ARCHAEOLOGICAL MONITORING AND MITIGATION OF THE ASSINIBOINE RIVERFRONT QUAY

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June, 1993

EXECUTIVE SUMMARY

The Assiniboine Riverfront Quay Project was continuously monitored by archaeologists in accordance with "The Forks Archaeological Plan." The goals of the monitoring program were to:

a. recover diagnostic historic material;
b. undertake mitigative actions where required; and
c. record pertinent stratigraphic data.

The project was funded by The Forks Renewal Corporation and directed by the Site Archaeologist. Field operations began in the late summer of 1989 and concluded in the late spring of 1991. Laboratory operations and report preparation continued throughout the project at facilities provided by Quaternary Consultants Ltd. During the field operations, the monitoring was conducted by the FRC Site Archaeologist, with additional staff as required. The cleaning, processing, identification and computer cataloguing of the artifacts, the analysis of the recovered material, and the report preparation were undertaken by Sid Kroker (FRC Site Archaeologist) and Pamela Goundry (Research Archaeologist at Quaternary Consultants Ltd.). Other staff contributed as required. These procedures were undertaken at the Quaternary Consultants' laboratory facilities.

A total of 32,203 artifacts were recovered during the monitoring program; a large proportion from the historic levels. Evidence of various types of Post-Contact utilization was found throughout the construction zone - primarily, railroad activities and secondary deposition of waste materials since the turn of the century. The presence of Pre-Contact cultural horizons within the impact zone resulted in mitigative actions at five locations. Through cooperative arrangements with the construction site manager, these recovery operations were undertaken with proper archaeological methods and scheduled in a manner that resulted in minimal downtime for the construction team.

The recoveries have provided additional archaeological information concerning the commercial focus of Winnipeg and the role of the railroads in the recent history of The Forks. Two distinct Pre-Contact cultural periods were investigated, providing new knowledge of of Native utilization of this area, approximately 3000 years ago.

ACKNOWLEDGEMENTS

The authors would like to acknowledge the assistance of the Board of Directors and the staff of The Forks Renewal Corporation (FRC). In particular, Mr. Al Baronas, Ms. Shelley Bellchamber, and Paul Jordan are thanked for their assistance during the formulation and implementation of this project.

During the field operations, the archaeological team appreciated the assistance of staff members of PCL Constructors Prairie Inc. Special thanks are due to the construction site manager, Dave Raugust, the foremen and the construction workers of PCL and Cambrian Excavators. These men, who displayed great interest in the archaeological resources, facilitated, in every way, the recovery of heritage resources. Many acted as unofficial wardens; their keen eyes locating occurrences of historic and Pre-Contact cultural horizons. Their help and camaraderie was of great assistance. Surveying assistance was provided by field personnel from M. M. Dillon. Their assistance was of benefit in the field and even greater value when transposing field locational data onto site maps.

Special thanks must be extended to the numerous members of the archaeological crews who participated in the several phases of the project. These archaeologists monitored construction operations in the blaze of the summer sun, the chill of the winter winds, and the glare of floodlights during twenty-four hour operation episodes. Their professionalism and fortitude is appreciated. Thanks are proffered to Sharon Appel, Lori Dueck, Peter Filopoulis, Barry Greco, Steve Lundin, Arda Melikian, Eric Simonds, Lee-Anne Smith, Paul Speidel, Andrew Thomson, and Sharon Thomson.

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1.0 INTRODUCTION

The junction of the Red and Assiniboine rivers has long been an important historical site. Even before the first European visitation by La Verendrye, in 1737, The Forks had been a focal point of trade, commerce, settlement, and political activity (Guinn 1980; FRC 1988; Kroker 1989a). Numerous articles and books have been written about the Fur Trade Period (Guinn 1980; Coutts 1988; Payment 1988) which, from the early 19th century, was centred at The Forks, but little is known about the cultural history of the site prior to Contact. Native oral history indicates that the location has been important to the Aboriginal peoples. Historic documents note the presence of Native encampments at The Forks between 1737 and 1808 (Coues 1965; La Verendrye 1927; Tanner 1956). The first physical evidence of Pre-Contact Native occupations was discovered in 1984, when Parks Canada conducted exploratory excavations at the site. Eight to ten occupation horizons were excavated, most of which contained Blackduck ceramics (Priess *et al.* 1986). Radiocarbon dates associated with these recoveries (A.D. 510, A.D. 725, A.D. 845) indicated that the history of the site extended at least 1500 years into the past (Priess & Bradford 1985).

Archaeological investigations during the summer of 1988 recorded additional evidence of Aboriginal occupation of the area. Canadian Parks Service conducted a mitigative excavation program at the North Point locality of the National Historic Site and recovered data from several ceramic occupation zones (Adams *et al.* 1990).

A single occurrence of Native ceramics was recorded during the North Assiniboine Node Impact Assessment (NANA) conducted by The Forks Renewal Corporation (FRC) in 1988 (Kroker 1989a:151). During this project, a large Archaic occupation horizon was discovered at a depth of nearly three meters. A diagnostic projectile point, lithic tools, and faunal remains were recovered from this horizon, which dated at 2870 $\pm$ 80 years or 920 B.C. (Kroker 1989a:153-159).

During the Stage I Construction monitoring program, many locations provided evidence of Native occupations at The Forks. These included the earliest evidence of habitation in the area: the remnants of two campfires estimated to be 6000 years old (Kroker and Goundry 1990a:162). Archaic horizons were recorded with radiocarbon samples providing dates of 2850 $\pm$ 90 or 900 B.C. and 2330 $\pm$ 70 or 380 B.C. (Kroker and Goundry 1990a:145). Presence of Native ceramic manufacturing cultures was recorded throughout the construction zone, with evidence of Blackduck and Bird Lake pottery. Associated radiocarbon dates were 870 $\pm$ 70 or A.D. 1080, 675 $\pm$ 100 or A.D. 1275, and 630 $\pm$ 90 or A.D. 1320 (Kroker and Goundry 1990a:142-144).

Other evidence of Native occupations at The Forks has been located during heritage resource impact assessments and mitigative procedures associated with other development programs. Native horizons containing ceramic artifacts were recorded during the North/South Access Road (Quaternary 1988), Provencher Bridge (Quaternary 1989a) and York/St. Mary Extension (Quaternary 1990a, 1990b, 1990c) projects. These occupations were identified as Blackduck and subsequent cultural traditions. A C-14 date of 580 $\pm$ 70 or A.D. 1370 was obtained from samples collected during the St. Mary Archaeological Recovery Project (Quaternary 1990c).

Three years of archaeological investigation (1989 - 1991), through The Forks Public Archaeology Project, have provided considerable information about Fort Gibraltar I and later activities in the area adjacent to the B & B Building (Kroker, Greco *et al.* 1990; Kroker *et al.* 1991; Kroker *et al.* 1992). The data recovered during these projects augments that of the initial investigation undertaken by Parks Canada in 1984 (Priess *et al.* 1986).

The 1992 Public Archaeology Project investigated the Archaic horizon which had been located in 1988. Recoveries indicate the presence of at least two cultural groups using broad-based subsistence strategies and participating in extra-local trade.

Conservation and management of archaeological resources, including preservation and protection, is considered to be a high priority (FRC 1987; FRC 1988). The archaeological management program entails the investigation and assessment of the heritage resources with mitigation procedures whenever resources may be impacted. In conjunction with Canadian National Railway and the City of Winnipeg, The Forks Renewal Corporation has promulgated active heritage resource management procedures. Canadian Parks Service has also been active within their jurisdiction of the new National Historic Site.

1.1 REVIEW OF ARCHAEOLOGICAL ACTIVITY

The past five years (1988 to 1992) have been active years for archaeological investigations at The Forks. A total of twenty-one different archaeological projects have been conducted by various agencies, under various jurisdictions. These jurisdictions include Canadian Parks Service (CPS), the City of Winnipeg (CW), The Forks Renewal Corporation (FRC), and Canadian National Railway (CNR). The projects ranged from impact assessments to research projects to mitigative excavations and were conducted under relevant federal or provincial legislation, as regulated by Canadian Parks Service and Historic Resources Branch (HRB), Manitoba Culture, Heritage and Citizenship.

These projects, identified on Figure 1, were:

1. During the summer/fall of 1988, mitigative excavations of Post-Contact and Pre-Contact strata, were undertaken by Canadian Parks Service, under the direction of Peter Priess, in the North Point location within the National Park. A preliminary report, *Archaeological Investigations at The Forks National Historic Site, Winnipeg: Mitigation of the North Point Development* (Adams *et al.* 1990) has been published by CPS.

2. The University of Manitoba/University of Winnipeg Archaeological Field School was conducted during the spring of 1988, in the Low Line Bridge locality, on the north bank of the Assiniboine River, within the jurisdiction of The Forks Renewal Corporation. This will be reported on by Dr. Greg Monks, Dept. of Anthropology, University of Manitoba.

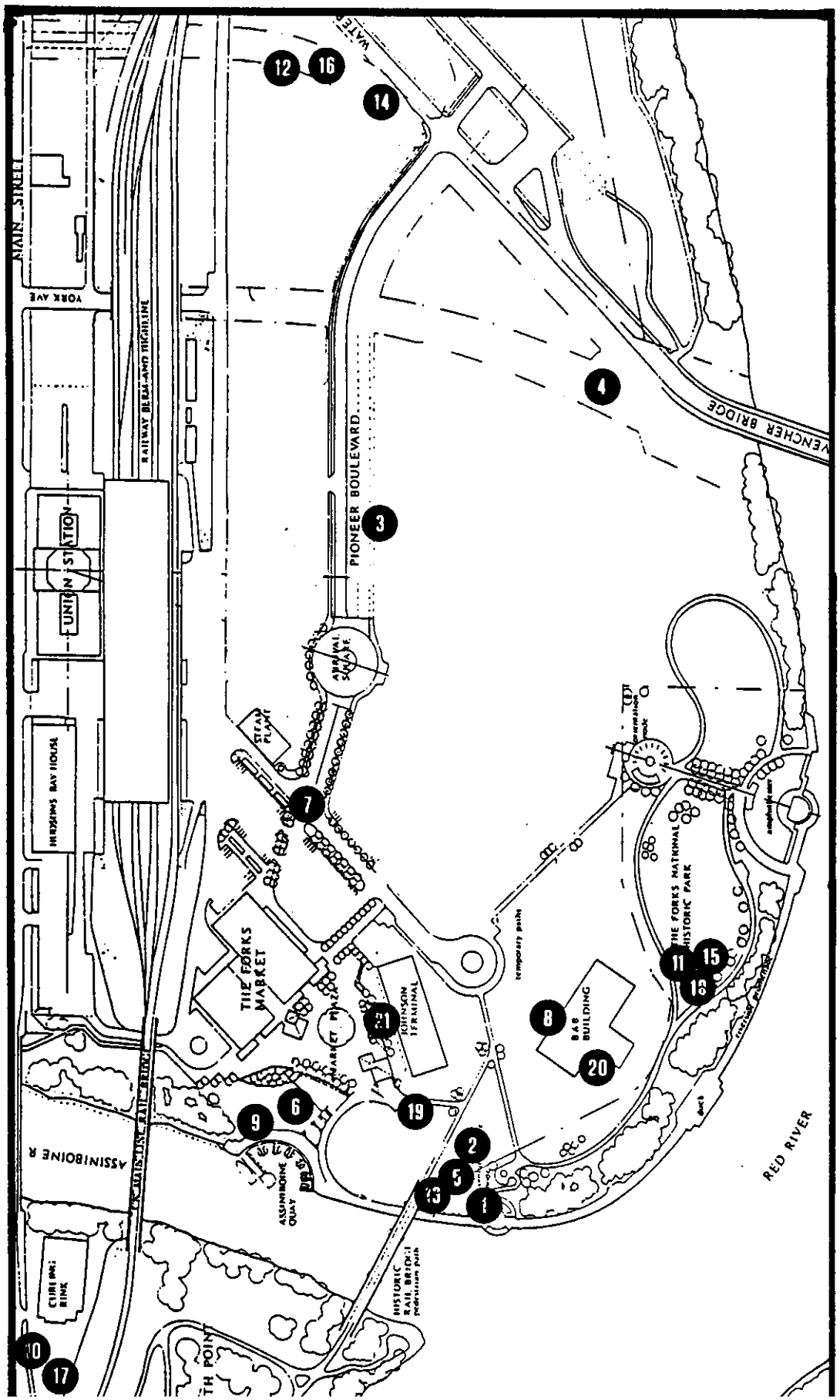

Figure 1: Map of The Forks with Locations of Projects

3. An impact assessment of the projected route of the primary access road within the East Yard (Pioneer Boulevard) was commissioned by Canadian National Railway and The Forks Renewal Corporation. The project was undertaken in the summer of 1988 by Quaternary Consultants Ltd., directed by Sid Kroker. The report, "*North/South Access Road Archaeological Impact Assessment*" (Quaternary 1988), is filed with HRB and FRC.

4. An impact assessment, in conjunction with the projected upgrading of the Provencher Bridge and the extension of York and St. Mary Avenues, was commissioned by the City of Winnipeg in the summer of 1988. The investigation was conducted by Quaternary Consultants Ltd., directed by Sid Kroker. The report, "*Provencher Bridge Project Archaeological Impact Assessment*" (Quaternary 1989a), is on file with HRB, CW, and Wardrop Engineering.

5. During the summer of 1988, a research project, directed by Dr. Greg Monks, Dept. of Anthropology, University of Manitoba, was conducted in the Low Line Bridge locality. The project investigated the location of Fort Gibraltar II/Fort Garry I and will be reported on by Dr. Monks.

6. In accordance with the Manitoba Heritage Resources Act, and following the management procedures delineated in *The Forks Archaeological Impact Assessment and Development Plan (The Forks Archaeological Plan)* (FRC 1988), a major impact assessment of the North Assiniboine Node was undertaken by The Forks Renewal Corporation during the summer/fall of 1988. The project (NANA) was directed by the FRC Site Archaeologist, Sid Kroker. The report, *North Assiniboine Node Archaeological Impact Assessment* (Kroker 1989a), is on file at FRC and HRB.

7. In accordance with *The Forks Archaeological Plan*, all sub-surface Stage I construction activity was monitored by the FRC Site Archaeologist (Sid Kroker) and the staff of Quaternary Consultants Ltd. The construction began in the fall of 1988 and concluded in the summer of 1989. It included installation of land drainage, sanitary sewer, and water lines. The results of the monitoring are detailed in *Archaeological Monitoring of the Stage I Construction Program* (Kroker and Goundry 1990a). This document is on file with FRC and HRB.

8. Preliminary structural assessments of the B & B Building required engineering examinations of the foundations. Four test holes were monitored by the FRC Site Archaeologist in February, 1989. The report "*B & B Building Foundation Inspection: Archaeological Monitoring*" (Kroker 1989b) is on file with FRC and HRB.

9. During land modification and construction activities for the Assiniboine Riverfront Quay, extending from summer of 1989 to spring of 1991, all sub-surface activity was archaeologically monitored. This report, "*Archaeological Monitoring and Mitigation of the Assiniboine Riverfront Quay*", details the archaeological procedures, mitigative activities and artifact recoveries.

10. A preliminary investigation of potential heritage resource impact within the Norwood/Main Street Bridge corridor was undertaken in the summer of 1989. This investigation was conducted by Quaternary Consultants Ltd., directed by Sid Kroker. The report, "*Preliminary Archaeological Investigations for the Proposed Norwood/ Main Street Bridge Project*" (Quaternary 1989b), is on file with HRB, CW, and Reid Crowther & Partners Ltd.

11. During the summer/fall of 1989, a Pilot Public Archaeology Program was undertaken at The Forks. This project was co-sponsored by The Forks Renewal Corporation, Canadian Parks Service, Historic Resources Branch and other contributing agencies. Two documents have been published: *The Forks (1989) Pilot Public Archaeology Project: Research Report - Excavations at 21K (Fort Gibraltar I)* (Kroker, Greco *et al.* 1990) and *The Forks (1989) Pilot Public Archaeology Project: Administrative Report* (Kroker, Goundry *et al.* 1990). Both are public documents available through The Forks Public Archaeological Association.

12. During the fall of 1989, an impact assessment for proposed extensions of York and St. Mary Avenues between Main Street and Pioneer Boulevard, was commissioned by the City of Winnipeg. This investigation was conducted by Quaternary Consultants Ltd., directed by Sid Kroker. The report, "*Heritage Resources Impact Assessment for Proposed York and St. Mary Extensions (Main Street - Pioneer Boulevard)*" (Quaternary 1990a), is on file with HRB, CW, and I. D. Systems Ltd.

13. During the spring of 1990, the University of Manitoba/University of Winnipeg Archaeological Field School, was conducted in the Low Line Bridge locality, on the north bank of the Assiniboine River, within the jurisdiction of The Forks Renewal Corporation. These investigations of the Fort Gibraltar II/Fort Garry I location will be reported on by Dr. Greg Monks, University of Manitoba.

14. Further investigation of the extent of the Native cultural horizon in the potential St. Mary Avenue Extension impact zone was undertaken in the spring of 1990 at the behest of the City of Winnipeg. This investigation was conducted by Quaternary Consultants Ltd., directed by Sid Kroker. The report, "*Assessment of Archaeological Resources Within the St. Mary Avenue Extension Right-of-Way*" (Quaternary 1990b), is on file with HRB, CW, and I. D. Engineering Ltd.

15. During the summer/fall of 1990, the Public Archaeology Program was continued at The Forks. The project was co-sponsored by The Forks Renewal Corporation, Canadian Parks Service, Historic Resources Branch and other contributing agencies. The report, *1990 Investigations at Fort Gibraltar I: The Forks Public Archaeology Project* (Kroker *et al.* 1991) is a public document available through The Forks Public Archaeological Association.

16. Mitigative archaeological recovery actions were initiated during the fall of 1990 within the designated impact zone for the St. Mary Avenue Extension. The project was planned as a two-phase operation with public participation. The second phase was eliminated upon change of the infrastructure development plans. This project was conducted by Quaternary

Consultants Ltd., directed by Sid Kroker. The report, "*St. Mary Archaeological Recovery Project: Interim Report*" (Quaternary 1990c), is on file with HRB, CW, and I. D. Engineering Ltd.

17. In conjunction with the proposed Norwood/Main Street Bridge Project, detailed sub-surface testing was undertaken. This investigation, during the fall of 1990, was conducted by Quaternary Consultants Ltd., directed by Sid Kroker. The report, "*Archaeological Assessment of Impact Zones on South Point for the Proposed Norwood/Main Street Bridge Project*" (Quaternary 1990d), is on file with HRB, CW, and Reid Crowther & Partners Ltd.

18. During the summer/fall of 1991, the Public Archaeology Program was continued at The Forks. The project was managed by The Forks Public Archaeological Association and directed by Sid Kroker. Again, the program was sponsored by FRC, CPS, and HRB. The report, *1991 Investigations at Fort Gibraltar I: The Forks Public Archaeology Project* (Kroker *et al.* 1992) is a public document available through The Forks Public Archaeological Association.

19. The fourth annual Public Archaeology Project was held during the summer of 1992 in the Archaeological Preserve between the Johnston Terminal and the north bank of the Assiniboine River. The project was managed by The Forks Public Archaeological Association and directed by Sid Kroker. Again, the program was sponsored by The Forks Renewal Corporation, Canadian Parks Service, and Historic Resources Branch. The report, *A 3000 Year Old Native Campsite and Trade Centre at The Forks*, is in preparation and will be available through FPAA.

20. In conjunction with redevelopment plans for the B&B Building, the Manitoba Childrens Museum undertook sub-surface examination of foundations and soil stability tests. These operations were archaeologically monitored by Quaternary Consultants Ltd., under the direction of Sid Kroker. An intact Native Ceramic cultural horizon was uncovered below the floor of the structure. The report, "*Archaeological Monitoring of Sub-Surface Activities at the B&B Building*" (Quaternary 1992) is on file with the Manitoba Childrens Museum, FRC, and HRB.

21. During the refurbishment of the Johnston Terminal, excavation for the perimeter of the building encountered archaeological resources. The developer, Marwest Management Canada Ltd., contracted Quaternary Consultants Ltd. to undertake mitigative action. The project, directed by Sid Kroker, recovered *in situ* materials relating to the extensive Archaic horizon. A report, in preparation, will be filed with Marwest, FRC, and HRB.

1.2 ARCHAEOLOGICAL PROJECTS IN THE IMPACT ZONE

1.2.1 North Assiniboine Node Assessment

Development plans envisioned a boat dock area and a terraced promenade on the north bank of the Assiniboine River between the two railroad bridges. Due to potential impact on archaeological resources, The Forks Renewal Corporation commissioned an impact assessment of the area. This project was conducted during the summer/fall of 1988. A preliminary proposal was included in *The Forks Archaeological Plan* (FRC 1988: Appendix F). The final report of the investigation, *North Assiniboine Node Archaeological Impact Assessment* (Kroker 1989a), is a public document available from The Forks Renewal Corporation.

1.2.2 Stage I Construction Monitoring Program

While the development of the infrastructure at The Forks (installation of sewers and water mains and building of roads and parking lots) did not directly impact upon the Assiniboine Riverfront Quay locality, excavation occurred in adjacent areas. Recognizing the potential for impact upon archaeological resources, The Forks Renewal Corporation ensured that all sub-surface activity was monitored by the Site Archaeologist and assistants. Excavations for services installation extended to depths of seven meters, thereby enabling an examination of deeply buried sedimentary strata and cultural occupation evidence.

The construction phase began in September, 1988. Operations continued until December 14, when the project was shut down for the winter. Excavation activities began again on May 1, 1989 and were completed by June 15, 1989. The archaeological activities and recoveries are documented in *Archaeological Monitoring of the Stage I Construction Program* (Kroker and Goundry 1990a), a public document available from The Forks Renewal Corporation.

2.0 MONITORING AND MITIGATION PROGRAM

The archaeological impact assessment of the north bank of the Assiniboine River, commissioned by The Forks Renewal Corporation as an initial phase of development, indicated the presence of archaeological resources (Kroker 1989a). In addition, other impact assessments for the North/South Access Road (Quaternary 1988) and the Provencher Bridge Project (Quaternary 1989a) yielded evidence of Pre-Contact occupations. Native ceramic artifacts, pre-dating the Fur Trade Period, were recovered during mitigative excavations by Canadian Parks Service (Adams *et al.* 1990).

As a result of this knowledge, and in compliance with the Manitoba Heritage Resources Act and *The Forks Archaeological Plan* (FRC 1988), all sub-surface excavations were monitored by an archaeologist. All archaeological monitoring and mitigation was conducted under the terms of Heritage Permits obtained from Historic Resources Branch of Manitoba Culture, Recreation and Citizenship. Due to the seasonal nature of the construction and the duration of the project, three Heritage Permits, A34-89, A4-90, and A67-90 (Appendix A), were required. It was considered that the most sensitive zones were depths below 150 cm. All excavations, including the cinder fill layer that dates to the early portion of the 20th century, were constantly monitored.

The project was undertaken as an in-house operation, totally funded by FRC and directed by the Site Archaeologist. Initial excavations, adjacent to The Forks Market Plaza and Pavilion, began in the summer of 1989 and continued throughout the winter. The excavations at the riverbank location were curtailed by rising water levels in March, 1990. Excavations for the retaining wall continued during the summer of 1990. The final excavations of the riverbank docking area occurred in the spring of 1991 and all excavation components of the Assiniboine Riverfront Quay were completed by June, 1991.

During the field operations, monitoring was conducted by the FRC Site Archaeologist, with additional staff as required. The cleaning, processing, identification and computer cataloguing of the artifacts and the analysis of the recovered material was undertaken by the Site Archaeologist and the Quaternary Consultants' Laboratory Supervisor (Pam Goundry), seconded for the project. These procedures were undertaken at Quaternary Consultants' laboratory facilities.

2.1 LOCATION OF THE PROJECT

The location of the investigation area is the north bank of the Assiniboine River, between the Lowline Bridge and the High Line Railway Bridge (Figure 2). The impact zones extended north from the river edge to the edge of The Forks Market Plaza, which had been archaeologically monitored during the Stage I Construction Project (Kroker and Goundry 1990a).

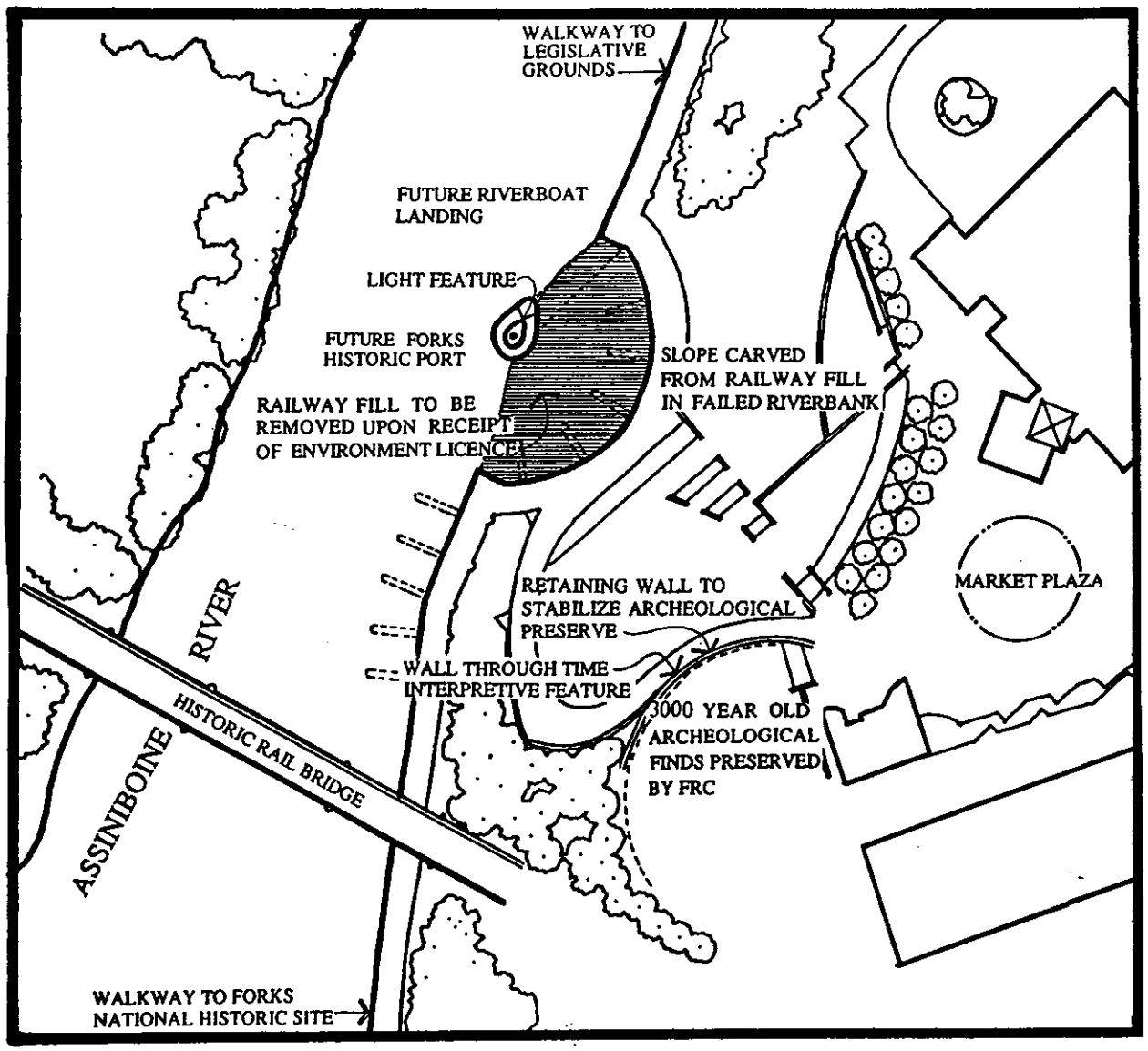

Figure 2: Map of Assiniboine Riverfront Quay Impact Area.

2.2 INVESTIGATION METHODOLOGY

2.2.1 Provenience Control

Two degrees of provenience control were established, depending upon the time period of the strata. Specific locational data was recorded for any recoveries that occurred beneath the railroad-related strata. A more generalized locational grid was used in reference to recent historic recoveries. The area was sub-divided into several large blocks in order to record the location of railroad-related artifacts. Inasmuch as the railroad material resulted from secondary deposition throughout the area, these locational blocks were more useful for curatorial records than for analytical purposes.

The contractor's field location system was used to correlate locational information across the large area. The field designation of each archaeological discovery was based upon the surveyed location relative to the contractor's datum. All archaeological discoveries were plotted onto the construction plan map sheets and then transferred to The Forks Archaeological Site Map. This permitted the calculation of the provenience of the discoveries in relation to The Forks Archaeological Survey Grid and the Site Datum.

The Forks Archaeological Survey Grid is used for correlating all archaeological activities within the East Yard. It is based upon the City of Winnipeg survey marker (87R548), at the north end of the Low Line Bridge, as the Site Datum. This marker has been assigned the arbitrary provenience of 1000N/1000W. The 1000E/W Baseline extends from the marker to the second concrete pier (to the south of the embankment) of the CNR Main Line Bridge (Kroker 1989a:9).

The stratigraphy was arbitrarily divided into five general levels, which conform to generalized time periods or cultural epochs:

Level 1: Railroad fill strata (ca A.D. 1885 to present)
Level 2: Historic strata (ca A.D. 1750 to 1885)
Level 3: Native Ceramic strata (ca A.D. 1 to 1750)
Level 4: Pre-Ceramic Archaic strata (ca 3000 B.C. - A.D.1)
Level 5: Palaeo-Indian strata (ca 8000 to 3000 B.C.)

The recoveries from the Assiniboine Riverfront Quay project derived from only two of these levels, Level 1 and Level 4. No evidence of pre-Railroad Historic occupations or Native Ceramic occupations was encountered. Similarly, in the few locations where undisturbed soils below the Archaic horizon were excavated, no evidence of occupation occurred.

2.2.2 Data Retrieval Methodology

All excavations were monitored by the FRC Site Archaeologist and/or qualified assistants. The archaeologists would observe the excavations and continually check the walls of the excavation for relict soil horizons and evidence of Pre-Contact occupation. This entailed development of a rapport with the construction workers, the equipment operators and the foremen. Enthusiastic cooperation was received from all personnel. As these individuals earn their living working in the soil, they

were extremely interested in learning more about the contents of the earth and the meaning and interpretation of various features.

2.2.2.1 Historic Horizons

The historic strata, consisted of thick deposits of railway debris (cinders, clinkers, gravel, etc.) and relatively thin layers of grey ash, containing numerous glass and ceramic fragments. As excavation often entailed removal of the soil by truck, minimal time was available for artifact retrieval. Accordingly, only the more diagnostic specimens were collected, rather than a total collection procedure which would have yielded great quantities of unidentifiable glass and ceramic sherds, nails and other rusted iron fragments. The artifacts were retrieved from in front of bulldozers, from the side of bulldozer cuts, from backdirt piles during backhoe excavations and from truck dump locations where excavated soil was being stockpiled prior to removal from the site.

The decision to retrieve mainly diagnostic artifacts was based upon the need for expeditious operation. The historic grey ash horizon and the mechanism of its formation has already been documented (Kroker 1989a:181-182). The recovery of numerous quantities of non-diagnostic artifacts would add considerably to the length of time required for laboratory processing, without increasing knowledge concerning the content or context of the horizon. Diagnostic, or identifiable, artifacts were collected to:

1. provide additional information concerning the products utilized by the residents of Winnipeg in the early part of the 20th century,
2. provide additional data about local companies which produced those products, and
3. provide additional information about national and international trade as exemplified by material culture.

All artifacts were retrieved and curated according to the excavation locality. Hand collection was the primary method. Recovery techniques occasionally involved the use of trowels and shovels.

When archaeological material was encountered directly in the path of excavation, temporary cessations (15-20 minutes) were arranged to assess the quantity and quality of the resources. Often, the necessary archaeological operations could be undertaken during pauses in excavation while the backhoe operator was waiting for trucks. Most of the archaeological recovery operations took place at the side of the operations and did not require any disruption of the construction operations. In addition, coffee breaks and lunch periods for the construction crew were utilized as archaeological recovery periods.

2.2.2.2 Pre-Contact Horizons

Once a Pre-Contact cultural horizon was identified, an appropriate recovery mechanism was instituted. This varied depending upon the extent of the heritage resource. In the instance of a small, localized cultural deposit (Ramp B), the backhoe operator was able to remove the entire deposit in the bucket and place it to the side of the excavation area. Staff, using trowels, were able to excavate the material as if it were still *in situ*.

In the case of large deposits, construction activity in the immediate vicinity was stopped and the horizon was excavated using standard archaeological procedures. These consisted of surveying the location into the contractors grid, marking out excavation units and excavation with trowels by professional staff. The contractor was enjoined from operating at the location of the cultural deposit for as long as was necessary to fully recover the heritage materials within the impact zone. This occurred four times - at the Ramp A, Ramp C, Stairwell, and East Hill locations.

All recoveries were hand-excavated and placed in labelled unit bags, which were taken to the laboratory facilities of Quaternary Consultants for processing. In addition, large quantities of the matrix of the cultural horizon were recovered and further processed by water-screening to effect total recovery of small lithic flakes and faunal remains.

2.2.3 Laboratory Procedures

The recovered historic artifacts were brought to the laboratory facilities, where they were washed and sorted by material class. After the specimens had dried, all artifacts were identified by the lab personnel. Material of the same type (i.e., white porcelain saucer sherds with green lines) from the same locality were combined under a single catalogue number. Identification was carried to the limit obtainable by available reference works and staff expertise. Faunal remains were, where possible, identified to element and species.

Soil samples from Pre-Contact cultural horizons were water-screened using stacked meshes of 1/4" over 1 mm, to enable recovery of small lithic flakes and faunal remains. These recoveries were sorted by material and catalogued.

Each artifact, or cluster of artifacts, received a sequential catalogue number which consisted of the Borden designation for The Forks (DlLg-33), followed by the project designator (89B - indicating the second project of 1989 at The Forks) and the specimen number (e.g., DlLg-33/89B-1234). All pertinent data associated with each artifact were entered into the computer cataloguing system. The cataloguing system is based upon the Canadian Heritage Inventory Network (CHIN) system (Manitoba Museum of Man and Nature 1986; FRC 1988:110, 171). The computer cataloguing program was developed by Brian Lenius, based upon **DBASE3**, for use on personal computers. The project used an IBM AT clone computer with a 40 megabyte hard drive and a dot matrix printer for the generation of individual artifact catalogue cards on fanfold 3" x 5" cards.

Processed artifacts were prepared for storage by inserting the specimens and the catalogue card into a standard plastic storage bag and stapling the bag closed. The processed artifacts were sorted as to ultimate storage location at the Manitoba Museum of Man and Nature. Diagnostic artifacts, display-quality specimens and those items which would require future examination for analysis were designated for storage in Area 1 (the primary storage location). Non-diagnostic artifacts and specimens which were unlikely to receive additional examination in the near future, such as wire-cut nails, faunal remains and windowpane, were segregated for storage in Area 2 (the secondary storage location). All subsequent analysis and research on the artifacts has been undertaken in the facilities provided by Quaternary Consultants Ltd. All recovered artifacts will be housed at the

Museum which has been designated as the repository for artifacts and documentation of archaeological projects undertaken within the jurisdiction of The Forks Renewal Corporation (FRC 1988:129).

2.2.4 Artifact Recoveries

There were 32,203 artifacts recovered during the archaeological activities of the Assiniboine Riverfront Quay project. A large quantity of material was derived from the upper levels. Chapters 3, 4, 5 and 6 will discuss the recovered historic artifacts which derive from the railroad-related levels. Chapter 7 will detail the Pre-Contact recoveries and Chapter 8 will provide an interpretation of the cultural activities at the site.

Appendix D, issued as Volume 2 of this document, is the catalogue list of all curated artifacts. The catalogue has been produced in a limited quantity and is on file with The Forks Renewal Corporation, Historic Resources Branch of Manitoba Culture, Heritage and Citizenship, Canadian Parks Service, and the Manitoba Museum of Man and Nature.

3.0 GENERAL HISTORIC ARTIFACTS

The historic artifacts, recovered during monitoring of The Assiniboine Riverfront Quay Project, have been analyzed within functional categories based on the CHIN cataloguing format (Appendix C). All manufacturing equipment or all hardware will be examined together, rather than examining all glass artifacts and then all metal artifacts, as is often the case in reports of historic archaeological recoveries.

3.1 ARCHITECTURAL OBJECTS

This functional category includes all artifacts which are used for the construction, the maintenance, and the furnishing of structures. Many architectural objects are seldom identifiable to manufacturer or time period. The items can be made of many different materials: metal, glass, wood, etc. For the purpose of discussion, the following sub-categories will be used.

a. hardware - items which are used for the construction of the structure (e.g., nails);

b. structure - elements which are part of the basic structure (e.g., brick, lumber);

c. accoutrement - items which complete the structure (e.g., windowpane);

d. detached structure - elements or portions of elements which are not part of the basic structure but are attached to it (e.g., fence, sewer tile);

3.1.1 Hardware

Hardware consists of items which are used for the construction of a structure. Often, recovery techniques and time frame preclude collection of incomplete, rusted artifacts. Thus, most hardware items are under-represented.

3.1.1.1 Nails

Nails are one of the most common structural artifacts. Three different types of nails, representing different manufacturing techniques were recovered: hand wrought, sheet-cut and wire-cut. Hand wrought nails are the earliest form of nail and were used, in Canada, throughout the 17th and 18th century as well as into the 19th century (Nelson 1968:6). These nails were made on an individual basis by a blacksmith and are distinguished by a square cross-section with a relatively uniform taper from the head to the point. Numerous styles such as rose-head, T-head, and L-head can be identified. DlLg-33/89B-2144 is a complete, square, iron hand-wrought nail with a rose head (Plate 1a). Rose heads received their name due to the petal-like configuration of the head, caused by the blacksmith's hammer strokes when annealing the head to the shank.

Sheet-cut nails were developed ca 1790 and were mass produced (Nelson 1968:8). Sheets of iron or steel were rolled to a uniform thickness and then were cut with a taper from top to bottom. The

thickness of the nail remains constant from head to point, while the width tapers. The heads, commonly T-shaped or L-shaped, were added to each individual shank. While sheet-cut nails were produced in Montreal in the early part of the 19th century, they likely became common in The Forks area after 1860, when river steamboats could transport large quantities of American goods (Kroker, Greco *et al.* 1991:105).

Nine sheet-cut nails, comprising seven catalogue numbers (DlLg-33/89B-467, 686, 687, 716, 1229, 1037, 1230) were curated. Seven of these nails have T-heads, one is missing a head and one is indeterminable. All are severely corroded. The upper shank of DlLg-33/89B-687 has a large piece of wood attached to it (Plate 1c).

Wire-cut nails were produced about 1850, became prevalent about 1900 and, are the common variety found today (Nelson 1968:10). Steel is extruded to form a wire, which is then cut to the appropriate length and the flat, circular head is added by another machine operation. Four round wire-cut nails, represented by three catalogue numbers (DlLg-33/89B-968, 969, 1228), were curated (Plate 1b).

3.1.1.2 Wire

One piece of badly corroded iron wire was catalogued. DlLg-33/89B-468 was manufactured by the extrusion technique.

3.1.1.3 Porcelain House Insulators

Six porcelain insulators, used for electrical wiring, were recovered. These include four tubular pass-throughs (for carrying wire through boards and planks), one round knob four-wire cleat insulator, and one rectangular two-wire cleat insulator (Amory 1969:661).

Three of the four tubular pass-throughs (DlLg-33/89B-295, 583, 1200) are brown in colour with no markings. Two of these are small while the third (DlLg-33/89B-295) is large (Plate 1d). The fourth pass-through (DlLg-33/89B-97) is a medium-sized grey insulator with a "Diamond" stamped into the side (Plate 1e). This may represent a company logo or mark but it cannot be traced.

DlLg-33/89B-582 is a white, round knob, four-wire cleat insulator (Plate 1f). It has the number "9419" embossed on the base.

DlLg-33/89B-971 is a white, rectangular, two-wire cleat insulator. There are no distinguishing marks on this artifact.

3.1.1.4 Door Knob

Three sherds (DlLg-33/89B-1226) of a single porcelain doorknob were recovered (Plate 1g). The knob is brown in colour and has no markings.

3.1.1.5 Fuse

One fuse, made of porcelain and iron, was recovered. DlLg-33/89B-1080 is white and has an "A in a circle" stamped on the rim (Plate 1h).

3.1.1.6 Strap

The functional category of this type of object is still open to debate. Some strap could have been used as a structural component, i.e., wall brace, while other strap could have been part of a machine. DlLg-33/89B-138 is one piece of corroded iron strap with a remnant of a nail projecting from one side. There is a second hole, where another nail may have been placed, further along the body of the artifact. The use of this piece of strap could not be determined.

3.1.1.7 Hinge

One hinge, DlLg-33/89B-2505, was recovered. It is a corroded iron door hinge with the gudgeon and pintle intact but part of one plate missing.

3.1.2 Structural Elements

This category consists of elements of the structure, e.g., bricks, lumber or tiles. As most incomplete or broken structural artifacts are minimally diagnostic, a similar recovery restriction occurred.

3.1.2.1 Brick

Three specimens of brick were curated. All are red in colour and made of bole. DlLg-33/89B-668 is a small piece that spalled from a larger brick. There are no identifying marks on this artifact.

The other two brick artifacts have information stamped on them. DlLg-33/89B-1045, a broken brick, has "..LOUIS", "...F. B. CO" and "...DARD" on one surface (Plate 2a). It is somewhat difficult to assign this brick to any one particular company. The "...F.B. CO" is more typical of the C.F.B. brand of the Canada Firebrick Co., Ltd., Quebec, Canada (Gurcke 1987:214) rather than the A F B brand of the American Fire Brick Company, Washington (Gurcke 1987:196). The "...LOUIS" and "...DARD" could represent one of several companies if looked at as individual names (Gurcke 1987:298-300) or could, if considered as St. Louis Standard, represent one company, the St. Louis Fire Brick & Clay Co., California (Gurcke 1987:302).

DlLg-33/89B-1046, a nearly complete brick, has "C R & F B CO" and "AJAX" stamped on one side (Plate 2b). According to Gurcke (1987:196), AJAX was a brand of brick produced, from 1904 to 1942, by the Chicago Retort & Fire Brick Co. of Illinois.

3.1.3 Accoutrements

Artifacts ascribed to this category pertain to the finishing touches of a structure. Windowpane and bathroom fixtures were recovered during this project.

3.1.3.1 Windowpane

As minimal diagnostic information can be obtained from windowpane, it was rarely collected. Two types of windowpane were recovered: standard thickness and plate glass.

Three varieties of standard windowpane were catalogued. DlLg-33/89B-660, 707, 1139 and 2502 are all single, transparent, clear sherds while DlLg-33/89B-827 consists of two transparent aqua sherds. DlLg-33/89B-825 and 826 are clear, decorated windowpane sherds. DlLg-33/89B-825 (two sherds) has an embossed floral pattern while DlLg-33/89B-826 (two sherds) has an embossed stippled pattern.

Five catalogue numbers (seven sherds) were curated as plate glass windowpane. DlLg-33/89B-829 and 1165 are four transparent clear plate glass sherds. DlLg-33/89B-828 is a clear windowpane sherd that was reinforced with iron wire mesh embedded in the glass. DlLg-33/89B-282 and 665 are both white ribbed plate glass sherds.

Both the standard and plate glass windowpane recovered during the Assiniboine Riverfront Quay project were similar to the types of windowpane recovered during the North Assiniboine Node Archaeological Impact Assessment (Kroker 1989a:31-34).

3.1.3.2 Bathroom Fixtures

Two sherds were identified as portions of bathroom fixtures. DlLg-33/89B-667 and 970 are both thick white sherds. DlLg-33/89B-667 is a basal portion while DlLg-33/89B-970 is part of the body. It was impossible to identify the fixture from which either sherd originated.

3.1.4 Detached Structure

This category contains those artifacts which are not part of the basic structure, *per se*, but are attached to it in some form. Two artifacts were catalogued in this category.

DlLg-33/89B-3 is an ornate piece of copper filigree work (Plate 2c). It is heraldic in appearance with a scrollwork design interspersed with maple-like leaves and undetermined flowers. This artifact appears to be complete and may have been a decorative item on a building or a fence.

DlLg-33/89B-2506 is one piece of brown, glazed terracotta sewer pipe. It is a large fragment indicating a fairly large diameter for the original pipe.

3.2 LIGHTING EQUIPMENT

Artifacts in this category are varied due to the rapid evolution in lighting techniques, which occurred at the beginning of the twentieth century. They represent a range from candlelight, through gaslight, to electric light.

3.2.1 Candlestick Holder

Four sherds of candlestick? holders were recovered. One is clear and three are amethyst in colour.

DlLg-33/89B-422 is a small, clear basal portion of a candlestick? holder. The exterior pressed design consists of small raised squares and a line of dots on the base with the body pattern consisting of larger raised squares.

DlLg-33/89B-92, 705 and 789 are three, thick, amethyst basal sherds of candlestick? holders. There are no patterns on any of these artifacts.

3.2.2 Oil Lighting

The artifacts assigned to the oil lighting category were all portions of kerosene (oil) lamps, one copper and three glass.

DlLg-33/89B-576 is the copper base of an oil lamp (Plate 3a). This lamp is similar to the CADET style of lamp pictured in the J.H. Ashdown Hardware Co. Limited Catalogue (1909:841). The manufacturing technique for this artifact is cast and there are no distinguishing marks on it.

DlLg-33/89B-575 is an ornate, clear, base, stem portion of a glass kerosene lamp (Plate 3b). It is decorated, on the exterior, with the Bull's-eye pattern. Examples of this pattern, in a variety of colours, are pictured in Stevens (1982:91, 94, 121, 123). The Bull's-eye pattern was a popular pattern used by several companies on a variety of glassware. There are no maker's marks on DlLg-33/89B-575 to indicate which company manufactured it.

DlLg-33/89B-416 is the stem portion of an amethyst glass kerosene lamp. The pattern on this artifact occurs on the interior surface and consists of a round topped fluted design. The stem and pattern are similar to a kerosene lamp depicted in Stevens (1982:85).

DlLg-33/89B-585 is the base portion of an amethyst glass kerosene lamp. The pattern, which occurs on the interior, consists of a Ray and Diamond motif similar to those in Stevens (1982:112).

3.2.3 Electric Lighting

Seventeen catalogue numbers, consisting of 21 sherds, were assigned to this sub-type. These consisted of portions of glass or porcelain lamps, either the shades or bodies, and complete or pieces of light bulbs.

The majority of artifacts (15 sherds) were from glass ceiling fixtures or torchiére style lamps. DlLg-33/89B-457 is a white glass sherd with a radiating ray pattern. DlLg-33/89B-851 is a plain green lamp sherd while DlLg-33/89B-852 is a plain white lamp sherd.

DlLg-33/89B-568 is a white glass lamp sherd with large black letters and a black line painted on it (Plate 3d). The block printed letters are "...A B L?...". This may have been a globe advertising the name of an establishment or a product.

Seven catalogue numbers (DlLg-33/89B-281, 456, 663, 947, 948, 949, 990), consisting of 11 artifacts, are all portions of 'colour-slipped' green-on-white glass sherds. Identical glass sherds have been consistently recovered in other projects at The Forks (Kroker 1989a:138; Kroker and Goundry 1990a:12) as well as from other sites (Kroker and Goundry 1990b:83). Until the Assiniboine Riverfront Quay project, only body portions of the sherds had been recovered and these were catalogued, under the CHIN system, as parts of ornamental objects.

Two of the green-on-white glass sherds, recovered from this project (DlLg-33/89B-456, 990), appear to be the lip portions of lamp shades, i.e., the curved flange which fits into a lamp or electrical fixture. Based on these artifacts, the green-on-white glass sherds will now be catalogued as Lighting Equipment.

The green-on-white sherds may be portions of shades from lamps known as Emeralite desk lamps. Livingston (1979:20, 34) describes these shades as being made of rich emerald green glass with an inside coating of white opal glass. The lamps were produced by the H. G. McFaddin Company of New York from 1909 until the 1940s. Reproductions of this style of lamp are still being manufactured today.

One green-on-white body sherd (DlLg-33/89B-948), recovered from the Assiniboine Riverfront Quay, has been melted and has a metallic-looking red patination on the green surface.

The porcelain lamp sherd (DlLg-33/89B-1081) is the base portion of an electric table lamp (Plate 3c). It is black in colour and has a row of embossed dots just above the base with a second row on the bottom portion of the stem. There is a circular hole in the centre of this artifact through which the electric wire would have passed.

Five complete, or portions of, light bulbs were recovered. DlLg-33/89B-56 is a small, complete, blue, glass and copper light bulb (Plate 3e). It has the information "EDISON" "MAZDA" "15W" "120V" printed, in a circle, on the top.

DlLg-33/89B-284 is a large, complete, clear, glass and copper light bulb. Printed, in a circle, on the top of the bulb are the words "STOLEN FROM C.N.R." (Plate 3f).

The remaining three catalogue numbers are all portions of light bulbs. DlLg-33/89B-137 is a large copper base with a portion of the glass filament still attached. DlLg-33/89B-458 and 972 are smaller copper base and glass filament portions of light bulbs. No wattage or other attributes were discernable on any of these artifacts.

3.2.4 Battery

One carbon core (DlLg-33/89B-1042) from a dry cell battery was recovered. It is 2.5 mm in diameter and 14 mm long. While not necessarily used to power electrical lights, larger dry cell batteries could have been the power source for low voltage systems, e.g., electric lights, radios etc.

3.3 MANUFACTURING EQUIPMENT

This category refers to tools and/or implements which are used to manufacture other artifacts. The sub-categories represented are Industrial and Building.

3.3.1 Industrial

Two artifacts were ascribed to the Industrial sub-category. DlLg-33/89B-135 is a large, corroded iron gear (Plate 4a). This artifact would be from a large piece of machinery.

The second artifact in this sub-category is a wooden drive shaft. DlLg-33/89B-136 is 38 cm in length with a carved circular shaft topped on either end by a rectangular head with a circular hole through it (Plate 4b).

3.3.2 Building

Two artifacts were assigned to this sub-category. DlLg-33/89B-132 is an iron shovel with the square blade intact and part of the handle remaining. DlLg-33/89B-1203 is a portion of a steel axe head (Plate 4c). It is hatchet size and is similar to the blade of a shingling or claw hatchet (Ashdown 1909:14, 15). There are traces of red paint on both sides of the head of the axe.

3.4 COMMUNICATION

Eleven communication-related artifacts were curated. The sub-categories of Telecommunication and Written Communication were represented.

3.4.1 Telecommunication

One vacuum tube, one insulator peg, four glass insulators and one ceramic insulator were recovered. DlLg-33/89B-581 is a complete, molded glass and plastic vacuum tube from a radio or television (Plate 5a). A "GE in a circle", the logo of the General Electric company, and the words "ELECTRONIC" "TUBE" and "J1 QX DEL" occur on the plastic base. As well, "6AX4" "GTB" and "U.S.A." are printed on the glass portion of the tube. Vacuum tubes were predominately used prior to the transistor era (circa 1960) although they are still in use today.

DlLg-33/89B-134 is a wooden insulator peg (Plate 5b). These pegs would have been attached to telegraph or electrical poles. The peg is conical in shape and has the thread marks onto which an insulator would have been screwed.

The insulators consist of four made of glass and one made of ceramic. DlLg-33/89B-293 and 461 are aqua glass insulators. Both are embossed. DlLg-33/89B-293 (Plate 5c) has "C.N.R." and "STANDARD" while DlLg-33/89B-461 (Plate 5d) has "...TEL" and "CO..." on it.

DlLg-33/89B-93 is a blue glass insulator with a "B" embossed near the base and "I.I" embossed on the rounded top (Plate 5e). DlLg-33/89B-294 is a green glass insulator with a "4" embossed on the top (Plate 5f). The threaded portion of a wooden peg is still inside this artifact.

All four glass insulators are the threaded style. This design was patented in 1865 and has been used into the 20th century (Kottman 1979:18). DlLg-33/89B-93, 293 and 461 are versions of the 'pony' style of insulator i.e., rounded top with fairly straight sides. According to Kottman (1979:19), this nickname refers to the "use of [insulators] on telegraph lines, which made the pony express obsolete." DlLg-33/89B-294 also has a rounded top but the sides flare out to the base.

The ceramic insulator (DlLg-33/89B-1044) is from a high voltage line (Plate 6). The base is brown and is 26.5 cm in diameter. An iron bell shaped handle is attached to a central hole. The number "6577", possibly a serial number, is embossed on the handle.

3.4.2 Written Communication

Four unique artifacts were catalogued under this sub-category. DlLg-33/89B-1110 is a portion of a lead printing plate from a cartoon (Figure 3). The cartoon shows a chubby little man, with one arm bandaged and in a sling, standing at a desk talking to another man. The cartoon caption consists of six lines of dialogue. Unfortunately part of one corner of the dialogue is missing. The lines read from top to bottom "...R BEAUTIFYING", "...PUT MY NAME", "...T ONE OF THE", "...INGS WE", "...O DO IS TO HAVE", "...ASH-CANS TAKEN", and "...THE SIDEWALKS".

This plate is a portion of a cartoon known generically as 'Jiggs' or 'Jiggs and Maggie'. The correct name for the comic strip is 'Bringing Up Father' and it has a long and interesting history. Created by George McManus in 1911, 'Bringing Up Father' ran under various other titles from November, 1911 until January 12, 1913 when the cartoon began running under its own name in the Hearst chain of newspapers. The comic strip is still running today (Harvey 1990:51-52). Horn (1976:132) notes that this particular comic strip has the distinction of being the first comic strip to enjoy world wide fame. It has been reprinted in book form, translated into many languages, adapted to stage and screen, been made into animated cartoons and used as the official emblem of the Eleventh Bombardment Squadron during the war [WW II].

The type of printing using a lead plate was called hot lead press and was used in the early part of the 20th century up to the 1940s. At that time, the linotype method of printing became popular (D. Nicholson 1991:pers. comm.).

Figure 3: Bringing Up Father

DlLg-33/89B-1041 is a large (67.0 cm x 35.5 cm) enamelled Telegraph sign (Plate 7). Large white block letters reading "GRAND TRUNK PACIFIC" "TELEGRAPHS" are printed on the blue background of both sides of the sign. Printed in the bottom right corner of one side are the words "ACTOR BURROWS" and "TORONTO". This may refer to the sign manufacturer. There are six small bolt holes down one side of the sign.

DlLg-33/89B-32 is a piece of a porcelain sign. There are portions of black numbers and words painted on the surface. The numbers are "5.4.3" with the word "AND" printed between and below the 5 and the 4 and the word "UP" printed between and below the 4 and the 3. The exact meaning or usage of this artifact remains.

DlLg-33/89B-652 is a flat porcelain sherd with red paint and etched decorations on it (Figure 4). The red paint has faded badly. The decoration consists of what appears to be a handle, base and body of a jug. The decoration on the jug looks like bands of cross-hatch diamonds with dots in the centres interspersed with bands of circles. There are also petal-like decorations surrounding the jug. The exact identification of this artifact cannot be ascertained. It was placed in this category although it may not belong here.

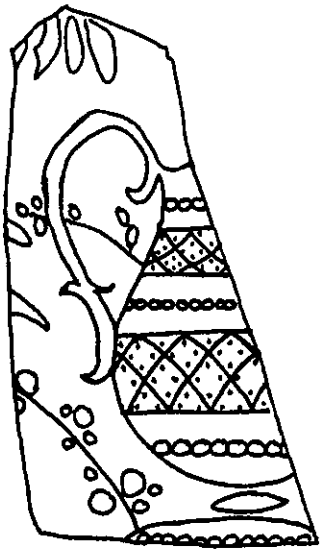

Figure 4: Drawing of DlLg-33/89B-652

3.5 FOOD PROCUREMENT

One artifact, relating to fishing, was curated. DlLg-33/89B-1201 is a carved, cylindrical wooden float. It is 12.5 cm in length and 5 cm in diameter with a hole running from end to end.

3.6 FOOD PROCESSING

Two artifacts, DlLg-33/89B-133 and 1082, were catalogued as sub-category 'Utensil' under Food Processing. DlLg-33/89B-133 is a 61 cm long iron meat hook. It has a sharpened hook at one end and a horizontal hang bar at the other. DlLg-33/89B-1082 is a white and black enamelled spoon. Only the bowl and a small portion of the handle remain. Due to its size, this pressed enamelware artifact was designated as a ladle.

3.7 COMMERCE

Two artifacts were catalogued in this category. DlLg-33/89B-292 is a large copper coin. The size of the coin indicates that it was manufactured pre-1920 (assuming it is a Canadian coin) but the severe patination restricts any further information being elicited. Conservation on this specimen may prove useful in gaining more information. DlLg-33/89B-978 is a heavily corroded iron date stamp. A date wheel is in the stamp but it is impossible to read any information. Conservation would be necessary to clean this artifact in order to obtain any information.

3.8 CLOTHING

Representatives of different sub-categories of clothing were recovered during the monitoring project. Eleven catalogue numbers, consisting of fourteen artifacts, were analyzed. These will be discussed within the appropriate grouping.

3.8.1 Fastener

Two buttons were recovered. DlLg-33/89B-580 is a single, copper, shank button (Plate 8a). The words, "CANADIAN P...CIC RAILWAY CO." are stamped in a circle around a "CPR" logo. The Canadian Pacific Railway was completed in 1885 and the first transcontinental train rolled across Canada in 1886 (Lavallee 1985:277-278). This button may have come from the uniform of a worker on the Canadian Pacific Railway. Further research would be necessary to pinpoint the dates that this particular style of button was used on uniforms.

One further interesting point, with regard to this CPR button, is that the East Yard was Canadian National Railway territory after the 1921 amalgamation (Guinn 1980:1) and prior to that was used by the Grand Trunk Pacific Railroad, the Canadian Northern Railroad, as well as other rail companies. The area has never been Canadian Pacific Railroad territory.

DlLg-33/89B-2504 is a corroded, iron, stud fastener similar to the type found on many styles of blue jeans. There are no discernible markings on this button.

3.8.2 Bodywear

Four fragments of leather handwear (DlLg-33/89B-2, 288) were recovered. DlLg-33/89B-2 is a single tanned, sewn fragment of a mitten (Plate 8b) while DlLg-33/89B-288 consists of three pieces of a tanned, sewn mitten. Both are adult size.

3.8.3 Footwear

Eight fragments of shoes were catalogued. DlLg-33/89B-1184 and 1231 are three pieces of soles while DlLg-33/89B-1232, 1233 and 1234 are three pieces of uppers from medium size shoes. DlLg-33/89B-1232 has copper eyelets with bits of shoelace still intact.

DlLg-33/89B-974 is a slightly larger, complete leather sole with remnants of the iron tacks still imbedded. DlLg-33/89B-1183, similar in size to DlLg-33/89B-974, is the remnant of one complete shoe consisting of the sole, heel and upper. Copper eyelets and iron tacks are still present.

3.9 RECREATION

The recreation category includes items such as smoking equipment, games, musical instruments and toys. Two artifacts were assigned to this category. DlLg-33/89B-579 is an aqua, plastic gaming piece typical of bingo chips (Plate 8c). DlLg-33/89B-462 is a machine-made blue glass marble with

wavy lines of white glass running through it (Plate 8d). This marble resembles the type known as slag marble (Block 1979:154, 155).

3.10 ADORNMENT

The adornment category includes items of toiletry and jewellery. Only one artifact, a toiletry item, was catalogued in this category. DlLg-33/89B-463 is a plastic and iron straight razor (Plate 8e). The iron blade is broken and severely corroded while the plastic handle is also broken. There are no discernible marks on this artifact.

3.11 TRANSPORTATION

Two types of transportation are represented in the artifacts recovered during the monitoring project. These are the sub-categories of railroad and vehicle.

3.11.1 Railroad

The artifacts in the Railroad sub-category represent facets of rolling stock and operational-maintenance activities. Four artifacts were catalogued as rolling stock items. DlLg-33/89B-96 is an aqua, glass tube from a water gauge. DlLg-33/89B-98, also a rolling stock item, is a black rubber O-ring. O-rings were used as seals for the steam line couplers between railroad cars (Kroker 1989a:48).

DlLg-33/89B-296 is an iron chain and hook. Similar items were used as internal supports across boxcars to maintain wall stability and withstand pressure from contents such as grain or coal.

DlLg-33/89B-1202 is a large iron hook which may be part of a composite tool. It is embossed with "CAMEL CO" on one side of the handle and "US..." "2000..." on the other. The exact use of this tool is unknown at this time.

The operational/maintenance item, DlLg-33/89B-584, consists of a single blue sherd from a railway lantern. This sherd has an embossed "3 3/8" on it.

3.11.2 Vehicle

Seven artifacts were allocated to this sub-category. DlLg-33/89B-291 is an iron cap, possibly a grease cap. DlLg-33/89B-460 is a red, glass taillight cover. DlLg-33/89B-669 is a cast, threaded brass plug. DlLg-33/89B-1043 is a chromed, zinc handle from the trunk of a car (Plate 9a). The style is indicative of vehicles from the 1940s and 1950s.

The remaining three artifacts are licence plates. DlLg-33/89B-1 is the bottom portion of a yellow-on-green licence plate (Plate 9b). The word "MANITOBA" was the only remaining information on this artifact. This particular colour combination was used, in Manitoba, in 1961 (Ed Marchuk 1991:pers. comm.).

DlLg-33/89B-1039 is a complete white-on-black plate. The material in this plate consists of a porcelain coating baked onto an iron base. The information "MAN." "1912" "155" and the Manitoba Coat-of-Arms are printed on this licence plate (Plate 9c).

DlLg-33/89B-1040 is a complete, red-on-white licence plate. It has "PSV", "12", "X", "MANITOBA", "70" and a bison on it (Plate 9d). This plate would have been used, in 1970, on a public service vehicle, most likely a delivery vehicle (Ed Marchuk 1991:pers. comm.).

3.12 DETRITUS

The detritus category originated during cataloguing of Pre-Contact artifacts. It was devised to record the residue from the manufacture of lithic tools. A change in the definition became necessary when applied to historic materials. With regard to historic artifacts, it includes residue of manufacturing operations, as well as referring to specimens which are too broken or corroded to be identified. This is in contrast to the 'Unknown' category, where it is felt that, with further research, the artifact could be identified. Historic detritus is designated as 'scrap' in the hierarchical code.

As the recovery techniques concentrated upon the recovery of diagnostic artifacts, very few severely fragmented artifacts were collected. Non-identifiable metallic artifacts were usually culled, on-site, during examination of the excavated material. The single artifact in this category, DlLg-33/89B-99, is a piece of copper scrap that has been sheet cut and soldered together in a circular shape. No further identification could be made.

3.13 UNKNOWN

This category is reserved for artifacts of all materials which are incomplete or not well enough preserved for a positive identification to be made. Further in-depth research may elicit an identification of these artifacts. The artifacts are listed in Table 1.

	MATERIAL	DESCRIPTION
464	Rubber	Treaded - 7 Pieces
666	Glass	Scalloped - White
973	Glass	Panelled - Yellow
1083	Brass	MONTREAL/THE NORTHERN ELE.. LIMITED
1227	Glass;Copper	Circular - Red

Table 1: Unknown Artifacts

One edge of DlLg-33/89B-666 has a jigsaw-like cut appearance while DlLg-33/89B-973 resembles a very small jar. DlLg-33/89B-1227 is a circular piece of thick red glass with a copper edging. The only artifact with any information, whatsoever, is DlLg-33/89B-1083. This may be a portion of machinery made by or for "THE NORTHERN ELECTRIC COMPANY OF MONTREAL". The actual use of this artifact cannot be determined.

3.14 FAUNAL REMAINS

All faunal remains recovered from the historic levels are the residue from food resources. No artifacts were attributed to natural deposition. Naturally deposited faunal remains (i.e., Rodentia and Amphibia) are the result of natural processes and are easily identifiable, due to the completeness of the skeleton and the unlikelihood of the specimen being used for food.

All of the faunal remains were examined and identified as specifically as possible: body part, age of individual, and species, where possible. Any evidence of butchering techniques, such as cutting or sawing, was recorded. The condition of the specimens were noted, i.e., charred, broken, calcined, etc.

The specimens were identified using standard references: Olsen (1960, 1964), Gilbert (1973), DeBlase and Martin (1974), Mundell (1975), Clarke (1981), Scott and Crossman (1973). Specimens were identified to the lowest taxonomic ranking wherever possible, although incompleteness of the element often resulted in identification at the Family, Order or Class level.

Size ranges were used within the broader classifications to provide additional information beyond the simple reporting of bird or mammal. Large mammal refers to bear, deer, moose, elk, bison, cow, pig, sheep and goat. Medium mammals range from muskrat to wolf, and include porcupine, rabbit, hare, fox, dog, and beaver. Small mammals include squirrels and small rodents. Large birds are considered to include crane, swan, goose, turkey, hawk, and eagle. Medium birds include ducks and chickens, while small birds are the size of sparrows.

The faunal remains recovered from historic contexts are presented in Table 2. The identifications are listed using common names. Categories such as cow/bison are used because these two species are very similar osteologically and only certain elements can be distinguished.

Many of the recovered specimens show evidence of butchering activities. Several bones have evidence of cut marks while others show evidence of having been sawn. One specimen, DlLg-33/89B-312, has the striae often left by hand sawing as opposed to many of the other artifacts which were sawn with a power tool. Some specimens have been obviously split with an axe while others show evidence of multiple processes, i.e. sawn, cut. DlLg-33/89B-126 and 128 have both been carnivore chewed, while DlLg-33/89B-304 has been rodent gnawed.

The majority of the mammal food resources appears to derive from domesticated animals such as cow, pig, and sheep. The bird bone probably derived from domesticated species also (chicken, duck, goose and turkey), although wild ducks and geese could have been harvested

during migration seasons. One specimen of a shellfish and four specimens of catfish were recovered. The nearby Red and Assiniboine rivers were another source of food.

IDENTIFICATION		TOTAL
MAMMAL		97
Large Mammal	54	
Medium/Large Mammal	3	
Medium Mammal	2	
Artiodactyla	8	
Moose/Elk/Deer	4	
Cow/Bison	5	
Bison	7	
Cow	5	
Sheep	1	
Pig	8	
BIRD		13
Large Bird	11	
Medium/Large Bird	1	
Eggshell (Galliformes)	1	
FISH		4
Catfish	4	
SHELLFISH		1
Freshwater Clam	1	
TOTAL FOOD REMAINS		115

Table 2: Identification of Butchering Remains

One intriguing artifact, DlLg-33/89B-1178, consists of one-half of a broken eggshell. This probably is an egg from a domestic hen, although there is the possibility that it derives from the nest of a wild duck and was deposited at the site by a scavenger (gull, crow, dog, etc.).

4.0 STORAGE CONTAINERS

This grouping is a sub-category of the larger category 'Container', which includes all artifacts, or portions of artifacts, which are used to contain products. As such, it tends to cross-cut other functional divisions, with assignment to the category based upon form, as much as function. The category contains five major sub-categories (Manitoba Museum of Man and Nature 1986):

a. Storage - where the primary purpose of the container is to hold material, e.g., bottles, jars, tin cans, boxes, etc.;
b. Dinnerware - where the artifact is used in the serving of food (plate, cup, bowl, etc.) or is considered as tableware, such as salt shakers, cruets, etc.;
c. Cooking - containers used in the preparation of food, e.g., pots and pans; and
d. Ornamental - decorative items such as vases.

This category, due to its wide-ranging inclusion of artifacts, also contains specimens of most materials. Due to the preponderance of artifacts, the descriptive analysis is divided into three sections: storage containers in this section; dinnerware in the next section (5.0) and other containers in the subsequent section (6.0).

Storage containers include most of the commonly used artifacts in today's material culture. Many products are sold, transported, carried or stored in a container of some type: bag, box, jar, sealer, can, bottle. Within this sub-category, artifacts will be examined by material composition: metallic, ceramic and glass.

4.1 METAL CONTAINERS

DlLg-33/89B-290 is a heavily corroded flask-shaped container. It is enamel white and blue and has no identifying marks.

4.2 CERAMIC CONTAINERS

Sixty-one complete, or portions of bottles, crocks, jars and jugs were recovered (Table 3).

4.2.1 Bottles

Two stoneware bottle sherds were recovered. DlLg-33/89B-946, a brown and grey body sherd, has no markings.

DlLg-33/89B-984 is a brown and grey lip, neck, body portion of a stoneware bottle (Plate 10a). A black, oval logo on the body states that this artifact was a product of "...GLAS & KING LIMIT..." and contained "KING'S OLD COUNTRY...". Chopping (1978:158) shows a series of stoneware ginger beer bottles containing the product of Douglas & King Limited of Winnipeg, Manitoba. DlLg-33/89B-984 is identical to Chopping Type MWIN CE5.

OBJECT TYPE	CAT. NO.	MATERIAL	COLOUR	QTY
Bottle	946	Stoneware	Brown; Grey	1
	984	"	Brown; Grey; Black	1
Crock	276	Stoneware	Brown; Grey	1
	277	"	Brown; Grey	1
	279	"	Grey; Black	1
	473	"	Grey; Blue	1
	572	"	Grey; Blue	1
	573	"	Grey; Blue; Red	1
	574	"	Grey; Blue; Red	1
	659	"	Brown; Grey	2
	683	"	Grey	2
	938	"	Grey; Black	1
	940	"	Grey	1
	941	"	Grey; Red	1
	944	"	Grey	2
	945	"	Grey; Blue	2
	988	"	Grey	1
	1065	"	Grey; Blue	1
	1180	"	Grey	1
Jar	5	Porcelain	White	1
	107	Stoneware	Grey; Tan; Black	1
	569	Porcelain	White	1
	714	"	White	1
	715	Stoneware	Grey	1
	939	"	Tan	1
	942	"	Grey	1
	943	"	Grey	1
	952	Porcelain	White	1
	1181	Stoneware	Grey; Tan; Black	1
	1225	"	Tan	2
Jug	94	Stoneware	Brown; Grey	1
	275	"	Brown	9
	280	"	Brown; Grey	9
	469	"	Brown	1
	470	"	Brown; Grey	1
	471	"	Brown	1
	472	"	Brown; Grey; Blue	1
	571	"	Brown; Grey; Black	1
	1179	"	Grey	1
	3298	"	Brown; Grey	1

Table 3: Ceramic Storage Containers

According to Chopping (1978:157), Douglas & King located at 47 Higgins Avenue began producing ginger beer in 1923. In 1931, the name changed to King's Old Country Ltd. and in 1943 and 1944 the company moved first to 283 Henry Avenue and then to 666 Portage Avenue. The company ceased production in 1945.

4.2.2 Crocks

The 21 stoneware sherds, identified as crocks, provided a great deal of information. Only DlLg-33/89B-659, two body sherds, has no significant marks or features. DlLg-33/89B-276 is a single body sherd with red and green stains on the exterior surface. No pattern could be discerned.

Several stoneware sherds have no markings but due to curvature of the lip, the size of the crock can be determined. DlLg-33/89B-277 and 683 are portions of 1 gallon crocks, DlLg-33/89B-944 is part of a 2 gallon crock and DlLg-33/89B-988 is from a 5 pound butter crock. DlLg-33/89B-940 is a portion of a 1/4 gallon crock while DlLg-33/89B-1180 is the lid from a 1/4 gallon crock (Plate 10b).

DlLg-33/89B-1065, a lip, body sherd from a 1 gallon crock, is distinct in that it is grey in colour with a mottled blue exterior. The Medalta Stoneware Company of Medicine Hat, Alberta produced an item listed as a 'Crockery-blue speckled Ice Bucket' (Symonds 1974:51) that bears a resemblance to DlLg-33/89B-1065. Depasquale *et al.* (1983:128) depict the Red Wing Stoneware blue 'sponge butter crocks' that are also similar to DlLg-33/89B-1065 (Plate 10c). The colour was hand-sponged onto white ware (Depasquale *et al.* 1983:157). No maker's mark appears on this piece so it cannot be assigned to either the Medicine Hat Company or any of the Red Wing companies.

The remaining crock sherds have markings on them that definitely identified either the manufacturing company and/or the size. DlLg-33/89B-279, a body sherd, has the black oval logo of the "MEDALTA POTTERIES LTD. MEDICINE HAT, ALBERTA" (Plate 10d). The history of this company has been outlined in other reports (Kroker and Goundry 1990a:57; 1990b:44). Briefly, the Medalta Stoneware Company produced a variety of utilitarian and decorative items from 1912 to 1988, originally in Medicine Hat, Alberta and eventually in nearby Redcliff, Alberta. The logo on DlLg-33/89B-279 was used from the 1920s through the 1950s (Symonds 1974:11).

Four sherds have logos indicating definite manufacture by one of the potteries located in Red Wing, Minnesota. DlLg-33/89B-573, 574 and 941 have the red wing logo used by Red Wing Union Stoneware Co. (1906 - 1936). In addition DlLg-33/89B-574 has a complete, oval, blue maker's mark indicating that it was a product of the "RED WING UNION STONEWARE CO. RED WING, MINN." (Plate 10e). DlLg-33/89B-573 has a portion of the same mark from the same company. This company, an amalgamation of the Minnesota Stoneware Company (1883 -1906) and the Red Wing Stoneware Company (1877 - 1906), produced a variety of stoneware products from 1906 until 1936. In 1936 the name of the company was changed to Red Wing Potteries, which subsequently ceased operation in 1967. However, the actual production of stoneware items had ceased in 1947 (Depasquale *et al.* 1983:4,143).

DlLg-33/89B-473 does not have the red wing logo but does have a portion of an oval blue mark with "...G" which is similar to DlLg-33/89B-573 and 574. In addition, DlLg-33/89B-473 has a blue "2" above the logo, indicating it was a 2 gallon crock. This artifact is, in all likelihood, a product of either the Red Wing Stoneware Company or the Red Wing Union Stoneware Company.

DlLg-33/89B-572 has a large blue "2", i.e., a 2 gallon crock, and part of a blue leaf logo (Plate 10f). The design and shape of the "2" is identical to the "2" on DlLg-33/89B-473. The leaf may be the Birch leaf or Elephant Ear leaf symbol used prior to 1906 and replaced by the Red Wing logo by 1909 (Depasquale *et al.* 1983:51-52). The leaf symbol was used by the Minnesota Stoneware Company (up to 1906), the Red Wing Stoneware Company (up to 1906) and the Red Wing Union Stoneware Company (1906 to 1909).

DlLg-33/89B-938 has a small portion of a black logo which could not be positively identified. Chopping (1978:201) shows a stoneware jug with a maple leaf logo. The remnant of the logo on DlLg-33/89B-938 does resemble the outline of a maple leaf. A similar symbol was the trademark of the Western Stoneware Company of Monmouth, Illinois who produced stoneware from 1906 to 1975 (Kovel 1986:122).

DlLg-33/89B-945 has a portion of a blue number, most likely a 2 or a 3. No company affiliation could be ascertained for this artifact.

4.2.3 Jars

The ceramic jars consist of four porcelain and seven stoneware complete or incomplete specimens. DlLg-33/89B-5, 714 (Plate 11e), and 952 are portions of small, white porcelain jars which are typical of the kind used by pharmacists for creams or ointments. DlLg-33/89B-5 (Plate 11d) has "943" stamped on the base. DlLg-33/89B-569 is a larger, white porcelain jar with straight sides and no indication of a lid (Plate 11b).

The remaining jars are stoneware. DlLg-33/89B-1225 is two pieces of a tan-coloured jar (Plate 11f). This jar measures 11 mm in height and 6 mm in interior diameter. These jars are commonly referred to as ginger jars and can still be seen today. DlLg-33/89B-939 is the shoulder portion of the same style of jar.

DlLg-33/89B-715 is the body, base portion of a small stoneware jar. The body of this artifact has evenly spaced vertical ribs. It has "W.P. HARTLEY" "LIVERPOOL & LONDON" "TRADE MARK REGD." and a lighthouse-like logo stamped on the base (Plate 11g). Neither this exact name or logo could be traced in the reference material. There is a possibility that the name and symbol may refer to the jobber or the contents. A similar bottle was recovered behind the Pantages Theatre, in downtown Winnipeg, and was assumed to relate to a restaurant that had stood nearby during the 1875 to 1890 period (D. McLeod 1993:pers. comm.).

DlLg-33/89B-942, a body, base sherd, and DlLg-33/89B-943, a lip, body sherd (Plate 11h), have the same vertical ribbing as DlLg-33/89B-715, although neither sherd has any identifying marks.

DlLg-33/89B-1181 and DlLg-33/89B-107 are unusual specimens. DlLg-33/89B-1181 is a squat bulbous-shaped mottled grey and tan jar with two blue stripes around the circumference (Plate 11c). There is a very small neck with a jutting edge where a lid would have fit over the rim. There are no markings to indicate manufacturer or contents of this jar. DlLg-33/89B-107 is the base, body portion of a jar identical to DlLg-33/89B-1181. This artifact had been subjected to intense heat.

4.2.4 Jugs

This type contained one complete jug and 25 sherds. DlLg-33/89B-3298 is the only complete jug recovered (Plate 12). Unfortunately, this specimen has neither maker's marks nor indication of the contents.

The twenty-five sherds were identified as portions of jugs. Of these, DlLg-33/89B-94, 280, 469, 470, 471, and 1179 have no marks which would indicate contents or manufacturer. Most jugs tend to have been used for wine or liquor although some could have been used for other liquid products such as paint or ink (Chopping 1978).

DlLg-33/89B-275 is nine pieces of a brown jug. This jug is the size of an ink or chemical container and has an ovate pouring lip (Plate 11a). An oval logo is stamped on an external side, near the base. The logo has the number "88" in the centre and the words "DOULTON & CO. LIMITED" and "LAMBETH" following the outline of the oval. A similar, but not identical, oval mark for Doulton & Co. of Lambeth, London, England is illustrated in Kovel (1986:65). This company has been manufacturing pottery from 1853 until the present.

DlLg-33/89B-472, a small body, shoulder sherd, has "IMP..." printed in blue (Plate 11i). This may represent the word Imperial which would denote the size of the jug as measured in the British, as opposed to the American, measuring system.

DlLg-33/89B-571, another body, shoulder sherd, has "LABORATORY" printed in large black letters (Plate 11j). Below this word there is a blurred "...MP". This jug would definitely have contained a chemical liquid. The "...MP" may represent Imperial, however, in many of the references this word is not abbreviated.

4.3 GLASS CONTAINERS

Large quantities of sherds and several complete glass containers were recovered during the monitoring of the Assiniboine Riverfront Quay project. Incomplete fragments can be identified to the portion of the container (Figure 5). Indications of the method of manufacture are often present on incomplete sherds, providing data about time period and technology.

Where possible, the specimens have been identified to type of container, i.e., bottle, sealer, jar. Jars are defined as containers which have a generally cylindrical body and a mouth which is greater than 2/3 of the diameter of the widest part of the base or body, while bottles have a constricted

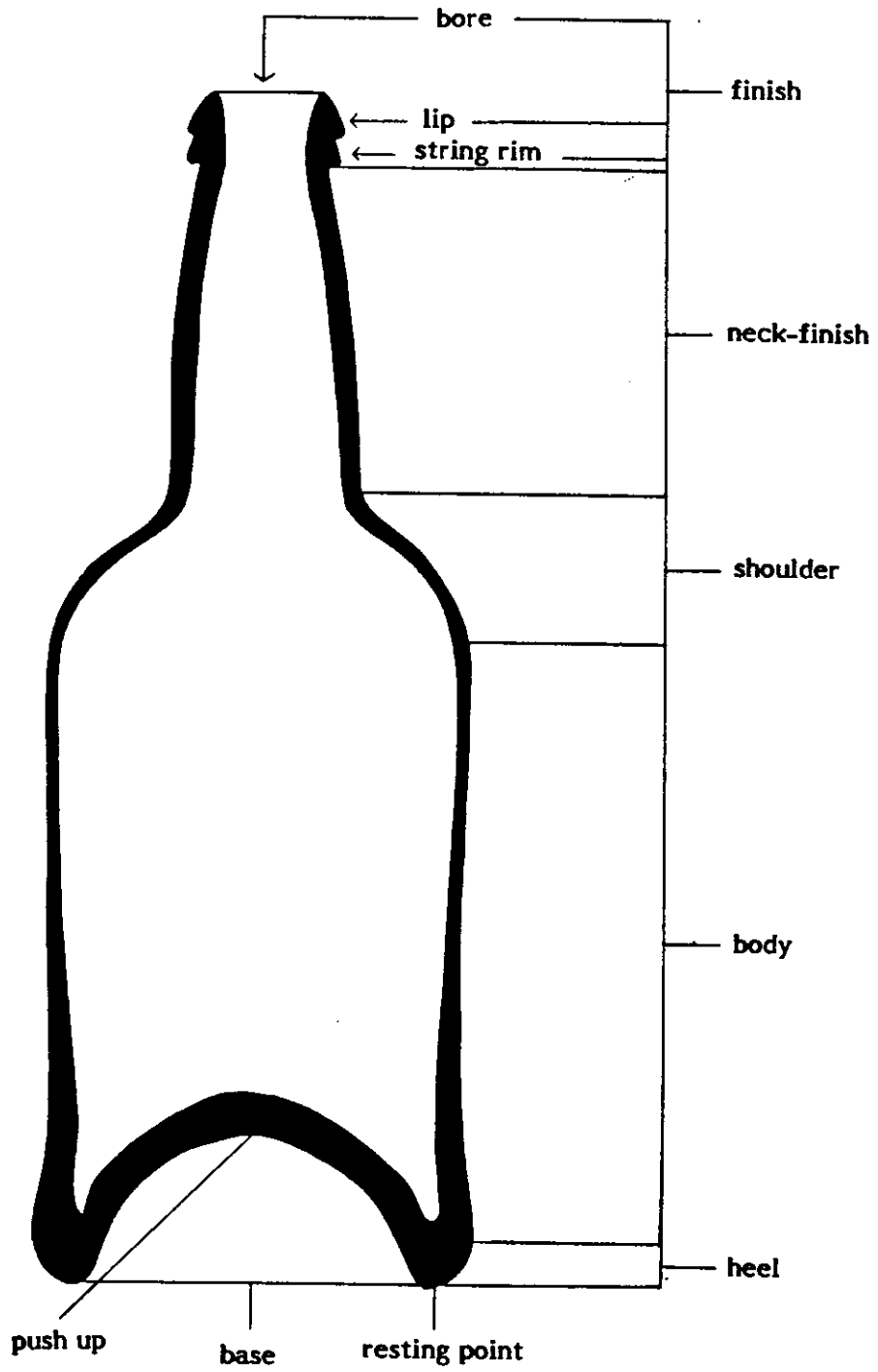

Figure 5: Parts of a Bottle (from Jones and Sullivan 1985:77)

mouth and neck. Further identification, to the functional sub-type (Appendix C), such as ink bottle, milk bottle, or beer bottle, has been done where the completeness of the artifact permitted.

4.3.1 Stoppers

Containers have a variety of closure types. Modern ones often have metal or plastic caps while older containers had corks and glass stoppers. Five glass stoppers were recovered. DlLg-33/89B-78, 377 (Plate 13b) and 839 (Plate 13c) are aqua in colour, while DlLg-33/89B-376 is clear and DlLg-33/89B-840 is brown (Plate 13e). DlLg-33/89B-376 has a piece of cork still attached to the plug portion of the stopper (Plate 13f).

DlLg-33/89B-78 is embossed with "CARTON'S" in block capital letters (Plate 13d). This name has not been identified to a firm or a product.

4.3.2 Baby Bottle

One complete, cylindrical baby bottle was recovered (Plate 13a). DlLg-33/89B-154 is a clear, 8 ounce bottle and resembles the illustration in the 1908 Sydenham Glass Company catalogue (Sydenham 1908:28). The mold seams indicate manufacture in a two-piece post mold. While several early styles of nursing bottles had a flat side to prevent tipping, DlLg-33/89B-154 does not have this feature.

4.3.3 Canning Sealers

The introduction of the glass canning sealer (fruit jar) in the latter part of the nineteenth century resulted in a major shift in food preservation. Food products could now be preserved, in large quantities, on a household basis. The competition in the sealer industry was strong and all manufacturers attempted to engender customer loyalty by naming their product. Most sealers have a trade name embossed on the side of the container. Names like Crown, Gem and Perfect Seal are familiar to many people.

There are nine catalogue numbers consisting of three complete sealers, three sherds, and three lids. Varying degrees of information have been abstracted from each of the specimens.

Two complete sealers are clear while one is aqua. DlLg-33/89B-7 is a clear, screw-cap lid, half-pint sealer with no markings (Plate 14a). DlLg-33/89B-1161 is a clear pint sealer, which has a Lightning-style closure (Plate 14b) with a remnant of the iron ring still attached to the neck. The shape of the collar appears similar to that on the Safety Seal sealer. DlLg-33/ 89B-160, an aqua sealer, has the crown logo and the word "CROWN" embossed on one side with a "4" embossed on the opposite side (Plate 14c). Crown sealers were a product of the Dominion Glass Company and its predecessor, the Diamond Flint Glass Company. The earliest Crown sealers had ground lips and an outer seal lid (Barclay 1977; Bird *et al.* 1971). This specimen takes an inner seal glass lid and a screw band - a style manufactured after 1915. The mold seam which continues to the lip, indicates manufacture after 1921.

DlLg-33/89B-9, a clear body sherd, has "...SON" and "JAR" embossed on the exterior surface (Plate 14d). This sealer, a Mason style jar, is a product of the Dominion Glass Company of Canada made between 1915 and 1929 (Barclay 1977:110-113).

DlLg-33/89B-161 is an aqua lip, neck portion of a sealer (Plate 14e). The word "TIGHT" is embossed, twice, between the two clamp collar rings. A remnant of the red rubber sealing ring is still attached to the lip. This is a Perfect Seal jar, manufactured by Dominion Glass after 1915 (Barclay 1977:126-127). DlLg-33/89B-811 is a clear lip, neck portion of a sealer. There are no markings on this sherd to indicate the brand name or the manufacturer. The presence of screw-cap collar rings indicate relatively recent manufacture.

The three remaining artifacts are a variety of sealer lids. DlLg-33/89B-162 is a clear, wire bale type lid (Plate 14f), while DlLg-33/89B-1079 is a clear, glass lid with "MADE IN ...DA" and "...EL" embossed on the exterior surface (Plate 14g). This is lid for a Jewel jar, a product of Consumers Glass Company of Canada. The jar was produced in the late 1930s and early 1940s (Barclay 1977:105). The company began as the Atlas Glass Company in 1913, becoming the Premier Glass Company in 1915 and Consumers Glass in 1917. It still operates today (Toulouse 1971:103-106).

The final sherd, DlLg-33/89B-415, is a zinc screw cap with a white glass lining (Plate 14h). This is commonly called a Boyd Lid and is a standard closure for many American sealers (Ball, Drey, etc.). The lid also fits most Canadian screw-cap sealers.

4.3.4 Condiment and Food Produce Bottles

Representatives of this class are often difficult to identify as many producers used unmarked bottles to which paper labels were added. Sometimes the shape of a sherd can identify the product, such as the distinctive Ketchup bottle. Some producers had bottles manufactured in private molds which were embossed with their name, e.g., the Heinz Company.

The material includes 57 catalogue numbers comprising 75 artifacts identified as Condiment bottles, jars or sherds. Many of the recovered specimens could be assigned to specific types of food products such as jams, jellies, sauces, and foods, i.e., pickles etc.

4.3.4.1 Jams and Jellies

Several small jars appear to have contained jams, jellies and marmalades and were used, in all likelihood, by the various railway companies that operated on this site in the first half of the 20th century. Some specimens retained fragments of iron screw-cap lids and, most importantly, also retained portions of the paper label identifying the food producer.

The most prevalent company appears to be the Wagstaffe company of Hamilton, Ontario. The black-on-white paper labels, on these clear jars, indicate that this company produced "Pure Seville Orange Marmalade" (Plate 15a - DlLg-33/89B-165), "Quince Jelly" (DlLg-33/89B-179),

"Raspberry ?" (DlLg-33/89B-175), and others. The Wagstaffe jars were easily divisible into two groups based on embossed markings on the bottoms. The two marks are a "D in Diamond" mark and a mold number "2219". The "D in Diamond" indicates manufacture of the jar by Dominion Glass after 1913 (Toulouse 1971:154). The "2219" mold number is identified by Miller and Jorgensen (1986:43) as a vaseline-style jar manufactured by the Owens process and appearing in the 1926 mold list for the Hamilton and Toronto plants of Dominion Glass. It is assumed that the mold number specimens were produced earlier than those identified solely with the company logo. Of the "2219" specimens, there are 6 catalogue numbers (DlLg-33/89B-53, 163, 174, 175, 176, 1149) consisting of 12 jars. The "D in Diamond" specimens include 7 catalogue numbers (DlLg-33/89B-164, 165, 166, 177, 178, 179, 180) consisting of 12 jars, one of which, DlLg-33/89B-180, still retains the metal screw cap lip.

The second company represented by these small jam/jelly jars is Preston's Pure Preserves of Montreal. There are three catalogue numbers (DlLg-33/89B-181, 182, 183) consisting of four jars. The body of these artifacts differ from the Wagstaffe specimens in that they taper from the shoulder to the base. In addition, these jars have an aqua tint (Plate 15b - DlLg-33/89B-183) as opposed to the clear Wagstaffe specimens. The remnants of the paper labels, blue and red-on-white, on these jars indicate products such as "Strawberry Preserve" (DlLg-33/89B-181). The embossed mark on the base of all of these jars is a "032 in a Diamond". This mark may be the mold number identified as a vaseline-style jar produced by Dominion Glass at the Toronto and Hamilton plants (Miller and Jorgensen 1986:30). A similar jar (DlLg-33/88B-190) with the identical mark was recovered during the Stage I project (Kroker and Goundry 1990a:60).

The third company noted is the Old City Manufacturing Company Limited of Quebec. There are three catalogue numbers (DlLg-33/89B-184, 185, 186) consisting of three clear jars. The remnant of the blue-on-white paper label on one jar indicates that the contents were "Raspberry" (Plate 15c - DlLg-33/89B-184). These specimens have a tapered body with an enlarged basal ring. The neck tapers up from the shoulder to the beginning of the screw-lip collar. The mold number, on all three artifacts, is "307 in a Circle". The style of these containers does not correspond with any of those listed for the various Dominion Glass plants (Miller and Jorgensen 1986). The Old City Manufacturing Company Limited also sold jams in canning sealers - quart, 26 ounce, and half-gallon (Barclay 1977:122).

Other jam/jelly jars have not been identified. One clear artifact, DlLg-33/89B-187, is the same shape as the Wagstaffe jars and has a mold number "1067" on the base. This number has been identified by Miller and Jorgensen (1986:42) as a vaseline-style jar produced at Toronto and Hamilton. It is reasonable to assume that this jar was used by Wagstaffe inasmuch as it is the same shape and manufactured by the same company as the labelled specimens.

Two clear jars, DlLg-33/89B-190 (Plate 15d) and 987, are the same volume as the previously discussed preserve jars but rather than having a screw-cap closure, they have a jelly-cap closure. These specimens are embossed with a mold number "314" and a logo on the base. This logo is either two overlapping "W's" or "M's". This mark may identify the produce firm as it is not listed as a manufacturer in Toulouse (1971).

The most ornately decorated artifact in this grouping is DlLg-33/89B-800, two sherds comprising most of a clear, tapered jelly jar. This specimen has an embossed floral arrangement on the interior base and convex panelling on the interior body walls. No markings indicate the producer or the manufacturer.

One clear jelly jar (DlLg-33/89B-1132) which tapers from lip to base has a "D in Diamond" embossed on the base and a row of fine hachuring below the lip (Plate 15e). This is a product of the Dominion Glass company. A similar clear, slightly larger jelly jar (DlLg-33/89B-201) is unmarked and undecorated. A third jar, DlLg-33/89B-836, is amethyst in colour, has no decorations, but does have a possible "C in Triangle" logo. The body is straight walled with an indented lip rising to the jelly cap-collar (Plate 15f).

The final jar assigned to the jam/jelly section is DlLg-33/89B-191. The shape and style of this clear jar resembles the Wagstaffe screw-cap specimens but it is slightly larger. The base is embossed with a "C in Triangle" indicating the Consumers Glass Company of Canada.

DlLg-33/89B-220 is a basal sherd tentatively assigned to this group, based upon the diameter of the base. The convex base is embossed with the mold number "2727" which is not listed in Miller and Jorgensen (1986). No indication of the manufacturer is present.

4.3.4.2 Sauces and Liquids

This grouping contains bottles which were used for a variety of products such as flavour enhancing sauces, powders which were used to make beverages, oils and other liquids used during food preparation.

DlLg-33/89B-386 is an aqua, round bottle with a club sauce finish (Jones and Sullivan 1985:79, 88). Embossed on the shoulder is the product name "YORKSHIRE RELISH" and, on the side, the company name of "GOODALL BACKHOUSE & CO." (Plate 16a). A large "X", with a raised central dot, is embossed in the centre of the convex base. As yet, neither the bottle manufacture nor the food company has been identified, although it is assumed that both are English. The mold seam extends partway up the neck, indicating manufacture circa 1910 or earlier. Diagonal striae from the lipping tool occur on the neck.

DlLg-33/89B-388 is a light green, square bottle with a two-part stopper finish (Jones and Sullivan 1985:79, 87-89) and the remnants of a cork stopper (Plate 16b). Embossed, on one side panel, is the phrase "ESS CAMP COFFEE & CHICORY" while the lateral panels are embossed with "PATERSON'S" and "GLASGOW". Embossed on the base is "B & CO LD", "K" and "1661". The maker's mark indicates manufacture by Bagley & Co. of Yorkshire, England after 1899 and was probably produced at the Knottingley plant post-1919 (Toulouse 1971:77).

DlLg-33/89B-992 is an ornately decorated aqua bottle (Plate 16c), possibly used for products such as oils, cordials, and juices (Sydenham Glass Co. 1908:22). The decoration consists of branches of an unidentified plant twining around the bottle with "L. ROSE & CO" embossed at the shoulder.

The base is embossed with "J K & S", "W" and "2557". This bottle was manufactured by John Kilner & Sons of Wakefield, Yorkshire, England for L. Rose & Company. There appear to be differences in the literature (Toulouse 1971:280-281) about the duration of John Kilner & Sons as a corporate entity although it seems to have continued until 1937. The manufacturing style of this bottle - truncated mold seam and applied lip - suggest manufacture near the turn of the century. In addition, there is a broken glass stopper with the cork still intact. An identically shaped bottle with a maple leaf pattern, produced by Dominion Glass of Canada, is depicted in Stevens (1967:151, 1982:261). In the spring of 1991, the authors noted two similar bottles, one aqua and the other amethyst, in the Chopping Antique museum and store in Whitewood, Saskatchewan.

DlLg-33/89B-59 is a clear, 16-panelled ketchup-style bottle with a rectangular string collar (Plate 16d). The mold seam extends to the top of the lip indicating recent manufacture which is borne out by a mold number, "V-723", embossed on the base . This mold number series was used by Dominion Glass of Canada between 1945 and the mid-1950s (Miller and Jorgensen 1986:4). Additional information from the embossing on the base indicates manufacture at the Hamilton plant. Other embossing includes a "2", a "1" and an "A" which may indicate date of manufacture.

DlLg-33/89B-1133 is a clear, cylindrical jar, 19 cm in height. The jar has a ball neck (Jones and Sullivan 1985:98) and an out-stepped lip with an insloped bore (Plate 16e). Embossed on the base is "H. J. HEINZ CO.", "PATD" and "49". This version of the Heinz mark has been used since 1888 (Toulouse 1971:236).

DlLg-33/89B-54 consists of two brown Bovril bottles each with a flat string lip. The mold seams continue the full length of the necks terminating at the base of the string lips. Both bottles are embossed with "BOVRIL LIMITED" and "2 OZ" (Plate 16f).

DlLg-33/89B-70 is a clear, square bottle with a two-part stopper finish (Jones and Sullivan 1985:79, 87-89). Embossed, on one side panel, is the phrase "MASONS OK SAUCE" (Plate 16g). Embossed on the base is "L & T". This specific logo does not appear in Toulouse (1971) and may represent the product manufacturer rather than the bottle manufacturer. The only indication as to age of the specimen is the mold seam which extends partway up the neck. This would tend to indicate manufacture circa 1910 or earlier.

DlLg-33/89B-1153, a clear bottle with a ball neck and screw collar (Plate 17a), has a "D in Diamond" embossed on the base. The mold seam continues to the top of the lip indicating production by Dominion Glass of Canada post-1920.

DlLg-33/89B-547 and 1152, two clear bottles, are identical except for size. DlLg-33/89B-547 (Plate 17b) is slightly smaller than DlLg-33/89B-1152 (Plate 17c). Both specimens have a tapering shoulder, ball neck and screw collar. DlLg-33/89B-1152 was made in a three-piece cup mold which dates between 1850 and 1920 (Jones and Sullivan 1985:28). The smaller artifact, DlLg-33/89B-547, is machine-made after 1920.

Two identical aqua bottles (DlLg-33/89B-1136 and 1195) have a round string lip and a ball neck. The mold seams continue to the top of the lip and the bases show evidence of Owens scars. DlLg-33/89B-1136 has a "3" embossed on the body, 1 cm above the base. DlLg-33/89B-1195 (Plate 17d) has a "5" in the same location. No indication of manufacturer or contents can be abstracted from these artifacts.

4.3.4.3 Foods

This grouping contains complete or portions of jars and bottles which were used to contain foodstuffs such as olives, pickles, etc. (Klamkin 1971:188). Several of these specimens could be grouped by body style.

Three sizes of olive jars (cf. Chopping 1978:244 MWIN-MZA1) were recovered (DlLg-33/89B-71, 140, 195, 417, 1061, 1089). The sizes are 16 cm (DlLg-33/89B-140, 1089), 22 cm (DlLg-33/89B-71, 195) and two incomplete specimens (DlLg-33/89B-417, 1061) which would fall between the two definite sizes. DlLg-33/89B-417 is amethyst while the remaining eight specimens are clear and have out-flaring lips. The mold seams indicate machine-manufacture in two-piece parison mold or by a semi-automatic Owens machine (Jones and Sullivan 1985:38). Embossings have been noted on the body and base of several specimens. DlLg-33/89B-71 has a "2" on the body, while DlLg-33/89B-195 (Plate 17f) has a "3" and the jars in DlLg-33/89B-140 have either a "3" or a "2". Basal embossings include a "1063" and a "C" on DlLg-33/89B-1089 (Plate 17e).

A sturdier style of produce container, called a packer, is depicted in Sydenham (1908:17). These may have contained pickles or other solid produce. Two sizes of cylindrical packer jars were recovered. DlLg-33/89B-189 is 9 cm high (Plate 17g), while DlLg-33/89B-525 is 16+ cm in height (Plate 17h). Both specimens are machine-made with only DlLg-33/89B-525 having any embossing, a "1" on the lower body. One unmarked specimen of a square packer (DlLg-33/89B-72) was recovered (Plate 17i). An octagonal packer (DlLg-33/89B-387) was also recovered (Plate 17j). The mold number "132" and the phrase "PATD" "190..." are embossed on the base. A "2" is embossed on the side. Miller and Jorgensen (1986:34) identify the mold number as an 11 oz. octagonal pickle jar produced at the Toronto plant of Dominion Glass.

The remainder of the jars have screw top closures. DlLg-33/89B-77 is a small (11.5 cm), decagonal, pale aqua jar (Plate 18a). There are no markings on this specimen.

DlLg-33/89B-391 is a tall, clear, cylindrical jar with a raised ridge on the shoulder and one near the base (Plate 18b). The base is marked with an embossed "F". The Fairmount Glass Works of Indianapolis used this mark between 1930 and 1945 (Toulouse 1971:201). Toulouse (1971:193) also lists this mark as being used by W. M. Frank & Company of Pittsburgh. The Frank company existed from 1846 to 1866. As the artifact is machine-made, it must be a product of the more recent company, Fairmount Glass Works.

DlLg-33/89B-994 and 1115 were manufactured by Consumers Glass Company of Canada. These clear, cylindrical jars are embossed with "CANADA", "16 FL. OZ. SIZE" and "CANADA", "8

FL. OZ. SIZE" respectively. Both artifacts have lug thread closures and DlLg-33/89B-994 has remnants of the metal cap adhering to it. Both jars have basal embossings of the Consumers logo and the mold number "6288". DlLg-33/89B-994 has the additional numbers "10" and "8", while DlLg-33/89B-1115 (Plate 18c) has an "11" embossed on the base.

DlLg-33/89B-412 is a clear, panelled, tapering cylindrical jar (Plate 18d). The base is embossed with the name of the produce company, "LIBBY MCNEILL & LIBBY", "EST.", "PD. 1922" and the Dominion Glass Company logo plus a mold number "222". The jar was manufactured in July/August of 1951 at the Hamilton plant.

DlLg-33/89B-566 consists of two body, base sherds of a white glass jar. These are embossed with "MACLAREN'S IM...ERIAL CHEESE", "RGSD" and a logo (Plate 18e). The logo consists of crossed swords with an animal head on each side. Barclay (1977:118) illustrates a similar mark. MacLaren's Imperial Cheese was in business in the 1880s or early 1890s, possibly in Hamilton, Ontario. Examples of these jars have been found at the Burlington Glass Works site.

DlLg-33/89B-76 is a complete, cylindrical clear bottle with a screw cap closure (Plate 18f). The body is embossed with the company trademark consisting of "HORLICK'S MALTED MILK" in a double lined circle, "TRADE MARK" "M. M. (in script)" in a sunburst circle inside the double line circle, and "RACINE - WIS - U.S.A." and "SLOUGH, BUCKS, ENG." in straight lines below the double circle. The bottle would have conatined a powder which is added to milk. The base of the artifact is embossed with "L-B". This mark probably indicates the bottle manufacturer. However, Toulouse (1971) does not list this mark and it is not known if the bottle was manufactured by an American or a British firm.

4.3.5 Carboys

Six catalogue numbers, representing seven sherds, were identified as fragments of Carboys. This was based on the thickness of the glass and the apparent large diameter, of the complete vessels.

DlLg-33/89B-207, 208, 830 and 831 are five aqua sherds. DlLg-33/89B-383 and 704 are two blue sherds. DlLg-33/89B-383 and 830 are basal sherds while the remainder are the lip, neck portion or neck, shoulder, body portion of carboys. The mold seams do not continue up to the collars, which are one-part, down-tooled stopper finishes with diameters ranging between 2.5 and 3.0 cm. There were no markings on any of these sherds.

4.3.6 Ink Bottles

This category was represented by 21 catalogue numbers, comprising 21 artifacts. The majority of the recoveries, either complete specimens or sherds, were assignable to five identifiable ink companies, two of which were based in Winnipeg. These two firms are the Reliance Ink Company Limited and the Manitoba Ink Manufacturing Company.

The majority of ink bottles, both retail bulk bottles and individual desk-size containers, could be assigned to the Reliance Ink Company Limited of Winnipeg. A complete retail bottle (DlLg-33/89B-999) and one basal sherd (DlLg-33/89B-1002), from a similar bottle, were identified. DlLg-33/89B-999 is clear glass with a screw-cap closure and the remnants of the iron screw-cap. This complete bottle (Plate 19a) has the two bands of horizontal ribbing at the base and shoulder and a "2" embossed on the body. The company mark embossed on the base reads "RELIANCE INK COMPANY LTD." in a circumferential circle with "WINNIPEG" occurring horizontally across the base. DlLg-33/89B-999 resembles the illustration of MWIN MD1 and MD2 shown in Chopping (1978: 246). However, it does differ from those in Chopping, in that, neither a mold number nor a Dominion Glass logo occurs on the base. This leads to the speculation that the bottle was produced at the Manitoba Glass Company of Beausejour, Manitoba, prior to its sale to the Diamond Flint Glass Company in 1913. The basal sherd (DlLg-33/89B-1002) has the same text, although all words are printed in a circumferential circle, with the mold number "868" occurring at the centre (cf. Chopping 1978:246 MWIN MD2).

The remainder of the Reliance Ink specimens, which are desk-size containers, can be divided on the basis of size. All of the vessels, which have portions of the lip remaining, have screw-cap closures. Future research may be able to develop a temporal seriation based on size, body style and decorative attributes. This report will provide descriptive data.

The smallest containers are DlLg-33/89B-103, a slightly chipped, complete, clear bottle and DlLg-33/89B-1150, a complete, green bottle (Plate 19b). Both specimens have a basal diameter of 4.5 cm and a shoulder height of 4.0 cm. The company name, "RELIANCE", is embossed in a horizontal line across the base. The change in the format of the company name on the base and the smaller size of DlLg-33/89B-103 and 1150 may not indicate a temporal distinction but rather a specific shape made for a specific use, i.e., desk inkwell sockets.

The next size of containers have a basal diameter of 5.9 cm. DlLg-33/89B-172 and 173 are two complete bottles with a shoulder height of 4.5 cm. DlLg-33/89B-172 is aqua (Plate 19c), while DlLg-33/89B-173 is clear with a metal screw-cap (Plate 19d). The bodies have protruding shoulder and basal rings. Embossed on the base, in an inset circular format, is "RELIANCE INK CO. LTD WINNIPEG". In addition, DlLg-33/89B-173 has a mold number consisting of the numeral "1" followed by a period, embossed in the centre of the company name. Three other artifacts, DlLg-33/89B-335, 375 and 561, appear identical although DlLg-33/89B-561, a body, base sherd, has a slight amethyst tint, while DlLg-33/89B-335, a basal sherd, and DlLg-33/89B-375, a complete bottle with a metal cap (Plate 19e), are clear. The shoulder height of DlLg-33/89B-375, the complete specimen, is 4.6 cm. The company mark, embossed on the base, is identical to that on DlLg-33/89B-172, but occurs at the perimeter rather than being inset.

The final two specimens, in the Reliance Ink Company category, are DlLg-33/89B-168 and 562. The basal diameter is 6.7 cm and the shoulder height on the complete specimen, DlLg-33/89B-168, is 4.7 cm (Plate 19f). Similar to the previous artifacts, the complete bottle has the base and shoulder rings. The company name "RELIANCE INK CO. LTD. WINNIPEG" is embossed in

a circular format on the base. On DlLg-33/89B-168, the lettering is smaller and on DlLg-33/89B-562, the mold number "889" is embossed in the centre.

The earliest artifact is DlLg-33/89B-168. This is indicated by the mold seam which terminates at the neck and the amethyst colouring which indicates manufacture prior to 1914. The other specimens all have mold seams continuing to the top of the lip, and therefore are later in date. The green and aqua bottles probably pre-date the clear specimens.

DlLg-33/89B-170, an incomplete, clear specimen, has a basal diameter of 5.9 cm and a shoulder height of 4.7 cm. The body is recess panelled between projecting rings at the base and shoulder. The remnant of a company name is embossed on the body (Plate 19g). This is "R?/M?...", "INK" and "WINNI...". The mold number "21" occurs on the base. The identification of the ink company is solely dependent upon interpretation of the fragmentary first letter. The options are "R..." which would indicate the Reliance Ink Company or "M..." which would indicate the Manitoba Ink Manufacturing Company, also of Winnipeg (cf. Chopping 1978:240 MWIN MM5).

Artifacts that have been assigned to the Manitoba Ink Manufacturing Company are DlLg-33/89B-810 and 849. These two amethyst sherds have remnants of embossed lettering on the body that match the illustrations in Chopping (1978:240). Both derive from retail bulk bottles and DlLg-33/89B-810, a larger body, base sherd, has the double base rings as illustrated by Chopping. The diameter and lack of basal embossings suggest that DlLg-33/89B-810 is Chopping type MWIN MM2 (1978:240). The design is identical to the previously described Reliance products and Chopping's text seems to indicate a linkage between the two firms.

The remaining extra-local companies include one Canadian and two American firms. DlLg-33/89B-374 (Plate 19h) and 563 are complete, clear bottles from Watermans Ink. The artifacts are identical in basal diameter, 5.6 cm, shoulder height, 4.2 cm, and basal embossing. The basal text reads "WATERMANS INK" "CANADA" in a circumferential circle and "MADE IN" occurring horizontally in the centre. In addition, a "C in triangle" logo, representing Consumers Glass, indicates manufacture after 1917. Both specimens are machine-made and have a horizontal seam encircling the neck-finish junction with a vertical seam continuing to the top of the lip. The bottles have a flared lip and would be closed with a cork. DlLg-33/89B-563 still has residue of the original dark blue ink.

DlLg-33/89B-169, a complete, clear ink bottle is the smallest specimen recovered (Plate 19i). The basal diameter is 4.3 cm and the shoulder height is 2.3 cm. The finish is a patent lip which would be closed with a cork. The body seam terminates at the base of the neck suggesting early machine manufacture. Embossed on the base are the words "HIGGINS'" "INKS" "BROOKLYN, N.Y.", and the mold number "21". Three small clear sherds (DlLg-35/25) that had identical embossing were recovered from the Manitoba Sports Federation Building Site (Kroker and Goundry 1990b:50).

The final identifiable firm, an American firm, is represented by a complete, clear bottle with a basal diameter of 7.3 cm and a shoulder height of 3.5 cm. DlLg-33/89B-167 (Plate 19j) has basal

and shoulder rings which seem to be characteristic of early ink bottles (see Reliance bottles). The body seam runs to the base of the straight lip which has been finished by rough grinding (Jones and Sullivan 1985:40). The bottle would be closed with a cork. Embossed on the base is an incomplete double embossing of "S.S. STAFFORD NEW YORK" in an inset circular format. An incomplete 16 oz bottle (DlLg-33/88B-386) with identical embossing was recovered during monitoring of the Stage I project (Kroker and Goundry 1990a:66). This particular artifact was catalogued under the 'Chemical' sub-type due to its size and appearance. Based on the recovery of DlLg-33/89B-167, the Stage I artifact may have been a retail size ink container.

The remaining three items in the 'ink' sub-type are all unidentifiable as to company. DlLg-33/89B-171, a clear, lip, neck, body sherd is very similar to DlLg-33/89B-169, the Higgins' Inks Company bottle. The patent lip and mold seam termination are almost identical. DlLg-33/89B-786 is an amethyst body sherd from a large container. It is embossed with an "...S" in an arc and "INKS" in a horizontal line below that. Two possible firms could be Watermans Ink or Higgins' Inks. DlLg-33/89B-832 (Plate 19k), an amethyst sherd, missing the base, has a panelled body similar to that of DlLg-33/89B-170. No markings exist to identify the company.

4.3.7 Milk (or Dairy) Bottles

There were 33 catalogue numbers comprising 35 artifacts (bottles and sherds) assigned to this object sub-type. Eight different dairy companies could be identified. Manitoba dairies as well as dairy companies from other provinces were represented.

DlLg-33/89B-148, 230, 371, 372, 557, 558, 793, 1127 and 2042 are all products from the Crescent Creamery Company of Winnipeg [1900-1908+] (Chopping 1978:177, 360). All specimens have all or part of the company name embossed on the side. There are three complete pint bottles (DlLg-33/89B-557, 558, 2042), four complete half-pint bottles (DlLg-33/89B-148, 371, 372, 1127) and two sherds. DlLg-33/89B-230 is a pint sherd and DlLg-33/89B-793 is a half-pint sherd. All of the specimens from the Crescent Creamery Company are clear in colour except DlLg-33/89B-372 which is amethyst, and DlLg-33/89B-1127 which has a faint aqua tinge.

Two of the Crescent bottles are smooth-sided (DlLg-33/89B-372, 558) while the remainder have panelled bodies. The lip and neck ring on DlLg-33/89B-372 (Plate 20a) resembles the style illustrated for Laurentia Milk Company of Saskatchewan (Chopping 1978:170) and appears to be the earliest artifact associated with Crescent Creamery. All other specimens have the later standard out-flaring lip. The other smooth sided bottle, DlLg-33/89B-558, appears to be later in production (Chopping 1978:177) with the company name embossed in a descending diagonal. However, the mold seam terminates at the base of the lip.

The panelled Crescent bottles can be divided by shape and decoration which provides a possible seriation. All artifacts have the embossed company name in an ascending diagonal (Chopping 1978:177). The first temporal grouping consists of DlLg-33/89B-371 (Plate 20b) which has a very faint panelled decoration and is short and squat (Plate 20b). It was manufactured in a two-piece post mold with a separate lip mold with a deep recess for the closure.

The next temporal grouping appears to include DlLg-33/89B-230, 557 (Plate 20c), 793, 1127 (Plate 20d), and 2042 (Plate 20e). All specimens have similar manufacture to DlLg-33/89B-371 but the closure recess is shallow. In addition, the panelling is pronounced and narrow. DlLg-33/89B-230 has "MILK CO. LIMITE..." and "...EG" embossed on the base. This provides a contradiction in information inasmuch as Chopping (1978:177, 360) lists the firm as Crescent Creamery Company as do Kroker and Goundry (1990a:62). The imprint on the base of DlLg-33/89B-230, which is definitely a Crescent sherd, suggests that the company's name changed or that it traded under a different name than its registered corporate name.

A third temporal grouping consists of DlLg-33/89B-148, a complete clear half-pint bottle (Plate 20f). It has wider panels and is taller than the short, squat specimens. The Crescent name, on the side, is an ascending diagonal. The base is embossed with "CRESCENT PURE MILK CO. LIMITED" in a circumferential format and "WINNIPEG" embossed horizontally across the centre. In addition, the initials "L.G." are embossed on the side near the base and a mold number "2" is embossed on the opposite side near the base. Toulouse (1971:321-323) identifies the "L.G." mark as the one used by Liberty Glass Company of Sapulpa, Oklahoma between 1924 and 1926. This firm exclusively manufactured milk bottles during this period, "calling itself the largest [milk bottle producer] west of the Mississippi."

The final temporal grouping consists of DlLg-33/89B-558, a complete, clear, smooth sided, pint bottle (Plate 20g). There is no basal embossing but the company name, on the side, is in lower case print rather than script as in all other Crescent specimens. The name is in a descending diagonal. This specimen may actually pre-date the Liberty Glass bottle (DlLg-33/89B-148) as it appears to have had a separate lip mold where the Liberty artifact does not.

DlLg-33/89B-61 (Plate 21a), 139 (Plate 21b), 153, 338, and 364 were all products from the City Dairy, in operation in Winnipeg from 1915 until 1952 (Kroker 1989a:66). There are four half-pint bottles, one is complete (DlLg-33/89B-139) and three are sherds (DlLg-33/89B-61, 338, 364). DlLg-33/89B-153 (Plate 21c) is a complete quart bottle. All of the artifacts are clear in colour except DlLg-33/89B-61 which is amethyst.

All of the specimens are embossed, on the side, with "CITY DAIRY CO." in the top part of a circle with "LIMITED" in the bottom part. Two of the artifacts, DlLg-33/89B-139 and 364, have a circular mold plate imprint around the embossing. These two particular artifacts also have a period after the word "LIMITED". In addition, DlLg-33/89B-364 has a bar under the "O" in the word company. The other three specimens do not have the mold plate imprint or the period after "LIMITED". DlLg-33/89B-153 has a bar under the "O" of company and additional embossing on the back - "LOANED _ RETURN" and "WHEN EMPTY".

All of the City Dairy artifacts appear to be early machine-made, in that, neck seams occur on the four artifacts which have that portion present. The amethyst specimen would have been made prior to 1914 and the others soon after.

A third Manitoba dairy is represented by a single, clear, body sherd (DlLg-33/89B-815) embossed with "...BA", "...?ERY" and "...TD." (Plate 21g). Chopping (1978:360) lists the Manitoba Creamery Company as operating in 1915, however, no examples are illustrated.

Extra-local specimens were recovered during monitoring. DlLg-33/89B-1052 is a panelled, amethyst, pint bottle (Plate 21d) and DlLg-33/89B-812 is a panelled, clear sherd from a quart size bottle. Both of these artifacts are embossed, on the side, with "E.C.D." in upper case script in an ascending diagonal. This mark identifies the bottles as being products of Edmonton City Dairy (Chopping 1978:166). DlLg-33/89B-1052 still has the circular, paper closure inside the bottle.

A complete, clear, half-pint bottle (DlLg-33/89B-149) has "ELMHURST DAIRY LIMITED", in script within a circular mold plate mark, embossed on the side (Plate 21e). In addition, a "2" is embossed above the company name. The shape of the bottle is reminiscent of a truncated torpedo beverage bottle, in that, the basal diameter is less than the body diameter. Three occurrences of Elmhurst as a place name were found in a North American gazetteer. These were a post office designation (population 0) in Pennsylvania, a hamlet (population 35) on the rail line between Green Bay and Duluth in Wisconsin, and a town (population 21,000) immediately west of Chicago, Illinois. The most probable location for the dairy, if the name is geographically derived rather than that of an individual, is in Illinois.

Six catalogue numbers (DlLg-33/89B-780, 781, 782, 790, 796, 801), representing eight sherds, were assigned to the Laurentia Milk Company which is registered in Alberta and Saskatchewan (Chopping 1978:168, 170, 344, 352). Distribution points appear to be Red Deer, Sylvan Lake, Bowden, Olds and Calgary, in Alberta, and Battleford and North Battleford, in Saskatchewan. Four body sherds (DlLg-33/89B-780 (Plate 21h), 790, 796) are embossed with portions of "LAURENTIA" in lower case script. The four basal sherds (DlLg-33/89B-781, 782, 801 (Plate 21i)) are embossed with an upper case script "L" and all or portions of "T. MFG. CO.". This embossing would represent the Thatcher Manufacturing Company of Elmira, New York, which specialized in milk bottles (Toulouse 1971:496-497).

Four artifacts (DlLg-33/89B-88, 146, 1004, 1210) are embossed with all or part of "DELAVAL" in an arc on the base. It is unknown if this is a dairy or a dairy supply firm. It is probable that it is the latter as Chopping notes a bottle from the P & C Milk Company, Calgary (1978:164 ACAL DR1) and a Hill's Dairy bottle from Saskatoon (1978:173 SSAS DJ1) embossed with DeLaval on the base. DlLg-33/89B-1210 is an amethyst basal sherd, while DlLg-33/89B-88 (Plate 21j) and 1004 are clear basal sherds with the additional embossing of the mold number "651" on the base. The complete, clear, smooth sided, half-pint bottle (DlLg-33/89B-146) has the phrase "TO BE WASHED AND RETURNED" on the side (Plate 21f).

Five sherds were allocated to this sub-category, based upon shape of the bottle and/or decoration. However, the information is insufficient to determine the company which distributed the containers. DlLg-33/89B-805 is an amethyst body, base sherd decorated with narrow panelling. DlLg-33/89B-843 is an amethyst body sherd with wide panelling and a fragment of an embossed cursive letter. DlLg-33/89B-83 is an amethyst smooth-sided body, base sherd with no embossing while DlLg-

33/89B-788 is an amethyst smooth-sided base/body sherd with "...IGHT O..." embossed on the base. This text does not match any of the embossings on any of the listed dairy bottles in Chopping (1978) but the shape is suggestive of a quart milk bottle. The last specimen (DlLg-33/89B-794) is a clear body sherd embossed with "LIMITED" in an up-curved arc. This particular embossing is similar to that used by at least two companies - Carson Hygienic Dairy Company or City Dairy Limited (see above) (Chopping 1978:176).

4.3.8 Medicine Bottles

Forty-nine catalogue numbers representing complete bottles and sherds (53 in total) were curated in the medicine sub-type. Some specimens contained remnants of cork stoppers. The sherds or bottles were assigned to the medicine sub-type partly due to shape, and a prescription lip (Stevens 1967:138) and partly due to embossed characteristics. Most medicine bottles are rectangular or oval in shape, although round bottles do occur. Often, medicine bottles were panelled, in form, and a paper label may have been attached to one of the larger panels. Recovered specimens were olive, amethyst, green, blue, aqua, brown and clear. The medicine bottles will be discussed within each colour group.

DlLg-33/89B-202 is the body, base portion of an olive bottle (Plate 22a). Embossed on the base are the words "DR J G B SIEGERT & HIJOS". The identical wording appears on a bottle (DlLg-33/88B-1976) recovered during the NANA project (Kroker 1989a:67). As with the NANA bottle, this specimen also has a slight kick-up, however, DlLg-33/89B-202 does not have any whittle marks. The embossed name suggests that the contents may have been medicinal or a tonic concoction. In addition, "hijos" could be the Spanish word which translates as "sons". This may indicate a Spanish or Latin American company.

The chipped, amethyst bottle (DlLg-33/89B-543) has a squared oval cross-section and an applied square ring lip (Plate 22b). An oval impression on the body indicates that the bottle is a generic model which could have had a paper label. Alternatively, a plate bearing a specific company name could have been inserted into this portion of the mold to produce a brand name container.

The green colour category consisted of two quite different specimens. DlLg-33/89B-12 is a small (5.5 cm), complete bottle with "LEATH & ROSS" embossed on the shoulder (Plate 22i). Identical bottles were recovered during the NANA project (Kroker 1989a:68). DlLg-33/89B-12 was manufactured in a cup mold and has an applied round string lip.

The second green artifact, DlLg-33/89B-2043, is a large, incomplete bottle. Embossed on the body are the words "ELLIMAN'S ROYAL EMBROCATION FOR HORSES MANUFACTORY SLOUGH" (Plate 22c). The bottle was blown into a two-piece post mold and appears to have had an applied lip although the finish is missing. The use of horses for drayage purposes, at either the flour mill or the railroad freighting agencies, would have implications for veterinary treatment of sores caused by harness wear. The most probable time period for this container would be between 1872 and the 1920s.

There are four complete blue bottles and five sherds (six catalogue numbers). Two of the bottles were assignable to one company. DlLg-33/89B-1011 is a small (6.6 cm) machine-made bottle with an out-flared lip which would have been sealed with a cork (Plate 22h). Embossed on the side is "BROMOSELTZER" "EMERSON DRUG CO." and "TORONTO ONT.". The company was located first in Baltimore, Maryland and then later in Toronto, Ontario (Kroker 1989a:68). DlLg-33/89B-1011 would appear to have been produced later in time, after the company had fully established their Toronto outlet. The second bottle attributed to this company, DlLg-33/89B-1063, (Plate 22d) is taller (10.1 cm) and has a lug ring closure (e.g. Jones and Sullivan 1985:41 Figure 24). "BROMO-SELTZER" "FOR HEADACHES" is embossed on the body at the base. The base is embossed with a mold number "4" and the Dominion Glass Company logo, indicating manufacture after 1913.

The third complete bottle, DlLg-33/89B-1092 (Plate 22e), is 9.3 cm tall and is square with flat chamfered corners (Jones and Sullivan 1985:102). The bottle would have been closed with a screw cap. The base is embossed with a mold number "5" and an "M in a circle". This was the mark used by the Maryland Glass Company after 1916. Toulouse (1971:339) notes that this company's "...product, among other things, was the line of blue bottles that the Emerson Drug Co. used for Bromo-Seltzer and related drug products."

One body sherd, DlLg-33/89B-1010 (Plate 22f), has "...NESIA" "U.S. PATENT OFFICE" "UG. 21. 1906." and "S.H. PHILLIPS" embossed on it. This is a portion of a Milk of Magnesia bottle.

DlLg-33/89B-194 is a complete blue bottle with no markings (Plate 22g). It has base and shoulder rings. The patent lip would have taken a cork closure. The basal diameter is 4.2 cm and the shoulder height is 4.2 cm.

The remaining catalogue number, DlLg-33/89B-848, consists of four blue sherds representing at least three bottles. There were no embossed marks on any of these sherds. String collars are noted on three of the sherds, while the fourth is a shoulder, body sherd.

Within the aqua colour grouping there were seven catalogue numbers comprising seven bottles and/or sherds. DlLg-33/89B-75 is a complete, round shouldered panel bottle (Plate 23a) with a double ring finish (Sydenham 1908:4,11). The side panels have "WOOD'S" and "TORONTO, ONT." embossed on them while the front recessed panel has "NORWAY PINE SYRUP" embossed on it. The mold number "843" is embossed on the base.

DlLg-33/89B-91 is an incomplete, round shouldered, panelled aqua bottle missing the finish (Plate 23b). A remnant of a cork stopper is inside the bottle. The front face is only partially recessed on the upper third. Embossed, on this front recessed portion, is the name "DAVIS". One side panel has "VEGETABLE" embossed on it while the other side panel has the word "PAINKILLER" embossed on it. The base is embossed with the mold number "129" which corresponds to the Beaver Flint Glass, Diamond Flint Glass and Dominion Glass mold inventory numbers for a three ounce American Panel bottle (Miller and Jorgensen 1986:33). A second representation of this

product is DlLg-33/89B-1207, a body, base sherd with "...LLER" embossed on a side panel and the mold number "129" embossed on the base.

DlLg-33/89B-1005 is part of the recessed front panel of an aqua bottle. It is embossed with "HUDSON'S BAY CO..." "INCORPORAT..." and the corporate logo. The logo most closely resembles, but is not identical to, Choppings MWIN MW7 (1978:238).

The remaining aqua containers cannot be identified as to product or manufacturer. DlLg-33/89B-373 (Plate 23c) is a complete 'flat castor oil' bottle (Sydenham 1908:18). DlLg-33/89B-524 is an incomplete, 'round shouldered prescription' bottle (Sydenham 1908:6) missing the neck and finish. DlLg-33/89B-701 is a body, base sherd with the mold number "67" embossed on the base. This specimen is tentatively identified as a 'Wallaceburg Oval' (Sydenham 1908:8) although Miller and Jorgensen (1986) do not list this mold number for the Wallaceburg plant or any of the other Dominion Glass factories.

In the brown colour category, there were nine catalogue numbers representing ten artifacts. None of the artifacts were identifiable as to product name or contents. Mold numbers occur on the base of some of the specimens.

Four oval body, base sherds (DlLg-33/89B-214, 340, 730, 733) have the mold number "159" embossed on the base. DlLg-33/89B-340, a 5 ounce flask with an applied finish (Plate 23d), has an "A" embossed after the "159" (cf. Miller and Jorgensen 1986:49). Similar bottles embossed with "159A" were curated in the Stage I project (Kroker and Goundry 1990a:65). DlLg-33/89B-214 and 733 have a "C" embossed after the "159", and DlLg-33/89B-730 has an "E" following the "159".
The remainder of the brown specimens were round in shape. DlLg-33/89B-57 is a complete, machine-made bottle with a two-part finish, consisting of a crown-like lip and an out-flaring collar (Plate 23e). The base has the mold number "15" embossed on it.

DlLg-33/89B-55 consists of two complete, machine-made 'round shouldered prescription' bottles (Plate 23f) (Sydenham 1908:6) with a prescription lip (Stevens 1967:138). One bottle contains the remnants of a cork.

DlLg-33/89B-1012 (Plate 23g) is a complete, machine-made 'round shouldered prescription' bottle (Sydenham 1908:6) with a square ring lip. An "F" and a "3" are embossed on the base. The "F" cannot be attributed to any company and may well represent a mold number or a bottle series designation rather than a company trademark.

DlLg-33/89B-3305 is a complete 'round shouldered prescription' bottle with an applied square ring lip. Unlike the other prescription bottles, this specimen does not have a separate finish seam. A portion of the cork stopper is still plugging the neck.

The last brown specimen, DlLg-33/89B-516, is a lip, shoulder, body sherd from a panelled bottle. It would have taken a screw-cap closure.

The final colour group, clear, consists of 22 catalogue numbers comprising 22 bottles and/or sherds. These were divided into three groups: those which had information concerning the contents or the manufacturer of the product, those that had some information relating to the manufacturer of the bottle itself, and those that provided no information on either producer or manufacturer.

DlLg-33/89B-13 (Plate 24n) is a chipped, machine-made 'round shouldered prescription' (Sydenham 1908:6) bottle with a square ring neck. The cork closure is still in the neck of the bottle. The body is embossed with "LISTERINE" "LAMBERT" "PHARMACAL COMPANY". The base has an embossed mold number "500 in a Diamond". The diamond represents manufacture by the Diamond Glass Company of Royersford, Pennsylvania after 1924 (Toulouse 1971:550-552).

DlLg-33/89B-155 (Plate 24c) is a complete, 'concave panel' (Sydenham 1908:16) bottle with an applied square ring lip. Embossed on the front panel, is an "S enclosed by a wreath" "SEELY" and "DETROIT". The mold number "292" is embossed on the base. DlLg-33/89B-204 (Plate 24l) is a product of the same company, i.e., Seely, as indicated by the "...EELY'S" embossed on the body. The product is identified by the phrase "...RIDA WATER". The contents would be Florida Waters, which have given their name to this round style of bottle (Sydenham 1908:25).

DlLg-33/89B-157 (Plate 24d) is a complete, rectangular bottle identified as a 'tall blake' style (Sydenham 1908:9). It has a lug style closure above a string collar. Embossed on one side panel are the words "HENRY K WAMPOLE & CO" while the other side panel has "PERTH ONT. CANADA" embossed on it. The base has the mold number "554".

DlLg-33/89B-159 (Plate 24q)is a complete, small (9.0 cm) rectangular bottle, also designated as a 'tall blake' style (Sydenham 1908:9). It has an applied square ring lip. "PARMINT" is embossed on both side panels and "INTERNATIONAL LABORATORIES" is embossed on the front panel. The mold number "731" is on the base.

DlLg-33/89B-411 (Plate 24f) is a chipped, rectangular, 'American Panel' bottle (Sydenham 1908:15) with a 'Perry Davis' type finish (Jones and Sullivan 1985:88) and a string neck collar. Embossed on the front recessed panel is "RAWLEIGH'S" in script, and "TRADEMARK" in a banner. The base has a "P" embossed on it indicating manufacture of the bottle by the Pierce Glass Company of Port Allegany, Pennsylvania after 1917.

DlLg-33/89B-1091 (Plate 24p) is a complete, small (10.7 cm), rectangular 'Philadelphia' style (Sydenham 1908:7) bottle with an applied square ring neck. The front panel has the Hudson's Bay Company logo which includes its name, the company crest and the incorporation date of 1670. A similar specimen is depicted by Chopping (1978:238) as MWIN MW7-1.

DlLg-33/89B-158 (Plate 24j) is a complete, rectangular bottle with an applied lip. It is identifiable, by embossing on the base, as an "ACME OVAL" style. The bottle is a graduated 3 ounce container with "QUALITY" embossed on the back panel. It is not known whether this is a company name or brand name. "BFG CO" is embossed on the base. This is, in all likelihood, the

Beaver Flint Glass Company of Toronto, Ontario. Toulouse (1971:80-81) suggests that the company was in operation from 1897 to 1948.

The remaining clear medicine bottles all had some information concerning the manufacturer of the bottle but could not be attributed to a particular product.

DlLg-33/89B-390 (Plate 24e) is a complete, graduated, 8 ounce bottle with an applied square ring lip. Embossed on the base is "NATIONAL OVAL" and the mold number "1098". This bottle type is illustrated in Chopping (1978:321). DlLg-33/89B-348, a body, base sherd, also has a type name embossed on the base. This is "MARWYN OVAL", illustrated as a graduated bottle in Chopping (1978:320).

DlLg-33/89B-541 and 1062, although quite different in size and shape, are both made by Whitall-Tatum & Company of Millville, New Jersey (Toulouse 1971:544-547). DlLg-33/89B-541 (Plate 24k) is a small (4.5 cm), round, chipped bottle. The partly melted artifact appears to have an applied (?) square ring lip. "W T CO" is embossed on the base. DlLg-33/89B-1062 (Plate 24o), a larger (11.3 cm), rectangular bottle, is a round shouldered panel style with an applied square ring lip. Embossed, on the base, is "W. T. CO." and "U.S.A.".

DlLg-33/89B-1128 (Plate 24g) is a complete 'flat castor oil' bottle (Sydenham 1908:18). Embossed on the side panels is "MADE IN U.S.A." and "3 OZ.".

The following four artifacts have mold numbers embossed on their bases. DlLg-33/89B-14 (Plate 24m) is a round, machine-made bottle with a double ring finish. Remnants of a cork closure are inside the bottle. Embossed, on the base, is the mold number "469". DlLg-33/89B-366 is a graduated, rectangular 3 ounce bottle with an applied double ring lip. The mold number "1211" is embossed on the base. DlLg-33/89B-544 (Plate 24b) is a rectangular 'tall blake' style bottle (Sydenham 1908:9) with a square ring lip. A mold number "8" and a "C" are embossed on the base. Toulouse (1971) does not list the "C" as a trademark of a known company. DlLg-33/89B-1090 is a chipped, square bottle with an apparent screw cap closure. Embossed on the base are the Dominion Glass Company logo, an "F" "7" "4" and "V-317". The "V-317" was used between 1945 and the mid-1950s (Miller and Jorgensen 1986:4). The other embossed information indicates that the bottle was manufactured at Redcliff, Alberta in February 1947. Embossed, on the front of this bottle, is "CONTENTS" "4 FL. OZ."

Four clear medicine bottles have only graduated embossings on them. DlLg-33/89B-1208 (Plate 24s), the smallest, is a half-ounce, rectangular bottle with a prescription lip (Sydenham 1908:4). DlLg-33/89B-1130 (Plate 24r) is a 1 ounce, rectangular bottle with a prescription lip (Sydenham 1908:4). DlLg-33/89B-1129 (Plate 24h) is a 4 ounce, rectangular bottle with a prescription lip (Sydenham 1908:4). DlLg-33/89B-560 (Plate 24i) is also a 4 ounce rectangular bottle but has a slightly concave front panel and an applied square ring neck.

The last medicine bottle, DlLg-33/89B-695 (Plate 24a), is a machine-made square specimen with a prescription lip. The base has traces of an Owens scar.

4.3.9 Chemical Containers

Seven catalogue numbers, consisting of six bottles and one sherd, were assigned to the chemical sub-type. A variety of products was represented by these containers.

DlLg-33/89B-69 (Plate 25a) is a complete, machine-made aqua bottle with "LIQUID VENEER" embossed on the base. The double ring finish would have taken a cork closure. A bottle, DlLg-33/88B-1700, which also had the word "VENEER" on the base, was recovered during the NANA project (Kroker 1989a:70).

DlLg-33/89B-188 is a round, clear bottle with most of a cork and iron applicator still attached. Traces of a blue, red, white and yellow paper label still adhere to the exterior. Due to the extremely fragmented condition of the label, only the letters "...ID" "...SIV?..." "...ASH..." and "...TO" can be discerned. It is not known, at this time, what this bottle contained. The base is embossed with the Dominion Glass Company logo, the mold number "V-166-A", a "4", and other symbols which denote that the bottle was manufactured at Hamilton, Ontario, in November of 1946.

DlLg-33/89B-289 (Plate 25b) is a complete clear glass bottle with a screw-cap closure and the remnants of a blue, red and gold-on-yellow paper label. The bottle is identical to DlLg-33/89B-999, identified as a retail ink container deriving from the Reliance Ink Company Limited of Winnipeg. DlLg-33/89B-289 has the same horizontal ribbing at the base and shoulder and also has a "2" embossed on the body. It differs from the ink container only in the absence of the company mark embossed on the base. The paper label has the discernible words "RELIANCE/...UCILAGE", "...ELIANCE" and "...IN...IPEG".

DlLg-33/89B-396 (Plate 25c) is a large (20.3 cm) machine-made, clear bottle with a screw cap closure. Embossed on the base is an emblem consisting of two overlapping "M"s over a "6". Toulouse (1971:365) illustrates a similar mark which occurred on a machine-made screw-cap jar. He estimates the date between 1900 and 1915 but is unable to determine the manufacturer. The irregularity of the neck/finish seam and the presence of ghost seams tend to indicate manufacture of DlLg-33/89B-396 by an early semi-automatic machine (Jones and Sullivan 1985:36-39).

DlLg-33/89B-474 (Plate 24d) is a complete, round brown bottle made in a two piece post mold with an applied square ring lip. Embossed on the face is "DR. GEO. LEININGER" "CHEMICAL CO." "CHICAGO". Traces of a black-on-white paper label occur on the back. The only discernible letters on this label are "...O.E POUND", "...QUID..." and "...R...". Embossed, on the base, is the mold number "392". The contents appear to have evaporated leaving a white crystalline deposit inside the bottle. No information regarding the type of contents or the manufacturer is known.

DlLg-33/89B-559 (Plate 25e) is a complete, rectangular, machine-made clear bottle with the remnant of a cork closure inside it. It has a 'Perry Davis' type finish (Jones and Sullivan 1985:88). Embossed, on the base, is "O CEDAR" and "MADE IN CANADA". The Toronto-based firm,

O'Cedar of Canada, produced furniture polishes and varnishes in 1949 (Gordon and Belyea 1949:516). A sherd with the same embossing was recovered during the NANA project (Kroker 1989a:71).

DlLg-33/89B-1131 (Plate 25f) is a round, cylindrical clear body, base sherd. Embossed on the base is an "I in a Diamond". This logo of the Illinois Glass Company of Alton, Illinois was used between 1916 and 1929 (Toulouse 1971:264). Embossed on the body are the phrases "SIXTH CELL" "FIFTH CELL" "FOU...CELL" and "CE...". Each of these phrases is separated by an embossed graduation. This bottle probably contained battery acid.

4.3.10 Cosmetic Containers

This sub-category contained specimens of bottles, jars, and sherds. There were 17 catalogue numbers comprising 20 artifacts.

There were two complete clear glass bottles. DlLg-33/89B-156 (Plate 25g) is a complete, round bottle with an applied square ring neck. A remnant of a cork closure is inside the bottle. Embossed on the body is a floral bouquet and the words "ED. PINAUD" "PARIS". The name is also embossed on the base, in script, along with a "C" and a star. DlLg-33/89B-1009 is a complete, chamfered oval bottle (Plate 25h) with a screw cap closure and a small bore, suggesting that the contents could be shampoo, hair oil, etc. The base is embossed with the Dominion Glass Company logo, "6" and the mold number "6507". Other embossed data indicates that the bottle was manufactured at Hamilton, Ontario, in October of either 1943 or 1953.

The remainder of the artifacts in the cosmetic sub-type are white glass jars or white glass sherds. Only three specimens can be identified as to either contents or manufacturing company.

DlLg-33/89B-51 is a complete small jar, 3.2 cm in height and 3.3 cm in diameter (Plate 25i). The closure is an interrupted screw cap style. The name "MOSCO" and "4" are embossed on the base.

DlLg-33/89B-565 is a complete, rounded, square jar with a continuous screw cap closure (Plate 25j). The mold number "1541" is embossed on the base and the word "ELCAYA" is embossed in recessed panels on opposite sides of the body.

DlLg-33/89B-989 is a complete, rounded, square jar with a continuous screw cap closure. The word "POND'S" is embossed in recessed panels on opposite sides of the body (Plate 25k).

Four catalogue numbers, consisting of five artifacts, represent round jars which close with a shoulder seal cup lid. DlLg-33/89B-414 (4.5 cm) includes the complete jar and complete lid (Plate 25l). Embossed on the inside of the lid, is a mold or product number "958". DlLg-33/89B-564 is an identical complete jar while DlLg-33/89B-937 is a lid sherd. DlLg-33/89B-1097 is a lip, body, base sherd of a larger (8.3 cm) jar with a similar closure.

The remainder of the white glass artifacts have no information on them. DlLg-33/89B-283 and 664 are two sherds of square jars with screw cap closures. DlLg-33/89B-283 (Plate 25m) is plain, while DlLg-33/89B-664 shows traces of a ribbed side panel.

The remaining sherds represent round jars. DlLg-33/89B-52, 413, 933, 935 and 936 (7 sherds) are all body, base sherds. DlLg-33/89B-934 is a single lip, body sherd with a screw cap closure.

4.3.11 Juice Containers

DlLg-33/89B-210 is an amethyst lip, neck, body sherd with a crown closure (Plate 26a). "WELCH'S" is embossed on one side with "...'S" on the opposite. Based on comparison with reference specimens, this bottle would have held three to four fluid ounces of a beverage, likely grape juice.

4.3.12 Soft Drink (Soda Pop) Bottles

Complete and fragmented beverage bottles were the most frequent recoveries. The artifacts that could be definitely identified to a company or product were assigned to either the Soft Drink class (4.3.12) or the Beer class (4.3.13). Those specimens which had no identifying marks will be discussed under the more generic Beverage class (4.3.14). Within the soft drink sub-type, several brand names could be identified (Table 4).

One of the most prevalent products represented is Coca Cola. Of the 54 catalogue numbers in this group, 15 were identified as products of the Coca Cola Company.

Eight catalogue numbers (nine artifacts), DlLg-33/89B-205, 529, 697, 981, 993, 1135, 1151, and 1191 (Plate 26b), are vertically walled and pre-date the familiar ribbed, 'pinched-waist' or 'Mae West' bottle which was introduced in 1917 (Davis 1967). Three catalogue numbers, DlLg-33/89B-981, 993, 1191 (three artifacts), are blue in colour while the other five catalogue numbers, DlLg-33/89B-205, 529, 697, 1135, 1151 (six artifacts), are varying shades of aqua. All specimens have all or part of the embossed phrases "COCA COLA" in script, and "TRADEMARK REGISTERED" on both sides of the shoulder, "PROPERTY OF THE COCA-COLA COMPANY CANADA" around the body at the base and "COCA COLA" in script, on the base.

The remaining seven catalogue numbers in the Coca Cola bottles totalled seven specimens. These were all the ribbed style Coca Cola bottle. DlLg-33/89B-10 (Plate 26e), a clear bottle, is the most recent artifact wherein the product name is painted, in white, on the body. Embossing is limited to "TRADEMARK REGISTERED" and "CONTENTS 10 FL.OZS." on the body with "COCA COLA LTD." and the Dominion Glass Company logo on the base. This bottle was manufactured in Redcliff, Alberta in November 1950 (Miller and Jorgensen 1986:3-4).

The other six ribbed bottles had the product name embossed on the shoulder rather than painted. The two aqua specimens, DlLg-33/89B-64 (Plate 26c) and 343 appear to have been manufactured earlier, inasmuch as the phrase "BOTTLE PATD NOV 16 1915" was embossed on the shoulder

BRAND NAME (Bottler)	CATALOGUE NUMBER
ARCTIC	1086
BELL BOTTLING	6
COCA COLA (Coca Cola)	
Aqua Straight-sided	205, 529, 697, 1135, 1151
Blue Straight-sided	981, 993, 1191
Clear Ribbed	10, 64, 341, 342, 343, 985, 1134
GOLDEN KEY (Drewry)	66, 86, 986, 1155
HAMILTON ?	822
HIRES ROOT BEER	531, 1088
L.M. ANKELES	90
MOUNTAIN DEW	320, 321
ORANGE CRUSH	68, 89, 418, 548, 1138
PEPSI COLA (Pepsi Cola)	545
RED ROCK COLA	1189
7 UP (Blackwoods)	333, 996, 997, 1014, 1190
STANLEY	
Truncated Torpedo	766, 767, 768
Dark Green	318, 515
SUN CREST (Bell)	85
UP-TOWN	84
WHISTLE (Whistle)	145, 995
WISHING WELL	337, 982
UNASSIGNABLE COLA	
Clear Ribbed	336, 807
Embossed Name	350
UNIDENTIFIABLE SHERDS	219

Table 4: Identified Soft Drink Containers

as well as "MIN. CONTENTS 6 FL. OZS.". The phrase referring to the patent date is not present on the clear specimens, DlLg-33/89B-341, 342, 985, and 1134 (Plate 26d). Variations of the shoulder embossing appear to allow for temporal seriation. Basal embossings, on those specimens with a base present, indicate manufacture by Dominion Glass Company (Miller and Jorgensen 1986:3-4). DlLg-33/89B-985 appears to be the oldest clear ribbed bottle, as it does not have a date code which would indicate manufacture post-1940. DlLg-33/89B-342 is missing the base but the shoulder embossing is identical to DlLg-33/89B-985. DlLg-33/89B-341 was manufactured in Redcliff, Alberta in March, 1950 and has a slightly different shoulder embossing. DlLg-33/89B-

1134 was manufactured in August 1953 at Hamilton, Ontario and again shows slight variation in the embossing.

The Coca Cola Company established an office in Winnipeg in 1916 and has continued this outlet to the present. As well as Coca Cola, the firm produced Gold Seal, Squeeze, Tab, Sprite, Fanta and Soda Water (Stock 1978:31-34). None of these brands were recovered during this project.

Many other brands of soft drink, from a variety of companies, were recovered. DlLg-33/89B-1086 (Plate 26f) is a complete, clear bottle with a green and white painted label reading "DRINK ARCTIC HIGH QUALITY BEVERAGES" along with a northern scene. The reverse is labelled with "SPARKLING BEVERAGES IN STERILIZED BOTTLES" "ARCTIC DRINK MFG. COMPANY" and "WINNIPEG, MAN.". Embossing on the bottle consists of undulating horizontal ribs, "CONTENTS 10 FL. OZS." near the base, and a mold number of "3911" on the base. This company began as the Pick-Me-Up Soft Drink Mfg. Company in 1925. The name was changed to Arctic Drink Mfg. Company in 1926 and still exists today (Stock 1978:50).

Bell Bottling Company originally began as Boroditsky Brothers Aerated Water Company in 1917. The name was changed to Bell Bottling Company in 1924 and continued into the 1970s. This firm produced such brands as Bromo Cola, Sunny Brook, Wynola, Nu Grape, Sun Crest, Keystone and 2-Way (Stock 1978:35). DlLg-33/89B-6 is a complete, clear bottle with the company logo and volume (6 1/2 ounce) embossed on the body (Plate 26g). The base is embossed with "B in a bell", the year "1928" and the logo of the Owens Illinois Glass Company. The markings indicate that this bottle may have been produced at the Huntington, West Virginia factory immediately after the merger in 1929 between Owens and Illinois Glass.

Four catalogue numbers, DlLg-33/89B-66, 86, 986 and 1155, were products of the E. L. Drewry Brewery of Winnipeg. These were bottles and sherds of Golden Key Aerated Waters. The oldest specimen, DlLg-33/89B-66 (Plate 26h), is a complete, clear bottle made in a two piece cup mold with an applied crown finish. The artifact can be identified as Chopping type MWIN BG6-1 (1978:116). The basal embossing is a "D" with a dot inside indicating manufacture prior to 1897. DlLg-33/89B-1155, an incomplete, clear bottle, has similar embossing except for the basal mark which reads "DREWRY 98". This would indicate a bottle manufacture date of 1898. The other two catalogue numbers, DlLg-33/89B-86 and 986, were manufactured later. DlLg-33/89B-986 (Plate 26i), a complete, clear bottle, has a basal embossing consisting of an elongated "D" enclosing the number "23". The product name is not part of the embossing. A key emblem as well as "PROPERTY OF DREWRY'S LIMITED" "MIN 6 0Z" and a series of five pointed stars are embossed around the shoulder. This style is illustrated by Stock (1978:16) and has a paper label denoting the contents as Ginger Ale. The last artifact, DlLg-33/89B-86, a clear shoulder sherd, matches the embossing on DlLg-33/89B-986.

DlLg-33/89B-822 is a clear, neck, shoulder sherd with distinct vertical ribbing on the neck and "CANA..." and "...ED" embossed on the shoulder. Based on the illustration by Stock (1978:52), this artifact is tentatively identified as a product of Hamilton's Ltd. This Winnipeg firm began in 1929, changed its name to Big Drink Company in 1930 and went out of business in 1931.

Two artifacts, DlLg-33/89B-531 and 1088, were Hires Root Beer bottles. DlLg-33/89B-1088 (Plate 27a) is a complete, 12 ounce, clear bottle with a painted orange and white logo and a list of contents. The bottle is decorated with horizontal ribbing and stippling, as depicted in Stock (1978:71). Basal embossings are "HIRES" "REGISTERED" and "1937, while additional markings indicate that the bottle was manufactured by Dominion Glass Company at Redcliff in January, 1948. DlLg-33/89B-531 is a body sherd depicting part of the painted Hires Root Beer logo.

DlLg-33/89B-90 is two refitted sherds of a clear machine-made "MIN 6 F...OZ." bottle. The shoulder is embossed with "L.M. ANKELES" and "WINNIPEG" (Plate 27b). The volume was a standard size for soft drinks. This firm or bottler is not listed by Stock (1978). However, a search of the Winnipeg City Henderson Directories indicated that a firm called Ankles [sic] Aerated Water was located at 494 Selkirk in 1922. This company seems to have existed for only the one year and no other information could be located.

Two artifacts, DlLg-33/89B-320 and 321, were identified as Mountain Dew, a product of Pepsi-Cola Canada Limited (Stock 1978:68). DlLg-33/89B-321 is an incomplete, 10 ounce, green bottle with the moonshiner logo painted in red and white (Plate 27c). Basal embossings indicate that the bottle was made by Dominion Glass Company at the Redcliff plant in May, 1957. DlLg-33/89B-320 is a shoulder sherd from a similar bottle.

Five catalogue numbers, consisting of nine artifacts, were identified as Orange Crush bottles. A complete clear Orange Crush bottle (DlLg-33/89B-548) has horizontal ribbing and a smooth diamond area on the body which contains the phrases "REG./AUG 22, 1921/ORANGE/ CRUSH/BOTTLE/6 FL. OZS." (Plate 27d). The base has the Consumers Glass Company logo. Two complete clear Orange Crush bottles (DlLg-33/89B-68 and 1138) have a slight variation in the embossed text with the only difference being "REG." replaced with "PT'D". The base of DlLg-33/89B-68 has a mold number "1" and DlLg-33/89B-1138 has a mold number "3". DlLg-33/89B-89, five clear body sherds, appears to be later in date, inasmuch as the date has been deleted from the embossed text. DlLg-33/89B-418 cannot be seriated by body text as the specimen is a basal sherd. The base is embossed with "ORANGE CRUSH LTD." "T.M.REG." and was manufactured by Dominion Glass Company at Hamilton, Ontario in May, 1950.

DlLg-33/89B-545 is a complete, clear Pepsi Cola bottle (Plate 27e). It is embossed with the "PEPSI-COLA" "PEPSI" "10 FL.OZ." "10 OZ LIQ." "DO NOT REFILL" and "NE PAS REUTILISER". In addition, the logo of Consumers Glass Company is embossed on the body, near the base. Pepsi-Cola was first bottled in Winnipeg by Blackwoods, from 1936 to 1940. After 1940, Pepsi-Cola bottled its own soft drinks as well as Mountain Dew, Teem, Patio, and Schweppes (Stock 1978:68).

DlLg-33/89B-1189 is a clear body sherd with a painted red and white, oval logo (Plate 28d). Printed inside the oval is "ENJOY" "RED ROCK..." and "TRADE MARK R..." (Stock 1978:73). The other side of the body has a portion of a white design and the phrases "RED ROCK COLA" and "MIN. CONTENTS 7 FLUID OZS.". The soft drink may have been produced by a local firm which "BOTTLED UNDER AUTHORITY OF RED ROCK OF CANADA LIMITED".

Five catalogue numbers were assigned to 7 Up. These specimens consisted of three complete bottles, one incomplete bottle, and a small sherd. This brand was originated by the Howdy Orange Company of St. Louis, Missouri, around 1924 (Stock 1978:22). All artifacts are the characteristic green with white and red logos. DlLg-33/89B-1190, a complete bottle (Plate 27f), and DlLg-33/89B-1014, an incomplete bottle, have the woman and bubbles logo depicted by Stock (1978:22, 24). Both specimens are labelled as products of "BLACKWOODS BEVERAGES LTD./ WINNIPEG", which currently holds the Winnipeg bottling rights to 7 Up. Labelling indicates the contents of both bottles were "7 FL.OZ.". DlLg-33/89B-1014 appears to be the oldest specimen based on the descriptive text as well as the Dominion Glass Company mold number "6937" embossed on the base. DlLg-33/89B-1190 has an embossed Dominion Glass Company mold number "V-782-A". The "V" prefix was adopted in 1945 (Miller and Jorgensen 1986:4) and additional markings indicate manufacture at Point St. Charles, Quebec, in January 1950. DlLg-33/89B-996 is a complete bottle with text and logo almost identical to DlLg-33/89B-1190. The differences consist of a notation that the product name has been "REG." at the "U.S. PAT. OFF." and that the producer was the "SEVEN-UP BOTTLING CO." of "MINNEAPOLIS, MINN." (Plate 27g). The base is embossed with a "G in a square" indicating manufacture by Glenshaw Glass Company of Glenshaw, Pennsylvania after 1932 (Toulouse 1971:211-213). DlLg-33/89B-997 is a recent, complete "10 FLUID OUNCES" green bottle (Plate 27h). The bottle, manufactured by Consumers Glass, is a "MONEY BACK BOTTLE" "RETURN FOR DEPOSIT". The small sherd, DlLg-33/89B-333, is a portion of the body containing part of the white text listing the ingredients. The spacing and size of the letters match the text on DlLg-33/89B-1190.

The Stanley Mineral Springs Company originated in Stanley, Ontario. Chopping (1978:144) lists a 1910 Winnipeg address (149 Notre Dame East) while Stock (1978:30) states that the company was located in the Builders Exchange Building, in Winnipeg, in 1912. According to the 1912 Henderson Directory, the Builders Exchange Building was located at 333 1/2 Portage Avenue thus indicating a move for the company between 1910 and 1912. Stock implies that the Stanley Company did not exist in Winnipeg after 1915. The recovered artifacts represent two types; the earlier aqua, blown-in-mold, truncated torpedo bottles [Chopping type MWIN BH1] and the later dark green, machine-made cylindrical bottles [Chopping type MWIN BH3] (Chopping 1978:144). The first type is represented by two basal sherds (DlLg-33/89B-766 and 767) and a body sherd (DlLg-33/89B-768). The basal sherds have a portion of the embossed logo "SMS" on the base (Plate 28e), while the body sherd has a portion of the word "STANLEY" embossed on it. The second type is represented by two basal sherds (DlLg-33/89B-318 and 515) embossed with portions of the "SMS" and "C" (Plate 28f). While Chopping (1978:144) does not illustrate the basal embossings of this type (MWIN BH3), the diameter of the recovered specimens is the same as noted in his text. Toulouse (1971) does not list any alternative companies for these marks; therefore, it is felt that the identification is firm.

DlLg-33/89B-85 is a complete, clear bottle with a painted blue and white logo and white text on opposite sides of the body. The shoulder and the bottom of the body are decorated with a raised honeycomb-like pattern (Plate 28a). The label consists of "SUN CREST" and a stylized sun while the text indicates that the contents were produced by Bell Bottling Company. The base is embossed

with "BOTTLED UNDER AUTHORITY" "WYNOLA COMPANY" and a Dominion Glass Company logo indicating manufacture in 1958.

DlLg-33/89B-84 is a green body sherd with a painted yellow and white logo consisting of the name "UP-TOWN" in bubbles (Plate 28g). Stock (1978:71-72) illustrates this brand and notes that it is a 12 ounce bottle.

One complete bottle and one basal sherd were identified as the Whistle brand of soft drink. The Whistle Bottling Company was formed in 1923 to take over the business of Blackwoods Beverages. Eleven years later, the name was changed back to Blackwoods Beverages Ltd. The soft drink that prompted the company name change, Whistle, was bottled until 1937 by Blackwoods and into the early 1960s by Dan's Beverages (Stock 1978:48, 55). DlLg-33/89B-145, a complete, clear, stippled bottle, is embossed with "WHISTLE LIMITED" on the shoulder and "CONTENTS 6 1/2 FL. OZ." on the body near the base (Plate 28b). The base has "WHISTLE", "5" and the Consumers Glass Company logo embossed on it. Stock (1978:48) illustrates a similar specimen, albeit a 6 oz. aqua bottle. DlLg-33/89B-995 is a clear, basal sherd embossed with "WHISTLE" "REGISTERED" and other marks indicating manufacture of the bottle by Dominion Glass Company at Redcliff, Alberta in May of 1955. As DlLg-33/89B-995 post-dates the Whistle Company, this specimen would have been bottled by Dan's Beverages.

DlLg-33/89B-982 is a complete, clear bottle with a stippled, left-hand spiral ribbing. Embossed, on the shoulder, is "DRINK" and "WISHING WELL" in script (Plate 28c). Circling the base are the embossed phrases "CONTENTS 11 FL. OZ." and "NATIONAL DRY. LTD.". The base is embossed with "DESIGN REGISTERED" and an indistinct Dominion Glass Company logo. This style of bottle appears to be intermediate to those illustrated by Stock (1978:58-59). DlLg-33/89B-337 is a clear body sherd with "WISHING WELL" in green painted print. The stippling and spiral decoration are the same as DlLg-33/89B-982. The Wishing Well Soft Drink Company started in Winnipeg in 1938. The Wishing Well soft drinks were a product of National Dry Limited, an Eastern company, and eventually, the bottling and distribution of the product was taken over by Zero Bottling Works of Winnipeg (Stock 1978:59).

The remaining sherds could not be assigned to any one particular brand. DlLg-33/89B-336 and 807 both have right-hand spiral ribbing which tends to be indicative of Pepsi Cola bottles. No data pertaining to product is evident on either artifact. DlLg-33/89B-807 is a body sherd and DlLg-33/89B-336 is a body, base sherd with manufacturers information embossed on it. This data indicates that the "10 FL. OZ." bottle was manufactured by Dominion Glass Company at Redcliff, Alberta in January of 1966.

DlLg-33/89B-350 is a body, base sherd embossed with "...COLA COMPANY". The amethyst colour (indicative of pre-1914 manufacture) would suggest that this represents Coca Cola since Pepsi Cola was not bottled in Winnipeg until 1936 (Stock 1978:68).

The final sherd, DlLg-33/89B-219, a body sherd, has a portion of a painted white and blue label. It is too fragmentary to identify.

4.3.13 Beer Bottles

While it is tempting to ascribe all containers produced by a brewing company to this class, it is impossible. Most brewing companies, except McDonagh & Shea, appear to have had side-lines of soft drinks. Similarly, firms like Blackwoods Limited, which concentrated on soda waters, are shown to have produced some beers (Chopping 1978:105). Accordingly, most of the products identified to these and other similar firms will be discussed under the general class of 'Beverage' bottles (4.3.14). In the 'Beer' sub-type, there were 56 catalogue numbers (Table 5) consisting of 57 bottles and/or sherds.

Four artifacts have "AB" embossed on the base. This is the Adolphus Busch mark which was used from approximately 1904 until 1907 although the company was in business from 1886 until 1928 (Toulouse 1971:26-27). All recovered specimens are blown-in-mold and the two complete bottles (DlLg-33/89B-63 and 389) have an applied crown lip. The brown sherd, DlLg-33/89B-357 (Plate 29a), may be the earliest specimen--"A 1" is embossed on the base along with the company emblem. DlLg-33/89B-63 is embossed with "P 11" and DlLg-33/89B-389 (Plate 29b) is embossed with "S 21". DlLg-33/89B-688 (Plate 29c) has a variation in the company mark ("AB. CO."), an "A 8" and a "05" embossed on it. The latter mark may indicate manufacture in 1905 while the letter/number combinations may indicate the section of the plant, the intended client, or a date/time of manufacture.

DlLg-33/89B-385 (Plate 29d), a complete brown bottle, and DlLg-33/89B-213, 355, 691 and 728 (four brown sherds) have all or portions of "A B CO" embossed on the base. DlLg-33/89B-723 has the same embossing (with periods after the letters) on the body near the base and mold numbers "94" and "1413" on the base. This mark is identified as the American Bottle Company of Chicago. The trademark was used on beer bottles between 1905 and 1916 (Toulouse 1971:30). The artifacts are hand-made with DlLg-33/89B-385 having an applied crown finish. Two of the specimens, DlLg-33/89B-385 and 691, have "59" and "8" embossed, respectively, on the bases, while DlLg-33/89B-213 has "100..." embossed on the base.

Another firm which produced bottles solely for beer was Brewery Products Limited. Five artifacts from this company were recovered. These were brown (DlLg-33/89B-354 and 356 (Plate 29e)) and clear (DlLg-33/89B-520, 1050 (Plate 29f) and 1059). The brown specimens are embossed with "THIS BOTTLE BELONGS TO BREWERY PRODUCTS LIMITED AND MAY NOT BE SOLD". Both brown artifacts have "B.P. LTD." on the base and were produced by Dominion Glass Company of Canada in 1945 and 1946. The clear specimens have a slightly different text, "THIS BOTTLE BELONGING TO BREWERY PRODUCTS LIMITED MAY NOT BE SOLD". The basal text, on the clear specimens, is the same as that on the brown. However, the clear bottles were manufactured by Consumers Glass Company of Canada rather than Dominion Glass. Brewery Products Limited appears to have been a supply company rather than a brewing firm. Chopping (1978:135) notes that a Brewery Product bottle was used to contain Shea's Select Beer, produced by McDonagh & Shea. Other breweries would have used the bottles, placing a paper label on them to identify their own brand. Kiewel's Brewery is known to have used the bottles for their White Seal brand of beer.

COMPANY	COLOUR	CHOPPING NO.	CATALOGUE NUMBER
Adolphus Busch	Aqua		63, 389, 688
	Brown		357
American Bottle	Brown		213, 355, 385, 691, 723, 728
Brewery Products	Brown		354, 356
	Clear	MWIN BC4	520, 1050, 1059
B.C. Brewery	Brown		222
E.J. Burke	Olive		737
Edelweiss	Aqua	MWIN BM7	58, 152
W. Franzen	Aqua		211
	Brown		81, 358, 724
John Gund	Aqua		398
McDonagh & Shea	Clear	MWIN BC3-1	143, 1196
	Brown	MWIN BC5-1	67, 361, 362, 405
		MWIN BC5-3	404
		MWIN BC6-2	694
		MWIN BC7	407
		MWIN BC7-1	200, 394, 406
		MWIN BC7-3	725
		MWIN BC7-4	79, 693, 1053
		MWIN BC7-5	392, 3300
		MWIN BC8-1	363
		MWIN BC8-2	368, 369, 370, 721
		MWIN BC8-3	722
		MWIN BC8 ?	720, 726
		MWIN BC ?	215, 216
Monumental	Aqua		65
Mullen	Aqua		102
O'Keefe's	Blue		319
Riedle	Clear	MWIN BK1	334

Table 5: Identified Breweries

DlLg-33/89B-222 is a single brown, neck, body, base sherd, indicating two-piece post mold manufacture. "B.C. BREWERIES LTD." and "VANCOUVER, B.C." are embossed on the body near the base (Plate 30d). This artifact is identified as a beer bottle rather than beverage inasmuch as the company has not been identified as a soft drink producer (Wilson and Askey 1986).

DlLg-33/89B-737 is an olive base sherd embossed with "E &...BURKE", "E&JB" and a cat logo (Plate 30e). Toulouse (1971:176-178) notes that

> *"E. & J. Burke (of Dublin, Ireland and Liverpool, England) was the company best known in its bottle identification marks in the western United States, even though it was only one of some twenty-four companies which bottled and exported Guinness Stout and Bass Ale".*

The embossings date from post-1870 and do not indicate the bottle manufacturer.

Two complete, machine-made, aqua bottles (DlLg-33/89B-58 (Plate 30f) and 152) are identified with Edelweiss Brewery. The bases are embossed with "PROPERTY OF EDELWEISS BREWERY OF WINNIPEG" (Chopping 1978:129; MWIN BM7). The Edelweiss Brewery first appeared in the Henderson Directories in 1906 and was located at Stadacona and Taylor. The manager at that time was listed as A. W. Riedle. In 1923, Mr. Riedle bought out the Edelweiss Brewery and renamed it after himself, Riedle Brewery. The business, under this name, lasted until 1951 when it became Grant's Brewery. This company, in turn, lasted until 1958 when it was bought by O'Keefe Brewery.

Four sherds (one aqua, three brown) are attributable to the William Franzen & Son Company of Milwaukee, Wisconsin. DlLg-33/89B-211, the aqua bottle sherd, has "W F & S" "MIL" and "4" embossed on the base. DlLg-33/89B-358 (Plate 30g) has identical markings, while DlLg-33/89B-724 is the same except for the mold number which is "14". DlLg-33/89B-81 has "...& S MIL" embossed in a straight line as opposed to the curved format on the other artifacts. The William Franzen & Son Company was in business from 1900 to 1929 and, according to Toulouse (1971:536-538), it was a victim of Prohibition.

DlLg-33/89B-398 is a complete, quart-size, aqua bottle with an applied cork closure finish. The base is embossed with "J. GUND BR'G. CO" "LACROSSE. WIS." and "ESTAB 1854" (Plate 30h). This artifact appears to pre-date the sherd (DlLg-33/88B-181) recovered during Stage I (Kroker and Goundry 1990a:72).

John McDonagh and Patrick Shea purchased the Celestin Thomas brewery in 1887. Except for a few clear bottles, most of the McDonagh & Shea bottles were dark brown (Plate 30a - DlLg-33/89B-67) and produced in a private mold (Chopping 1978:133-139). Most specimens could be matched with recognized varieties (Table 5) which, unfortunately, are not seriated by date of production. Two sherds were ascribed to type MWIN BC8 but could not be further allocated. Two other sherds (DlLg-33/89B-215 and 216) were too incomplete to be identified to a specific bottle variety. Chopping's types appear to follow in a roughly chronological order. His taxonomy is based largely upon manufacturing techniques and embossing characteristics. However, the dates for each type have yet to be determined. In 1920, McDonagh & Shea became Shea's Winnipeg Brewery, thereby providing a terminal date for the series.

DlLg-33/89B-65 is an incomplete, aqua sherd embossed with "MONUMENTAL BREWING CO." "BALTIMORE, MD." "TRADEMARK REGISTERED" and a logo of a fenced cenotaph (Plate 30b). A mark, "18N", indicates that the bottle was produced by American Bottle Company at the Newark, Ohio plant in 1918 (Toulouse 1971:30).

DlLg-33/89B-102 consists of two aqua, body sherds embossed with "PROPERTY OF MULLEN [in script] BREWING CO..." (Plate 30i). The location of this company has not been traced.

DlLg-33/89B-319 (Plate 30c) is a blue body sherd embossed with "O'KEEFE'S" and "TRADE O'K [in script] MARK". This company is based in Ontario and has gone through several amalgamations. Without a more complete specimen, it is impossible to determine the date of the artifact.

As noted, the Riedle Brewery was the successor to the Edelweiss Brewery. DlLg-33/89B-334 is a body, base sherd embossed with an "R" and the logo of the Dominion Glass Company (Plate 30j). The bottle was manufactured in Redcliff, Alberta (Miller and Jorgensen 1986:4) in 1944.

4.3.14 Beverage Bottles

As noted earlier, breweries bottled soft drinks, as well as beer, and often used the same type of bottle for both products. Without the paper labels, it is impossible to ascribe a specific product to an archaeologically recovered bottle. Thus, the bottles are assigned to the generalized 'Beverage' class. There were 125 catalogue numbers (consisting of 131 bottles or sherds) assigned to this sub-type.

Within this sub-type, depending upon the data embossed on the artifact, it may be possible to identify the producer of the contents, the manufacturer of the container, both, or neither. Based on the extracted information, the recovered specimens are discussed in three subsequent sections: those attributable to Winnipeg bottling firms; those which derive from other areas; and those for which neither the manufacturer nor the producer could be identified.

4.3.14.1 Winnipeg Bottling Firms

As expected, the preponderance of identified firms were local beverage manufacturers. Table 6 lists the recovered specimens ascribed to these companies.

Two Winnipeg firms dominated the local market or, at least, their bottles are the most prevalent. Blackwood Brothers, later Blackwoods Limited, is better known as a bottler of soft drinks while E. L. Drewry Limited appears to have concentrated upon brewing beer. The passage of the Manitoba Temperance Act in 1916 resulted in both firms, and other Winnipeg brewers, concentrating on the manufacture of soft drinks and beer for export. The local market for 'Temperance Beer' and medicinally prescribed spirits was further diminished by the 1918 Federal War Measures Act which was in force for one year and prevented importation of alcohol. In 1923, broad-based restrictions were eliminated by the introduction of the Liquor Control Act.

Blackwoods has a long and involved history. In 1882, it began as the Manitoba Brewing Company and became Blackwoods Brothers (Plate 31a - DlLg-33/89B-535) shortly after. In 1901, the name was changed to Blackwoods Limited (Plate 31b - DlLg-33/89B-403). Another name change occurred in 1921, this time to Blackwoods Beverages (Aerated Water Manufacturing Company Limited). In 1923, the Whistle Bottling Company was formed to take over Blackwoods' business and, in 1934, the name reverted to Blackwoods Beverages Limited (Stock 1978:19; Chopping 1978:99-109).

Nine different types of Blackwoods bottles were recovered and identified using Chopping (1978). In some instances, recovered bottles were made of glass which was a different colour than that recorded by Chopping. These have been denoted by a single asterisk following the Chopping number.

The Drewry company began in 1877 when E. L. Drewry leased the Redwood Brewery and produced beverages labelled with his name. In 1904, the company name was changed to E. L. Drewry Limited (Plate 31c - DlLg-33/89B-998) and, in 1921, it became Drewrys Limited. As well as beers and ales, the firm produced several brands of soft drinks (Stock 1978:11-13).

Seventeen different types of Drewry bottles were recovered and identified using Chopping (1978). In some instances, recovered bottles were made of glass which was a different colour than that recorded by Chopping, and these have been denoted by a single asterisk following the Chopping number. MWIN BG40** is an interpolated catalogue number using Chopping's sequence. The artifact, DlLg-33/89B-1015, was embossed with "23" on the base indicating manufacture in 1923 (Plate 31d). Chopping's (1978:126) reference sequence terminates in 1922 with MWIN BG39. Drewry products are extremely useful as temporal markers in that the date of manufacture is embossed on the base of the bottles. The recovered artifacts represent the years 1903 (Plate 31e - DlLg-33/89B-11), 1904, 1905, 1909, 1910, 1911, 1913, 1914, 1915, 1916, 1917 (Plate 31f - DlLg-33/89B-226), 1922 and 1923.

The Pelissier Brewery has a rather convoluted history. In 1911, Pelissier & Sons manufactured Soda Water at 721 Furby. In 1914, the company, still manufacturing Soda Water, changed its name to Beaver Brewing and Bottling Company and in 1918 it expanded from 721 to 719 Furby. 1920 saw another name change, to the Home Brewery, and a further expansion, from 719 to 723 Furby. At this time, Alphonse, Cleophas and Henry Pelissier were all listed as executives of the company. The final expansion of the Home Brewery, on the Furby site, took place in 1924, with the Brewery now occupying 715 to 723 Furby. In 1925, perhaps in search of larger premises, the company moved to Osborne and Mulvey and changed its name to Pelissiers Limited. It remained at this location, under variations of the same name, until 1977 when it became Kiewel-Pelissier's Breweries.

DlLg-33/89B-534 is a body, base sherd (Plate 31g) embossed with "PELISSIER & SONS" which would indicate manufacture between 1911 and 1914. A body sherd, DlLg-33/89B-752, was identified to the Beaver Brewing and Bottling Company, which was the successor to Pelissier & Sons from 1914 to 1920. Both artifacts are blown-in-mold (Chopping 1978:98, 141).

COMPANY	CHOPPING NO.	COLOUR	CATALOGUE NO.
Beaver	MWIN BQ2	Lt.Green	752
Blackwoods	MWIN BA18-1	Aqua	401, 535
	MWIN BA18-3	Aqua	1055
	MWIN BA19-4	Aqua	403
	MWIN BA19-5	Aqua	384, 402
	MWIN BA19-6	Aqua	698
	MWIN BA19-6*	Lt.Green	1058
	MWIN BA19-7	Aqua	696, 750
	MWIN BA20*	Amethyst	218
	MWIN BA20*	Aqua	751
	MWIN BA20*	Lt.Green	662
	MWIN BA20-1	Aqua	197
	MWIN BA20-1*	Clear	1205
	MWIN BA20-1*	Lt. Blue	327
	MWIN BA23	Lt. Blue	198, 209
	MWIN BA??	Lt.Green	1056
	MWIN BA??	Aqua	325
Crystal Springs	MWIN BZC1	Aqua	347, 850
Drewry	MWIN BG10	Clear	11
	MWIN BG11-1	Aqua	689
	MWIN BG12	Lt. Blue	1054
	MWIN BG12-3	Lt. Blue	690
	MWIN BG17*	Aqua	3302
	MWIN BG18	Lt.Green	365, 399, 400, 409, 1003
	MWIN BG18*	Clear	546
	MWIN BG18-5	Aqua	199
	MWIN BG24-1	Aqua	536, 1048
	MWIN BG25	Aqua	326
	MWIN BG28	Lt. Blue	408
	MWIN BG28*	Aqua	998, 1126
	MWIN BG28*	Brown	80, 227
	MWIN BG29	Brown	727
	MWIN BG30	Aqua	147, 346, 528, 748, 754
	MWIN BG30*	Lt. Blue	699
	MWIN BG31	Aqua	527
	MWIN BG32*	Aqua	526, 700, 803
	MWIN BG33	Brown	226
	MWIN BG33*	Clear	228
	MWIN BG33*	Aqua	229, 317
	MWIN BG39	Clear	104
	MWIN BG40**	Clear	1015
	MWIN BG??	Aqua	316, 322, 324, 749, 756, 844, 1008, 1147
Pelissier	MWIN BR3*	Lt.Green	534
Unassignable	-	Aqua	323, 753

Table 6: Identified Winnipeg Beverage Bottles

Two aqua body sherds, DlLg-33/89B-323 and 753, have portions of the embossed text that is common to the bottles produced by Blackwoods, Drewry and Pelissier. Due to the fragmentary nature of these sherds and the lack of a complete reference collection for all three companies, it is impossible to attribute these specimens to a specific company let alone a Chopping type.

The last local firm, represented by recovered artifacts, was the Crystal Spring Water Company. DlLg-33/89B-347 and 850 are body sherds embossed with portions of "PURE SPRING WATER", identifying the contents. Chopping (1978:143) illustrates two large (6.8 and 4.5 litre) bottles from this company. Based on the position of the lettering and the curvature of the sherds, it would appear that each artifact derives from a different 6.8 litre bottle.

4.3.14.2 Extra-Local Manufacturers

Specimens of non-local bottle manufacturers, indicative of continental and international trade, were recovered. In some cases, embossing on the artifact allows for identification of the manufacturer of the bottle and, in one case, the producer of the contents (Table 7). In other instances, embossed markings cannot be traced to the manufacturer or producer (Table 8). Some specimens have only mold numbers which do not provide any of this information (Table 9). In addition, some specimens were recovered which do not have even this minimal information (Table 10).

The specimens listed in Table 7 have sufficient information embossed on them to permit identification of the glass manufacturer or the producer of the contents of the contents. The information is complete enough to be able to determine the country of origin.

Four artifacts were produced by John Lumb and Company of Castleford, Yorkshire. This firm was in operation from 1870 to 1937, with a change in the logo occurring in 1905 (Toulouse 1971:281). DlLg-33/89B-142 and 758 are body, base sherds of truncated torpedo bottles. The artifacts are machine-made and the logo indicates manufacture after 1905. Additional information embossed on the base pertains to mold numbers and perhaps the year of production in a manner similar to that of Drewry Limited of Winnipeg. DlLg-33/89B-142 has "863" in small text and "11" in large text in the centre of the base. DlLg-33/89B-758 has "1374" in small text and "12" in large text. It is possible that the small text numbers refer to private molds and the large text refers to the year, i.e., 1911 and 1912. DlLg-33/89B-523 is a straight-walled, machine-made body, base sherd. The post-1905 John Lumb company mark is embossed on the base, along with a mold number "1776". DlLg-33/89B-3303 is a complete straight walled, machine-made bottle (Plate 32c) with a slightly recessed base with the post-1905 John Lumb company mark plus the mold number "1492". Unlike the other three specimens, this artifact has a period between the "J" and the "L" of the mark.

A second British firm, John Kilner, is represented by six catalogue numbers (seven body, base sherds). This business originated as John Kilner & Company (1842-1844) and became John Kilner & Sons (1844-1857). Toulouse (1971:278-281) suggests that this particular firm continued until the 1930s. In 1857, the sons of John Kilner organized a separate business, named Kilner Brothers Glass Company (1857-1873). After 1873, this plant was called Kilner Brothers Limited and continued in business until 1937.

CAT. #	COLOUR	MARKINGS	IDENTIFICATION
105	Clear	A	Arkansas Glass Co./U.S.A.
142	Green	J L & C...	John Lumb & Co./England
144	Brown	P	Pierce Glass Co./U.S.A.
151	Green	D;1	Dominion Glass Co./Canada
345	Clear	D;H	Dominion Glass Co./Canada
395	Brown	D;7822-0	Dominion Glass Co./Canada
518	Green	C;9	Consumers Glass/Canada
521	Clear	D;NATIONA...	Dominion Glass Co./Canada
523	Green	J L & CO LDC	John Lumb & Co./England
757	Aqua	J K?;3096	John Kilner?/England
758	Green	J L & CO LDC	John Lumb & Co./England
759	Aqua	K B LD/346;12	Kilner Brothers/England
760	Aqua	J K & S LTD	John Kilner/England
761	Aqua	J K & S;3096	John Kilner/England
762	Aqua	J...LTD;3044	John Kilner/England
764	Aqua	...& S L...	John Kilner/England
806	Clear	F	Fairmount Glass/U.S.A.
1007	Clear	...RAND FOR...	Grand Forks Bottling/U.S.A.
1047	Olive	B;3	Buck Glass Co./U.S.A.
1194	Green	D	Dominion Glass/Canada
3303	Green	J L & CO LDC	John Lumb & Co./England

Table 7: Identified Corporate Markings on Beverage Bottles

All of the Kilner specimens are from machine-made, truncated torpedo bottles. DlLg-33/89B-759 has the mark of Kilner Brothers as well as a mold number "346" in small text and "12" in large text. Similar to the Lumb artifacts, the "12" may represent production in the year 1912. The remaining artifacts have portions of the "J K & S LTD" logo as well as mold numbers: "3096" occurs on DlLg-33/89B-757, 760 and 761 and "3044" occurs on DlLg-33/89B-762. DlLg-33/89B-764 has no mold number.

Several artifacts were manufactured by Dominion Glass Company of Canada (post-1913). In addition to the corporate logo, mold numbers and/or other unattributable markings were observed. DlLg-33/89B-151 is a complete machine-made bottle. The logo is on the base and the mold number "1" is on the body, near the base. DlLg-33/89B-345 is a base sherd with the Dominion Glass logo and a large "H" with an off centre horizontal bar. The "H", which may represent the owner of a private mold and/or the manufacturer of the contents, is unidentified to date. DlLg-33/89B-395 is a complete bottle which has a stippled base. On the base is the corporate logo as well as the phrase "MADE IN CANADA", the mold number "7822-0" and markings which indicate manufacture at Wallaceburg in March, 1950. DlLg-33/89B-521 is a body, base sherd with "NATIONA..." and "...ZS" embossed on the body, near the base. The base is marked with the

mold number "V-1643" and information indicating manufacture at Redcliff, Alberta in May 1954. DlLg-33/89B-1194 is a complete bottle with basal embossing: "BOTTLE", "MADE IN CANADA", the Dominion company logo and information indicating manufacture in Wallaceburg in November, 1953 (Miller and Jorgensen 1986:4). The complete bottles show a small variation in height but would have had the same volume.

DlLg-33/89B-518 is two body, base sherds produced by Consumers Glass Company (post-1917). In addition to the logo, the base is embossed with "MADE IN CANADA" and "9".

The remaining artifacts are all assignable to United States firms. DlLg-33/89B-105 is a body, base sherd from the Arkansas Glass Container Corporation which has been in operation since 1958 (Toulouse 1971:22). DlLg-33/89B-144 is an incomplete neck, body, base sherd manufactured by the Pierce Glass Company of Pennsylvania (Toulouse 1971:412-413). The logo, a "P" embossed on the base, has been used since 1917. DlLg-33/89B-806 is a body, base sherd produced by Fairmount Glass Company of Indianapolis. The "F", embossed on the base, was used as a corporate mark from 1930 to 1945 (Toulouse 1971:201). DlLg-33/89B-1047 is a body, base sherd from the Buck Glass Company of Baltimore. This company used the letter "B" as its mark during its entire existence from 1909 to 1961 (Toulouse 1971:57-58). On this specimen, the mark and the mold number "3" are embossed on the slightly recessed base.

Unlike the preceding United States specimens, which could be identified to the bottle manufacturer, DlLg-33/89B-1007 has information relating to the manufacturer of the contents. Embossed in an arc, on this body sherd, are the phrases "...RAND FOR..." over "...TTLI...". This appears to identify a bottling firm in Grand Forks, North Dakota.

4.3.14.3 Unidentifiable Firms

Fifteen catalogue numbers have embossed markings which may identify the manufacturer or producer (Table 8). These markings could not be traced using the available literature.

DlLg-33/89B-60, an incomplete dark green bottle, is missing the upper neck. A pronounced horizontal ring occurs on the neck. The base is embossed with a composite design consisting of three feathers oriented at 120° to each other. Oriental ideograms occur in each of the three angles.

DlLg-33/89B-352 is an incomplete, thick-walled body, base sherd. The maker's mark occurs on the recessed base. Traces of an Owens scar occur on the curved junction between the base and the body.

DlLg-33/89B-397 is a complete dark green bottle (Plate 32e) which would have contained approximately one quart of liquid. Mold seams indicate manufacture in a three piece Ricketts type mold (Jones and Sullivan 1985:29-30). The base is a moderate kick-up embossed with a manufacturer's logo which cannot be identified.

DlLg-33/89B-549 is a complete dark green bottle with the mold number on the body, near the base, and the unidentified company marking on the base. The volume is approximately 7 fluid ounces, suggesting soft drink size. DlLg-33/89B-1137 is a complete, clear bottle with the embossed letters on the base. The volume of these two specimens would be similar.

CAT. #	COLOUR	MARKINGS	IDENTIFICATION
60	Green	Ideograms?	Neck collar
73	Clear	C;1	Machine-made, miniature
223	Olive	XFB;NCC;5	Machine-made
339	Clear	I	Machine-made, miniature
352	Aqua	D W & CO.	Machine-made
397	Green	C B & CO;N	3-piece mold, applied lip
549	Green	A C;3	Machine-made
735	Olive	F.B.	Machine-made
777	Aqua	PH?...	Machine-made?
778	Aqua	BOTTL...	
980	Aqua	...E;...L	Torpedo?
1137	Clear	E L	Machine-made, crown seal
1148	Clear	MARSH'S NIP	Machine-made, miniature
1192	Green	VICHY ETAT	France (1940-1944)
1193	Green	XFB;WPCC	Machine-made, crown seal

Table 8: Unidentified Corporate Markings on Beverage Bottles

DlLg-33/89B-735 is an olive green body, base sherd with a slightly recessed base. The punctuated initials occur on the lower body, near the base. The sides of this specimen exhibit whittle marks, a rippled or ruffled surface that results from blowing glass into a metal mold that has not reached a heat comparable with the glass (Toulouse 1969:525-526).

DlLg-33/89B-777, 778 and 980 are body sherds containing fragments of embossed words. DlLg-33/89B-777 has a "P" and an incomplete letter which may be an "A", an "H" or an "R". The text is horizontal. DlLg-33/89B-778 has the text, "BOTTL...", oriented vertically. DlLg-33/89B-980 also has vertically oriented text. This sherd appears to be the lower portion of the body of a torpedo-type bottle. The two letters, "E" and "L" are the terminal characters of two separate words.

DlLg-33/89B-1192 is a dark green body, base sherd. The base (Plate 32k) is embossed with "VICHY ETAT" (Vichy State) suggesting manufacture in France between 1940 and 1944. The Pétain government of France, under German occupation, had its capital at Vichy, resulting in the designation of this government as the Vichy Regime.

DlLg-33/89B-1193 is a complete, dark green bottle (Plate 32d) with the embossing occurring on the body, near the base. The text is in two lines with "XFB" centred over "WPCC". DlLg-33/89B-223 is an olive green body, base sherd with the embossing occurring on the body, near the base. The text is in two lines with "XFB" centred over "NCC". A mold number "5" occurs on the opposite side of the body. The diameter of DlLg-33/89B-223 is 56 mm whereas the diameter of DlLg-33/89B-1193 is 64 mm. It is possible that the two specimens were produced by different divisions within a single glass manufacturing firm. Further speculation would suggest a linkage with DlLg-33/89B-735 which has "F.B." embossed on it. This may be the earliest representation of a company which utilized varying markings.

DlLg-33/89B-73, 339 and 1148 are all miniature bottles. DlLg-33/89B-73 (Plate 32j) is complete with the letter "C" embossed on the base and mold number "1" on the body, near the base. The specimen measures 113 mm in height and has a basal diameter of 41 mm. DlLg-33/89B-339 is incomplete missing the finish. The letter "I" is embossed on the base. This artifact has a basal diameter of 38 mm and would have had a height greater than 105 mm. The third miniature, DlLg-33/89B-1148 (Plate 32a), is complete and larger than the other two. This specimen shows evidence of being partially melted. The height is 133+ mm while the basal diameter is 47 mm. The phrase "MARSH'S NIP" occurs on the body below the shoulder. The base has a mold number "9" and a triangle with internal subdivisions embossed on it.

Six catalogue numbers (Table 9) have embossed mold numbers. While some listings of mold numbers by different companies are available, none of these numbers were attributable to any specific company.

CAT. NO.	COLOUR	MARKINGS	COMMENTS
193	Aqua	0 8	Machine-made, one quart
206	Aqua	4	Owens scar
393	Green	Reverse 2	Machine-made
991	Blue	9.	Parison mold seams
1051	Brown	6	Machine-made
1116	Clear	6	Machine-made, ribbed

Table 9: Embossed Mold Numbers on Beverage Bottles

DlLg-33/89B-193 (Plate 32g) is a complete bottle with the mold number on the body, near the base. DlLg-33/89B-206 consists of three body, base sherds with the mold number on the body, near the base of one sherd. This artifact has a sharp shoulder leading into a neck which is only slightly smaller than the body.

DlLg-33/89B-393 (Plate 32b) is a complete bottle with the mold number on the base. The volume of this bottle would be 7 fluid ounces. DlLg-33/89B-991 is an incomplete bottle, lacking the upper part of the neck and the lip. The mold number is on the base. DlLg-33/89B-DlLg-33/89B-1051 is a nearly complete with only a portion of the lip missing. The mold number "6" (which may be a "9") is on the base.

DlLg-33/89B-1116 is an ornate, complete bottle with a crown seal (Plate 32h). The medial portion of the body is smooth and bounded by pronounced convex horizontal rings. Vertical ribs extend from the lower ring to the base and from the upper ring to slightly below the finish. The crown seal closure suggests carbonated contents which probably were identified by a paper label glued on the smooth portion of the body.

Twelve catalogue numbers are represented by specimens which have no embossed markings (Table 10). The style of manufacture can provide approximate dates for these artifacts.

Six specimens consisted of only the neck and finish portions of bottles. Four artifacts were composites of the upper portion of the neck and the metal cap. In all cases, the cap was too rusted to be able to identify the company or the product. Applied lips were present on DlLg-33/89B-217 and 330, while DlLg-33/89B-329 and 838 had machine-made finishes. DlLg-33/89B-519 also has a machine-made finish, but does not have an attached cap. DlLg-33/89B-787 is unusual in that the machine-made crown finish is larger than the standard beverage size, with a bore of 26.5 mm.

CAT. #	COLOUR	ARTIFACT	COMMENTS
62	Green	Sherd	Two piece post
141	Green	Bottle	Turn-molded, applied lip
217	Aqua	Sherd;cap	Applied lip
329	Olive	Sherd;cap	Machine-made
330	Aqua	Sherd;cap	Machine-made, applied lip
332	Aqua	Sherd	Machine-made, flat torpedo
351	Green	Sherd	Turn-molded, applied lip
367	Brown	Sherd	Owens scar
519	Clear	Sherd	Machine-made
553	Brown	Bottle	Machine-made
787	Amethyst	Sherd	Machine-made
838	Brown	Sherd;cap	Machine-made

Table 10: Unmarked Beverage Bottles

DlLg-33/89B-367 is a basal sherd showing evidence of being produced by an automatic bottle machine. The shape and colour are reminiscent of McDonagh & Shea bottles.

DlLg-33/89B-62 is an incomplete bottle (lacking the neck and finish) with mold seams indicating manufacture in a two-piece post mold. Another incomplete specimen, DlLg-33/89B-351, displays evidence of manufacture by the turn-mold process, as well as the presence of an applied lip. By the 1920s, both techniques had been largely supplanted by automatic bottle machines (Jones and Sullivan 1985:31, 43).

DlLg-33/89B-332 is a chipped, truncated torpedo bottle which has been machine-made (Plate 32i). DlLg-33/89B-141 is a complete dark green bottle which appears to have been partly rotated within a faulty mold, in order to produce the seamless type of bottle that results from the turn-molding process. The lip has been applied. DlLg-33/89B-553 is a complete quart bottle which has been machine-made (Plate 32f).

4.3.15 Wine Bottles

One identifying feature of early wine bottles is the kick-up. The kick-up was a raised section of the base which originated as a sediment trap, and is currently retained as a tradition. There were eleven catalogue numbers (consisting of 11 artifacts) assigned to this sub-type. Of the eleven artifacts, nine have this kick-up feature. No embossings were present to allow identification of brand name, producing company or bottle manufacturer.

Three specimens are olive in colour. DlLg-33/89B-420 is a basal sherd with a pronounced domed kick-up (Plate 33a). DlLg-33/89B-522 is a lip, neck sherd with an associated cork and lead foil cap. The cap is decorated with a bunch of grapes and leaves. Unfortunately, there is no indication of the contents or manufacturer. The finish is an applied sloped top champagne finish (Jones and Sullivan 1985:88). DlLg-33/89B-150 is a complete, olive bottle (Plate 33b) with a similar finish and a pronounced kick-up with a large mamelon (Jones and Sullivan 1985:112). It appears to have been manufactured using turn-mold techniques, inasmuch as no seams are evident and the bottle is symmetrical (Jones and Sullivan 1985:30-31).

The remaining eight artifacts are green in colour. Five basal fragments (DlLg-33/89B-419, 421, 743, 744, 1057) have domed kick-ups. DlLg-33/89B-419, 743 and 744 have large mamelons while the other two have smaller ones.

DlLg-33/89B-382 and 542 are very similar green bottles, but DlLg-33/89B-542 is missing the finish. DlLg-33/89B-382 (Plate 33c) has an applied sloped top champagne finish and is nearly identical to the olive bottle, DlLg-33/89B-150. It would appear that there was a standardized shape, size, finish and kick-up. Minor variations in height versus diameter, size of mamelon and roundness of kick-up may eventually lead to identification of bottle manufacturers but probably not to the wine producers.

The final artifact (DlLg-33/89B-192), is a complete, green, half-litre, wide-mouthed, carafe style bottle which would have had a metallic cap closure (Plate 33d). It was produced by Consumers Glass Company in 1978 and has the mold number "54166".

4.3.16 Gin Bottles

There were 13 artifacts (10 catalogue numbers) in the gin sub-type. Of these 10 catalogue numbers, five were sherds of case gin bottles. Case gin bottles were distinguishable by their square tapered shape and decorative vertical ribbing. The shape of the bottle was a function of ocean shipment of the product; square bottles could be packed with more to a box and were less likely to break, due to rough handling, than were round bottles. The bottles were manufactured in Holland, England, and America in the 19th Century. Bottles with no embossing were probably made pre-1850 while bottles with embossing were manufactured post-1850 (Klamkin 1971:82-83).

The five case gin catalogue numbers are body or body, base sherds which are not attributable to any company. DlLg-33/89B-742 consists of two ribbed, green, body sherds while DlLg-33/89B-741 and 1060 (two sherds) are similar but olive in colour. DlLg-33/89B-82 and 423 (four sherds) are olive, body, base sherds. DlLg-33/89B-82 (a single sherd) appears to be blown in mold (Plate 33e) and the base is embossed with a series of peripheral raised dots and a central indistinguishable blob. DlLg-33/89B-423 (three sherds) has "15" embossed on the body near the base of one of the sherds. The mold seams indicate machine manufacture.

The remaining five catalogue numbers (five artifacts) have been identified to Tanquery Gordon & Co. London, England, either through the embossed name "GORDON" or through the company logo of a boar's head (Toulouse 1971:559). DlLg-33/89B-1087 is a body, base sherd from a large, clear, oval bottle. Markings consist of the boar's head logo and an Owens scar on the base and "REG.D 610617" embossed on the body. DlLg-33/89B-824 is a body portion of a flat sided bottle. The embossing, "...GD 610617", is the same as that on DlLg-33/89B-1087. Therefore, DlLg-33/89B-824 is a Tanquery Gordon & Co. bottle.

The remaining three Tanquery Gordon & Co. bottles represent miniature liquor bottles, of the type used on airlines, etc. DlLg-33/89B-74 is a complete, clear bottle with a screw cap closure (Plate 33f). The cross section is three-sided rectangular with a convex fourth side, embossed with "GORDON'S DRY GIN". "LONDON DRY" is embossed on both side panels. The base has the boar's head trademark as well as the logo of Consumers Glass Company of Canada.

DlLg-33/89B-747 and 1006 are both aqua, body, base sherds of miniature liquor bottles. They are rectangular in cross-section with chamfered corners. DlLg-33/89B-747, embossed with "GORDO... DRY" and "ENGLAN..." on the face and the boar's head on the base, is slightly larger. DlLg-33/89B-1006 is similar with slightly more complete embossing - "GORDON... DRY G..." and "ENGLAND" (Plate 33g).

4.3.17 Whisky Bottles

Whisky bottles are often identifiable by the embossing on the sherds or, in some cases, by remnants of paper labels adhering to the artifact. There were six catalogue numbers, consisting of six artifacts, in this sub-type (Table 11).

CATALOGUE NUMBER	COLOUR	QUANTITY	BRAND NAME/COMPANY COUNTRY OF ORIGIN
551	Clear	1	PLAINSMAN - Canada
552	Olive	1	Kinghorn - Scotland
555	Green	1	VAT 69 - Scotland
763	Aqua	1	KILMARNOCK - Scotland
1158	Olive	1	OLD SMUGGLER - Scotland
3299	Aqua	1	KILMARNOCK - Scotland

Table 11: Identified Whisky Bottles

DlLg-33/89B-551 is a complete oval, "12 OZS." flask with a metallic screw cap (Plate 34b). Remnants of a multicoloured paper label adhere to the front face. The label identifies the product as "PLAINSMA... CANADIAN WHISKY", produced by "...ANA... MANITOBA DIST...LERY MINNEDOSA, MAN." The bottle itself was manufactured by Consumers Glass Company.

DlLg-33/89B-552 is a complete, olive bottle manufactured in a Ricketts type mold (Jones and Sullivan 1985:29) with an applied one-part, down-tooled finish (Plate 34c). The concave base is embossed with a "5" and a "K". The latter is the mark of Kinghorn Bottle Company, Kinghorn, Fifeshire, Scotland (Toulouse 1971:299). This mark was used from 1907 to 1920. At that time, it became a subsidiary of Distillers Company Limited.

DlLg-33/89B-555 is a complete bottle with a metal screw-cap, a shoulder seal and remnants of a white-on-black paper label (Plate 34d). These identify the brand as "VAT 69", a product of Sanderson's of Scotland. The shoulder seal has a heraldic lion over a banner motto which reads "SANS DIEU...". Embossings consist of the brand name on the body at the base and the symbols "UG" and "A" indicating that the container was manufactured by the Alloa Glass Work plant of United Glass Limited of Great Britain (Toulouse 1971:513).

DlLg-33/89B-1158 is a body, base sherd of a round bottle. Embossed on the base is "GAELIC OLD SMUGGLER". No indication as to producer or bottle manufacturer is present.

DlLg-33/89B-763 and 3299 are both produced by the same company, Walker's. DlLg-33/89B-3299 is a complete, machine-made, square-shaped bottle with a two-part cork closure finish (Plate 34f). The base is embossed with "WALKERS" "KILMARNOCK WHISKY" and a mold number of "1564". DlLg-33/89B-763 is an incomplete basal sherd with portions of the same embossed text but the mold number is "...1".

4.3.18 Liquor Bottles

This sub-type is a catchall for bottles that held some type of spirits but could not be assigned to whisky, gin, etc. There were 54 catalogue numbers with a total of 56 bottles and/or sherds assigned to the 'Liquor' sub-type. For ease of analysis, the artifacts were divided into colour

groups: aqua, blue, brown, clear, green and olive. The artifacts will be discussed within these colour categories.

The first colour category, aqua, consists of six catalogue numbers. There is one complete bottle and five sherds. DlLg-33/89B-1160, the complete, square bottle has an applied two-part finish for a cork closure. "W.K" is embossed on the recessed base. This mark is not listed in Toulouse (1971) and as such may represent the bottler rather than the manufacturer of the container.

DlLg-33/89B-769 is an oval, aqua body, base sherd. The base is embossed with a mold number "5392" and "C.S. & CO. LD.". This represents the Cannington, Shaw & Company Limited of St. Helens, Lancashire, England. This firm was established prior to 1872 and

> *At the turn of the century...was making a wide variety of narrow-neck and wide-mouth containers in pale and dark green. These included bottles for wines, spirits, pickles, and vinegar, minerals,....* (Toulouse 1971:149).

The remaining four aqua sherds are all round body, base sherds. DlLg-33/89B-344 is also a product of the Cannington, Shaw & Company Limited of St. Helens, Lancashire, England. The domed base is embossed with the mold number "2014" and the company imprint. DlLg-33/89B-513 is a body, base sherd embossed with the mold number "14", a row of dots and an indistinguishable symbol. DlLg-33/89B-774 has a "K." and "123..." embossed on the base. A large number of companies used identifying marks beginning with "K". DlLg-33/89B-3301 has "E.B & CO LD" and the mold number "9082" embossed on the base. This represents the Edgar F. Breffit & Co. of Ryebread Hill, Yorks, England, in business from 1832 to 1913. As this company simultaneously used many variations of the logo, it is impossible to date this bottle (Toulouse 1971:175).

Only one blue specimen was assigned to the liquor sub-type. DlLg-33/89B-349 is a body, base flask-shaped sherd with "19B" embossed on the base. Miller and Jorgensen (1986:16, 30) list Dominion Glass mold number 19 as a flask. "19B" probably is a later variant of the same mold.

The brown colour category had 11 catalogue numbers consisting of 12 bottles or sherds. DlLg-33/89B-359, 514, 540, 731 and 732 are all flask-shaped. DlLg-33/89B-359 and 540 (Plate 34a) are larger flasks embossed with a "1" and a reversed "5", respectively, on their bases. DlLg-33/89B-731 has a "6" embossed on the base while DlLg-33/89B-732 has "6A" on the base. DlLg-33/89B-331 is a brown lip, neck sherd which fits onto DlLg-33/89B-359. The final flask-shaped artifact (DlLg-33/89B-514) consists of two sherds of a very ornate bottle. The concave face is embossed with vertical and horizontal bars, circles, scrolls, and "W in a wreath". The convex face has a row of short hachures and "25 OZ." The base is embossed with "W on a heraldic shield" and the Consumers Glass Company logo.

The remaining brown artifacts are circular in cross-section and consist of four complete bottles and one body, base sherd. The body, base sherd (DlLg-33/89B-360) has no identifying markings.

DlLg-33/89B-1001 is a machine-made, brown bottle embossed with "JOS TRINER" and "CHICAGO" on the shoulder. DlLg-33/89B-1084 is a machine-made, screw-cap brown bottle.

Embossings consist of "25 OZS." on the body, near the base, and "V261A", "4" and the Dominion Glass Company logo on the base. The use of the V prefix on the mold number indicates manufacture between 1945 and the mid-1950s (Miller and Jorgensen 1986:4). DlLg-33/89B-1154 (Plate 34h) was manufactured in a two-piece post mold and has an applied finish. The mold number "38" occurs on the base. DlLg-33/89B-1159 is a machine-made bottle with its cork closure in place. Traces of an Owens scar are present along with parison mold seams.

The clear colour category, 16 catalogue numbers consisting of 16 bottles and sherds, has been sub-divided by shape. Four artifacts have oval cross-sections. DlLg-33/89B-87 is a "ONE PINT" container manufactured by the Ball Corporation of Muncie, Indiana. Multiple alpha-numeric embossings occur on the base. These may identify the client, the plant, the date of manufacture and/or the mold number. DlLg-33/89B-203 is a body, base sherd with a mold number "2" on the base and "PINT" and "...LL MEASURE" on the body. DlLg-33/89B-328 is a lip, neck sherd with a portion of the lead foil adhering to it. The embossed lettering on the foil cannot be deciphered. DlLg-33/89B-530 is a body, base sherd from a "12 OZS." flask embossed with the Consumers Glass Company logo on the base.

There are six, clear miniature bottles. DlLg-33/89B-224 (Plate 34i) and 537 are complete, squat-shaped bottles with an applied lip. No markings occur on these bottles. DlLg-33/89B-804 is a lip, neck portion identical to DlLg-33/89B-224 and 537. DlLg-33/89B-816 is a taller, cylindrical, body, base sherd with "247" embossed on the base. DlLg-33/89B-538 is a machine-made miniature bottle with a cork-style closure (Plate 34m). The base is embossed with "BOTTLE MADE IN CANADA", the mold number "20", the Dominion Glass Company logo, and indicators of manufacture in January, 1957. The final miniature bottle, DlLg-33/89B-380 (Plate 34n), has a screw-cap closure and the base is embossed with "LIQUOR BOTTLE CANADA" and the Consumers Glass Company logo. The style of the logo indicates manufacture after 1972.

Five clear artifacts (three bottles and two sherds) represent large cylindrical containers. DlLg-33/89B-556 is a complete, machine-made bottle with a cork closure. The base is embossed with a "3". A similar mark occurs on DlLg-33/89B-353, a body, base sherd. DlLg-33/89B-1162, the second body, base sherd, has a band of waffle-type design circling the body near the base. Due to the uniform thinness of the glass, the specimen is considered to be recent. DlLg-33/89B-1000 and 1049 are both complete, screw-cap closure containers, manufactured by Dominion Glass Company of Canada. DlLg-33/89B-1000 still has the metallic screw-cap attached.

The final clear sherd, DlLg-33/89B-459, is a lip, neck fragment which could not be allocated into a shape group. The fragment is covered with the lead foil wrapper which is embossed with "HUDSON'S BAY COMPANY" and the corporate crest.

The green colour category had 12 catalogue numbers consisting of 13 bottles and sherds. These were sub-divided into oval-shaped bottles, miniature bottles, and cylindrical bottles.

DlLg-33/89B-287 is a complete, machine-made, oval-shaped bottle with a cork-type closure (Plate 34e). An indistinct "C in a circle" on the base identifies this as a product of Chattanooga Glass

Company. The mark has been used since 1927 (Toulouse 1971:108). DlLg-33/89B-1157, an oval shaped body, base sherd has no information on it.

There were three catalogue numbers (four artifacts) identified as green miniature bottles. DlLg-33/89B-379 (Plate 34j) is a complete turned-in-mold specimen with a flat top champagne finish (Jones and Sullivan 1985:88). The bottle has a pronounced kick-up and may have been a wine container. DlLg-33/89B-746 consists of two body, base sherds from similar bottles. There are no markings on these sherds. DlLg-33/89B-381 is a squat bottle with an interrupted string collar (Plate 34o). An open horse shoe is embossed on the shoulder. This would have contained the wax seal. On the opposite side, the word "+ BENEDICTINE +" is embossed on the shoulder. The base is embossed with "D. O. M" and a cross.

DlLg-33/89B-196 (Plate 34g) is a full-sized, round, incomplete version of the miniature Benedictine bottle, DlLg-33/89B-381. The shoulder horse shoe is the only identifying mark on this specimen. DlLg-33/89B-740 is a sherd embossed with "+ BE..." on the shoulder. It derives from a full-sized bottle similar in shape to DlLg-33/89B-196.

DlLg-33/89B-532 is a round, body, base sherd with "FGC" embossed in a linear line across the base. This mark would indicate manufacture by either the Fairmount Glass Company of Indianapolis, between 1960 and 1968 (Toulouse 1971:200-202) or the Forsters Glass Company of St. Helens, Lancashire, England, between 1902 to 1939 (Toulouse 1971:205).

DlLg-33/89B-1085 is a complete, screw cap bottle produced by Consumers Glass Company of Canada. The volume, "26 OZS", is embossed on the body near the base.

Two round, green, body, base sherds (DlLg-33/89B-100 and 533) have no information, whatsoever. A neck sherd, DlLg-33/89B-736, has a sloped top champagne finish.

DlLg-33/89B-1156 is a green, attenuate lip, neck sherd with a cork closure. No information can be derived from the glass portion. However, printed on the cork are the phrases "HET LOOTSJE" "ERVEN. L. BOLS" and "A...TERD...M" indicating that the contents were a product of the Dutch firm Bols. While this company is best known for gin, it also produces numerous specialty liqueurs.

The final colour category, olive, consists of eight catalogue numbers (eight bottles and/or sherds). These were divided into large specimens and miniature bottles.

DlLg-33/89B-410 is a turn-molded bottle missing the neck and finish. No marks are present. DlLg-33/89B-554 is a complete, machine-made bottle with a bulged neck and a two-part cork closure.

The remaining six, olive coloured artifacts are complete or portions of miniature bottles. DlLg-33/89B-378, a complete miniature bottle (Plate 34k), is very similar to the larger bottle, DlLg-33/89B-554. No markings occur on the miniature. DlLg-33/89B-225 (a neck sherd) and DlLg-

33/89B-738 (a lip, neck, shoulder sherd) are similar to the complete miniature bottle, DlLg-33/89B-378. DlLg-33/89B-738 has remnants of the corroded lead foil neck wrapper.

DlLg-33/89B-539 is a complete, machine-made, olive miniature bottle with a bulged neck and a cork closure. The base is embossed with a "K" indicating the Kinghorn Bottle Company of Scotland (Toulouse 1971:299).

DlLg-33/89B-550 is a complete, turn-molded miniature bottle with a tapered neck (Plate 34l). The specimen has no markings but does have remnants of the corroded lead foil wrap and an *in situ* cork.

DlLg-33/89B-739 is a lip, neck, shoulder sherd from a machine-made, olive, miniature bottle. The shape is reminiscent of the Benedictine bottle, DlLg-33/89B-381.

4.3.19 Unassignable Bottles

Artifacts in this grouping have some identifying characteristics, such as shape or manufacturer's marks. However, the data is insufficient to permit identification of the function of the container; i.e., sealer versus milk bottle or medicine bottle versus condiment bottle. Some specimens with marks could be attributed to a manufacturer but not to a functional grouping.

There are 47 catalogue numbers in this sub-type representing 49 sherds. The sherds vary in colour; amethyst, aqua, clear, brown and green and vary in shape from cylindrical to rectangular with some being panelled or ribbed.

Occasionally, the style of manufacture of the neck and lip of bottles suggest the possible contents of the container. Also, the type of closure and evidence of manufacturing technique can provide approximate dates. For example, the length of the mold seam can indicate a general age; e.g., if the seam extends to the lip of the bottle, it was produced after 1920.

4.3.19.1 Marked Unassignable Bottles

Seventeen of the 47 catalogue numbers have some embossing on them. Table 12 details the embossed data and any information that could be ascertained.

DlLg-33/89B-8 is a body sherd bearing an external diamond pattern. The curvature of this machine-made specimen suggests an oval cross-section. It could be a decanter, a juice bottle or a liquor bottle.

DlLg-33/89B-101 is a base sherd with a portion of an embossed character. This character could be the top of the numeral 2 or 3 or a reversed S. The sherd has a minuscule portion of the body indicating at least one straight side on the cross-section.

CAT. #	COLOUR	MARKINGS	IDENTIFICATION
8	Clear	Diamond Grid	Decanter ?/Juice Bottle ?
101	Clear	2 ?/S ?	--
567	Clear	...APP.../1	--
702	Clear	160	--
729	Brown	167B	--
755	Aqua	L.../ENGLA...	--
771	Aqua	D & M/33	Davey & Moore/England
773	Aqua	A G B	Albion Glass/England
795	Clear	I in Diamond	Illinois Glass/U.S.A.
799	Clear	...ED/..03..	--
802	Clear	..ORTON-CAT..	-- /U.S.A.
818	Clear	PIN MONEY	--
820	Clear	19A	--
983	Clear	824	Winsor & Newton/England
1206	Clear	BOWE'S DA...	--
1211	Clear	...69	--
2503	Clear	B	Dominion Glass Co./Canada

Table 12: Markings on Unassigned Bottles

DlLg-33/89B-567 is a body, base portion of a thick walled container. The basal portion of the sherd has recessed fluting. The numeral "1" is embossed on the body, above the fluting, and the letters "APP..." are embossed on the base. The sherd is very thick at the base, tapers towards the top, and appears to be a rounded square or rectangle in cross-section. This specimen perhaps could be classified as dinnerware or an ornamental vase, although the presence of the embossings tends to suggest a container function.

DlLg-33/89B-755 is the body, base portion of a square bottle. The embossings suggest that the contents could have been chemicals, food condiments or patent medicines.

DlLg-33/89B-771 is a body, base portion sherd from a chamfered rectangular bottle. The embossing identifies Davey and Moore Ltd. of Middlesex, England. This mark was used post-1900. The company specialized in British foodstuffs for export but also had other sidelines such as miniature whisky bottles (Toulouse 1971:154).

DlLg-33/89B-773, a base sherd from a round bottle, is tentatively attributed to the Albion Glass Bottle Company of Birmingham, England, which, in 1937, was owned by H.P. Sauce. Toulouse (1971:38-39) hypothesizes that this mark refers to Albion Glass although the linkage appears tenuous.

DlLg-33/89B-795 is a body, base sherd from an oval, machine-made bottle. The base is embossed with the mark that was used by Illinois Glass Company of Alton, Illinois from 1916 to 1929 (Toulouse 1971:264).

DlLg-33/89B-799 is a portion of a round jar consisting of the base, body and collar. The embossings, on the base, probably refer to patent and/or product registration dates. Possible contents could have been foodstuffs, cosmetics or chemical.

DlLg-33/89B-802 is a body sherd. The embossings consist of the phrases "...ORTON-CAT...", "MFG. C..." of "...OIT, M...". It would appear that the first phrase is the company name, the second phrase is an abbreviation for Manufacturing Company, and the third phrase refers to Detroit, Michigan. Until this company is identified, the contents of the container are unknown.

DlLg-33/89B-818 is a body sherd from a very unusual specimen. It is a portion of a clear panelled bottle. The words "PIN" and "MONEY" are embossed on the panels. This specimen appears to be a smaller version of the complete bottle, DlLg-33/88B-1055, recovered during the Stage I project (Kroker and Goundry 1990a:82). The term, pin-money, was used to refer to a woman's pocket expense money (17th-20th century) or a settled allowance (19th century) (Partridge 1984). This sherd may have been part of a bottle that was used as a coin bank.

DlLg-33/89B-983 is a complete, squat (7.7 cm) bottle with an applied square ring lip for a cork closure. The name of the firm "WINSOR & NEWTON LTD" of "LONDON ENGLAND" is embossed around the circumference of the shoulder. The mold number "824" is embossed on the base. Similar bottles, known as round extracts, are illustrated in the Sydenham Catalogue (1908:24), however, the bottle could have contained ink or perfume instead of food flavourings.

DlLg-33/89B-1206 is the body, base portion of a thick-walled round bottle. The name of an unidentified producer, "BOWE'S DA...", is embossed on the recessed base. The second word may be a portion of the company name or indicate the product, i.e., Dairy.

DlLg-33/89B-2503 is the base of a round container manufactured by Dominion Glass. Indistinct marks indicate that it was manufactured in the month of March sometime between 1941 and 1953. The shape and size suggests that the artifact derives from a sealer or comparable sized bottle.

The remaining four artifacts have untraceable mold numbers embossed on their bases. DlLg-33/89B-820, marked with "19A", is a body, base sherd from an oval bottle. The remaining three body, base sherds represent small round bottles. DlLg-33/89B-702 has "160", DlLg-33/89B-729 has "167B" and DlLg-33/89B-1211 has either "...96" or "69...".

4.3.19.2 Unmarked Unassignable Bottles

The remaining thirty catalogue numbers have no embossing to indicate a manufacturer or the contents. These will be discussed within the colour groups.

Three amethyst sherds, manufactured prior to 1914, were recovered. DlLg-33/89B-783 is a machine-made, lip, neck, shoulder sherd with a screw cap closure. DlLg-33/89B-784, a lip, neck sherd, is also machine-made with a two part cork closure finish. DlLg-33/89B-785 is a lip, neck sherd with an applied prescription lip, perhaps indicating patent medicine contents.

There are nine aqua sherds. DlLg-33/89B-692 is an attenuate lip, neck sherd with an applied finish for a glass/cork closure. DlLg-33/89B-765 is a body, base sherd of a thick walled chamfered rectangular bottle. DlLg-33/89B-770 is a lip, neck sherd with an applied glass/cork closure and two ring collars on the neck. DlLg-33/89B-772, a lip, neck sherd, has an applied, large bore cork closure. DlLg-33/89B-775, a lip, neck, body sherd, resembles a wide-mouth packer (Sydenham 1908:17) with a round ring lip. DlLg-33/89B-776 is a lip, neck sherd with an applied, thick, square ring lip. DlLg-33/89B-779, unlike the other unmarked aqua specimens which are portions of bottles, is a portion of a straight walled jar. It has a concave ring 15 mm below the lip. DlLg-33/89B-1164 is a thick body sherd. DlLg-33/89B-1212 is a machine-made lip, neck sherd with the bulbous double ring finish reminiscent of Castoria or other patent medicine bottles.

Eighteen clear sherds (sixteen catalogue numbers) were curated. The clear unmarked specimens represent various portions of containers. Two body, base sherds were recovered: DlLg-33/89B-817 from a small, round bottle and DlLg-33/89B-823 from a rectangular bottle. The body sherds (four) were derived from a plain, round bottle (DlLg-33/89B-661), a round bottle with horizontal rings (DlLg-33/89B-791, two sherds) and a panelled bottle (DlLg-33/89B-1209). A neck sherd, DlLg-33/89B-212, comes from a thick walled, relatively large bottle.

The remaining clear specimens are upper portions of containers and include the lip, the neck and in some cases the shoulder and/or body. DlLg-33/89B-792 consists of two machine-made sherds, each of which have a low set screw top ring above a neck collar. DlLg-33/89B-819 has an interrupted screw top closure and a short neck. DlLg-33/89B-809 has a continuous screw top closure with a neck ring and two concentric shoulder rings. The shape suggests the contents may have been either ink or fruit cordial. DlLg-33/89B-813 has a round string lip, a wide neck collar and short vertical ribs. The curvature of the lip and design suggest it may have been a milk bottle.

DlLg-33/89B-798 has an applied round ring lip and recessed panels on both sides of the rectangular body. DlLg-33/89B-814 has an applied square ring lip, a ring neck collar and a rounded shoulder similar to sewing machine oil, pickle and ball neck panel bottles (Sydenham 1908:15,19,23).

Three artifacts (DlLg-33/89B-797, 808 and 821) derive from small containers. DlLg-33/89B-797 has a Perry Davis type applied lip (Jones and Sullivan 1985:88). DlLg-33/89B-808 has an applied square ring lip and DlLg-33/89B-821 has an applied round ring lip with a stepped taper to the neck.

DlLg-33/89B-842 appears to represent a jelly jar rather than a bottle. The artifact is a lip, body sherd with a flat, convex string lip.

DlLg-33/89B-734 is a brown lip, neck, shoulder sherd with an applied two-part stopper finish. DlLg-33/89B-745 is a green body, base portion from a small square bottle.

5.0 DINNERWARE

This is the second major grouping under the category of 'Containers'. As mentioned in Section 4, dinnerware is comprised of artifacts used in the serving of food or those items which are considered as tableware. Most artifacts within this sub-category are made of metal, glass, or porcelain. Although synthetic materials are also used, no specimens were recovered.

5.1 METALLIC ARTIFACTS

Eight iron artifacts were classified as dinnerware; representing five cups, one bowl, one pitcher fragment and one teapot lid. All specimens are enamelware (Ashdown 1909:751-758).

Five cups (or mugs) were recovered. DlLg-33/89B-286 and 1036 are white and blue corroded fragments of cups while DlLg-33/89B-466 is a white cup fragment. DlLg-33/89B-1035 (Plate 35a) and DlLg-33/89B-1197 (Plate 35c) are similar sized complete white mugs. DlLg-33/89B-1035, although badly corroded, has the letters "C.N.R." and "LOCO..." embossed on an external side.

DlLg-33/89B-578 is a small, white and blue bowl (Plate 35d). There are no markings on this artifact. DlLg-33/89B-976 (Plate 35b) is a fragment of a white, enamelled pitcher while DlLg-33/89B-1146 is the lid of a white enamelled teapot (Plate 35e).

5.2 GLASS ARTIFACTS

Fourteen catalogue numbers, consisting of 15 artifacts, were designated as glass dinnerware. There are 11 tumbler sherds, one bowl sherd, one finial and two stoppers.

DlLg-33/89B-517 and 1188 (Plate 36a) are two identical clear glass sherds with "G.L.C.C." and "43" and "46" respectively, embossed on the base of both artifacts. These are the standard glasses used in hotel beverage rooms. The "G.L.C.C." stands for Government Liquor Control Commission and the numbers may represent years such as 1943 or 1946.

DlLg-33/89B-833 and 835 are three clear, fluted, glass sherds similar to the St. Louis bar tumbler depicted in Lee (1931:Plate 8). DlLg-33/89B-833 (Plate 36b), a single sherd, has "...AN NORTHERN...AY" embossed on the base while DlLg-33/89B-835, two sherds that fit together, have "CANADIAN...RAILWA..." embossed on the base. These were definitely glasses from the Canadian Northern Railway.

The Canadian Northern Railway began as the result of the union of two smaller Manitoba railway branch lines (Regehr 1985a:277). The dates of the beginning and end of the Canadian Northern Railway vary somewhat according to references. Tucker (1985:276) states that the Canadian Northern Railway was founded by William MacKenzie and Donald Mann in 1895, while Regehr (1985a:277) notes that incorporation of the Canadian Northern Railway took place in 1899. The dates of demise of the railway also vary. Tucker (1985:276) says the Canadian Northern Railway

was absorbed (along with four other railways) into the Canadian National Railways system between 1917 and 1923. Regehr (1985a:277) states that the Canadian Northern Railway ended as an independent company with nationalization in 1918, while Guinn (1980:1) points out that the Canadian Northern Railway was in existence prior to amalgamation of the railroads in 1921.

The remaining tumbler sherds have no information embossed on them but are unique in other ways. DlLg-33/89B-424 is a plain, amethyst coloured glass sherd (Plate 36c). Early clear glass was made with manganese, which, when exposed to prolonged sunlight, turned the glass to an amethyst colour. Germany controlled the majority of the world's manganese resources and with the onset of World War I (1914), the use of this substance ceased in North America (Kroker and Goundry 1990a;1990b).

DlLg-33/89B-703 is a clear, unembossed, fluted, glass sherd similar to DlLg-33/89B-833 and 835. DlLg-33/89B-834 and 1013 (Plate 36d) are both clear, fluted, glass sherds. The fluting on these artifacts is narrower and comes to a point as opposed to the wider round-top fluting on DlLg-33/89B-833 and 835. No pattern name could be assigned to DlLg-33/89B-834 and 1013.

DlLg-33/89B-837 has a daisy on the base and vertical ovals on the body (Plate 36e). Although no pattern name could be assigned to this artifact, it is most likely a bar tumbler.

DlLg-33/89B-841 is a clear body sherd of a glass tumbler. There is no discernible pattern on this artifact.

DlLg-33/89B-1166 is an amethyst, 4" fruit nappy (bowl) sherd (Plate 36g). The pattern, although somewhat worn in spots, is very similar to the "Shell and Jewel" pattern depicted by Lee (1944:Plate 73). However, the body on DlLg-33/89B-1166 does not have the same stippled body as those depicted.

DlLg-33/89B-1109 is the small finial portion of a cut glass stopper while DlLg-33/89B-1213 (Plate 36f) and DlLg-33/89B-1163 (Plate 36h) are complete cut glass stoppers from decanters.

5.3 CERAMIC ARTIFACTS

Ceramic dinnerware includes place settings, i.e., plates, small bowls, cups and saucers, etc. and serving pieces, i.e., platters, large bowls, creamers etc. In some instances, archaeological recoveries are too fragmented to allow exact identification. This is reflected in the use of object types such as bowl?, plate?/ saucer? and bowl?/cup?.

Because dinnerware is usually manufactured in sets of the same patterns, the decorative features of a set cross-cut the types of objects. The recoveries will be discussed in groups based on colour and within each colour category based on decorative design.

Due to large numbers of sherds recovered, only those with information such as manufacturer, jobber, company of use etc. will be discussed in detail within each group.

5.3.1 White Ceramics

The white colour group consists of a total of 115 catalogue numbers comprising 180 sherds. Of these 115 catalogue numbers, 19 (consisting of 70 sherds) have no maker's marks, no indications of a pattern or any other marks. As these are only fragments of complete objects, there may be patterns, with other colours, that fit onto these sherds.

The remaining 96 catalogue numbers, totalling 110 sherds, were divided into groups. Group 1 consists of sherds that have all or portions of an identifiable manufacturer's mark. Group 2 consists of sherds that have only jobbers names, but no indication of a manufacturer. Group 3 are sherds that are embossed but have no information on them. Group 4 are sherds that have non-diagnostic marks, i.e, potter's marks, etc. and finally, Group 5 are those sherds that have marks that could not be identified.

5.3.1.1 Manufacturers of White Ceramics

It was possible to divide the sherds with manufacturer information into the countries of origin. Within the countries, the manufacturer's are listed alphabetically.

A) ENGLAND

T. & R. Boote Ltd.

DlLg-33/89B-913 and 1176 (Plate 37a), two plate sherds, have the blue maker's mark of T. & R. Boote Ltd., Waterloo Potteries, Burslem, Staffordshire. Godden (1964:84) lists the date of manufacture for this mark as 1890 to 1906. Printed beneath the T & R. Boote mark, on DlLg-33/89B-1176, is the logo of the Hudson's Bay Company with the remnants of the words "HUDSON'S BAY..." encircling it. This china was made by T. & R. Boote Ltd. for distribution by the Hudson's Bay Company.

Thomas Furnival & Sons

DlLg-33/89B-1064 is a single body, base portion of a cup sherd (Plate 37b). A small portion of the handle is present. The manufacturer's mark, on the base, is one of the Royal Arms mark of the Thomas Furnival & Sons company, another Staffordshire pottery firm. This particular mark was used from 1818 until 1890 (Godden 1964:263).

Grindley

DlLg-33/89B-246, 510, 905, 910, 912, 1027 and 1141 (eight sherds in all) have variations of the Grindley manufacturer's mark. DlLg-33/89B-912, 1027 (Plate 37c) and 1141, all single sherds, have a crown with the words "GRINDLEY HOTEL WARE" "ENGLAND" and "VITRIFIED", printed, in green, on the base. This mark, that of the Grindley Hotel Ware Co. Ltd., is illustrated in Godden (1964:293) and has been used since 1908. DlLg-33/89B-910 (Plate 37d), a single bowl

sherd, has the green laurel wreath mark of the W.H. Grindley & Co. Ltd., used between 1914 and 1925 (Godden 1964:294). Below the manufacturer's mark, there are the numbers "412.411". The significance of these numbers is unknown.

The remaining catalogue numbers have a Grindley mark but none of these could be located in the reference texts. DlLg-33/89B-246 is two saucer sherds, both having the words "GRINDLEY HOTEL WARE" "ENGLAND" and "VITRIFIED" printed, in green, on the bases (Plate 37e). This mark differs from that of DlLg-33/89B-912, 1027 and 1141 in that there is no green crown. DlLg-33/89B-510 is the body, base portion of a sugar bowl or a creamer (Plate 37f). There is a black Royal Arms mark with the words "ROYAL IRONSTONE CHINA" printed above it and "W.H. GRINDLEY & CO." and "ENGLAND" printed below. DlLg-33/89B-905 is a single plate?/saucer? sherd with remnants of the word "VIT..." printed inside a banner, in green, on the base. The initials "W.H. G..." are printed above it while "EN..." is printed below it.

Two of the sherds assigned to the Grindley Hotel Ware Co. Ltd., DlLg-33/89B-912 and 1141 (Plate 37g), have additional information on them. This consists of the company that would have been the jobber firm for this china. Both sherds have portions of the company name of Gowns Kent Western Ltd., Winnipeg.

Gowans, Kent & Company first appeared in Winnipeg in 1882. This firm sold crockery and silverware items out of an establishment at Wesley East. From 1884 to 1889 there is no listing in the Henderson Directories; however, the name reappeared in 1890 at 430 Main Street. In 1897, the company moved to 358 Main and in 1908, changed its name to Gowans Kent Western Limited. One final move occurred in 1912 when the company took over 164 - 168 Market East. In 1922, Gowans Kent Western Limited was succeeded by Cassidy's Limited, also a china and silverware wholesaler. Cassidy's had outlets in Montreal, Vancouver, Toronto and Winnipeg (plate in collection of Quaternary Consultants Ltd.). The Winnipeg branch was closed in 1941.

As with many businesses of long standing in a community, the building where the company is headquartered often is called by that business' name. This is the case with Gowans Kent & Company. Although Cassidy's Limited took over the business in 1922, the address remained the Gowans Kent Building. Cassidy's Limited lasted until 1941 but, in the 1948 Henderson Directory, businesses at 166 - 168 Market were listed as being in the Cassidy Block.

The change of name from the Gowans Kent & Company to Gowans Kent Western Ltd. in 1908 coincides with the year that the maker's mark on DlLg-33/89B-912 and DlLg-33/89B-1141 was first used by the Grindley Hotel Ware Company.

Johnson Bros. Ltd.

DlLg-33/89B-1142 is the base sherd of a bowl? (Plate 38a). The maker's mark, printed in green, consists of a crown with the words "...SON BROS" printed below it and "...LAND" printed below that. This printed mark of Johnson Bros Ltd., a Staffordshire pottery, began ca 1913 (Godden 1964:356).

A.B. Jones & Sons (Ltd.)

DlLg-33/89B-2041, a cup sherd, bears the crown and shield emblem of Royal Grafton Bone China, made by the A.B. Jones & Sons (Ltd.) of Longton, Staffordshire (Plate 38b). Both Godden (1964:357) and Kovel (1986:113) list this mark as being used since 1949.

John Maddock & Sons (Ltd.)

Five sherds have the marks of the John Maddock & Sons (Ltd.), a Burslem, Staffordshire Pottery firm. DlLg-33/89B-241, 428 (Plate 38c) and 507 all have a red crown and circle mark with the words "JOHN MADDOCK & SONS LTD." "ENGLAND" and "ROYAL VITREOUS" printed inside the circle. The presence of the word "LTD." indicates that these artifacts would have been manufactured post-1896 (Godden 1964:406).

DlLg-33/89B-427, a portion of a bowl?/cup? sherd, has "...AD..." and "ENGLA..." printed in blue, while DlLg-33/89B-907 (Plate 38d), also a portion of a bowl?/cup? sherd, has "MADDOCK" and "ENGLAND", printed in blue. The words on DlLg-33/89B-427 were printed in two straight lines while those on DlLg-33/89B-907 were printed in a circle. These marks could not be dated.

J.& G. Meakin

Six catalogue numbers, comprised of nine sherds, can be attributed to the J. & G. Meakin company of Hanley, Staffordshire, England. This firm has made pottery since 1851 and the various marks on these artifacts represent several periods in the long history of this company. The earliest marks are those of the black Royal Arms which occur on the sherds in DlLg-33/89B-239, 904 and 3295. This mark has been used since 1890. DlLg-33/89B-3295 (Plate 38e) has, in addition to the Royal Arms, the actual pottery company name, "EASTWOOD WORKS", printed below the J. &. G. Meakin name (Godden 1964:427).

DlLg-33/89B-29 has a green crown logo above the name banners of the J. &. G. Meakin Ltd (Plate 38f). This mark was used ca 1912 and beyond (Godden 1964:427). DlLg-33/89B-500 has a small portion of a black mark with "REGD" "L..." and "HANLEY E..." present. This is another variation of a Meakin mark that has been used since 1912 (Godden 1964:427). The final sherd, DlLg-33/89B-1094, has "J. & G. MEAKIN" and "HANLEY" "ENGLAND" printed, in green, on the base (Plate 38g). This mark was used ca 1962 (Godden 1964:427).

Pinder, Bourne & Co.

DlLg-33/89B-930 is a small, badly crazed, base sherd with a red maker's mark consisting of a circle with a laurel wreath around it. Inside the circle are the letters "P. B. & Co.". This Burslem, Staffordshire pottery company began in 1849 under the name of Thomas Pinder. In 1851, the name was changed to Pinder, Bourne & Hope and, in 1862, it became Pinder, Bourne & Co. In 1878, the Doultons purchased this company but continued to run it under the Pinder, Bourne & Co. name until 1882 when they changed it to Doulton & Co. Ltd. (Godden 1964:495-496).

Ridgways

Seven catalogue numbers, consisting of eight sherds, have two different Ridgways manufacturer's marks on them. The sherds in DlLg-33/89B-244 (Plate 38h), 245, 655, 679 and 1223 all have the green bow and arrow symbol that has been used since 1912 (Godden 1964:539). All of these sherds have "HOTEL DEPT." printed below the logo and DlLg-33/89B-244, 245 and 1223 have all or portions of the words "ROBINSON & CO. LTD." "WINNIPEG" beneath that. As noted in previous reports (Kroker 1989a:99; Kroker and Goundry 1990a:105), the Robinson Company was a jobber company for a variety of dry goods and dishes. It was listed in the Winnipeg Henderson Directories in 1884 as the J. Robinson & Co. This name was changed to Robinson & Co. Limited and remained listed in the Henderson Directories until 1929, after which time it either disappeared or the name was again changed and the company moved.

The second Ridgways mark is the green crown over a circle mark which has also been used since 1912 (Godden 1964:539). DlLg-33/89B-712 and 1219 (Plate 38i) both have this mark as well as the Robinson & Co. Ltd., Winnipeg mark.

Wood & Son(s) (Ltd.)

Four sherds have the mark of Wood & Sons Ltd of Burslem, Staffordshire. Three of them, DlLg-33/89B-1022 (Plate 38j), 1105 and 1124, have portions of a green mark depicting a lion standing atop a lamp. This particular mark does not appear in the references, but the words "SONS" and "LTD" were used after 1910 (Godden 1964:689).

The fourth sherd, DlLg-33/89B-926 (Plate 38k), has a green crown above the name of the company. This mark was used ca 1930. The other interesting item to note, on this sherd, is again the presence, this time in a banner, of the name "GOWANS KENT & CO LTD" "TORONTO".

Worcester Royal Porcelain Company Ltd.

All eighteen catalogue numbers, comprising 22 sherds, have the crown over a circle, surrounded by dots, Worcester Royal mark. According to Godden (1964:698), this mark was used from 1891. Beginning in 1892, dots, signifying successive years, were added around the logo. All of these sherds can be sub-divided into the categories of either brown marks or green marks (Table 13).

Only three sherds have complete enough maker's marks to actually date the year of manufacture. The two sherds with the brown Worcester mark, DlLg-33/89B-486 (Plate 38l) and 1029, are probably plates from the same set of china. Several sherds have stamped marks, such as a star, dots or "N4", "N6", while many other sherds have a painted potter's mark.

In addition to all of this information, several shreds have names of jobber companies. In the sherds with brown Worcester marks, two firms were noted. The first is a single sherd (DlLg-33/89B-238) with "MANUFACTURED FOR GOWANS KENT & CO LTD" "TORONTO" printed above the maker's mark (Plate 38m). As noted, this company also had a branch in Winnipeg. The other

jobber company, a name that appeared on several of the brown Worcester marks, was represented by the words "MANUFACTURED FOR A.T. WILEY & CO LTD" "MONTREAL". Further research may elicit the history of this company. Four sherds with the green Worcester mark also have the A.T. Wiley company name.

CAT. #	OBJECT TYPE	QUANTITY	YEAR	OTHER MARKS
BROWN				
238	Cup	1	-	W996T
479	Plate	1	-	9196
481	Plate	1	-	9196
486	Plate	1	1913	W9196
623	Plate	3	-	9196
624	Plate	1	-	?
642	Saucer	2	-	*/N6
646	Bowl	1	-	9196/N4/2/*
681	Plate	1	-	*/N6
1029	Plate	1	1913	W9196
GREEN				
437	Saucer	1	-	-
488	Plate	1	-	-
682	Plate	1	-	-
897	Plate	2	-	Dots/?
920	Saucer?/Plate?	1	-	-
922	Plate	1	-	?5
923	Plate	1	-	1K
924	Cup	1	1913	*

Table 13: Royal Worcester Marks

B) FRANCE

Guérin-Pouyat-Élite Ltd.

Three catalogue numbers, DlLg-33/89B-269, 1143 and 3296, consisting of three sherds, have the green mark (Kovel 1986:187) attributable to this Limoges, France company. This particular mark has been used since 1901. In addition, DlLg-33/89B-3296 (Plate 39a), has "WM. GUÉRIN & CO" "FRANCE" and "LIMOGES" printed, in red, below the green mark. Kovel (1986:224) notes that this mark was used circa 1900 by William Guérin of Limoges, France. Only one of the sherds, DlLg-33/89B-1143 (Plate 39b), a plate sherd, has a jobber firm printed on it. Again, this is the Gowans Kent & Co Ltd., Toronto branch.

Theodore Haviland Company

Sixteen sherds, comprising twelve catalogue numbers, have marks denoting that they were manufactured by this company. The marks are a single green mark, a single red mark, a combination of both these marks or a stamped mark.

The green maker's mark consists of the words "THEODORE HAVILAND" and "FRANCE" printed in a horseshoe shape. This mark occurs on a single sherd, DlLg-33/89B-637, and was used from 1920 to 1936 (Kovel 1953:130).

The oval, red printed maker's mark has "THEODORE HAVILAND" on one line with "FRANCE" below it and the word "FOR" below that. The Theodore is underlined. This mark, occurring on the sherds in DlLg-33/89B-240, 496, 497, 631 (Plate 39c), 632 and 633, was used in 1914 (Kovel 1953:130).

In addition to the Haviland name, the oval red marks have the words "EXPRESSLY MADE BY" and "CANADIAN NORTHERN RAILWAY" printed around the manufacturer's name. These dishes were made by the Theodore Haviland Company for the Canadian Northern Railway. As noted in Section 5.2, this railway was extant from 1895/1899 until 1917/1923.

Both the red and green marks appear together on the sherds in DlLg-33/89B-478, 498 (Plate 39d), 630 and 917. This may indicate a period where overlapping of marks occurred particularly on the dishes used by the Canadian Northern Railway. The red mark would have been used earlier, while the green mark was the later mark.

Another type of mark was noted on four sherds (DlLg-33/89B-497, 626, 632). On DlLg-33/89B-497 and 632 there is, in addition to the painted Theodore Haviland mark, a second mark consisting of the letters "T" and "H" surmounted by a bird-like line stamped into the base. DlLg-33/89B-626 has the same mark but no other Theodore Haviland painted mark. It is probable that this is another mark of the Theodore Haviland Company, although it is not listed in the literature.

Finally, the single plate sherd in DlLg-33/89B-633, has a "1/2" and a "4" stamped into the base. The significance of the numbers is unknown.

C) GERMANY

Philip Rosenthal & Co.

DlLg-33/89B-434 (Plate 39e), 436, 494, 882 and 883 (five sherds) have the mark of the Philip Rosenthal & Co. of Selb, Bavaria. This mark was used from 1907 to 1956. The logo has the word "ROSENTHALE" printed on it. Kovel (1986:96) states that variations of the wording did occur on these pieces. In addition to the Rosenthal mark, three artifacts (DlLg-33/89B-434, 494, 882) have "THE BRODEURE" printed inside a green box with "MONTREAL" printed below that. Sherds with similar printing were excavated during the North Assiniboine Node Project (Kroker

1989a:101). At that time, the lettering appeared to be "THE BRODEUR" without the final "E". This may have been a mis-reading of those artifacts. The Brodeure may have been a jobber company or possibly the outlet where the dishes were used, i.e., a restaurant, hotel etc.

D) UNITED STATES

Iroquois China

DlLg-33/89B-909, a plate?/saucer? sherd, has "IROQUOIS" and "CHINA" printed on the base (Plate 39f). The exact mark could not be located in the references, however, Kovel (1986:181) does note that the Iroquois China Company was located in Syracuse, New York, and produced semi-porcelain from 1905 until 1969.

5.3.1.2 Jobber Companies Only on White Ceramics

Several sherds have information denoting a wholesale company but no actual manufacturer. DlLg-33/89B-237 (Plate 39g), 884 and 911 (three sherds) have all or portions of the green printed "MANUFACTURED FOR GOWANS KENT & CO LTD" "TORONTO" on the bases. In addition, DlLg-33/89B-884 has a star, "N3" and "12" stamped into the base. DlLg-33/89B-925, a single sherd, has the printed brown version of the Gowans Kent Co., Toronto mark.

DlLg-33/89B-906 and 919, two sherds, have portions of the green Gowans Kent Co., Toronto Limited mark inside a banner. DlLg-33/89B-906 also has an unidentifiable green painted potter's mark.

DlLg-33/89B-914 (one sherd) has a green printed mark of the "GOWANS KENT WESTERN LTD" "WINNIPEG" (Plate 39h). The history of the Winnipeg branch of this company has been outlined previously.

The final sherd in this category, DlLg-33/89B-1108 (Plate 39i), may be the body, base portion of a pedestaled cake plate or tureen. Printed, in brown, on the base are the words "T. EATON" "TORONTO AND WINNIPEG" "MADE ESPECIALLY FOR" "CNR". The words "CO" and "...GLAND" are also present but extremely faded by wear patterns on the base. The T. Eaton company sold this piece to one of the railroads (either the Canadian Northern Railway or the Canadian National Railway) for use in either a train or one of their facilities. The actual manufacturer of the artifact is unknown but it was made in England.

5.3.1.3 Embossed White Ceramics

There are three catalogue numbers comprising three sherds that have an embossed pattern. DlLg-33/89B-109 is the body, base portion of a bowl. The edge of the base is scalloped and there are embossed curlicues on the upper surface of the base. No manufacturer marks are present.

DlLg-33/89B-505 is a body portion of a large bowl. The embossed pattern occurs on the exterior and consists of a floral design with a curlicue branching off of it. DlLg-33/89B-1074 is the lip,

body portion of a third bowl. The lip is scalloped and the exterior decoration consists of curlicues and fans.

5.3.1.4 Non-diagnostic Markings on White Ceramics

The five catalogue numbers, totalling six sherds (Table 14), are all unique pieces that do not fit into the other Groups.

CAT. #	OBJECT TYPE	QUANTITY	PATTERN DESCRIPTION
242	Bowl?/Cup?	1	7 (painted)
264	Bowl?/Cup?	1	H (painted)
918	Plate	1	4 (painted)
953	Plate	1	6M (stamped)
967	Teapot	2	Seive

Table 14: Unique White Ceramics

In all likelihood, the marks painted on DlLg-33/89B-242, 264 and 918 are potter's marks while the "6M", stamped on DlLg-33/89B-953, is a mold number. DlLg-33/89B-967, two pieces of a teapot sieve, is similar to DlLg-33/88B-529, an artifact recovered during the Stage I project (Kroker and Goundry 1990a:94). DlLg-33/88B-529 and DlLg-33/89B-967 are finer tempered china rather than the coarser 'Green and Cream' teapot sieves recovered during Stage I (Kroker and Goundry 1990a:112) and this project (Section 5.3.5).

5.3.1.5 Unidentified Marks on White Ceramics

Six sherds (Table 15) have marks which appear to be either a country of origin, possibly a jobber company or the type of china. Although, it was impossible to further identify any of these marks, some information could be gleaned.

CAT. #	OBJECT TYPE	QUANTITY	PATTERN DESCRIPTION
27	Bowl	1	...ON WARE/...LAND/...N & ..../...NTREAL
30	Bowl?	1	...D/...AT
903	Plate	1	TRA.../PREMIUM...
915	Plate	1	EN...
921	Bowl	1	Portion of a Banner
931	Plate	1	Triangle/...22/...7

Table 15: Unidentified Marks on White Ceramics

DlLg-33/89B-27 has the remnants of the word England, where it was likely manufactured, and the remnants of the word Montreal, where a jobber company most likely sold the artifact. DlLg-33/89B-915 has "EN...", which may also represent England. The banner on DlLg-33/89B-921 could be a portion of the Gowans Kent & Co Ltd name or it could represent the manufacturing company which cannot be identified.

DlLg-33/89B-931 has a very unusual mark (Plate 39j). It is a corner of a black triangle with indecipherable markings inside it. In addition, the numbers "22" and "7" are printed, in black, below the triangle. This mark could not be located in any references.

5.3.2 Gold-on-White Ceramics

Within the group labelled Gold-on-White, there are 37 catalogue numbers representing 129 sherds. The sherds in this colour category are portions of plates, saucers, bowls, a cup, bowl?, plate?/saucer? and bowl?/cup?.

These sherds are all part of a dinnerware set including place settings as well as serving dishes. Most of the dishes appear to have been used by a railway company. Of the 37 catalogue numbers, 12 (78 sherds) have no manufacturer or user information whatsoever. The remaining 25 catalogue numbers (51 sherds) have either a ceramic maker's mark, a railway logo or a potter's mark. In a few cases the sherds have a combination of these marks.

The only pattern in this group consists of a white background with gold lines. The lines vary in number from one to two and occur on the lip, on the interior body or on the exterior body. They vary, in width, from thin to thick. One hundred and twenty-eight specimens have some form of this pattern. In addition, a saucer sherd (DlLg-33/89B-260), has a gold flower overlapping one of the two gold lines (Plate 40a). Another artifact (DlLg-33/89B-243) has no gold lines but this plate?/saucer? sherd does have a flower identical to the one on DlLg-33/89B-260.

Two manufacturing companies are represented by the maker's marks on the gold-on-white sherds. The first, the single plate?/saucer? sherd (DlLg-33/89B-243) with a gold flower on it, has a partial green manufacturer's mark, the Globe Pottery Co. Ltd., of Cobridge, Staffordshire, England. This particular mark (Plate 40b) was used from 1917 onward (Kovel 1986:107).

The remaining sherds with manufacturer information were produced by the same company. This information consists of either a single green or a single red mark on a sherd. In two cases, marks of both colours occur on the same sherd (DlLg-33/89B-476 and 485).

The green maker's mark has the words "THEODORE HAVILAND" and "FRANCE" printed in a horseshoe shape. This mark occurs on the single sherds in DlLg-33/89B-628, 635 and 908. The shape and colour of the mark indicates that the sherds were the product of the Theodore Haviland Company of Limoges, France. This particular mark was used from 1920 to 1936 (Kovel 1953:130).

The oval, red maker's mark has "THEODORE HAVILAND" printed on one line with "FRANCE" printed below it and the word "FOR" printed below that. The Theodore is underlined. This mark also belongs to the Theodore Haviland Company of Limoges, France and was used in 1914 (Kovel 1953:130). This mark occurs on the sherds in DlLg-33/89B-441, 447, 477, 495, 499, 501, 625, 627, 636 and 638.

In addition to the Haviland name, the oval red marks have the words "EXPRESSLY MADE BY" and "CANADIAN NORTHERN RAILWAY" printed around the manufacturer's name. These dishes were, therefore, made by the Theodore Haviland Company for use by the Canadian Northern Railway, extant from 1895/1899 until 1917/1923 (Section 5.2).

Another mark was noted on DlLg-33/89B-647 and 649. The letters "T" and "H" surmounted by a bird-like line are stamped into the bases of these sherds. This particular mark also occurs, in conjunction with the red oval Theodore Haviland mark, on sherds in the 'White' category (Section 5.3.1.1). In addition, the number "11" is stamped on DlLg-33/89B-647 and 649. Although neither of these artifacts have the red or green mark of the Theodore Haviland Company, they have been assigned to this company.

Many sherds, some with maker's marks (DlLg-33/89B-477, 499, 502, 635) and some without (DlLg-33/89B-480, 506, 621, 639, 643, 644) have a gold railway logo (Plate 40c). This logo consists of a double circle with the outer circle containing the words "HOTEL" and "SYSTEM" at the top and bottom respectively. Each side of the outer circle has three maple leaves. Inside this circle the letters "CNR" are intertwined. Because many of these same sherds have the Haviland Company mark indicating they were made for the Canadian Northern Railway, it is assumed that this is one of the logos used by that railway during the 1914 to 1917/1923 period.

One bowl sherd (DlLg-33/89B-445) has no manufacturer's mark or railway logo but does have a potters mark, possibly an "H". This mark could not be traced.

5.3.3 Blue-on-White Ceramics

There are 44 catalogue numbers representing 75 sherds in this colour group. The object types consist of sherds from plates, cups, saucers, bowls, tentative combinations of these categories and fragments of handles. The decorative patterns in this group consist of sherds with dark blue lines on a white background, sherds with light blue lines on a white background and several sherds with a variety of patterns.

5.3.3.1 Line Patterned Sherds

Eight catalogue numbers, consisting of 17 sherds, have a thick dark blue line with a thinner line just below it, near the lip and, in some cases, a second thinner blue line elsewhere on the body. All the sherds (DlLg-33/89B-708, 709, 878, 979, 1167 (Plate 40d), 1168, 1169) are portions of place settings with the exception of DlLg-33/89B-490 which is a lid sherd, possibly from a sugar bowl.

The third pottery company noted on the dark green lines on white sherds was Ridgways. DlLg-33/89B-248, 438, 439, 444 and 1068 all have the logo of the Ridgways Company of Hanley, Staffordshire, England. The mark, identical to that portrayed in Kovel (1986:105), has been used since 1912. Slight differences can be observed - the size of lettering and background shading (green versus not green) varies. These variations may indicate different years of manufacture or application to different forms, i.e., plates versus bowls.

Additional information occurs on several of these artifacts. Many of the sherds positively identified as Grindley also have the information that the dishes were manufactured for "GOWANS KENT & CO LTD." "TORONTO". The Winnipeg branch of this firm has been outlined in Section 5.3.1.1.

Many of the sherds assigned to Ridgways include the information that they were from the "HOTEL DEPT." of the "ROBINSON & CO LTD" "WINNIPEG". This firm had a long history in Winnipeg (See Section 5.3.1.1).

Several sherds (DlLg-33/89B-270, 491, 854, 858) have potter's marks. One appears to be an "H" and two resemble "N", but none of these could be identified in the available references.

Many of the sherds have a scrolled, green "CNR" logo. This logo occurs on the sherds with the Grindley mark as well as the Gowans Kent & Company Ltd. mark. The Winnipeg branch of the Gowans Kent & Company lasted until 1922 but the time frame of the Toronto parent company is unknown. The Toronto firm may have been supplying these dishes for several years. Therefore, it cannot be ascertained which railway, the Canadian Northern Railway or the Canadian National Railway, may have used these artifacts.

One sherd, a cream pitcher (DlLg-33/89B-1119), has a logo that appears to be "CGTR" (Plate 41c). Unfortunately, this artifact is broken along the logo and it is not possible to ascertain the exact lettering or the exact affiliation of this sherd. It may be an artifact belonging to the Grand Trunk Railway with the "C" standing for the word Canadian. However, this interpretation cannot be substantiated in the references.

The incompleteness of the logo resulted in differing interpretations by the authors of this report. A second interpretation is that the complete logo would read "CCR". In this case, the artifact would have originated with the Central Canada Railway. This was a railway line that ran from Edmonton to Grand Prairie, eventually extending as far as Dawson Creek. The railway was opened in 1916 and sold jointly to the Canadian Pacific Railway and the Canadian National Railway in 1929 at which time it became known as Northern Alberta Railways (Gillam 1967:52).

5.3.4.1.2 Three Light Green Lines

The sherds in this colour category (Table 18) differ from those in the dark green lines category only in that the shade of green is a much lighter colour. The pattern of a thick green line followed by a thinner green line near the lip and a thin green line elsewhere on the body is identical.

Only one manufacturer was noted in this category of sherds (DlLg-33/89B-433, 863, 870). This was, again, "WOOD & SONS CO." of "ENGLAND". Although an exact match to this mark could not be found in the references, a similar one appeared in Godden (1964:690) and was used post-1930 by this Staffordshire Pottery company.

CAT. #	OBJECT TYPE	QUANTITY	INFORMATION
252	Plate	1	--
258	Bowl?	1	--
433	Plate	1	Wood & Sons/CANADA RAILWAY NEWS CO./*
450	Saucer	1	--
482	Bowl?	3	--
489	Plate	1	--
713	Plate	1	CA...AY NEWS CO.
860	Bowl	2	*
861	Plate	1	Potter's mark
862	Cup	1	Potter's mark/*
863	Saucer	2	Wood & Sons/*
866	Plate	1	*/Jigsaw-like shape
867	Bowl	1	CANADA RAILWAY NEWS CO.
868	Plate?/Saucer?	1	CANADA RAILWAY NEWS CO.
869	Saucer	1	CANADA RAILWAY NEWS CO.
870	Cup	1	C.../? Wood & Sons/Potter's mark
871	Saucer	2	C... CO.
916	Cup	1	CANADA...
927	Cup	1	--
1070	Cup	1	--

* Gowans Kent & Co Ld Toronto

Table 18: Three Light Green Lines on White Ceramics

Several sherds have the green logo of the "CANADA RAILWAY NEWS CO." (Plate 41d:DlLg-33/89B-869). During research on artifacts from the Stage I project, identical logos were noted (Kroker and Goundry 1990a:103). In addition, during processing of recovered artifacts from the North Assiniboine Node Impact Assessment (Kroker 1989a:122), a blue and orange logo of the "RAILWAY NEWS CO. LIMITED" (DlLg-33/88D-2706) was catalogued. That company name was not traceable; however a company called the Railway News of Western Canada operated in Winnipeg from 1916 to 1918. The dates of the maker's mark, i.e., Wood & Sons - post-1930, on the sherds recovered during the Assiniboine Riverfront Quay project are later than the recorded dates of the Winnipeg-based Railway News of Western Canada, suggesting the existence of another company with its offices elsewhere.

Again, several sherds have potter's marks, none of which were identifiable. One sherd, DlLg-33/89B-866, has the jigsaw-like appearance that has been noted before, specifically on DlLg-33/89B-666, an unidentifiable glass sherd (Section 3.13).

The logo of Gowans Kent & Co Limited, Toronto, occurs on many of these sherds. As noted before, this was a jobber company.

5.3.4.1.3 Two Thin Green Lines (Associated with "G.T.P.")

The sherds in this group all have two thin green lines (Table 19). The sherds in the first five catalogue numbers have no indication of any letters. The sherds in the second group of catalogue numbers all have some form of "G.T.P." printed on them (Plate 41e:DlLg-33/89B-426; Plate 41f:DlLg-33/89B-3297).

CAT. #	OBJECT TYPE	QUANTITY	INFORMATION
19	Cup	1	--
257	Cup	1	--
440	Plate	1	Ridgways/...rodeur...
484	Plate	1	--
899	Plate	1	Rosenthale/The Brodeure
426	Cup	1	Rosenthale/The Brodeure
435	Cup	1	Rosenthale/The Brodeure
711	Plate	1	Rosenthale/The Brodeure
885	Cup	2	Rosenthale/...re
886	Plate	1	Rosenthale/The Brodeure
888	Plate?/Saucer?	1	--
1107	Cup	1	--
3297	Egg cup	1	--

Table 19: Two Thin Green Lines (G.T.P.) on White Ceramics

"G.T.P." represents the Grand Trunk Pacific Railway, which was built between 1907 and 1914 and ran from Winnipeg to Prince Rupert, via Yorkton and Edmonton. The railway suffered from competition, went into receivership and eventually (along with its parent company, the eastern Grand Trunk Railway of Canada) was merged into the newly formed Canadian National Railways system in 1923 (Regehr 1985b:764).

Many of the sherds have the logo of the Philip Rosenthal & Company porcelain works of Selb, Bavaria. As noted earlier, Kovel (1986:96) states that variations of the name Rosenthal did occur. This imprint uses the spelling "ROSENTHALE". The mark was used from 1907 to 1956.

One sherd, DlLg-33/89B-440, has a green Ridgways mark. This mark was used after 1912 (Godden 1964:539).

Several sherds also have complete or portions of a second mark under the Rosenthal and Ridgways marks. This was "THE BRODEURE" of "MONTREAL". As noted in Section 5.3.1.1, it is not known whether this is a jobber company or a business.

Identical maker's mark, jobber's mark and the two thin green lines pattern, with G.T.P., were found on sherds recovered during the Stage I project (Kroker and Goundry 1990a:102-103).

5.3.4.2 Sherds with "G.T.P." Only

The sherds in this category (Table 20) differ from those in the above category (Table 19) in that there were no thin green lines but all have the identical green "G.T.P." lettering.

CAT. #	OBJECT TYPE	QUANTITY	INFORMATION
493	Plate?/Saucer?	1	--
887	Plate	1	--
889	Bowl	1	--
890	Bowl	1	--
891	Plate	2	--
892	Cup	1	--
893	Saucer	3	--
894	Bowl	5	Worcester/A.T.Wiley & Co Ltd Montreal
895	Bowl?/Cup?	1	--
896	Plate?/Saucer?	1	--
898	Plate?/Saucer?	1	--
1067	Plate?/Saucer?	1	--

Table 20: G.T.P. on White Ceramics

Only the sherds in DlLg-33/89B-894 (Plate 41g) have any indication of a maker's mark and a jobber's mark. The maker's mark was a portion of the Worcester Royal Porcelain Company Ltd. of England (Godden 1964:698). The mark is not complete enough to provide a definite date for these sherds; however, this particular mark has been used from 1892.

In addition, one of the sherds in DlLg-33/89B-894 has "MANUFACTURED FOR A.T. WILEY & CO LTD" in "MONTREAL" printed above the Royal Worcester mark. As noted in Section 5.3.1.1, this company is probably a jobber company based in Montreal. No further information is available.

5.3.4.3 Other Patterns on Green-on-White Sherds

Table 21 consists of 21 catalogue numbers, totalling 29 sherds, which have patterns other than green lines. The first four groups were placed together based on identical patterns or decorative techniques. The fifth group consisted of sherds with anomalous patterns.

CAT. #	OBJECT TYPE	QUANTITY	INFORMATION
1072	Plate	2	Floral
1104	Plate?/Saucer?	1	Floral, Embossed
431	Plate (Butter)	1	Ridgways/Cambridge/*
1017	Saucer	1	--
1066	Plate (Butter)	1	...ambridge/*
966	Teapot	5	Colour slipped
1016	Bowl	1	Colour slipped
1033	Teapot	1	Colour slipped
1034	Sieve (Teapot)	1	Colour slipped
1095	Bowl	1	Colour slipped/Medalta
1098	Lid (Teapot)	1	Colour slipped
455	Teapot	1	Grand Trunk Pacific
957	Teapot	1	--
963	Teapot	2	--
964	Teapot	1	Grand Trunk Pacific
958	Teapot	3	--
40	Lid	1	Floral
263	Plate	1	Oriental scene
265	Plate	1	Floral, embossed
1030	Plate	1	Floral, garland
1102	Bowl?	1	Floral

*Robinson & Co Ltd Winnipeg

Table 21: Patterns Other Than Green Lines

DlLg-33/89B-1072 (Plate 41h) and DlLg-33/89B-1104 are three identical green floral patterned sherds. DlLg-33/89B-1104 also has an unidentifiable embossed pattern.

DlLg-33/89B-431 (Plate 41i), 1017 and 1066 are identical. The mark is the Ridgways Company logo which has been used since 1912 (Kovel 1986:105). The jobber's mark is the Robinson & Co Ltd of Winnipeg (1884 to ca 1929). DlLg-33/89B-431, has "CAMBRIDGE" printed below the Ridgways mark. This may be the pattern name. According to D. McLeod (1993:pers. comm.),

Cambridge ware was also found along the Seine River in a midden behind the Belgian Club (St. Boniface). The deposit related to the Olympia Hotel, which operated ca 1913 to 1915 on Smith Street, north of Portage Avenue in downtown Winnipeg.

The third group of sherds were placed together because of their decorative technique. All sherds are colour slipped Green-on-White. Artifacts include portions of bowls and teapots as well as a complete tea sieve, DlLg-33/89B-1034 (Plate 41j). Only one sherd, DlLg-33/89B-1095 (Plate 41k), has any indication of a manufacturer. This is a bowl sherd similar to the hotelware-style dishes. The mark indicated that it was a product of the Medalta Stoneware Company of Medicine Hat, Alberta and had been produced during the 1940s to 1950s. The history of the Medalta Company has been related in Section 4.2.2 as well as in other reports (Kroker and Goundry 1990a:57; 1990b:44).

The fourth group of sherds were placed in this category because they have a row of white embossed dots on the exterior body and, more importantly, two of the sherds have portions of a box with a white logo inside, also on the exterior body (Plate 41l:DlLg-33/89B-455). These sherds were made for the Grand Trunk Pacific Railway. As noted in Section 5.3.4.1.3, this railway operated from 1907/1914 to 1923.

The last group of five catalogue numbers in Table 21 have a variety of patterns, each one being distinct. DlLg-33/89B-40 is a portion of a lid from a large bowl (Plate 41m). The pattern consists of large green flowers and leaves.

DlLg-33/89B-263 has an oriental scene of a man poling a high-prowed boat between rocks and reeds (Plate 41n). The border, a stylized heart with a dot in the centre, is identical to the border on a sherd (DlLg-33/88D-226) recovered during the North Assiniboine Node Archaeological Impact Assessment (Kroker 1989a:212). DlLg-33/89B-263 has no maker's marks on it.

DlLg-33/89B-265 has a scalloped lip with a green line painted along it as well as a green band containing white flowers and ornately intertwined green floral decorations below the green band (Plate 41o).

DlLg-33/89B-1030 (Plate 41p), a plate sherd, has garlands of green flowers falling from a green leaf-like border. DlLg-33/89B-1102, a bowl? sherd, is decorated with white flowers on a green band and an unidentified green pattern.

5.3.5 Ceramics of Various Colours

Blue and Black-on-White (DlLg-33/89B-875, 876, 877)

These three sherds have an identical blue band edged with a thin black line on each side. The total width of this decoration is 7.4 mm and it occurs close to the lip on the interior surface of the two saucers and the exterior of the cup sherd. DlLg-33/89B-876 has "...TED" and a "...G" printed

in red on the base. DlLg-33/89B-877 has a "...G" and an "...R", in red. No further identification could be made.

Blue and Brown-on-White (DlLg-33/89B-SEE TABLE)

The sherds in this colour category were separated into four groups, according to pattern and logo (Table 22). DlLg-33/89B-50 is a thick hotelware-style cup sherd with a dark blue band edged, on both sides, with brown lines. This band (4.6 mm) is on the external body, 6.7 mm below the lip. A thin brown line is 27.6 mm below that and another thin brown line runs vertically on the attached complete handle.

CAT. #	OBJECT TYPE	QUANTITY	INFORMATION
50	Cup	1	--
425	Plate (Cake)	2	T Haviland/CANADIAN NORTHERN RAILWAY
430	Bowl	1	CNR/MANUF...
442	Bowl	1	CNR
503	Plate	1	CNR
504	Bowl	1	CNR
609	Bowl	5	Royal Worcester/CNR
610	Plate	7	CNR
614	Bowl	1	CNR
616	Bowl	1	CNR
710	Bowl	1	CNR
880	Plate?/Saucer?	1	CNR
900	Bowl	1	CNR
451	Bowl?/Cup?	1	...YS
1019	Bowl	1	CANADIAN NATIONAL RAIL
1023	Cup	1	CA.../N...
1026	Bowl	1	CANADIAN NATIONAL RAIL/ Wood & Sons Ltd
1032	Plate	1	CANADIAN NATIONAL RAIL
1100	Plate?/Saucer?	1	CANADIAN NATIONAL RAIL
1120	Cup	1	CANADIAN NATIONAL RAIL
1122	Plate	1	CAN.../NATI.../RAILW.../ Wood & Sons Ltd

Table 22: Blue and Brown-on-White Sherds

DlLg-33/89B-425 consists of two sherds which are the pedestals of porcelain cake plates (Plate 42a). The decoration is a single thin blue line close to the edge of the foot of the pedestals. In addition, there is a remnant of a scrolled, brown "C..." on one sherd. The "C" is identical to the "CNR" mark on the sherds in the third group of Table 22, but the blue line pattern is quite different. This brown logo is also identical to the green "CNR" logo which appears on the three dark green lines on white sherds in Section 5.3.4.1.1.

One of the sherds in DlLg-33/89B-425 has the two different coloured marks of the Theodore Haviland Company of Limoges, France. These two marks occur on DlLg-33/89B-476 and 485 in the gold-on-white colour category (Section 5.3.2). The green horseshoe-shaped mark was used from 1920 to 1936 (Kovel 1953:130), while the red oval-shaped mark was used in 1914 (Kovel 1953:130). In addition, the red mark indicates (as in the gold-on-white sherds) that these dishes had been "EXPRESSLY MADE BY" [Theodore Haviland] for the "CANADIAN NORTHERN RAILWAY". This railway was in operation from 1895/1899 until 1917/1923.

The third group in Table 22 is identical to one group of sherds in the blue-on-white colour category (Section 5.3.3.1). These are the sherds with a thick light blue line and two thinner lines, on either side near the lip. On many sherds the blue colouring has faded. The difference between these two groups lies in the fact that the sherds in the blue-on-white group have no logo. The sherds in Table 22 have a scrolled brown "CNR" logo on the body (Plate 42b:DlLg-33/89B-710).

There is only one maker's mark evident in this group. Two sherds in DlLg-33/89B-609 have remnants of the mark, used since 1892 by the Worcester Royal Porcelain Company Ltd. (Godden 1964:698). As noted earlier, the style of dating Worcester products changed periodically, i.e., dots were added around the main mark from 1892 until 1916, then a star replaced the dots with dots being added to the star, etc. There is no indication of a star on the marks in DlLg-33/89B-609, however, there are several dots below one mark. So it may be assumed that these dishes were produced between 1900 and 1915. If so, the "CNR" would stand for the Canadian Northern Railway as opposed to the Canadian National Railway which was formed 1917/1923.

DlLg-33/89B-430 has a portion of "MANUF..." on the base. No other information could be ascertained from this sherd.

The sherds in group four of Table 22 have the identical decoration as those in group three, but the logo is different. It consists of a square brown-lined box with the words "CANADIAN NATIONAL RAILWAYS", printed in brown, inside the box (Plate 42c:DlLg-33/89B-1019). These dishes would have been used post-1917/1923 after railway amalgamation.

There are two sherds, DlLg-33/89B-1026 and 1122, with maker's marks. Both have the mark of Wood & Sons Ltd of Burslem, England. This particular mark could not be found in any of the references. However, because these were Canadian National Railway dishes, production was, in all likelihood post-1917.

Blue and Gold-on-White (DlLg-33/89B-24, 42, 48, 254, 1103)

DlLg-33/89B-24, a plate?/saucer? sherd, has a blue transfer-print floral pattern, on the interior and a thin gold line painted on the lip. The pattern could not be identified.

DlLg-33/89B-42 is a cup sherd with a transfer-print pattern on the exterior. This consists of a dark blue band, edged on both sides with a thin gold band (5.0 mm thick), 3.6 mm below the lip. A thin gold band is painted on the lip.

DlLg-33/89B-48 and 254 are identical. A bowl sherd and a plate?/saucer? sherd respectively, both have a blue floral band, edged with gold lines just below the lip. DlLg-33/89B-48 has an unidentifiable blue potter's mark on the base.

DlLg-33/89B-1103 is a body, base cup sherd with the 'Blue Willow' pattern and a single gold line circling the body, 57.1 mm from the base (Plate 42d). As noted earlier, this pattern is very common and was produced by potteries in several countries. The light blue colour and the gold line on this sherd are similar to pieces in a reference collection (Mary Elizabeth Mills). The reference pieces were produced by British firms and, in all likelihood, DlLg-33/89B-1103 was also produced in England.

Blue and Green-on-White (DlLg-33/89B-31, 41, 864, 872, 874, 1020, 1106, 1140)

DlLg-33/89B-41 (Table 23) is the lip, body portion of either a teapot or a sugar bowl. A portion of the flange for holding a lid is still intact. The pattern is blue garland and leaves with what may be the remnants of a green handle.

CAT. #	OBJECT TYPE	QUANTITY	INFORMATION
41	Teapot?	1	--
31	Bowl	1	CNR
864	Bowl	1	C...
872	Bowl	1	--
874	Bowl?/Cup?	1	C...
1020	Plate	1	John Maddock & Sons Ltd
1106	Plate?/Saucer?	1	...NR
1140	Plate?/Saucer	1	...NR

Table 23: Blue and Green-on-White Sherds

The remaining sherds in this category (Table 23) have the same pattern. This consists of a blue band with thin green lines edging it, placed close to the lip either on the interior or exterior body.

In addition, three sherds have a thin green line below the band on the body. One sherd, DlLg-33/89B-1020 (Plate 42e), has a maker's mark from the John Maddock & Sons Ltd. of Burslem, England. The mark, a lion standing over a banner, has been used since 1896 (Godden 1964:406).

Several pieces also have a portion of a scrolled green "CNR" (Plate 42f:DlLg-33/89B-31). This logo is similar to the logo in the blue and brown-on-white sherds and the three dark green lines on white sherds (Section 5.3.4.1.1). The logo may be either the Canadian Northern Railway or the Canadian National Railway.

Blue and Yellow-on-White (DlLg-33/89B-37)

This is a small lip, body portion of a bowl?/cup? sherd. The decoration, on the exterior body, consists of several free-floating, blue pinwheels and a yellow line just below the lip.

Brown (DlLg-33/89B-108, 236, 262, 278, 570, 951, 956, 1199)

DlLg-33/89B-108, 278 (Plate 42g), 570 and 951 are portions of stoneware mixing bowls. DlLg-33/89B-108 and 951 have a mottled appearance and both DlLg-33/89B-278 and 570 have molded ribbing.

DlLg-33/89B-236 is a spout portion, DlLg-33/89B-262 is a body sherd, and DlLg-33/89B-1199 (Plate 42h) is a complete lid from different porcelain teapots. DlLg-33/89B-956 is the lid portion of a stoneware teapot. All teapots would have been one to two cup size.

Brown-on-White (DlLg-33/89B-45, 233, 234, 235, 429, 612, 865, 955, 1025, 1096, 1145)

DlLg-33/89B-233, 234, 235, 1025, 1096 and 1145 are all colour-slipped brown-on-white sherds and are all part of a cookware/serving set. Some are round in shape while others are oval and a few have small handles still intact.

The maker's mark of the Guérin-Pouyat-Élite Ltd. of Limoges, France is on the bases of DlLg-33/89B-233 (Plate 42i), 1025 and 1145. This particular mark was used after 1901 (Kovel 1986:187). In addition to the manufacturer's mark on these three sherds, there is blurred wording which appears to be "KAOLINIC" "PORCELAINE DORE" and "ALLANT AU PEU". The "KAOLINIC" and "PORCELAINE DORE" can be translated as Kaolin and Gilded Porcelain. Because of the heavy blurring, the "P" in the "PEU" could also be an "F", i.e., "FEU". This leads to two interpretations of this phrase. It could be a colloquialism such as 'Going to a few', that is, an exclusive line, or it could be 'Going to the fire', that is, being fired.

DlLg-33/89B-429, 612 and 865 are four sherds with a brown scrolled "CNR". This is either the mark of the Canadian Northern Railway or the Canadian National Railway. DlLg-33/89B-429 has a portion of the Worcester Royal Porcelain Company of England (Godden 1964:698). Unfortunately this artifact is broken across the mark, however, it was definitely manufactured post-

1892. Both DlLg-33/89B-429 and 612 have other marks stamped on the base; "N5", "N7", and a star respectively.

DlLg-33/89B-45 and 955 are different from the other specimens in the brown-on-white colour category. DlLg-33/89B-45 is a small plate?/saucer? sherd with a faded band of inverted triangles as decoration. DlLg-33/89B-955 is a body sherd of a colour-slipped bowl?/cup?.

Brown and Black-on-White (DlLg-33/89B-271, 881)

These two sherds, a cup and plate respectively, have an identical pattern - a black band (3.1 mm) with a brown band (2.2 mm) just below it and a thin black line further below that. The cup has another black line extending vertically on the intact handle.

The cup sherd has "O..." "SYRA..." "CH..." and "H..." printed in green on the base. This partial mark is very similar to that of the Onondaga Pottery Co. of Syracuse, New York (Kovel 1986:195). The mark was used between 1886 and 1898, although the company is extant today under the name of the Syracuse China Corporation. According to Kovel (1986:251), the Syracuse China Corporation stamped the year and month of manufacture into all its products. Unfortunately, only a portion of the base remains and no date code is evident on the sherd.

Brown and Green (DlLg-33/89B-106)

DlLg-33/89B-106 is a porcelain sherd from a jar?. The exterior is brown while the interior is green. The decorative pattern on the exterior resembles a barrel with vertical panels and two circumferential molded hoops. The Medalta Pottery Company, of Medicine Hat, Alberta made an identical styled 'Barrel Jug' for water or milk (Symonds 1974:28).

Green (DlLg-33/89B-274, 453, 454, 511, 512, 901, 962, 965)

All sherds in this colour category are portions of teapots or sugar bowl/creamer(s). All are made of porcelain, with the exception of DlLg-33/89B-274 which is made of stoneware. DlLg-33/89B-453 and 511 (Plate 42j) are lids from teapots while DlLg-33/89B-454 may be the lid from a sugar bowl. DlLg-33/89B-901 is two fragments of a handle and DlLg-33/89B-962 is a portion of a spout. DlLg-33/89B-274, 512 and 965 are all body, base portions and two display maker's marks.

DlLg-33/89B-512 has "LOVATT" and "LANGLEY MILL" as well as "1/2 PT." and an unidentifiable logo stamped on the bottom. Lovatt & Lovatt from Langley Mill, Nottingham, England, has been producing pottery since 1895 (Godden 1964:398). The exact mark cannot be traced. The artifact may be a creamer.

DlLg-33/89B-965 has portions of "LEA..." "GLAS..." and "LOV..." "LANGL..." "ENG..." stamped on the base. There is also an inverted "U" stamped beside the above words. This is another product of the Lovatt & Lovatt company of England. It appears to have been produced for a firm in Scotland.

DlLg-33/89B-512 and 965 have been catalogued in the green colour category, although a portion of the base has not been covered with the green colour. The underlying cream-coloured paste is evident.

Green and Cream (DlLg-33/89B-959, 960, 961)

These three catalogue numbers represent three pieces of the sieve portions of a teapot. Sieves were, and still are, used for straining tea leaves. These sieves fitted into the teapots of the style used by the Grand Trunk Pacific Railway and other railways and hotels, as well as those teapots in the green category.

Green and Gold-on-White (DlLg-33/89B-620, 1214)

DlLg-33/89B-620 is a single lip, body sherd of a plate?/saucer?. It is decorated with a row of embossed gold dots on a gold line with a second painted gold line below that and a green painted leaf falling below the second gold line.

DlLg-33/89B-1214 is a small lip/body portion of a plate?/saucer? sherd. It has a 4.3 mm green band at the interior lip with two thin gold bands below that.

Green and Red (DlLg-33/89B-34)

DlLg-33/89B-34 is the body, base portion of a small bowl (Plate 42k). There are Chinese ideograms in red and green on the green body. In addition, there is an unidentifiable red maker's mark on the base.

Grey and Black (DlLg-33/89B-249)

This is a colour-slipped, grey stoneware bowl with black floral markings on the exterior body and two black circular lines at the base of the interior. There are no maker's marks.

Pink and Green-on-White (DlLg-33/89B-1216)

This is a single body sherd with a large pink rose-like flower surrounded by green leaves on one surface. There are no other marks on this artifact.

Pink, Green and Gold-on-White (DlLg-33/89B-36, 49, 1021, 1222)

The four patterns in this colour group are all variations of the pink flower/green leaf pattern with three having gold line(s) and one having gold in the pattern. None of the sherds have identifiable maker's marks.

DlLg-33/89B-36 is a single lip, body, base sherd of a plate. The flowers, located on the body, are fairly large and resemble single-petal peonies. There is a single gold line below the flowers at the body, base juncture.

DlLg-33/89B-49 is a lip, body portion of a plate?/saucer?. The gold on this sherd is part of the green and gold leaf pattern which surrounds nearly full-blown pink rosebuds. A row of embossed dots runs just below the scalloped lip, while an embossed wave-like pattern separates the body from the base.

DlLg-33/89B-1021 is a lip, body, base portion of a large bowl, perhaps a serving dish. The pattern consists of pink roses and green leaves, on the body, and a wide (3.9 mm) gold band just below the lip. There are also embossed shell-like designs just above the floral pattern.

DlLg-33/89B-1222 is the lip, body portion of a thin-walled cup. There is a single rose surrounded with green leaves on the exterior body surface and a gold line on the lip.

Pink, Green and Red-on-White (DlLg-33/89B-47)

DlLg-33/89B-47 is the lip, body, base sherd of a bowl. The pattern consists of a chain of green sprays below the lip on the interior surface and garlands of pink flowers with red centres interspersed with green leaves falling from the spray. The lip is scalloped and there is an embossed undulating line underneath the green chain.

Pink and Gold-on-White (DlLg-33/89B-4)

DlLg-33/89B-4 is a porcelain sherd from a large lid of a bowl. The exterior surface is painted pink and there is a gold line along the scalloped edge. There is also an unidentifiable embossed pattern on the top surface.

Red-on-White (DlLg-33/89B-1215)

DlLg-33/89B-1215 is two lip, body sherds of a bowl. The pattern consists of large embossed flowers and sprays on the exterior surface. These are highlighted by transfer-printed red stippling and solid line outlining.

Red and Gold-on-White (DlLg-33/89B-1175)

This is a single lip, body, base portion of a saucer. The pattern is a red band with thin gold lines edging it and gold leaves printed over the red. The entire band is 8.7 mm wide and is just below the lip on the interior surface. There is a red potter's mark on the base.

Multicolour (DlLg-33/89B-38, 44, 46, 251, 261, 267, 268, 432, 443, 449, 873, 902, 932, 1069, 1101, 1123, 1125, 1177, 1218, 1220)

The multicolour category consists of those artifacts which have a pattern of more than three colours (Table 24). The first four groupings consist of sherds with similar patterns, while the last group consists of sherds with unique patterns.

CAT. #	OBJECT TYPE	QUANTITY	INFORMATION
268	Cup	1	T Haviland/CANADIAN NORTHERN RAILWAY
267	Bowl	1	CNR/lines
873	Plate?/Saucer?	2	CNR/lines
932	Lid	1	Floral, Embossed
1069	Bowl?	2	Floral, Embossed
1218	Plate?/Saucer	1	Floral, Oriental
1220	Plate	1	Oriental
38	Saucer	2	Floral/line
44	Plate?/Saucer?	1	Geometric/lines
46	Bowl?/Cup?	1	Floral
251	Plate	1	Floral/lines
261	Saucer	1	Floral/line
432	Cup	1	St. Charles Logo/lines
443	Cup	1	Royal Doulton/Floral/CANADIAN NATIONAL SYS.
449	Plate?/Saucer?	1	Multipatterned
902	Plate?/Saucer?	1	Floral/line
1101	Saucer	1	Floral/line
1123	Cup	1	Floral/Bird/line
1125	Plate	1	Floral
1177	Lid	3	Floral/Embossed/line

Table 24: Multicoloured Sherds

DlLg-33/89B-268, a cup sherd, is identical to the sherds in Section 5.3.3.1 in that it has three light blue lines on a white back-ground. In addition to the line decoration, this sherd also has the brown scrolled "CNR" logo identical to the sherds in the Blue and Brown-on-White colour category. However, it also has a gold line painted vertically on the handle and was therefore placed in the Multicolour category.

There are two maker's marks on the base of DlLg-33/89B-268. These are the two Theodore Haviland Company (France) maker's marks, i.e., the green horseshoe and the red oval, that were noted on DlLg-33/89B-476 and 485 (Section 5.3.2, Gold-on-White) and DlLg-33/89B-425 (Blue and Brown-on-White). A portion of the red Theodore Haviland mark has "...THERN RAILWAY". This cup is part of a set of Canadian Northern Railway dishes. The dates of the green logo are 1920 to 1936 (Kovel 1953:130), while the red logo dates to 1914 (Kovel 1953:130). Therefore, the dates of the production of this cup can be assigned to the period from 1914 until amalgamation of the various railway companies ca 1917/ 1923.

DlLg-33/89B-267 (Plate 42l) and DlLg-33/89B-873 are three identical patterned sherds. Both have a blue band edged with thin black lines near the lip and a brown scrolled "CNR" on the body. These sherds are identical to the ones in the Blue and Black-on-White colour category (DlLg-33/89B-975, 876,877) except for the brown "CNR". DlLg-33/89B-267 and 873 have no maker's marks on them.

DlLg-33/89B-932 and 1069 have the same pattern. DlLg-33/89B-932 is a lid sherd while DlLg-33/89B-1069 consists of two sherds of a large serving bowl. The pattern is pink and brown flowers overlaying green leaves and grey twig-like sprays. There is also an undetermined embossed pattern mixed with the floral pattern.

DlLg-33/89B-1218 and 1220 have identical patterns on the interior surface. DlLg-33/89B-1218, a plate?/saucer? sherd, has large red and white flowers interspersed with blue leaves on the body portion. A cross-hatched red line divides the pattern between the body and the base. The base has remnants of a pagoda design. DlLg-33/89B-1220, a plate sherd, has the identical cross-hatched red line as well as a scene consisting of an island with pagodas on it (in red and blue) and what may be red and green plants below the island. DlLg-33/89B-1220 also has the top portion of a pagoda on the exterior base. This may be a portion of the maker's mark.

DlLg-33/89B-38 is two sherds of a saucer. The pattern is purple flowers on a green and grey background, on the interior surface, with a gold line on the lip.

DlLg-33/89B-44 ia a single plate?/saucer? sherd with decoration near the lip on the interior surface. This consists of a brown band edged with thin red lines. A line of green geometric keys occurs above it.

DlLg-33/89B-46 is a bowl?/cup? sherd. It has a single pink rose with green leaves and a purple ribbon tied to the stem on both the interior and exterior body.

DlLg-33/89B-251 (Plate 42m) is identical to the two sherds in the Brown and Black-on-White colour category, in that all have the same thicker black and brown lines followed by a thinner black line. However, DlLg-33/89B-251, a plate sherd, has a floral pattern on the interior base. This consists of a yellow flower, ringed in green, surrounded by green and purple leaves. This pattern does not appear on the sherds (DlLg-33/89B-271, 881) in the Brown and Black-on-White colour but this may be due to the incomplete nature of the fragments recovered.

DlLg-33/89B-261, a saucer, has a garland of pink roses and a blue flower with a pink centre intertwined with green leaves just below the lip on the interior. A gold line is painted along the lip.

DlLg-33/89B-432 is a cup sherd (Plate 42n). It has a single green line near the lip on the exterior body with an orange-red line 9.9 mm below that. There is a logo overlaying the second line. This consists of a winged child beside a four-part shield, with a banner containing the word "SEMPER..." below that. Below the logo are the words "HOTEL ST....". This is a dish from the St. Charles Hotel, Winnipeg. An identical logo, on a plate sherd (DlLg-33/88B-137), was recovered during monitoring of the Stage I project (Kroker and Goundry 1990a:114). The St. Charles Hotel was listed in the 1914 Winnipeg Henderson Directories at 225 Albert Street. In 1915, it was listed on the corner of Notre Dame and Albert. These premises still exist today.

DlLg-33/89B-443 is the body, base portion of a cup (Plate 42o). The pattern, on both the interior and exterior body, is a spray of flowers, consisting of a pink rose with blue, purple and yellow flowers and green leaves. The green maker's mark on the base identifies this cup as a product of the Doulton & Co. Ltd. of Staffordshire, England. This particular mark, a lion over a crown with the Royal Doulton company name and "MADE IN ENGLAND" in a circle below that, has been used from 1930 onward (Godden 1964:213). In addition to the maker's mark, the words "CANADIAN NATIONAL SYSTEM" are stamped beside the Royal Doulton mark. This probably refers to the Canadian National Railway and related infrastructure, such as hotels.

DlLg-33/89B-449, a plate?/saucer? sherd, is ornately decorated. The lip is scalloped with a gold line along it. Falling from the lip, on a white band, are gold curlicues with attached black leaves. Below the white band is a thin gold band and below thatthe sherd is black with gold scroll-like designs.

DlLg-33/89B-902 is a lip, body, base portion of a plate?/saucer? sherd. The pattern consists of a gold line along the straight lip and garlands of pink and purple flowers mixed with green and yellow leaves on the body. An identical pattern, occurring on a plate in a private collection (Mary Elizabeth Mills) has the maker's mark of the L. Bernardaud & Co., of Limoges and Paris, France. This company has been in business since 1905 (Kovel 1986:161). The reference plate has "FLEUR DE LYS" printed above the maker's mark. This may be the name of the pattern.

DlLg-33/89B-1101 is a saucer sherd with a gold line along the lip and pink and yellow flowers interspersed with green leaves, joined by a yellow stalks, just below the lip, on the interior surface. The indentation of the saucer has a large blue flower with a yellow centre as well as a pink flower and green leaves and brown stalks. There are no identifying marks on this artifact.

DlLg-33/89B-1123 is a small lip, body portion of a cup sherd. There is a gold line along the lip with a gold and orange flower and green leaf design on the exterior body. The head and neck of a mulitcoloured bird is facing the flowers.

DlLg-33/89B-1125 is a thick base portion of a plate. One surface has the remnant of a green leaf as well as a complete yellow flower and a small portion of an orange flower. There are several stalks of leaves impressed into the surface surrounding the coloured decoration.

DlLg-33/89B-1177 consists of three pieces of a large lid from a bowl. The lip is scalloped with a gold line painted along it. There are large blue flowers with green and grey stalks as well as smaller yellow flowers with greenery on the exterior surface. In addition, there is a pattern of embossed scroll work near the edge of the lid close to the lip. One sherd has a small remnant of a handle still attached.

6.0 OTHER CONTAINERS

The remaining container artifacts which did not fit into the 'Storage' or 'Dinnerware' categories were either cooking containers or ornamental objects.

6.1 COOKING CONTAINERS

Eight catalogue numbers were assigned to this sub-category. Six are complete artifacts and two are fragments. Six of the specimens are enamelware (Ashdown 1909:745-759), one is cast iron and the other is glass. Until recently, cookware containers were usually described in terms of their diameter, i.e., a 10 inch frying pan.

The enamelware artifacts are pots, lids, and a handle. DlLg-33/89B-1038 is a complete, 11 inch diameter, white pot with red handles. DlLg-33/89B-1114 is a complete, 9 inch diameter, white and blue pot. DlLg-33/89B-975 is the crushed lip, body portion of an 8 inch diameter, white and blue pot.

DlLg-33/89B-577 and 1237 are both 8 inch diameter, white and blue lids that may have fit DlLg-33/89B-975. DlLg-33/89B-1182 is a white and blue pot handle. While DlLg-33/89B-1114 is complete with a handle, DlLg-33/89B-975 is missing a handle and DlLg-33/89B-1182 may fit this pot.

DlLg-33/89B-577 and 1114 have the flared rim and lip common to the top pot of a double boiler set. Ashdown (1909:747) refers to these as Milk or Rice Boilers.

DlLg-33/89B-465, the only metal specimen which is not enamelware, is a cast iron lid from a 9 inch diameter pot. It does not match any of the other artifacts.

DlLg-33/89B-3304 is a complete, heavy-walled glass dish. The basal diameter is 84.5 mm while the internal lip diameter is 93.3 mm. This artifact has a square string collar below the lip. Embossed on the recessed exterior base is "PATENTED JUNE 23. 03." in a circle with "JUN.9.03." across the middle. The actual function of this dish is uncertain, however, it does resemble the PYREX style of glass cookware.

6.2 ORNAMENTAL CONTAINERS

The artifacts assigned to this sub-category were primarily used for their decorative features rather than any utilitarian function. The artifacts were identified as portions of either vases or bowls and include nine glass sherds and one ceramic sherd.

6.2.1 Glass Artifacts

The ornamental glass sherds are in a variety of types, including milk glass, clear glass, and carnival glass.

DlLg-33/89B-95 is a white glass (milk glass) body sherd identified as a vase?. There is a ribbed pattern on the exterior surface. White glass was used for a variety of items from ornamental hats, figurines and animal dishes (Lee 1944) to dinnerware items (Florence 1984).

DlLg-33/89B-1018 is a body sherd of a white (milk glass) vase?. There is an indecipherable pink and green pattern painted on the exterior of this artifact.

DlLg-33/89B-221 is a clear, fluted body sherd, possibly a portion of a bowl. There is an exfoliating gold patina on part of the exterior surface.

DlLg-33/89B-285 is the lip,body portion of a large clear bowl?. There are remnants of green paint on the interior and exterior surface near the lip. No pattern is discernible.

DlLg-33/89B-706, 845 and 846 are all body, base portions of clear pressed glass bowls?. DlLg-33/89B-706 and 845 both have a daisy on the base while DlLg-33/89B-846 (a partial base sherd) has a star.

DlLg-33/89B-847 consists of two clear sherds with the Shell and Jewel pattern (Lee 1944:Plate 73). These two sherds have the stippled body identical to those depicted. These artifacts were catalogued as portions of a vase? however, they could be portions of dinnerware.

DlLg-33/89B-950 is the body portion of a vase?. This sherd has a blue interior but is iridescent on the surface. The glass contains metallic salts which produce the multicoloured iridescent appearance. This style of glassware was mass-produced in the early part of the 20th century (Adams 1979:55). From 1907 through 1925, it was an affordable product for the middle-class. By 1925, however, its popularity lessened and barrels of it were sent to carnivals to be given away as prizes, hence its common name Carnival Glass. DlLg-33/89B-950 resembles the common elongated vases depicted by Adams (1979:64).

6.2.2 Ceramic Artifacts

DlLg-33/89B-1078 is a large porcelain body sherd from a vase?. This artifact may have been part of a jardiniere. There is a bas-relief pattern of green and white vines and leaves on the blue exterior. The yellow interior is crazed.

7.0 PRE-CONTACT CULTURAL RECOVERIES

During the excavation and land modification component of the construction of the Assiniboine Riverfront Quay, all activity was monitored by qualified archaeologists. The contractor was aware that archaeologically important resources may be present within the impact zone.

Five locations containing archaeological resources were encountered during the construction phase. Mitigative recovery was undertaken for all locations and construction activity was relocated to other areas of the project. Four of the locations were excavated *in situ* by archaeological teams, while the fifth location (Ramp Site B) was removed *en bloc* by heavy equipment and mitigative recovery was effected without requiring operation cessation or relocation.

All archaeological loci were surveyed into the contractor's grid system and then translated into The Forks Archaeological Grid. The five loci are shown on Figure 6. The Archaeological Grid System has been superimposed upon the map which was adapted from the architect's design for the facility.

The mitigative actions and the recoveries pertaining to each of the five loci are discussed in subsequent sections of this chapter. In general, each locus was distinct, with definite boundaries. The only exception to this was Ramp Site C, where the cultural horizon extended beyond the zone of impact.

7.1 RAMP A LOCUS

Archaeological evidence was observed during monitoring of the backhoe excavation for the construction of the Wall Through Time ramp. On the afternoon of April 11, 1990, the monitoring archaeologist observed a layer of charcoal in the face of the excavation wall. The Site Archaeologist was notified and construction was halted for an examination of the stratum. The layer was found to contain fire-cracked rocks and mammal bones, indicating cultural activity. The construction project manager was advised that mitigative activities would be required and he re-assigned the machine and operator to another area of the site.

The temperature was below freezing and the cultural horizon was contained within frozen soils. Heavy equipment was used to strip off as much of the overlying railroad cinder deposits and sterile silts and clays as could be removed without causing impact upon the cultural stratum. On April 12, a shelter of insulated tarpaulins over a lumber frame was erected over the locus (Plate 43). A portable diesel heater was rented and forced hot air into the shelter during the night. A crew of archaeologists began hand excavation of the overburden on April 13 (Plate 44). The mitigation operations took three days, occurring on Easter weekend, causing minimal downtime for the contractor.

The area under the shelter was gridded into meter units and the baseline datums were surveyed into the contractor's site grid. The thawed portions of the sterile layers above the horizon were removed by shovel. On the first day, it was possible to begin recovery operations in the units at

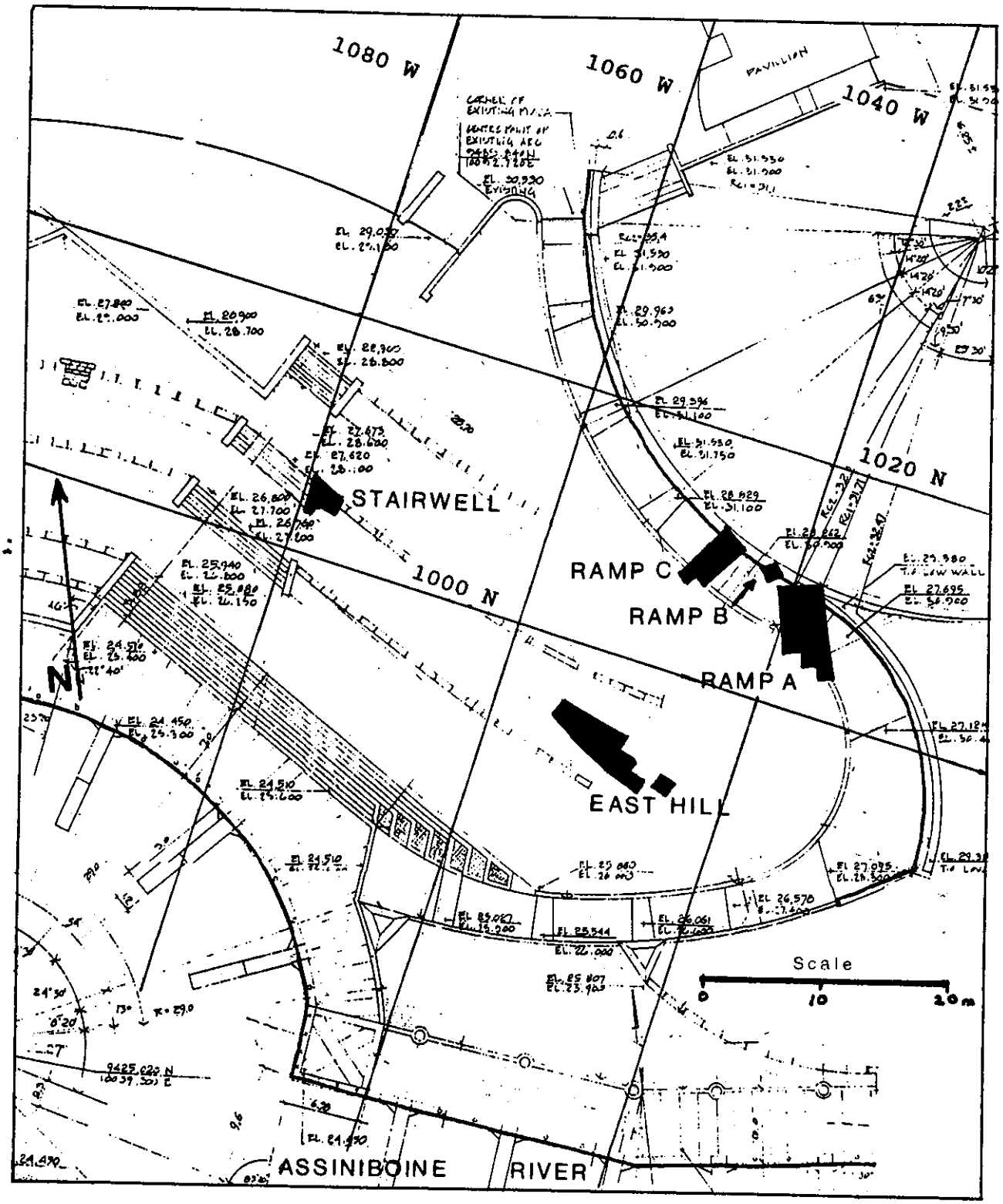

Figure 6: Loci of Pre-Contact Recoveries

the excavation face, while considerable thickness of overburden remained frozen at the rear of the structure. As thawing occurred, the area of active recovery excavation was enlarged.

During the three days of mitigation, 16 square meters were excavated (Figure 7) (Plate 45). The soil stratum immediately above the cultural horizon consisted of banded, swirled silty clay. It, as well as the cultural horizon, sloped slightly to the north. The cultural horizon consisted of two distinct types of deposits. The continuous layer of charcoal and bone in the south units was 2 to 3 cm thick. The horizon thinned rapidly to the north and the deposits in the northern units were discontinuous and mixed within the banded silty clay, suggesting that the material had been washed or smeared by flood action which deposited the upper layer.

The provenience for recoveries (faunal, charcoal and lithic) was recorded by unit. The location of lithic tools observed during the excavation were marked on the overall locus map as were the hearth and the limits of the deposits.

7.1.1 Features

One distinct feature was recorded in the southeast quadrant of Unit 25. It consisted of a concentration of five large angular limestone fragments and a granite fragment piled on top of each other, with a bone concentration beneath. These cobbles have angular fractures. Charcoal, ash and calcined bone fragments are directly associated with the feature. A soil sample was collected.

7.1.2 Lithic Artifact Recoveries

Three types of lithic artifacts were recovered: tools, detritus, and fire-cracked rock. Each type indicates different activities which occurred at the locus.

7.1.2.1 Lithic Tools

Three lithic tools were recovered during the Ramp A excavations. These artifacts, listed in Table 25, occurred in the southern units. The recovery locations are noted on Figure 7.

LOCATION	CAT. #	TOOL	MATERIAL	PLATE
Unit 15 - SE	1319	Utilized Flake	Selkirk Chert	46a
Unit 20 - SE	1433	Utilized Flake	Quartz	46b
Unit 20 - SE	1434	Retouched Flake	Quartzite	46c

Table 25: Ramp A Lithic Tools

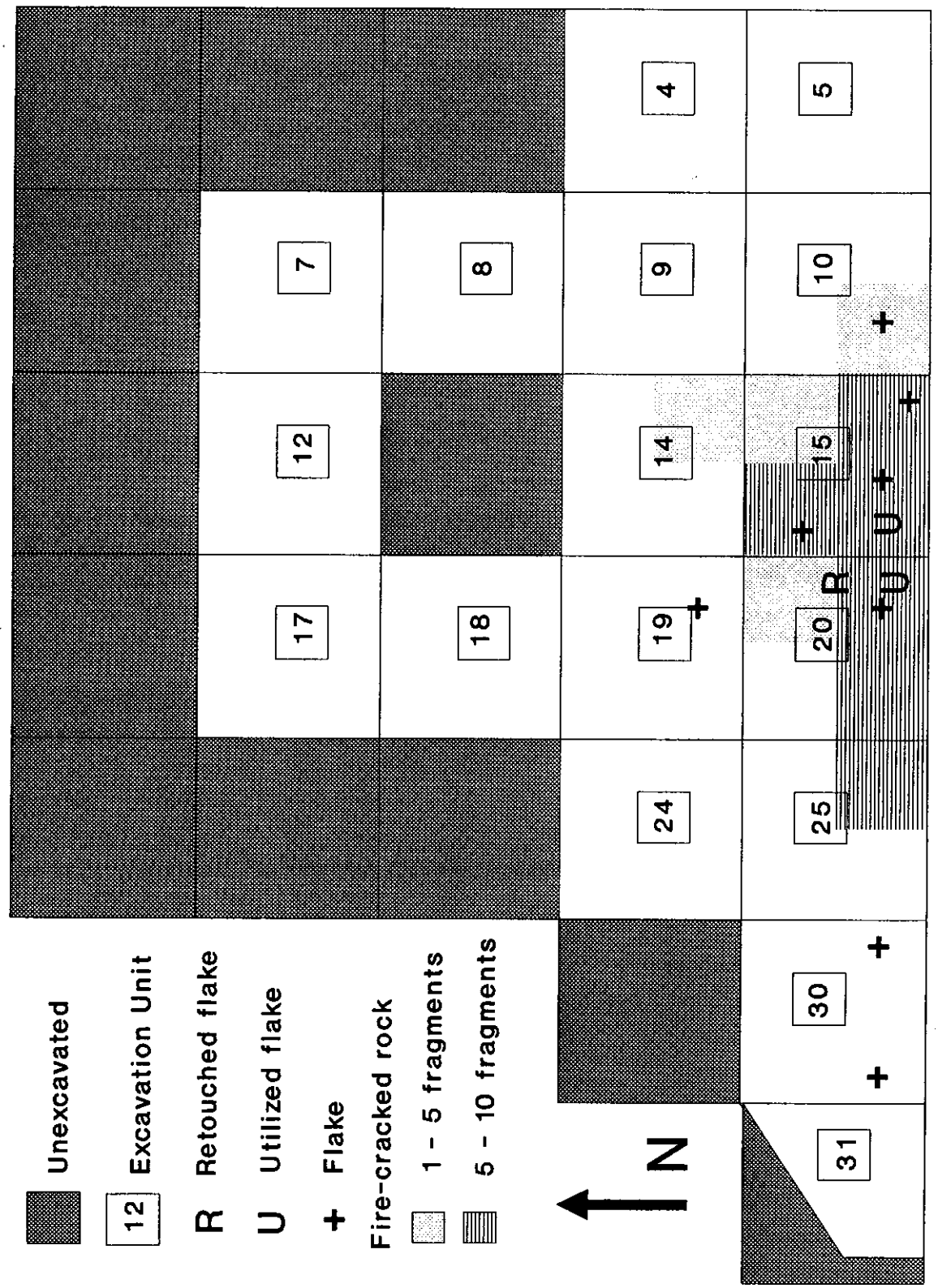

Figure 7: Ramp A Excavation Area

The degree of lithic modification, present on the artifacts (Table 26), indicates use as temporary tools. The angle of the working edge suggests that the utilized flakes were used as cutting implements while the steepness of the angle on the retouched flake implies use as a scraping tool.

CAT. #	TOOL	LENGTH	WIDTH	THICK	WORKING EDGE MEASUREMENTS		
					WIDTH	LENGTH	ANGLE
1319	Utilized	42.1	32.4	11.3	(E)19.4 (L)22.4	1.7 4.4	47 39
1433	Utilized	18.8	24.1	6.9	15.8	2.4	41
1434	Retouched	31.5	18.3	6.6	12.3	1.0	54

Table 26: Measurements of Lithic Tools - Ramp A

Utilized flakes and retouched flakes are generally defined as cutting tools although the angle of the working edge may suggest other functions. These artifacts can be considered as disposable tools of the moment, wherein a flake produced during the manufacture of another tool is used for a short term operation and then discarded. They can also be produced intentionally, when the individual wants a sharp-edged implement but does not have the time or intention of producing a retainable tool. A cobble or pebble of suitable material is struck with another stone and the resulting flakes are used, as is, without additional retouch. A subsequent refinement is the slight modification of the edge of the flake by removing small flakes to provide a stronger edge, thereby producing a retouched flake.

7.1.2.2 Lithic Detritus

Eight lithic flakes, resulting from stone tool manufacture, were recovered from the cultural horizon throughout the southern units (Unit 10 - 1, Unit 15 - 3, Unit 19 - 1, Unit 20 - 1, Unit 30 -2). Two lithic material types were represented - seven flakes of Swan River Chert and one flake of Knife River Flint.

7.1.2.3 Fire-Cracked Rock

Rock that is subjected to fluctuations of intense heat and cool periods tends to break in angular patterns or, in the case of a granular rock like granite, begins to decompose. A total of 67 fragments showing evidence of this type of activity were recovered - one sandstone, 11 limestone and 55 granite fragments. The majority of the specimens were concentrated in the southern halves of Units 15 and 20 (Figure 7). A soil sample of burned clay (DlLg-33/89B-1285) was taken from the NW quadrant of Unit 15. A secondary concentration of heat-altered stone occurred in the feature in Unit 25. Five large limestone and one granite fragments were piled together.

7.1.3 Floral Artifacts

Most of the charcoal present in the cultural horizon consisted of minute fragments. Only one sample (DlLg-33/89B-1329) of charcoal fragments of recoverable size was obtained from Unit 15. These specimens were too small for species identification beyond the Class level of Angiospermae (deciduous tree) as opposed to Gymnospermae (coniferous trees).

7.1.4 Faunal Recoveries

7.1.4.1 Antler Tool

While most of the faunal recoveries are the residue of subsistence activities, one tool manufactured from antler was recovered (Plate 46d). The specimen (DlLg-33/89B-1239) is a flaker used in the production of lithic tools. The flaker is made from a tine and part of the rack of a moose or elk. The flaring proximal end consists of a portion of the antler rack which has been roughly chopped apart. The distal end shows evidence of grinding to produce a more chisel-like end. Numerous cut mark striae are present. Some wear polish is observable on the medial shaft. The overall dimensions are: length 169.2 mm, proximal end width 87.0 mm, distal end width 15.2 mm. Some chipping has occurred at the distal tip, probably during use. Post-depositional trauma exists in the form of rodent-gnawing, mainly on the distal portion of the shaft.

7.1.4.2 Faunal Remains

During laboratory analysis, all faunal material was identified to the lowest taxonomic level possible, given the condition of the artifacts. Most of the specimens were severely fragmented, permitting only Class identifications. The represented taxa are listed in Table 27.

A total of 2386 faunal specimens were excavated, 8 deriving from the backhoe excavation backdirt. The majority (2379) derived from cultural activity, although some naturally-deposited intrusive specimens were recovered. These totalled seven and consisted of one reptile skeleton (Unit 20NE), one frog (*Anura*) skeleton (Unit 4) and one frog long bone (Unit 10SE), one freshwater snail fragment (20SW), and three small Rodentia (mice and vole) bones (two in Unit 10SE and one in Unit 15SE).

The recoveries were recorded by provenience and are detailed in Table 28. The data shows that most of the recoveries came from a small area on the southern edge of the locus (Units 15, 20 and 25). This concentration of bone fragments, in conjunction with the presence of the fire-cracked rock, suggests that food preparation occurred at this location.

The preponderance of the recoveries derive from mammals and, more specifically, large mammals. The category Medium/Large is used when the specimen is fragmented and cannot be specifically assigned to large mammals like elk or bison or to medium mammals like beaver, fox or wolf. It is probable that all fragments derive from either of the two identified species - elk or bison, both of which are members of the Artiodactyla group.

The recoveries indicate that one elk and one bison were used as food during the occupation. The elk is represented by portions of the front leg, the skull, the jaw, and the pelvis. The bison is represented by teeth and a toe bone.

TAXON	QUANTITY	FREQUENCY
Undifferentiated Mammal	32	
Large Mammal	432	
Medium/Large Mammal	1801	
Artiodactyla (Cloven-hoofed)	16	
Cervidae (Moose/Elk Family)	3	
Cervus elaphus (Elk)	21	
Bovidae (Cow/Bison Family)	-	
Bison bison (Bison)	15	
TOTAL MAMMAL	2320	97.52%
Undifferentiated Fish	43	
Catostomidae (Sucker Family)	1	
Ictalurus sp. (Catfish)	11	
Stizostedion sp. (Walleye/Sauger)	2	
Aplodinotus grunniens (Drum)	1	
TOTAL FISH	58	2.44%
TOTAL FRESHWATER CLAM	1	0.04%
TOTAL FOOD REMAINS	2379	100.00%

Table 27: Identified Faunal Taxa - Ramp A

Many of the bones designated as Large or Medium/Large Mammal display spiral fracturing, an indication that the bone was broken while it was still fresh. This could have occurred in the process of extracting marrow or during the production of bone grease. Bone grease is the term for fat which is extracted from bone. The process involves smashing the bones into small fragments and then boiling to melt the fat which is then skimmed off and used directly as a food or added to pemmican (Kroker *et al.* 1992:105).

Among the recovered mammal bones, were forty-one specimens which could be identified as foetal and nine which were identified as juvenile (up to 15 months old). The nine juvenile specimens are extremely fragmented and may, in fact, also be foetal bones. The calving season for elk is between late May and early June, while most bison calve from mid-April to early June (Banfield 1974). Whichever species is represented by the foetal bones, they indicate that the occupation occurred in spring or early summer and that a pregnant female was harvested for food.

Unit	Quad	Mammal	Bird	Fish	Clam	Total
4		-	-	-	-	-
5	SW	-	-	1	-	1
	SE	3	-	-	-	3
7		2	-	-	-	2
8		-	-	-	-	-
9	SE	1	-	-	-	1
10	NW	5	-	-	1	6
	SW	22	-	1	-	23
	SE	4	-	1	-	5
12		-	-	-	-	-
14	NE	1	-	-	-	1
	NW	19	-	-	-	19
	SW	1	-	-	-	1
	No Quad	3	-	1	-	4
15	NE	73	-	1	-	74
	NW	32	-	1	-	33
	SE	463	-	6	-	469
	SW	344	-	-	-	344
	No Quad	521	-	1	-	522
17		-	-	-	-	-
18	SW	2	-	1	-	3
19	NW	3	-	5	-	8
	SE	4	-	-	-	4
	SW	2	-	1	-	3
20	NE	18	-	1	-	19
	NW	1	-	-	-	1
	SE	433	-	30	-	463
	SW	93	-	-	-	93
24	NE	1	-	-	-	1
25	NE	5	-	1	-	6
	SE	193	-	4	-	197
	SW	19	-	-	-	19
30	SE	19	-	-	-	19
	SW	6	-	1	-	7
31		19	-	1	-	20
Backdirt		8	-	-	-	8
TOTAL		2320	-	58	1	2379

Table 28: Faunal Recoveries by Class and Location - Ramp A

The fish remains are not numerous but are representative of four species which occur in both the Red and Assiniboine rivers. By counting specific elements (e.g., dentary bones), the recoveries indicate that at least two catfish and one each of freshwater drum, sucker, and walleye/sauger are represented. All of the species, except the freshwater drum, spawn in the spring - between mid-May and early June (Scott and Crossman 1973). The fish would be more readily harvestable at this time, although it does not seem as if they were heavily utilized.

7.1.5 Radiocarbon Dates

Two samples of bone from the occupation horizon were collected and sent to the Geological Sciences Laboratory at Brock University for radiocarbon dating. The first sample consisted of mammal bone from the southeast quadrant of Unit 15 (DlLg-33/89B-1306, 1307). This sample provided a radiocarbon date of 2160 $\pm$ 100 years [BGS 1479] before present (using A.D. 1950 as the standard baseline date this translates to 210 $\pm$ 100 B.C.). The second sample consisted of mammal bone from the southwest quadrant of Unit 20 (DlLg-33/89B-1425, 1426, 1427). This sample provided a radiocarbon date of 2340 $\pm$ 90 years [BGS 1480] before present (using A.D. 1950 as the standard baseline date this translates to 390 $\pm$ 90 B.C.). The two ranges do not overlap within the first standard deviation, however the average of the two dates falls within the second standard deviation of both determinations. Both radiocarbon dates can be accepted as limiting ranges for the occupation with the average value, 2250 years ago or 300 B.C., accepted as the time of the occupation.

The radiocarbon dates correlate well with the known rates of soil build-up at The Forks. It has been suggested that riverine deposition has resulted in an accretion rate of 100 cm/1000 years (Kroker and Goundry 1990a:162). The occupation horizon at Ramp Site A lies 1.3 meters below the sand horizon of the 750 Year Flood (Kroker and Goundry 1990a:142-3). Bison bone from this horizon was dated at 740 $\pm$ 100 years ago [BGS 1377]. If one uses the above stratigraphic correlation between time and soil accretion, the addition of 1300 years to 740 B.P produces a stratigraphic date of 2040 years ago. This conforms closely with the radiocarbon determinations.

7.2 RAMP B LOCUS

Further archaeological evidence was observed during the monitoring of the backhoe excavation. On April 17, 1990, the monitoring archaeologist observed a very diffuse, weakly-developed A horizon with a trace of a charcoal lens in the face of the excavation wall. The Site Archaeologist halted the equipment for an examination of the stratum. The horizon was thin (less than 2 cm thick) and very localized in extent. A small hearth was associated with this horizon. In conjunction with the hearth, were fire-cracked rocks and mammal bones, indicating cultural activity.

The mitigative activities that were required could be undertaken in conjunction with the backhoe operation and resulted in minimal downtime. The backhoe operator was able to remove the overburden from above the horizon and then take sections of the horizon and place them to the side of the operations area, in such a manner that the stratigraphy and context remained intact. The

total extent of the cultural deposit was 1.25 meters wide and 0.75 meters long. When the entire deposit had been relocated, the construction continued and the two archaeologists investigated the relatively intact cultural deposit. The primary method of examination consisted of removal of all overburden by shovel, recovery of the cultural material by trowel, and spreading the remainder of the relocated soil with garden rakes to locate any disjunct artifacts.

The recovery process was completed within two hours and the artifacts were taken to the laboratory facilities at Quaternary Consultants for processing, identification and computer cataloguing.

7.2.1 Lithic Artifact Recoveries

Three types of lithic artifacts were recovered: tools, detritus, and fire-cracked rock. Each type indicates different activities which occurred at the locus.

Two lithic tools were recovered during the Ramp B excavations. These artifacts are a large biface composed of Tongue River Silicified Sediment and an agate pièce esquillée.

The biface (DlLg-33/89B-2050) is semi-lunate in outline and biconvex in cross-section (Plate 46e). Bifacial flaking has occurred on all edges and some ash concretion is present on the proximal end. The specimen is a mottled reddish brown and tan in colour. The reddish coloration may be a result of heat-treatment. The overall dimensions are: length 77.2 mm; width 46.0 mm; thickness 17.3 mm. The working edges occur both on the entire convex edge and the distal portion of the linear edge. The measurements of convex edge are: width 77.2 mm; length 34.6 mm; angle 57°. The opposite edge measures 37.3 mm in width, 5.1 mm in length and has an angle of 66°. Both edges show rounding from use, although it is most pronounced on the short linear edge.

The pièce esquillée (DlLg-33/89B-2048) is rectangular in outline and plano-convex in cross-section (Plate 46f). The overall dimensions are: length 19.1 mm; width 20.7 mm; thickness 6.7 mm. The two working edges are perpendicular to the original flake detachment orientation and consist of the entire width on both edges (18.8 and 19.9 mm). The original flake surface shows evidence of platform preparation. A hinge fracture produced one of the lateral edges.

Evidence of stone tool manufacture was provided by the presence of flakes. One large cortical flake of Swan River Chert (DlLg-33/89B-3316) was present. The remaining lithic flakes were smaller, resulting from the secondary stage of tool manufacture. The types of lithic material were agate (three flakes), fine-grained quartzite (three flakes), and Swan River Chert (three flakes).

Fire-cracked rock was associated with the hearth. The recoveries consisted of 29 fragments of granite (DlLg-33/89B-2501) and four angular fragments of limestone (DlLg-33/89B-3315).

7.2.2 Floral Artifacts

All of the charcoal present in the cultural horizon consisted of minute fragments. One sample (DlLg-33/89B-2046) was obtained. These specimens were too small for species identification.

7.2.3 Faunal Recoveries

7.2.3.1 Shell Bead

Most of the faunal recoveries are residue of subsistence activities. One artifact relating to personal adornment was recovered. The specimen (DlLg-33/89B-2143) is a broken discoidal bead made from clam shell (Plate 46g). The diameter of the bead is 10.2 mm, with an off-centre hole 3.5 mm in diameter. The external circumference has evidence of carving but no subsequent rounding of the edge by grinding. The disc was probably produced by incising both faces of a section of clam shell until it separated from the raw material. Then, the internal hole was drilled from both sides.

While this artifact is tentatively identified as a bead, it could have served as a button or, even, a fish lure which would spiral through the water when attached to a fishing line. Similar artifacts have been recovered from other foci of the Archaic horizon (Kroker *et al.* 1993; Quaternary n.d.).

7.2.3.2 Faunal Remains

A total of 209 faunal specimens were excavated, all deriving from cultural activity. All faunal material was identified to the lowest taxonomic level possible, given the condition of the artifacts. The represented taxa are listed in Table 29.

TAXON	QUANTITY	FREQUENCY
Undifferentiated Mammal		
Large Mammal	7	
Medium/Large Mammal	16	
Bovidae (Cow/Bison Family)		
Bison bison (Bison)	3	
TOTAL MAMMAL	26	12.4%
Undifferentiated Fish	124	
Ictalurus sp. (Catfish)	58	
TOTAL FISH	182	87.1%
Undifferentiated Clam		
Amblema plicata (Three Ridge)	1	
TOTAL FRESHWATER CLAM	1	0.5%
TOTAL FOOD REMAINS	209	100.0%

Table 29: Identified Fauna From Ramp B

The preponderance of the recoveries derive from fish, with the majority being identified as catfish. Based upon frequency of specific elements, a minimum of five catfish are represented. More than one element was used for this determination to ensure an accurate result; e.g., there were two left dentary bones and four right dentary bones (indicating four fish), but there were five left angular bones and two right angular bones. No other fish species were identified in the assemblage.

The mammal bones derived from vertebral, rib and long bone elements of large mammals. Two complete bison vertebra were recovered. These elements were the axis and first thoracic vertebrae from a large individual. No cut marks are evident on the vertebrae. Evidence of carnivore gnawing is present. Spiral fracture occurs when fresh bone is broken and this was observable on some of the fragments. Post-depositional rodent gnawing is present on the axis.

The clam specimen is a complete valve and may represent both a food resource and a source of raw material for the production of beads. The three ridge clam lives on various substrates and is common in the Red/Assiniboine river system (Clarke 1981:256).

7.3 RAMP C LOCUS

On April 19, 1990, backhoe excavation during the construction of the Wall Through Time ramp uncovered a single component cultural deposit, consisting of three hearths in close proximity. The deposit consisted of quantities of bone and lithic fragments within a matrix of ash and charcoal that was 3 to 10 cm thick. It extended perpendicularly across the impact zone and covered a total area of 6.5 square metres. The heavy equipment operation was relocated to another portion of the operations area and mitigative action was undertaken by a team of three archaeologists.

The mitigation area was gridded into one meter square units and surveyed into the contractor's grid, with the datum point being the southeast corner of Unit 6. Each unit was sub-divided into quadrants for provenience. Excavation was conducted by trowel and shovel shaving. The soil from Units 1 through 4 was sifted through one-quarter inch screen. Because of the great density and small size of materials found in parts of Unit 1 and Units 5, 6 and 7, all deposits from these areas were collected as bulk samples for water-screening to ensure maximum recovery of cultural materials. Soil samples for flotation tests were taken from Units 1, 2, 3 and 5.

The mitigative action was completed on the same day of discovery. The bulk samples were water screened, using 1mm window screen mesh, at a later date. Laboratory preparation, artifact identification and computer cataloguing occurred at the facilities of Quaternary Consultants Ltd.

7.3.1 Lithic Recoveries

A total of 453 lithic artifacts was recovered from the excavation. For the purpose of identification and analysis, lithics were initially classified as Tools (showing retouching and/or utilization scars), Detritus (the non-utilized residue of tool manufacture - flakes and cores), Fire-cracked Rock, or Unmodified Lithics such as pebbles. Each of these classes will be discussed separately, as they indicate different types of activities.

7.3.1.1 Lithic Tools

Nine artifacts were identified as tools (Table 30). The majority of these were recovered from the south edge of the excavation. However, there does not seem to be a pattern of distribution, as at least one specimen occurred in every unit except Unit 2. The distribution of the tools does not correspond with the pattern of lithic tool manufacture residue (Figure 8) and must derive from other activities.

CAT	ARTIFACT			DIMENSIONS			WORKING EDGE METRICS		
NO.	TYPE	LOCATION	MATERIAL	Length	Width	Thick	Width	Length	Angle
1785	Biface (incomp)	Unit 5 -NE	Swan River Chert	16.24	33.14	5.41	19.31	2.98	45
1998	Biface	Unit 7 -NW	Swan River Chert	64.74	34.04	13.00	L 50.44 R 60.51	3.19 8.62	55 55
1641	Retouched Flake	Unit 4 -SW	Chert	24.12	19.74	4.56	20.78	4.96	20
1713	Retouched Flake	Unit 4 -NE	Chert	11.49	6.02	1.66	5.98	-0.41	20
1483	Scraper	Unit 1 -NW	Swan River Chert	37.64	23.92	11.66	19.89	3.32	60
1760	Scraper (incomp)	Unit 5 -NW	Swan River Chert	23.30	24.62	5.50	19.92	4.68	70
1894	Scraper	Unit 6 -SE	Quartzite	36.72	20.84	9.10	E 20.82 S 27.61	4.63 3.00	65 55
2002	Scraper	Unit 7 -NW	Cathead Chert	19.02	19.62	7.76	E 19.48 S 15.61	2.97 3.40	60 80
1575	Utilized Flake	Unit 3 -SE	Chert	41.10	33.80	8.22	32.16	1.64	50

Table 30: Recovered Lithic Tools from Ramp C

The probable functions of the tools are predicated upon the shape of the specimen and the angle of the working edge. Tools with edges that are less than 45° are likely fine cutting implements, 45° to 60° edge angles probably characterize coarse cutting implements or shallow scrapers and edge angles greater than 60° would imply a scraping function. The two retouched flakes and the two bifaces are probably cutting tools and the four scrapers and the utilized flake were probably used to flense hides prior to tanning for clothing or to scale fish. The most frequently used raw material (Table 30) was Swan River Chert (4), followed by undifferentiated chert (3), Cathead Chert (1) and quartzite (1).

One biface (DlLg-33/89B-1785) is incomplete, having been broken perpendicular to the working edge, near the proximal end (Plate 47a). The resultant fragment is semi-lunate in shape, with only a small portion of the working edge present. Evidence of heat alteration is present and may have occurred after the broken tool was discarded, inasmuch as heat spall scars are present on both the obverse and reverse faces. If the heat treatment had occurred as part of the manufacturing process, wear polish would have been present as a result of handling. Wear polish occurs only on the surfaces which are not affected by heat spalls. It would seem likely that the broken fragment was tossed into the nearby hearth (probably as an expression of frustration).

The second biface (DlLg-33/89B-1998) is a large, complete, biconvex, leaf-shaped tool with a flat base. It exhibits continuous bifacial retouch along both working edges, which converge to form a point (Plate 47b). Slight wear polish is present on both faces near the proximal end of the tool where it would have been held in the fingers. Moderate rounding of the working edge has occurred through use, suggesting considerable use as a cutting implement. The lack of wear polish on the body of the tool suggests that it may have been hafted, rather than used as a hand tool.

DlLg-33/89B-1641 is a discoidal flake with unifacial retouch and slight wear use rounding on the working edge (Plate 47c). The material is a reddish-brown coarse-grained chert. The working edge angle is 20°, suggesting use as a temporary cutting implement. The second retouched flake (DlLg-33/89B-1713) is a very small, lamellar, secondary flake with micro-flaking along the proximal portion, near the bulb of percussion. The working edge is only 5.98 mm and consists of 14 minuscule flake scars (or 23.4 flakes/cm). This is suggestive of microblade technology.

Few Manitoba studies have published data on flake scar frequency. Examination of the lithic recoveries from Gesund Site (HdKm-6) in northern Manitoba (MacLaren/Quaternary 1988) detailed flake scar frequency on retouched flakes and scrapers. At HdKm-6, retouched flake frequency ranged from 3.9 to 11.5 flakes/cm while scraper flake scar frequency clustered at 3.7 to 6.5 flakes/cm and 7.0 to 9.0 flakes/cm, although one scraper had 16.4 flakes/cm. Gesund is considered to be a Shield Archaic occupation site. However, the very finely flaked scraper may be indicative of the Arctic Small Tool Tradition, which has also been recorded in the Limestone River area.

Four scrapers were recovered from Ramp C, two of which had a single working edge. DlLg-33/89B-1760 is a tabular end-scraper and appears to have broken medially (Plate 47d). Some wear polish occurs at the linear proximal edge and slight working edge rounding is present. DlLg-33/89B-1483 is a slightly modified core fragment, wherein attempts at platform preparation formed a linear working edge with an edge angle of 60° (Plate 47e). Shattering and minor spalling during the platform preparation caused an undercut bevel at the edge. Wear polish on the opposite side suggests that the tool was hand-held, rather than hafted. DlLg-33/89B-1894 (Plate 47f) is a domed oblong tool and DlLg-33/89B-2002 (Plate 47g) is roughly triangular in shape. Both possess two working edges showing use wear and were probably hafted so that both working edges could be used.

The final tool is a quadrilateral utilized flake (DlLg-33/89B-1575) of reddish-brown chert (Plate 47h). Some wear polish occurs along an edge previously modified during primary lithic reduction. Slight wear polish is present on the opposite side of the flake, indicating that it was hand-held. The angle of the working edge would suggest a scraping function, although the minor degree of edge rounding suggests a very short term of use for this temporary tool.

7.3.1.2 Lithic Detritus

One bone flake (DlLg-33/89B-1800), deriving from a large mammal long bone, was recovered from the SW quadrant of Unit 6. While not composed of stone, the flake demonstrates the application of lithic technology upon the dense cortical portion of bone. The production of this flake may be intentional or as a by-product of using a hammer to shatter the long bone for marrow extraction or bone grease production. Fresh bones usually do not produce flakes and such an artifact indicates

that a dried bone was the source of the flake, suggesting tool production rather than food processing.

One core and 210 lithic flakes were recovered from the excavation. The core, composed of Swan River Chert, occurred in the NW quadrant of Unit 7. The heaviest concentration of flakes occurred in Unit 7, with smaller concentrations in the north half of Unit 6 and in Unit 4 (Figure 8).

The most frequently used raw material (Table 31) was Swan River Chert (85 flakes = 40%), followed by quartzite (31 flakes = 15%), limestone (23 flakes = 11%), undifferentiated chert (22 flakes = 10%), quartz (14 flakes = 7%), Knife River Flint (12 flakes = 6%), and chalcedony (11 flakes = 5%). If the probable source areas for the materials is considered, five groupings occur:

Group I: Materials found throughout the southwestern portion of Manitoba and, in particular, at deposits such as the Souris Gravel Pits. This group includes agate, petrified wood, chalcedony, porcellanite, Swan River Chert, and jasper.

Group II: Materials found to the south. The primary example of this group is Knife River Flint which occurs at quarry locations in North Dakota.

Group III: Materials found to the east and north of the Red River, associated with the Canadian Shield. This group consists of basalt, rhyolite, Lake of the Woods Black Chert, and quartz.

Group IV: Materials whose distribution is a result of glacial transportation and can be found throughout the province. This group is represented by quartzite and undifferentiated chert.

Group V: Materials from nearby sources. This group is represented by limestone and Selkirk Chert.

The most frequent group is Group I, representing nearly half (48.6%) of the total. Group IV provides almost one-quarter (25.7%) with Group V (11.9%), Group III (8.1%) and Group II (5.7%) making up the remainder. Inasmuch as lithic materials are not available at The Forks, all material would have been transported to the location by the occupants. Some materials, such as Group IV, could have been obtained at creek mouths and riffle areas to the west along the Assiniboine River. Group V materials could have been found slightly downstream on the Red River at the St. Andrews Rapids. Most of the other lithic types are the result of long-distance transport. It appears to be a reasonable assumption that the most plentiful groups would represent source areas recently visited by the occupants, in this case--the southwestern part of Manitoba and the Canadian Shield to the east.

It can be assumed that most flakes are the result of lithic reduction for tool making or modification. However, the limestone flakes may derive from shattering operations of heat-treated cobbles to obtain nodules of Selkirk Chert for tool manufacture. The distribution of the flakes corresponds with the distribution of the cobbles and spalls which are described in the fire-cracked rock section.

The limestone flakes may not be a result of direct tool manufacture. If they are not considered, 187 flakes have resulted from lithic reduction, with an average length of 10.55 mm, average width of 7.30 mm, and average thickness of 2.33 mm.

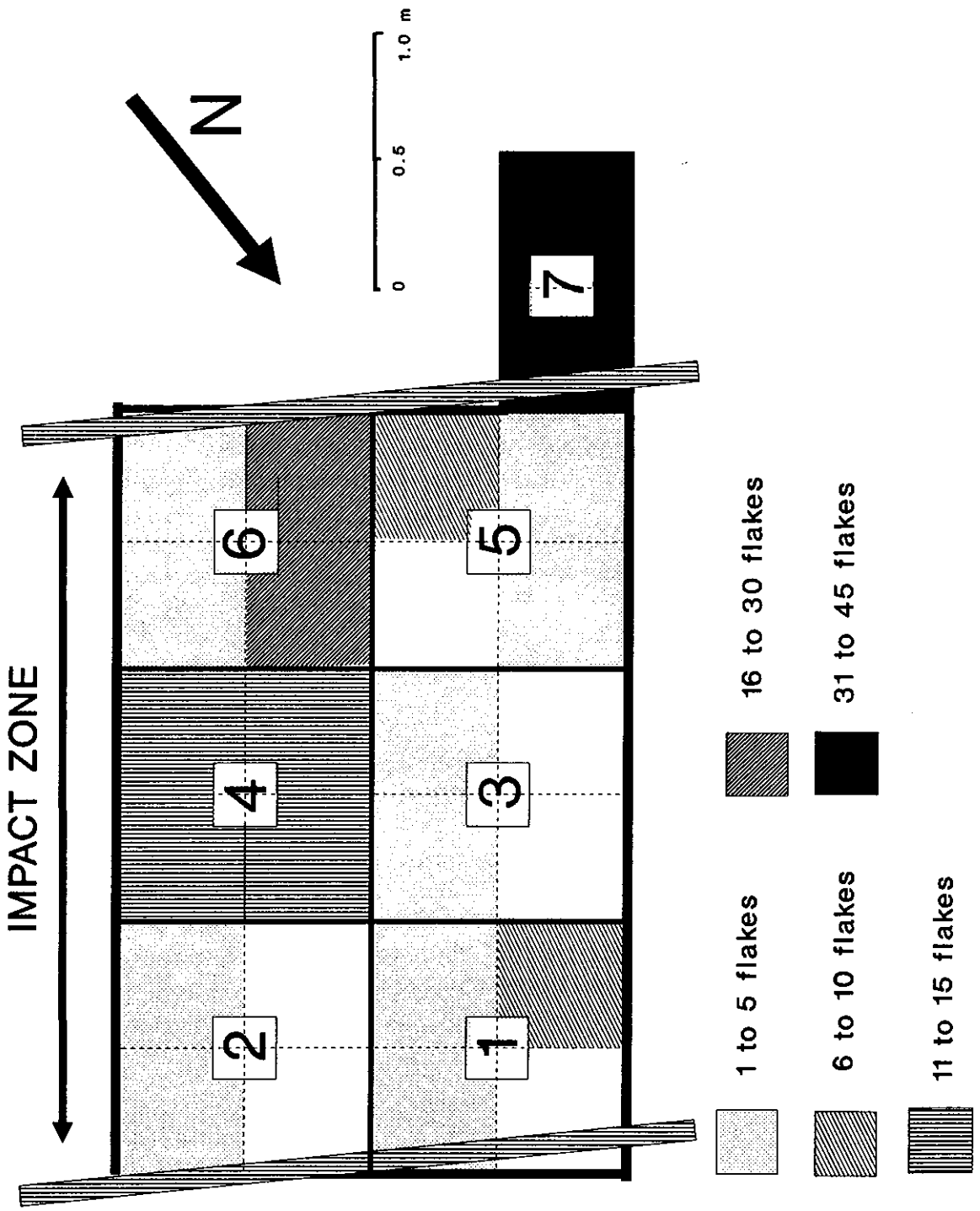

Figure 8: Distribution of Flakes - Ramp C

LOCATION		MATERIAL															QTY
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Unit 1	NW	1	5	3	-	-	-	-	-	-	-	-	-	-	-	-	9
	SW	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	3
Unit 2	SE	-	-	1	2	1	-	-	-	-	-	-	-	-	-	-	4
	SW	-	2	-	-	-	3	-	-	-	-	-	-	-	-	-	5
Unit 3	SE	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Unit 4	SW	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	2
	SE	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
	NW	-	3	4	3	-	2	-	-	-	-	-	-	-	-	-	12
Unit 5	NE	-	7	2	1	-	-	-	-	2	-	-	-	-	-	-	12
	SW	-	4	1	2	-	5	-	1	-	-	-	-	-	-	-	13
Unit 6	SE	-	7	1	4	-	2	-	1	-	-	-	-	-	-	-	15
	NW	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	5
	NE	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Unit 7	SW	-	6	1	1	-	-	-	-	-	-	-	-	-	-	-	8
	NW	-	3	2	5	-	6	-	-	1	-	1	-	-	-	-	18
	NE	-	8	3	2	-	1	-	1	2	1	1	-	-	-	-	19
	SW	-	-	-	-	-	2	-	-	-	-	-	-	-	-	1	3
	SE	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
	NW	1	18	2	-	-	-	5	4	2	-	-	1	-	1	-	34
	NE	1	18	4	2	-	-	8	4	5	1	-	1	1	-	-	45
TOTAL		3	85	31	22	1	23	14	11	12	2	2	2	1	1	1	211

Identification of Material Codes

1: Agate
2: Swan River Chert
3: Quartzite
4: Undifferentiated Chert
5: Siltstone
6: Limestone
7: Quartz
8: Chalcedony
9: Knife River Flint
10: Porcellanite
11: Rhyolite
12: Selkirk Chert
13: Lake of the Woods Black Chert
14: Jasper
15: Bone

Table 31: Flake Recoveries from Ramp C

7.3.1.3 Fire-cracked Rock and Unmodified Lithics

Fire-cracked granitic and limestone fragments were recovered throughout the excavation area. Granitic specimens included representatives of several types of material - granite, granodiorite, diorite and gabbro.

The distribution is recorded by quadrant (Table 32) and depicted in Figure 9. The densest concentration was observed in Unit 4, with another heavy concentration on the southern periphery of the impact zone (Units 5, 6 and 7).

		Limestone		Granitic		TOTAL	
Unit	Quad	Qty	Weight	Qty	Weight	Qty	Weight
1	NW	3	103.7	24	26.7	27	130.4
	SE	-	-	1	3.5	1	3.5
2	NW	1	21.0	3	4.4	4	25.4
	SW	-	-	3	4.0	3	4.0
3	NE	-	-	2	33.0	2	33.0
	SW	-	-	3	4.2	3	4.2
4	NW	-	-	14	10.1	14	10.1
	NE	1	140.4	1	7.4	2	147.8
	SE	14	371.6	11	33.0	25	404.6
	SW	3	178.0	-	-	3	178.0
5	NW	-	-	5	17.8	5	17.8
	SW	2	96.0	38	150.1	40	246.1
6	NW	3	48.9	11	229.4	14	278.3
	NE	-	-	10	14.5	10	14.5
	SE	2	47.6	1	0.4	3	48.0
	SW	-	-	4	21.4	4	21.4
7	NW	-	-	39	180.4	39	180.4
	NE	-	-	32	271.5	32	271.5
TOTALS		29	1007.2	202	1011.8	231	2019.0

Table 32: Ramp C - Distribution of Fire-cracked Rock

Fire-cracked rock is generally assumed to be the result of fluctuating heat situations caused by the stones' location as the outline of a hearth. Ethnographic references note the use of stones as heating agents where hot stones were placed in containers of liquid to raise the temperature for cooking. It would be logical to assume that cohesive stones, rather than granular stones, would be preferred for this use as 'boiling stones', as less of the rock material would spall off into the food. Also, the ethnographic literature contains references to the heating of tool-quality lithic material to anneal it and make it more tractable for stone tool manufacture.

Inasmuch as all lithic material on the site would have been carried to the location by people, the choices of the types of material would have been made with the function in mind. Granite cobbles tend to disintegrate after repeated hot-cold cycles and are not likely to have been used as boiling stones. Also, granite, due to the large crystals, is not suitable for tool manufacture. Limestone cobbles tend to be more cohesive and when they do shatter as a result of temperature change, they spall into larger, angular fragments. Accordingly, limestone or dolomite would be more likely to

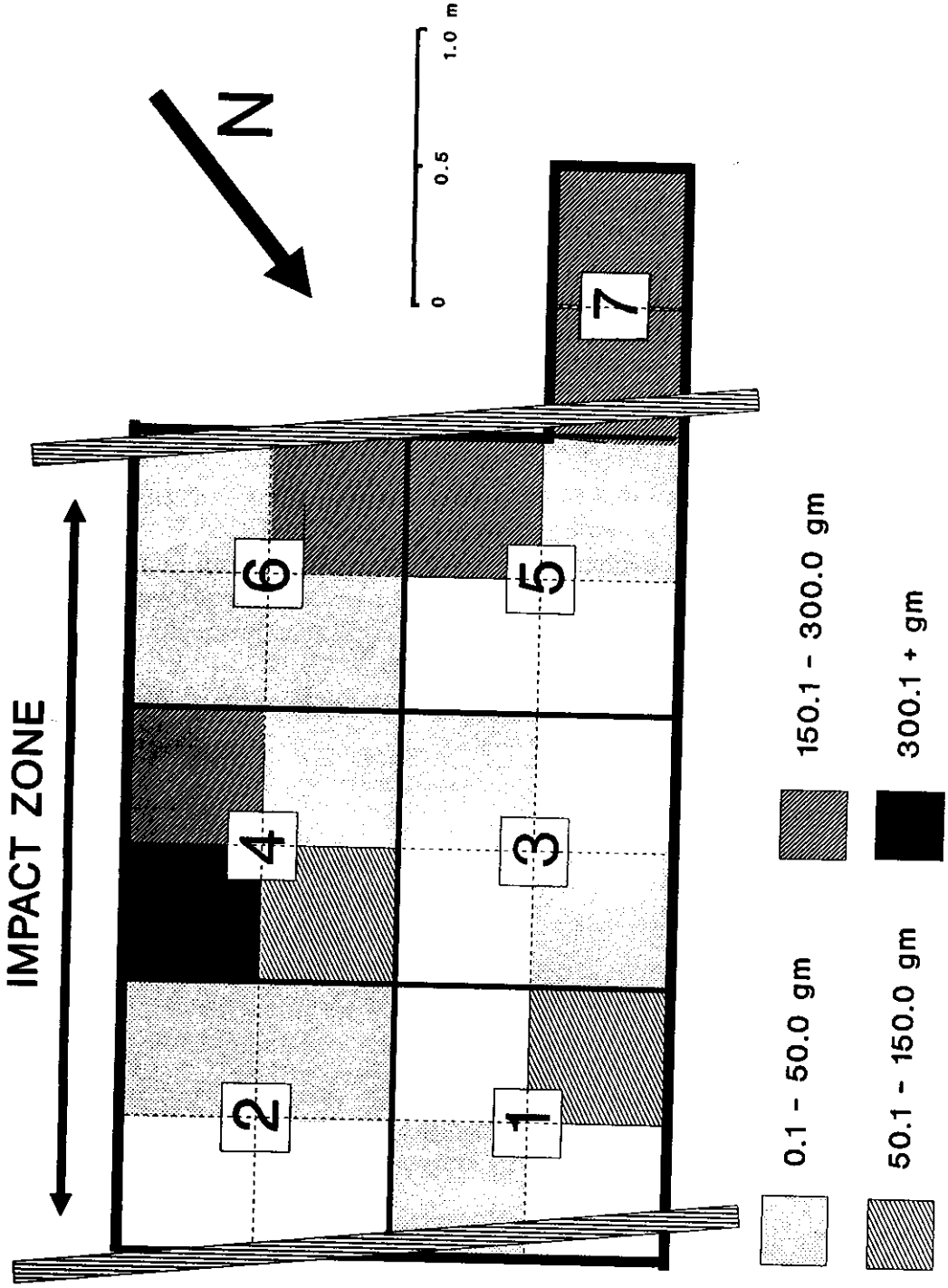

Figure 9: Ramp C - Distribution of Fire-cracked Rock

be used as boiling stones than granite. In addition, limestone deposits often contain chert nodules, which are a source of tool-quality material. Heating of the limestone cobbles make them more likely to split along sedimentary seams and reduce the chance of fracturing the chert nodule when the cobble is shattered to locate the chert.

The granite fragments occur 16 of the 26 quadrants, with the densest deposits in Unit 5SW, Unit 6NW, Unit 7NE and Unit 7NW. The limestone specimens are more localized than the granite fragments, occurring in only eight quadrants. The majority of the limestone material occurs in Unit 4 and the distribution suggests that the limestone cobbles were used for a different function than granite cobbles. Both types of material may have served as hearth outliners, but the limestone may have been secondarily used as a source for chert and/or as boiling stones.
Three small pebbles (quartzite, feldspar, and sandstone) were recovered from the excavation. Each specimen is less than one gram in weight and probably was brought into the location by floodwater or ice-rafting action.

7.3.2 Floral Recoveries

Seven samples of charcoal were recovered from the excavation area, encompassing 355 fragments. The samples were collected from seven different quadrants: Unit 1-NW; Unit 4-NW, SW; Unit 6-NW, NE; and Unit 7-NW, NE. A minimum of five specimens from each sample was examined under a stereoscopic microscope to ascertain the taxonomic identity. Ash (*Fraxinus*) predominates (61.5%) with oak (*Quercus*) contributing the majority of the remainder of the samples (30.8%). Minor representation of maple (*Acer*) (5.1%) and birch (*Betula*) (2.6%) was observed. All species are common constituents of the present remnants of the riverine gallery forest and would have been present at the location during the period of occupation.

7.3.3 Faunal Recoveries

The faunal remains consisted of 7576 specimens. During analysis, these were identified to the appropriate taxonomic level, subject to degree of completeness and preservation. The preponderance of the assemblage was fish, accounting for 4692 specimens (61.9%). A large percentage of the recoveries was extremely fragmented and could not be identified to class. These unidentifiable specimens represented 2402 artifacts or 31.7% of the sample.

Within each class, specimens were identified to the lowest taxonomic level that was possible or to the general size range within that class, i.e., large, medium or small. The determinations are presented in Table 33 (mammal, bird and unidentifiable) and Table 34 (fish, clam and snail). Distributions of the faunal remains are depicted in Figures 10 and 11.

Within the mammal grouping (Table 33), two bones were identified to the order, Artiodactyla (moose, elk, deer, bison). This individual may have contributed the majority of the extremely fragmented large, medium/large, and undifferentiated mammal bone specimens. In addition, one male individual of fisher (*Martes pennati*) was identified. Some of the medium mammal remains as well as the two teeth identified to the order, Carnivora, probably derive from this specimen. Fishers currently occur in the southern Boreal Forest and the range could have included riverine gallery forests.

LOCATION		TAXON 1	2	3	4	5	6	7	8	9	10	11	12	13	SUM
Unit 1	NW	453	2	-	1	2	1	-	1	-	-	-	-	-	460
	NE	-	-	-	2	-	-	-	-	-	-	-	-	-	2
	SW	2	-	-	2	-	-	-	-	-	-	-	-	-	4
	SE	-	-	-	4	-	-	-	-	-	-	-	-	-	4
Unit 2	NW	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	NE	-	-	1	2	-	-	-	-	-	-	-	-	-	3
	SW	11	-	1	8	-	-	-	-	-	-	-	-	-	20
	SE	-	6	-	16	-	-	-	-	-	-	-	-	-	22
Unit 3	NW	-	-	-	7	-	-	-	-	-	-	-	-	-	7
	NE	3	-	-	4	-	-	-	-	-	-	-	-	-	7
	SW	-	-	-	1	2	-	-	-	-	-	-	-	-	3
	SE	2	-	-	9	-	1	-	-	-	-	-	-	-	12
Unit 4	NW	1	-	1	39	-	-	-	-	-	-	-	-	-	41
	NE	76	-	-	34	-	-	-	-	18	-	1	2	1	132
	SW	116	-	-	54	-	-	-	-	-	-	-	-	-	170
	SE	148	-	-	20	-	-	-	-	1	-	-	6	-	175
Unit 5	NW	24	-	-	11	-	-	-	-	-	-	-	-	-	35
	NE	-	1	-	-	-	-	-	-	-	-	-	-	-	1
	SW	80	-	1	19	-	-	-	-	-	-	-	-	-	100
	SE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unit 6	NW	215	-	1	20	-	-	-	1	-	-	-	-	-	237
	NE	125	-	2	40	1	-	-	-	-	-	-	-	-	168
	SW	5	-	-	24	-	-	-	-	-	-	-	-	-	29
	SE	3	-	1	11	-	-	-	-	-	-	-	-	-	15
Unit 7	NW	528	2	6	7	5	-	-	8	-	2	-	-	-	558
	NE	611	-	3	1	5	-	3	4	-	-	32	-	-	659
TOTALS		2403	11	17	336	15	2	3	14	19	2	33	8	1	2864

1. Unidentifiable Class
2. Undifferentiated Mammal
3. Large Mammal
4 Medium/Large Mammal
5. Medium Mammal
6. Artiodactyla Order
7. Carnivora Order
8. Fisher (*Martes pennati*)
9. Undifferentiated Bird
10. Medium/Large Bird
11. Medium Bird
12. Duck/Goose Order (Anseriformes)
13. Duck Family (Anatinae)

Table 33: Mammal and Bird Remains from Ramp C

It is possible that a single bird of the duck family (Anatinae) could have provided the entire avian assemblage (Table 33). Depending upon the degree of completeness of the bones, identification ranged from undifferentiated bird, through medium and medium/large bird, to the specific family.

The majority of the fish specimens (88.4%) could not be identified beyond class (Table 34). However, six different taxa were observed. Sucker (Catostomidae) was the most prevalent (53.2% of the identified specimens), followed by catfish (43.6% of the identified specimens). Walleye (1.9%) and sturgeon (1.0%) were represented, as were burbot and pike.

Four specimens of edible freshwater clams were present, of which one could be identified as Three-ridge (*Amblema plicata*) and another as Black Sand-shell (*Ligumia recta*). Both are riverine clams and could have provided food as well as raw material for the manufacture of tools, implements and

ornaments. Seventeen naturally-deposited fingernail clams (3) and snails (14) were recovered. These specimens would have been deposited at the locus during high-water marks or floods.

LOCATION		TAXON												SUM
		1	2	3	4	5	6	7	8	9	10	11	12	
Unit 1	NW	439	17	33	-	2	-	-	-	-	-	2	5	498
	NE	331	11	8	-	-	-	-	-	-	-	-	-	350
	SW	34	-	4	-	-	-	-	-	-	-	-	-	38
	SE	10	-	-	-	-	-	-	-	-	-	-	-	10
Unit 2	NW	141	5	1	-	-	-	-	-	-	-	-	-	147
	NE	7	-	3	-	-	-	-	-	-	1	-	-	11
	SW	49	8	5	-	-	-	-	-	-	-	-	-	62
	SE	29	3	1	-	-	-	-	-	-	-	-	-	33
Unit 3	NW	40	1	3	-	-	-	-	-	-	1	-	-	45
	NE	15	-	4	-	-	-	-	-	-	-	-	-	19
	SW	107	1	7	-	-	-	-	-	-	-	-	-	115
	SE	62	1	3	1	-	-	-	-	-	-	-	-	67
Unit 4	NW	226	14	6	-	-	1	-	-	-	-	-	-	247
	NE	185	9	8	-	-	-	-	-	-	-	-	-	202
	SW	258	10	6	-	-	-	-	-	-	-	-	-	274
	SE	252	11	13	-	-	-	-	-	-	-	-	-	276
Unit 5	NW	59	2	13	-	-	-	1	1	-	-	-	-	76
	NE	5	1	6	-	-	-	-	-	-	-	-	-	12
	SW	119	9	19	-	-	-	-	2	-	-	1	-	150
	SE	-	-	-	-	-	-	-	-	-	-	-	-	-
Unit 6	NW	294	28	15	1	1	-	-	-	-	-	-	-	339
	NE	205	22	12	-	-	-	-	-	3	-	2	2	246
	SW	243	12	11	-	-	-	-	1	-	-	-	-	267
	SE	119	40	2	-	-	-	-	-	-	-	-	-	161
Unit 7	NW	417	33	31	-	1	-	-	-	-	-	-	-	482
	NE	517	39	20	8	1	-	-	-	-	-	-	-	585
TOTALS		4163	281	230	10	5	1	1	4	3	2	5	7	4712

1. Undifferentiated Fish
2. Sucker (Catostomidae) Family
3. Catfish/Bullhead (*Ictalurus* sp.)
4 Walleye (*Stizostedion* sp.)
5. Sturgeon (*Acipenser fulvescens*)
6. Burbot (*Lota lota*)
7. Pike (*Esox lucius*)
8. Freshwater Clam (Unionidae)
9. Fingernail Clam (Sphaeriidae)
10. Freshwater Snail (Gastropoda)
11. Spiral Snail (Lymnaeidae)
12. Flat Snail (Planorbidae)

Table 34: Fish and Shellfish Remains - Ramp C

The densest concentrations of remains were in the two excavated quadrants of Unit 7, with two other concentrations found in Unit 4 and Unit 6. When the densities are plotted by Class, two different patterns are seen. Mammal remains (Figure 10) are densest in the NE quadrant of Unit 6 and the SW quadrant of Unit 4. As with the fishbone recoveries, the other quadrants of Units 4, 6 and 7 contain concentrations. The avian material derived primarily from the NE quadrant of Unit 4 and the NE quadrant of Unit 7. The densest concentrations of fish (Figure 11) are found in Unit 7 and the NW quadrant of Unit 1, with a relatively uniform frequency in all quadrants of Units 4 and 6.

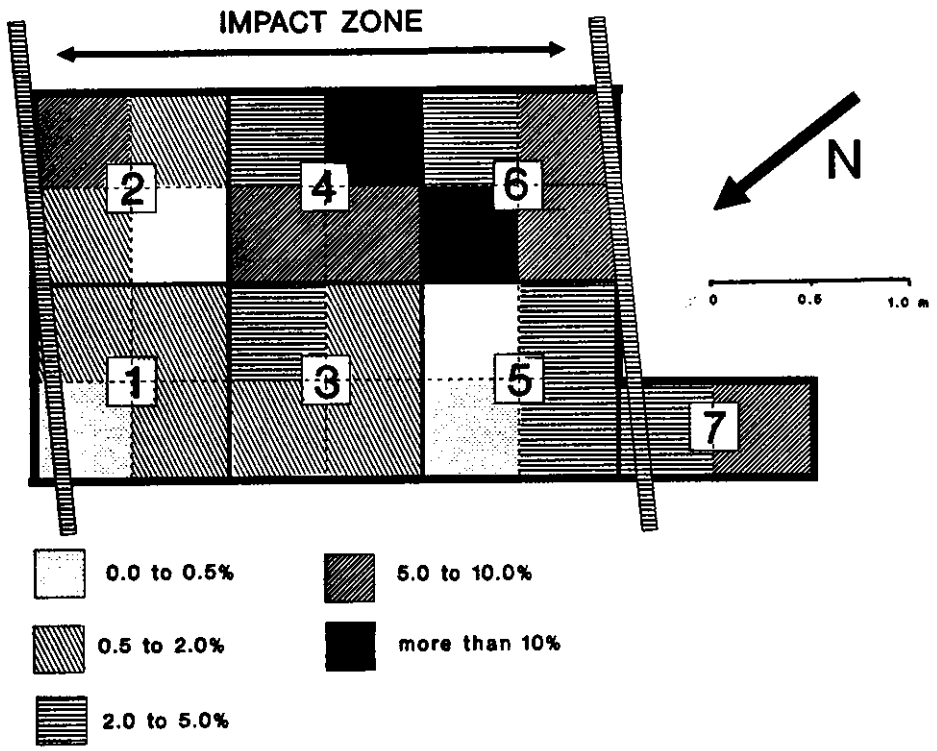

Figure 10: Distribution of Mammal Remains - Ramp C

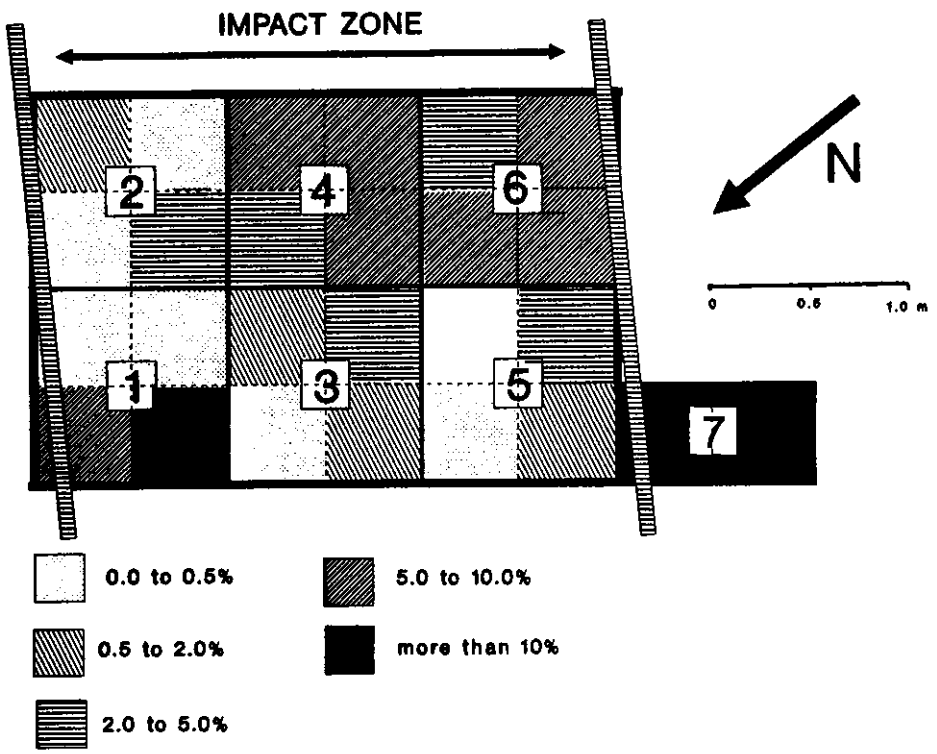

Figure 11: Distribution of Fish Remains - Ramp C

The difference in patterns of deposition suggest that the two classes were prepared or processed at different times and that the residue was discarded in slightly different locations. As an alternative possibility, the recoveries could indicate sequential occupations.

7.3.4 Radiocarbon Dates

Two radiocarbon samples of bone were submitted to the Radiocarbon Lab of the Geological Sciences Department at Brock University, St. Catharines, Ontario. Both samples consisted of several catalogue numbers, combined to make up a sufficient weight for accurate testing.

The first sample was collected from the hearth area in Unit 1. This area was located in the northern portion of the unit and overlaps into the NW, NE and SW quadrants. The catalogue numbers ((DlLg-33/89B-1464, 1465, 1467-1482, 1497, 1498, 1500-1512, 1522, 1523) produced a combined weight of 170 grams. The radiocarbon date derived from the sample was 2990 $\pm$ 80 years (BGS 1481) before present. The second sample was recovered from the hearth located in the north half of Unit 7. This sample also consisted of several catalogue numbers ((DlLg-33/89B-1901, 1920, 1971, 1992-1994), weighing 258 grams. The second sample provided a radiocarbon date of 2850 $\pm$ 75 years (BGS 1482) ago. The average of the two samples is 2920 B.P. or 970 B.C. This date conforms closely with the radiocarbon dates already obtained from Archaic occupation horizons encountered at a similar elevation.

7.3.5 Discussion

The scattering of materials outside the three hearth features may have been the original deposition pattern, but was likely affected by subsequent disturbances. A rodent burrow was noted in Unit 2. Frost and flood action over time are factors which may have altered the condition of the features from their original state.

The interpretation of work areas at or near the hearths is tenuous, due to the generalized nature of the deposit. Each of the hearth features contains large amounts of lithic and faunal remains. Unit 7 contained greater numbers of lithics and faunal material within its boundaries. Some of the flakes recovered from this unit were the same lithic material as the biface. This would indicate that some stoneworking, either the finishing stages of manufacture or re-sharpening of a blunted working edge, occurred at the location.

The Ramp C locus is probably related to the nearby Archaic occupation zone, located during the 1988 impact assessment (Kroker 1989a). Whether it is an extension of the same deposit or a temporally or physically separate deposit is unknown. This excavation covered only those areas that were to have been directly impacted by the construction of the ramp. The hearth that appeared in the north edge of Unit 1 most likely continues to extend northeastward into the unexcavated wall of the ramp. The hearth in Unit 7 extends southward into areas which will not be impacted.

7.4 STAIRWELL LOCUS

Archaeological evidence was observed during monitoring of the landscaping activities near the upper steps portion of the central stairway of the Assiniboine Riverfront Quay. On the afternoon of May 15, 1990, a small quantity of fish bones were observed while a front-end loader was undertaking the final land-levelling activities at the locus. The construction project manager was advised that mitigative activities would be required and he re-assigned the machine and operator to another area of the site.

The cultural deposit occurred in a small area which was being impacted by trenching for the sidewalls of the staircase and the attendant adjacent land grading. Surface collection of the disturbed material was undertaken and trowelling was used to recover artifacts which were in the impact zone. The area of the cultural deposits which required mitigation was approximately 1.5 square meters.

The thin cultural deposit (less than one centimetre thick) was not continuous; i.e., artifacts were separate rather than components within a matrix. The impression was that the deposit had been modified by flood action and was the result of fluvial deflation. The artifacts rested upon a faint, discontinuous and often indistinct juvenile soil horizon.

7.4.1 Lithic Recoveries

Three small flakes were recovered - two pale amber chalcedony (DlLg-33/89B-2109) flakes and one Swan River Chert flake (DlLg-33/89B-3282). Ten limestone fragments of fire-cracked rock were recovered.

7.4.2 Floral Recoveries

Ten minute fragments of charcoal were recovered. None were large enough for species determination, beyond identification as deciduous (Angiospermae).

7.4.3 Faunal Recoveries

The faunal remains consisted of 210 specimens of cultural origin and two naturally deposited freshwater snails. The specimens were predominately fish (131 or 62%) with smaller amounts of mammal (38 or 18%), freshwater clam (2%) and a single vertebra from a medium-sized bird. A portion of the assemblage (17%) was too fragmented to be identified to class.

The dominate species among the fish remains was catfish or bullhead (*Ictalurus* sp.), accounting for 14 of the 16 bones which were identified to species. The other two specimens were identified to Catostomidae (sucker family). The mammal bone consisted of long bone, rib and vertebra fragments deriving from large individuals, such as elk or bison.

7.4.4 Discussion

The cultural deposit does not appear to be extensive or concentrated. The artifact frequencies diminished to the east and did not seem to be any denser to the west, where the undisturbed component is situated below the stairway landing. As the cultural material was to be overlain with concrete, above three to five centimetres of silt, no further mitigation was deemed necessary.

Based upon the stratigraphic placement and the elevation of the horizon, this cultural deposit is probably an outlier of the extensive Archaic horizon, previously recorded in 1988 (Kroker 1989a), 1989 (Kroker and Goundry 1990a) and at Ramp B and Ramp C loci.

7.5 EAST HILL LOCUS

Archaeological evidence was observed during monitoring of the landscaping activities occurring to the west of the Wall Through Time ramp. On the afternoon of July 2, 1990, a small quantity of fish bones, admixed with fragments of charcoal, were noted after a scraping action by the front-end loader. The construction project manager was advised that mitigative activities would be required and he re-assigned the machine and operator to another area of the site.

Surface collection of the disturbed material was undertaken and arrangements were made to field an excavation team on the following day. The area was gridded into meter units (Figure 12) and the baseline datums were surveyed into the contractor's site grid. During excavation, it was found that the south and west sides of the locus had been truncated by prior heavy equipment activities. The recoveries at these margins were minimal, indicating that little, if any, archaeological material had been removed prior to discovery. The area of the cultural deposits was found to be approximately 8.5 square meters.

The field team excavated the locus on July 3. Most units were sub-divided into quadrants. The provenience for recoveries (lithics, charcoal, and faunal) was recorded by quadrant. The location of lithic tools observed during the excavation were marked on the unit floorplans. The location of ash deposits and depressions were mapped.

An outlier component of the locus was observed and excavated on July 10 and 11. This isolated component was designated as Unit 25 and occurred 1.5 meters east of the East Datum (Figure 12). The component consisted of a fluvially-deflated hearth feature or ash deposit, with lithic and faunal artifacts present.

7.5.1 Features

Five distinct features were recorded; a single depression straddling Units 1 and 3, and four distinct ash deposits (Figure 12). The depression was roughly oval in shape and measured 60 x 30 cm. The depth was 6 cm. The infill of the depression consisted of four thin layers of sediment. The top layer was a continuation of the cultural matrix of the locus, underlain by a thin grey-brown silt layer containing minimal charcoal or bone. The third layer consisted of a light brown silt with some charcoal and bone, while the basal layer contained quantities of charcoal and fish bone, similar to the top layer, although to a lesser degree.

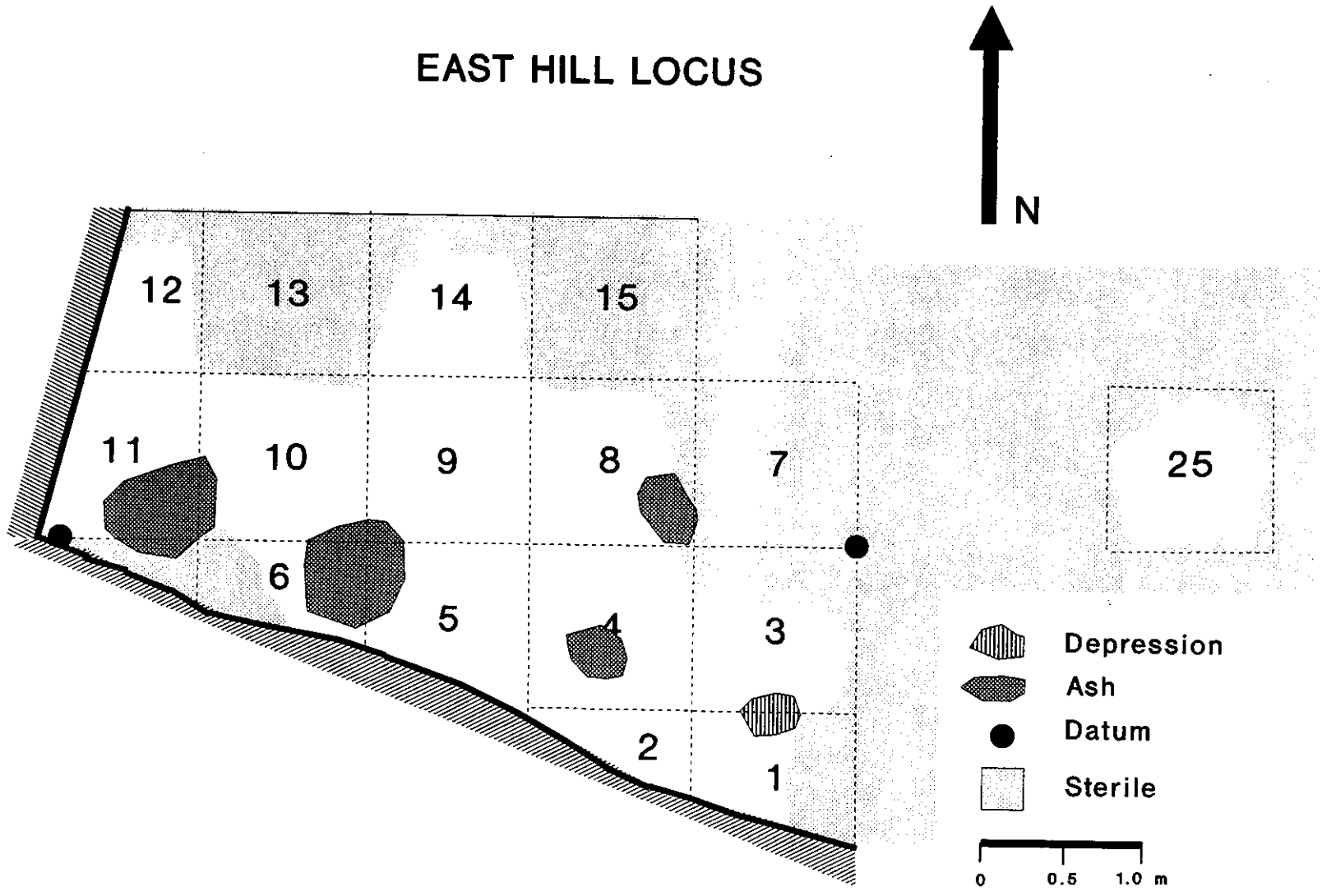

Figure 12: Features in East Hill Locus

The ash deposits were more-or-less circular and consisted of fine grey ash, small charcoal fragments and bone fragments. Fire-cracked rocks occurred in association with the deposits. Most were relatively thin, although the ash deposit in Unit 11 was 4 cm thick. Three of the deposits occur in a line, with a distance of 3.5 meters between the west edge of Unit 11 deposit and the east edge of Unit 4 deposit. The depression in Unit 3 is also in the same line.

7.5.2 Lithic Artifact Recoveries

Four types of lithic artifacts were recovered: tools, detritus, fire-cracked rock, and unmodified lithics. Each group indicates that different types of activities occurred at the locus.

7.5.2.1 Lithic Tools

Seventeen lithic tools were recovered during the East Hill excavations. The recovery locations are noted on Figure 13. The tools cluster in the central portion of the locus with the majority occurring in Unit 5. These artifacts are listed in Table 35.

Three functional categories of tools were present, indicating that more than one type of activity occurred at the location. The measurements of the tools are listed in Table 36.

Three of the implements are generally considered to relate to hide-processing and clothing manufacture. An alternative explanation would be that these steep-angled tools could have been used to remove scales from the fish which were processed at the location. The scraping tools consist of a basalt chitho, an agate scraper and a quartzite scraper. The chitho (DlLg-33/89B-2218) consists of two fragments that fit together (Plate 48a). Its shape is leaf-like in planview and offset triangular in cross-section. The working edge shows slight rounding due to wear.

The two scrapers have steep working edges. The small agate scraper (DlLg-33/89B-2171) is a retouched cortical flake with a semi-elliptical working edge. The right portion of the working edge has slight usewear rounding while the left portion displays moderate step-fracturing. The quartzite scraper (DlLg-33/89B-3224) is tabular and appears to have been broken just behind the working edge (Plate 48b). The uniformly curved working edge displays severe rounding and moderate step-fracturing, which would indicate that the artifact had had considerable use.

Wood and bone-working tools are also present. Tools such as the wedges and the pièce esquillée would have been used to split wood, bone or antler to produce other implements. The chalcedony wedge (DlLg-33/89B-2527) is a cortical flake that is flattened oval in planview (Plate 48c). The cross-section is lozenge-shaped. The working edge displays considerable battering. The petrified wood wedge (DlLg-33/89B-2645) is a tabular cortical flake, triangular in outline. The working edge is at the truncated tip. The pièce esquillée (DlLg-33/89B-2509) is rectangular in outline and tabular in cross-section (Plate 48d). Both working edges show slight battering.

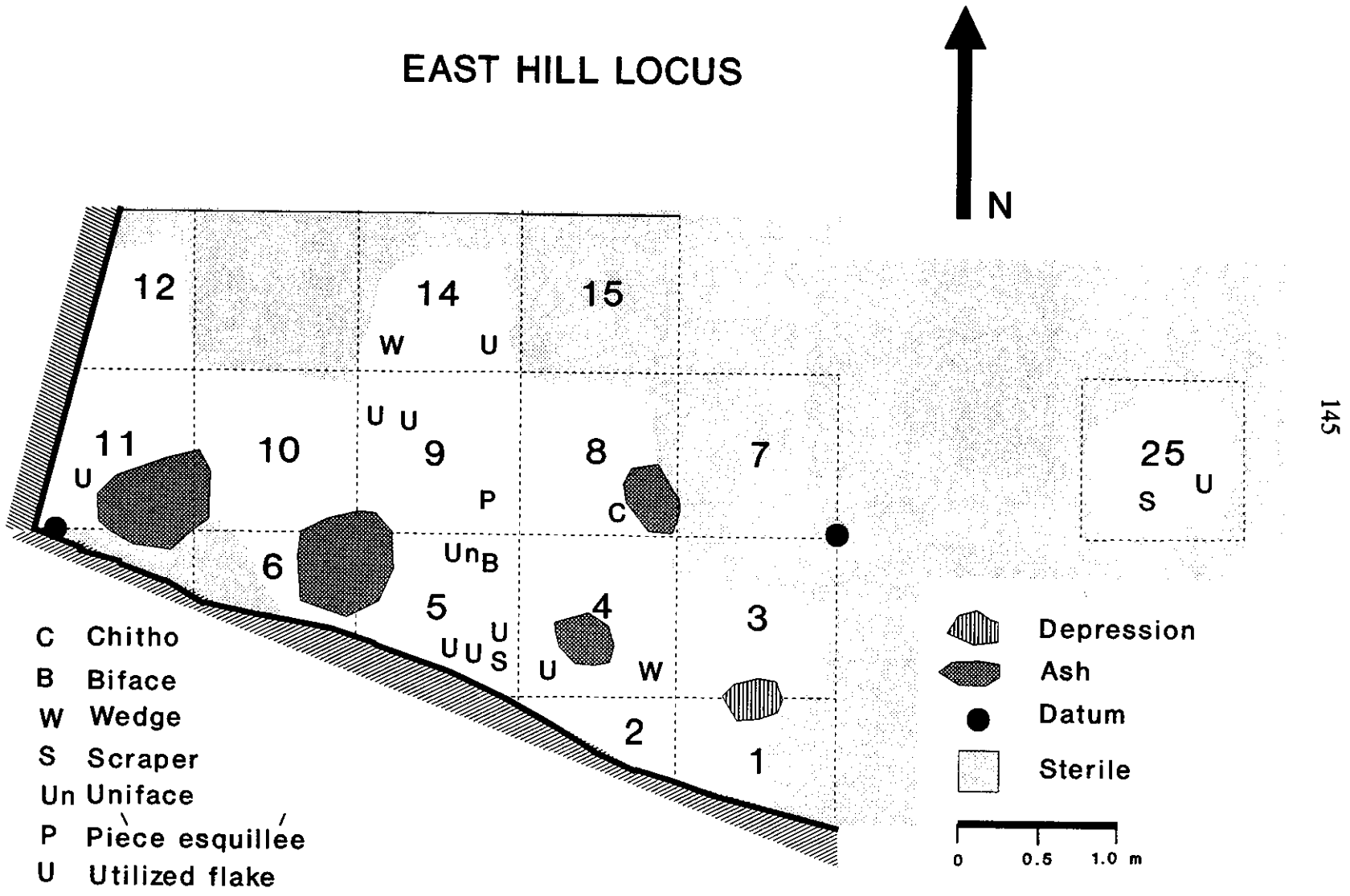

Figure 13: Location of Lithic Tools (East Hill)

LOCATION		CAT. NO.	TOOL TYPE	MATERIAL
Unit 4	SE	2645	Wedge	Petrified Wood
Unit 4	SW	2663	Utilized Flake	Chalcedony
Unit 5	NE	2157	Utilized Flake	Jasper
Unit 5	NE	2158	Biface	Swan River Chert
Unit 5	SE	3308	Utilized Flake	Agate
Unit 5	SE	3309	Utilized Flake	Agate
Unit 5	SE	3310	Utilized Flake	Agate
Unit 5	SE	2171	Scraper	Agate
Unit 8	SE	2218	Chitho	Basalt
Unit 9	NW	2488	Utilized Flake	Agate
Unit 9	NW	3312	Utilized Flake	Chalcedony
Unit 9	SE	2509	Pièce Esquillée	Chalcedony
Unit 11	S	2563	Utilized Flake	Knife River Flint
Unit 14	SE	2521	Utilized Flake	Agate
Unit 14	SW	2527	Wedge	Chalcedony
Unit 25		3224	Scraper	Quartzite
Unit 25		3225	Utilized Flake	Quartzite

Table 35: East Hill Lithic Tools

The category of cutting implements is represented by an incomplete Swan River Chert biface, DlLg-33/89B-2158 (Plate 48e). The specimen consists of the triangular tip with a biconvex cross-section. The working edges display primary flaking and, as such, indicate that the tool was either in the process of being manufactured when it was broken or that it functioned as a coarse cutting tool similar to a chopper.

Ten utilized flakes were recovered. Utilized flakes are generally defined as cutting tools although the angle of the working edge may suggest other functions. These artifacts can be considered as disposable tools-of-the-moment, wherein a flake produced during the manufacture of another tool is used for a short term operation and then discarded. They can also be produced intentionally, when the individual wants a sharp-edged implement but does not have the time or intention of producing a retainable tool. A cobble or pebble of suitable material is struck with another stone and the resulting flakes are used as is without additional retouch.

CAT NO.	TOOL TYPE	ARTIFACT METRICS			WORKING EDGE		
		Length	Width	Thick	Width	Length	Angle
2218	Chitho	102.8	51.1	27.2	80.7	8.3	52
2171	Scraper	19.8	12.9	10.7	11.2	7.6	59
3224	Scraper	23.8	29.3	8.0	29.0	5.6	69
2645	Wedge	25.2	13.0	9.5	5.5	-	46
2527	Wedge	33.3	35.2	14.1	14.4	-	45
2509	Pièce esquillée	29.6	16.7	8.0	(T) 9.4 (B) 9.2	- -	41 39
2158	Biface	20.5	28.6	9.5	(L) Inc. (R) Inc.	Inc. Inc.	49 43
2488	Utilized Flake	14.0	13.3	2.0	13.3	1.0	23
2563	Utilized Flake	30.8	18.7	2.4	18.5	-0.4	24
2663	Utilized Flake	24.7	17.6	5.8	26.7	3.7	34
3225	Utilized Flake	27.7	16.4	4.4	(L) 23.6 (R) 19.0	2.0 0.7	26 22
3312	Utilized Flake	22.9	12.0	5.0	16.1	2.4	33
2521	Utilized Flake	24.2	18.2	10.3	20.3	2.4	39
3308	Utilized Flake	10.3	10.5	5.2	Inc.	Inc.	46
3309	Utilized Flake	21.5	15.7	5.6	18.9	1.7	48
3310	Utilized Flake	9.4	8.0	4.4	Inc.	Inc.	41
2157	Utilized Flake	36.0	17.4	5.0	(L) 34.1 (R) 12.0	2.5 1.9	44 24

Table 36: Measurements of East Hill Lithic Tools

Examination of the working edge angles of the utilized flakes (Table 36) suggest two functional groupings. Five specimens, DlLg-33/89B-2488, 2563 (Plate 48f), 2663, 3225 (Plate 48g), 3312 (Plate 48h), have edge angles less than 35°, as would be expected for cutting implements. Four of the tools (DlLg-33/89B-2521, 3308, 3309, 3310) have working edge angles greater than 35°. The remaining artifact (DlLg-33/89B-2157) has one angle of 24° and one of 44° (Plate 48i).

The sharper utilized flakes could have been used as temporary knives for the processing of plant or animal food resources. The utilized flakes with larger edge angles may have been used for removal of scales during fish processing or for further work on bone, wood, or antler implements which had been shaped using the wedges and pièce esquillée.

7.5.2.2 Lithic Detritus

Numerous lithic flakes and core fragments (Table 37) were recovered from the cultural horizon. These occurred throughout the locus with concentrations in Unit 11 and the NW quadrant of Unit 9 (Figure 14). The presence of so many detritus fragments (628), composed of twelve different types of material, indicates that either tool manufacture at the location occurred frequently or that more than one individual was working at the location.

All of the flakes, except the two basalt flakes recovered from Unit 5 and Unit 9, are fine-textured. The smaller the individual crystals, the better the quality of tools that can be manufactured. Thus, lithic materials which are nearly like glass, such as agate, chalcedony, jasper and Knife River Flint, are favoured types.

Examination of the frequency of lithic materials (Figure 15) indicates that agate was the most common material, followed by undifferentiated chert and, distantly, by quartz and the other types. If the probable source areas for the materials is considered, four groupings occur:

- Group I: Materials found throughout the southwestern portion of Manitoba and, in particular, at deposits such as the Souris Gravel Pits. This group includes agate, petrified wood, chalcedony, porcellanite, Swan River Chert, and jasper.
- Group II: Material found to the south. The sole example of this group is Knife River Flint which occurs at quarry locations in North Dakota.
- Group III: Materials found to the east and north of the Red River, associated with the Canadian Shield. This group consists of basalt, rhyolite, Lake of the Woods Black Chert, and quartz.
- Group IV: Materials whose distribution is a result of glacial transportation and can be found throughout the province. This group is represented by undifferentiated chert and quartzite.

The most frequent group is Group I, representing nearly half (49.5%) of the total. Group IV provides more than one-third (34.4%) with Group III (11.5%) and Group II (4.6%) making up the remainder. Inasmuch as lithic materials are not available at The Forks, all material would have been transported to the location by the occupants. It appears to be a reasonable assumption that

the most plentiful group would represent a source area most recently frequented by the occupants, in this case, the southwestern part of Manitoba.

LOCATION		MATERIAL												TOTAL
		1	2	3	4	5	6	7	8	9	10	11	12	
Unit 1	NW	1	1	1	-	-	-	-	-	-	-	-	-	3
Unit 2		-	-	4	-	-	-	-	-	-	-	-	-	4
Unit 3	SE	-	-	1	-	-	-	-	-	-	-	-	-	1
Unit 3	SW	-	-	4	-	-	-	-	-	-	-	-	-	4
Unit 4	SE	-	-	35	2	1	5	1	-	-	-	-	-	44
Unit 4	NE	-	-	1	-	-	-	-	-	-	-	-	-	1
Unit 4	SW	-	-	2	-	-	-	-	-	-	-	-	-	2
Unit 5	NE	1	3	4	-	-	-	2	-	-	-	-	-	10
Unit 5	SE	-	1	5	-	-	-	1	-	-	-	-	-	7
Unit 5	W	-	1	7	-	-	2	2	1	1	2	-	-	16
Unit 6	NW	-	2	1	-	-	-	-	-	-	-	-	-	3
Unit 8	NE	-	-	-	-	-	1	-	-	-	-	-	-	1
Unit 8	NW	-	-	4	-	-	-	-	-	-	-	-	-	4
Unit 8	SW	-	-	7	-	-	-	-	-	-	1	1	-	9
Unit 8	SE	-	-	6	-	1	-	-	-	-	-	1	-	8
Unit 9	NW	-	2	93	2	3	-	4	1	1	-	-	-	106
Unit 9	NE	-	-	6	-	-	-	-	-	-	-	-	-	6
Unit 9	SE	-	-	33	1	1	-	1	-	-	-	-	1	37
Unit 10	NE	-	3	41	-	-	-	-	-	-	1	-	-	45
Unit 11	N	-	-	-	11	122	3	2	-	-	-	9	-	147
Unit 11	S	-	-	1	12	75	1	4	-	-	-	17	-	110
Unit 12		-	-	-	1	-	-	-	-	-	-	-	-	1
Unit 14	SE	-	-	3	-	-	-	-	-	-	-	-	-	3
Unit 14	SW	-	-	6	-	-	-	-	-	-	-	-	-	6
Unit 14	NW	-	1	1	-	-	-	1	-	-	-	-	-	3
Unit 14	NE	-	1	3	-	1	-	1	-	-	-	-	-	6
Unit 25		-	-	-	-	-	-	-	-	-	-	38	-	38
No Prov.		-	-	1	-	-	-	2	-	-	-	-	-	3
TOTAL		2	15	270	29	204	12	21	2	2	4	66	1	628

Identification of Material Codes

1: Petrified Wood
2: Chalcedony
3: Agate
4: Knife River Flint
5: Chert
6: Quartzite
7: Swan River Chert
8: Porcellanite
9: Basalt
10: Lake of the Woods Black Chert
11: Quartz
12: Jasper

Table 37: Lithic Detritus Recoveries From East Hill

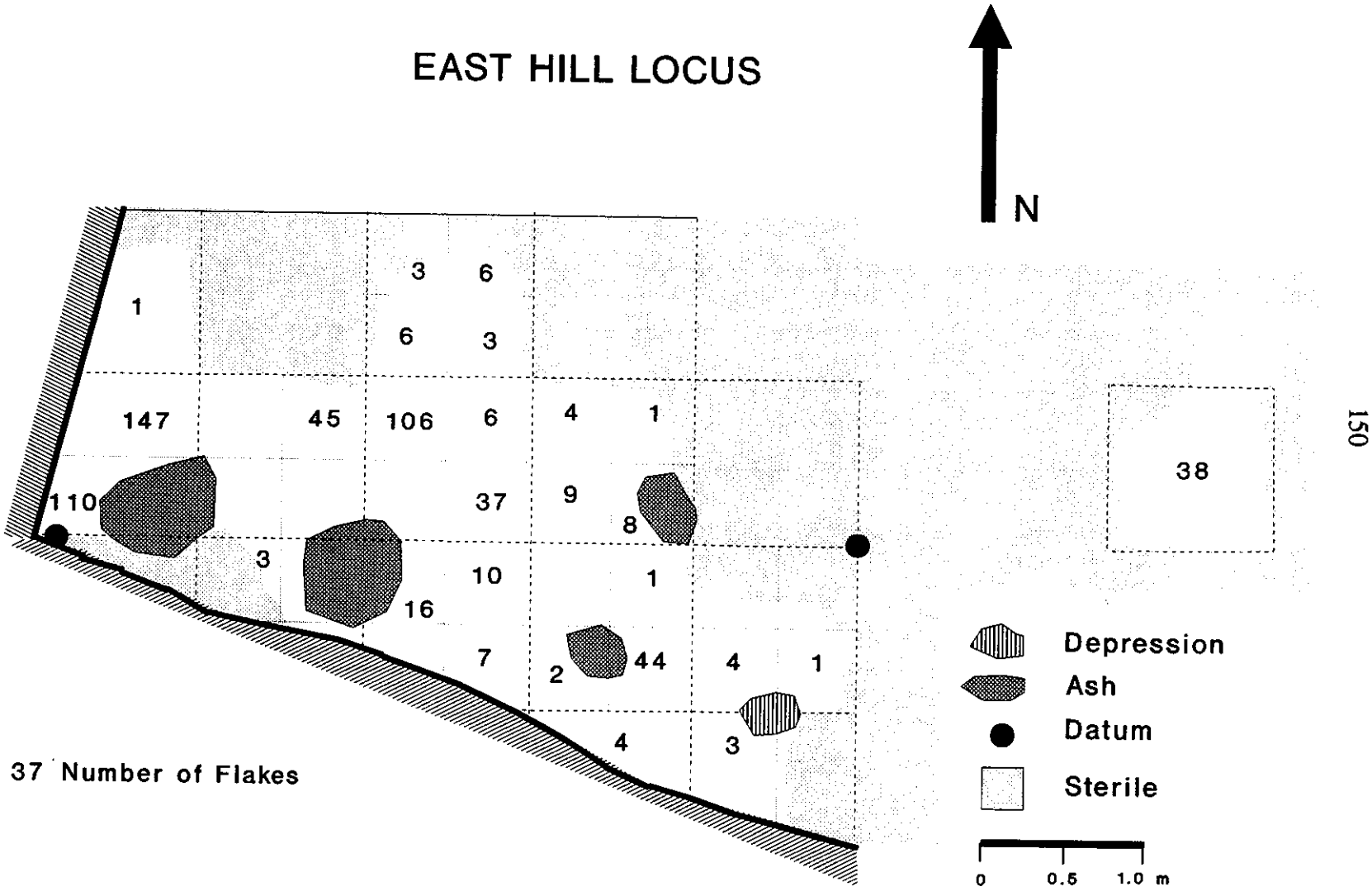

Figure 14: Lithic Recoveries from East Hill

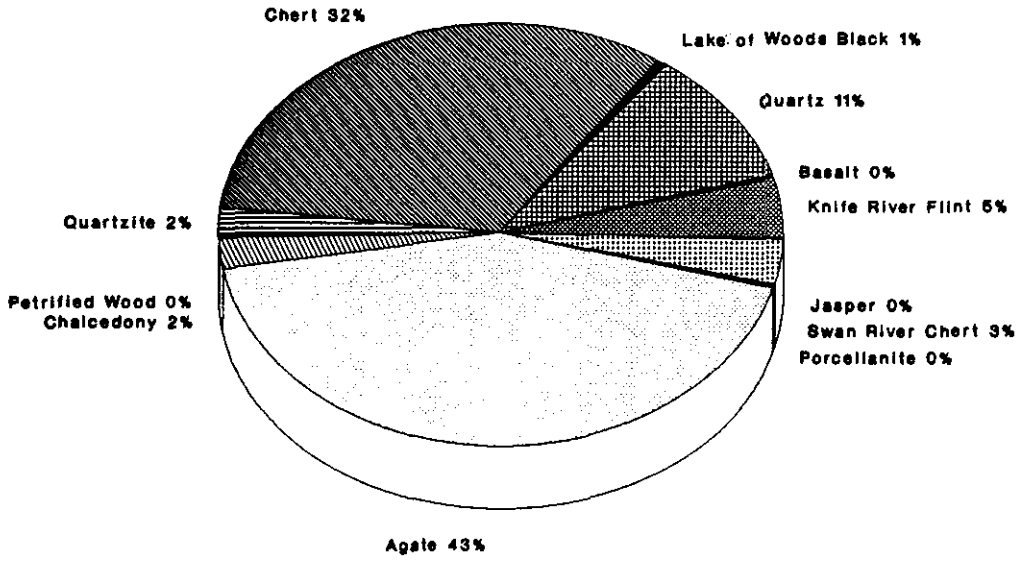

Figure 15: Frequency of Lithic Materials In East Hill

7.5.2.3 Other Lithic Recoveries

In addition to lithic tools and the residue of the manufacture of tools, other types of lithic artifacts were recovered. These consisted of unmodified pebbles and cobbles, ochre in the form of hematite, and fire-cracked rock (Table 38).

As noted above, all lithic material - even the unmodified specimens - would have been brought to the site by people. In addition to the artifacts listed in Table 38, six pebbles and six cobbles were recovered. One agate pebble and six chert pebbles may have been originally collected as potential lithic tool supplies. The remaining four limestone and one granitic specimens were probably collected to provide hearth rings. They may have functioned in that capacity but do not show direct evidence of heat modification, i.e, spalling or cracking.

The ochre specimens (naturally-occurring deposits of iron oxide) are concentrated in Unit 11, with three found in Unit 25 and one in Unit 2. All these specimens are hematite (red). Often used for decorative purposes, the mineral was pulverized and mixed with fat, grease, or fish oil to produce a pigment which was used as a personal cosmetic or general purpose paint. In addition, Densmore (1974:370-373) notes that ochre was frequently added to vegetable dyes to set the colour.

EXCAVATION UNIT	FIRE-CRACKED ROCK		OCHRE
	GRANITE	LIMESTONE	
Unit 2	12	3	1
Unit 3 - NW	1	-	-
Unit 3 - SE	1	2	-
Unit 3 - SW	-	4	-
Unit 4 - SE	14	-	-
Unit 4 - NW	1	-	-
Unit 4 - NE	8	-	-
Unit 4 - SW	10	2	-
Unit 5 - NE	9	1	-
Unit 5 - SE	4	-	-
Unit 5 - W	8	-	-
Unit 8 - NE	1	3	-
Unit 8 - NW	3	-	-
Unit 8 - SW	2	2	-
Unit 8 - SE	-	3	-
Unit 9 - NW	2	9	-
Unit 9 - SE	-	4	-
Unit 10 - NE	2	3	-
Unit 11 - N	11	3	18
Unit 11 - S	36	9	25
Unit 14 - SE	1	2	-
Unit 14 - SW	4	1	-
Unit 25	32	2	3
TOTAL	163	53	47

Table 38: Provenience of Fire-cracked Rock and Ochre in East Hill

The fire-cracked rock was clustered around the ash deposits (Figure 16). In addition, there was a cluster in the north-central part of the locus (south half of Unit 14, northwest quadrant of Unit 9 and northeast quadrant of Unit 10). The location of the different lithic types does not appear to result in a pattern and it would seem that either limestone or granitic cobbles were used without preference for one over the other.

Approximately one-quarter of the fire-cracked rock is limestone, most of which would derive from outcrops along the Red River, north of The Forks. The granitic specimens could have been obtained from the mouths of creeks that enter into the Red and Assiniboine rivers, e.g., Sturgeon Creek.

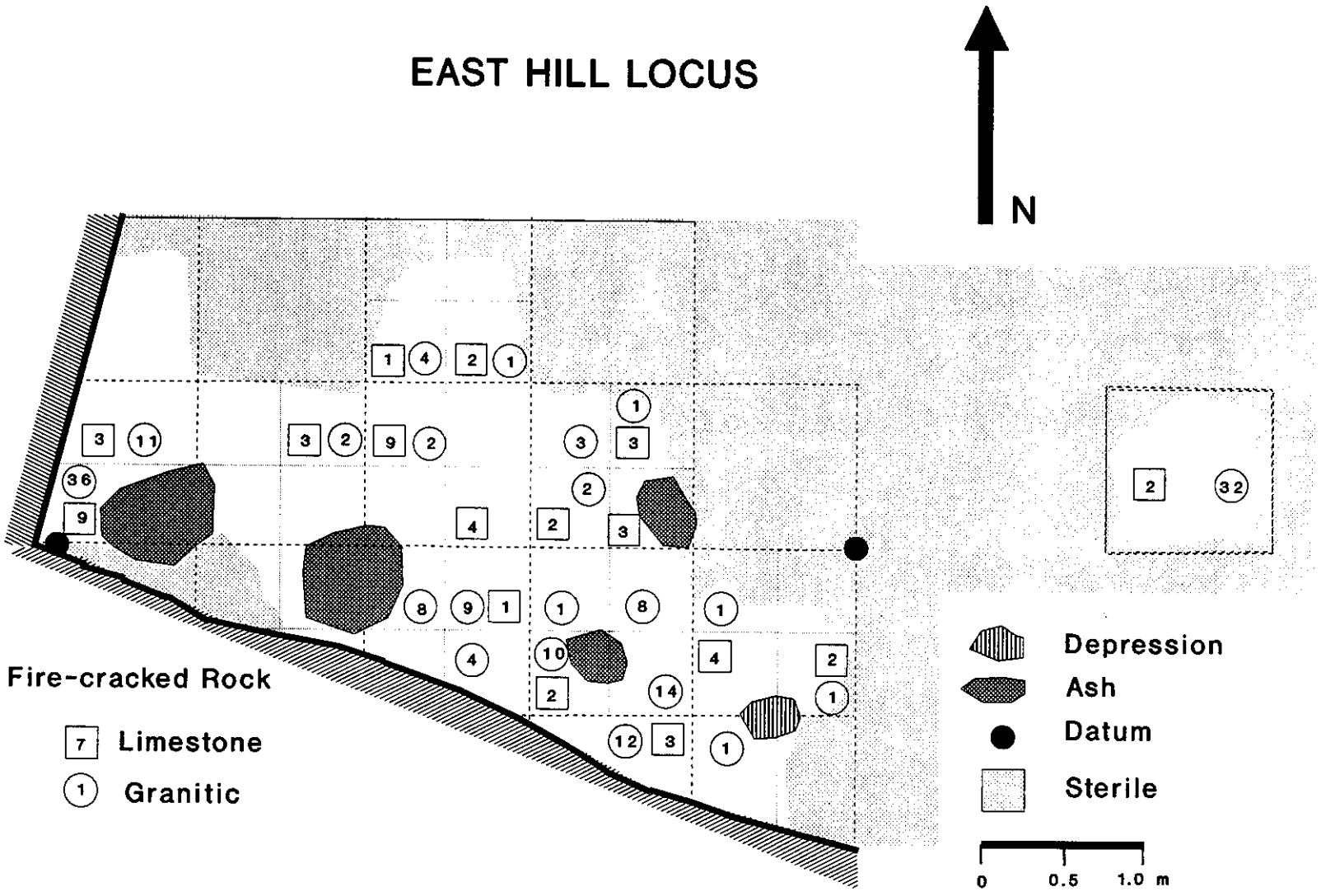

Figure 16: Placement of Fire-cracked Rock in East Hill

7.5.3 Floral Artifacts

Charcoal was the only type of floral recovery. Fragments occurred in most quadrants. The densest concentration occurred adjacent to the ash deposit in Unit 8 (Figure 17). The figure demonstrates that the highest frequencies were recovered from quadrants north and west of each of the ash deposits. It would appear that a single cause, such as rising flood waters on the Red River, has caused this uniform displacement.

Most of the 1117 fragments were quite small - under 2 mm diameter. Examination of the few fragments large enough to attempt species determination indicate that no conifers are present or that coniferous charcoal is too small to identify. The identified taxa are ash (*Fraxinus* sp.), oak (*Quercus*), and poplar (*Populus* sp.). All of these types of trees would be present in a riverine gallery forest at the site.

7.5.4 Faunal Recoveries

The preponderance of the recovered cultural material consisted of faunal remains. A total of 17,106 specimens was obtained from the East Hill excavations. Most of these derived from subsistence activities. A combined total of 122 tiny fingernail clams (Sphaeriidae = 8), freshwater flat snails (Planorbidae = 65), and freshwater spiral snails (Lymnaeidae = 49) were excavated. Both families are aquatic in habitat and could have been deposited with the cultural matrix during a spring inundation.

The frequency of the remainder of the faunal remains is depicted in Figure 18. These consisted of 146 edible freshwater clams (Unionidae), 52 bird, 977 mammal, and 11,761 fish elements. Nearly one quarter (4048) of the recoveries were so fragmented, charred or calcined as to be unidentifiable to class.

The bird remains were too fragmented to be identified to species. Size categories were assigned where possible, resulting in one specimen of a large bird, one specimen of a medium bird, 47 specimens deriving from small birds, and the remainder being unassignable.

Some of the mammal bones could be identified to family or species. Beaver (*Castor canadensis*) was represented by one incisor (DlLg-33/89B-3252), while very small rodents (e.g., mice, voles) were represented by a mandible (DlLg-33/89B-2810) and a maxilla (DlLg-33/89B-2711). Rabbit (Leporidae) was represented by a single phalanx (DlLg-33/89B-2712). The presence of bison was indicated by two phalanges (DlLg-33/89B-2927 and 2955). The remainder of the mammal bones were not assignable to specific taxa. However size determinations were possible for some specimens: 146 large mammal, 11 medium/large mammal, 4 medium/small mammal, and 4 small mammal; leaving 808 specimens which could not be assigned.

The fish bones were identified to the species or family whenever possible. Several taxa are represented: perch (*Perca flavescens*) - two specimens; burbot (*Lota lota*) - two specimens; pike (*Esox lucius*) - three specimens; walleye or sauger (*Stizostedion* sp.) - 10 specimens; sucker family

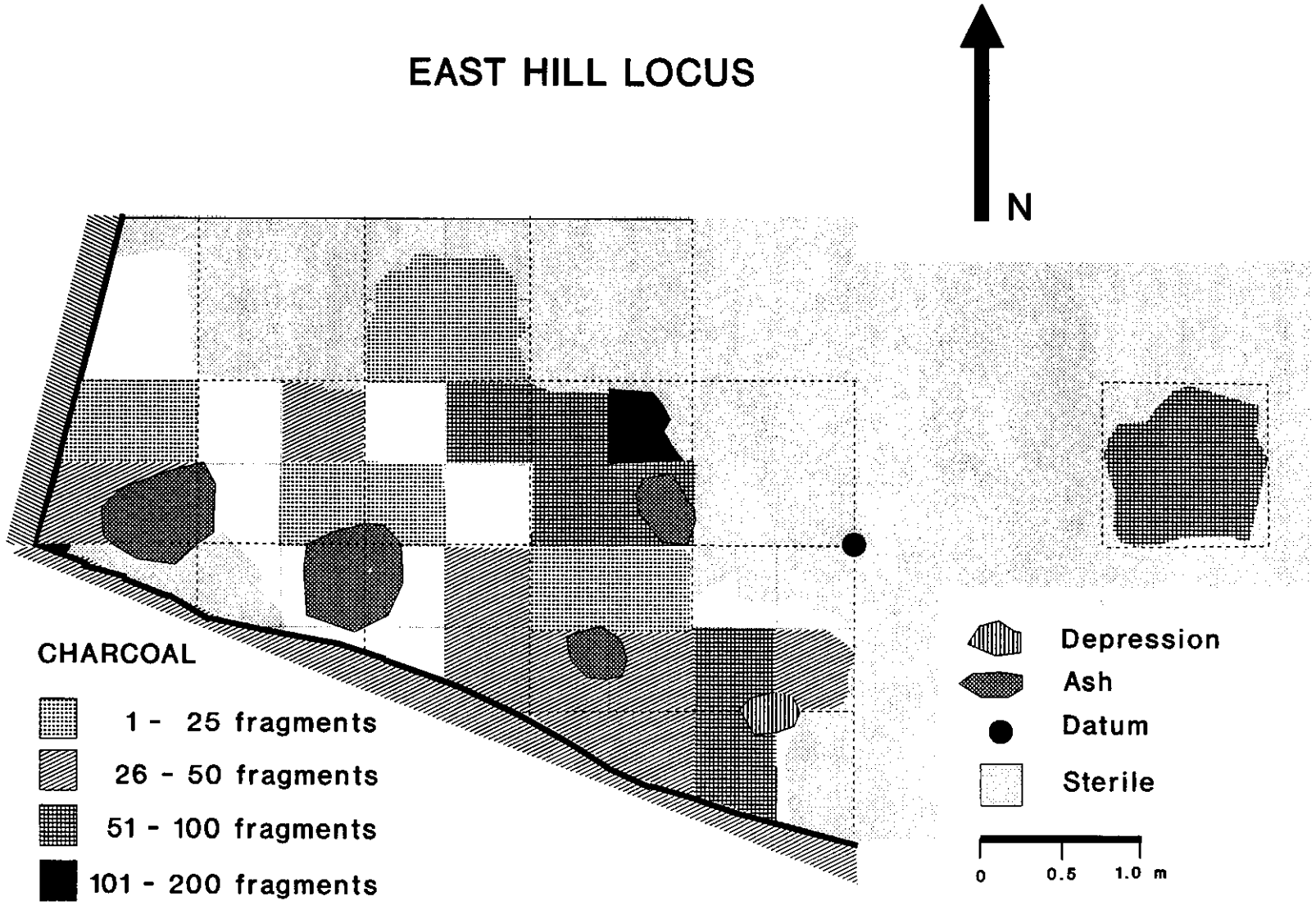

Figure 17: Frequency of Charcoal in East Hill

(Catostomidae) - 23 specimens; freshwater drum (*Aplodinotus grunniens*) - 39 specimens; and catfish (*Ictalurus* sp.) - 719 specimens. All identified species are present in the Red and Assiniboine rivers.

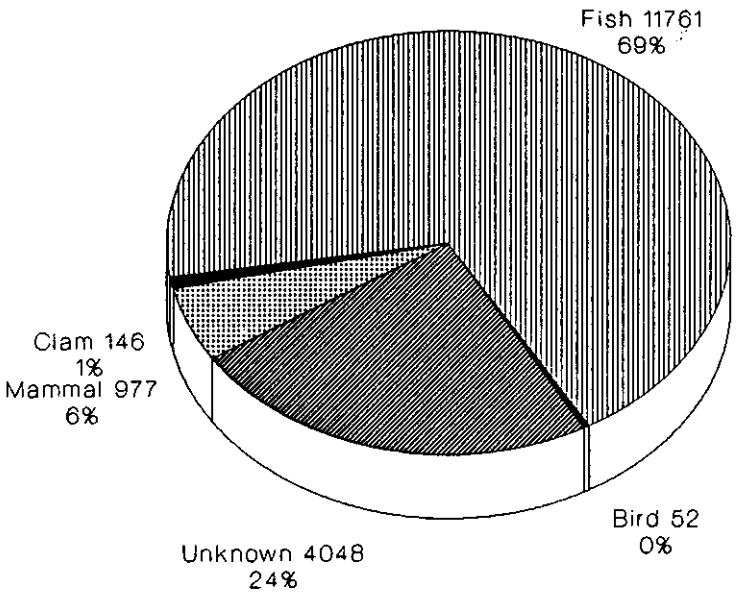

Figure 18: Frequencies of Faunal Recoveries From East Hill

Some distributional patterns are observable. The greatest densities were recorded in the NE quadrant of Unit 8 and the NW quadrant of Unit 9 (Figure 19). Faunal remains occurred in all units except Unit 12.

The freshwater clam fragments occur throughout the locus with the greatest density in Unit 5 (81 of the 146 specimens). Bird remains are extremely localized, with 47 specimens recovered from the west half of Unit 14 and three from the SW quadrant of Unit 4. Mammal specimens occurred in most units, although the preponderance (747 fragments or 76%) derives from a deposit in the south half of Unit 11. The deposit consisted of charred and calcined fragments of long bone and rib from a large mammal. The fish remains occur in every unit except Unit 12 which had no faunal specimens.

7.5.5 Radiocarbon Dates

Two radiocarbon dates were obtained on bone material excavated from the locus. The radiocarbon dating determination was conducted by Howard Melville of Brock University, St. Catharines, Ontario. As the samples had been sorted and identified to species and element prior to selection for radiocarbon dating, it was necessary for the laboratory to combine catalogue numbers.

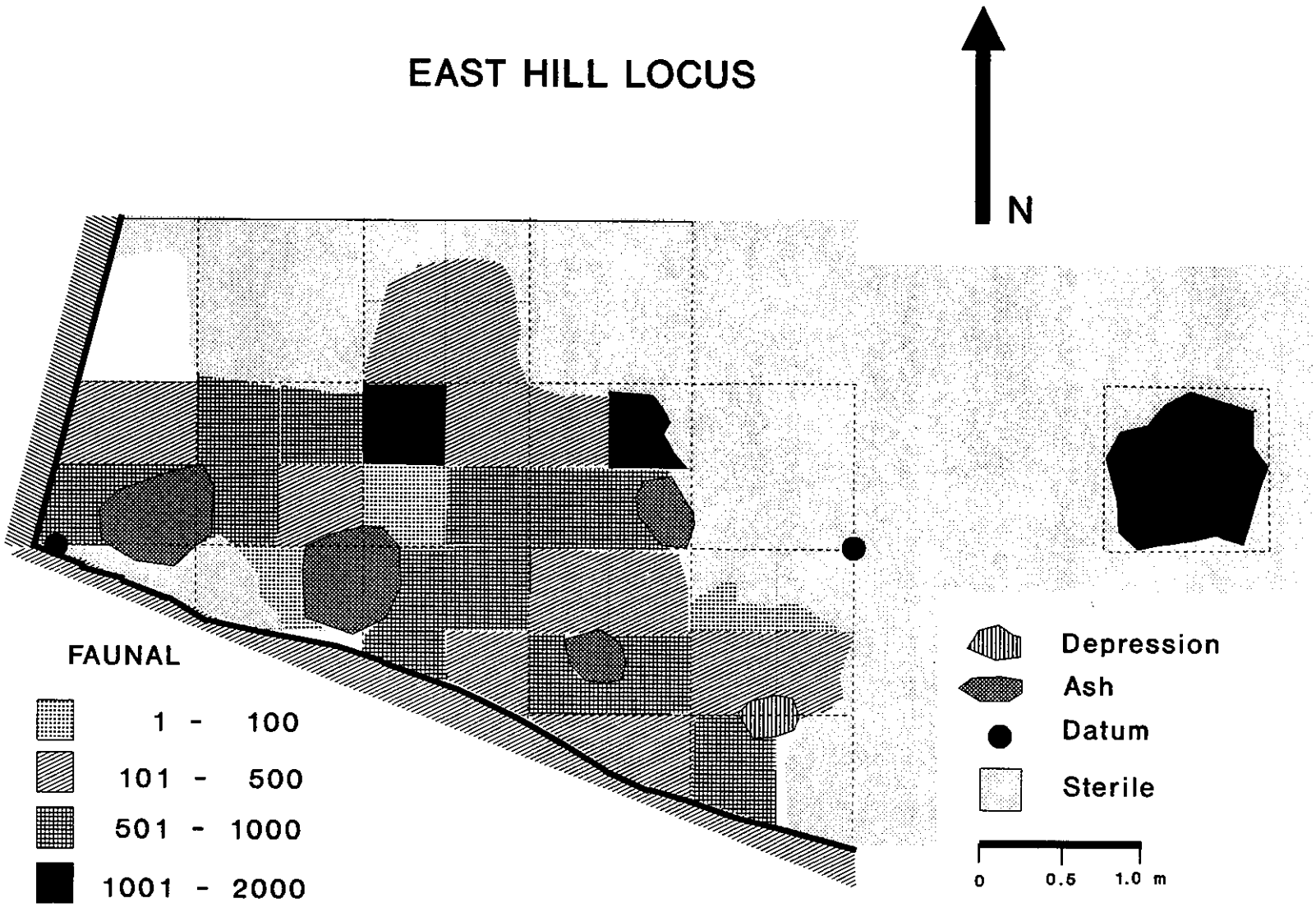

Figure 19: Density of Faunal Remains from East Hill

The first sample consisted of four catalogue numbers (DlLg-33/89B-2856, 2866, 2867, 3140) collected from Unit 5, yielding a sample weight of 256 gm. The sample (BGS 1483) provided an uncorrected date of 2815 ± 75 years. The second sample consisted of eight catalogue numbers (DlLg-33/89B-3022, 3035, 3036, 3043, 3058, 3063, 3064, 3070) collected from Unit 14, yielding a sample weight of 164 gm. The sample (BGS 1484) provided an uncorrected date of 3515 ± 75 years.

No evidence of disjunct stratigraphy was observed during excavation and the cultural material in the two units is considered to have been deposited during the same occupation. Therefore, the disparity between the two dates must be explained on the basis of the samples. BGS 1483 consisted mainly of mammalian long bone with some fish bone, while BGS 1484 consisted primarily of fish bone with two small fragments of mammal vertebra. Coal dust contamination (cf. Kroker 1989a: 159), resulting from ground water percolation, is more likely with the sample consisting of many small fish fragments. If this were the case, the second sample would provide an earlier date than the first.

Accordingly, the first radiocarbon date of 2815 ± 75 B.P. is considered the more reliable. This date of 865 ± 75 B.C. corresponds well with other dates obtained on the adjacent Archaic horizon: 920 ± 80 B.C. (BGS 1316) [North Assiniboine Node] (Kroker 1989a:159); 900 ± 90 B.C. (BGS 1374) [River Cut - Stage I] (Kroker and Goundry 1990a:145); 1040 ± 80 B.C. (BGS 1481) and 900 ± 75 B.C. (BGS 1482) [Ramp C locus] (Section 7.3 of this report). While the recorded Archaic horizon occurrences are not continuously linked, they appear to occur in similar stratigraphic contexts. Three of the dates are virtually identical. It has been hypothesized that repeated occupations occurred during the Archaic period (Kroker 1989a:176) and the variations in chronological determinations may be the result of horizontal stratification.

8.0 INTERPRETATION OF RECOVERIES

The archaeological activities undertaken in conjunction with this project have recovered objects of material culture from two very distinct time periods. The upper horizons (generally one meter thick on the upper bank and up to three meters thick on the lower terrace) contained artifacts relating to the post-Fur Trade period. The preponderance of these artifacts derive from the function of the site as a railroad centre for the past century. The lower horizons contained small, discontinuous loci of Pre-Contact occupation sites, dating to the Archaic period (ca 3000 years ago). These loci, which underwent mitigative action, contained artifacts relating to food procurement and food processing activities, as well as some artifacts which provide insight into the lifeways of the peoples who met at The Forks so long ago.

8.1 RAILROAD PERIOD

A total of 1620 artifacts were recovered from the upper historic horizons. These were analyzed within a functional framework and were ascribed to fourteen distinct categories (Figure 20). Most were represented by a minimal quantity of artifacts: Food Procurement, Adornment, and Detritus - only one artifact each; Recreation, Commerce, and Food Processing - two artifacts each; and Manufacturing Equipment - four specimens. Four categories with greater representation were: Communication (11) and Unknown (11); Transportation (12); and Clothing (14). The category of Lighting yielded 30 specimens, Architectural Objects accounted for 51 artifacts and Faunal Remains contributed 117. The vast majority of the artifacts were in the Container category (1361).

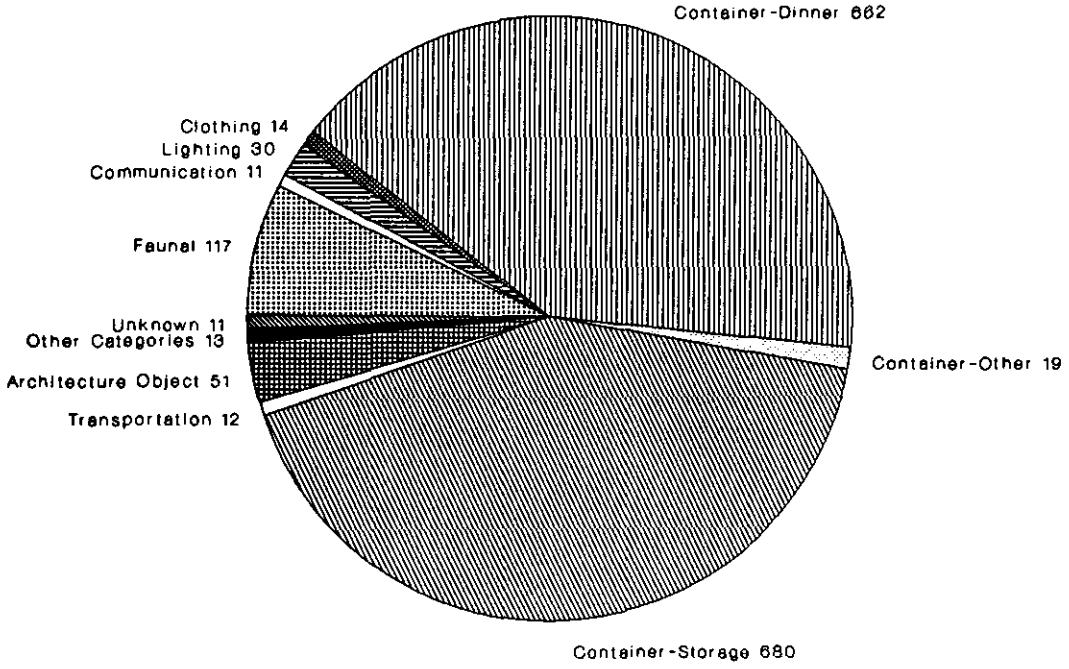

Figure 20: Frequency of Historic Artifact Categories

In part, the preponderance of glass and ceramic container artifacts reflects the collection methodology, wherein there is a pre-selection for immediately discernible diagnostic artifacts. The fact that the riverbank area in the impact zone has long been a site for refuse disposal, has contributed to the build-up of large quantities of fragmented and discarded container artifacts. The presence of the Winnipeg Dump #1 has been detailed in other reports (Kroker 1989a; Kroker and Goundry 1990a). This occurrence, plus the catering activities of the railroad companies, has resulted in large loci containing glass and ceramic sherds.

One area of note was located in the northwest portion of the impact zone, adjacent to the location of the former spur line along the upper bank. A pocket of ceramic and, to a lesser extent, glass sherds occupied an area 2 meters by 1.5 meters by .75 meters deep. The majority of the ceramic sherds could be attributed to either the Canadian Northern or Grand Trunk Pacific Railroad. A probable cause of the deposition of such a large amount of dinnerware could have been the absorption of these two railroads into the Canadian National system (circa 1923). As a result of amalgamation, the hallmarked dinnerware from the previous entities would have had to been replaced with plates, saucers, cups, bowls, etc., bearing the logo of the new company. The obsolete stock would probably have been culled for sale and/or discarded.

The heading for this section refers to the Railroad Period and most of the recovered artifacts date to the last hundred years. Only one artifact, DlLg-33/89B-930, a white, ceramic, basal sherd, marked with the logo of Pinder, Bourne & Co. of Staffordshire, definitely pre-dates the arrival of the Northern Pacific and Manitoba Railroad in 1888. This specimen represents a dinnerware artifact manufactured between 1862 and 1882. However, its presence may derive from secondary deposition within the Winnipeg Dump #1 stratum and as such could represent the unfortunate breakage of a family heirloom, thirty to fifty years after it had been purchased. A second specimen (DlLg-33/89B-1064), produced by Furnival & Sons between 1818 and 1890, may represent a similar happening.

A temporal chart (Table 39), showing the range of duration of identified companies, maker's marks and logos, indicates that the majority of the diagnostic artifacts derive from the twentieth century. The definitely confirmed years (denoted on the chart by an asterisk) seem to cluster in the first two decades of the century, with a concentration around 1910 to 1913. This, again, is similar to the projected dates of the Winnipeg Dump #1 horizon.

The most recent sub-surface artifacts were a 1970 commercial license plate and a blue electric bulb imprinted with "Mazda". These specimens were found on the lower terrace, indicating that some bank slumpage and riverine sediment deposition has recently occurred.

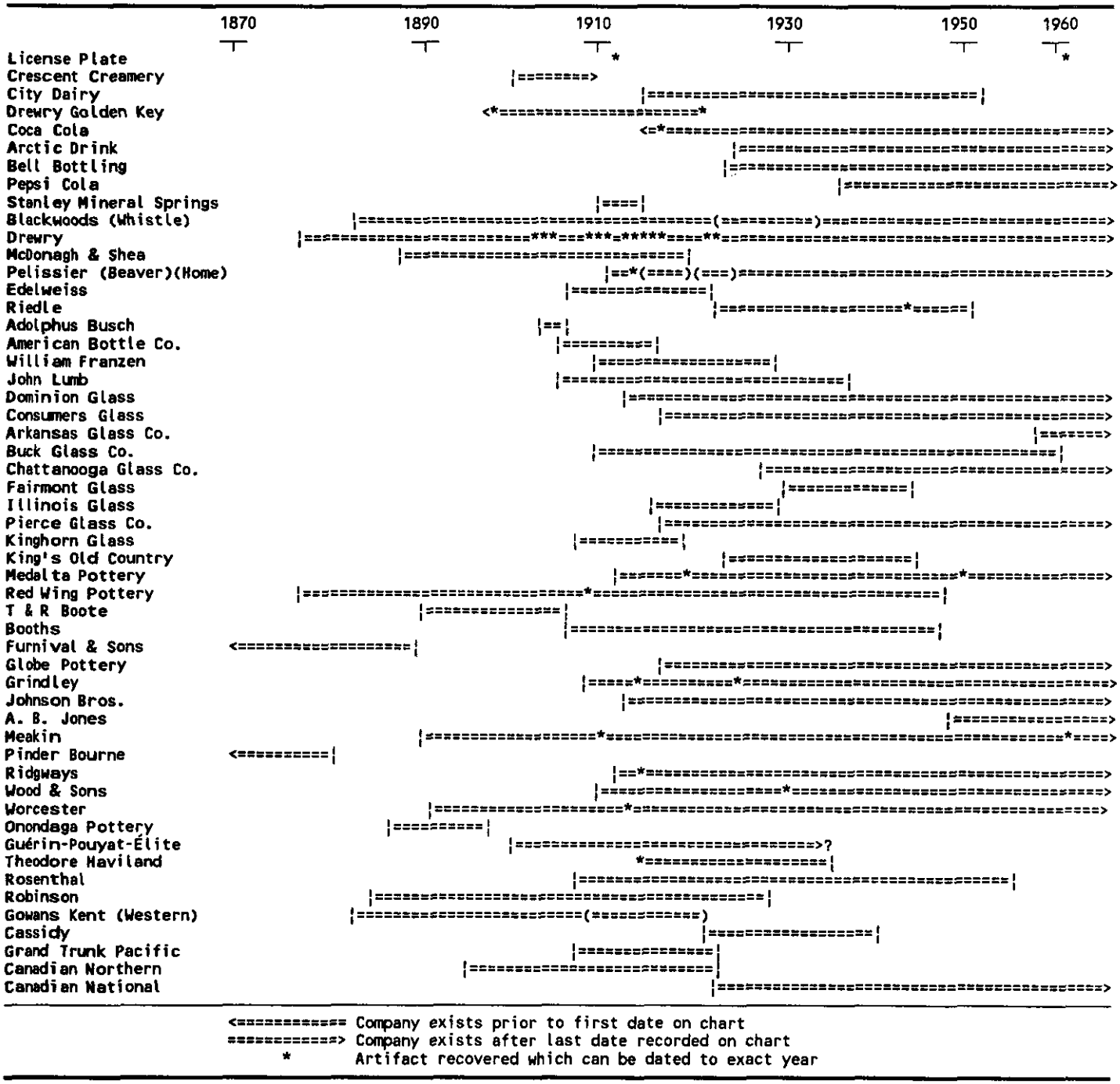

Figure 21: Temporal Chart of Recovered Diagnostic Historic Artifacts

8.1.1 Railroad Companies and Suppliers

As has been described in the preceding sections, a considerable percentage of the recovered dinnerware can be ascribed to the railroads. Dining cars were attached to passenger trains and, as a consumer recognition mechanism, dinnerware was emblazoned with the company's logo. The two railroads operating from The Forks in the early part of the twentieth century were Canadian Northern Railroad and Grand Trunk Pacific. Each has left evidence of its catering activities in the form of dinnerware sherds. Evidence of their successor, Canadian National Railroad, also occurs.

All of the material which appears to derive from the Grand Trunk Pacific Railroad has the colour green as part of its design. The attributed designs include green lines with san-serif, semi-script initials (G.T.P) produced by Philip Rosenthal & Co. (green-on-white, lines GTP) and Ridgways (green-on-white, lines GTP). The mark of The Brodeure, possibly a Montreal-based jobber occurs on the products of both companies. In addition, a colour-slipped green-on-white with a white logo line of products (mugs and teapots) was recovered. No manufacturer could be ascribed to these.

A number of decorative patterns and porcelain manufacturing firms can be linked with Canadian Northern Railroad and the associated Canadian Northern Hotel System. Some of the linkage is tenuous as both the Canadian Northern and the subsequent Canadian National used their initials as a logo. Many specimens were recovered that had an ornately scrolled, intertwined, CNR monogram. It is suggested that this mark refers to the earlier Canadian Northern Railway because:

a. the elaborate scrollwork is suggestive of design of the 1890s rather than the plainer company heralds which came into vogue after World War I;
b. DlLg-33/89B-425, a blue and brown-on-white sherd from a cake plate, has a fragment of a scrolled "C" as well as the text "CANADIAN NORTHERN RAILWAY";
c. DlLg-33/89B-609, also a blue and brown-on-white sherd, has a makers mark with a temporal indication of post-1900 and pre-1915; and
d. the large quantities of sherds are suggestive of a single event disposal, rather than attrition to supplies over the years.

Based upon the above interpretation, ceramics associated with Canadian Northern included at least three patterns produced by Theodore Haviland Company (white, gold-on-white, blue and brown-on-white, and blue, brown and gold-on-white); one or two patterns produced by Worcester Royal Porcelain (brown-on-white and blue and brown-on-white); one pattern produced by Grindley (dark green lines on white); and three patterns which could not be attributed to a manufacturer (blue and green-on-white, blue-on-white, dark lines and blue, brown and black-on-white).

Two firms could be definitely linked with the subsequent Canadian National Railroad - Wood & Sons (blue and brown-on-white) and Doulton & Co. (multicolour-on-white). In both instances, the company name was spelled out in full, once as a logo and once on the bottom of a sherd in conjunction with a maker's mark. Wood & Sons also produced a pattern of light green lines that included the Canada Railway News Co. logo.

Six jobber firms were identified by markings on the ceramic artifacts. Two companies appear to have been based in Montreal - The Brodeure and A. T. Wiley & Co. Ltd. Manufacturing companies handled by The Brodeure include Philip Rosenthal & Co. and Ridgways, while Worcester Royal Porcelain Company is associated with A. T. Wiley. The remaining four distribution companies had Winnipeg offices, although only one - Robinson & Co. was a Winnipeg firm. The only manufacturer identified with Robinson & Co. is Ridgways. A single unmarked specimen each could be attributed to the T. Eaton Co. and the Hudson's Bay Company, whose mark occurred on a ceramic specimen produced by T. & R. Boote Ltd. The most extensive distribution network appears to have been that of Gowans Kent & Co., which had a head office in Toronto and eventually registered a Winnipeg subsidiary firm - Gowans Kent Western Limited. This corporate group handled the products of several ceramic manufacturers: Worcester Royal Porcelain Company; Wood & Sons; Grindley; and Guérin-Pouyat-Élite.

8.1.2 Trade and Commerce

The recovered artifacts portray Winnipeg as an active commercial centre. Materials from foreign countries attest to a developed transportation system. Local products in similar categories indicates an industrialized centre where local manufacturers could compete successfully in terms of quality and, probably, price. American, British, French, and German companies, as well as Canadian and local firms are represented by the artifact assemblage. These companies are listed below.

Winnipeg and Manitoba Firms

Arctic Drink Manufacturing Company
Beaver Brewing and Bottling Company
Bell Bottling Company
Blackwoods Beverages Ltd.
Cassidy's Limited
City Dairy Company
Coca Cola
Crescent Creamery (Pure Milk) Company
Crystal Spring Water Company
Dan's Beverages
Douglas & King (King's Old Country)
Drewry Brewery
Edelweiss Brewery
Gowans Kent (Western) Limited
Government Liquor Control Comm.
Hamilton's Ltd.
Hudson's Bay Company
L. M. Ankeles
Manitoba Creamery Company
Manitoba Distillery (Minnedosa)
Manitoba Ink Manufacturing Company
McDonagh & Shea
Orange Crush
Pelissier & Sons
Pepsi Cola Canada Limited
Riedle Brewery
Reliance Ink Company
Robinson & Co. Ltd.
St. Charles Hotel
Stanley Mineral Springs Company
T. Eaton Company
Whistle Bottling Company
Wishing Well Soft Drink Company
Zero Bottling Works

Canadian Firms

A. T. Wiley & Co. Ltd. (Montreal)
B. C. Breweries Ltd. (Vancouver)
Beaver Flint Glass Company (Toronto)
Brewery Products Ltd.
Canadian National Railways
Canadian Northern Railway
Canadian Pacific Railway Company
Canadian Railway News Company
Consumers Glass Company
DeLaval
Dominion Glass Company
Edmonton City Dairy
Emerson Drug Company (Toronto)
Gowans, Kent & Company (Toronto)
Grand Trunk Pacific Railroad
Henry K. Wampole & Co. (Perth)
Laurentia Milk Company
Libby, McNeill & Libby
MacLaren's Imperial Cheese (Hamilton)
Medalta Stoneware Co. (Medicine Hat)
National Dry Limited
Northern Electric Company (Montreal)
O'Cedar (Toronto)
O'Keefe's
Old City Manufacturing Co. (Quebec)
Preston's Pure Preserves (Montreal)
Rawleigh's
Red Rock of Canada
The Brodeure (Montreal)
Wagstaffe Company (Hamilton)
Watermans Ink Company
Wood's (Toronto)
Wynola Company

American Firms

Adolphus Busch
American Bottle Company (Illinois)
Arkansas Glass Container Corp. (Ark.)
Ball Corporation (Indiana)
Buck Glass Company (Maryland)
Chattanooga Glass Company (Tennessee)
Chicago Retort & Fire Brick Co. (Illinois)
Diamond Glass Company (Pennsylvania)
Dr. Geo. Leininger Chemical Company (Ill.)
Elmhurst Dairy Limited (Illinois)
Fairmont Glass Works (Indiana)
General Electric
Glenshaw Glass Company (Pennsylvania)
H. J. Heinz Co.
Higgins' Inks (New York)
Hires Root Beer
Horlick's Malted Milk (Wisconsin)
Howdy Orange Company (Missouri)
Illinois Glass Company (Illinois)
Iroquois China Company (New York)
J. Gund Brewing Company (Wisconsin)
Jos. Triner (Illinois)
Lambert Pharmacal Company
Liberty Glass Company (Oklahoma)
Maryland Glass Company (Maryland)
Minnesota Stoneware Company (Minnesota)
Monumental Brewing Company (Maryland)
Onondaga Pottery Company (New York)
Pierce Glass Company (Pennsylvania)
Pond's
Red Wing Stoneware Company (Minnesota)
Red Wing Union Stoneware Company (Minn)
S. H. Phillips (Milk of Magnesia)
S. S. Stafford (New York)
St. Louis Fire Brick & Clay Co. (California)
Seely's Florida Waters (Michigan)
Seven-Up Bottling Company (Minneapolis)
Steubenville Pottery Company (Ohio)
Welch's
Western Stoneware Company (Illinois)
Whitall-Tatum & Company (New Jersey)
William Franzen & Son (Wisconsin)

British Firms

A. B. Jones & Sons (Staffordshire)
Albion Glass Bottle Co. (Birmingham)
Alloa Glass Works
Bagley & Co. (Yorkshire)
Booths (Limited) (Staffordshire)
Cannington, Shaw & Company (Lanc.)
Davey and Moore Ltd. (Middlesex)
Doulton & Co. (Staffordshire)
E. & J. Burke (Dublin, Liverpool)
Edgar F. Breffit & Co. (Yorkshire)
Globe Pottery Company (Staffordshire)
Goodall Backhouse & Co.
Horlick's Malted Milk (Buckshire)
J. & G. Meakin Ltd. (Staffordshire)
John Kilner & Sons (Yorkshire)
John Lumb and Company (Yorkshire)
John Maddock & Sons (Staffordshire)
Johnson Bros. Ltd. (Staffordshire)
Kilner Brothers Glass Company
Kinghorn Bottle Company (Scotland)
L. Rose & Co.
Lovatt & Lovatt (Nottingham)
Paterson's (Glasgow)
Pinder, Bourne & Co. (Staffordshire)
Ridgways (Staffordshire)
Sanderson's (Scotland)
T. & R. Boote Ltd. (Staffordshire)
Tanquery Gordon & Company (London)
Thomas Furnival & Sons (Staffordshire)
United Glass Limited
W. H. Grindley & Co. Ltd.
W. P. Hartley (London, Liverpool)
Walker's
Windsor & Newton Ltd. (London)
Wood & Sons (Staffordshire)
Worcester Royal Porcelain Company

French Firms

Ed. Pinaud (Paris)
Guérin-Pouyat-Élite (Limoges)
? L. Bernardaud & Co (Limoges)
Theodore Haviland (Limoges)

German Firms

Philip Rosenthal & Company (Bavaria)

Netherlands Firms

Erven L. Bols (Amsterdam)

Unlocated Firms

Davis
Dr. J. B. Siegert & Hijos
Elliman's
Gaelic Old Smuggler
International Laboratories
Liquid Veneer
Marsh's Nip
Mullen Brewing Company

The list of companies demonstrates local, national, and international trade patterns. Many large Canadian companies had local outlets in Winnipeg (e.g., T. Eaton & Co., Cassidy's Ltd.). These are listed as Winnipeg firms when it is known that there was a local presence, otherwise they are listed as Canadian firms. The trans-continental railroad firms are an obvious exception. Even with depots in Winnipeg, they cannot be considered as a local entity.

The tabulation consists of 160 companies, which break down as follows:

- Winnipeg/Manitoba 35 or 21.9 percent
- Canadian 33 or 20.6 percent
- American 42 or 26.3 percent
- British 36 or 22.5 percent
- French 4 or 2.5 percent
- German 1 or 0.6 percent
- Netherlands 1 or 0.6 percent
- Unlocatable 8 or 5.0 percent

It can be seen that the preponderance of trade is a continuation of historical connections, i.e., with England and with the United States. Another historical continuation is the direction of trade in that all but three firms are located to the east of Winnipeg. The exceptions are Medalta (Medicine Hat, Alberta), B.C. Breweries (Vancouver), and St. Louis Fire Brick & Clay Co. (California).

Some of the artifacts representing extra-local companies may be the result of articles being carried by passengers on the trains, rather than as a direct result of trade. This behaviour could account for the representation of companies such as B.C. Breweries, Edmonton City Dairy, and Elmhurst Dairy Limited. However, all of these products could have occurred as a result of catering activities on the trains.

In summary, if one was to view the archaeological data in isolation and without reference to the known history of Winnipeg, the conclusion would be that this site, during the first part of the twentieth century, was a trade centre and product redistribution locus.

8.2 PRE-CONTACT STRATIGRAPHIC DATA

A radiocarbon sample (DlLg-33/89B-671) was collected during the monitoring program in the central bank location of the Assiniboine Riverfront Quay. The sample derives from adult bison bone which occurred in the lower section of a thick sand stratum, 1.5 meters below surface (.65 meters below the soil/cinder interface). Foetal bison bone was mixed with the adult bone, indicating that a pregnant cow bison is represented by the bone sample. In addition, the presence of both adult and foetal bone, in immediate juxtaposition, indicates that the occurrence is a result of primary deposition. The body of the animal decomposed *in situ*, rather than the specimens resulting from water transport from several different locations during the flood. This thick sand stratum, which has been observed to be as much as 100 cm thick in some locations (Kroker and Goundry 1990a:146), is one of the few soil layers which occurs in many parts of the East Yard. As such, a definitive date for the occurrence of the flood which produced this layer is useful for providing a relatively firm temporal marker.

The sample was submitted to the Radiocarbon Dating Facility of the Geologic Department at Brock University, St. Catherines, Ontario. The material yielded an uncorrected radiocarbon date of 740 $\pm$ 100 years [BGS 1377]. It would appear that approximately 750 years ago (A.D. 1200) a major flood occurred in the Red River Valley - one which may dwarf the 1826 flood (the largest

historically documented flood). The magnitude of the 750 Year Flood is extrapolated from the thickness of the sand deposition - the 1826 Flood deposits are in the order of 20 cm.

Due to the importance of this date for stratigraphic interpretation, it was considered necessary to ensure rapid publication. Accordingly, this information was first published in the Stage I report (Kroker and Goundry 1990a:142-143).

8.3 ARCHAIC PERIOD

The Archaic Period (5000 to 2000 years ago) was a time of change: the temperature was dropping from the high levels sustained throughout the Hypsithermal, moisture was again occurring in the parched plains of central North America which had undergone a centuries-long drought, peoples were relocating in new areas and expanding into regions which had not been occupied for a long time. The archaeological record of this period shows technological change - the invention of the bow and arrow and, possibly, the canoe. Diagnostic tools from archaeological sites indicate that groups of peoples, each with their own distinct culture, were shifting their areas of occupation. Small groups would establish their own homeland areas and gradually a localized variant of the original material culture would develop; i.e., the style of the projectile points would be similar to, but slightly different from, the original form that is diagnostic of the larger group before regionalization.

At least two distinct Archaic occupations were recorded during the Assiniboine Riverfront Quay project. These cultural horizons cannot be separated on the basis of diagnostic artifacts, inasmuch as none were recovered. However, based upon the stratigraphic context, the elevation, and the radiocarbon dates, both the upper and lower occupation horizons are temporally distinct. The upper horizon (Ramp A locus) has been radiocarbon dated to 300 B.C., near the end of the Archaic period. This occupation appears to have occurred during the spring or early summer and is the manifestation of a small group of people who resided at the site for a short period of time. Two large mammals (one bison and one elk) appear to have provided most of the animal food, along with a few fish (catfish, freshwater drum, sucker, walleye/sauger) for variety in the diet. As usual, evidence of the plant component of the diet is underrepresented. If the group is hypothesized to be an extended family (10 to 20 individuals), and they stayed at the site until all of the mammal meat was consumed, the occupation period would have been approximately two weeks. In all likelihood, some of the meat was preserved and carried along during the subsequent travels of the seasonal round. Minimal evidence of activity other than food processing and preparation for consumption was recovered. Activities such as tool manufacture must have taken place at another area of the site if, indeed, they occurred. The living area may have been adjacent to the excavation area, although often very little evidence can be discerned. Tipi ring stones are often reused and relocated by subsequent occupants of the site. Also, the structures and most of the interior furnishings are made of organic materials, so that discarded objects and/or remnants are rarely preserved for archaeological recovery.

The lower occupations loci (Ramp B, Ramp C, Stairwell, and East Hill) may all be components of the extensive Archaic horizon, first located during the North Assiniboine Node Assessment

(NANA) (Kroker 1989a). The investigations during the Stage I project (Kroker and Goundry 1990a) demonstrated that this horizon covered a large area. Given the extent of the occupation zone, it would not be surprising to find activity areas which are located slightly away from the main area of occupation. Radiocarbon dates were obtained from Ramp C (2990 $\pm$ 80 and 2850 $\pm$ 75 years ago) and from East Hill (2815 $\pm$ 75 years ago). These are very similar to the date obtained from the Archaic horizon in the North Assiniboine Node Assessment (2970 $\pm$ 80 years ago).

An indication of possible linkages between the four loci investigated during this project and the previously recorded Archaic horizon is the similarity of the faunal assemblage. In all cases, fish remains are predominant: NANA - 88.5%; Ramp B - 87.1%; Ramp C - 61.9%; Stairwell - 62.0%; East Hill - 68.8%. This similarity suggests that the occupants of the five different locations on the site practised a similar subsistence strategy. It could also be hypothesized that each of the locations are merely nodes or foci within a large campsite at which similar activities, i.e., fish processing and preservation were being carried out. The lithic assemblages from NANA and the four loci are eclectic, with materials deriving from several source areas. The presence of lithic materials from northeastern, western, and southern area was one of the bases for the development of the hypothesis that the Archaic horizon at The Forks was a trade centre, annually visited by different peoples (Kroker 1989a:175-176). The current recoveries provide confirming evidence that extra-local materials are present and trade is the simplest explanation to account for their presence.

If the site was a location for an annual meeting for trade and social interaction, horizontal stratification would occur. This means that small clusters of living sites and activity areas would occur within the larger context of the meeting site. Alternatively, annual visitation to the same site may mean slight relocations of activity areas each year. Even though all four loci occur at very similar elevations, although without contiguous boundaries or the presence of continuous strata, they could all be temporally distinct.

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APPENDIX A

HERITAGE PERMITS

The Heritage Resources Act (Subsection 14(2) and Sections 52 and 53)

Manitoba
Culture, Heritage
and Recreation

Heritage Permit No. A-34-89

FORM 11

PURSUANT to Section/Subsection 53 of *The Heritage Resources Act:*

Name: The Forks Renewal Corporation
Address: 404-1 Wesley Avenue
Winnipeg, Manitoba
R3C 4C6

ATTN: Sid Kroker
Site Archaeologist

(hereinafter referred to as "the Permittee"),

is hereby granted permission to:

carry out a heritage resource monitoring of the areas to be affected by the excavations for the construction of the Assiniboine Quay at The Forks in downtown Winnipeg and to perform mitigative actions as required;

during the period:

June 28 to August 1, 1989

This permit is issued subject to the following conditions:

(1) That the information provided in the application for this permit dated the 28th day of June 19 89, is true in substance and in fact;

(2) That the Permittee shall comply with all the provisions of *The Heritage Resources Act* and any regulations or orders thereunder;

(3) That the Permittee shall provide to the Minister a written report or reports with respect to the Permittee's activities pursuant to this permit, the form and content of which shall be satisfactory to the Minister and which shall be provided on the following dates:

March 30, 1990.

(4) That this permit is not transferable;

(5) This permit may be revoked by the Minister where, in the opinion of the Minister, there has been a breach of any of the terms or conditions herein or of any provision of *The Heritage Resources Act* or any regulations thereunder;

(6) Special Conditions:

a) That the Site Archaeologist will apprise the Historic Resources Branch of all proposed construction activities and related monitoring work prior to commencement of the activity and will keep the Branch informed of all activities;

b) That the Site Archaeologist will notify the Historic Resources Branch as soon as possible about the occurrence of heritage resources at The Forks and will consult with the Branch prior to carrying out any mitigation that may be required;

c) That in the event that human remains are encountered at The Forks, all activity in the immediate area will cease and the special procedures relative to the treatment of human remains located at The Forks will be implemented forthwith;

d) That neither the Government of Manitoba nor the party issuing this permit be liable for any damages resulting from any activities carried out pursuant to this permit, and the Permittee specifically agrees, in consideration for receiving this permit, to indemnify and hold harmless the Minister and the Government of Manitoba, the Minister and any employees and officials of the Government, against any and all actions, liens, demands, loss, liability, cost, damage and expense including, without limitation, reasonable legal fees, which the Government, Minister or any employee or official of the Government may suffer or incur by reason of any of the activities to or related to this permit.

Dated at the City of Winnipeg, in Manitoba , this 29th day of June, 1989.

Minister of Culture, Heritage and Recreation

The Heritage Resources Act (Subsection 14(2) and Sections 52 and 53)

Manitoba
Culture, Heritage
and Recreation

Heritage Permit No. A4-90

FORM 11

PURSUANT to Section/Subsection 53 of *The Heritage Resources Act:*

Name: Quaternary Consultants Ltd.
Address: 130 Fort Street
Winnipeg, Manitoba
R3C 1C7

(hereinafter referred to as "the Permittee"),

is hereby granted permission to:

carry out a heritage resource impact assessment/monitoring of construction activities relating to the excavation of the "boat basin" component of the Assiniboine Quay Project located between the Low Line and the High Line bridges across the Assiniboine River at The Forks (DILg-33) in downtown Winnipeg;

during the period:

January 2 to September 1, 1990

This permit is issued subject to the following conditions:

(1) That the information provided in the application for this permit dated the 18th day of December 1989, is true in substance and in fact;

(2) That the Permittee shall comply with all the provisions of *The Heritage Resources Act* and any regulations or orders thereunder;

(3) That the Permittee shall provide to the Minister a written report or reports with respect to the Permittee's activities pursuant to this permit, the form and content of which shall be satisfactory to the Minister and which shall be provided on the following dates:

March 31, 1991

(4) That this permit is not transferable;

(5) This permit may be revoked by the Minister where, in the opinion of the Minister, there has been a breach of any of the terms or conditions herein or of any provision of *The Heritage Resources Act* or any regulations thereunder;

(6) Special Conditions:

a) That the Permittee will apprise the Historic Resources Branch of all proposed activities and will notify the Historic Resources Branch as soon as possible about the occurrence of heritage resources in the area under study.

b) That in the event that human remains are encountered at The Forks, all activity in the immediate area will cease and the special procedures relative to the treatemnt of human remains located at The Forks will be implemented forthwith;

c) That neither the Government of Manitoba nor the party issuing this permit will be liable for any damages resulting from any activities carried out pursuant to this permit, and the Permittee specifically agrees, in consideration for receiving this permit, to indemnify and hold harmless the Minister and the Government of Manitoba, the Minister and any employees and officials of the Government, against any and all liens, demands, loss, liability, cost, damage and expense including, without limitation, reasonable legal fees, which the Government, Minister or any employee or official of the Government may suffer or incur by reason of any of the activities to or related to this permit.

Dated at the City of Winnipeg, in Manitoba , this 22nd day of December 1989.

Minister of Culture, Heritage and Recreation

The Heritage Resources Act (Subsection 14(2) and Sections 52 and 53)

Manitoba
Culture, Heritage
and Recreation

Heritage Permit No. A67-90

FORM 11

PURSUANT to Section/~~Subsection~~ 53 of *The Heritage Resources Act:*

Name: The Forks Renewal Corporation
Address: 404 - 1 Wesley Avenue
Winnipeg, Manitoba
R3C 4C6

ATTENTION: Sid Kroker
Site Archaeologist

(hereinafter referred to as "the Permittee"),

is hereby granted permission to:

carry out monitoring of the area to be affected by the final excavations for the construction of The Forks National Historic Port on the Assiniboine River at The Forks in downtown Winnipeg and to perform mitigative actions should any heritage resources be discovered;

during the period:

December 3, 1990 to March 31, 1991

This permit is issued subject to the following conditions:

(1) That the information provided in the application for this permit dated the 29th day of November 19 90, is true in substance and in fact;

(2) That the Permittee shall comply with all the provisions of *The Heritage Resources Act* and any regulations or orders thereunder;

(3) That the Permittee shall provide to the Minister a written report or reports with respect to the Permittee's activities pursuant to this permit, the form and content of which shall be satisfactory to the Minister and which shall be provided on the following dates:

July 1, 1991

(4) That this permit is not transferable;

(5) This permit may be revoked by the Minister where, in the opinion of the Minister, there has been a breach of any of the terms or conditions herein or of any provision of *The Heritage Resources Act* or any regulations thereunder;

(6) Special Conditions:

a) The Permittee will apprise the Historic Resources Branch of all proposed activities and will notify the Historic Resources Branch as soon as possible should any heritage resources be discovered in the area under study.

b) In the unlikely event that human remains are encountered, all activity in the immediate area will cease and the special procedures relative to the treatment of human remains located at The Forks will be implemented forthwith.

c) The Permittee must obtain permission from any land owner, lessee or regulatory authority, as applicable, concerning access to the subject property.

d) Neither the Government of Manitoba nor the party issuing this permit will be liable for any damages resulting from any activities carried out pursuant to this permit, and the permittee specifically agrees, in consideration for receiving this permit, to indemnify and hold harmless the Minister and the Government of Manitoba, the Minister and any employees and officials of the Government, against any and all liens, demands, loss, liability, cost, damage and expense including, without limitation, reasonable legal fees, which the Government, Minister or any employee or official of the Government may suffer or incur by reason of any of the activities to or related to this permit.

Dated at the City of Winnipeg, in Manitoba , this 3rd day of December 1990.

for Minister of Culture, Heritage and Recreation

APPENDIX B

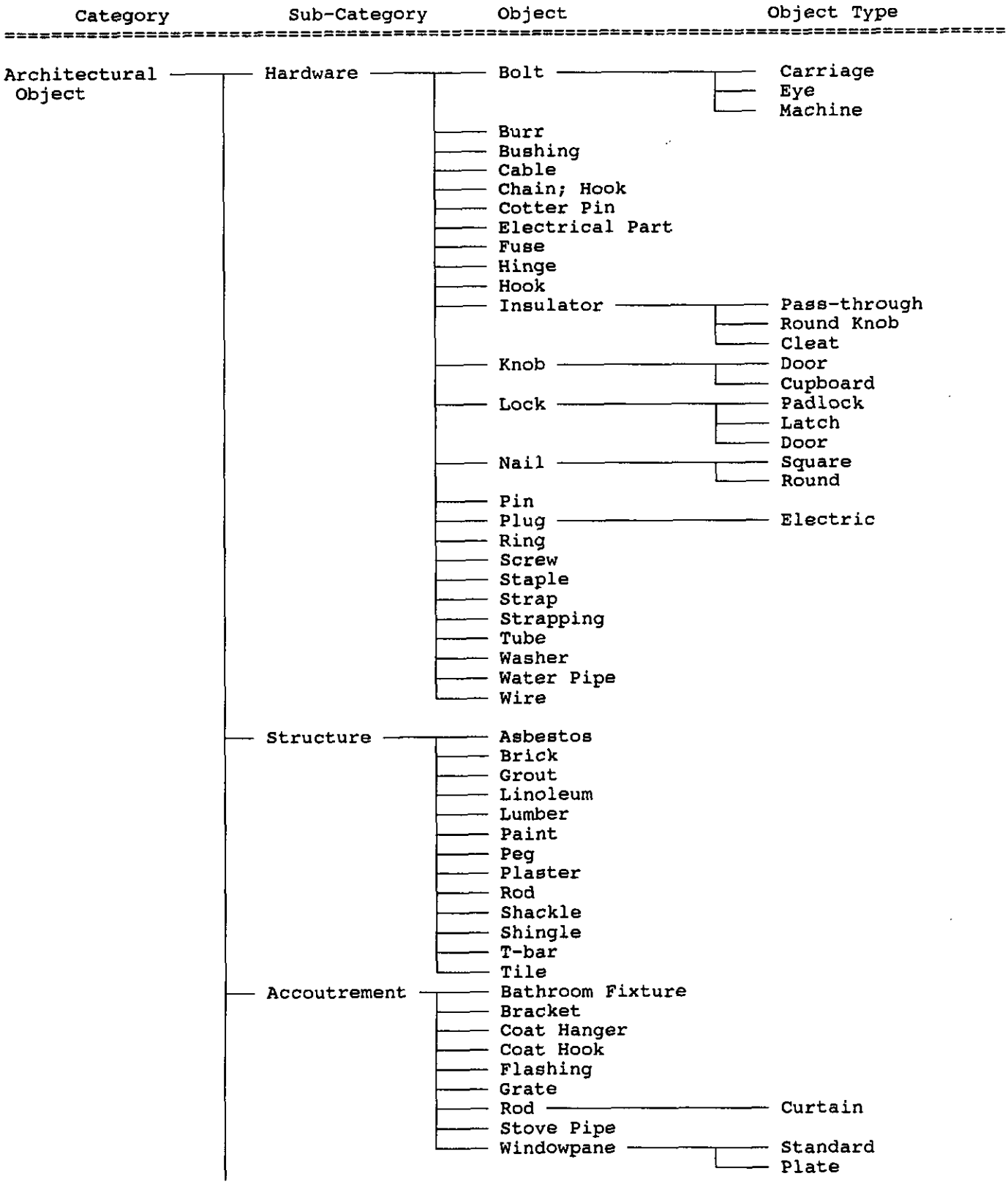
ARTIFACTS CATEGORIZED

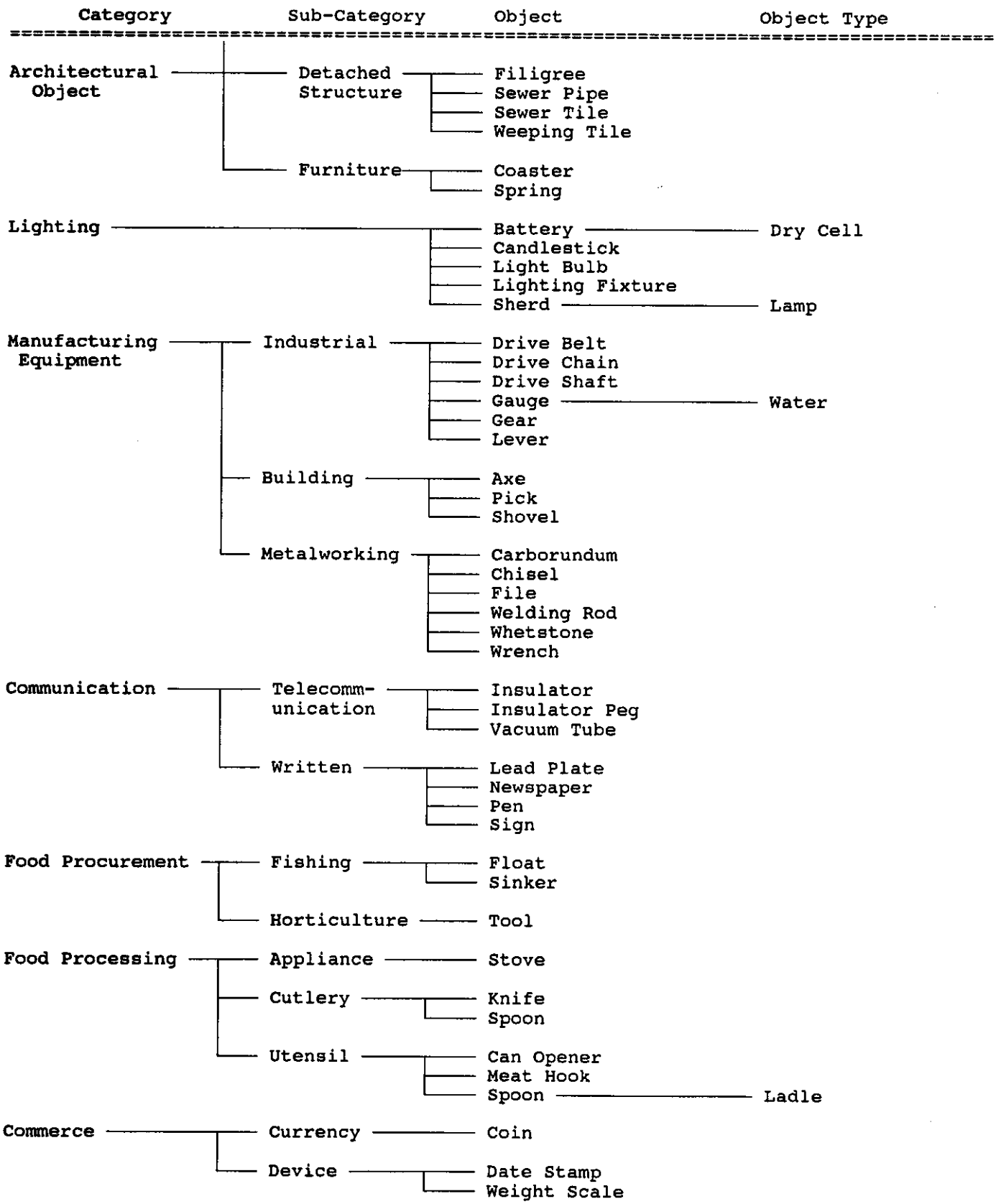
ACCORDING TO THE

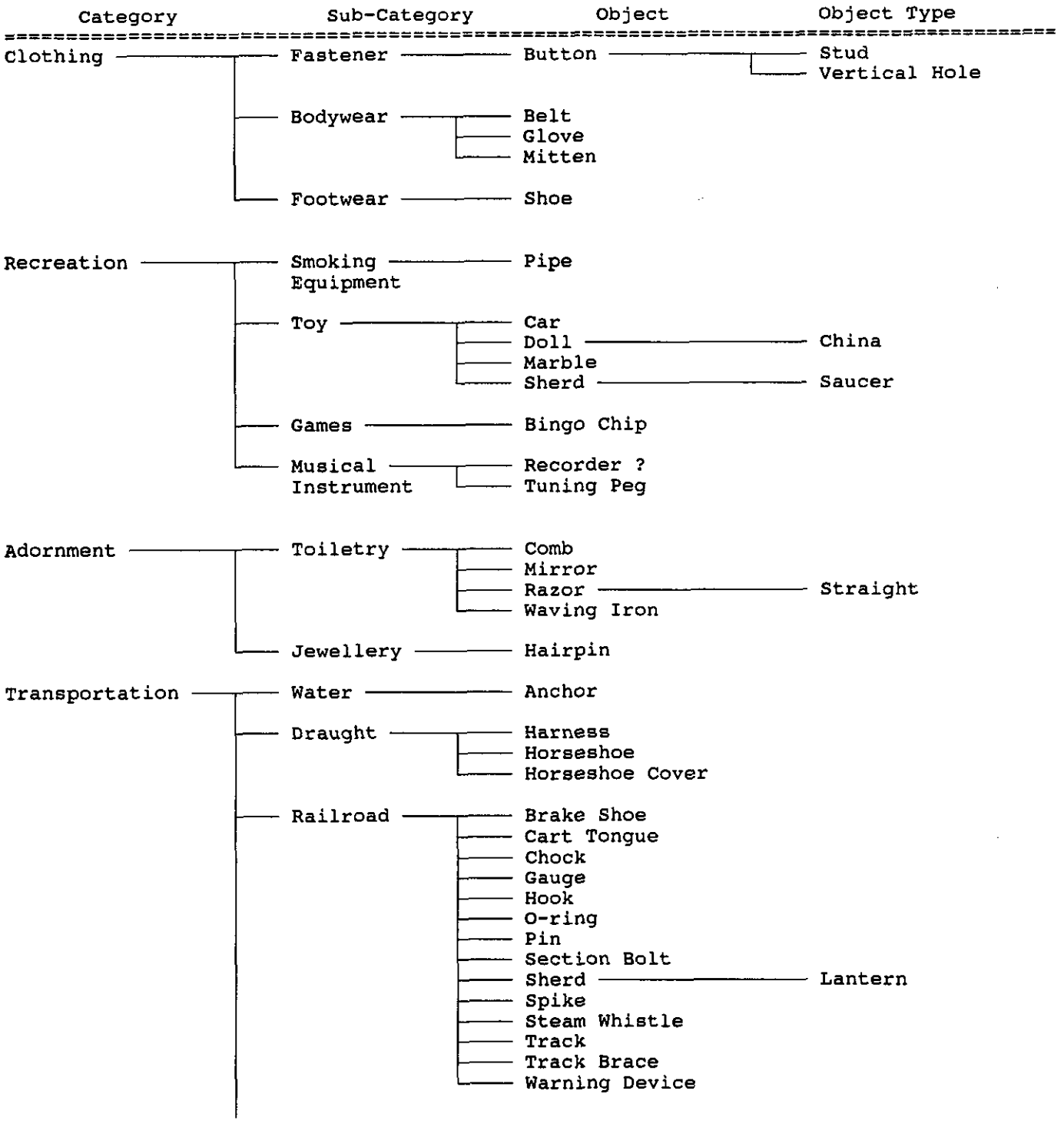
CHIN (CANADIAN HERITAGE INVENTORY NETWORK) HIERARCHY

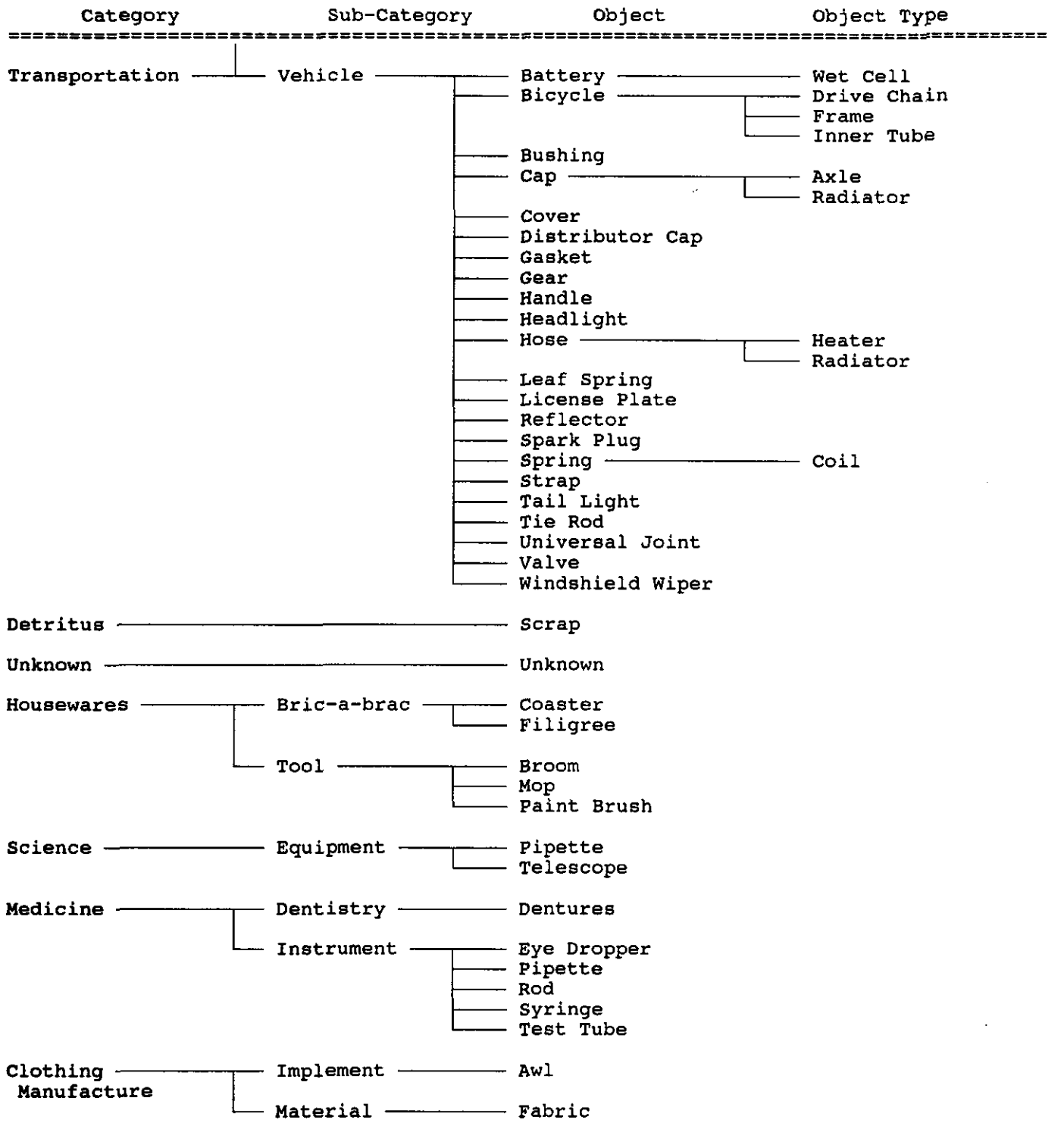
(Augmented version, reflecting all types of recovered artifacts,
based upon original charts, which were published in
North Assiniboine Node Archaeological Impact Assessment
and *Archaeological Monitoring of Stage I Construction Project*)

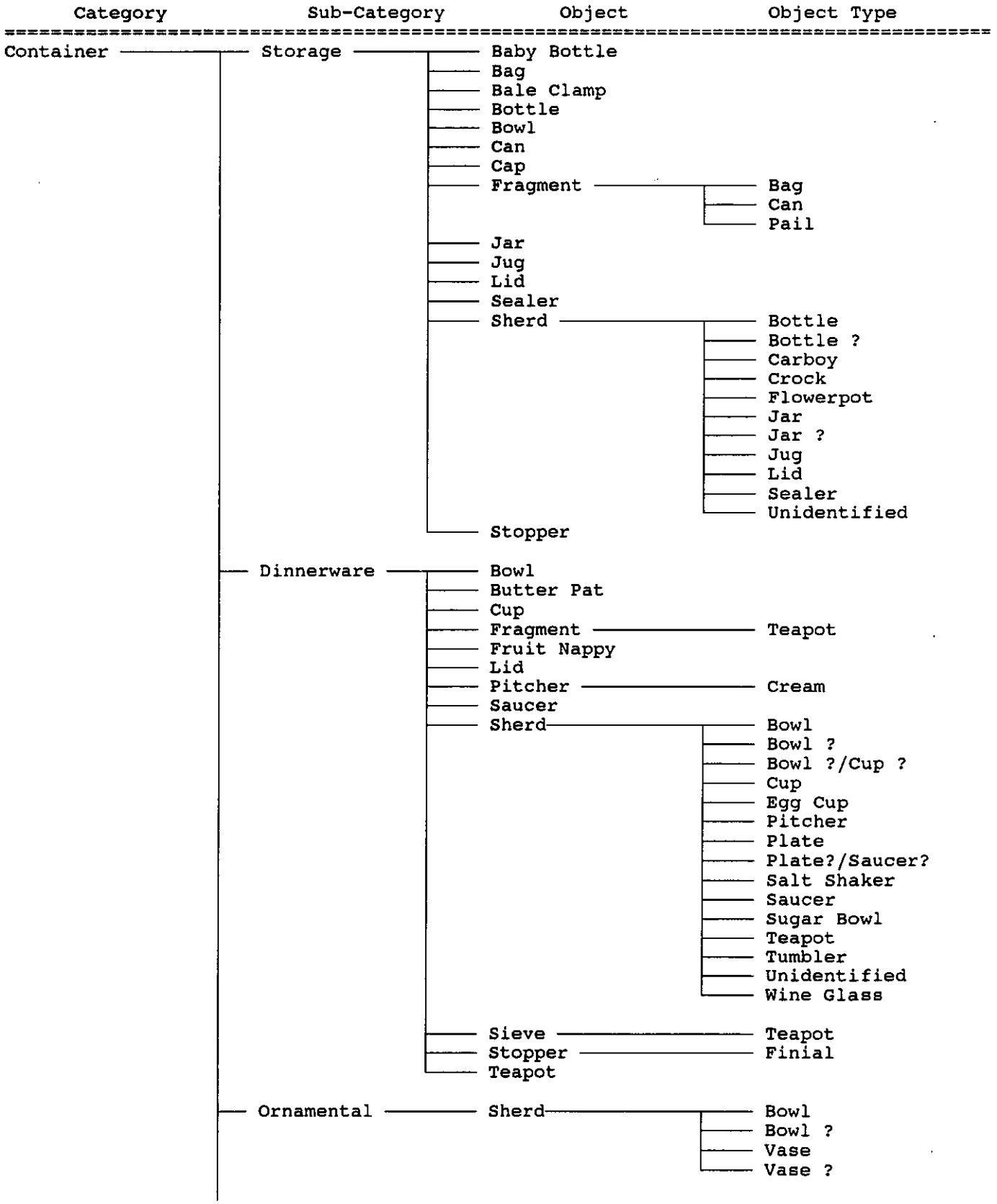
HIERARCHICAL CHART

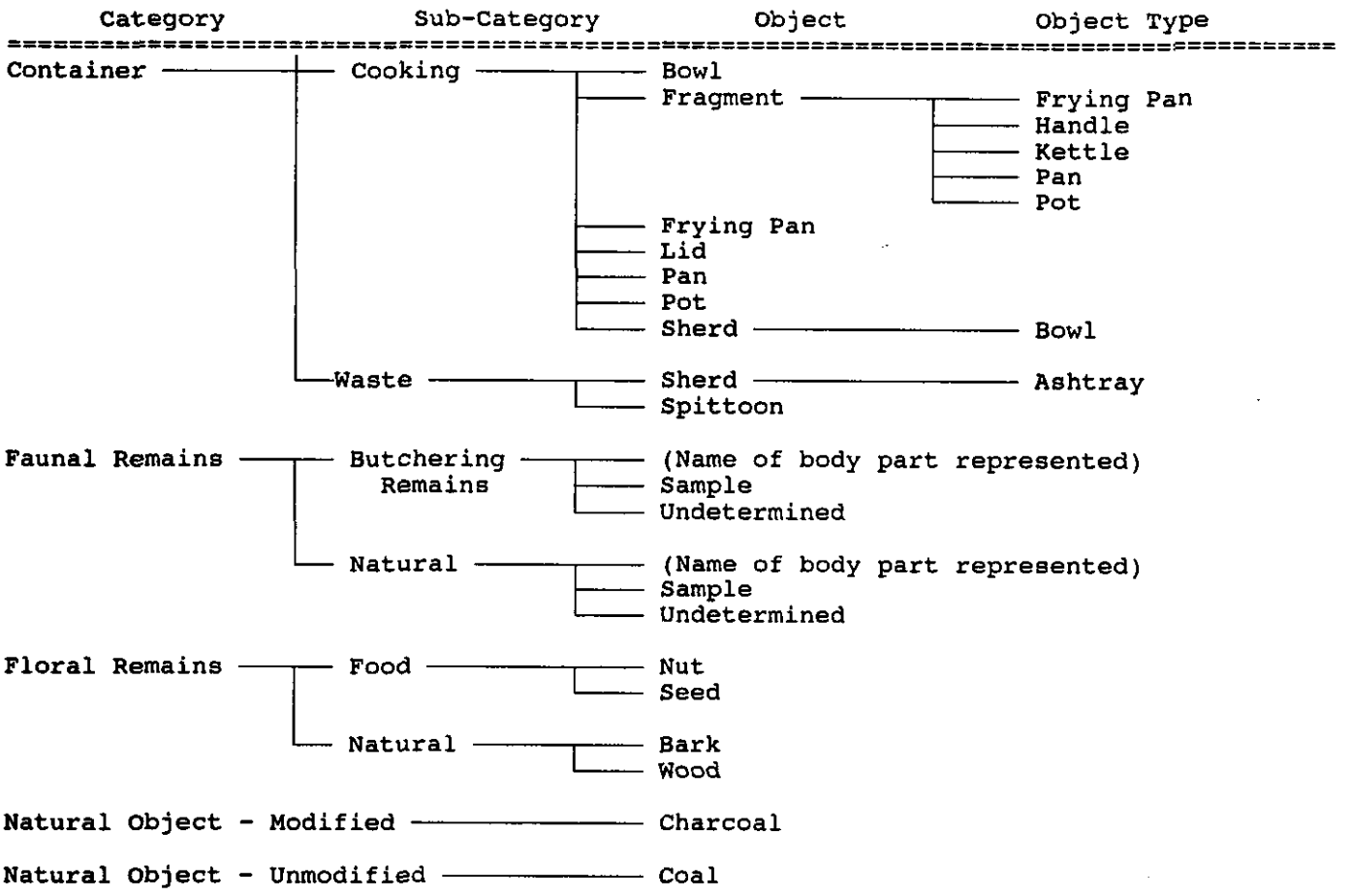


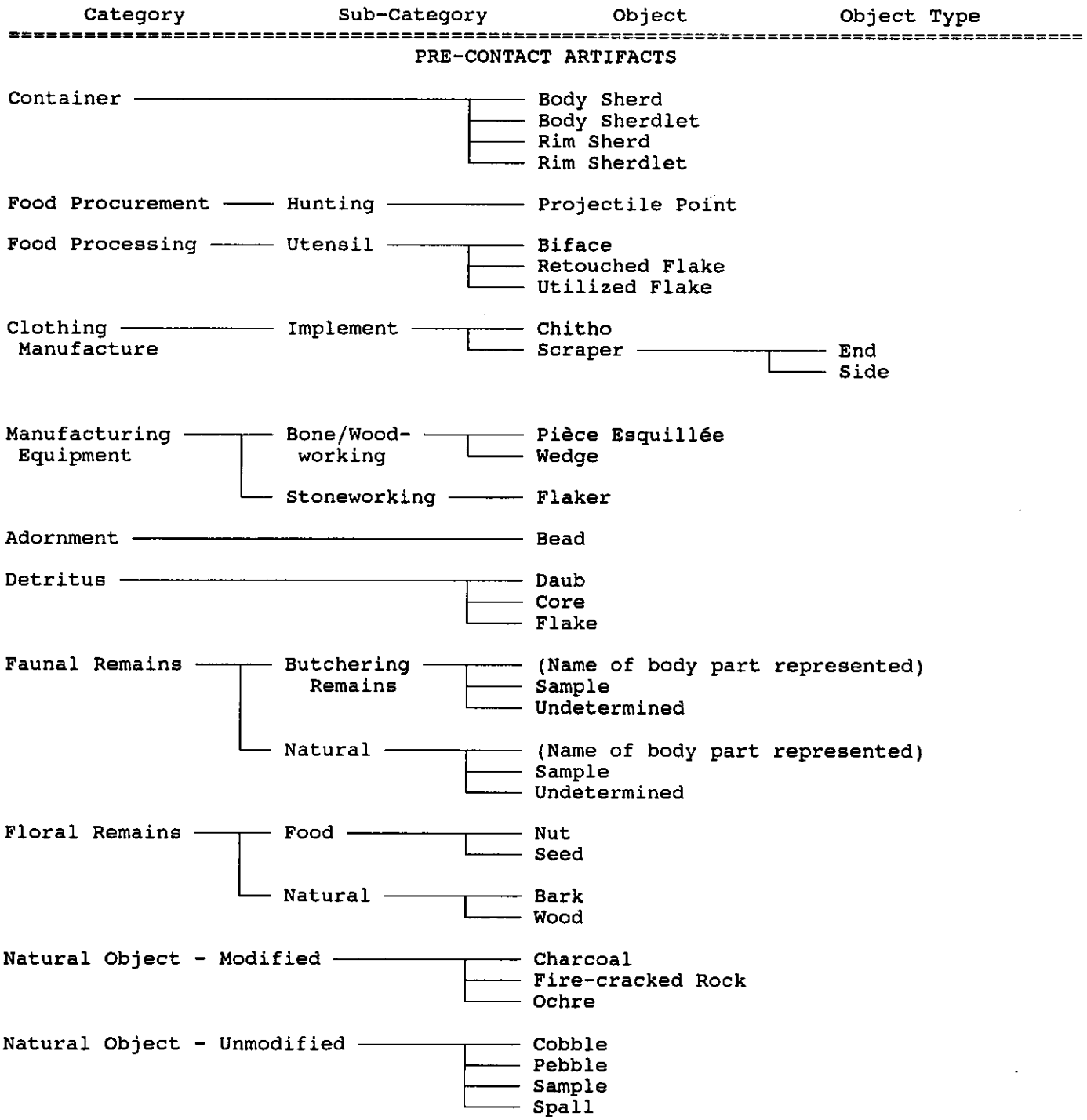

Category
Sub-Category
Object
Object Type
Architectural Object
Detached Structure
Filigree
Sewer Pipe
Sewer Tile
Weeping Tile
Furniture
Coaster
Spring
Lighting
Battery
Dry Cell
Candlestick
Light Bulb
Lighting Fixture
Sherd
Lamp
Manufacturing Equipment
Industrial
Drive Belt
Drive Chain
Drive Shaft
Gauge
Water
Gear
Lever
Building
Axe
Pick
Shovel
Metalworking
Carborundum
Chisel
File
Welding Rod
Whetstone
Wrench
Communication
Telecomm-unication
Insulator
Insulator Peg
Vacuum Tube
Written
Lead Plate
Newspaper
Pen
Sign
Food Procurement
Fishing
Float
Sinker
Horticulture
Tool
Food Processing
Appliance
Stove
Cutlery
Knife
Spoon
Utensil
Can Opener
Meat Hook
Spoon
Ladle
Commerce
Currency
Coin
Device
Date Stamp
Weight Scale


Category
Sub-Category
Object
Object Type
Clothing
Fastener
Button
Stud
Vertical Hole
Bodywear
Belt
Glove
Mitten
Footwear
Shoe
Recreation
Smoking Equipment
Pipe
Toy
Car
Doll
China
Marble
Sherd
Saucer
Games
Bingo Chip
Musical Instrument
Recorder ?
Tuning Peg
Adornment
Toiletry
Comb
Mirror
Razor
Straight
Waving Iron
Jewellery
Hairpin
Transportation
Water
Anchor
Draught
Harness
Horseshoe
Horseshoe Cover
Railroad
Brake Shoe
Cart Tongue
Chock
Gauge
Hook
O-ring
Pin
Section Bolt
Sherd
Lantern
Spike
Steam Whistle
Track
Track Brace
Warning Device


Category
Sub-Category
Object
Object Type
Transportation
Vehicle
Battery
Wet Cell
Bicycle
Drive Chain
Frame
Inner Tube
Bushing
Cap
Axle
Radiator
Cover
Distributor Cap
Gasket
Gear
Handle
Headlight
Hose
Heater
Radiator
Leaf Spring
License Plate
Reflector
Spark Plug
Spring
Coil
Strap
Tail Light
Tie Rod
Universal Joint
Valve
Windshield Wiper
Detritus
Scrap
Unknown
Unknown
Housewares
Bric-a-brac
Coaster
Filigree
Tool
Broom
Mop
Paint Brush
Science
Equipment
Pipette
Telescope
Medicine
Dentistry
Dentures
Instrument
Eye Dropper
Pipette
Rod
Syringe
Test Tube
Clothing Manufacture
Implement
Awl
Material
Fabric


Category
Sub-Category
Object
Object Type
Container
Storage
Baby Bottle
Bag
Bale Clamp
Bottle
Bowl
Can
Cap
Fragment
Bag
Can
Pail
Jar
Jug
Lid
Sealer
Sherd
Bottle
Bottle ?
Carboy
Crock
Flowerpot
Jar
Jar ?
Jug
Lid
Sealer
Unidentified
Stopper
Dinnerware
Bowl
Butter Pat
Cup
Fragment
Teapot
Fruit Nappy
Lid
Pitcher
Cream
Saucer
Sherd
Bowl
Bowl ?
Bowl ?/Cup ?
Cup
Egg Cup
Pitcher
Plate
Plate?/Saucer?
Salt Shaker
Saucer
Sugar Bowl
Teapot
Tumbler
Unidentified
Wine Glass
Sieve
Teapot
Stopper
Finial
Teapot
Ornamental
Sherd
Bowl
Bowl ?
Vase
Vase ?


Category
Sub-Category
Object
Object Type
Container
Cooking
Bowl
Fragment
Frying Pan
Handle
Kettle
Pan
Pot
Frying Pan
Lid
Pan
Pot
Sherd
Bowl
Waste
Sherd
Ashtray
Spittoon
Faunal Remains
Butchering Remains
(Name of body part represented)
Sample
Undetermined
Natural
(Name of body part represented)
Sample
Undetermined
Floral Remains
Food
Nut
Seed
Natural
Bark
Wood
Natural Object - Modified
Charcoal
Natural Object - Unmodified
Coal


Category
Sub-Category
Object
Object Type
PRE-CONTACT ARTIFACTS
Container
Body Sherd
Body Sherdlet
Rim Sherd
Rim Sherdlet
Food Procurement
Hunting
Projectile Point
Food Processing
Utensil
Biface
Retouched Flake
Utilized Flake
Clothing Manufacture
Implement
Chitho
Scraper
End
Side
Manufacturing Equipment
Bone/Wood-working
Pièce Esquillée
Wedge
Stoneworking
Flaker
Adornment
Bead
Detritus
Daub
Core
Flake
Faunal Remains
Butchering Remains
(Name of body part represented)
Sample
Undetermined
Natural
(Name of body part represented)
Sample
Undetermined
Floral Remains
Food
Nut
Seed
Natural
Bark
Wood
Natural Object - Modified
Charcoal
Fire-cracked Rock
Ochre
Natural Object - Unmodified
Cobble
Pebble
Sample
Spall

APPENDIX C

PHOTOGRAPHIC PLATES

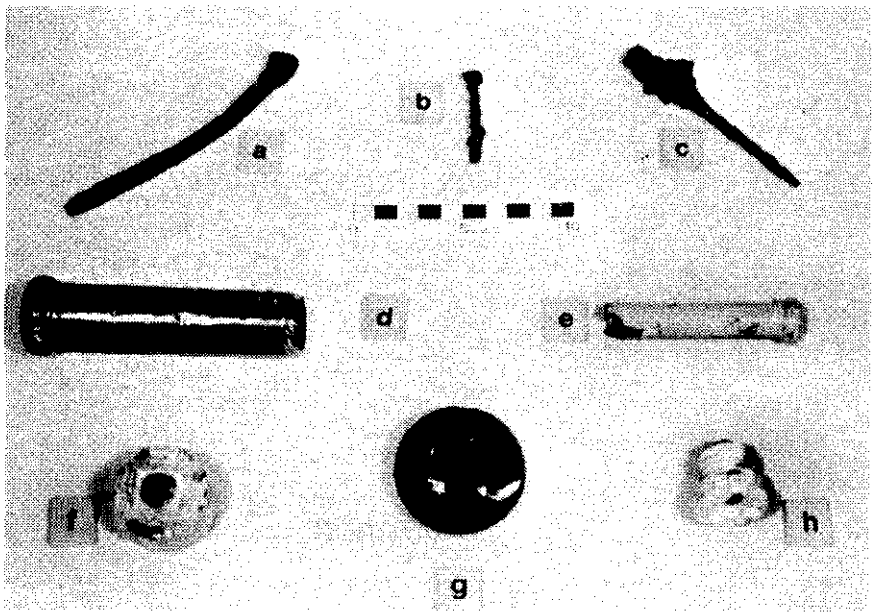


Plate 1: Architectural Objects

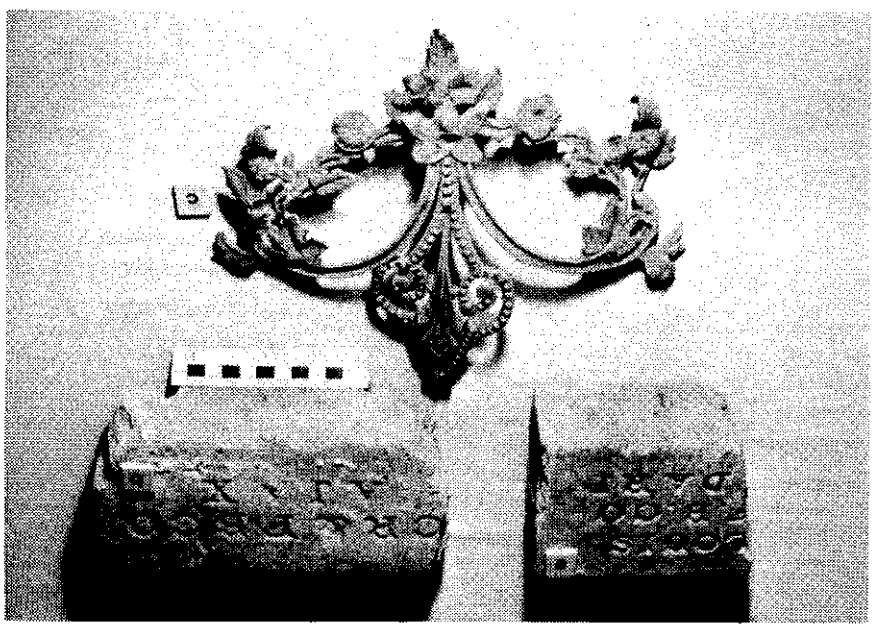


Plate 2: Bricks and Filigree

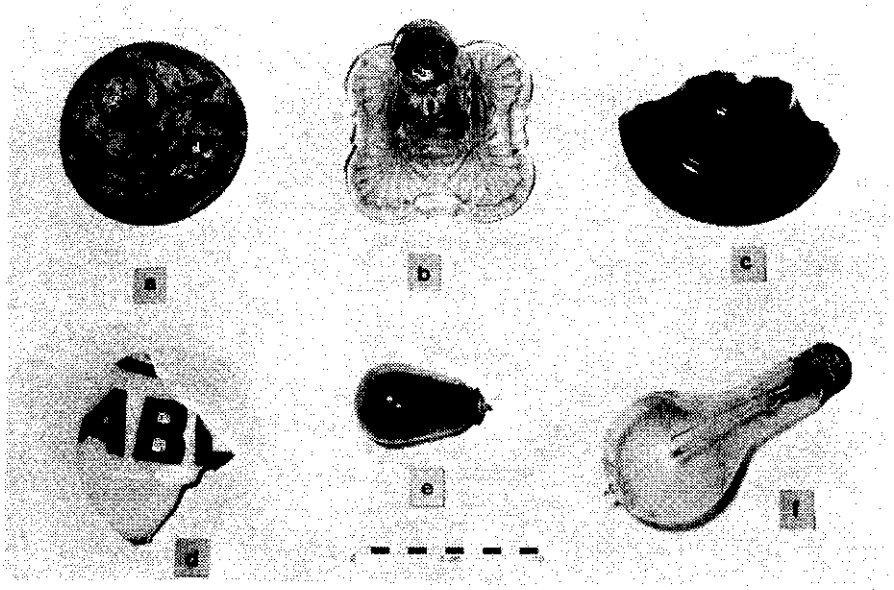


Plate 3: Lighting Equipment

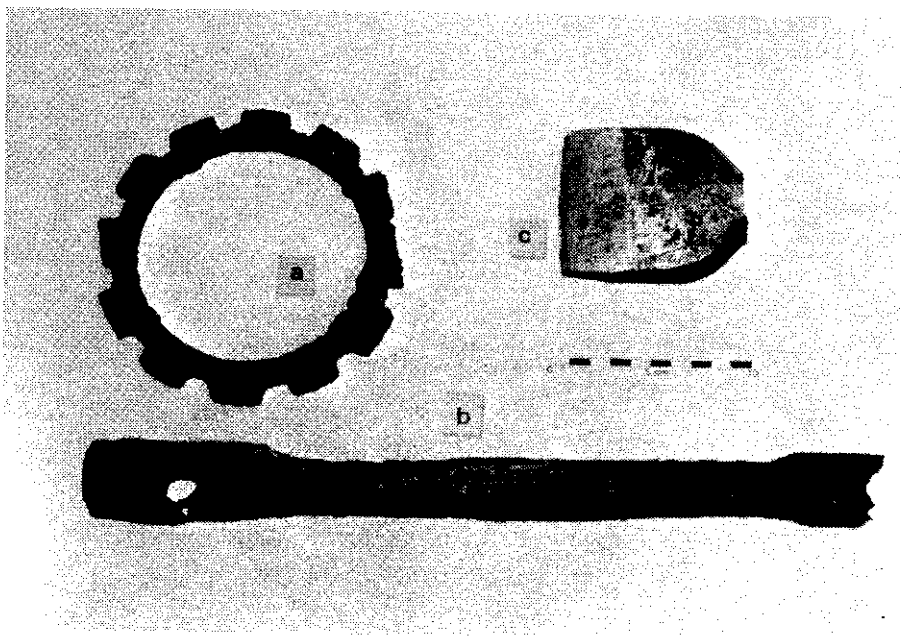


Plate 4: Manufacturing Equipment

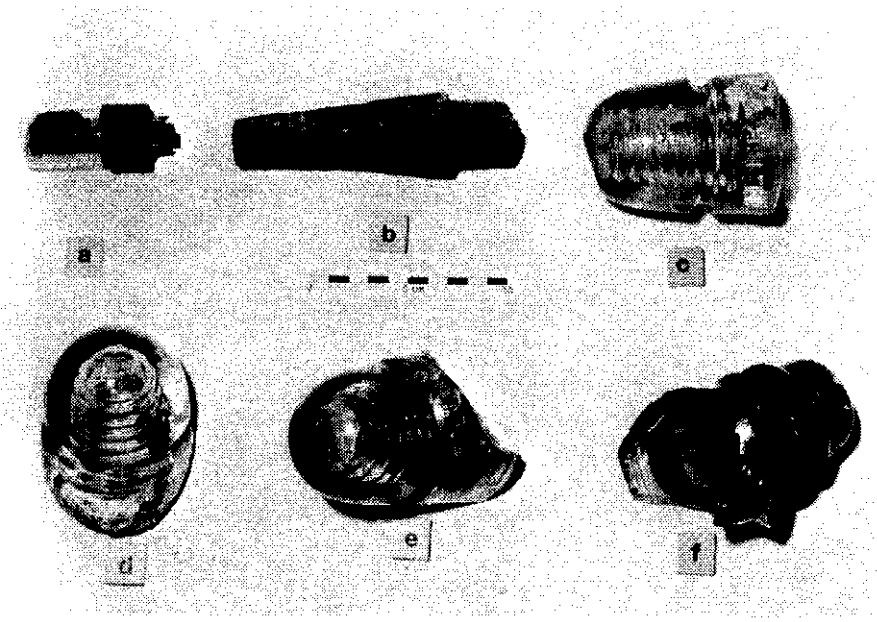


Plate 5: Telecommunication Artifacts

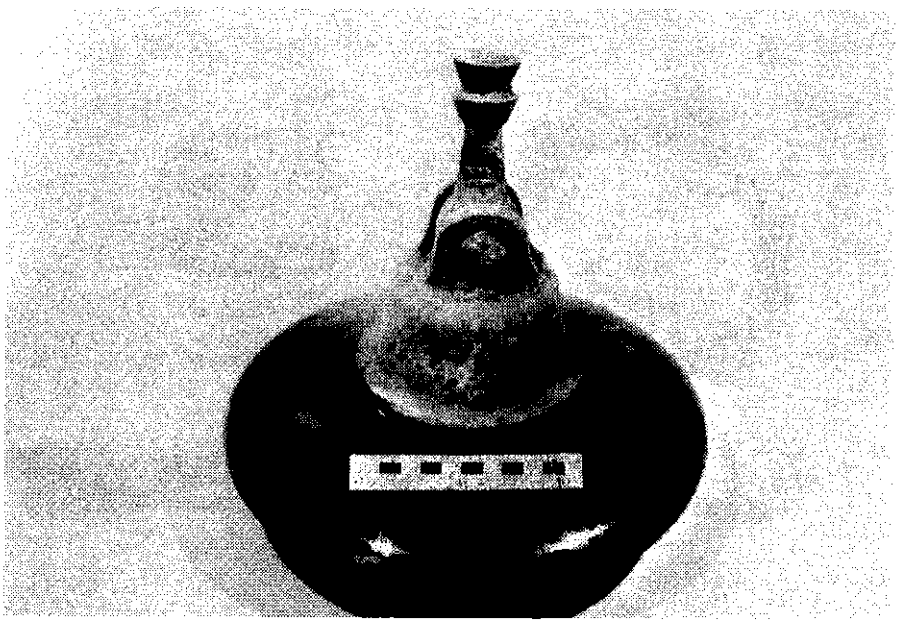


Plate 6: Ceramic Insulator

Plate 7: GTP Telegraph Sign

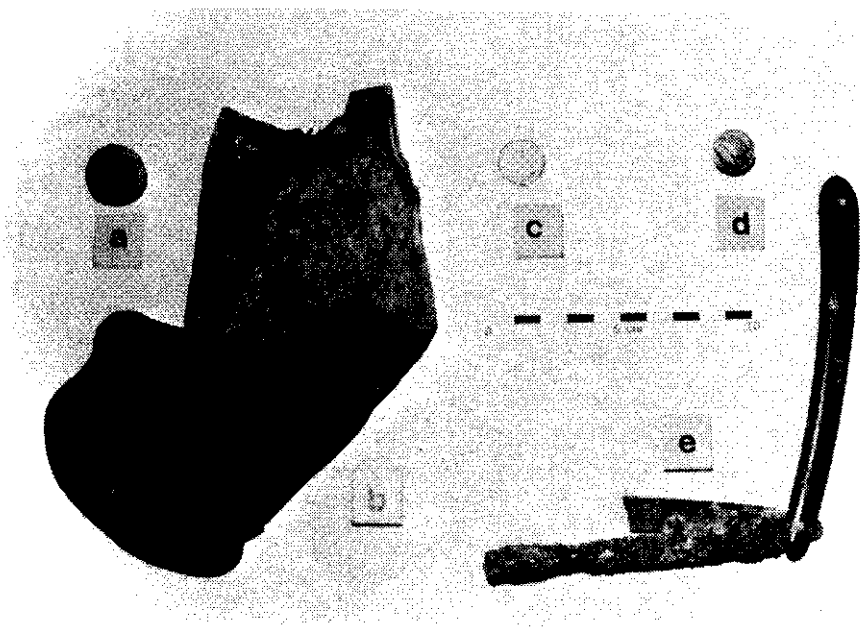


Plate 8: Clothing and Recreation Artifacts

Plate 9: Vehicle Artifacts

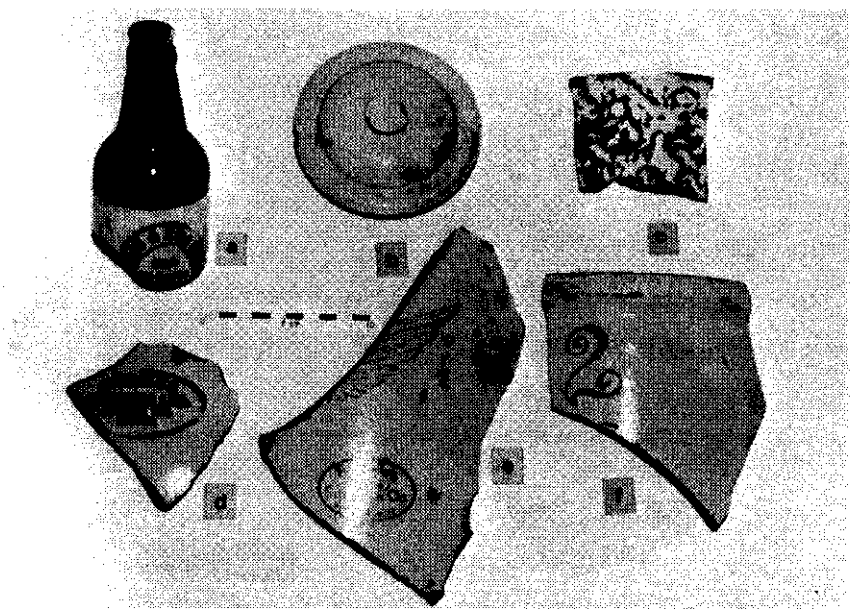


Plate 10: Ceramic Bottle and Crocks

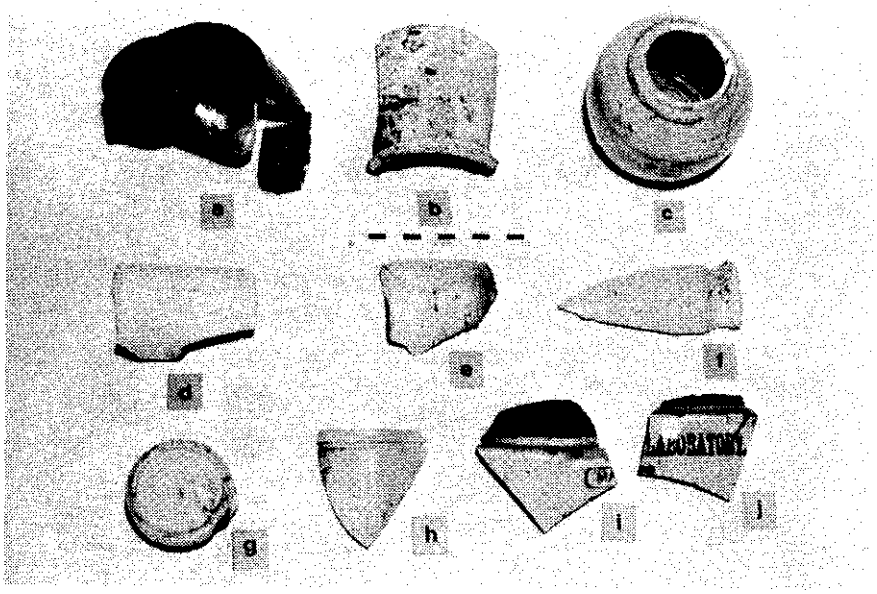


Plate 11: Ceramic Jugs and Jars

Plate 12: Complete Ceramic Jug

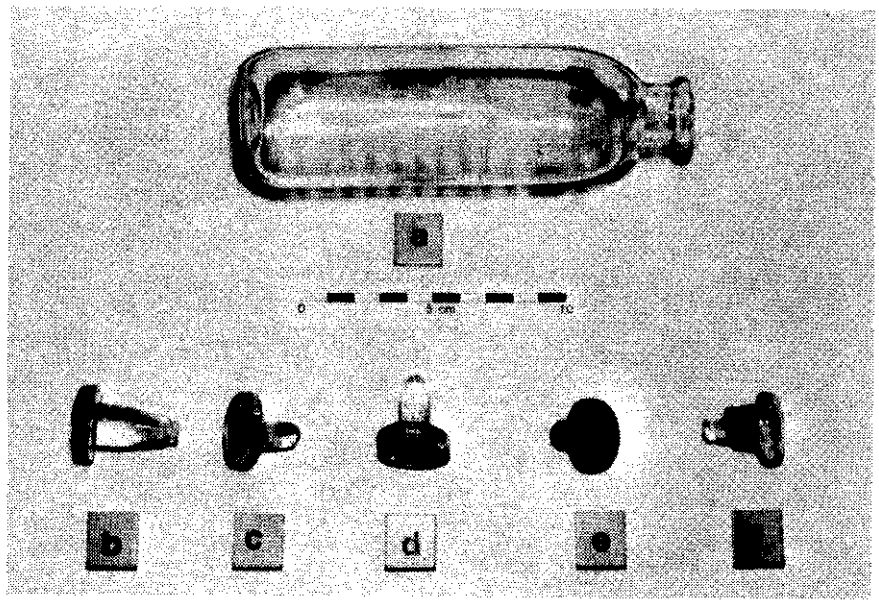


Plate 13: Baby Bottle and Stoppers

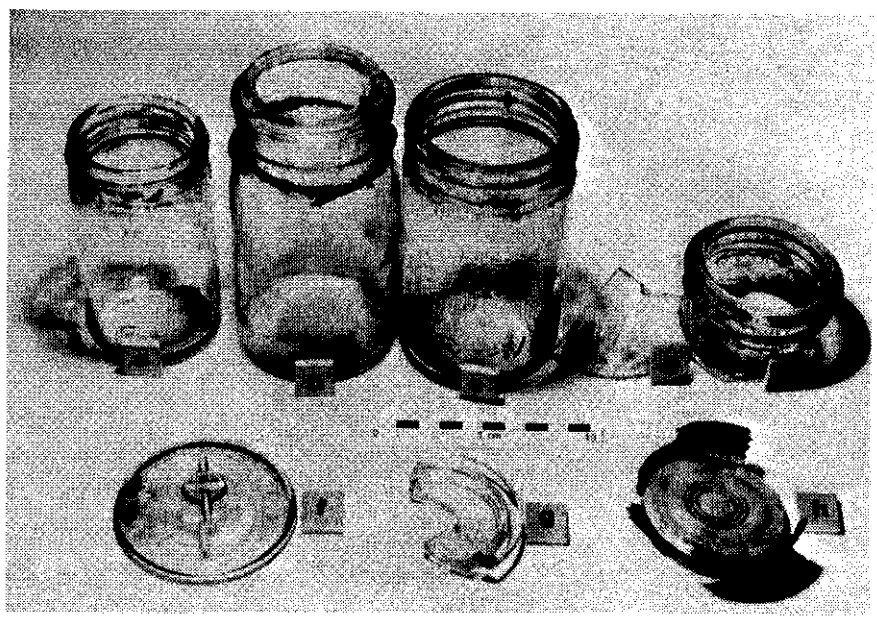


Plate 14: Canning Sealers

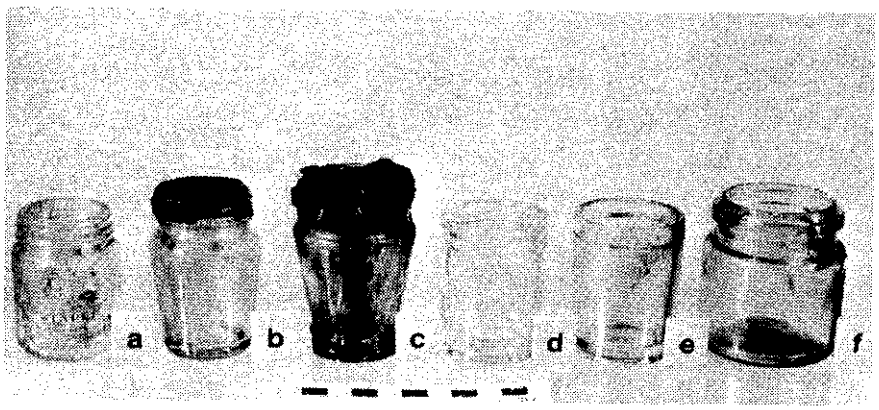


Plate 15: Glass Jam and Jelly Jars

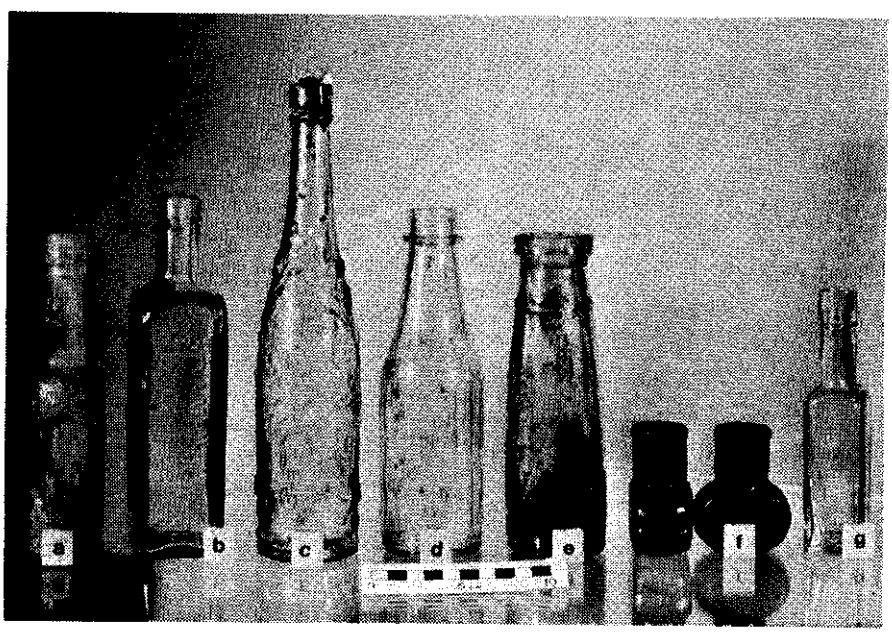


Plate 16: Miscellaneous Condiment Containers

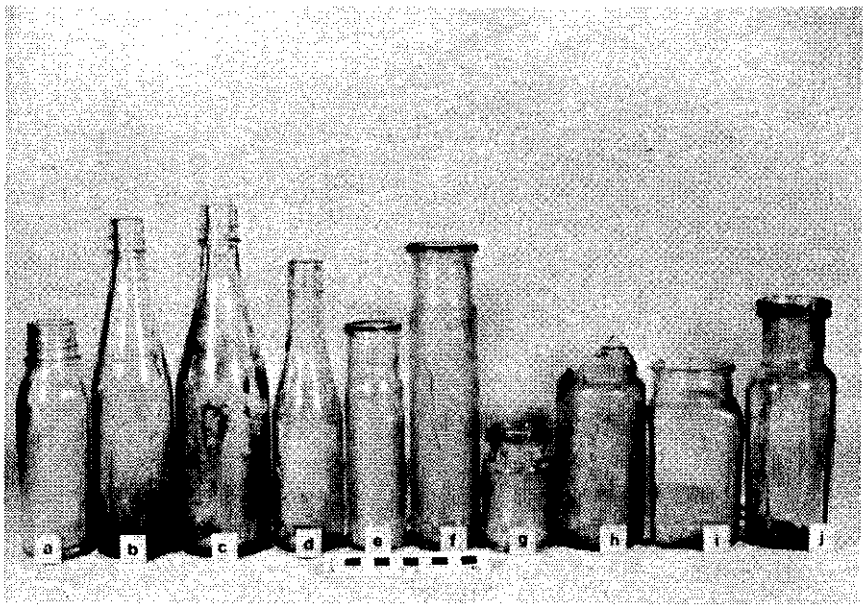


Plate 17: Glass Food Containers

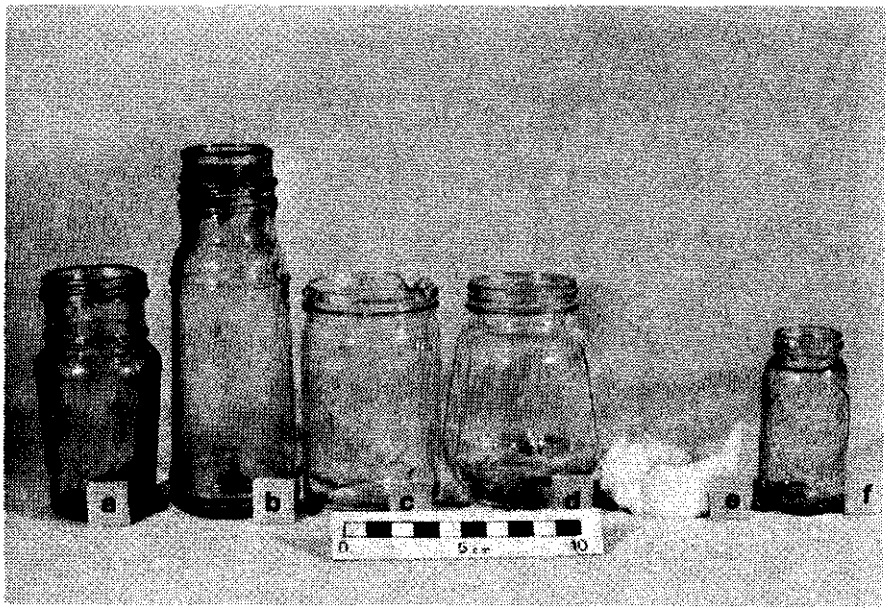


Plate 18: Glass Food Containers

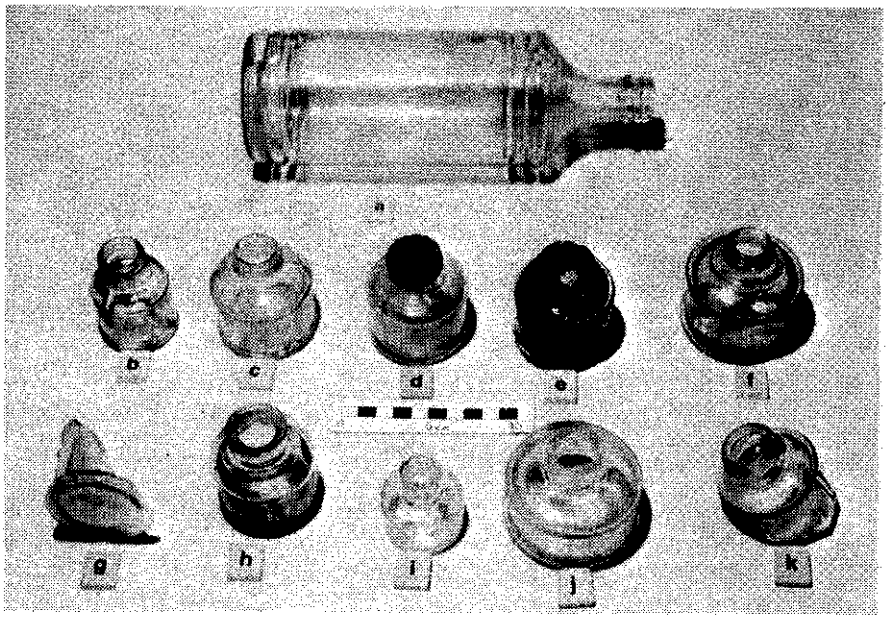


Plate 19: Ink Bottles

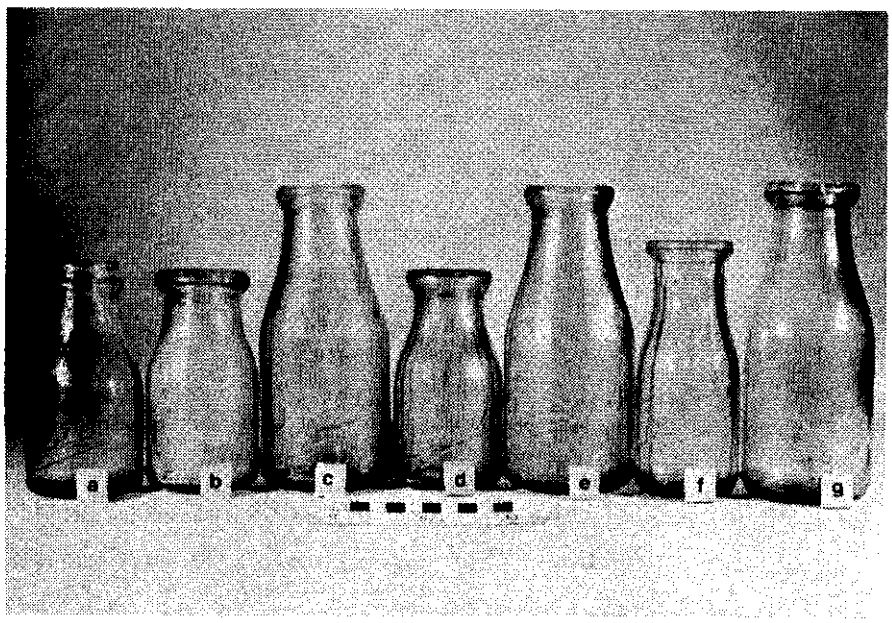


Plate 20: Crescent Milk Bottles

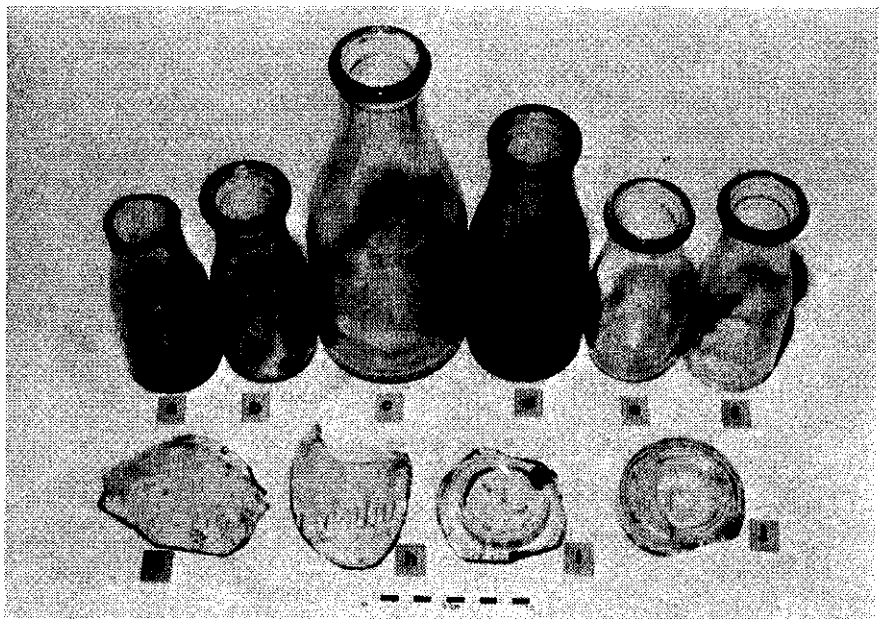


Plate 21: Other Milk Bottles

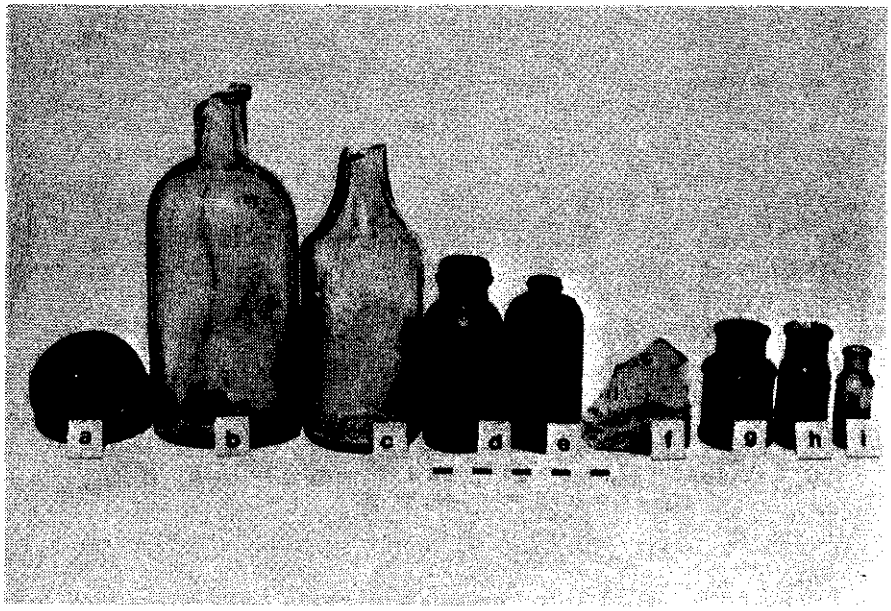


Plate 22: Medicine Bottles

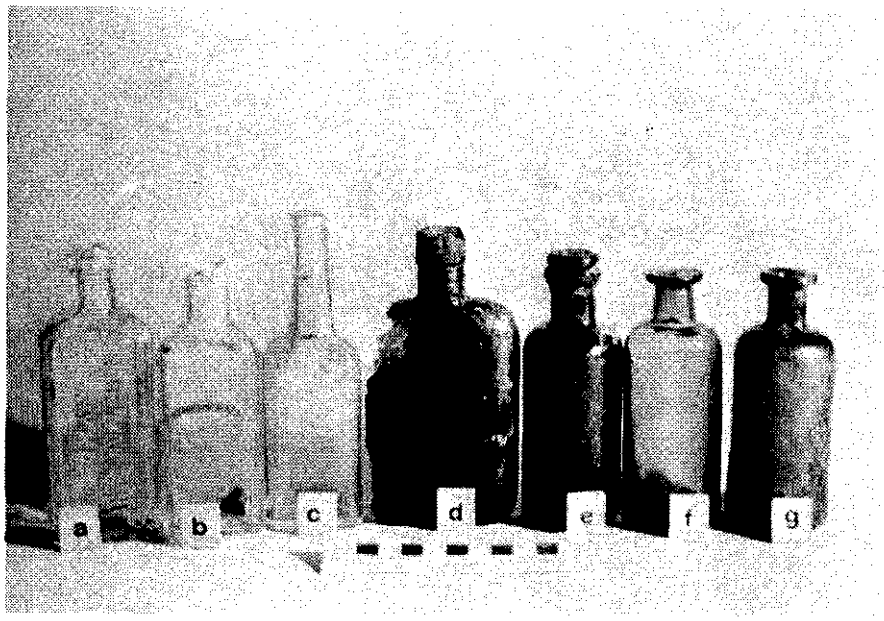


Plate 23: Aqua and Brown Medicine Bottles

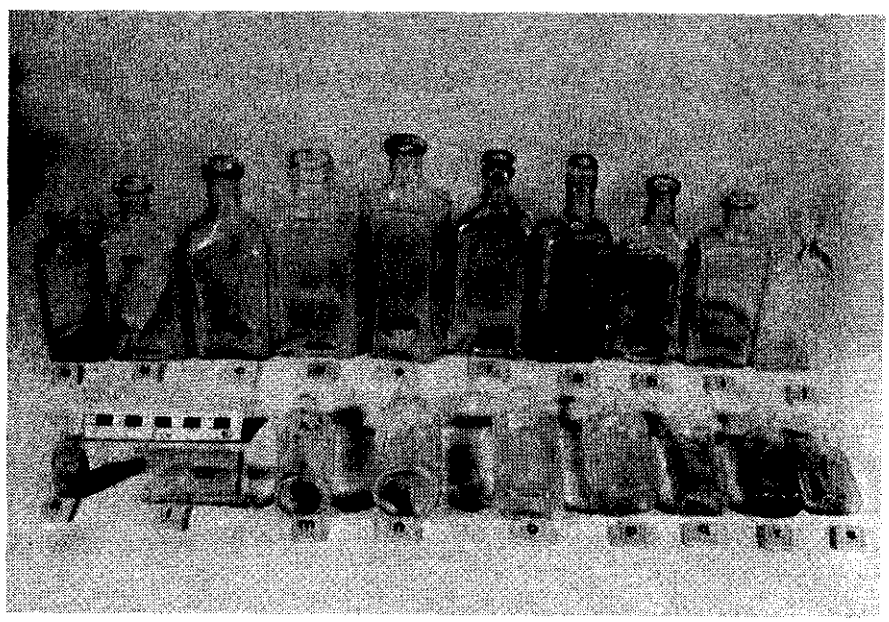


Plate 24: Clear Medicine Bottles

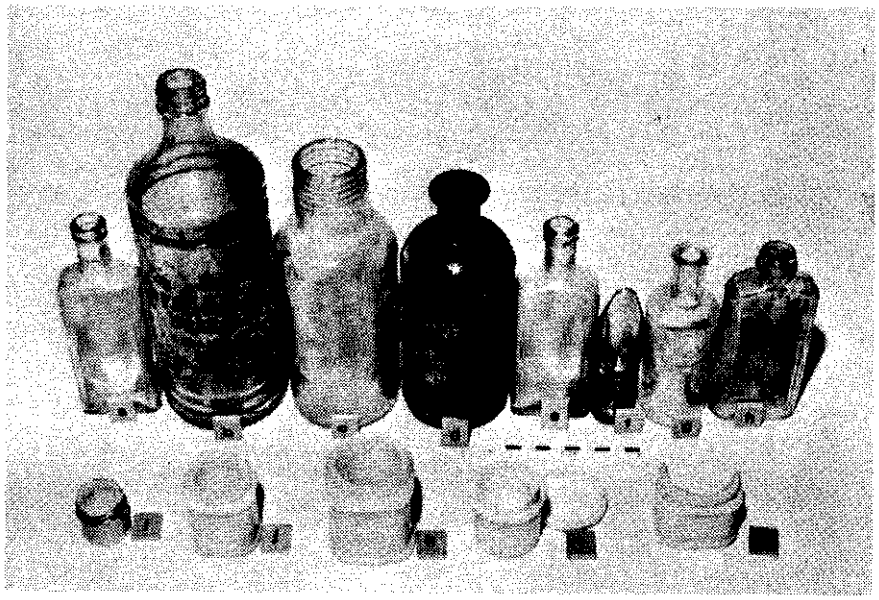


Plate 25: Chemical and Cosmetic Containers

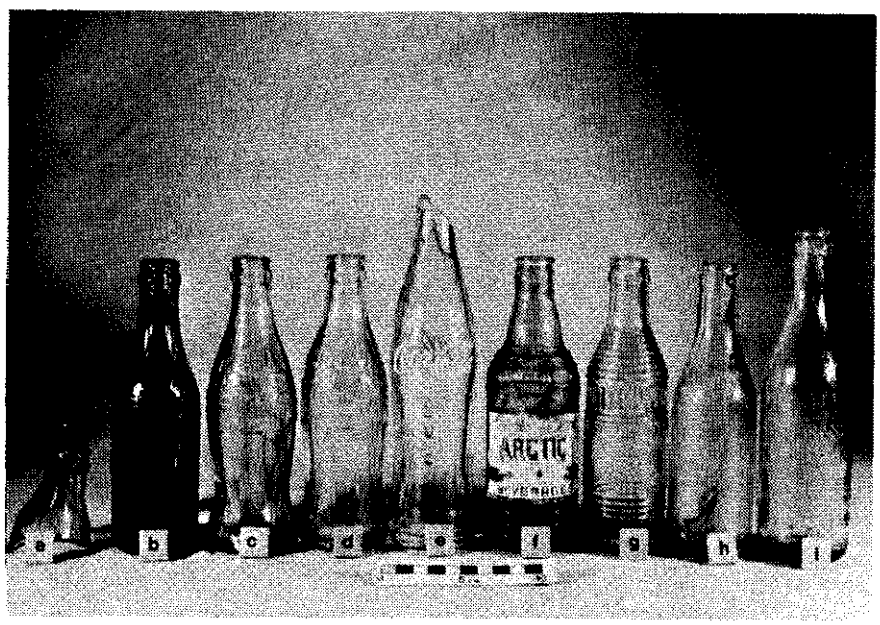


Plate 26: Soft Drink Containers I

Plate 27: Soft Drink Containers II

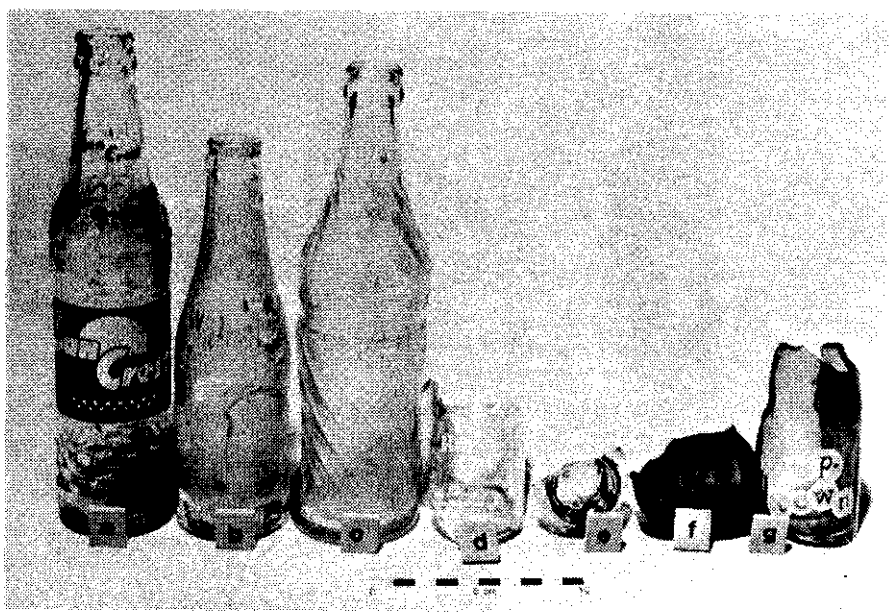


Plate 28: Soft Drink Containers III

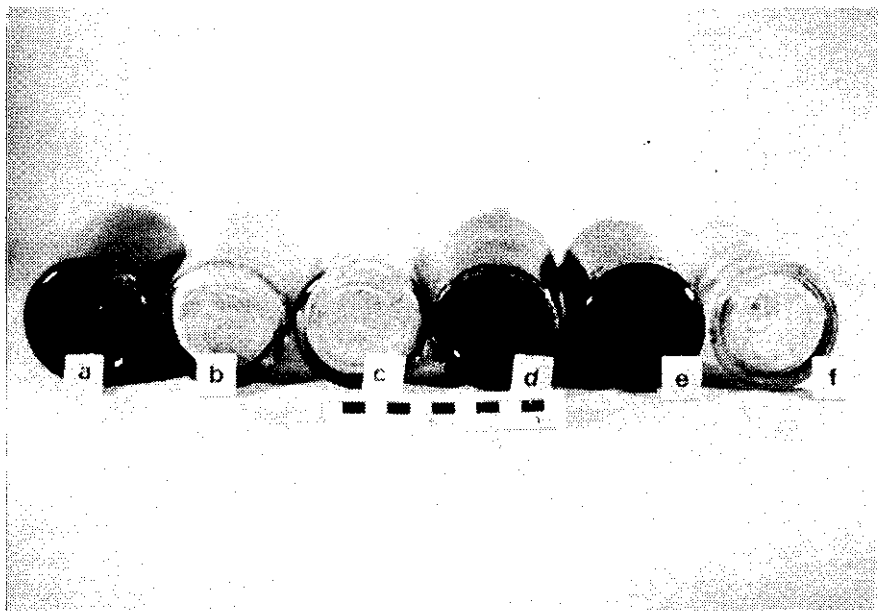


Plate 29: Beer Bottles I

Plate 30: Beer Bottles II

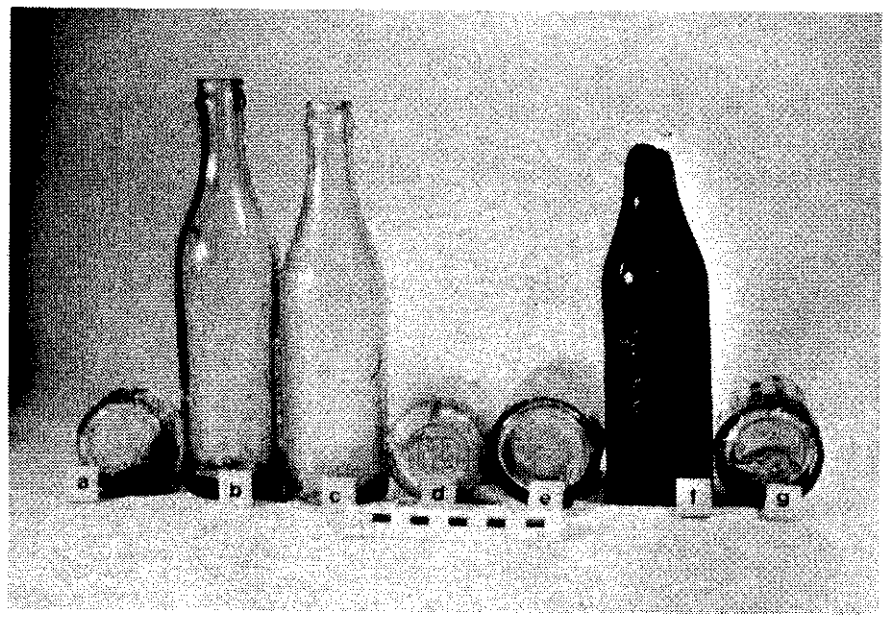


Plate 31: Beverage Bottles I

Plate 32: Beverage Bottles II

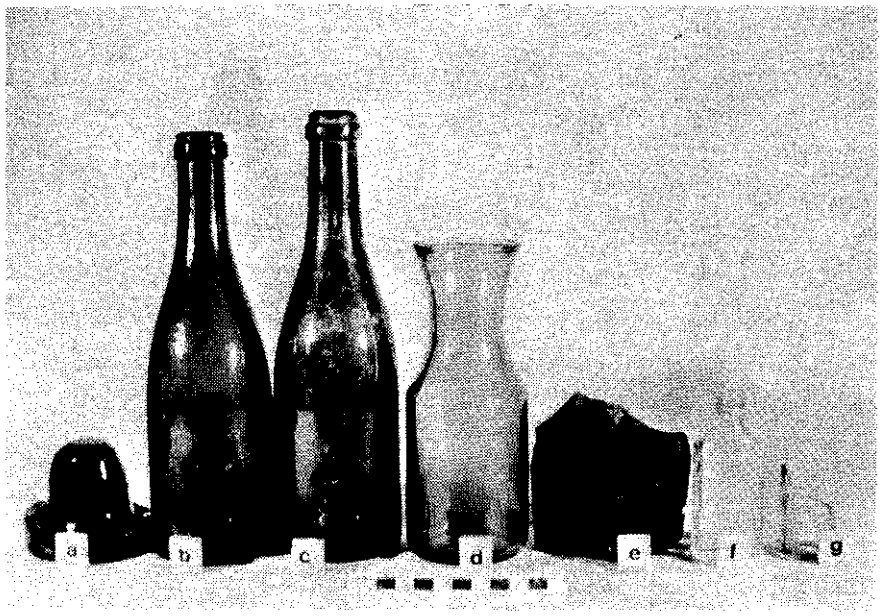


Plate 33: Wine and Gin Bottles

Plate 34: Whisky and Liquor Bottles

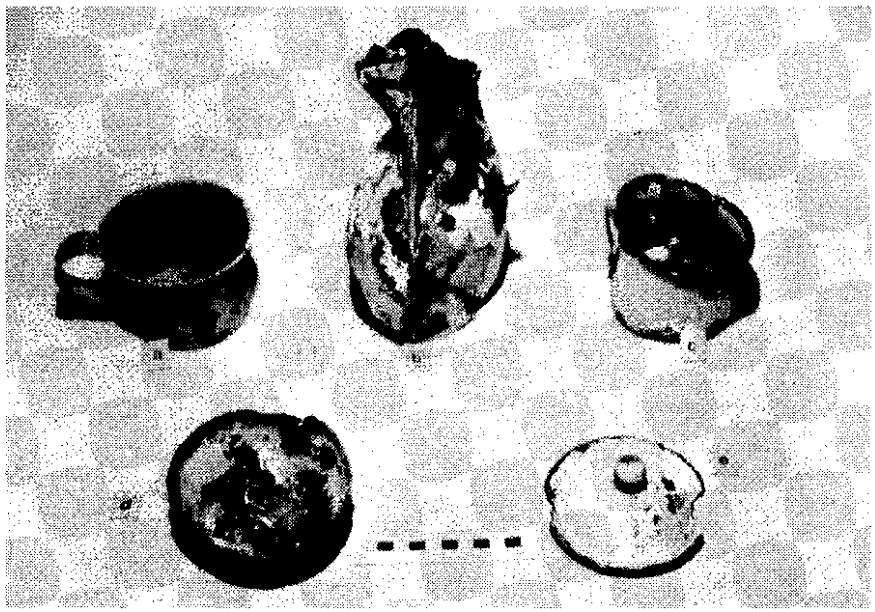


Plate 35: Metal Dinnerware

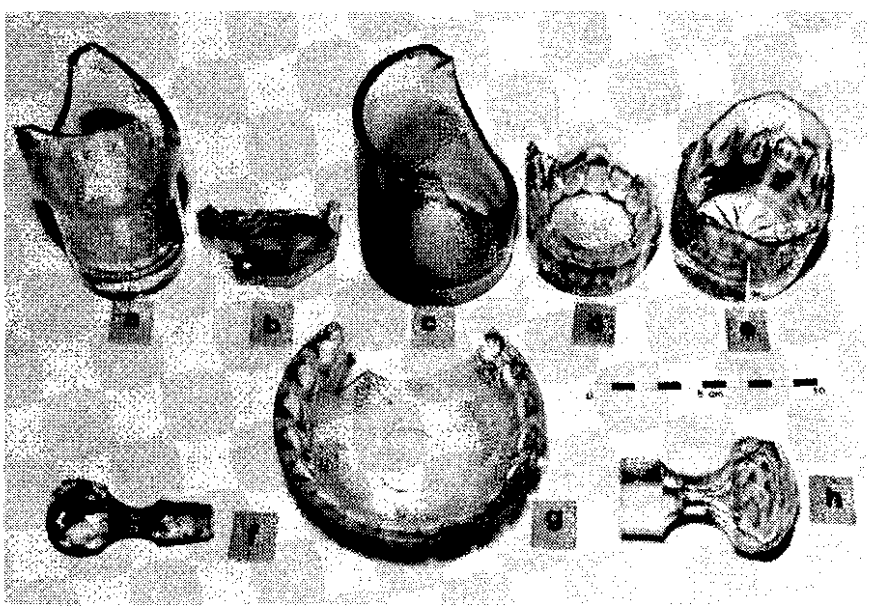


Plate 36: Glass Dinnerware

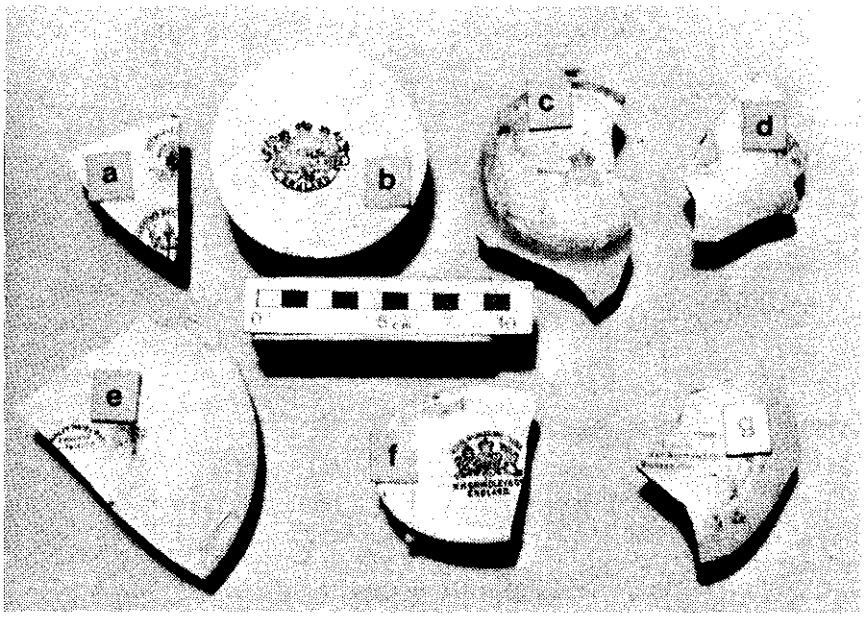


Plate 37: British Ceramic Marks I

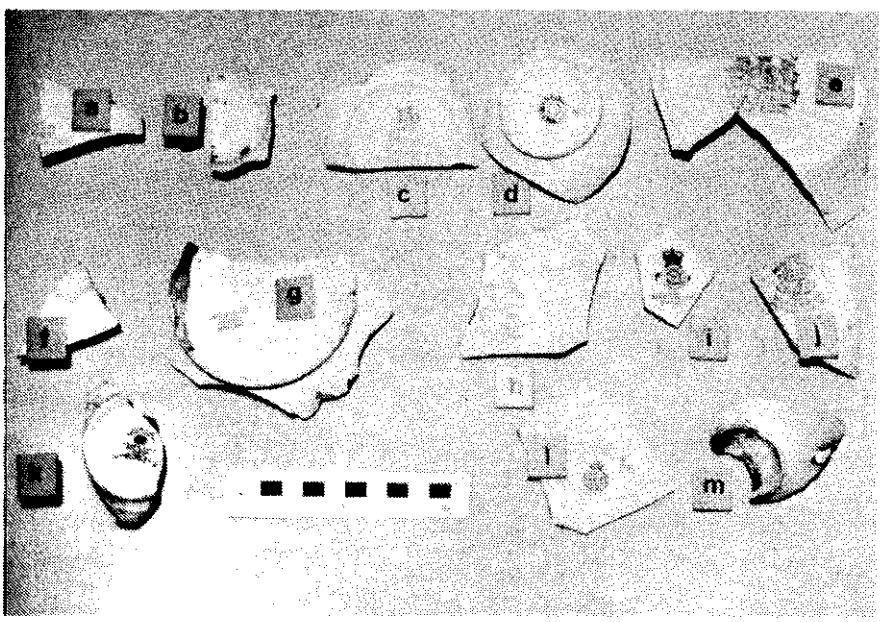


Plate 38: British Ceramic Marks II

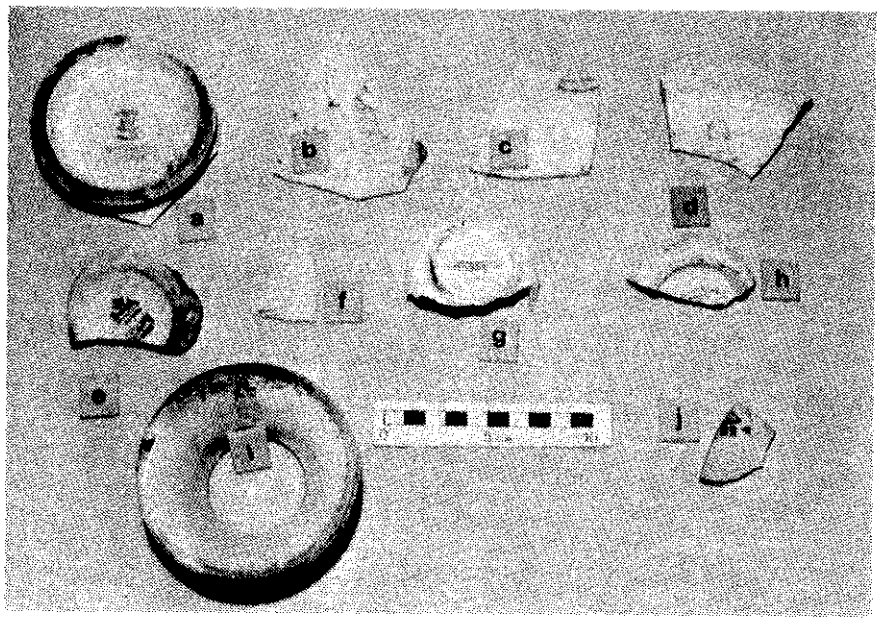


Plate 39: Other Ceramic Marks

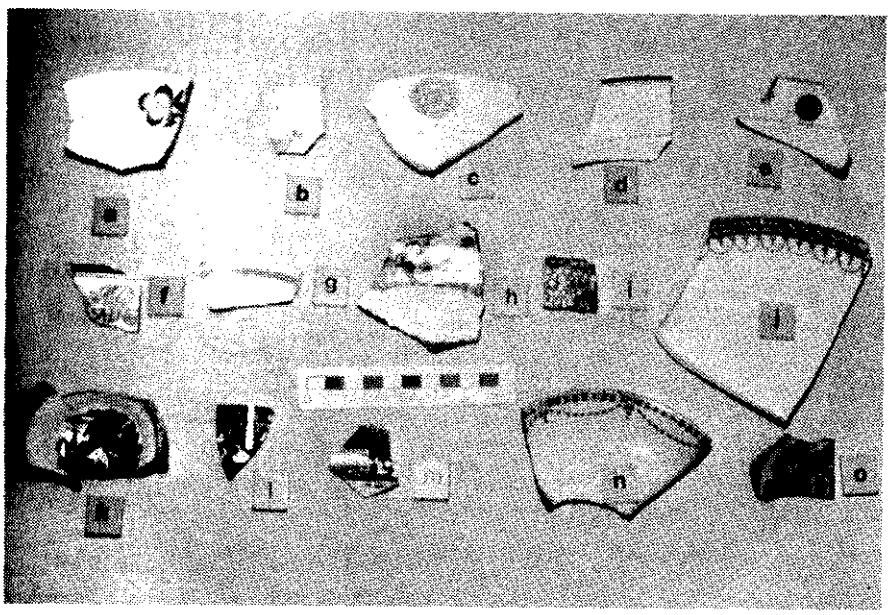


Plate 40: Gold Patterns and Blue Patterns

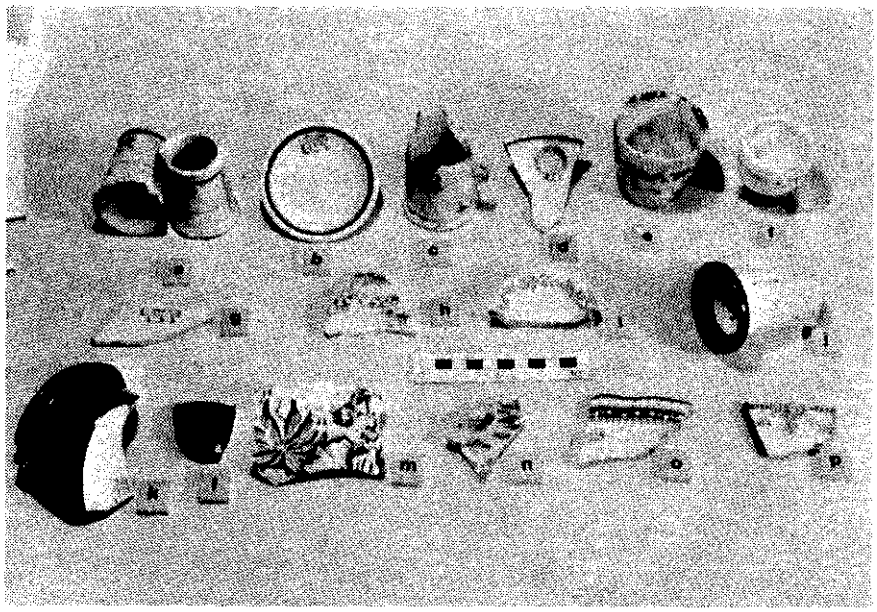


Plate 41: Green Patterns

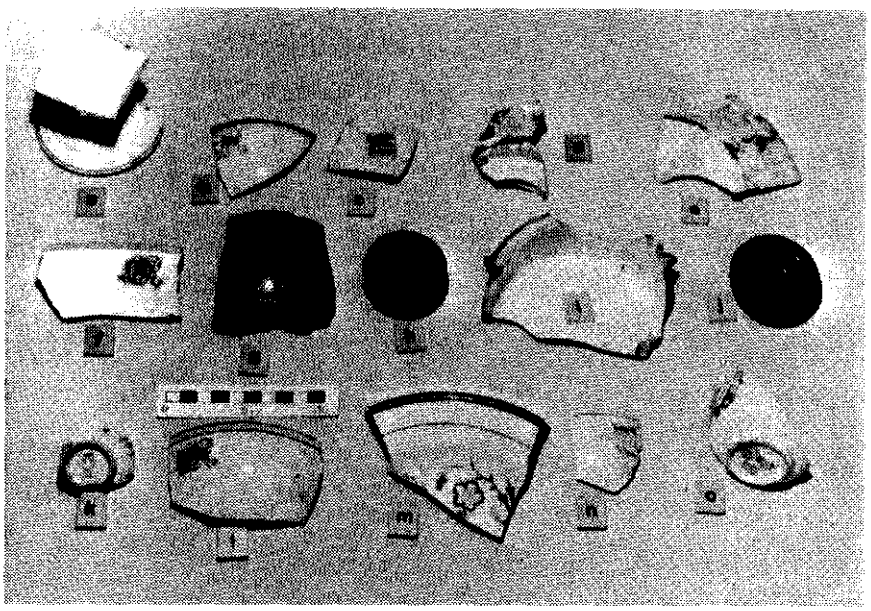


Plate 42: Miscellaneous Patterns

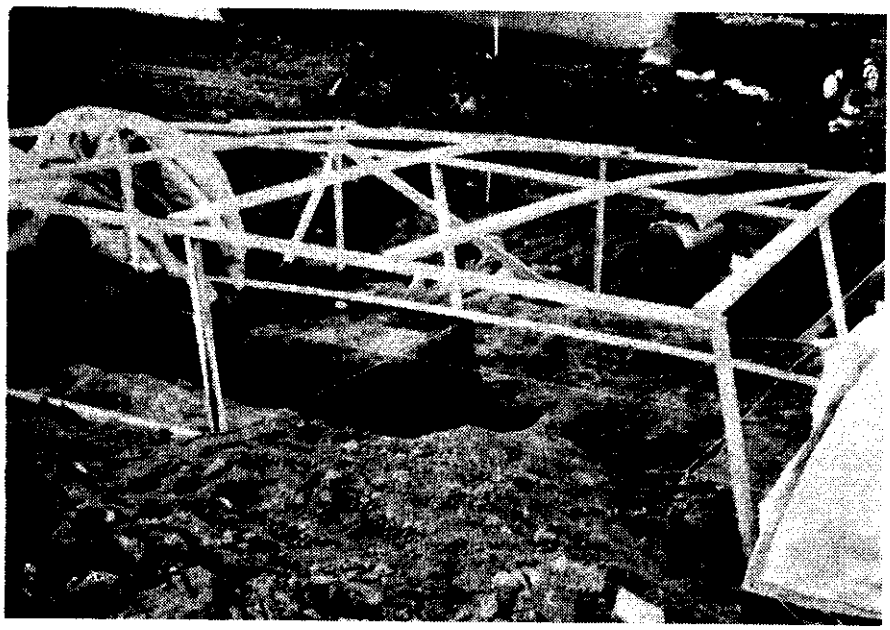


Plate 43: Ramp A Shelter Structure

Plate 44: Staff Excavating Ramp A

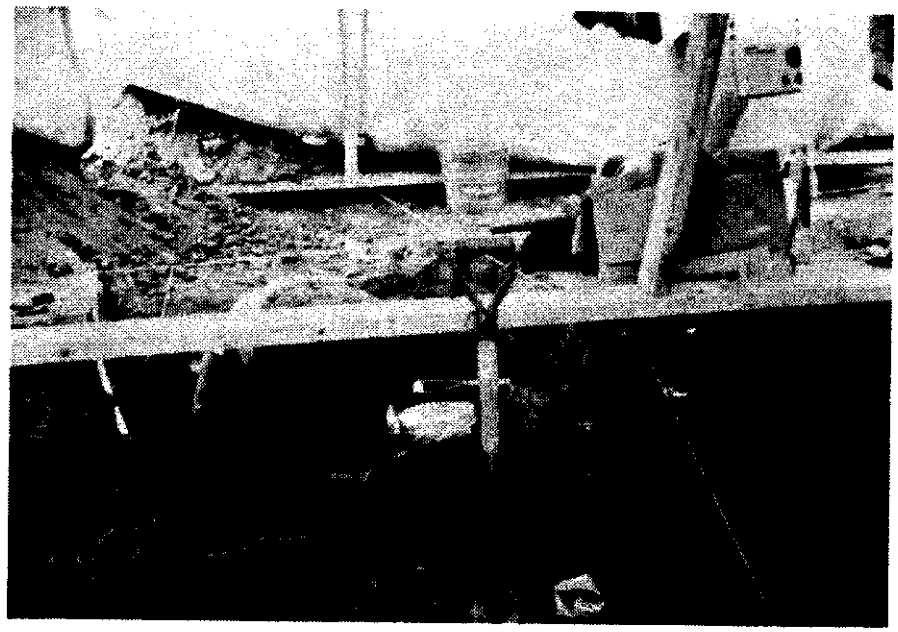


Plate 45: Excavations at Ramp A

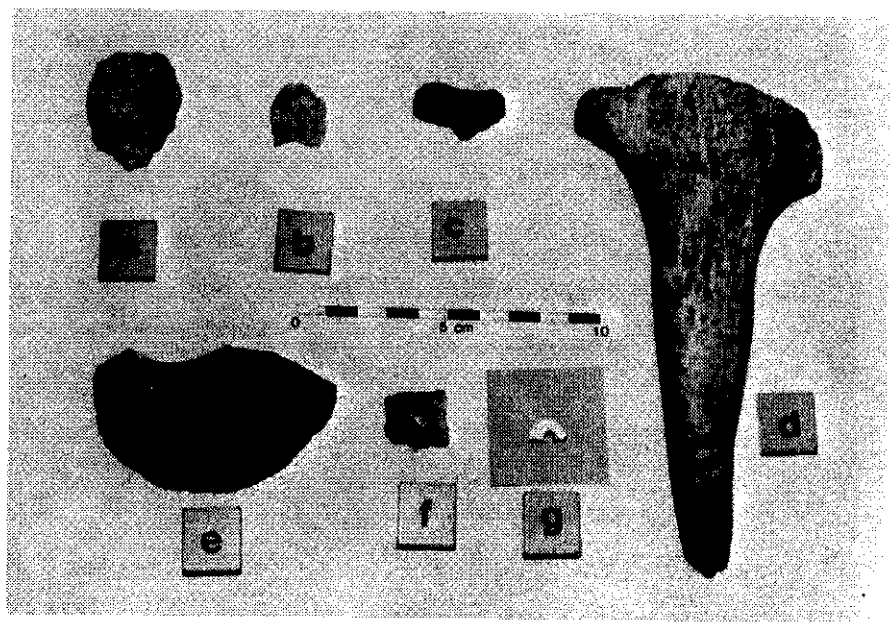


Plate 46: Artifacts from Ramp A and Ramp B

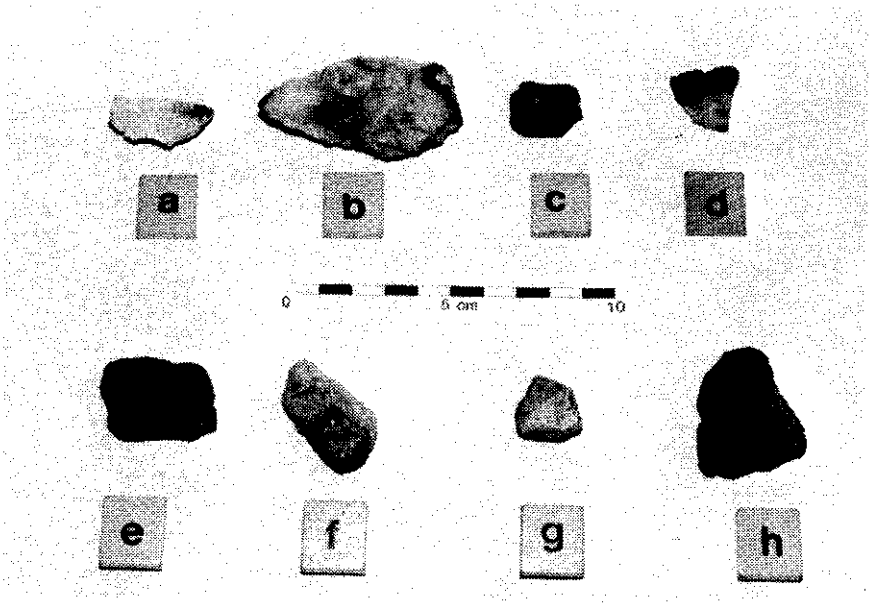


Plate 47: Artifacts from Ramp C

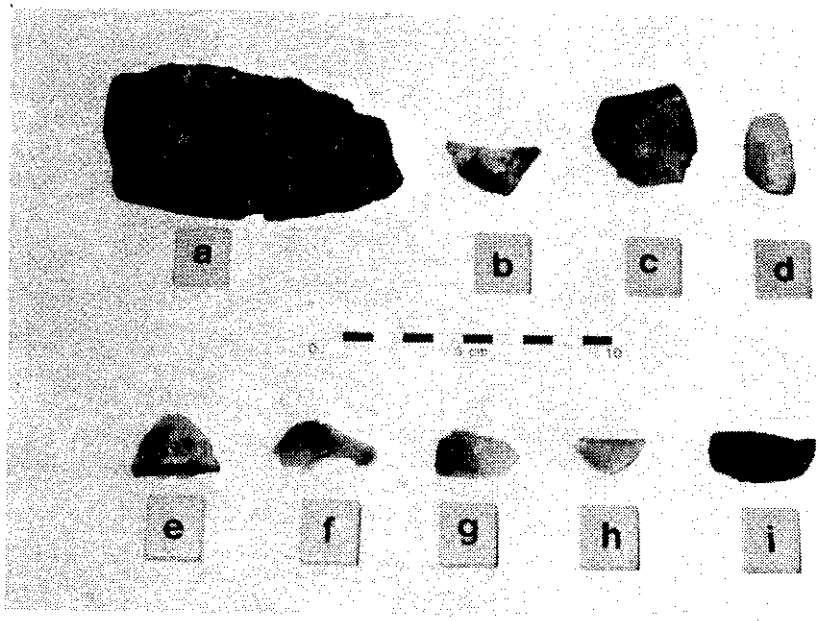


Plate 48: Artifacts from East Hill