BALLYSADARE (DkKp-10): A LAUREL-BLACKDUCK SITE AT THE SOURCE OF THE WINNIPEG RIVER

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ABSTRACT

The Ballysadare site (DkKp-10) on the Winnipeg River in Kenora, Ontario, is a small encampment used by both Laurel and Blackduck people. Test excavations of 9 one-meter units revealed a feature consisting of a curved line of rocks surrounding a grey loam lens associated with Laurel ceramics and a radiocarbon date of 150 B.C. ± 165; it may be the remains of a very early Middle Woodland structure. The late Woodland component contains a hearth, lithic reduction feature, and artifacts typical of Shield area Blackduck sites.

INTRODUCTION

The Ballysdare site (DkKp-10), a three-component Laurel-Blackduck-historic site, is located on the north side of Tunnel Island on the Winnipeg River where the river leaves Lake of the Woods at Kenora, Ontario (Fig. 1 and 2). The site is on a flat section of land covering about 70 square meters bounded on one side by a steep embankment bordering the Winnipeg River and on the other side by a protruding rock outcrop typical of the Canadian Shield. It was discoverd in 1975 by C.S. Reid, Regional Archaeologist for the Ontario Ministry of Culture and Recreation, during an archaeological survey of the Lake of the Woods area. Four one-meter test units were excavated in 1975 under Reid's direction (Licence 75-A-0018) and 5 more one-meter units were excavated in 1976 under the direction of Reid and the writer (Licence 76-B-0106). The resulting excavation (Fig. 3) covers about one-fifth of the site area. Because stratigraphy was not visually apparent, the units were excavated in arbitrary 3 cm levels following surface contours, with all discoveries recorded in situ and all back dirt screened through $^{1}/4$-inch mesh.

The Ballysadare data were analysed with the objectives of defining stratigraphic sequence and relating it to features and artifact distributions to isolate community patterns for each culture period. Distributions of all artifacts were plotted on floor plans for each level, and an attempt was made to determine stratigraphy by an examination of the associations of artifacts of known cultural affiliation and by chi-square statistical procedures, where applicable, dealing with attribute frequencies in each level. Levels with culturally related artifacts and those showing statistically insignificant differences in attribute frequencies such as lithic raw material, flake size, etc., were combined on the assumption that they represent a single component. Those with unrelated cultural affiliations and statistically significant differences in distribution were kept separate, then examined for features associated with these isolated components to determine activity areas.

ENVIRONMENTAL SETTING

The Kenora area is in the southwestern part of the Superior Province of the Precambrian Shield. The area is dominated by metavolcanic rocks of the Wabigoon Greenstone Belt which bears outcrops of grey-to-green-to-black cherts and rhyolites, useful for lithic tool production, extending throughout the northern Lake of the Woods area (Riley et al 1971). The area lies in a

transition zone between the Borel Forest Region and the Great Lakes-St. Lawrence Forest Region (Rowe 1972: 110), the former represented by jack pine, trembling aspen, white birch, balsam fir, and white and black spruces, and the latter represented by white and red pine. As vet no pollen studies have been published for the Lake of the Woods area, so prehistoric climate and vegetation are not known. Faunal species in the area include moose, deer, beaver, muskrat, black bear, snowshoe hare, striped skunk, mink, otter, red fox, ducks, grouse, common crow, raven, kestrel, loon, sturgeon, whitefish, northern pike, lake trout, and pickerel (Ontario Ministry of Natural Resources 1974).

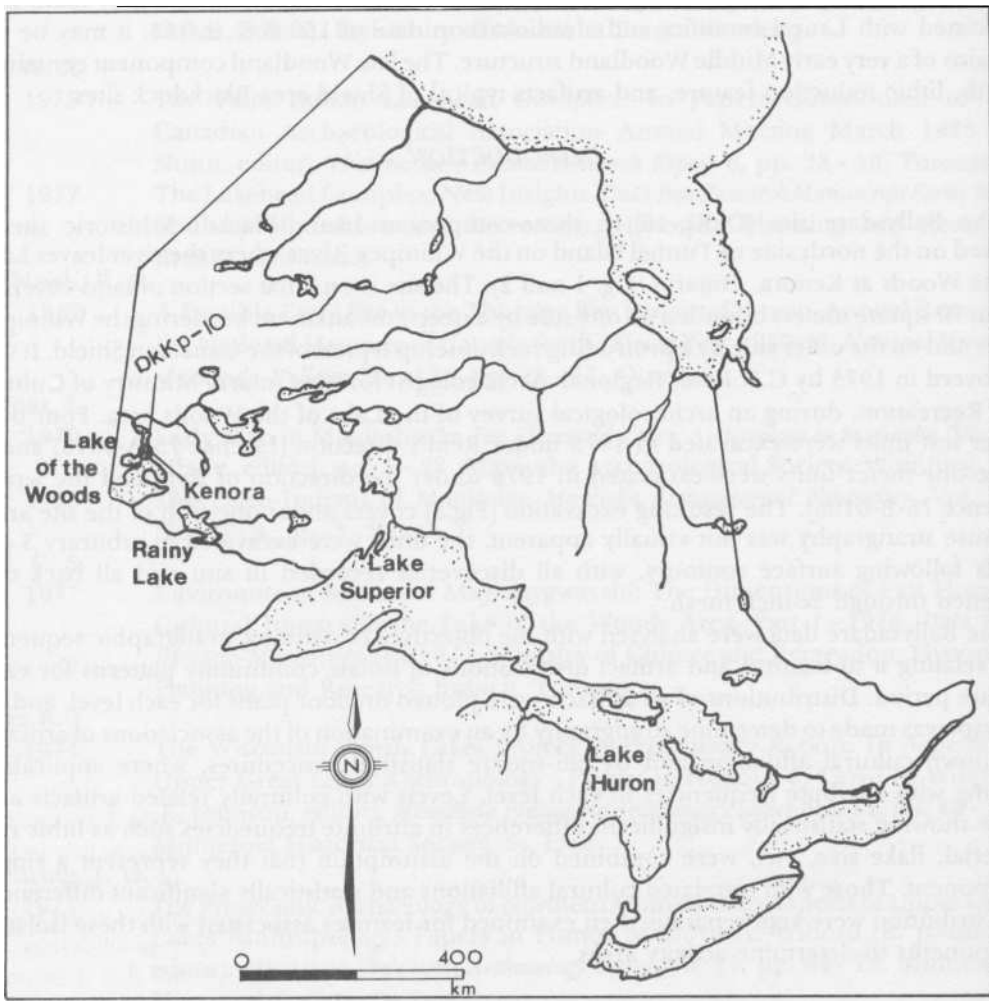

Fig. 1 Location of the Ballysadare site (DkKp-10) in Ontario.

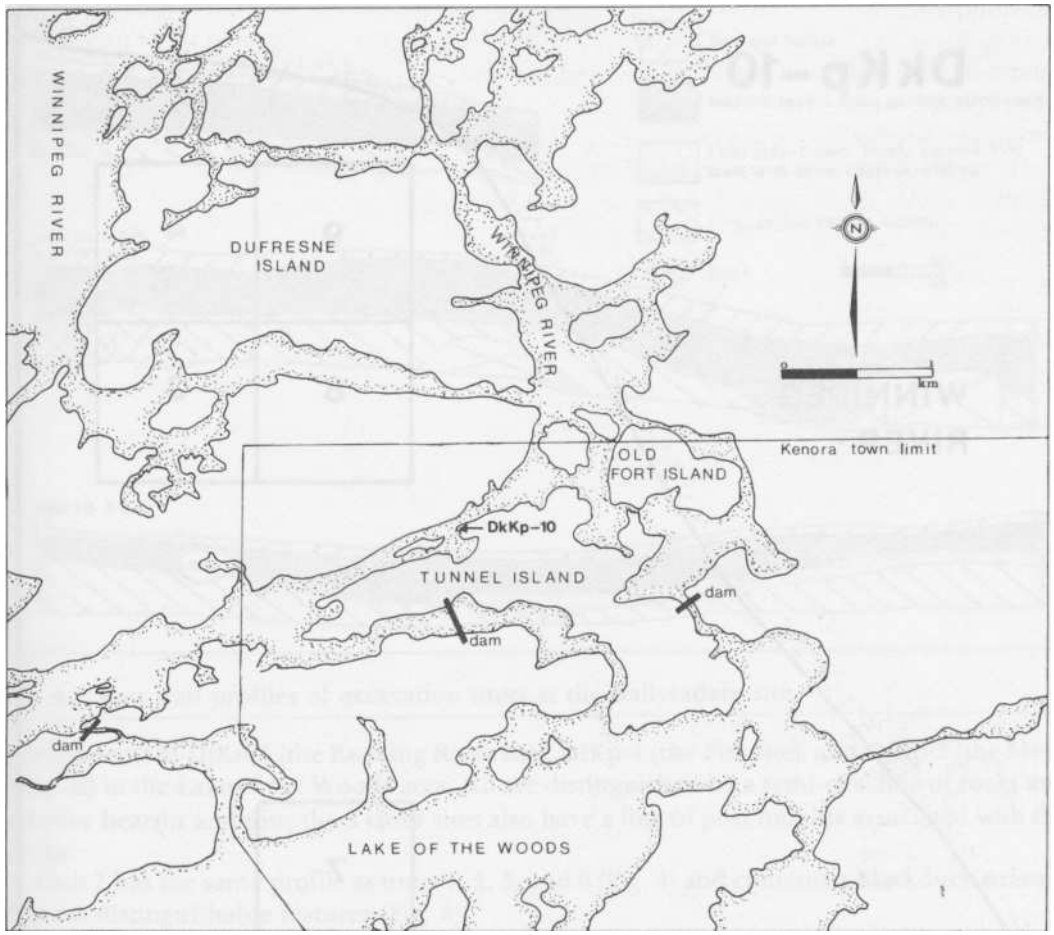

Fig. 2. The location of the Ballysadare site (DkKp-10) on Tunnel Island, Kenora, Ontario.

STRATIGRAPHY AND FEATURES

A 2.5 cm layer of humus, sod, and root mat overlies the occupational zone which extends to an average depth of 15 cm, and is composed of medium brown or grey, loose sandy loam. Below that is the subsoil base of yellow-brown fine sand and glacially deposited rocks (Fig. 4).

Two features are evident. The profile of the east wall of units 5 and 6 reveals a pit at the south end (Fig. 4). The floor plan for unit 5 (Fig. 5) reveals the same feature, a hearth, as evidenced by a concentration of burnt bone and small outlining rocks. The profile shows that it extends from level III to the bottom of level *VI* (19 cm). It is Blackduck.

A second feature is apparent in the east-wall profile of units 3 and 4 (Fig. 4): a very thin lens of light grey-brown, loose, fine loam containing some charcoal flecks extends north for about 120 cm. The same feature appears on the floor plan for units 3, 4, 8, and *9* (Fig. *7),* distinguished by a surrounding line of small rocks and by a distinct soil change, the light grey-brown very fine loam of the feature surrounded by the darker brown, coarser loam of the general occupation zone. We have suggested elsewhere (Reid and Rajnovich 1979) that this feature may be the edge of an oval Laurel dwelling similar to those found in the Laurel

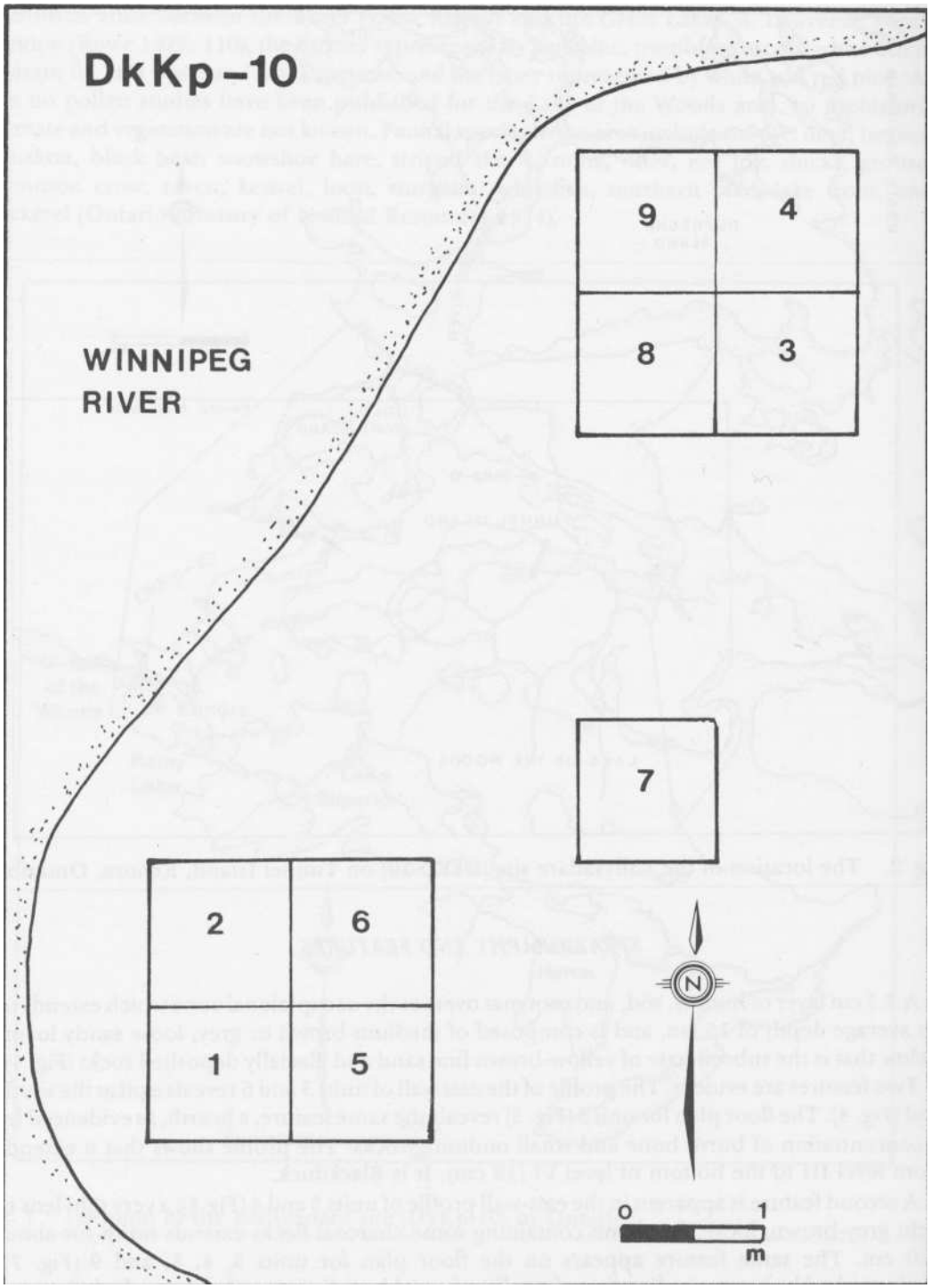

Fig. 3. Excavation units at the Ballysadare site (DkKp-10).

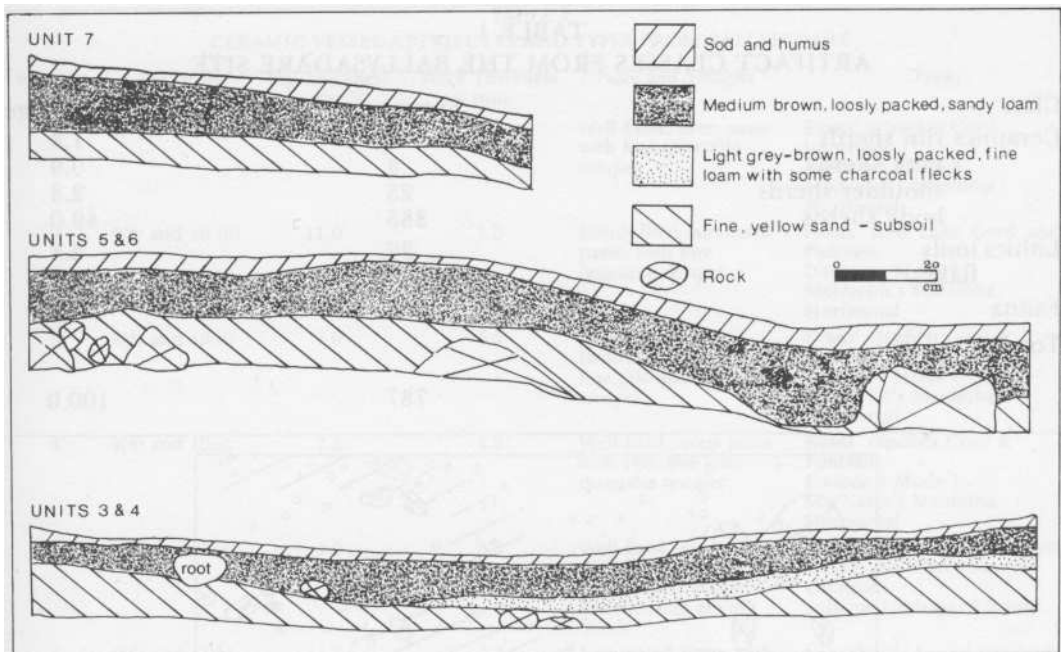

Fig. 4. East wall profiles of excavation units at the Ballysadare site.

components of DjKn-5 (the Rushing River site), DlKp-1 (the Fisk site), and DjKp-3 (the Meek site), all in the Lake of the Woods area. All are distinguished by a semi-oval line of rocks and interior hearths and pits; the 3 latter sites also have a line of post moulds associated with the rocks.

Unit 7 has the same profile as units 1, 2, 5, and 6 (Fig. 4) and contains a Blackduck stratum but no distinguishable features (Fig. 8).

ARTIFACT ANALYSIS

A total of 787 artifacts constitute the sample from the Ballysadare test excavations. Their frequencies and percentages are shown in Table 1.

Ceramics

The 430 ceramic sherds from Ballysadare include 14 rim sherds representing 7 vessels. They are presented by attributes in Fig. 9 and by types and metrics in Table 2.

The Blackduck rims were found in the south block (Units 1, 2, 5, and 6) in levels I and I I, and in the north block (Units 3, 4, 8, and 9) extending from levels I to IV. Laurel vessels were recovered only from the north block in levels III and IV, and appear to be associated with the feature which extends from level III into level V.

Only 8 analysable neck sherds, all Blackduck, were discovered in the excavation. Three sherds were found in the south block, 2 corded each 5.0 mm in thickness, and one plain 8.0 mm in thickness, distributed through levels Ito III. Four neck sherds were excavated in the north block, 3 corded ranging from 3.0 mm to 6.0 mm in thickness and one corded-and punctate sherd 6.0 mm in thickness, extending from levels Ito IV. In addition, an exfoliated linear punctate combed, and corded neck sherd was recovered from unit 7, level III. The distribution of the neck sherds is similar to that of the rims.

TABLE 1
ARTIFACT CLASSES FROM THE BALLYSADARE SITE

Class	Frequency	Percentage
Ceramics rim sherds	14	1.8
neck sherds	8	0.9
shoulder sherds	23	2.8
body sherds	385	49.0
Lithics tools	22	2.8
flakes	309	39.4
Fauna	26	3.3
Totals		
	787	100.0

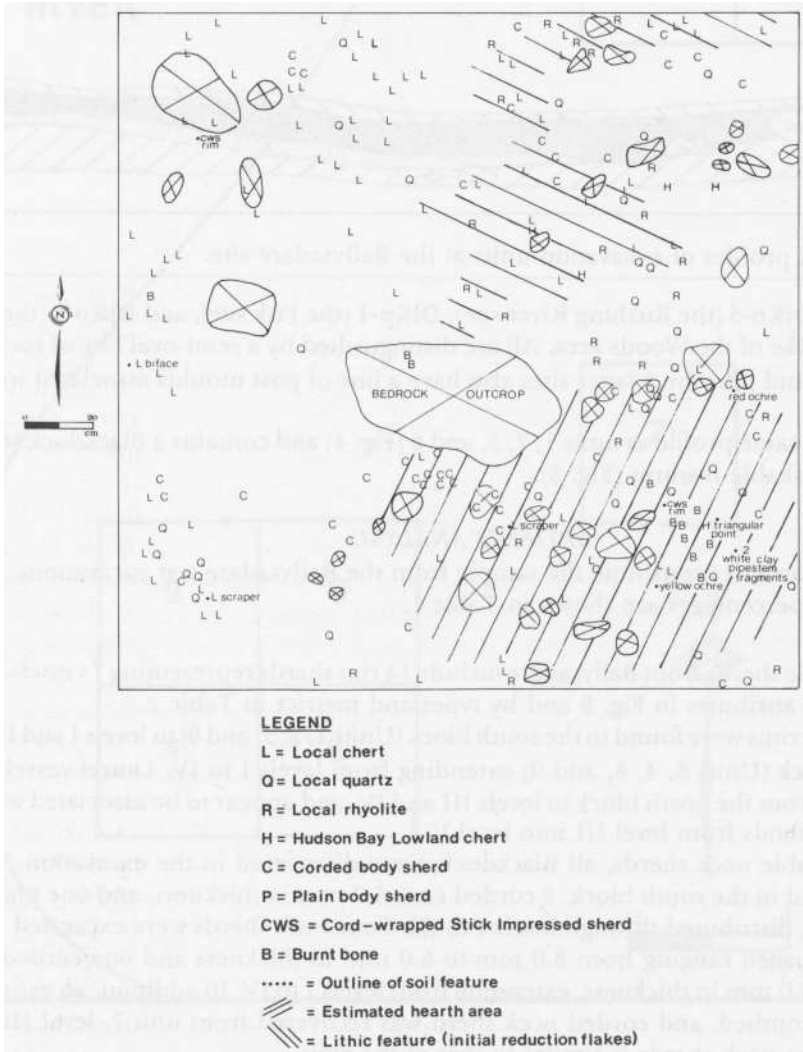

Fig. 5. Floor plan of excavation units 1, 2, 5 and 6 (south block), Ballysadare site.

TABLE 2
CERAMIC VESSEL ATTRIBUTES AND TYPES FROM BALLYSADARE

Rim No.	Figure No.	Lip Thickness mm	Neck Thickness mm	Paste and Temper	Type
1	9(1) and 10(c)	7.5	6.0	Well-fired, even paste with fine quartzite temper	Evans' Schocker Cord Impressed Dawson's Mode 3 MacNeish's Manitoba Horizontal
2	9(2) and 10 (b)	11.0	7.0	Evenly fired, laminated paste, with fine quartzite temper	Evans' Nett Lake Cord and Punctate Dawson's Mode 6 MacNeish's Manitoba Horizontal
3	9(3) and 10(d)	7.0	6.5	Unevenly fired, laminated paste with fine grit-quartzite temper	Evans' Osufsen Cord & Punctate Dawson's Mode 1 MacNeish's Manitoba Horizontal
4	9(4) and 10(a)	7.5	4.2	Well-fired, even paste with very fine grite quartzite temper	Evans' Osufsen Cord & Punctate Dawson's Mode 1 MacNeish's Manitoba Horizontal
5	9(5) and 11(a)	3.0 5.5	5.5	Well-fired, even paste with fine-to-medium grit temper, broken at the shoulder at coil break	Lugenbeal's Laurel Undragged Stamp; Stoltman's Laurel Oblique, Subtype Undragged Stamp.
6	9(6) and 11(b)	1.5	5.5	Laminated paste with very fine grit-quartzite	Lugenbeal's Laurel Dragged Oblique Stoltmen's Laurel Oblique, subtype Push-Pull
7	9(7)	3.5	6.6	Well-fired even paste with fine grit-quartzite	Lungenbeal's and Stoltman's Laurel plain

Types are from Evans (1961), Dawson (1976), MacNeish (1958), Lugenbeal (1976) and Stoltman (1973).

Twenty-three shoulder sherds were recovered from Ballysadare. One corded sherd, 5.0 mm in thickness, was found in the south block in level II. Twenty shoulder sherds were in the north block, and their distribution by levels is shown in Table 3. The corded and oblique cord-wrapped stick impressed shoulder sherds show a Blackduck distribution through levels II to IV, and the plain and incised sherds point to a Laurel distribution through levels III to VI, again echoing the Blackduck and Laurel rim sherd distributions in the north block. The cord-wrapped stick shoulders all measure 5.0 mm in thickness while the plain sherds measure a mean of 6.3 mm (±0.12, n = 10), and the incised sherd measures 5.0 mm in thickness. Two corded shoulder sherds measuring 4.5 mm in thickness each were recovered from unit 7, level III.

A total of 385 body sherds were recovered consisting of 206 plain sherds, 176 corded sherds. The plain sherds have a mean thickness of 6.0 mm (± 0.8 mm, n= 206); the corded sherds have a mean thickness of 4.2 mm (± 1.l, n = 176); and the 3 fabric impressed sherds have a mean thickness of 5.7 mm.

The south units produced 64 corded body sherds: 19 (29.7%) in level I, 26 (40.6%) in level II, 17 (26.6%) in level III, and 2 (3.1%) in level IV. Unit 7 had 13 corded body sherds: 2 (15.4%) in level II , 8 (61.5%) in level III, and 3 (23.1%) in level IV. The north units yielded 308 body sherds; their surface treatments and distribution by level are shown in Table 4. Only Blackduck affiliated corded body sherds are present in the south block and in unit 7, extending from level 1 to IV, a similar distribution as the rims, necks, and shoulders. In the north block Blackduck corded sherds and Laurel plain body sherds appear throughout the six levels (Table 4); however the chi-square (corrected) statistic for the distribution of corded and

plain sherds is 23.62, significant beyond the .001 level, indicating that the sherds are not randomly distributed through the levels. Table 4 shows the percentage of plain sherds increasing dramatically at level III and the percentage of corded sherds decreasing between levels III and IV a distribution paralleled by the rims, necks, and shoulders.

TABLE 3
SHOULDER SHERDS BY LEVEL IN NORTH BLOCK (UNITS **3, 4, 8** AND **9)**

	LEVEL						
	I	II	III	IV	V	VI	Totals
Decoration/Surface Treatment							
Corded	-	2(100)%	2(25%)	2(40%)	-	-	6(30%)
Cord-Wrapped Stick & Corded	-	-	3(37.5%)	-	-	-	3(15%)
Plain	-	-	2(25%)	3(60%)	4(100%)	1(100%)	10(50%)
Incised	-	-	1(25%)	-	-	-	1(5%)
Totals		2(100%)	8(100%)	5(100%	4(100%)	1(100%)	20(100%)

TABLE 4
BODY SHERDS BY LEVEL IN NORTH BLOCK (UNITS 3, **4,** 8 AND 9

	LEVEL						
	I	II	III	IV	V	VI	Totals
Surface Treatment							
Corded	4(66.7%)	13(56.5%)	37(41.6%)	36(28.8%)	5(100%)	426.7%)	99(32.1%)
Plain	2(33.3%)	7(30.4%)	52(58.4%)	89(71.2%)	45(90.0%)	11(73.3%)	206(66.9%)
Fabric	-	3(13.1%)	-	-	-	-	3(1.0%)
Totals	6(100.0%	23(100.0%)	89(100.0%)	125(100.0%)	50(100.0%)	15(100.0%	308(100.0%)

The distributional data for ceramics at Ballysadare suggest two components, Blackduck over a Laurel, in "collapsed stratigraphy" (Syms 1977:4). Accordingly, 2 floor plans were drawn for the north units to represent the individual distributions of the 2 components (Figs. 6, 7). As both the feature and the Laurel ceramics extended downwards from level III, they are shown in Fig. 7 associated with the Laurel sherds located mainly inside the semi-circular feature outline.

Lithic Artifacts

The 22 lithic tools and 267 flakes recovered from Ballysadare were analysed following a modified version of Ahler's (1975) procedures. Tools were divided into the technological classes of bifaces, unifaces and cores, then further subdivided into morphological categories within each class. Flakes were divided according to their widths determined by the size of mesh screen necessary to capture them: 5 categories ranged from greater than two inches (50.8 mm) to between $^{1}/_{4}$ and $^{1}/_{8}$inch (6.35 - 3.02 mm). The assumption was that tool production produces progressively greater proportions of small flakes as the procedure moves from primary to final reduction. Width measurements were determined by general size rather than the technological positioning of the bulb of force relative to flake edges on the assumption that the mesh screen distinguished size only. The flakes were examined for their distributions by unit and level, using the chi-square statistic where possible, in an effort to distinguish components. It was assumed that flakes that differed significantly from level to level according to their raw material, size, or horizontal clustering might indicate separate activity zones and perhaps separate components. Finally, lithic tools were compared to those previously published in the area, and to the ceramic distribution.

Six lithic raw materials were found at Ballysadare including grey, green and black chert, grey and green rhyolite, and white quartz, all available locally in the Wabigoon Greenstone Belt. Also found were fragments of Hudson Bay Lowland chert which outcrops about 170 kilometres

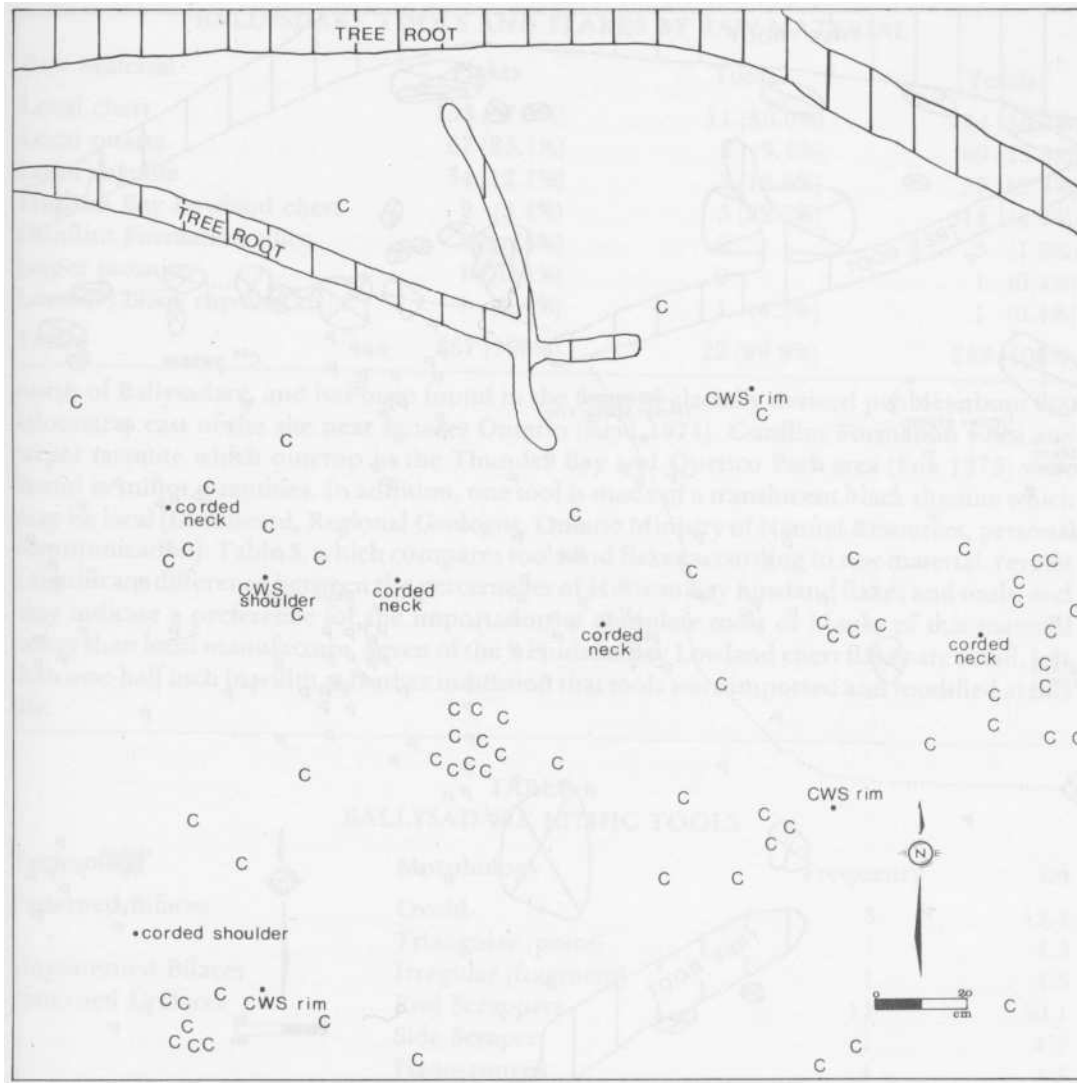

Fig. 6. Floor plan of excavation units 3, 4, 8 and 9 (north block), Blackduck stratum, Ballysadare site (see Fig. 5 for legend).

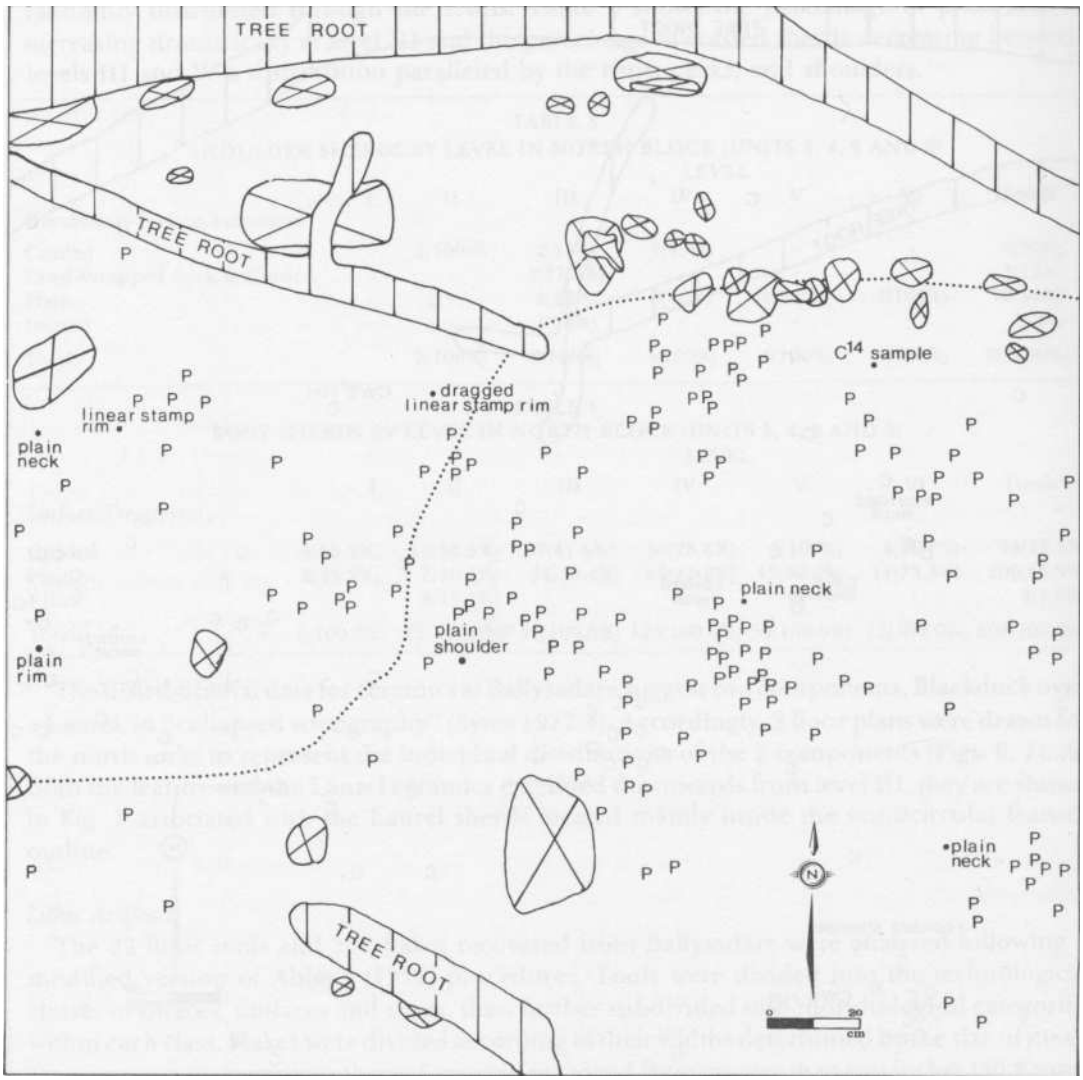

Fig. 7. Floor plan of excavation units 3, 4, 8 and 9 (north block), Laurel stratum, Ballysadare site (see Fig. 5 for legend).

TABLE 5
BALLYSADARE TOOLS AND FLAKES BY RAW MATERIAL

Raw Material	Flakes	Tools	Totals
Local chert	153(57.3%)	11 (50.0%)	164(56.7%)
Local quartz	67(25.1%)	2 (9.1%)	69(23.9%)
Local rhyolite	34(12.7%)	3 (13.6%)	37(12.8%)
Hudson Bay Lowland chert	9 (3.4%)	5 (22.7%)	14 (4.8%)
Gunflint Formation silica	3(1.15%)	0	3 (l.0%)
Jasper taconite	1 (0.4%)	0	1 (0.4%)
Local (?) black rhyolite	1 (0.4%)	1 (4.5%)	1 (0.4%)
Totals	267 (100%)	22 (99.9%)	289 (100%)

north of Ballysadare, and has been found in the form of glacially derived pebbles about 200 kilometres east of the site near Ignace, Ontario (Reid 1974). Gunflint Formation silica and jasper taconite which outcrop in the Thunder Bay and Quetico Park area (Fox 1975) were found in minor quantities. In addition, one tool is made of a translucent black rhyolite which may be local (Dick Beard, Regional Geologist, Ontario Ministry of Natural Resources, personal communication). Table 5, which compares tools and flakes according to raw material, reveals a significant difference between the percentages of Hudson Bay Lowland flakes and tools, and may indicate a preference for the importation of complete tools or blanks of this material rather than local manufacture. Seven of the 9 Hudson Bay Lowland chert flakes are small, less than one-half inch in width, a further indication that tools were imported and modified at this site.

TABLE 6
BALLYSADARE LITHIC TOOLS

Technology	Morphology	Frequency	%
Patterned Bifaces	Ovoid	3	13.7
	Triangular (point)	1	4.5
Unpatterned Bifaces	Irregular (fragment)	1	4.5
Patterned Unifaces	End Scrappers	11	50.l
	Side Scraper	1	4.5
	Plano-convex	1	4.5
Unpatterned Unifaces	Irregular	3	13.7
Cores	Non-random polyhedral	1	4.5
Totals		22	100.0

Table 6 segregates the 22 lithic tools into their technological classes and morphological categories following Ahler (1975: Fig. G1); tool measurements below are rounded off to the nearest .5 mm, 5 degrees of angle, and one-tenth g of weight.

Five bifaces were recovered, **4** from the south block and one from unit 7.

Ovoid Bifaces: as defined by Ahler (1975: 159), these tools exhibit continuous bifacial flaking around the entire periphery, and lack a point of juncture anywhere on the tool margin. The tool shown in Fig. 11d is local chert and was recovered from unit l, level IV. It measures 86.5

mm in length, 55.0 mm in maximum width, 15.5 mm in maximum thickness, and 88.0 g in weight. The average angle of the cutting edge is 600, and it exhibits smoothing of moderate intensity (Abler 1975: 288) along the lateral edges at a magnification of 16x, which may indicate slicing activity of a knife. The tool shown in Fig. 11 e is also local chert, recovered from unit 5, level VI. It measures 50.5 mm long, 30.0 mm wide, 11.0 mm thick, with a weight of 20.5 g. It has an edge angle of 400, is more crudely flaked than the previous tool, and exhibits moderate smoothing on one lateral edge at magnitude of 16x. It may be a preform used for slicing (Ahler 1975: 235). The third ovoid biface, from unit 7, level III, is a small, possibly reworked point (Fig. 12j) made of local rhyolite and measuring 15.5 mm long, 14.0 mm wide, 2.0 mm thick, and 0.7 g. It has an edge angle of 450, and exhibits possible grinding on the proximal end at a magnitude of 80x.

Triangular Biface: as defined by Ahler (1975: 155), this tool type has continuous bifacial retouch around the entire tool perimeter and 3 distinct points of juncture on tool margins. The tool from unit 5, level I (Fig. 12k) is made of Hudson Bay Lowland chert, and measures 19.0 mm long, 12.0 mm wide, 3.5 mm thick, and 0.8 g. It has an edge angle of 500, and shows no use wear. It appears to be an unused or reworked Eastern Triangular projectile point (MacNeish 1958: 103).

Irregular Biface: Abler (1975: 186) describes this tool type as having discontinuous bifacial flaking around all artifact margins with flake edges sinuous in outline. The local chert fragment from Ballysadare unit 6, level VI has only one remaining flaked edge with an angle of 700. One face is only partially flaked, and the tool appears to have broken during manufacture; no edge wear was apparent to a magnification of 80x.

Sixteen unifaces were found at Ballysadare, 7 from the north block, 6 from the south block, 2 from unit 7, and one from the surface.

End Scrapers: the 11 end scrapers are described in Table 7.

TABLE 7
END SCRAPERS FROM BALLYSADARE

Provenience (Unit: Level)	Material	Figure No.	Length mm.	Width mm.	Thickness mm.	Weight gr.	Edge Angle
1:IV	Local chert	-	20.0	15.0	3.0	1.0	60
1:V	Local chert	12f	20.5	20.5	**3.5**	2.5	45
2:V	Local chert	-	21.0	-	3.5	-	60
5:III	Local chert	12g	25.5	16.5	2.0	1.0	30
5:III	Local chert	12e	-	24.0	2.5	-	50
7:V	Hudson Bay Lowland chert	12a	16.0	14.0	**3.5**	1.5	75
8:V	Hudson Bay Lowland chert	12c	28.0	21.0	13.0	**8.8**	60
8:V	Hudson Bay Lowland chert	12b	21.0	20.0	6.0	1.8	60
8:V	Local quartz	12i	31.0	25.0	6.0	**4.5**	60
9:III	Black rhyolite	121	45.5	37.0	5.0	12.5	75
Surface	Hudson Bay Lowland chert	12d	25.0	22.0	10.0	5.9	75

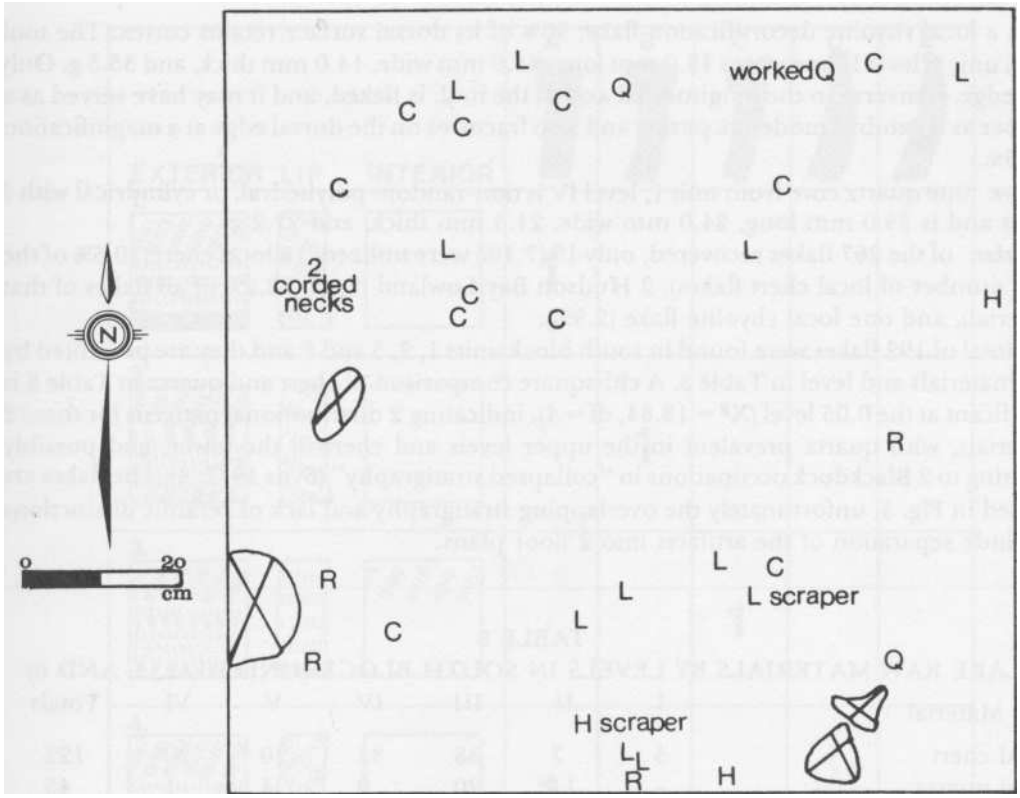

Fig. 8. Floor plan of excavation unit 7, Ballysadare site (see Fig. 5 for legend).

Side Scraper: this local chert scraper (Fig. 12h) from unit 7, level III is distinct from the end scrapers in that it has 2 unifacially bevelled edges parallel, as opposed to transverse, to the longitudinal tool axis (Ahler 1975: 162). It measures 23. mm long, 14.0 mm wide, 2.5 mm thick and l.2 g with a mean edge angle of 600. Both worked edges are pitted and one has a few step flakes on the dorsal surface edge.

Plano-Convex Uniface: this tool of local chert (Fig. 11c) from unit 3, level II has a unifacially flaked angle of 45° along the entire length of one lateral edge. It measures 110.0 mm long, 42.0 mm wide, 8.5 mm thick, 53.0 g and has random flake scars on both faces of the worked edge at no magnification and light pitting at a magnification of 40x. The wear may be due to use as a chopping or scraping tool (Ahler 1975: 241).

Irregular Unifaces: three irregular unifaces were recovered with discontinuous unifacial flaking around the artifact edges which are sinuous in outline. One tool of local chert (Fig. 11f) from unit 4, level V is made from a long prismatic flake measuring 66.5 mm long, 19.0 wide, 10.0 mm thick, and 11.5 g. The edge has an angle of 400, and has light polish at a magnification of 60x. It may have been used as a knife (Ahler 1975: 235). A broken tool from unit 2, level II (Fig. 12m) is made of local rhyolite, and has a worked edge of 29.5 mm in length and an angle 300. It may have broken in manufacture as no use wear is apparent. The final uniface is made

from a local rhyolite decortification flake; *90%* of its dorsal surface retains cortex. The tool from unit *3,* level IV measures *49.0* mm long, *43.0* mm wide, 14.0 mm thick, and *35.5* g. Only one edge, tranverse to the longitudinal axis of the tool, is flaked, and it may have served as a scraper as it exhibits moderate pitting and step fractures on the dorsal edge at a magnification of 16x.

Core: one quartz core from unit 1, level IV is non-random polyhedral, or cylindrical with *5* facets and is *39.0* mm long, *24.0* mm wide, *21.5* mm thick, and *27.2* g.

Flakes: of the *267* flakes recovered, only 19 (7.1%) were utilized: *16* local chert (10.5% of the total number of local chert flakes), *2* Hudson Bay Lowland chert *(22.2%* of all flakes of that material), and one local rhyolite flake (2.9%).

A total of 192 flakes were found in south block units l, *2, 5* and 6 and they are presented by raw materials and level in Table *8.* A chi-square comparison of chert and quartz in Table *8 is* significant at the *0.05* level (X^2 = 13.84, df = 4), indicating *2* distributional patterns for these *2* materials, with quartz prevalent in the upper levels and chert in the lower, and possibly pointing to *2* Blackduck occupations in "collapsed stratigraphy" (Syns 1977: 4). The flakes are plotted in Fig. *5;* unfortunately the overlapping stratigraphy and lack of ceramic distinctions preclude separation of the artifacts into *2* floor plans.

TABLE *8*
FLAKE RAW MATERIALS BY LEVELS IN SOUTH BLOCK (UNITS 1, *2, 5,* AND *6)*

Raw Material	I	II	III	IV	V	VI	Totals
Local chert	*5*	*7*	*38*	*32*	*20*	*20*	*122*
Local quartz	-	11	*20*	*9*	4	1	*45*
Local rhyolite	-	1	4	4	*3*	*3*	15
Hudson Bay Lowland chert	1	*2*	*2*	-	-	1	*6*
Gunflint silica	-	-	1	-	*2*	-	*3*
Jasper taconite	-	-	-	-	1	-	1
Totals	*6*	21	*65*	*45*	*30*	24	*192*

Local chert flakes range in size from greater than *2* inches down 1/8 inch *(50.8* mm - *3.02* mm), and local quartz and local rhyolite range from *2* to 1/8 inch *(50.8* mm - *3.02* mm); these figures suggest tool manufacture from primary to final reduction. The "exotic" raw materials, Hudson Bay Lowland chert, Gunflint Formation silica and jasper taconite range from one inch to 1/8 inch *(25.4* mm - *6.3)* and are probably the result of final reduction or of reworking of existing tools.

A localized area of initial reduction of chert is apparent in unit *6;* 15 of the 16 chert flakes greater than one inch in width were recovered from unit *6,* levels III to VI. The shape of this area is shown in Fig. *5.* Patterning of other flake distributions were not evident.

In north block units *3, 4, 8* and *9,* as shown in Table *9, 45* flakes were recovered. There are no apparent differences in distribution by level and all materials range from one inch in diameter to 1/8 inch. The *2* components evident from the ceramic analysis are not evident from the study of flakes.

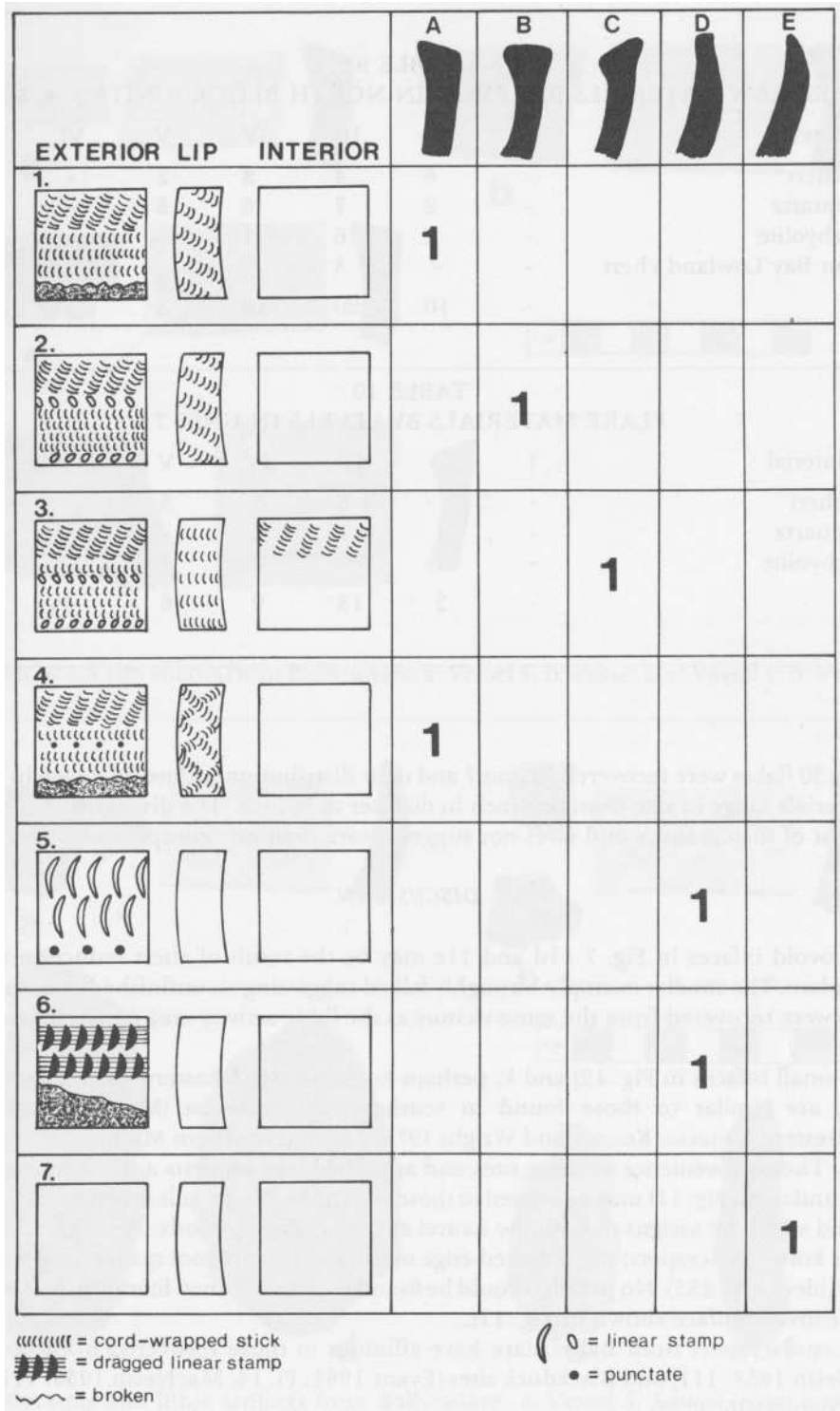

Fig. 9. Ballysadare site ceramic rim chart (profile exterior to the left).

TABLE 9
FLAKE RAW MATERIALS BY LEVELS IN NORTH BLOCK (UNITS 3, 4, 8 and 9)

Raw Material	I	II	III	IV	V	VI	Totals
Local chert	-	6	4	3	2	-	15
Local quartz	-	2	7	6	3	-	18
Local rhyolite	-	2	6	1	-	-	9
Hudson Bay Lowland chert	-	-	3	-	-	-	3
Totals	-	10	20	10	5	-	45

TABLE 10
FLAKE MATERIALS BY LEVELS IN UNIT 7

Raw Material	I	IIIII	IVV	VI	Totals
Local chert	-	- 6	5 5	-	16
Local quartz	-	1 1	2 -	-	4
Local rhyolite	-	1 6	2 1	-	10
Totals	-	2 13	9 6	-	30

Only 30 flakes were recovered in unit 7 and their distribution by level is shown in Table 10; all materials range in size from one inch in diameter to 1/8 inch. The distribution is consistent with that of the ceramics and does not suggest more than one component.

DISCUSSION

The ovoid bifaces in Fig. 7 11d and 11 e may be the result of chert reduction activity at Ballysadare. The smaller example is roughly flaked suggesting an unfinished tool stage. These 2 tools were recovered from the same vicinity as the lithic activity area apparent in the south block.

The small bifaces in Fig. 12j and k, perhaps both reworked Eastern Triangular projectile points, are similar to those found in southeastern Manitoba (MacNeish 1958: 103), Northwestern Ontario (Koezur and Wright 1976: 25), and northern Minnesota (Evans 1961: Pl. 13). Their provenience at these sites and at Ballysadare suggests a Blackduck affiliation.

The uniface in Fig. 11f may be related to those which MacNeish calls Prismatic Blades (1958: 111) and which he assigns to both the Laurel and Blackduck periods. He suggests they were used as knives or scrapers; the polished edge of the Ballysadare tool may indicate its use as a knife (Ahler 1975: 235). No parallels could be found in the published literature for the unusual plano-convex uniface shown in Fig. 11c.

The end scrapers from Ballysadare have affinities to those recovered from both Laurel (MacNeish 1958: 111) and Blackduck sites (Evans 1961: Pl. 14; MacNeish 1958: 111; Koezur and Wright 1976: Pl. 3).

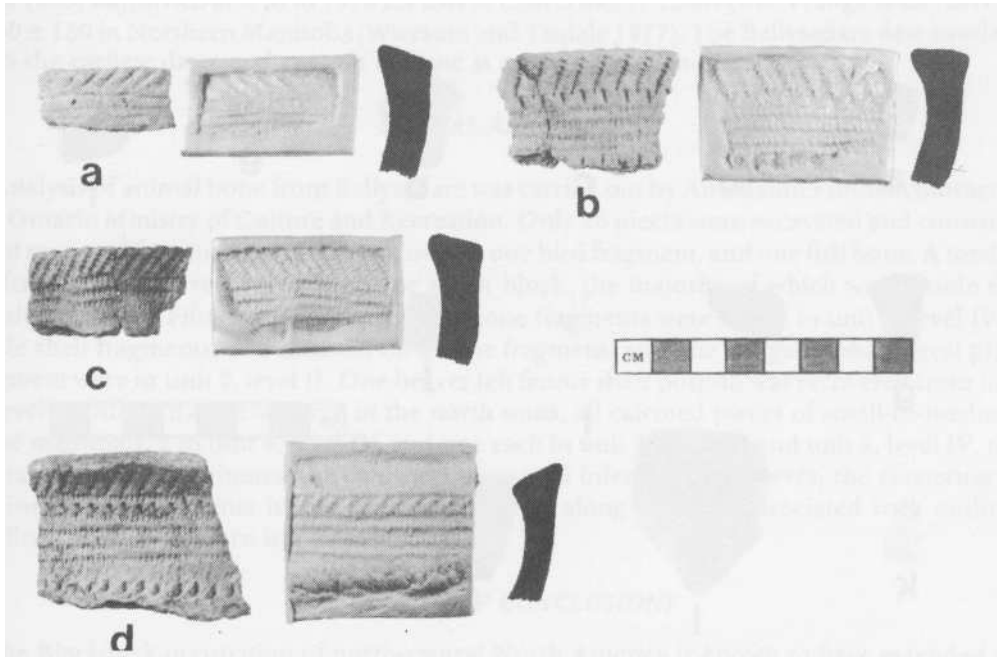

Fig. 10. Blackduck rim sherds from Ballysadare: a: Vessel 4; b: Vessel 2; c: Vessel 1; d: Vessel 3.

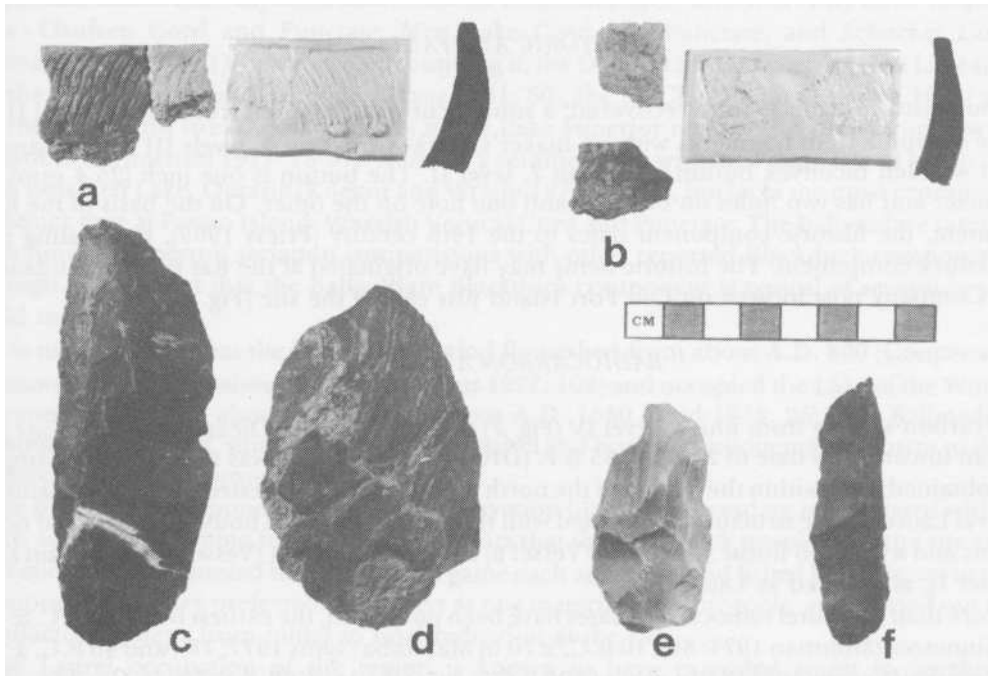

Fig. 11. Ceramic and lithic artifacts from Ballysadare: a: Vessel 5, Laurel linear stamp and punctate; b: Vessel 6, Laurel dragged linear stamp; c: local chert uniface; d: local chert biface; e: local chert biface; f: local chert uniface.

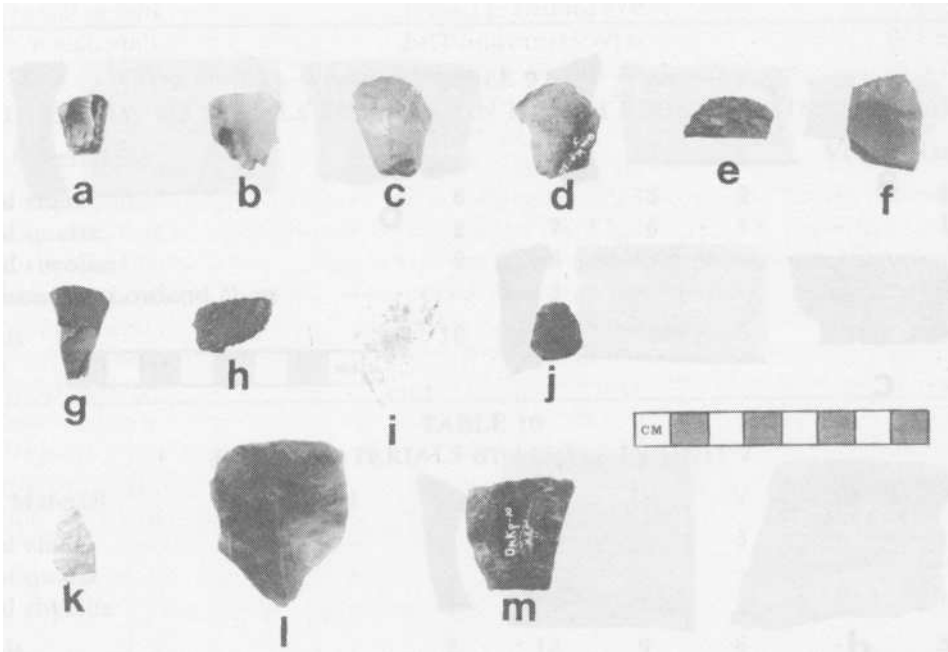

Fig. 12. Scrapers and other lithic artifacts from Ballysadare: a-d: Hudson Bay Lowland chert end scraper; e-g: local chert end scraper; h: local chert side scraper; i: local quartz end scraper; j: local chert biface; k: Hudson Bay Lowland chert point; 1: black rhyolite end scraper; m: local rhyolite uniface.

HISTORIC ARTIFACTS

Four historic artifacts were recovered: a square cut nail fragment from unit 8, level II, 2 white clay pipe stem fragments with no maker's marks from unit 5, levels Ill and IV, and a plain wooden biconvex button from unit 7, level II. The button is one inch (25.4 mm) in diameter and has two holes on one face and one hole on the other. On the basis of the nail fragment, the historic component dates to the 19th century (Priess 1969), post-dating the Blackduck component. The historic items may have originated at the Rat Portage Hudson's Bay Company post located on Old Fort Island just east of the site (Fig. 2).

RADIOCARBON ANALYSIS

A carbon sample from unit 4, level IV (Fig.)) was submitted to Dicarb Radioisotope Co., and an uncorrected date of 2100 ± 165 B.P. (DIC 575) or 150 B.C. was received. The sample was obtained from within the feature of the north block, already suggested to be the remains of an oval Laurel house structure. Associated with the sample are plain body, shoulder and neck sherds and a dragged linear stamp rim (Vessel 6) a linear stamp rim (Vessel 5) and a plain rim (Vessel 7), all defined as Laurel.

More than 40 Laurel radiocarbon dates have been published, the earliest being 30 B.C. ± 45 in Minnesota (Stoltman 1974: 80), 10 B.C.± 70 in Manitoba (Syms 1977: 78), and 40 B.C. ± 90 in Ontario (Dawson 1974: 87); a date of 290 B.C. ± 80 at the MacGillivray Site in Northwestern Ontario is considered unreliable (Syms 1977:81) (see Syms 1977; Dickson 1976; Lugenbeal 1976;

Lass 1980; Rajnovich and Reid 1978 for lists of Laurel dates). Laurel dates range as late as A. D. 1030 ± 150 in Northern Manitoba (Wiersum and Tisdale 1977). The Ballysadare date overlaps with the earliest dates and suggest this site is at the base of the Laurel period.

FAUNAL ANALYSIS

Analysis of animal bone from Ballysadare was carried out by Ann Balmer under contract to the Ontario Ministry of Culture and Recreation. Only 26 pieces were excavated and consisted of 20 mammal fragments, 4 reptile fragments, one bird fragment, and one fish bone. A total of 22 fragments were recovered from the south block, the majority of which were inside the feature of unit 5. Fifteen calcined mammal bone fragments were found in unit 5, level IV, 4 turtle shell fragments, one calcined bird bone fragment, and one sturgeon pharyngeal plate fragment were in unit 2, level II. One beaver left femur shaft portion was recovered from unit 1, level I. Only 4 fragments were in the north units, all calcined pieces of small-to-medium sized mammals, 2 in unit 4, level IV, and one each in unit 3, level III and unit 8, level IV. the faunal sample is too limited for cultural or seasonal inferences. However, the clustering of calcined bone fragments in the feature of unit 5, along with the associated rock outline, confirms that the feature is a hearth.

DISCUSSION & CONCLUSIONS

The Blackduck occupation of north-central North America is known to have extended to Northern Minnesota (Evans 1961), east to the eastern Lake Superior area (Wright 1976; Dawson 1976b; Pollock 1974) north at least as far as Red Lake in Northwestern Ontario (Koezur and Wright 1976), and west as far as Lake Winnipegosis (Mayer-Oakes 1970). The Ballysadare site is centrally located within the Blackduck area, and shares its three ceramic types - Osufsen Cord and Punctate, Nett Lake Cord and Punctate, and Schocker Cord Impressed (Evans 1961) - with sites surrounding it, the Osufsen Mound site, the Nett Lake site, and the Schocker site in Minnesota (Evans 1961: 60), the McCluskey site (Dawson 1974: 27) and the Townsend site (Dawson 1976b) in the Lake Superior region, and the Wanipigow in Manitoba (Carmichael 1977: 18-37). It shares 2 ceramic types with the Potato Island site to the north near Red Lake, Ontario (Koezur and Wright 1976: 12-18), but lacks the most prominent Blackduck type at Potato Island: Waskish Vertical Cord and Punctate. The Ballysadare sample is too limited to permit seriation comparisons with other reported Blackduck components although it is evident that the Ballysadare Blackduck component is typical of several in the Shield region.

It is now believed that the Blackduck period flourished from about A.D. 800 (Cooper and Johnson 1964: 478) to about A.D. 1650 (Syms 1977: 102) and occupied the Lake of the Woods area specifically from about A.D. 950 to about A.D. 1650 (Reid 1978: 25). The Ballysadare Blackduck component, situated between the Laurel and historic components, conforms to this standard Blackduck chronology.

The Blackduck component in the south excavation block at Ballysadare is associated with a hearth and lithic chipping feature, and it appears that the Blackduck people used the site as a small encampment, hunted birds and small game such as beaver, and fished for sturgeon in the Winnipeg River. They preferred local chert as raw material for lithic tools, and carried out all manufacturing steps from initial to final reduction at the site.

The Laurel occupation of the region is known to have extended south to northern Minnesota (Stoltman 1973), east to Lake Superior (Wright 1967; Janzen 1968), west to Manitoba (Wiersum and Tisdale 1977), and north at least as far as the Albany River (Dawson

1976a). The Ballysadare radiocarbon date supports the pre-A.D. beginning date for the Laurel period, and the associated ceramics provide a rare glimpse into the nature of the very early Laurel pottery styles, those which were to become the intricate Laurel Oblique type, the most common Laurel motif (Stolman 1973: 92); the Ballysadare ceramic support Stoltman's hypothesis that Laurel Oblique reached a peak of popularity at the base of the Laurel sequence in the area (Stoltman 1973: 92).

The north excavation units contain Laurel and Blackduck, overlapping components in a manner that Syms (1977: 4) has termed "collapsed stratigraphy." The earliest component is associated with a feature composed of fine grey-brown loam and encircling rock which have been identified as the remains of a dwelling outline, and indicating that the Laurel people used the site as a small encampment.

While it is understood that inferences have been based on a small sample, the size of Ballysadare is *typical* of sites in Northwestern Ontario. It is therefore necessary to concentrate on these samples from carefully excavated small sites, in order that these data will eventually, together with the information from other sites from the same area, add up to a solid foundation for final interpretations of the prehistory of Northwestern Ontario. It is these smaller sites, rather than the atypical larger ones, which may hold the key to interpretations of cultural processes in the Boreal Forest of Ontario.

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