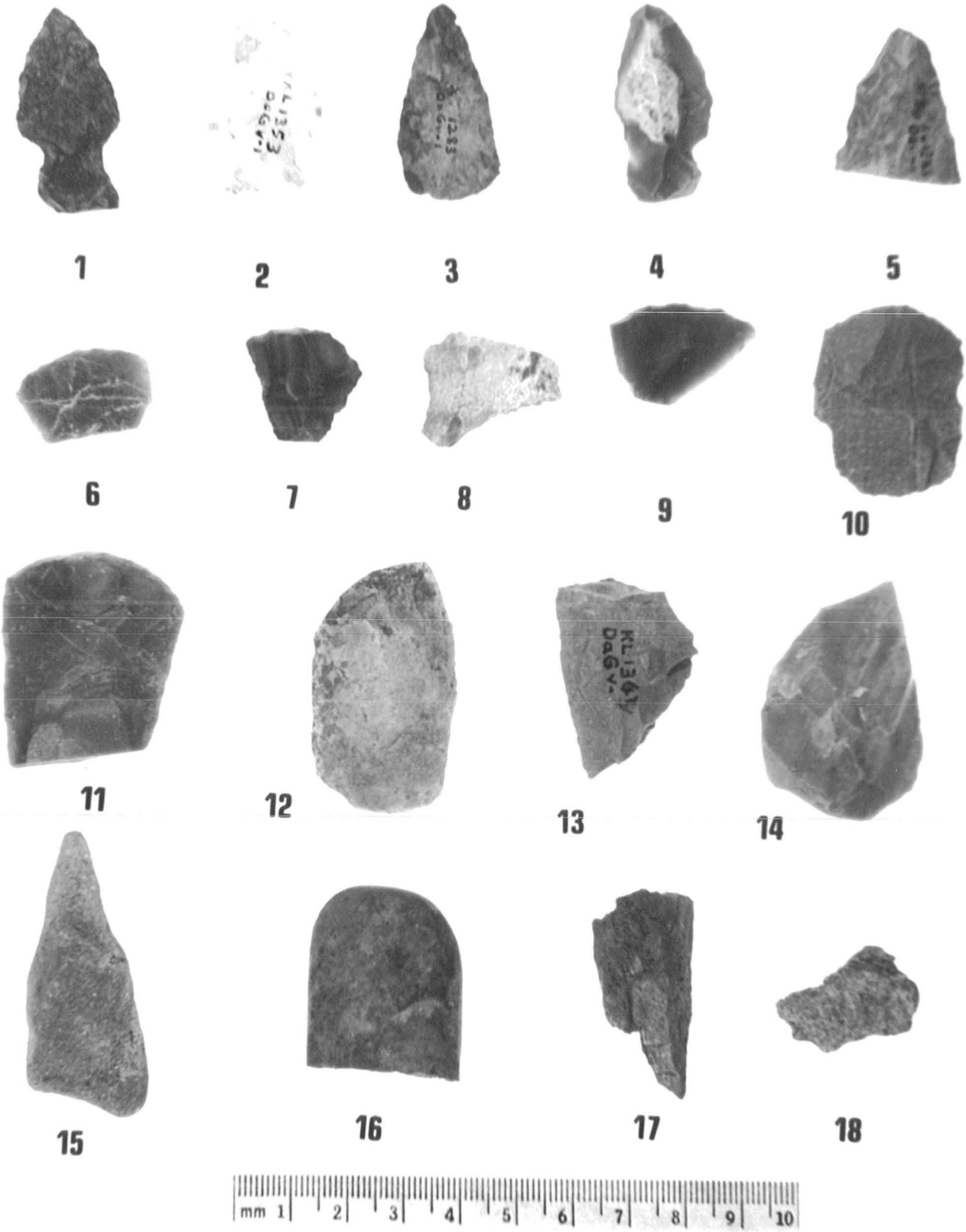
1. Large greywacke core showing numerous flake scars and striking platform



1

FIG. 53. Pearl Beach site (DaGv-1) 1973 excavations, area A.

1. Side-notched point
2. Side-notched point
3. Triangular point
4. Side-notched point
5. Projectile tip
6. End scraper
7. End scraper
8. End scraper
9. End scraper
10. Large end scraper
11. Large end scraper
12. Side end scraper
13. Biface
14. Utilized flake
15. Perforator
16. Abrader
17. Red ocher
18. Decorated body sherd, dentate stamp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16
17
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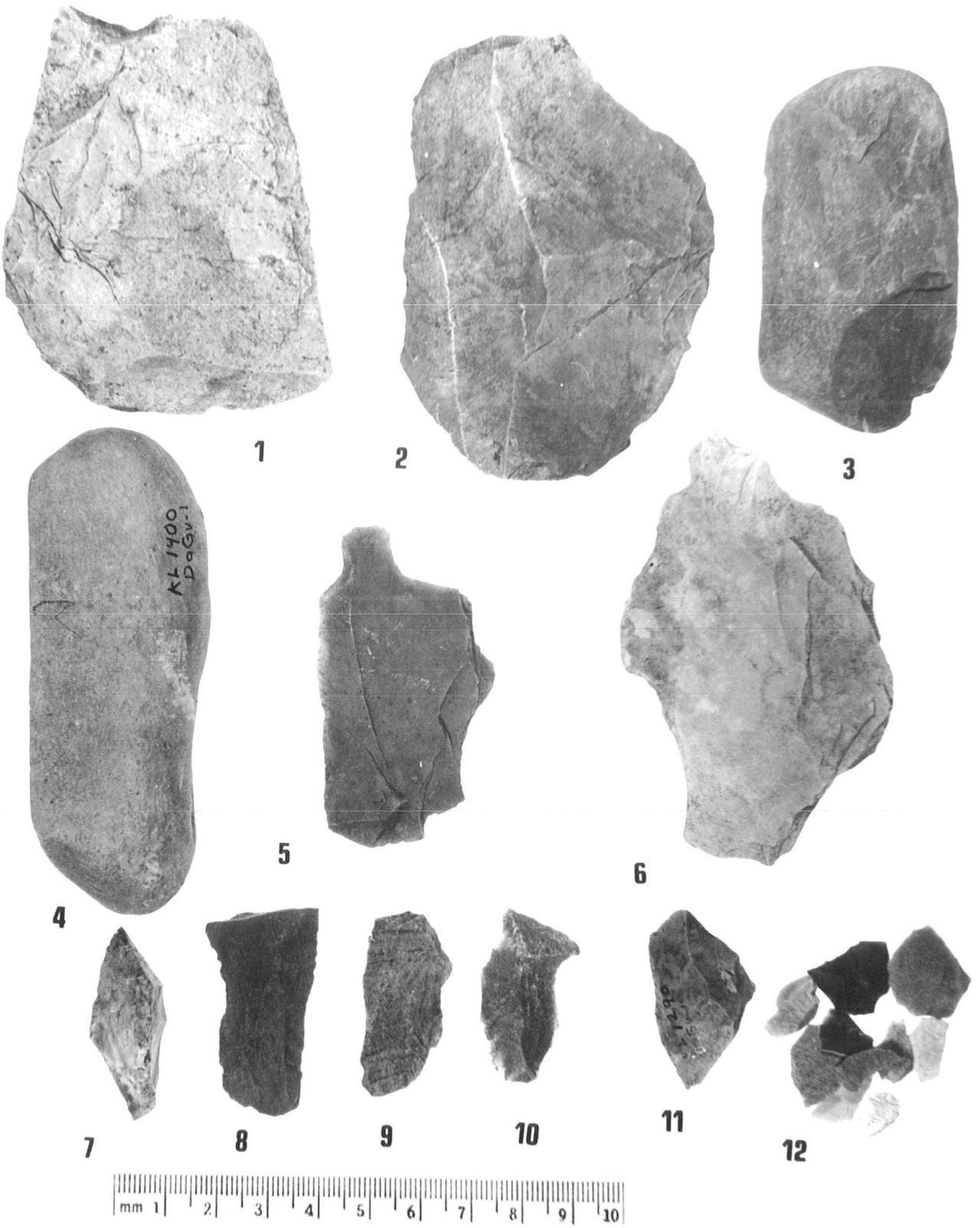
mm 1 2 3 4 5 6 7 8 9 10

FIG. 54. Pearl Beach site (DaGv-1) 1973 excavations, area A.

1. Unifacial chert flake tool
2. Unifacial greywacke flake tool
3. Abrader
4. Abrader
5. Large greywacke raw flake
6. Large greywacke raw flake
7. Chert flake
8. Chert flake
9. Chert flake
10. Chert flake
11. Chert flake
12. Assorted flakes


1
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KL 1400
DaGv-1
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11
12
mm 1 2 3 4 5 6 7 8 9 10

FIG. 55. Pearl Beach site (DaGv-1) 1973 excavations, area A.

1. Celt
2. Large greywacke flake
3. Abrader
4. Greywacke flake tool
5. Greywacke flake tool

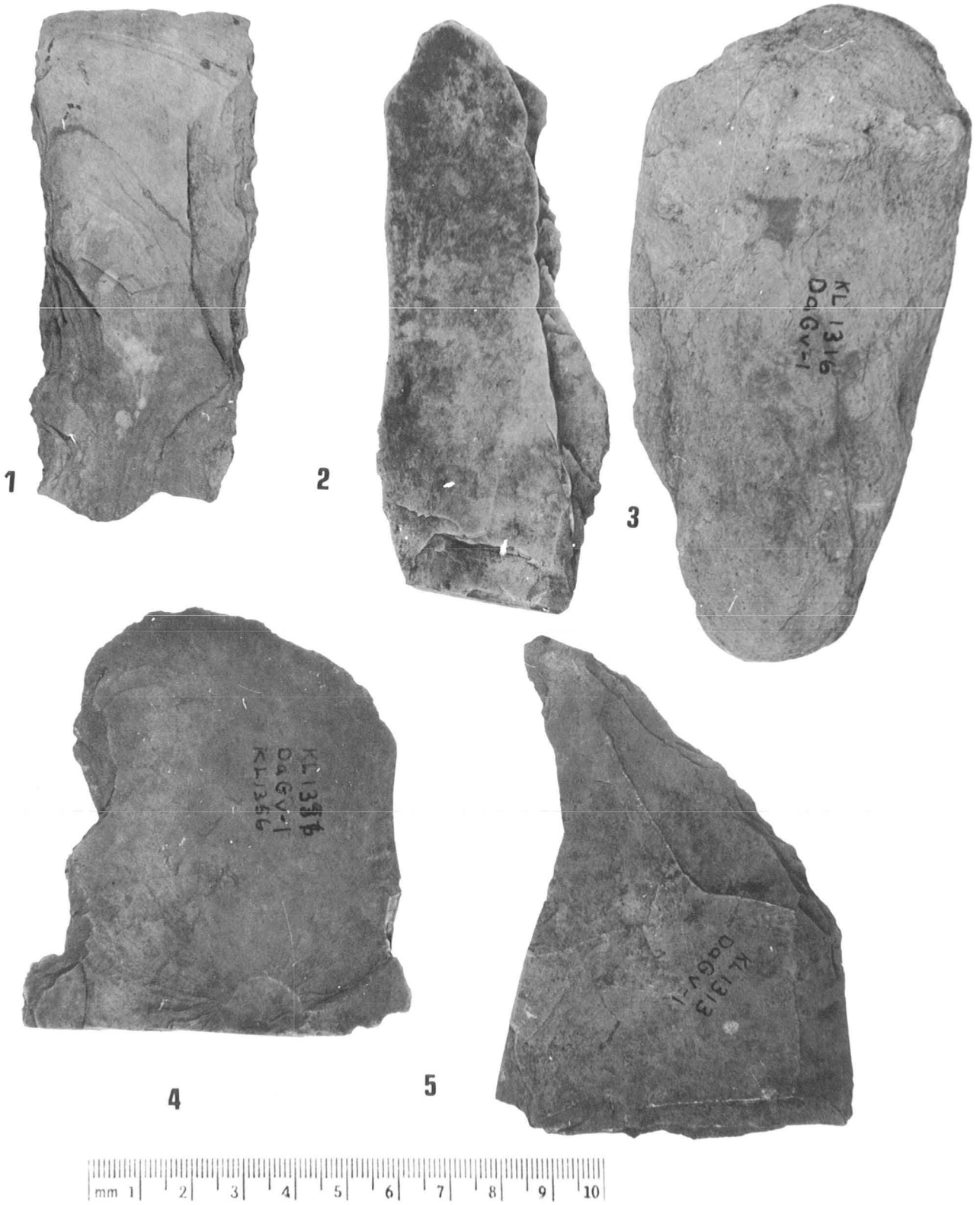
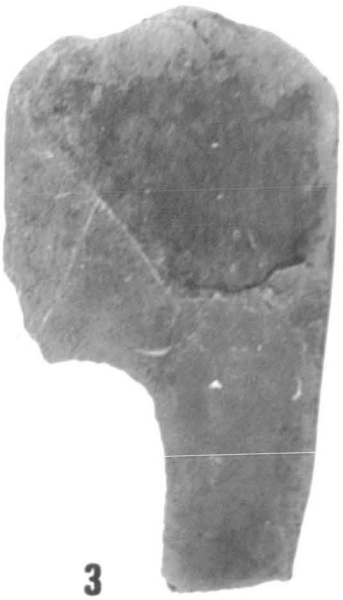

1
2
3
KL 1316
DdGv-1
4
KL 1334
DdGv-1
KL 356
5
KL 1313
DdGv-1
mm 1 2 3 4 5 6 7 8 9 10

FIG. 56. Pearl Beach site (DaGv-1) 1973 excavations, area B.

1. Projectile point
2. Adze
3. Adze
4. Large end scraper
5. End scraper
6. End scraper
7. End scraper
8. Side scraper
9. End scraper
10. Utilized flake
11. Flake knife
12. Wedge
13. Wedge
14. Green chert flake
15. Grey quartzite flake

1

2



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KB1449

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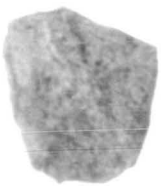

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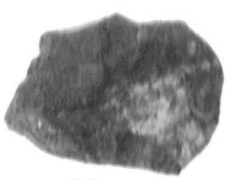
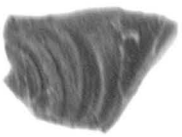


13



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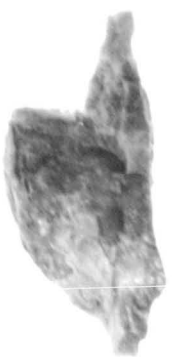
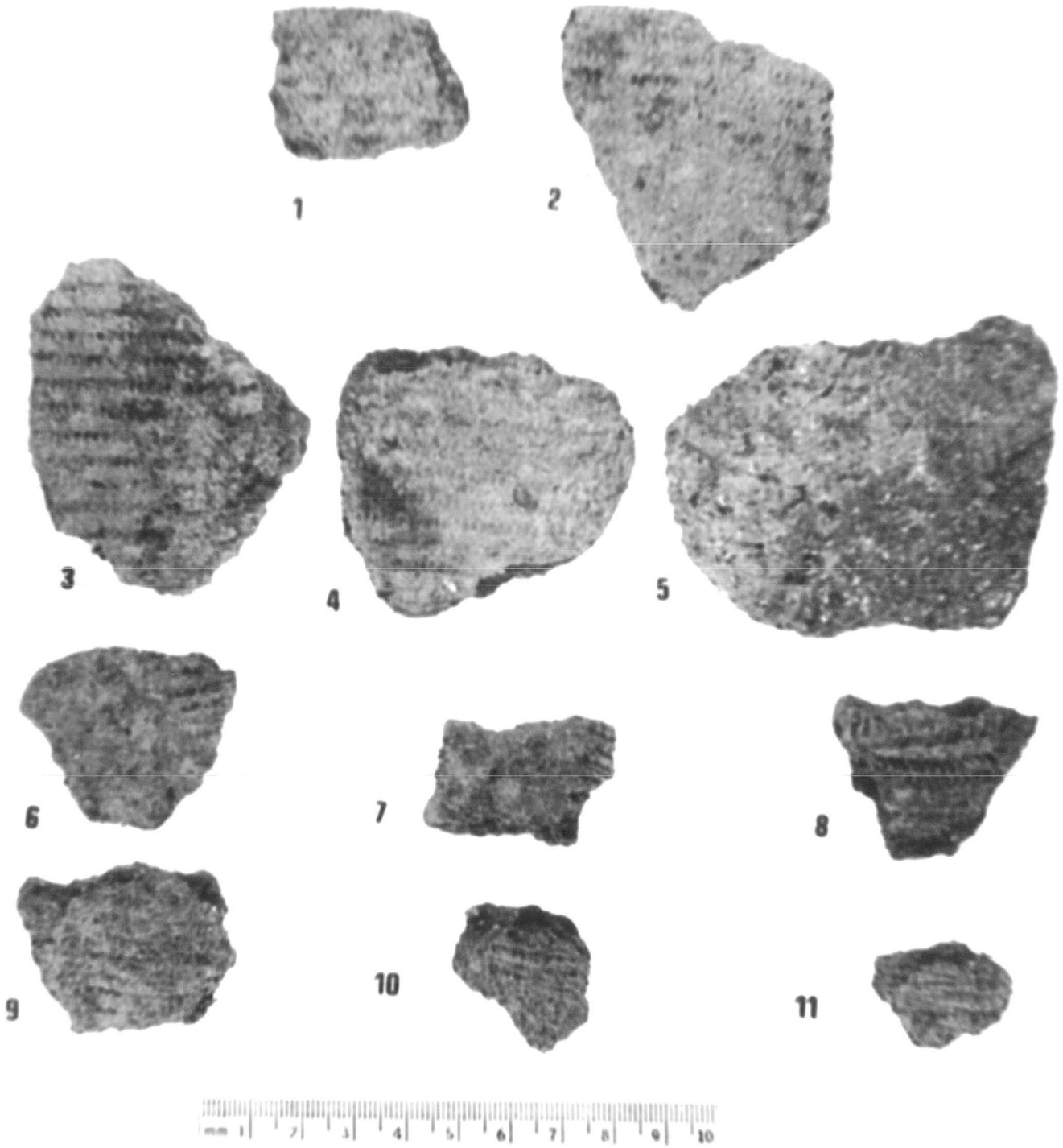


15

FIG. 57. Pearl Beach site (DaGv-1) 1973 excavations, area B.

1. Rim sherd, dentate stamped
2. Body sherd, dentate stamped
3. Body sherd, dentate stamped
4. Body sherd, dentate stamped
5. Dentate stamped, chevron pattern
6. Body sherd, psuedo-scallop shell motif
7. Body sherd, psuedo-scallop shell motif
8. Body sherd, complex decoration
9. Body sherd, rocker stamped
10. Body sherd, rocker stamped
11. Body sherd, rocker stamped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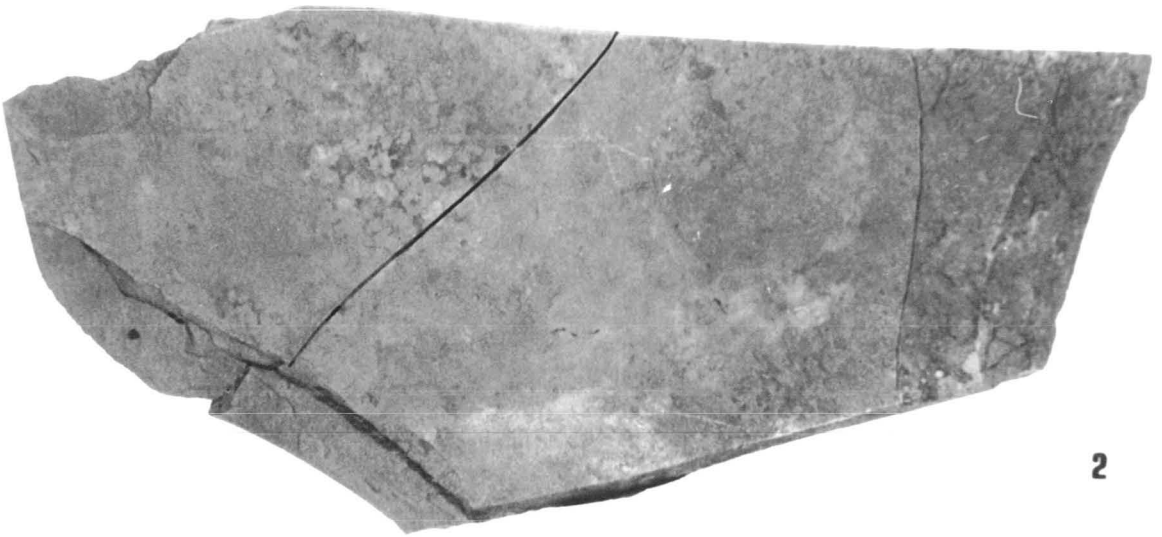
mm 1 2 3 4 5 6 7 8 9 10

FIG. 58. Pearl Beach site (DaGv-1) 1973 excavations, area B.

1. Pecked and ground adze
2. Large greywacke flake tool
3. Hammerstone

1

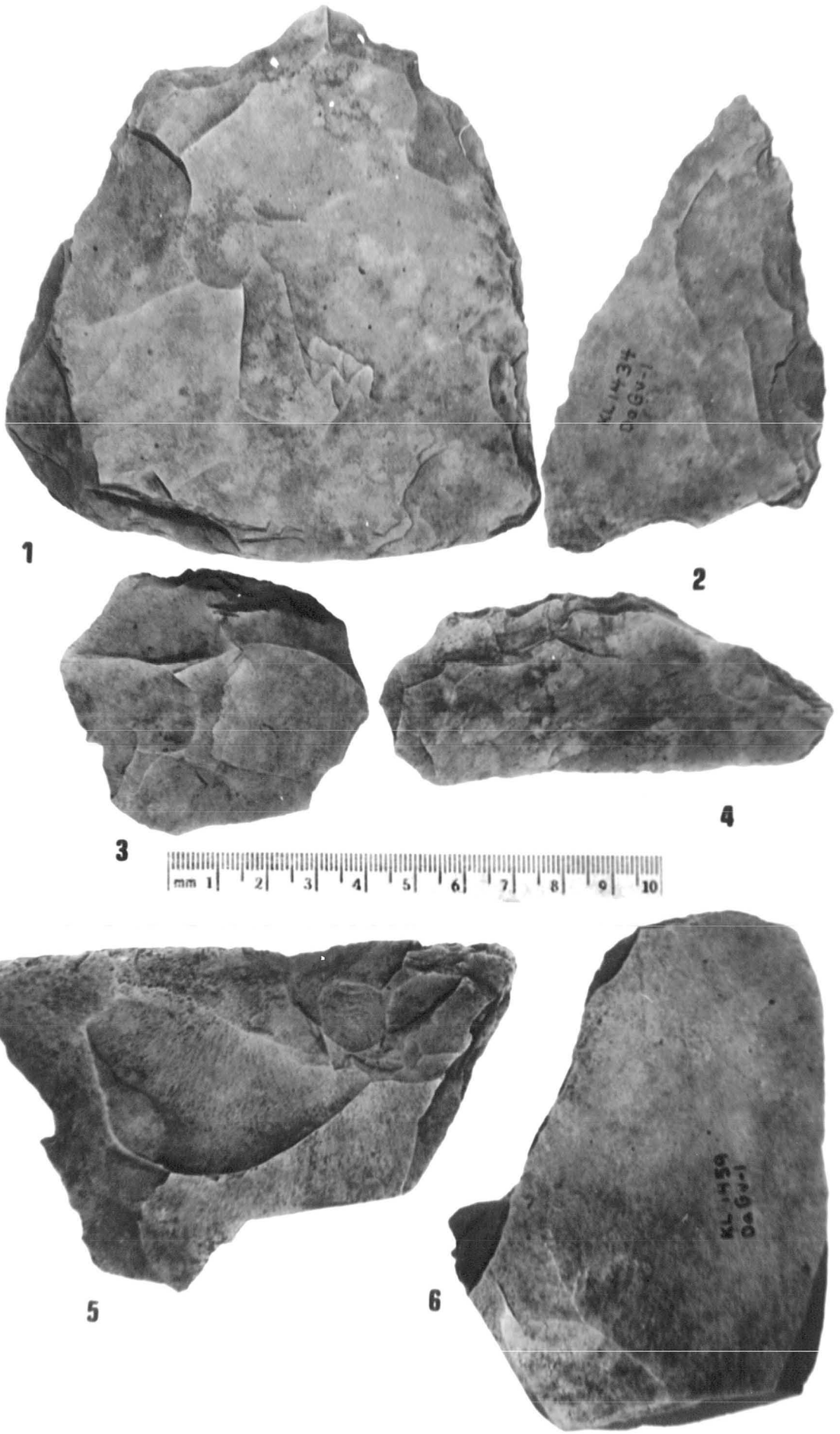


2

3

FIG. 59. Pearl Beach site (DaGv-1) 1973 excavations, area B.

1. Bifacially chipped greywacke chopper
2. Lanceolate greywacke blade
3. Ovoid greywacke blade
4. Utilized greywacke flake
5. Greywacke flake tool
6. Greywacke flake tool


1
KL 1434
DcGv-1
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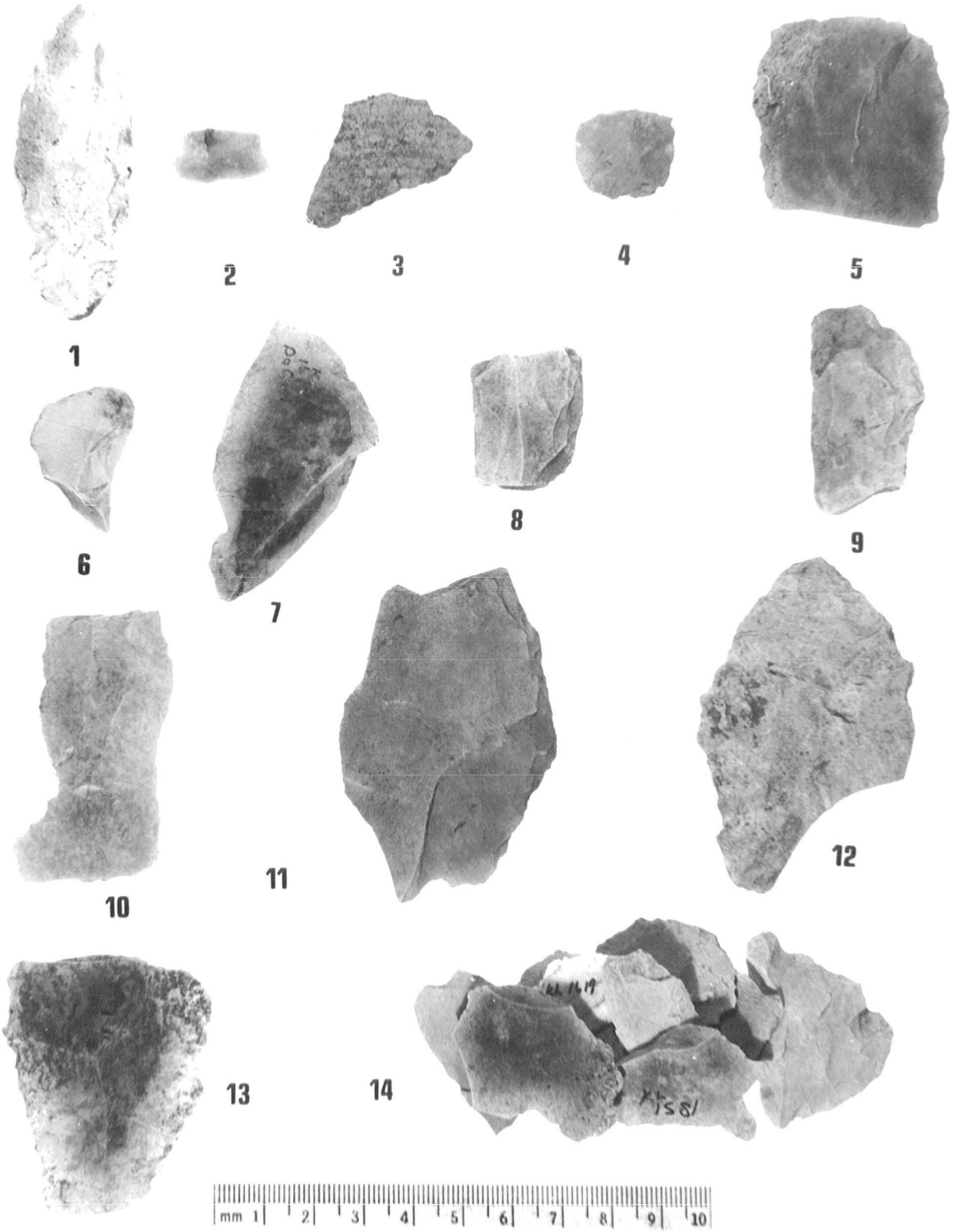
mm 1 2 3 4 5 6 7 8 9 10
5
6
KL 1458
DcGv-1

FIG. 60. Pearl Beach site (DaGv-1) 1973 excavations, area C.

1. Side-notched (Acasta?) lanceolate point
2. Projectile
3. Decorated sherd, pseudo-scallop shell
4. End scraper
5. Biface blade
6. End scraper
7. Biface blade
8. Biface blade
9. Large raw chert flake
10. Linear flake
11. Biface blade
12. Biface blade
13. Utilized flake
14. Assorted flakes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mm 1 2 3 4 5 6 7 8 9 10

FIG. 61. Pearl Beach site (DaGv-1) 1973 excavations, area C.

1. Adze
2. Adze
3. Adze
4. Hammerstone
5. Chipped greywacke ulu

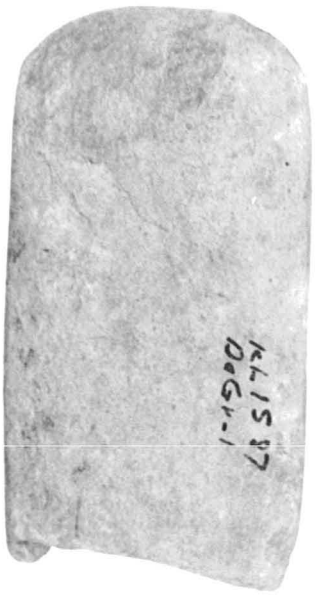

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FIG. 62. Pearl Beach site (DaGv-1) 1973 excavations, area C.

1. Bi-pointed uniface greywacke blade
2. Uni-pointed bifacial greywacke blade
3. Greywacke flake tool
4. Ovoid bifacial greywacke blade
5. Greywacke flake tool

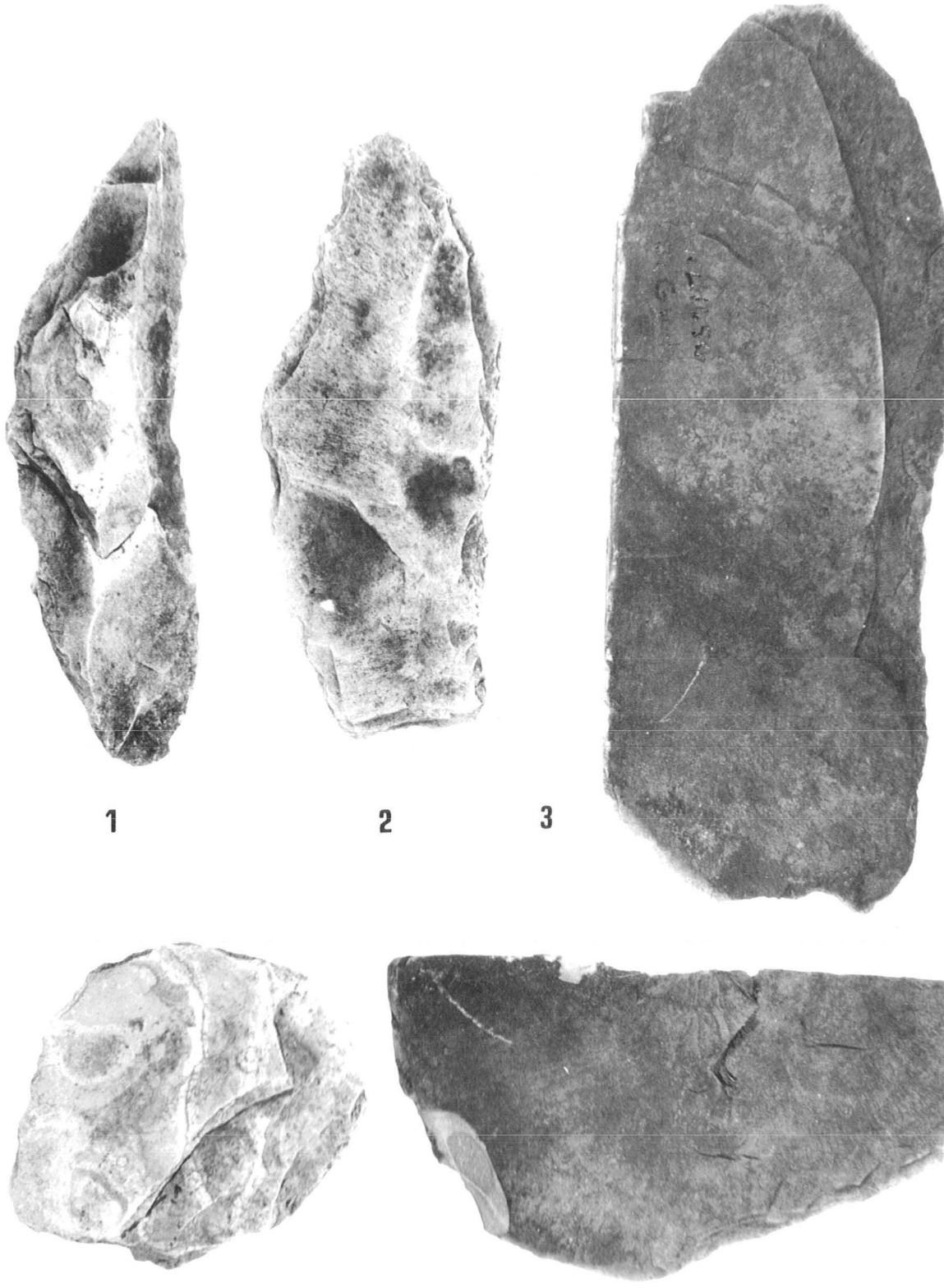
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FIG. 63. Pearl Beach site (DaGv-1) 1973 excavations, area C.

1. Crude adze or pick
2. Preform
3. Preform
4. Core chopper fragment
5. Uni-pointed bifacial tool
6. Core chopper fragment

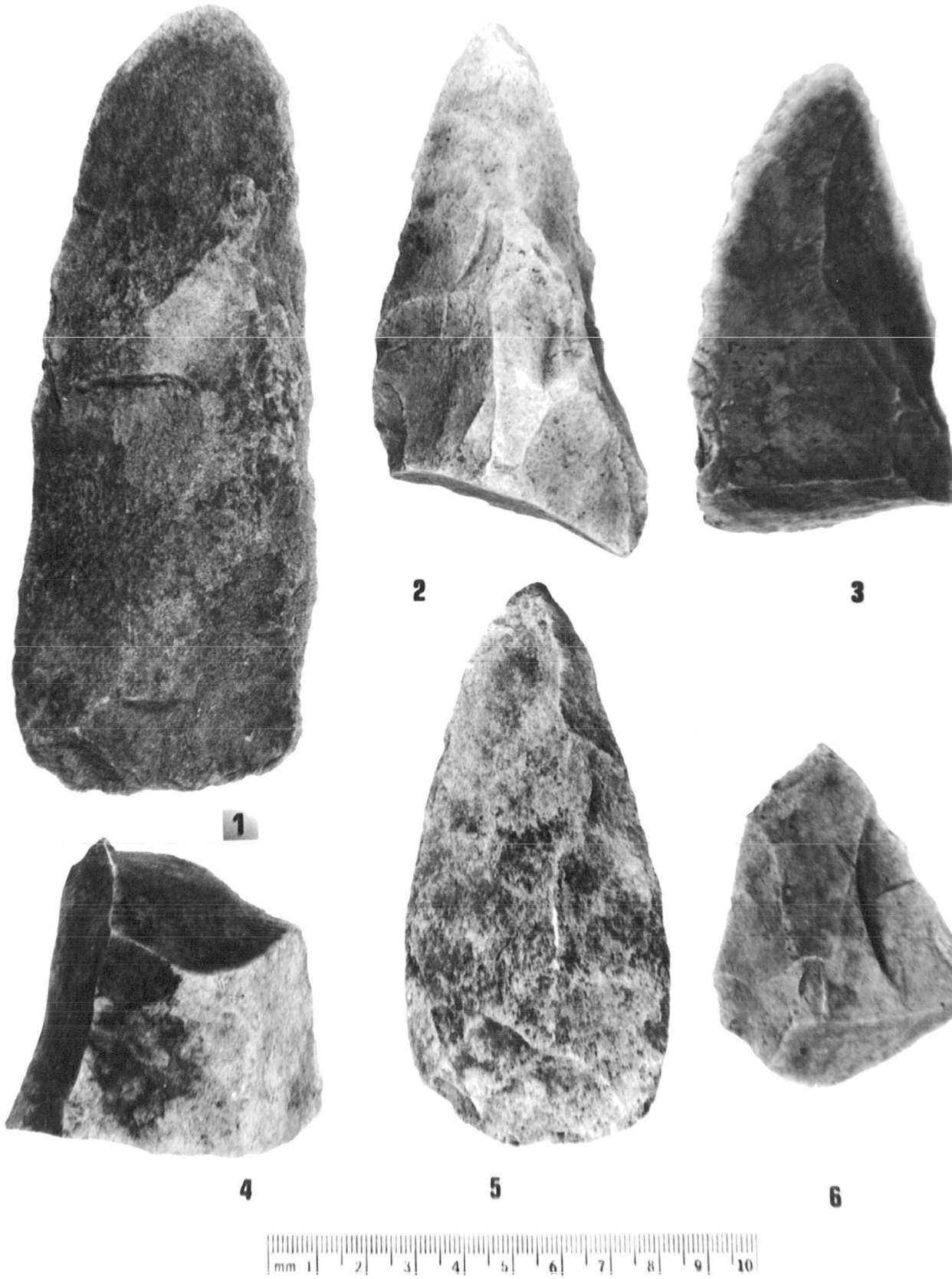
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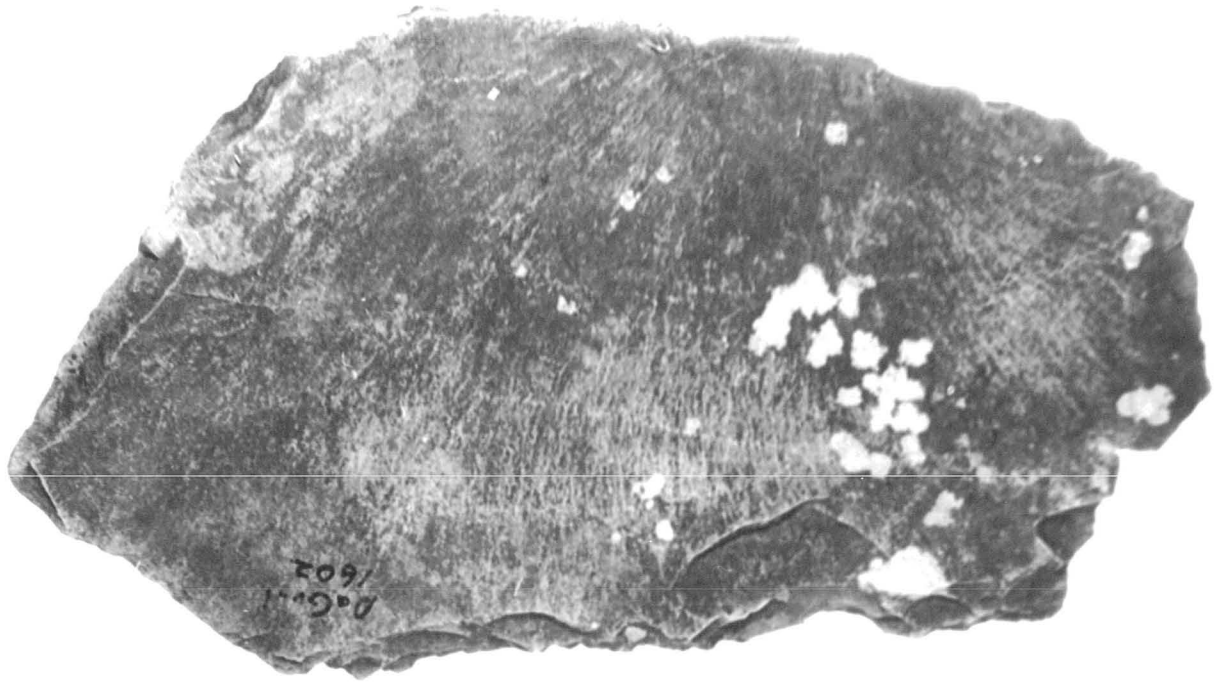
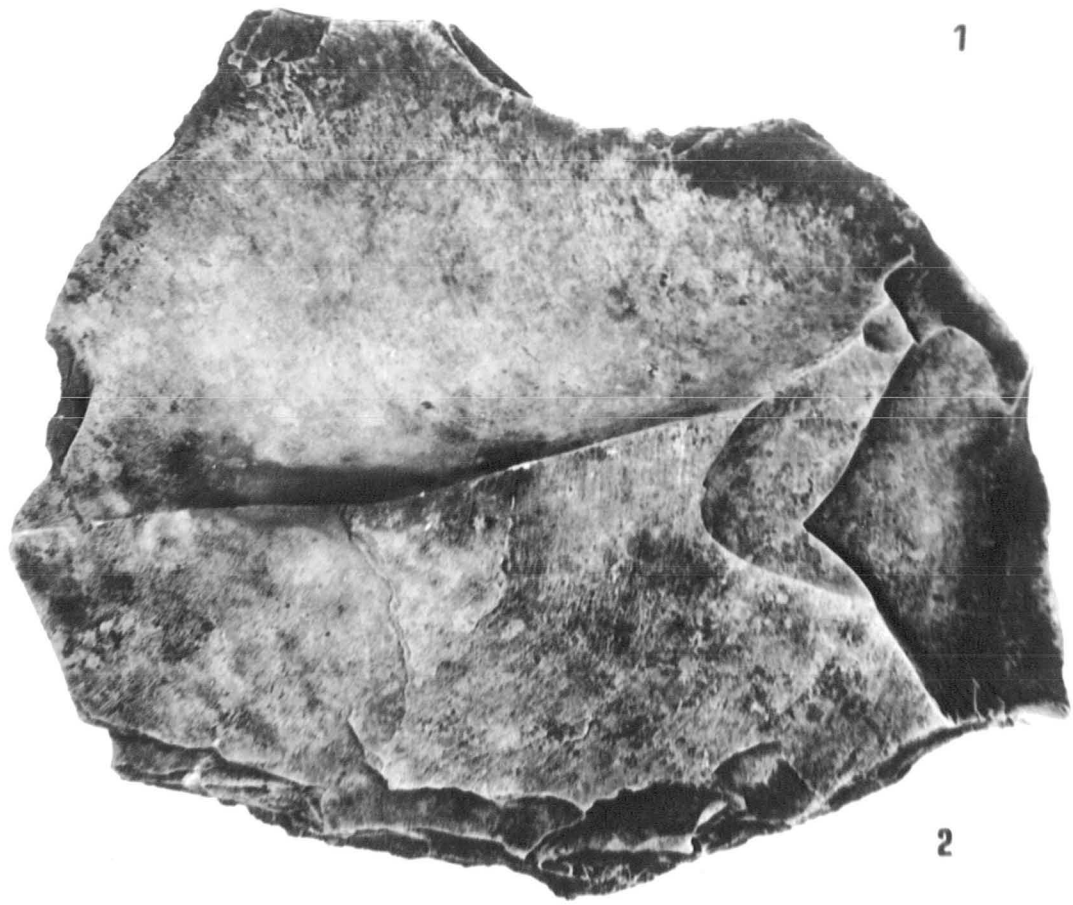
FIG. 64. Pearl Beach site (DaGv-1) 1973 excavations, area C.

1. Large unifacial greywacke flake chopper

2. Large unifacial greywacke flake chopper



1



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