McMASTER UNIVERSITY

THE CULTURE HISTORY OF KIRKLAND LAKE DISTRICT, NORTHEASTERN ONTARIO

by

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A THESIS

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HAMILTON, ONTARIO

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)

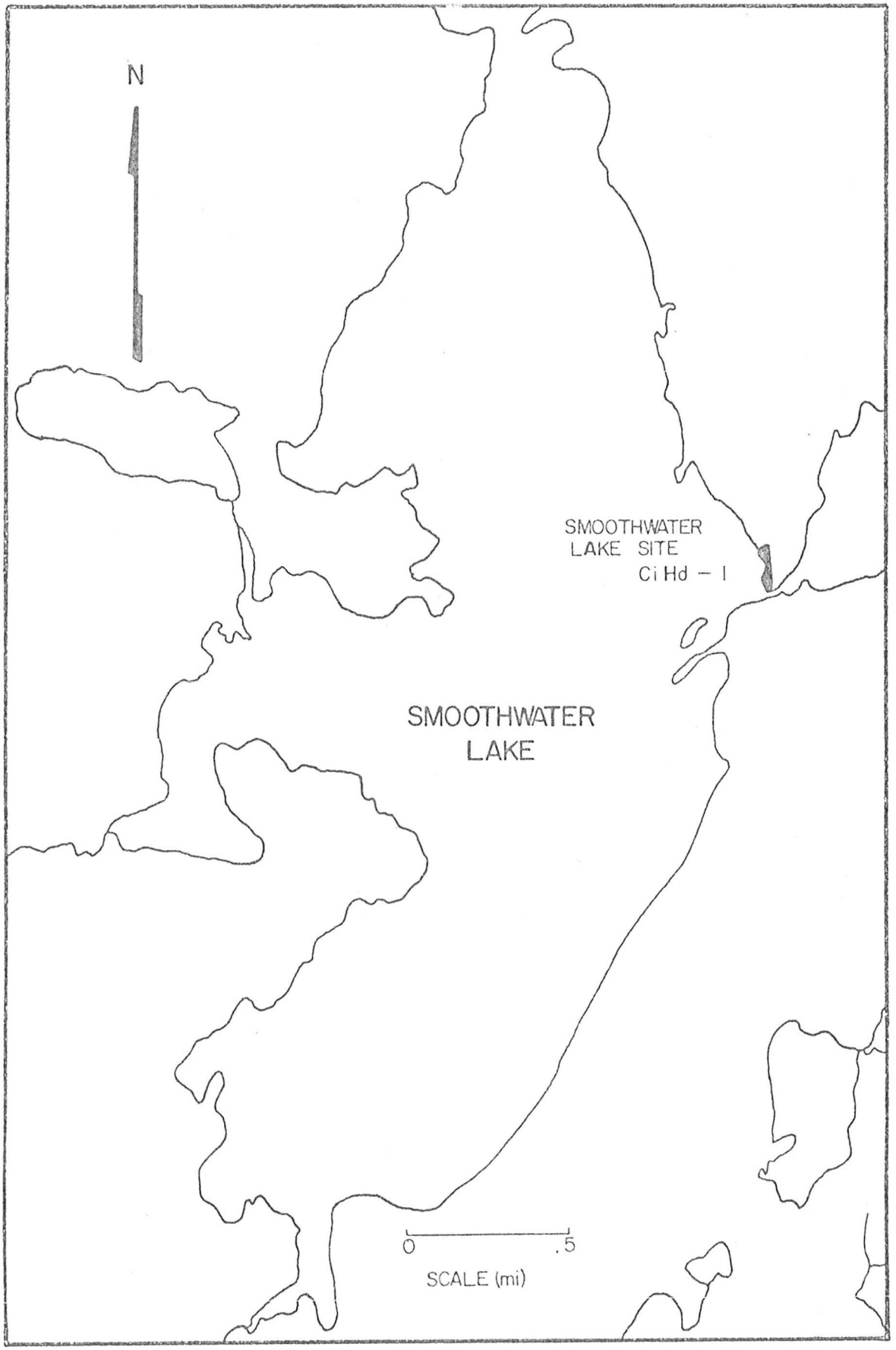

FIG. 6. Map of the Smoothwater Lake site.

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

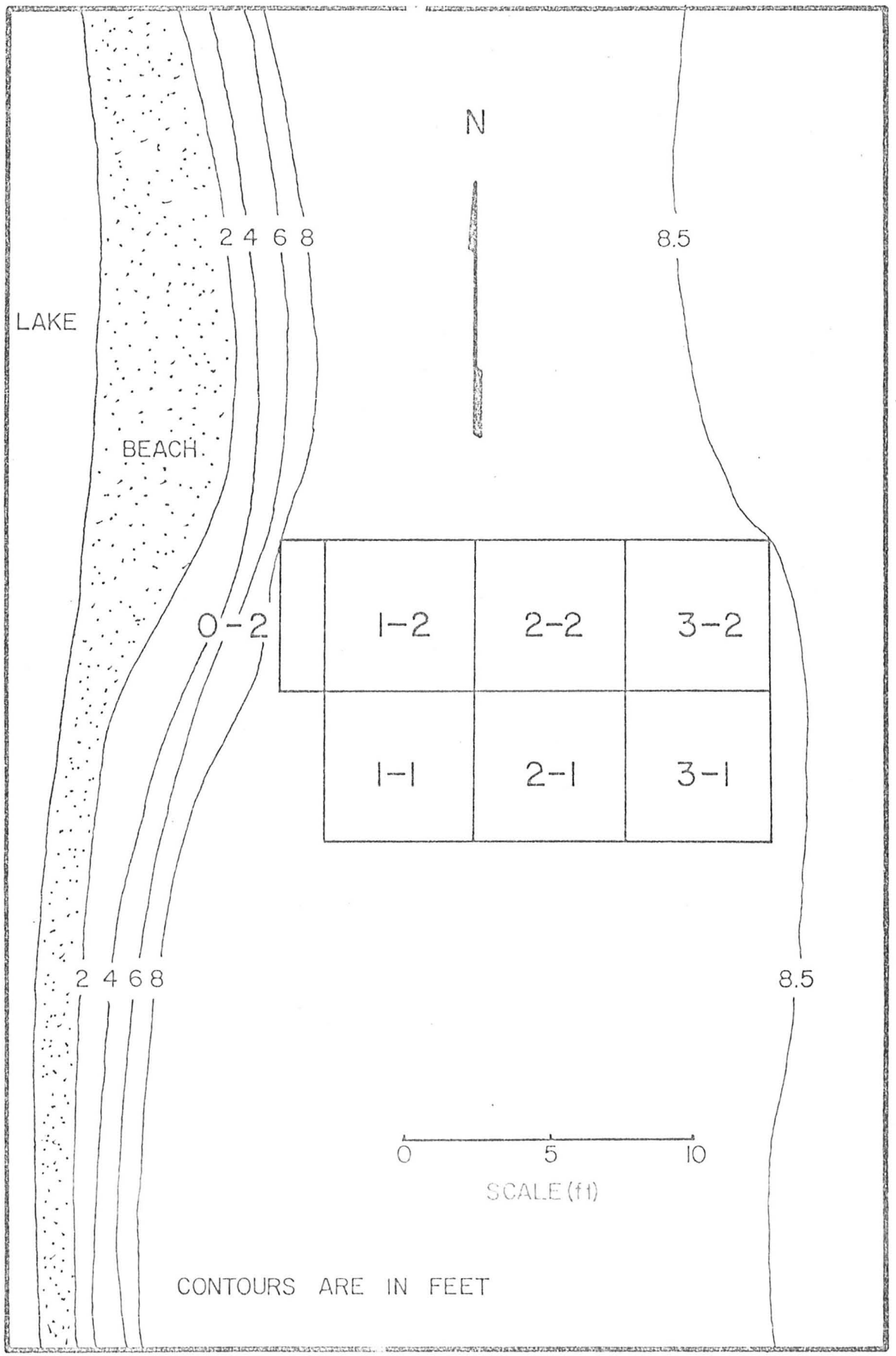

FIG. 7. Excavated units at Smoothwater Lake, 1973.

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

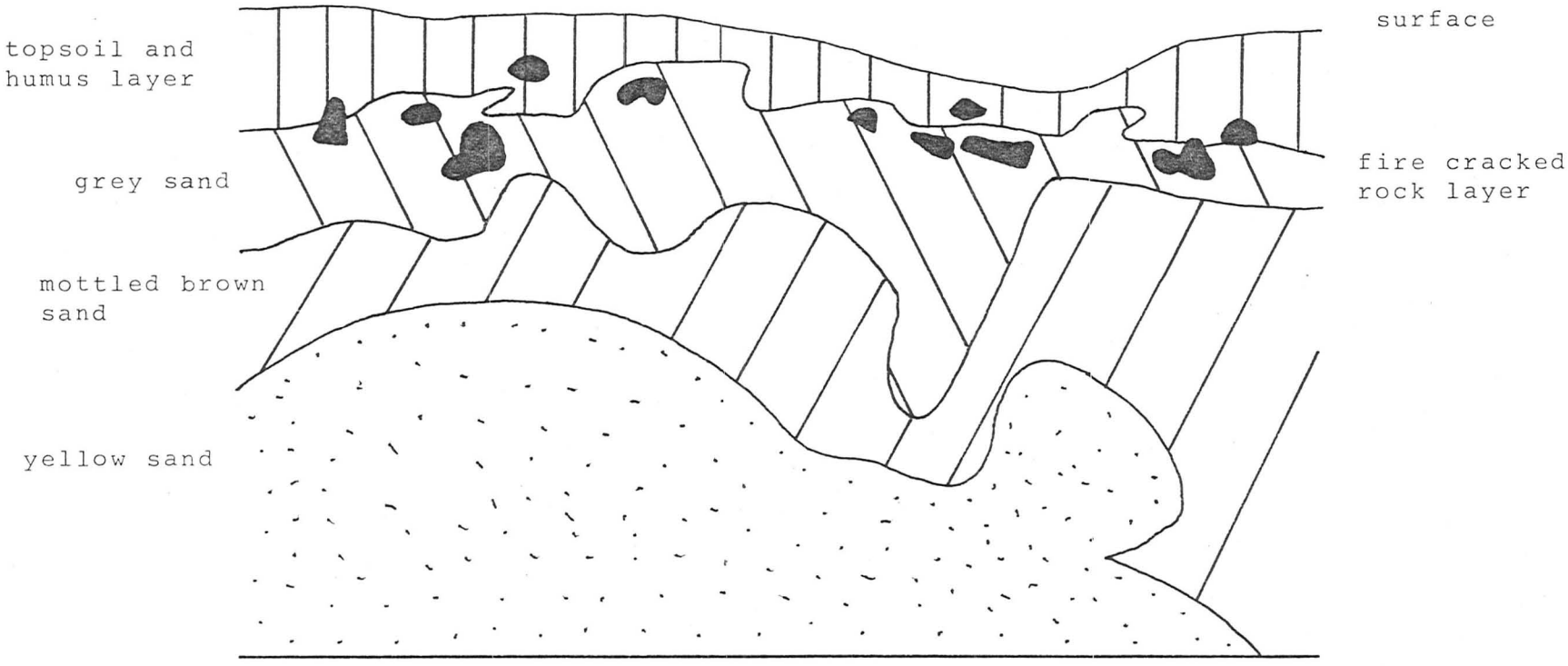

Fig. 8 Smoothwater Lake, west wall profile A square 0-2
Scale: 6" - 5"

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

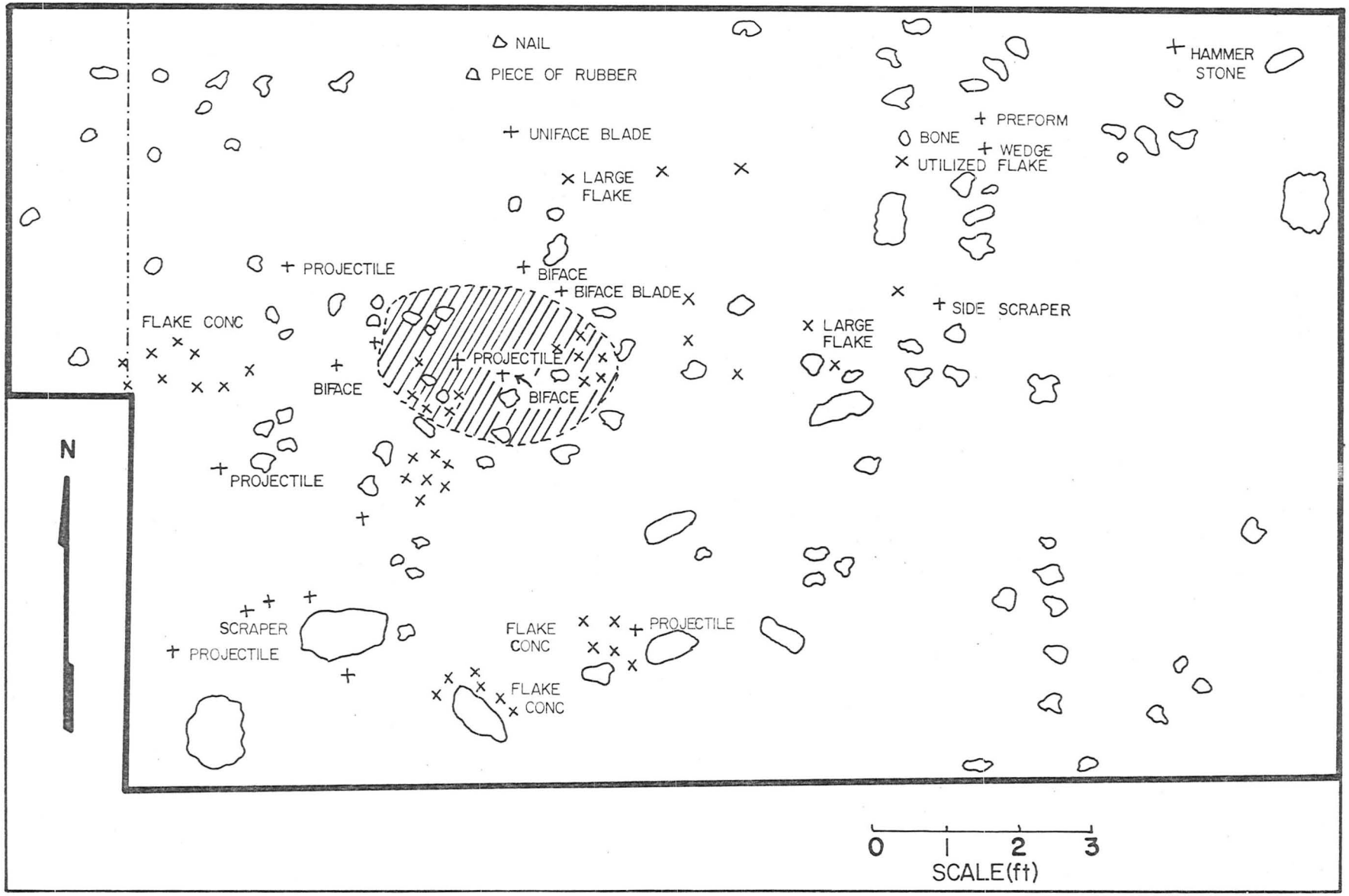

FIG. 9 Floor plan of excavations, Smoothwater Lake, (0 - 3').

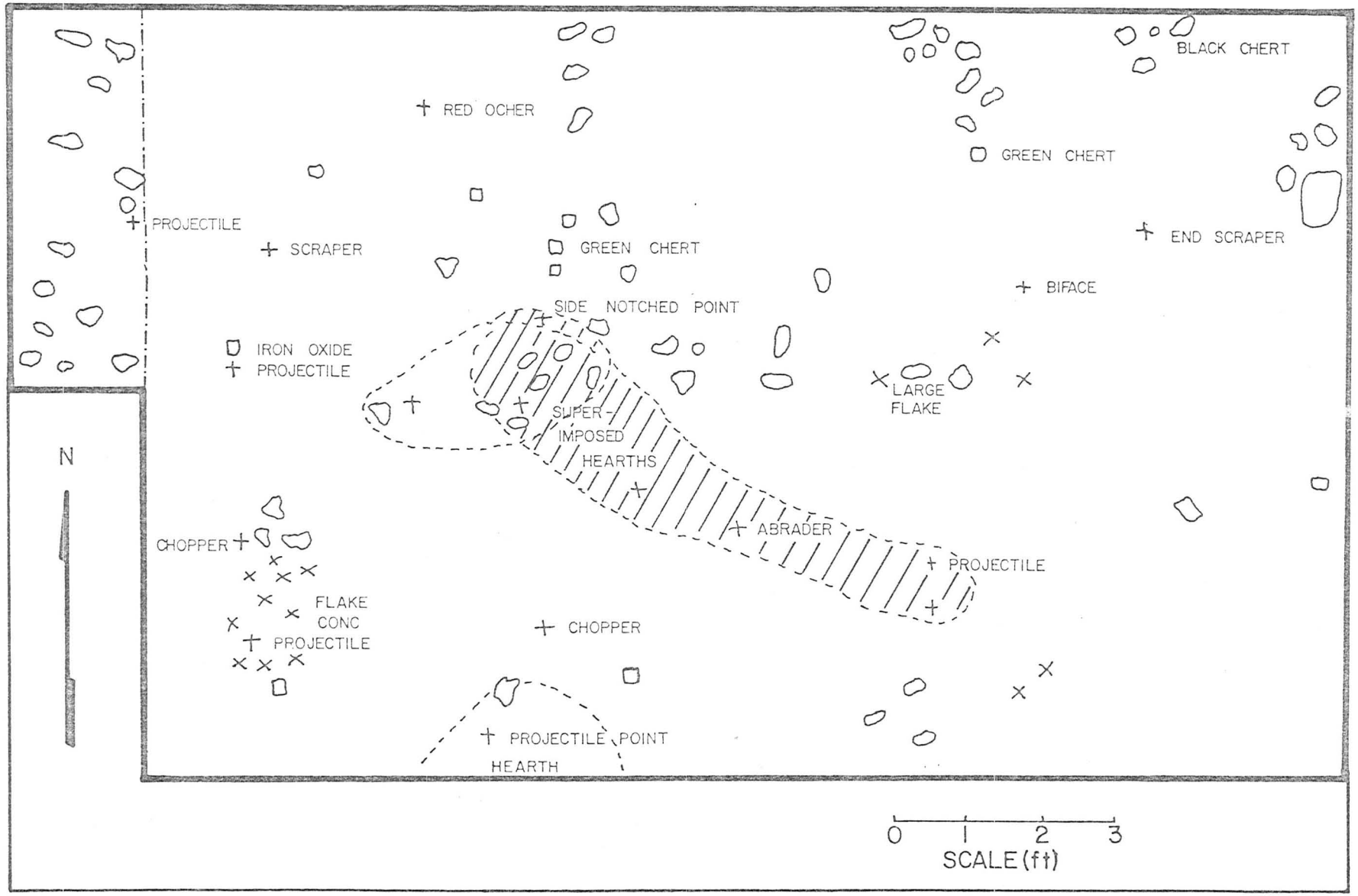

FIG. 10 Floor plan of excavations, Smoothwater Lake, (3 - 6")

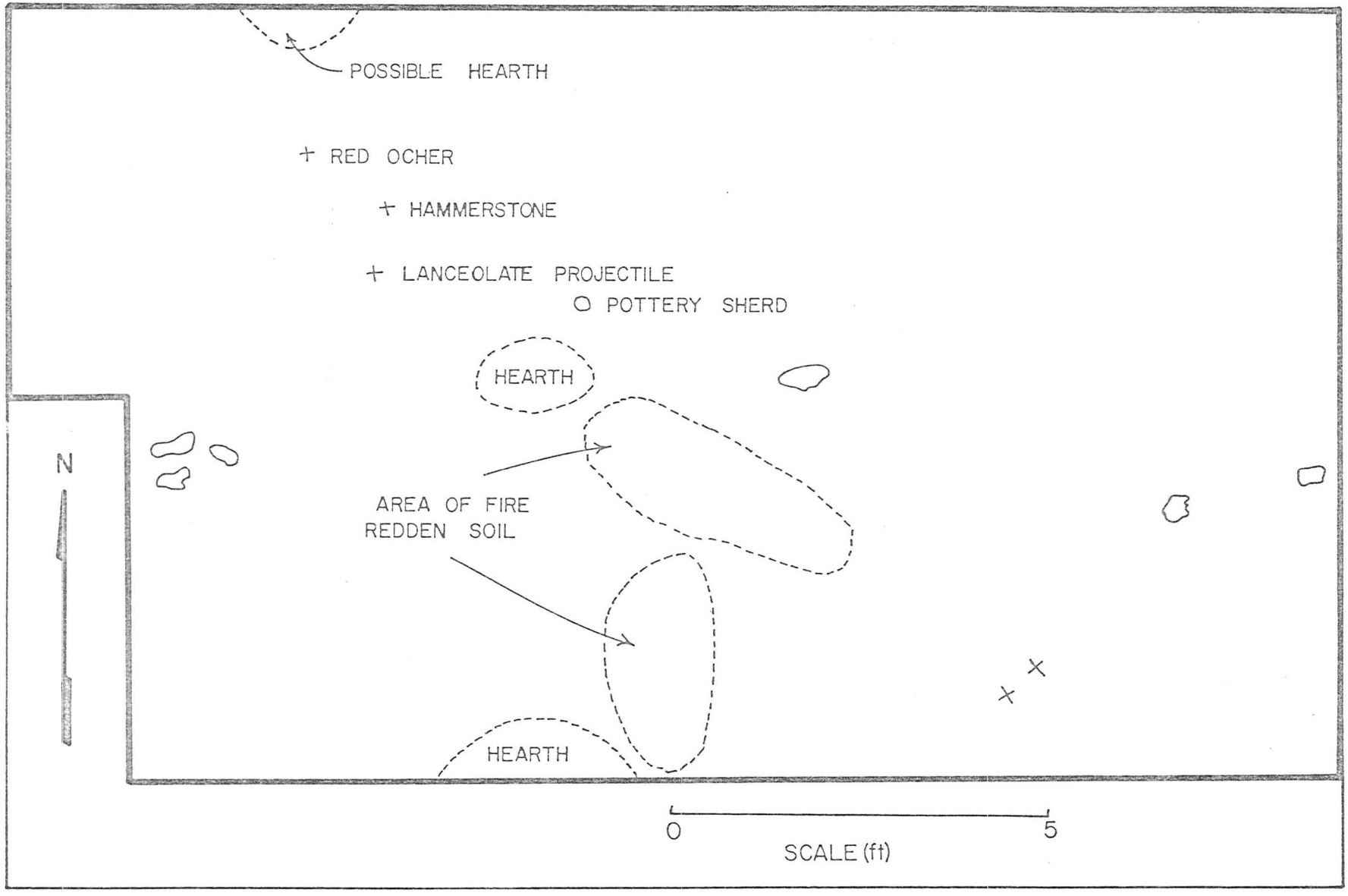

FIG. 11. Floorplan of excavations, Smoothwater Lake, (6-9").

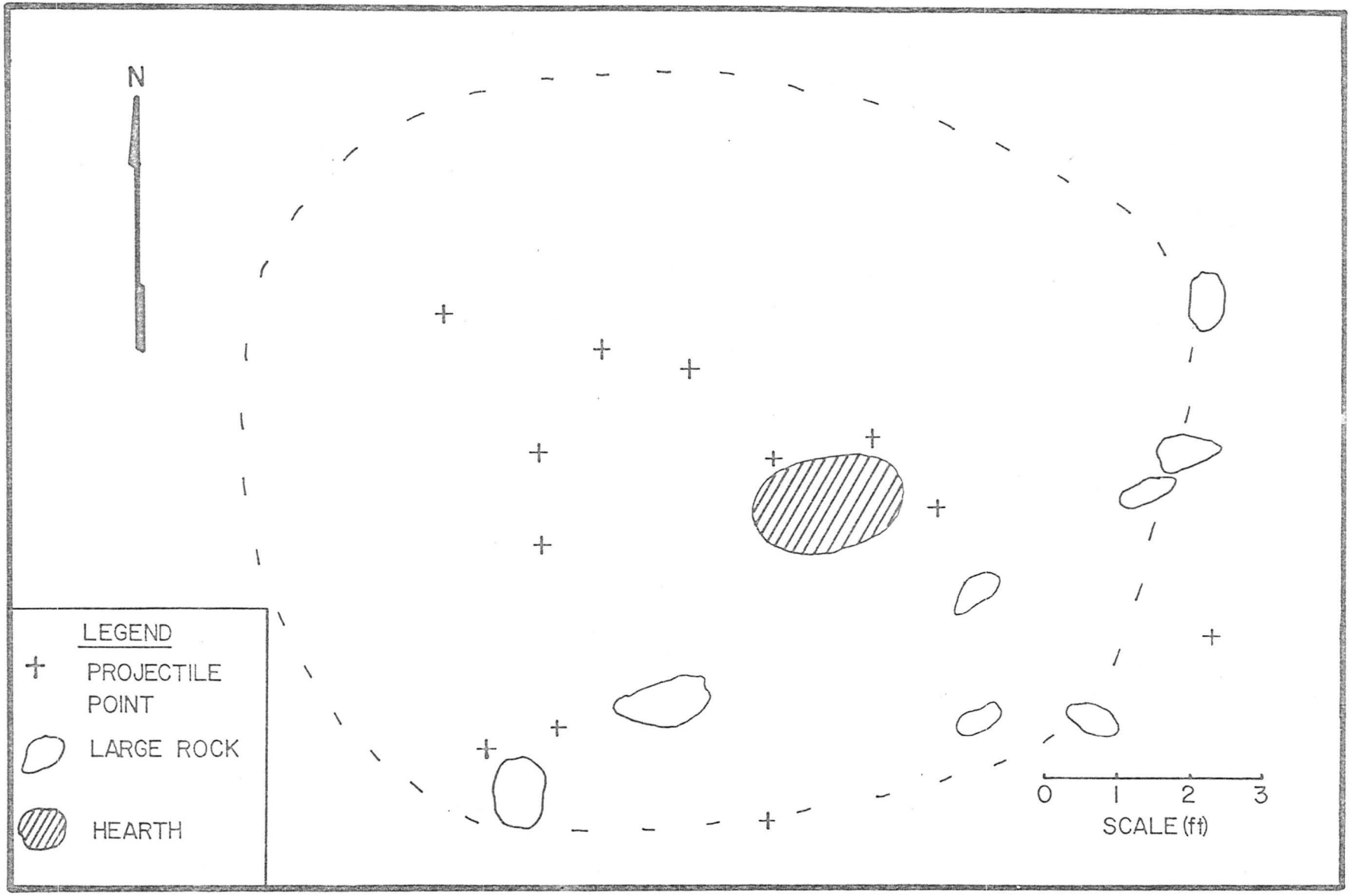

FIG. 12. Possible archaic stone feature (CiHd-1).

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.

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

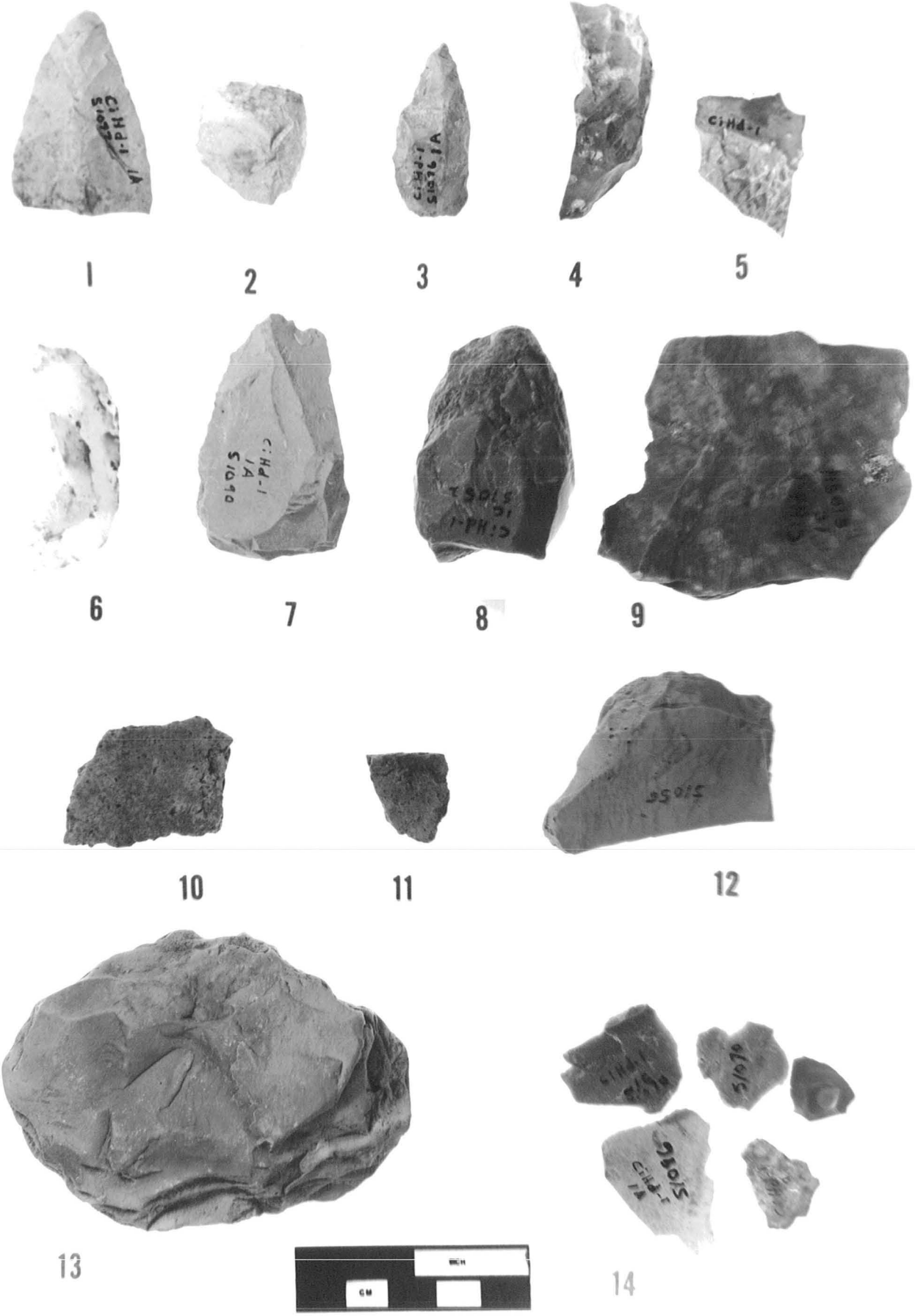
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FIG. 38. Smoothwater Lake (CiHd-1) 1973 excavation.

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

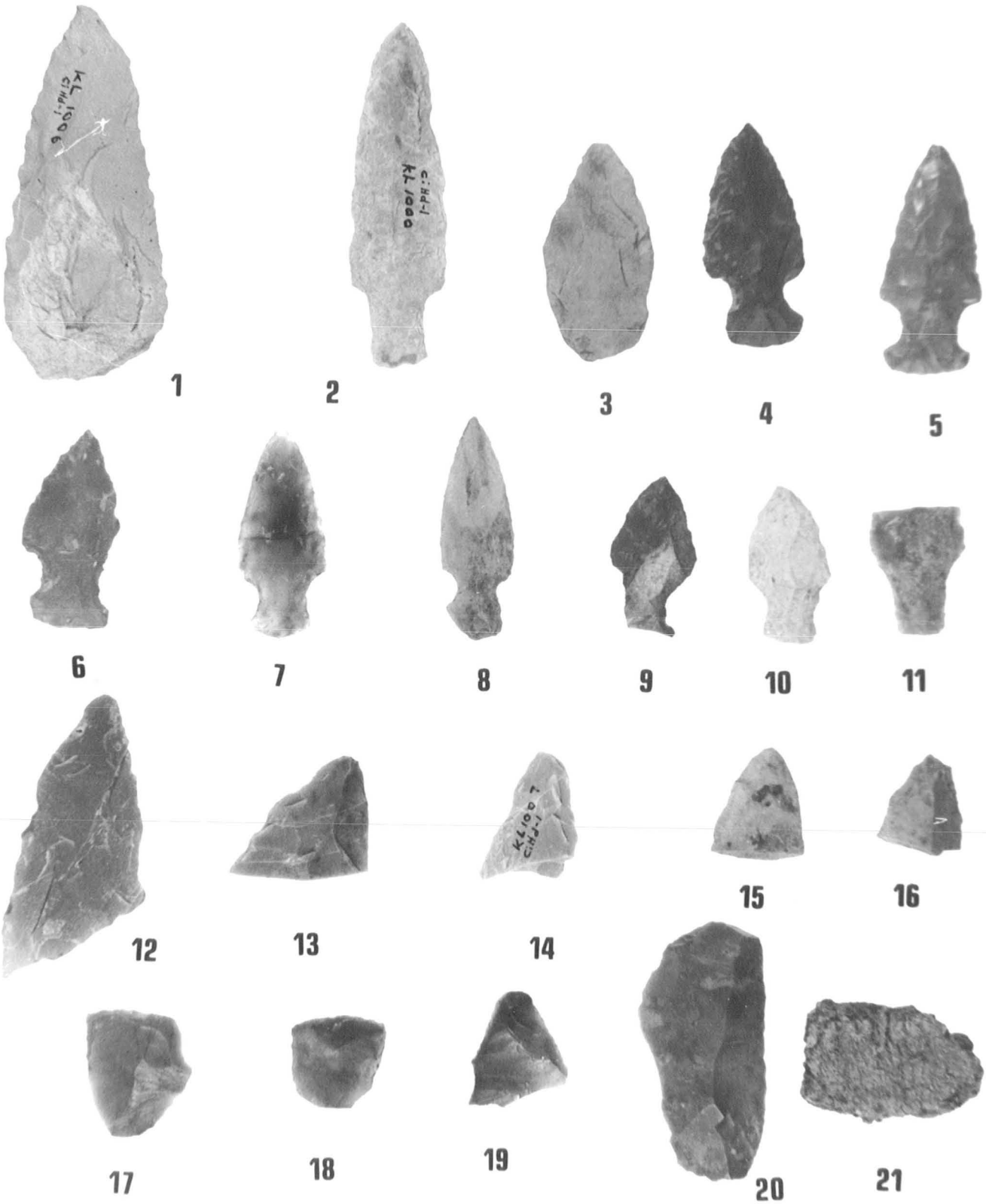
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FIG. 39. Smoothwater Lake (CiHd-1) 1973 excavation.

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

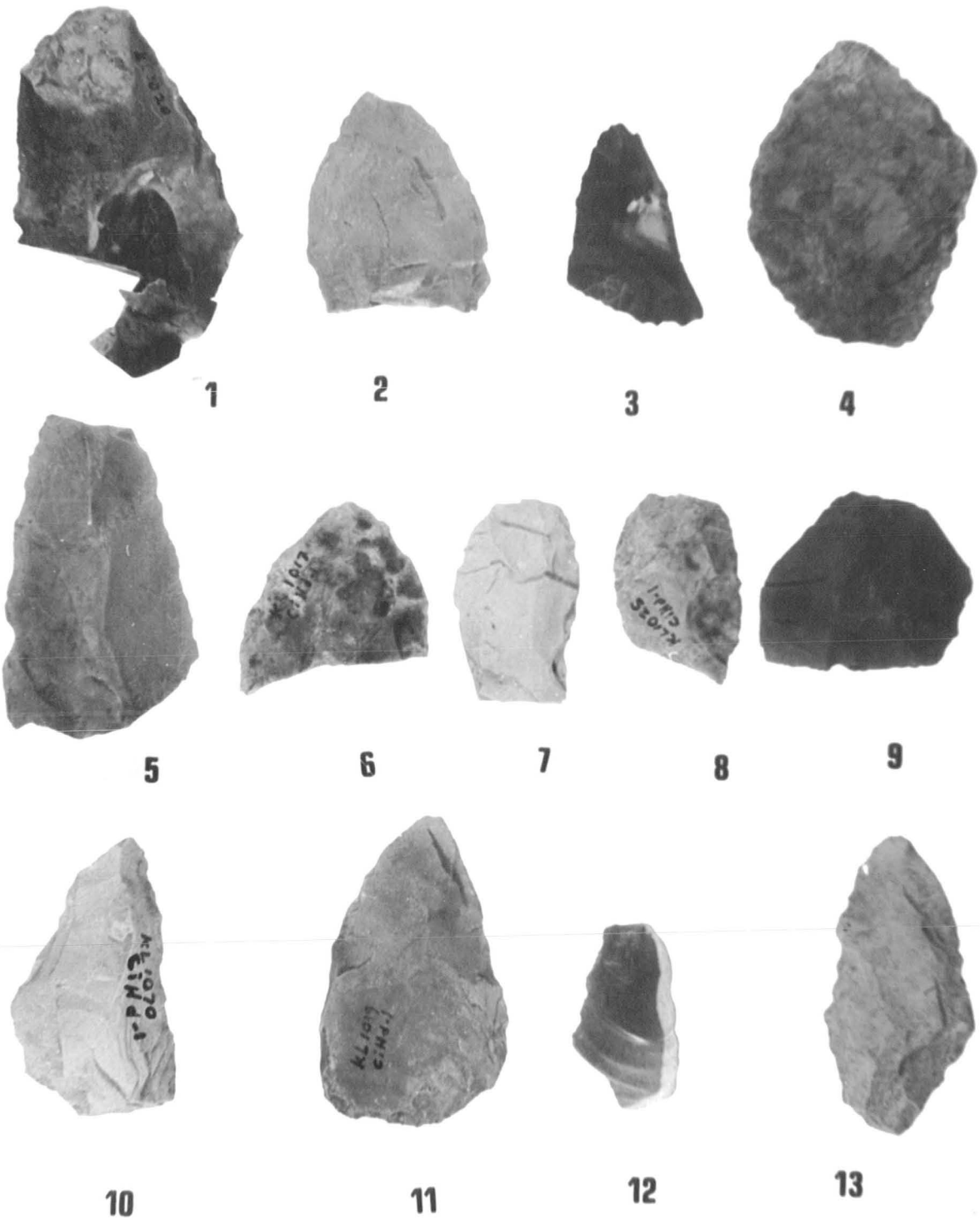
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FIG. 40. Smoothwater Lake (CiHd-1) 1973 excavation.

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.

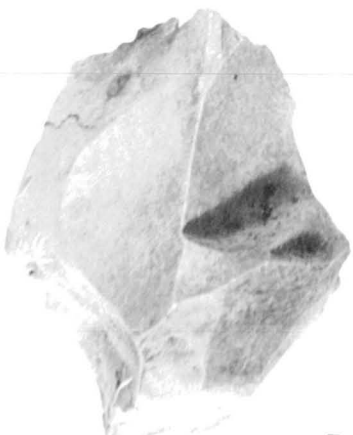
1. Flaked bifacial chopper
2. Flaked bifacial chopper
3. Core
4. Hammerstone
5. Core
6. Assorted flakes

1

2

3

4



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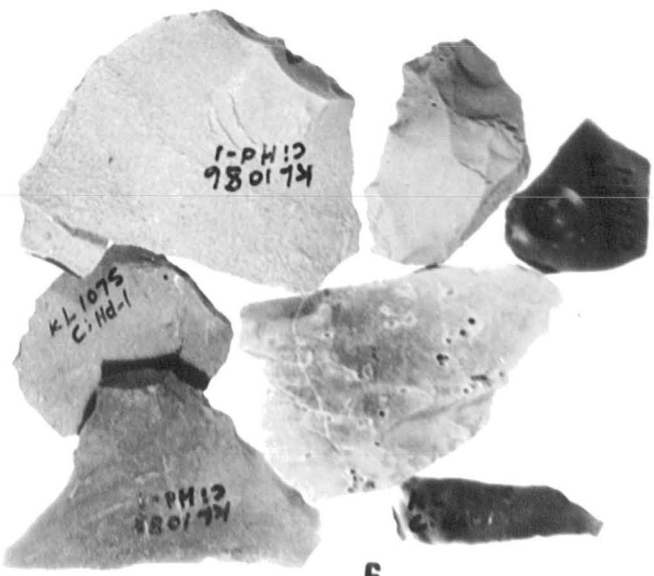

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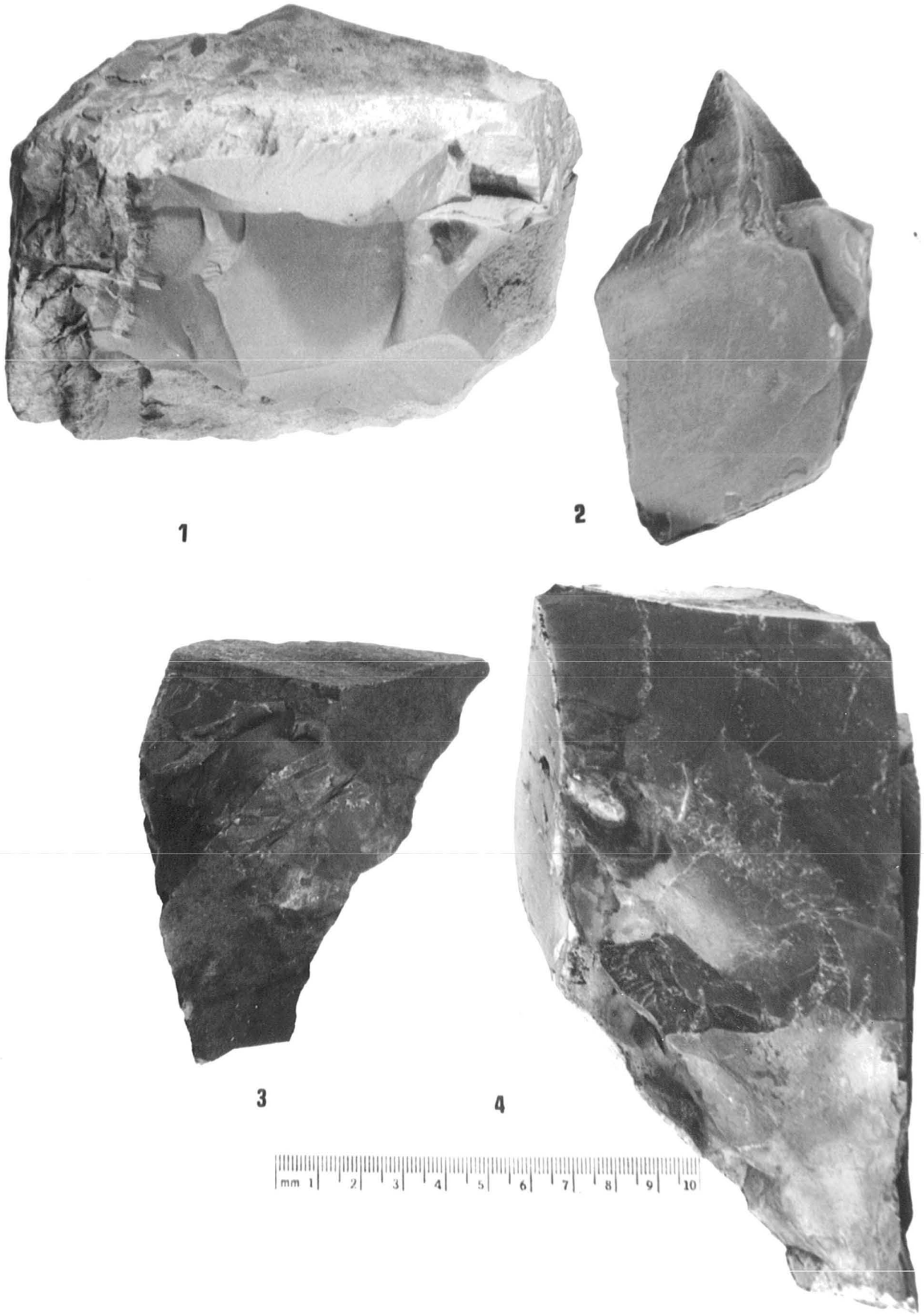
FIG. 42. Smoothwater Lake (CiHd-1) 1973 excavation.

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