THE ARTIFACTS AND STRATIGRAPHY OF THE
LETENDRE COMPLEX, BATO Che, SASKATCHEWAN

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in Partial Fulfillment of the Requirements
for the Degree of
Master of Arts
in the
Department of Anthropology and Archaeology
University of Saskatchewan
Saskatoon

by
John Daniel Brandon
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Head of the Department of Anthropology
and Archaeology
University of Saskatchewan
Saskatoon, Saskatchewan
Canada S7N 0W0
ABSTRACT

This thesis analyzes some 97,000 historical artifacts recovered from the Letendre and Carriere structures at Batoche, Saskatchewan. A reexamination of the collection was done after it was realized there was significant error in the computerized artifact inventory and other site records. The primary goal of this reexamination was to record and analyze attributes of chronological significance. Each cultural stratum was defined and relatively finely datable artifacts from each were correlated to determine the time spans during which each could have been laid down.

It was found that, despite the narrow dates of certain artifacts, stratigraphic associations were not sufficient to separate the artifacts into components. The artifact dates did reveal new information about when the site was occupied. The presence of a Métis family living on the site in the 1940s was confirmed. Strong evidence suggests that most of the outbuildings on the site were among the first structures erected at Batoche.
ACKNOWLEDGEMENTS

Any document of this sort is a collective effort. It is fair to say that my training in historical material culture was an apprenticeship served under the expert guidance of staff at the Canadian Parks Service, Winnipeg, both past and present. I am profoundly grateful for the freely-given advice I have received over the years from Kevin Lunn (glass), Sharon Keen (tin cans), Jennifer Hamilton (ceramics), and Peter Priess (metals, organics and virtually every "whatsit" in the collection). The various Chiefs of the Archaeological Services division, particularly Ellen Lee, are thanked for their cooperation, flexibility and willingness to allocate resources in support of my work. The collections managers, Debra Cochrane and Virginia Lockett, receive my heart-felt thanks for sending me research materials, often on extremely short notice. My debt to the Canadian Parks Service historian, Diane Payment, is profound. Conversations with her over the years have never failed to call attention to new aspects about Batoche I had not noticed in her written work. Lastly, the staff at Batoche National Historic Park have been very cooperative and in their own, sometimes bolsterous, way always made me feel very at home in the area.

At the University of Saskatchewan, the patient supervision of my advisor, Dr. Urve Linnamae of the Department of Anthropology and Archaeology, has been instrumental in ensuring the successful completion of this study. I gratefully thank her for her trust (at times quizzical, if not always justified), obtaining financial support for me and, above all, her stamina. The other members of the examining
committee, Dr. Mary Marino and Dr. David Meyer of this Department, and Dr. Bill Waifer of the Department of History, are thanked for their editorial work and thought-provoking comments. They are not responsible for any errors or omissions found here.

Among the cast of hundreds who also aided me, I would like to thank in particular Randy Bimson of Delisle Thompson Sporting Goods, Saskatoon, who advised me on ammunition; Cec Bendle of Macdowall, who wrote me a priceless treatise on horseshoe nails; Fathers Keith Moreau and Alvin Pich, for consultation on Catholicism and the paraphernalia associated with its ritual; and Jim Finnigan, Saskatchewan Research Council, Saskatoon, who loaned me his microcomputer when mine failed in the last stages of writing this thesis. Phyllis Marjerrison and Brenda Smith of the Department of Anthropology and Archaeology are congratulated for ably coping with my nebulous instructions when drawing some of my illustrations. Thanks must also go to Terry Gibson and Karie Hardie whose diligent field records from 1977 and 1978 made this study possible.

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Lastly, there is a man approaching retirement on the staff of Batoche N.H.P. who knows more about the place than we scholarly types ever will. Born and raised on the site before it was a Park, he has in
his memory all that happened before and since. When doing field work at the Park, there were times when all the techniques which we could muster from our archaeological toolkit failed to locate or explain some buried feature. On those occasions when all science failed, we simply asked Emile Parenteau and he told us. It is to Emile that this thesis is dedicated.
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INTRODUCTION AND SITE SETTING

The purpose of this thesis is to organize and describe the artifacts from the Letendre complex at Batoche, Saskatchewan and to use dates derived from those artifact data to determine the construction sequence of buildings at this site. The Letendre complex is made up of the structural remains of the Letendre house and several outbuildings including the Carriere structure. The immediate value of this research is to arrive at a picture of which buildings were built and demolished during particular time periods. This will ultimately have application since the Letendre residence is slated for reconstruction during Phase II of the development of Batoche National Historic Park.

It is also the goal of this researcher to prepare and present the artifact data in an organized and detailed fashion which is compatible with the norms of historical archaeological methodology. This will serve two functions. First, the artifact descriptions and information regarding their manufacturing attributes and the time spans of their use should be of value to other researchers working with late-nineteenth century and early twentieth century material. This era is only now becoming the focus of attention by archaeologists; the artifact data, therefore, have value for comparative purposes.

Second, the manner in which the artifact data are presented will facilitate future analysis using only the artifact counts as the variable of analysis. Historical archaeology has settled upon frequency variability studies (see Chapters 2 and 5) as a means to study questions
of ethnicity and culture change at and between sites. The classification scheme used here will permit the convenient extraction of these higher-order data for future research. Nonetheless, the goal of this thesis is to prepare the groundwork for these studies, not to perform them.

What follows in the rest of this chapter is a brief outline of archaeological work done at the site and the physical and bioclimatic setting of the site. Chapter 2 outlines the theoretical perspective behind this research and states specifically the goals of this study. Chapter 3 presents the historical background of the site from prehistoric times through to the late 1970s. The research goals of past researchers and also the research methods of this author are laid out in Chapter 4. Chapter 5 defines the terminology and chronology of certain artifact technologies and introduces the classification scheme to be followed in the artifact description chapters which follow in Chapters 6 to 10. Chapter 11 introduces the stratigraphic units defined at the site and uses the artifact chronological information from the preceding chapters to date each stratum. Statements about the building construction and demolition sequence on the site can then be made. The summary and conclusions are contained in Chapter 12.

1.1 Background

Batoche is located 75 km north of Saskatoon on the east bank of the South Saskatchewan River (Figure 1.1). It was named after François-Xavier Letendre whose nickname was Batoche and who established a ferry crossing at a major overland transportation nexus in 1872.
Figure 1.1. The location of Batoche and the Letendre and Carriere structures (after Donahue, Hall, and Putt 1978:Figure 2 and Burley 1980:Figure 1).
Batoche was the site of the last battle in the Métis Uprising in 1885 and continued as a small farming and administrative centre until the 1920s. Beginning in the 1970s until 1985 a concerted effort was made by Parks Canada to research and develop this National Historic Site.

Among these research activities was a major archaeology program whose field work was performed, in the main, between 1976 and 1978. The 1976 field season had as its goal a survey to record and to test excavate the historic and prehistoric resources in or around the Park's land base (Donahue 1977; Donahue and Hall 1977a; Putt 1977). While providing the basic site inventory upon which future work was planned, the artifacts recovered provided a sample upon which a computerized database system was based (Donahue and Hall 1977b). These artifacts were never actually encoded into the database and the mapping of the trenches excavated in 1976 was rudimentary.

The 1977 field season concentrated on the excavation of certain structures in the main village area as well as on continuing the survey and testing program. Among these structures was the Carriere structural area which, it was felt at the time, could provide information about the lifeways of Métis living at a lower socio-economic level than that enjoyed by the prominent citizens of Batoche, Letendre among them. The preliminary structural results were reported from this field season (Donahue and Hall 1978; Donahue, Hall, and Putt 1978; Gibson 1977) but the artifacts were never analyzed and reported.

The 1978 field season concentrated on the excavation of Letendre's house and post-1884 store complex and continued the prehistoric site survey in the area. As was the case the previous season, preliminary reports without the artifact analysis were the result of the field
season (Burley 1980; Donahue 1980; Hardie 1978). The computerized data were overhauled and transferred from one machine to another between 1977 and the present day. High personnel turn-over (including that of the author who worked on the project between 1980 and 1983) as well as other factors contributed to a gradual degradation in the veracity of these data, the result being the artifacts were never analyzed. These issues are explored in greater detail in Chapter 4.

Today, Batoche National Historic Park operates an interpretation program which has been designed with limited input from the archaeology done at the site. In this author's view, the impact that the unavailability of archaeological research results may have had on this public interpretation ought to be a subject for further research. One could contrast, for example, the artifacts (of relevant vintage) described in this thesis to those shown in the display gallery in the visitor reception centre at Batoche N.H.P. The gallery's depiction of Métis lifeways through material culture is a major component of a visitor's experience at the Park.

Archaeological analysis could have contributed to the design of this gallery at two levels. At the most basic level, simple lists of artifact types (e.g. ceramic patterns, particular patent medicine brand names, types of firearms, etc.) could have been used to tailor the exhibit specifically to the material culture of Batoche. At a broader level, a standard site analysis could have identified which of the artifacts from this list were more typically used by the residents of Batoche. Since this information was unavailable to the design staff, it is difficult to see how the Batoche display may differ in any substantial way from other displays of Métis artifacts or, indeed, of
Victorian artifacts in general.

Aside from the more abstract effects this may have on our view of Canadian history, it can have more serious effects on the continued support of historical archaeology. The failure of the Batoche archaeological project to deliver timely and useful results with no apparent negative effects on the interpretation suggests it is not a "cost-effective" means of "getting" history. This conclusion has not escaped the managers who must deal with reduced budgets in delivering public interpretations of our past.

Historical archaeology, especially as it was performed at Batoche, apparently has also not impressed the community of historians. A prominent scholar of Métis history, D. N. Sprague, once suggested to a room full of historical archaeologists (at the 18th Annual Conference of the Canadian Archaeological Association, Winnipeg, 1985) that he could find no reason why historians could not deliver better and cheaper results if creating history was the goal of historical archaeology.

Sprague's remark, which was not necessarily delivered with malicious intent, has a ring of truth to it - but only if one assumes the determination of chronological sequences in the past is the sole goal of either history or historical archaeology, which it is not. For both disciplines it is an initial - but not the ultimate - goal.

The work of historians and historical archaeologists is complementary (Deagan and Scardaville 1985). The historian is in a better position, in most cases, to determine the broader facts of the past using the medium of documents. The historical archaeologist is in some ways better equipped, with the medium of material culture, to contribute to social history. In this author's view, the vestiges of
day to day activities are more likely to leave residues in the material cultural record than find their way into archives. The trick, however, is to interpret these vestiges properly. The historical archaeologist needs not only apply the techniques of his science with skill but also, if basic knowledge of the chronology, occupants, and types of general activities carried out at a site in the past is available beforehand, performing this task is made immeasurably less daunting. These types of information are best left to historians and they are the kinds of data the latter can, in most cases, readily supply. In this sense, both disciplines need one another to proceed with social history. Nonetheless, this broader contribution to history by archaeologists cannot proceed without a sound empirical base. The provision of this base for a particular structural complex at the village of Batoche is the primary goal of this thesis.

1.2 The Physical, Climatic, and Biotic Setting

About 12,000 years ago Batoche was still beneath the ice cover of the Wisconsin glaciation. Over the next 500 years or so as the ice retreated northward, the South Sasktchewan river delta where it drained into proglacial Lake Saskatchewan also advanced northward, evidently situated at some point during this period over the Batoche locale (Christiansen 1979:928-929,933). The major soil types which have developed on these sandy glacio-fluvial and lacustrine base deposits at Batoche are summarized by Abouguendia and Coupland as: "very coarse to moderately coarse-textured Regosolic and weakly-expressed Chernozemic soils" (1976:1).
There is some variability in landform and soil types at Batoche when the east and west side of the river are compared. The west side is typified as aeolian plain formed from delta material and on which dune formation is the dominant physical feature. The uppermost terrace on the east side (i.e. where the church, rectory, and visitor reception centre are now located) is a lacustrine plain pockmarked with shallow depressions and knolls. The lower east side terrace on which the village of Batoche proper and the site which is the subject of this thesis were located is thought to be a glacio-fluvial plain formed from rapidly-moving glacial streams. Below this terrace are steep or sharply rolling slopes which lead down to the alluvial flood plain bordering the river (Abouguendia and Coupland 1976:5-8).

The vegetation cover which has developed is variable as the locale is in the aspen parkland transition zone between the boreal forest to the north and the grasslands to the south. In terms of broad vegetation zones the site lies at the intersection of the pine and spruce-aspen-poplar zone to the north, an aspen-spruce zone to the east, and mixed fescue, spear grass-wheat grass, and aspen grove regimes to the west (Coupland and Rowe 1969:73-78). It is thought this ecotonal situation might explain the relatively larger variety of vascular plant species, 291 in number, observed at the Park compared to sites further upstream (Abouguendia and Coupland 1976:12-16).

Climatically, the site lies within the "cold forest type" (Chakravarti 1969:60). Data recorded at nearby Rosthern over the period 1941 to 1970 indicate the district experiences long, cold winters and short, hot summers with an average annual rainfall of 382 mm, two-thirds of which falls between April and September. The mean seasonal
temperatures average -19.6°C in January with winter extremes as low as -50.6°C and an average July temperature of 16.9°C with the highest summer temperature recorded at 39.4°C (Abouguendia and Coupland 1976:5-6).

Historically, the global climate has been ameliorating since the eighteenth century with fluctuations in between. The lowest temperatures in these cycles occurred during the 1880s while their peak was achieved during the 1940s (Redman and Ripley 1976:29). The authors of an historical ecological study tentatively suggest that tree-ring data collected near Duck Lake and Batoche indicate that there were poor-growth years between 1870 and 1873, reasonably good growth in the mid-1870s, followed by poor growth in the early 1880s (Redman and Ripley 1976:39). As will be seen in Chapter 3, the climatic variability appears to be reflected in the relative success or failure of the first farming efforts of the Métis as they made the transition to a sedentary existence at the St-Laurent settlement.

Forty-seven species of mammals may be found in the Batoche area today, most of them rodents (the historically-important economic species still extant include beaver [*Castor canadensis*] and muskrat [*Ondatra zibethicus*]). Among extant ungulates are white-tailed deer (*Dama virginianus*) and mule deer (*Dama hemionus*), the latter very rarely seen. Formerly the area was within the range of wapiti (*Cervus canadensis*) and, of course, bison (*Bison bison*). Birds with breeding ranges or whose visitation ranges are reported to include Batoche number 177 different species (Abouguendia and Coupland 1976:70-75).
CHAPTER 2

THEORETICAL PERSPECTIVE AND RESEARCH GOALS

2.1 Theoretical Background

It is fair to say that Stanley South's *Method and Theory in Historical Archaeology* (1977) wrenched contemporary historical archaeology in a more anthropological direction than it had been going in previously. This work served as historical archaeology's manifesto in a period when explanation rather than documentation of archaeological phenomena was coalescing in New World archaeology in general (Willey and Sabloff 1980:211-212; 244-245). South argued the goal of archaeologists should be the search for cultural and behavioral patterns and contrasts through time within a systemic and cultural evolutionary framework (South 1977:2-3). Consistent with the times, he saw a search for underlying cultural "laws" as a worthwhile endeavour and hypothetico-deductive methodology as its vehicle (1977:13-17). The analytical methodology with which he proposed to carry out this program was frequency variability studies or, simply, "pattern recognition" (1977:31-39).

The methodology of pattern recognition requires compounding the fragment counts in an assemblage of specific artifacts of known function into broader functional categories. The percentages of these categories expressed as ratios to the total fragment count can then be compared with similar ratios assembled from other components, activity areas, or other sites. Thus, South defined the Carolina Artifact Pattern by
comparing the artifact fragment ratios of five different eighteenth century domestic sites in North Carolina to one another and determined all had statistically similar ratios of artifacts within the broad groupings of kitchen, architectural, arms, clothing, and other artifacts. He subsequently compared these frequency profiles to 14 other site types whose contrasting artifact ratios suggested the Carolina Artifact Pattern had validity as a useful abstraction of eighteenth century British colonial behaviour (1977:83-137). Given this methodology, South argued, the archaeologist had the basic tools need to proceed from the analytical level of the single artifact up to higher planes of analysis to perform intra- and inter-site comparisons. What was needed, he argued at the time (1977, 1979) was more patterns to be identified at other sites of other time periods.

The primary obstacle to this program South perceived to be the attitudes of the particularists and those who saw historical archaeology as primarily a "hand-maiden" of history; that is, its main purpose was to clarify or adjust historical facts and to glean information of use for reconstructing buildings for public interpretation (1977:5-12). The writings of Dollar (1978), Noël Hume (1978) and Walker (1978a) drew severe criticism in this regard. It is true the writings of these scholars share, to some degree, a certain benign (and sometimes not so benign) condescension toward anthropologically-trained archaeologists attempting to apply their methods and goals to historic sites, often with serious costs to the archaeological record. Possibly their attitudes derived from the fact that they are all British-trained archaeologists and, thus, think of themselves as historians. In retrospect, it is fair to say that this so-called "particularist" school
of thought drew fire from anthropologists caught up in the throes of a scientific revolution whose participants (South, in this case) mistook for a clinging to particularism a basic plea to prehistorians tackling historical sites to learn "the trade" first before proceeding to loftier aspirations. Walker's extremely caustic dissection (1978b) of Binford's work serves as an outstanding example of the "particularist counterattack."

With the hindsight of a decade, South (1988) has not altered his position but deplores the use to which his pattern concept was put. He is still arguing that the analytical technique of frequency variation should be used to examine broader cultural systemic and evolutionary questions (in his latest missive, he is trying to revitalize Leslie White's energy theories). He is critical of the fact that historical archaeologists, once infected with his zeal for "science," have replaced one form of particularism with another. He writes:

There is a distressing pattern to be seen in many historical archaeology reports in recent years implying that recognizing an artifact pattern is the goal of archaeology. Various patterns such as the "Carolina Artifact Pattern," the "Brunswick Pattern," the "Slave Pattern," the "Frontier Pattern," the "Incarceration Pattern," the "Public Interaction Pattern," etc., etc., [sic] are being sought in artifacts from sites. Often, however, the reports do not go beyond the pattern recognition stage [South 1988:26-27].

In this author's view, the main reason for is that most historical archaeology is being done by archaeologists in the public employ for the purposes of public interpretation. The data used in this report were derived from this very type of research project. Archaeologists in this environment are torn between contributing to (or at least maintaining
their credibility with) the broader academic discipline of archaeology and meeting the basic development needs of the agencies they serve. This conflict is succinctly articulated by Fry (1986).

This is not to imply that government archaeologists are necessarily less theoretical than their colleagues. In this milieu, the archaeologist can and does apply pattern recognition to answer questions of intra-site variability and behaviour using artifact classifications routinely prepared after the fashion of South's analytical categories (see Chapter 6 for a more complete discussion of these). In the end, however, it is the needs of the employer which must come first for the prudent public servant archaeologist. These, effectively, are limited to the basic "whos, whats, whens, and with whats" which an agency of interpretation primarily requires.

2.2 Research Goals

Regardless of whether one chooses to operate at the middle range theory level South would have us all strive for or at the "particularist" level perhaps unjustly ascribed to historicist-oriented archaeologists, no one denies that three basic analytical needs must be met by the assemblage. These are the determination of the functional, temporal, and spatial contexts of the artifacts which make up this assemblage. This is the overall aim of this study. Further analysis at either South's level or for site interpretive purposes will then be possible but will not be attempted here.

The historical occupants of this site include the Métis family Letendre (1872-1891), a pair of Mounted Police constables and their
families (1895-1906), and probably another Métis family later on (1940s). The sequence of photographs taken of the site show numerous structures and additions erected and demolished at different times throughout the site's history. It is a necessary first step to separate as much as possible the artifacts deposited by each family unit before valid inter-component or inter-site comparisons can be attempted. The lifestyles of each were very different (see Chapter 4). Determining which structures and additions were coeval with these different occupations is equally important, as the built environment has a strong effect on the occupants' activities.

2.2.1 Research Goal 1: Separation of Components

The late nineteenth century saw a radical and rapid technological change, whose documentation is now making its way into the material cultural literature in abundance. This research is mainly due to the efforts of material historians whose work a decade ago would have been condemned as particularist. The major changes in certain key material technologies and the identifying attributes of these are outlined in Chapter 6. Because of rapid change in these technologies, particularly commercial packaging, and because of a proliferation of brand names and company names whose origins can be more readily documented than can those of earlier historical periods, it is theoretically possible that groupings of artifacts of this time period can be relatively finely dated, possibly even to within a decade.

This is usually not the case for any randomly chosen artifact in the assemblage, however. Certain artifacts such as animal harness
parts, faunal remains, and window glass are ubiquitous to all time periods of interest at this site. Others, while technically possessing attributes of chronological significance, are of limited utility either because they bracket too broad a date range or because the site formation processes by which they wound up in a particular stratum are not immediately obvious. It will be the more usual case that the formation of a particular stratum will only be explainable after having first determined its chronological context. Thus, despite a relatively ideal probability that certain artifacts will be narrowly datable, the basic principles of archaeological stratigraphy must still be applied to date these artifacts by association and by superimposition.

It is the author's firm position from the outset that it is undesirable to make a priori assumptions about what is "old" enough to be of archaeological interest in dealing with this assemblage. First, much of modern material culture has surprising longevity and there often is no way to safely distinguish recent-looking artifacts from those deposited in the last two decades or so. The common crown bottle cap has not changed its form at all since it was patented May 19, 1891 (Lief 1965:Figure 15). Plastics in one form or another have been marketed since 1869 (Oliver 1956:596). There are numerous other examples.

Second, as will be outlined in greater detail in Chapter 4, the site was actively occupied very likely until the 1950s. Artifacts dating up to that time are perfectly legitimate assemblages which came to rest in the ground by the same depositional processes as older artifacts. If the assemblages of the three occupations can be successfully separated, it would probably be a very fruitful endeavour,
for example, to contrast the first and third occupations with a view to studying culture change in a Métis community since some key variables are held constant, i.e. both occupations are those of family units of the same ethnic group occupying the same site and structures.

Third, most archaeologists resist taking "recent" artifacts seriously despite the fact that none can agree on the threshold between the past and the present. Some reject artifacts of the twentieth century as "too young," notwithstanding the fact that, in a mere eleven years, all will date to the last century. In the field of cultural resource management the distinction must be made for legal or administrative reasons; yet even here a suitable "vintage" for an archaeological site cannot be determined with consistency. A case in point is the federal heritage initiative currently under study by the Department of Communications. There, it is proposed that an archaeological site only attains that status after 75 years (Department of Communications 1988:30). Yet, legally, an antique need only be 50 years old.

Last, after a decade or more of advances in the field of ethnoarchaeology, we should have realized that there is no boundary between the past and the present. As has been shown above, the arbitrary line cannot be drawn in a way that can be agreed upon. More seriously, this temporal division is self-defeating to a discipline which professes to be an anthropological sub-discipline. It ensures that there can never be a processual linkage made with modern ethnological and sociological research because the intervening temporal segments remain steadfastly ignored.
2.2.2 Research Goal 2: Ordering the Structural Sequence

From an interpretive standpoint at Batoche National Historic Park, it is a worthwhile goal to determine the order in which various structural elements were erected and demolished. Letendre's house is among those scheduled for reconstruction during Phase II of site development. Determining which buildings or parts of buildings were standing during the periods of interpretation will be useful information to the Canadian Parks Service.

For broader research purposes, however, this becomes even more important because the built environment extant during each of the three occupations alluded to earlier has a direct bearing on the content and location of the artifacts. People orient their activities around this environment and, therefore, knowing which buildings were standing and which were not is of prime importance to explaining the distribution of certain deposits.

One of the key questions it is hoped can be answered in this study is the location of the Letendre family's first house and store. This has not been definitely learned from the historical research, as will be seen in Chapter 4. There are indications, however, that the so-called Carriere buildings are prime candidates.

To address these questions, each segment of each building will be examined separately, the strata of each being explained so far as is possible in terms of site formation processes and known historical events. The historical and especially the photographic records for the site suggest that not all structural features were erected and demolished at once but, rather, were added and demolished individually
throughout the course of the site's history.

Other deposits not immediately adjacent to the major structural remains will also be addressed. Fence lines and their possible dates are of interest for reconstruction purposes. Numerous pit features, post moulds, and clay pads reported in the preliminary excavation summaries (Burley 1980:19-45; Donahue, Hall, and Putt 1977:16-28) will be reassessed using the artifacts to date their associated cultural strata.

Most importantly, however, it seems quite evident from those excavation reports that the river bank which runs west of the buildings was used as a midden throughout the use span of the site. It is hypothesized that, as the built environment shifted its locus as structures were built, used, and demolished, the midden deposits located over the bank edge will be temporally segregated laterally, if not vertically. Thus, it is hoped that particular stretches of this embankment can be determined as areas of high and low refuse deposition areas attributable to particular occupants of the site.

2.3 Some Final Methodological Considerations

The details of the methodology to be used to accomplish these goals will be covered in Chapter 5. It is relevant to describe here some of the factors dictating the broad approach taken with this methodology.

First, it ought to be remembered that the author did not excavate these structures. As such, he does not have the personal field experience and memories on which to draw to fill in the gaps in the field records. Working with these field records, then, is more akin to evaluating archival resources than performing conventional
archaeological research. This is not intended as a criticism of the original excavators. One simply cannot record everything.

It also maintains one's perspective to remember that the researchers who oversaw the excavation and processing of these materials were working in a virtual material cultural vacuum. An examination of the bibliography of this study will show that many of the key material cultural references cited were published in this decade. In most cases, these have not superceded earlier information with newer and better knowledge; rather, they are the first cohesive presentations of this knowledge.

In view of all this, the author has approached the data analysis using an extension of Schiffer's site formation processes (Schiffer 1976). In this author's view, one of the more significant "C-transforms" at this site was the actions of the archaeologists during the three field seasons and afterward in the collections management stage. While this may seem at first glance to be a contrived notion, it was found to be operationally extremely useful.

A "C-transform" is any cultural activity which modifies the primary context of an artifact. Conventional examples include trampling in a high-traffic area which moves artifacts from their primary locations and the contents of cellar fills which contain artifacts from some other place which got included with the borrow material used to fill up the hole.

Any cultural activity which separates an artifact from its primary context is a C-transform. In Chapter 5 a number of factors will be described which operated to separate the artifacts from their post-excitation context: namely, their provenience and physical location
in the collection.

Viewing these as C-transforms has enabled the author to make certain decisions when assessing anomalous results. That is, conventional C-transformation and N-transformation processes can be invoked to explain the presence of a 1920s-vintage artifact in a stratum which, by all other appearances, ought to have been laid down in the 1890s. Most archaeologists will view the later artifact as "intrusive" and re-examine the records for any evidence of a human or rodent disturbance of that deposit. Here, significant C-transforms which can be invoked just as validly include miscataloguing, garbling of computerized information through transmission, and misfiling of artifacts in storage. Once understood for what they are, post-exavation C-transforms introduce a higher degree of flexibility in interpretation for the researcher.
CHAPTER 3

THE HUMAN HISTORY OF THE SITE: 8,000 B.C. - A.D. 1978

This chapter outlines the human occupation of the site in both prehistoric and historic time periods. This research is based heavily on research conducted in support of the Park's development, particularly the broad prehistoric surveys of the Park and surrounding area and also on the comprehensive work of historian Diane Payment (1977, 1978, 1979, 1986). Payment's work is distinct from other literature on the Mètis at Batoche in that she has done considerable research on the larger Batoche population, its economics and land tenure history. These often remain anonymous in the shadows of Riel and Dumont in the literature about the 1885 Uprising. Her work is notable in that she has shown that, contrary to popular belief, Batoche was not shattered by the crushing of the Uprising. Rather, it is more accurate to say that shifting economic factors brought about the decline of Batoche and its Mètis inhabitants.

No original archival work has been performed by this author as there were no discernable gaps in the information provided by Payment. Indeed, historical archaeology functions best in a multi-disciplinary milieu with history the preserve of historians, when available. No special cachet attaches itself to the work of an historical archaeologist who duplicates an historian's research and who is untrained in the interpretation of archival material. Deagan and Scardaville express this view succinctly:
by earthmoving machinery. Numerous flakes and large bone fragments, scrapers, a biface and two Pelican Lake projectile point fragments were recovered in these excavations (Lunn 1987:6-7; Proch 1986:3). The final report for this excavation is still being prepared and may be of some interest to prehistorians. The four radiocarbon dates obtained on bone for this site range from 6745 +/- 95 years ago (S-2739) to 5665 +/- 90 years ago (S-2740) (K. Lunn: personal communication). While these fall into the Middle Plains Indian period, they are more compatible with Mummy Cave times than those of the Oxbow or Pelican Lake complex (Dyck 1983:87-107).

Isolated diagnostics also found in the Park suggest even earlier human occupancy. The Early Plains Indian Period is represented by a Firstview point made of Swan River chert and a Scottsbluff-Eden shoulder and stem fragment of Knife River flint. Both of these are discussed in greater detail in Chapter 10.2 as they were recovered from the Letendre and Carriere building areas. At other sites these lanceolate stemmed projectile point types range in age from around 10,150 to 8,600 years ago (Dyck 1983:79).

Besides the Pelican Lake projectile points found at the East Village Access site (see above), other Middle Plains Indian period projectile points found at Batoche include single Oxbow and Hanna projectile points (Lunn 1987:7). These would date from 4,700 to 3,050 years ago in the case of the Oxbow specimen and 4,150 to 3,100 years ago in the case of the Hanna point (Dyck 1983:96,100).

The Late Plains Indian period is represented by an Avonlea projectile point recovered from the Letendre house excavations (see Chapter 10.2) and Plains Side-notched points from three sites on the
west side of the river (Lunn 1987:7). The Besant complex lasted from 2,000 to 1,150 years ago (Dyck 1983:113). In Saskatchewan, the Plains Side-notched period began about 550 years ago and lasted to the ethnographic present. Dyck (1983:129-132) believes the appearance of this type may indicate contact between Plains bison hunters and villagers of the Middle Missouri drainage.

Clearly, there is a strong linkage between the recovery of diagnostic prehistoric artifacts and relatively intensive excavation. It is unlikely that the Canadian Parks Service will be further exploring the prehistory of this Park in the foreseeable future.

3.2 Historic Use of the Locality to 1872

Matthew Cocking is believed to have crossed the South Branch of the Saskatchewan in 1772 at either the present-day St-Laurent ferry crossing or at Gardepuy's Crossing further downstream (Morton 1939:284; Payment 1986:174; she prefers the spelling "Gariépy's"). In the area he encountered numerous native bands already well-serviced by the independent Pedlars working out of Montreal. Cocking's probe determined that, with the presence of these independent traders, native bands were disinclined to make the long journey to York Factory to trade. The Hudson's Bay Company, accordingly, expanded inland and engaged in fierce competition with the Pedlars and later with the North West Company (Morton 1939:284-286).

The only posts of relevance to Batoche are the various South Branch Houses. The first by this name was established by Peter Pangman, an independent Pedlar who had been shut out of the general merger of
several pedlars into the North West Company in 1784. Pangman's 1785-86 post, called Fort des Isles, was built in opposition to a North West Company post and was located about three miles north of the present-day Fenton Ferry (Morton 1939:337). The Hudson's Bay Company established South Branch House at Gardepuy's Crossing (apparently mid-way between the present-day St-Laurent ferry and St.Louis; see Smythe 1968:Map 6b) in the spring of 1785. Pangman and the North West Company shortly thereafter moved their posts opposite the HBC post. These were also both called South Branch House. Later, in 1787 when Pangman joined the North West Company, he closed his establishment while the North West Company South Branch House remained in competition with its HBC neighbour (Morton 1939:338,343,454). In 1794 the two posts were attacked by the Gros Ventres (Fall or Rapid Indians), which resulted in their abandonment (Morton 1939:456-457). It appears that both companies reestablished posts further upstream on the east bank which were in operation between 1804 and about 1810 (Smythe 1968:191-192). In 1805 Daniel Harmon wintered at the North West Company South Branch House of that period which Morton says was about one-third of a mile above the present-day St. Laurent ferry (1939:619). Actually, the cairn commemorating one or the other of these posts is located about 12 km downstream of that ferry.

The abandonment of the South Branch Houses began the shift in focus to the North Saskatchewan River. By the mid-1820s Fort Carlton had become an important entrepôt strategically situated to take in furs from the north and, in turn, supply the northern posts at Ile à la Crosse via Green Lake (Morton 1939:697). The Métis hunters and freighters increasingly serviced this trade in addition to operating their own
independent trading posts in the area. Although based out of the Red River Colony, by the 1850s-1860s and especially after the Red River Uprising in 1869-1870, bands of Métis families increasingly took to spending the winter out west. They became the hivernant, or "wintering", Métis.

This westward shift was gradual at first. As an example, Woodcock (1976:72-73) portrays Gabriel Dumont's drift away from dependence on the Red River settlement. His purchases in 1859 included lengths of several kinds of cloth, braid, and ribbon, other sewing equipment, several ready-made men's garments, four handkerchiefs (including one of silk), a bar of soap and ten pounds of tea. The next year he bought with his proceeds a counterpane and a hundredweight of flour (Woodcock 1976:73). In 1861 he was not seen at all.

The villages in which the hivernant Métis wintered sprang up in clusters. In Saskatchewan these included the areas around Fort Carlton, the Cypress Hills, the Qu'Appelle valley, and Wood Mountain (Harrison 1985:37; Payment 1979:84). Although Payment lists several known settlements in the vicinity of Batoche (1979:85) the closest hivernant village was Petite Ville (FdNm-15) located on the west side of the South Saskatchewan River opposite Fish Creek. Founded in 1868, this settlement attracted about 50 families, among them that of Gabriel Dumont. In 1870 Father Moulin was called to Petite Ville to minister to the Métis who were fearful of a severe smallpox epidemic which had reached the Fort Carlton area in that year. It existed as a winter bivouac until at least 1871 and probably later (Dawson 1979:203-214; Woodcock 1976:77-78). In December of 1871 the Petite Ville Métis met at Fort Carlton where it was decided that the St-Laurent
settlement should be established. Accordingly, in the years that followed many Métis families established more permanent settlements: Dumont in 1872 at the river crossing which still bears his name (Woodcock 1976:86) and François-Xavier Letendre dit Batoche in that same year at the crossing place that bears his nickname. These settlements burgeoned as more families, dissatisfied by the turn of events in Red River, relocated to the west. Sprague estimates that as many as 4,000 people joined this westward drift in the years 1871 to 1884 (1988:139).

3.3 The Batoche Letendres to the 1880s

Diane Payment is not certain where the nickname "Batoche" comes from but speculates it may be a form of the mild French patois oaths batêche or batême (1979:endnote 2). Forebearers of François-Xavier Letendre (hereafter referred to as Xavier Letendre) traded and hunted in the South Saskatchewan region (based out of the Red River colony) from the 1790s onward (Payment 1979:83). Xavier Letendre was born to Louison and Marie Letendre in 1841. In the 1860s he could still be considered a member of the Red River colony, marrying Marguerite Parenteau in 1863 at St. Norbert and christening their first three children in the colony in the late 1860s (Payment 1979:85).

Despite this, it would appear that the Letendres père et fils had established several trading posts in the Fort Carlton area by this time and spent increasing amounts of their time managing these interests while periodically obtaining supplies in Red River. Louison was among the patriarchs at the 1871 Fort Carlton meeting. Xavier Letendre was
said by Bishop Taché to have had a store in the Fort Carlton area in 1866. He is listed among the witnesses at two burials at St. Sacrement, a small mission between Fort Carlton and Stobart (Payment 1977:19; 1979:85).

In 1872-1873 he and his family established a ferry crossing at Batoche. The location was ideally suitable as three major overland freighting routes converged at this crossing. The Carlton Trail linked Fort Garry with Fort Carlton via Fort Pelly. The Humbolt Trail did the same but took a more southerly route through the Qu’Appelle area and Humbolt. The so-called "Prairie Trail" linked the Saskatchewan District with Montana. Conversely, furs from Fort Pitt and Fort Edmonton via Fort Carlton passed through here on their way to Red River (Payment 1977:29; 1979:84).

Payment notes that the selection of the east side of the river at Batoche for settlement was at variance with the general settlement pattern to that point in time. Most of the hivernant villages were located west of the South Saskatchewan, she feels, probably because this afforded more practical access to Fort Carlton during the winter. This author believes the lee shelter from the winter winds and the abundance of firewood afforded by certain west side locales were probably other factors. It is not known precisely where his first house and store were located, and there exist recollections among local residents and recorded statements made by Letendre himself which could place these buildings on either side of the river. Payment favours the conclusion that his first house and store were probably located on the east side on River Lot 47 where eventually his grander 1878 residence and 1885 store were to be built (1977:20-21). Her most persuasive
arguments for this include the fact that Dumont, with whom Letendre was in direct competition for ferry traffic (Woodcock 1976:87), also set up his venture on the east side. Both entrepreneurs would have found the easier access to Fort Qu'Appelle and Fort Garry desirable since those depots supplied them with many of their trade goods.

Throughout most of the 1870s economic conditions at the St-Laurent settlement were, for the Métis, disarmingly idyllic. Traditional livelihoods such as freighting contracts and marketing furs brought good returns (Payment 1979:88). The observations of the resident priests at the St-Laurent mission were that, despite their best efforts to persuade the Métis to seriously apply themselves to agriculture, there was little incentive for them to do so as the yields of the spring and fall hunts were still good. These began to falter toward the end of the decade, beginning with the 1877 fall hunt. The hunts of 1878 to 1880, the last year a St-Laurent party went out, more often than not found their prey only south of the 49th Parallel (Anik 1976:225-230; Dawson 1979:225-235). The last hunt incurred a fatality while procuring only about half the pemmican supplies needed for the winter (Anik 1976:230).

Dawson says that those participating in the hunt in the waning years were transients to the St-Laurent settlement who could not reconcile themselves to abandonment of the old way of life (1979:235). By contrast, the longer-term residents, who by the 1880s had attempted growing crops such as wheat, barley, and potatoes, experienced gratifyingly substantial yields (Anik 1976:230-235).

Letendre's trading endeavours likewise were very profitable, to the extent that in 1878 he was able to engage a newly-arrived Quebecois carpenter, Ludger Gareau, to build him a splendid, two-storey house on
Lot 47. It was a clapboarded, shingled, log structure, T-shaped in planview and erected on a mortared fieldstone foundation. The rear extension of the house served as a kitchen annex. The house was painted white with green trim, according to some observers (Payment 1979:89), or blue trim, according to others (although this may have been more true of the house's appearance in the 1890s [Payment 1977:90]). Woodcock describes it as a "light green mock-colonial structure" (1976:91).

Letendre evidently felt sufficiently well-off to disencumber himself of the ferry in that same year (Payment 1977:26). The sumptuous new house may be viewed as an ostentatious gesture of Letendre's success. An element of necessity may also have entered into the decision to build. An examination of the Letendre genealogy provided by Payment (1979:82) shows that the Letendres were prodigiously fruitful in this period. Marguerite Letendre bore most of her children prior to 1878. Even with two deaths in infancy, she would have been rearing six children aged one to twelve years old in 1878. On the other hand, the internal household population pressure may not have been excessive as some of the offspring may have been at school. Payment (1977:90) reports that Letendre saw carefully to his children's education. The boys were sent to St. Boniface for schooling while the girls were educated at a convent in St. Louis.

Marguerite was a formidable woman. She bore their 13 children over a period of 22 years, managed the homestead, probably helped with the management of the store during Xavier's business trips, and she outlived the man by about a quarter-century! We unfortunately do not have a record of how often Xavier was away but it is not too extreme to suggest that the Letendre components of this assemblage may represent the
vestiges of a woman and a large family interspersed with occasional "male" artifacts. Farm chores, other than those of the household and the farmyard, were evidently not among Marguerite's duties. Twenty-five acres of the farmland east of the house were broken prior to 1880 but Letendre hired local farmers to see to this (Payment 1979:92).

3.4 The Letendres and the St-Laurent Settlement: 1880-1885

The first half of the 1880s was a boom period for the St-Laurent settlement and for Xavier Letendre. The population increased dramatically. The 1881 census put the population of the District at about 1,000 (Payment 1977:30). Sprague (1988:139; footnote 36) says that as much as seventy percent of the Manitoban Métis who emigrated to this area did so at this time. By 1880 the Hudson's Bay Company steamboats Northcote and Lily were servicing the region although they seem to have mainly plied their way along the North Saskatchewan River. They carried passengers and heavy machinery, both at considerably greater cost than that of overland methods (Anik 1976:233,242-245). Letendre was instrumental in persuading (at times, one might say, even bludgeoning) the Diocese to provide a resident priest at Batoche. Between 1881 and 1884, and not without some protracted wrangling within the Catholic Church, a rectory and church were erected, both built by Ludger Gareau (Payment 1979:89-90). It is indicative of Father Moulin's Breton origins (and indeed Gareau's versatility as an artisan) that the rectory was built to metric, not imperial, specifications (Brandon 1983a:3). Father Moulin initiated postal service at Batoche in 1884. Situated variously in the rectory or at the stores of sundry local
merchants, this service operated more or less continuously until the mid-1980s (like the village, Batoche's postal code, S0K 0K0, is no more).

Not all St-Laurent residents enjoyed the boom. As has been seen, the buffalo hunt was over as a way of life and the early 1880s saw both good and bad harvests. By 1884 Lawrence Clarke, the Factor at Fort Carlton, reported that one in three Métis was able to find freighting engagements (Payment 1979:31-32).

For Letendre, however, business was excellent. By this time he was operating stores at Fort À la Corne, Ile À la Crosse, Frog Lake, Carrot River, and Stoney Creek as well as the establishment at Batoche where two hired clerks were in charge. The Stoney Creek operation took in the greatest trade in furs while his Batoche store stocked the greatest variety of goods (Payment 1977:40-41; 1979:93). Overseeing these operations frequently took Letendre north and, at least twice a year, to Winnipeg for goods. He kept no records or inventories although he could read and write Cree (his will, written in Cree syllabics, is reproduced by Payment [1978:Figure 9]).

The broader historical events which led to the 1885 Uprising are peripheral to this thesis. While Letendre's property was looted by the Métis and the Field Force alike, and despite the enormous significance of the event to Western Canadian history, it has near-invisibility in the buried archaeological record. In Chapters 6 to 10 the unequivocal vestiges of May 9-12, 1885 consist of several Snider bullets and casings and perhaps a much higher proportion of window glass sherds than one might expect to find in a residential site. The numbers of these are insignificant in the total assemblage. It is enlightening to consider
that such an important social and political event could leave only subtle traces in the archaeological record.

Like it or not, the Letendre family was swept into this conflict. Letendre himself, while supporting the cause in principle and deed in the early stages, baulked at active participation in the armed engagement. He departed with most of his family for winter trading at Fort à la Corne in October, 1884 and refused to return when Riel issued a general rallying call after the Métis victory at Duck Lake (nonetheless, it was reported that Letendre gave Édouard Dumont, who did respond, weapons and ammunition to take back with him). The rest of the Letendre family did not share his reluctance to participate. Letendre's mother and two of his daughters stayed behind at Batoche and cared for the wounded during the battle. His brother André was killed during the battle and his remaining brother, Louis, along with almost all of his brothers-in-law, were strong supporters of the armed struggle (Payment 1979:94-95).

As Payment notes, Letendre had much to lose in an insurrection against established white authority and he did experience losses, although not as much as some. In the Rebellion Losses hearings he was awarded $19,295 against his claim of $32,972. This was a relatively large proportion of compensation received to compensation claimed. Most of the residents who claimed damages were dismissed as "parties to their own losses." It seems that those with Conservative ties, such as Letendre, got a more receptive hearing by the Commission (Payment 1977:49; 1979:96-97).

The historic battle drew many visitors to the site for years afterward. Hence, we have a reasonably good photographic record from
1885 onward of the site. Figures 3.1 and 3.2 are both believed to date

to 1886. Figure 3.1 is a newspaper illustration of the Letendre
residential complex as it appeared in 1886 viewed from the west side of
the river. As can be seen, neither the veranda nor the log summer
kitchen that appear in later photographs were yet built in May of 1886.
In Figure 3.1, the roof of a low, unidentified structure can clearly be
seen further to the south while it is either gone or outside the field
of view of the photograph in Figure 3.2. The so-called "Carriere"
building (of which more later) consisting of two buildings linked
together in the middle lies even further to the south in Figure 3.1.
The building on the extreme right may be the house of Charles Thomas, a
brother-in-law of Letendre's who arrived in 1881. To the left in the
sketch is the commercial district of Batoche with Letendre's new store
at the eastern end of the row.

Ludger Gareau took temporary lodging with Letendre and repaired the
damage done during the conflict. These repairs were evidently complete
in the spring of 1886, for Gareau left then with other families to try
ranching in the Pincher Creek area (Payment 1977:55,89). Resolving this
fact with the apparent differences in the appearance of the structure in
Figures 3.1 and 3.2 requires rather tight time-tabling. Since the date
of the Winnipeg Sun sketch is that of the publication, it may be
that it was drawn earlier, possibly even in 1885 after the battle.

Contemporary accounts of the inside of Letendre's house including
his own statements at the Rebellion Losses hearings state that the house
was partly plastered and had partially finished ceilings. The upstairs
had six rooms although it is not stated how these were distributed
around the upper storey. There were three to five bedrooms and many of
Figure 3.1. View of Batoche, Winnipeg Sun, May 8, 1886. Reprinted from Burley 1980: Figure 7.
Figure 3.2. View to northwest of Letendre's house, ca. 1886. Saskatchewan Archives Board photograph R-A5634(1).

Figure 3.3. Letendre's house, front; ca. 1890. Saskatchewan Archives Board photograph R-A5634(2).
the rooms were carpeted. One visitor, Sarah Jane Potter, recalled the rich appointments of the house including chandeliers, upholstered furniture, a pool table, and a bar (Payment 1977:42-43).

3.5 The Letendres and Batoche: 1885-1891

For many in the St-Laurent district the years following 1885 were lean indeed and the slow exodus of Métis from the district began. Many of the menfolk were dead, in jail, or in exile so almost no crops were harvested in 1886. Others left to seek work in lumber camps or hauling railway ties. Freighting contracts were still to be had but by the 1890s this activity was effectively dead. A rail line put through Duck Lake to Prince Albert in 1890 portended a shift in commercial focus away from Batoche (Payment 1977:73-73). The N.W.M.P. detachment established at Batoche in 1888 also proved to be a major employer cum social agency as they in later years dispensed relief supplies to the more destitute local residents (Payment 1977:87-88).

Letendre was soon back in business although he concentrated his activities at his Carrot River establishment and in the Fort à la Corne area (Payment 1977:77). In 1886 the North-West Council passed a motion which restricted the sale of liquor to permit holders. Letendre was one of two in the village with such a permit and it seems he operated a saloon in the late 1880s (Payment 1977:83,85). He also devoted more attention to a new interest - cattle ranching. In 1883 he had acquired some land near Fish Creek and hired a local farmer to manage this ranch. In 1891 he acquired another parcel near Alvena and in 1892 left Batoche for good to take up ranching there (Payment 1977:77-78; 1979:98).
Figure 3.3 shows the front of Letendre's house about 1890 although Payment suggests the photograph could have been taken in 1886 on the occasion of the marriage of one of Letendre's daughters (1978:Figure 5 caption). The details of the ornate trim and the window shutters can be seen in this photograph. The parts of the roof where the chimneys are visible in Figure 3.2 are obscured in Figure 3.3 so it cannot be stated whether they were still there. The cupola perched at the intersections of the roof ridges in Figure 3.2 (the function of which, if it had any, has never been ascertained) was apparently removed by 1890.

Letendre maintained his commercial and property interests at Batoche in absentia. By 1900 it is known that the Grant brothers of Duck Lake were operating Letendre's store. There may have been other managers in the interim (Payment 1979:98). The house and land were sold to the North-West Mounted Police in 1895. There is no definite information regarding the occupants of the house between 1892 and 1895. In 1901 Xavier Letendre succumbed to tuberculosis. Both his mother and wife outlived him (Payment 1979:99).

Before going on to subsequent occupations it is pertinent to examine the origins and validity of the term "Carriere" in reference to the two joined buildings south of Letendre's house. The Winnipeg Sun sketch is the only historical document to associate the Carriere brothers with this building. This has puzzled both historians and archaeologists alike and it has been assumed that perhaps these men were hired hands living in the building at the time of the battle. A land surveyor who visited the east side of the St-Laurent settlement in 1878 reported only two claims by occupants in all of Lots 20 to 71. One was Letendre's to Lot 47; the other claim was that of the Carrières to
Lots 20 to 27, much further north toward the St-Laurent ferry. They were absent when the surveyor visited (Payment 1979:23). A Damase Carrière was one of two mortally wounded Métis said to have been "finished off" by the Militia during the battle (Payment 1977:71).

These are the only historically documented references to the Carrière brothers whose name has been attached to the structure south of Letendre's house. It may very well be true that they lived in these buildings at the time of the battle and may have been hired hands. It is equally possible that as Métis fighters they took up positions there to fire on the Militia.

The name is considered by this author a misnomer since it attaches an unsubstantiated residential title to the buildings. The term has established itself in both the archaeological and Park development literature, however, and so must be grudgingly retained for the time being. Since there is no definite link between the buildings and the Carrière brothers mentioned above, the term will henceforth be spelled without the grave accent in order to distinguish the building from the brothers, neither of which can be definitely linked with one another.

It was mentioned in Section 3.3 that Letendre's first house and store were probably erected near his later residence. Since the Carrière buildings were standing by at least the time of the battle, there is a strong possibility that they were first used for this purpose. They were rudely constructed, a fact consistent with a pioneer dwelling, and were essentially two buildings which were joined by clapboarding, perhaps later on in their history. On the other hand, their positioning to the rear of the residence also suggests they functioned as outbuildings, either as lodging for hired hands, stables,
or storehouses. This probably was their chief purpose during the occupancy of the main residence but these other possible functions are worthy of consideration.

3.6 The North-West and Royal Northwest Mounted Police Occupation

It was the original intention of the North-West Mounted Police to erect barracks at Batoche in 1888 or 1889 which was greeted favourably by the locals as a possible source of temporary employment. This was never done and instead the detachment took permanent quarters in Boyer's store in 1888 (Payment 1977:82,87). This detachment consisted of between four and six constables until 1898. Thereafter, one or two constables were stationed at Batoche.

By 1892 Boyer's store was quite ramshackle and, evidently, so infested with bedbugs that the men were driven to living in tents. In 1895 Letendre sold the North-West Mounted Police his house which they remodelled into barracks, transferring their gear from Boyer's store. Sergeant Colebrook reported in March of that year that preparations for the move into the Letendre residence included digging pits for latrines and restringing the telephone line from the old to the new barracks. A telegraph line connected the Batoche detachment with Duck Lake between 1886 and 1891. Payment says this was replaced in 1895 or 1896 by a telephone (Payment 1977:88; see also endnote 216).

The North-West Mounted Police became the Royal Northwest Mounted Police in 1904 (Phillips and Klancher 1982:1). By this time the village had dwindled to such an extent that Letendre's store was the only one operating in the village proper (Payment 1977:113). The presence of the
Mounted Police lent a certain importance to the place as a centre, but it cannot be claimed that they were infusing federal dollars into the local economy. Payment reports that they bought most of their supplies except foodstuffs at Duck Lake or Prince Albert. They even took their horses to Duck Lake for shoeing, despite the existence of a blacksmith's shop just south of the church by at least 1886 (1979:92). The constables undertook to reshingle the roof in 1904 which may explain the presence of a few galvanized roofing nails in the collection (see Chapter 9.1.3).

Letendre's house was abandoned as an active barracks in 1906 and the buildings apparently stood vacant until 1917. In that year a farmer at Fish Creek, Mr. Kowalczyk, was sold the building. He dismantled it and used the lumber to build his house and barn (Payment 1977:113). Until the mid-1980s, researchers familiar with the historical photographs of Letendre's house could have the somewhat startling experience of driving the Fish Creek road past a barn which had embedded in it one of the unmistakable rounded upper-storey windows from Letendre's house.

Figures 3.4 and 3.5 show the buildings as they were between their abandonment and dismantling. The first photograph is thought to have been taken around 1910. The residence shows signs of wear. The westernmost support column of the verandah had fallen off and many of the window shutters had been removed. Figure 3.4 also has the best view which exists of the Carriere structure. The easternmost part has windows and doors while the western part is a meaner structure. Perhaps in its early years the latter was used for storage. The part in between these two seems to be some sort of shed. No view of the rear of the
Figure 3.5. View to southwest of Letendre's house, ca. 1907-1917. University of Saskatchewan Library photograph C550/2/6.

Figure 3.6. Letendre's house foundations. October, 1948. University of Saskatchewan photograph C550/2/7.
Carriere building is known to exist but the author sometimes wonders if the dwellings photographed by Marcel Giraud in the early 1930s (1986:Plate IIIC) might not be the Carriere structure viewed from the south, as it has the same general design and situation close to the riverbank as did the Carriere building.

Faintly visible in Figure 3.4 above this connecting section and behind is what looks like another building. This may be the building illustrated in the extreme right of the Winnipeg Sun sketch (Figure 3.1). In the foreground somewhere in between the Letendre and Carriere buildings is a wood pile or cache of fence posts. Figure 3.5 shows the residence at about the same time period but from a different angle. The log summer kitchen to the immediate rear of the kitchen annex was evidently still standing. Payment (1977:113) says this log building was originally covered with a mud plaster which had fallen off by the time this photograph was taken.

3.7 Subsequent Activities at the Site

It has always been assumed that the Carriere building was demolished in 1917 along with the Letendre residence although no explicit records exist to confirm this. Diane Payment has presented the land title records and recollections of some elderly residents regarding the use of this property. These are worth quoting in their entirety:

Mrs. Justine (Branconnier) Caron Nogier and Mrs. Marguerite (Branconnier) Campbell both affirmed that by 1915-17, the village was all gone except for a few buildings such as the store and perhaps one or two houses along the southern boundary of lot 47 or S1/2 of lot 48. Mrs. Nogier claimed that she lived by the river, to the east of Letendre-Batoche's property
around 1940. Her recollections are vague and can only be partly verified by the Homestead and Land Titles records. Pierre Caron, Mrs. Nagier's first husband claimed lot 63 and resided on the farm between 1902 and 1916. He also had liens against lots 52 and 53 but by 1921 he reportedly had no land. If Pierre and Justine Caron lived on lot 47 or S1/2 of 48 in the 1920s or 1930s, they were squatting. The Caron brothers were farming on the N1/2 of lot 48 during those years but Gustave Parenteau and Joseph Branconnier were the registered owners of lot 47. The two lots had reverted to the municipality of St-Louis in 1927 and except for the 20 acre North West [sic] Mounted Police reserve, often changed owner or occupant. Evidence supporting Mrs. Justine Nogier's claim is Clovis Nogier's ownership of lots 45 and 46 since 1932 and of the former police reserve of lot 47 in 1948. She married Nogier in 1943 and resided in that former village area until their retirement in 1950. A photograph of the foundations of the Letendre house in 1948 (Fig. 44), shows a building and cultivated field to the east which may have been Mrs. Nogier's dwelling [Payment 1977:114-115].

The photograph just alluded to as Figure 44 is reproduced here in Figure 3.6. The depth of field in this picture is deceptive as the line of trees in the background appears more distant than it actually is in relation to the Letendre foundations. Correspondingly, the building partially obscured by the small tree would be closer to the foundations than it seems.

This author contends that this building is none other than the western part of the Carriere structure with an addition attached to its west side. Comparison of this building with the Carriere structure shown in Figure 3.4 reveals they are similar in proportions and neither have doorways or windows. Further examination of the strata and artifacts in this part of the Carriere building will determine the answer to this question and may help to determine the actual date each half of the Carriere building was demolished. If this is indeed part of
the Carriere building, and if it also turns out to be Letendre's first house and/or store, then it would be one of history's ironies that the first buildings erected at Batoche were also among the last to be torn down.

Parks Canada (now the Canadian Parks Service) entered the picture in 1920 when it was proposed to the National Historic Sites and Monuments Board that Letendre's Store on "Batoche Avenue" be commemorated as the "Headquarters of the Rebels". Nothing came of this and the store burned to its foundations in 1923 (Woolsey 1982:3). A controversial cairn and plaque were erected near the rectory in 1925. The wording of this plaque (in English only) basically commemorated the Canadian militia's involvement in the battle; its sole reference to the Métis was the words "the rebels". Not only was this offensive to the local residents and Métis in general, but the local diocese and residents in Quebec were angered by the Historic Sites and Monuments Board's resistance to a bilingual text (Taylor 1983:18-22). It was finally changed in 1947. Land purchases by the federal government at the site began in the early 1950s with Middleton's zareba and the Church and Rectory. Remaining land acquisition was carried out between 1967 and 1976 and the area was seeded to hay.

Weed control by mowing and the removal of "recent" trash were carried out in this period by contract to local farmers (Woolsey 1982:8-18). A long-time employee of the Park, Mr. Ed Bruce, told the author that local residents had been in the habit of depositing their trash in the convenient holes in the ground presented by the various cellars and foundations, the Letendre house among them. Mr. Bruce further said that a contract to remove this trash was let in the late
He said they removed only such obviously recent artifacts as car bodies and bed springs. Since many of the artifacts in the collection look recent but have, in some cases, surprising antiquity it is not clear whether this had any impact on the composition of the assemblage described here. Mr. Bruce added somewhat ruefully that the morning after Letendre's house foundation was cleaned out, it was found to have been refilled with garbage some time during the previous evening.

One of the motivations for changing Batoche's status as a National Historic Site to a National Historic Park was that it would then fall under the jurisdiction of the National Parks Act. The planning team felt this was necessary to put more weight behind the prosecution of pothunters (Woolsey 1982:18-20). How much of the archaeological record has been distorted by metal detector operators cannot be known; the author is aware of at least one large artifact collection from Batoche in private hands. There are doubtless more. Damage by collectors would not necessarily show up during excavation since only the more inexpert souvenir hunters who use metal detectors actually dig for their artifacts. The more common practice is to slit the sod with a knife and pry out the item in question. The author feels that the clutter of metallic but non-military artifacts at the site would make prospecting for cartridges and coins here rather frustrating. Therefore, this is not perceived as a serious distorting factor in the analysis of this assemblage.

The planning and research which ultimately culminated in the official opening of the current facilities began in 1974 and involved many other disciplines besides archaeology and history (Woolsey 1982:44-47). The major archaeological work was done from 1976 to 1978.
The relevant preliminary results will be examined in greater detail in Chapter 11. What is important here is that, in some senses, the archaeologists were a major source of impact on the two structures. The activities of the 1976 field season (Donahue 1977) inflicted substantial damage on some of the deposits, especially the upper strata, because relatively uncontrolled methods were used in the interests of speedy recovery. There were no accurate field maps drawn of the test trenches placed into both structures. As a result, excavators working in subsequent years were not entirely sure which of the observed soil disturbances had resulted from historical activities at the site and which from the work of the 1976 field season. The locations of the 1976 test trenches can be reconstructed from the field notes of that year but not with great precision. As a result, the 1976 artifacts have been omitted from this analysis.

Another side-effect of this was that small numbers of artifacts which the author strongly suspects were left behind by archaeologists were recovered and dutifully catalogued along with all the other artifacts. In Chapters 7 to 10 these have been identified where possible, but in most cases there is no way to distinguish "arcky-facts" from those used by the sundry historical occupants of the buildings.

The decay of the site continues as visitation increases. A fence was erected in the mid-1980s around Letendre's house to keep visitors and vandals out. The Métis themselves would seem not to be universally imbued with a reverence for their heritage. One Saturday morning, after one of the more boisterous nights of the 1982 "Back to Batoche Days" celebrations, the author visited the Letendre foundations to find the northwest corner of the structure had been pulled apart and made into a
fire hearth. One hopes that the fence, which has been placed with sensitivity to those buried deposits still intact, will prevent more such occurrences in the future.
CHAPTER 4

RESEARCH METHODS: PAST AND PRESENT

While previous attempts to analyze the artifacts from the Letendre and Carriere excavations have obviously not been successful, it has not been for lack of trying. Section 4.1 briefly outlines the administrative history of previous archaeological research. This is important because it helps to explain the relatively chaotic state which the data were in when the present research began. Section 4.2 summarizes the Canadian Parks Service's excavation and records management system. Section 4.3, describes the author's methodology. This separates into two parts: data correction and the analytical phase.

4.1. Previous Research

Archaeological research to support development of Batoche National Historic Park began in 1976 under the directorship of Paul Donahue. The goals of that year's work were to record the prehistoric and historical resources extant in the Park and to conduct exploratory test excavation of the structural remains considered prime candidates for possible interpretation (Donahue 1977; Donahue and Hall 1977a; Putt 1977). From the artifact sample recovered in 1976, a computerized coding scheme was developed (Donahue and Hall 1977b) to manage the artifact data which was implemented the following year.

Donahue's research design focussed on three particular themes: 1) Métis ethnicity as reflected in their material culture, 2) socioeconomic
stratification within Métis society, and 3) Métis settlement patterns (Donahue and Hall 1977b:6-14). In this context, the Letendre residence was selected for excavation to represent the lifestyle of a high-status family while the more economically marginal Métis at Batoche would be represented in the material from the Carriere structure. At the time, historical research was going on simultaneous with the archaeological research design phase. As far as it was known at the time, the Carriere brothers were significant occupants of the structure which came to acquire their name. As has already been seen in Chapter 3, this turned out to be a somewhat tenuous departure point.

The major research excavations were carried out in the 1977 and 1978 field seasons (Burley 1980; Donahue 1980; Donahue and Hall 1978; Donahue, Hall, and Putt 1978). A fourth field season planned for 1979 was cancelled due to budgetary restraint. Preliminary descriptions of the survey results and the structural remains excavated were published but little artifact analysis emerged.

In 1980 and 1981, David Burley and the author attempted to synthesize the data. Burley's research design attempted to differentiate broad activity areas by comparing the artifact frequencies of functional activity groups found in particular zones around each structure (e.g. the front of a house, its back, middlen deposits, and so on). Limited success was realized in analyzing the artifacts from Letendre's house (it was found that no specific activity areas could be defined [Burley and Brandon 1984]) and the artifacts from the three other major structure excavations were only summarized in a tabular form. It came to be recognized during the course of this research that the computerized data were seriously flawed.
Fieldwork performed since 1979 has been more oriented toward cultural resource management (Brandon 1982, 1983a; Lee 1983, 1984; Proch 1986). A team assembled in 1986 to correct and synthesize the data gathered in the 1970s (exclusive of the material in this thesis) completed its work in April, 1988. The expected synthesis is still in preparation.

Key project personnel, database coding schemes, and mainframe hardware and software changed yearly from the inception of the project. These changes are summarized in Table 4.1. A significant absence from this Table is the yearly budgetary allocation, information to which the author was not privy. The annual dollar value allocated to the project is neither here nor there since the project research resources listed in Table 4.1 were obviously paid for. An informed estimate communicated to the author is that the archaeology done at Batoche has so far cost in the vicinity of one million dollars.

The position of principal investigator has been staffed by four different individuals in the thirteen-year history of the project. Since 1979 the job has included responsibility for other major projects such as research at Dawson City, Yukon and cultural resource management within several of the National Parks (e.g. Prince Albert, Riding Mountain, and Wood Buffalo National Parks). In addition, the position of Chief of Archaeological Research in Prairie and Northern Region remained officially vacant from 1981 to 1988 with one two-year exception. The Batoche principal investigators since that time have been periodically and temporarily appointed to this position in addition to their other duties. All these researchers began by redesigning a global research strategy tailored to address the various research needs
Table 4.1. A chronology of Batoche project resources*.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>PROJECT LEADER</th>
<th>PROJECT ASSISTANT</th>
<th>CODING SCHEME</th>
<th>HARDWARE (SOFTWARE)</th>
<th>ANNUAL ARTIFACT YIELD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>P. Donahue</td>
<td>V. Hall</td>
<td>by hand</td>
<td>none</td>
<td>50,000</td>
</tr>
<tr>
<td>1977</td>
<td></td>
<td></td>
<td>Version 1</td>
<td>IBM mainframe (STS/INFO)</td>
<td>44,000</td>
</tr>
<tr>
<td>1978</td>
<td></td>
<td>D. Grainger</td>
<td>Version 2</td>
<td>IBM mainframe (System 2000)</td>
<td>320,000</td>
</tr>
<tr>
<td>1979</td>
<td></td>
<td>D. Burley</td>
<td>Version 3</td>
<td></td>
<td>100?</td>
</tr>
<tr>
<td>1980</td>
<td></td>
<td>J. Brandon</td>
<td>Version 4</td>
<td>CDC mainframe (DRS)</td>
<td>none</td>
</tr>
<tr>
<td>1981</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>550</td>
</tr>
<tr>
<td>1982</td>
<td>(vacant)</td>
<td>E. Lee</td>
<td></td>
<td></td>
<td>4,500?</td>
</tr>
<tr>
<td>1983</td>
<td></td>
<td>D. Proch</td>
<td></td>
<td></td>
<td>5,200</td>
</tr>
<tr>
<td>1984</td>
<td></td>
<td></td>
<td></td>
<td>several hundred</td>
<td>unknown</td>
</tr>
<tr>
<td>1985</td>
<td></td>
<td>K. Lunn</td>
<td></td>
<td></td>
<td>unknown</td>
</tr>
<tr>
<td>1986</td>
<td></td>
<td>P. Nieuwhof</td>
<td></td>
<td></td>
<td>unknown</td>
</tr>
<tr>
<td>1987</td>
<td></td>
<td>B. Ebell</td>
<td>data clean-up:</td>
<td></td>
<td>100?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S. Bradford</td>
<td>(selective</td>
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<td>subset of</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>the above)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td></td>
<td></td>
<td></td>
<td>COMPaq micro (PROGRESS)</td>
<td>100?</td>
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</tbody>
</table>

TOTAL ARTIFACTS: 400,000 to 500,000

* compiled from Donahue 1980:1,7; Donahue and Hall 1977a:5; and K. Lunn, personal communication.
of the time. However, none have been left uninterrupted to implement these strategies.

The project assistant's position had been occupied by five people until its elimination in 1985. The chief task of each assistant has been to manage the artifacts, the associated paper and photographic records, and computerized data. During field work this person served as lab manager and supervised crews of from two to six artifact processors to clean and encode the artifacts. The latter had little experience in archaeology and certainly no prior experience with historical material culture.

The sundry coding manual versions (see Table 4.1; version 4 [Canadian Parks Service n.d.] has been used in this study) were designed to overcome this handicap and assumed the users would be lay persons, not material culture researchers. In the 1970s the assistant participated in the development and redesign of the computer coding schemes and saw to the alteration of existing data to accommodate the ramifications of each change. In the 1980s this person supervised small field projects and began preliminary analysis of the artifacts. The latter mainly involved assembling tables of artifacts by functional categories and excavated structure and also basic research and description of artifact classes. This latter activity included fetching selected specimens from the main artifact storage area and proceeding with analysis. When the assistant was called upon to do other activities, sometimes for months, these groupings of artifacts were left to sit on shelves. With the biennial retirement of each assistant these trays of artifacts became meaningless to successive assistants and the location of any given artifact at any given time became less
predictable.

Each change in coding approach required revisions of existing computerized data to match the current format. In many cases this was accomplished by using custom software to globally change obsolete code combinations into improved formats. This was successful most times. In other cases the change required was so radical that all members of a particular artifact type were manually recoded. The frequent shifts among service bureaux (see Table 4.1) caused delay and sometimes data loss.

In sum, the artifacts from Batoche, those from the Letendre and Carriere numbering about one quarter of the current inventory, have been accumulating in formidable numbers. The resources needed to cope with them have persisted in a state of constant chaos for thirteen years. As a result, very few of the estimated half-million artifacts housed in Winnipeg from Batoche National Historic Park have been analyzed and published.

4.2 The Prairie and Northern Region Records System

Before proceeding to the analytical approach taken here, a bit of background material is needed to explain the Canadian Parks Service excavation records system. What follows is a brief summary of their recording system manual (Parks Canada 1977).
4.2.1 The Recording System of the Canadian Parks Service

The provenience system is hierarchical in structure and is oriented to block excavation rather than point provenience. The lowest recording unit is the "lot", represented by a four-digit number. A lot can represent, for example, a single artifact, a 1 x 1 metre test unit, or a broad clay layer but it is the finest unit of locational measurement in the system. The next hierarchical level above the lot is the "sub-operation", indicated by a single letter designation. This is used for localized areas within an excavation; for example, a room within a structure would be excavated as a sub-operation. The next level above, the three-digit "operation", is used to designate discrete excavations, usually separate structures. Finally, the "site" number refers to a site in the Canadian Parks Service jurisdiction. The format of the site number consists of a three-digit number (these are assigned sequentially as sites are designated) followed by a letter which refers to the province or territory in which the site is located. The letter code for Saskatchewan is "N".

The site designation for Batoche is "021N". The Letendre house operation is "009" and, for the Carriere building it is "011". The sub-operation for, say, the main house cellar of Letendre's house is "A". Finally, a 1 x 1 metre sod unit from that cellar might be "0008". Thus, a single excavated entity in the system can be located uniquely.

The provenience is the key to which all other records are linked. In the Canadian Parks Service system, photographs, field notes, and field drawings, and special summary forms used to describe stratigraphy, sub-operations, and operations are all interlinked using the provenience
designation. Likewise, each of these types of records has its specific format and labelling protocol. Even individual excavators are assigned field numbers so that their notes and photographs can be cross-indexed.

It is a formidable system to master and has a high cost both to use and to maintain. It would be extremely tedious to use in a prehistoric site where point provenience was kept. When used properly, however, it has two significant strengths.

First, the hierarchical excavation system forces the researcher to plan ahead and think stratigraphically when excavating. Second, when all the records are filled out correctly, they can be put aside for years and resurrected, should the need arise, to be reanalyzed or added to independently of the "corporate memories" of the staff on hand at the time. This is particularly useful in a national system where the management of archaeological information theoretically spans eternity. Thus, a site like the Louisbourg Fortress which was their first archaeological project and which began in 1961 (Fry 1986:38) could be returned to now with a good chance that the records of two decades ago could be understood without relying on the memories of those who performed the original work.

4.2.2 Prairie and Northern Region's Computerized System

The system which has been described so far applies to all Canadian Parks Service archaeology nation-wide. The Prairie and Northern Region uses this but differs from Ottawa and the other regions in its use of the computer to catalogue and record provenience and artifact data. They maintain computer records of two types: artifact records and
provenience records. A computer record may be thought of as a single line in a computer file, each line composed of individual fields containing meaningful information.

Provenience Records

A provenience record has fields containing information including the lot designation, its coordinates horizontally and vertically, its type (i.e. a single artifact, a post mould, a clay pad, and the like), and the date of excavation. Depending on the database management software used, the provenience record also can function as a "header." That is, it not only contains all the information about the particular excavation unit but it also can serve as a referent to all the artifact records which describe the material which was excavated from that unit. In the DRS database management system (see Table 4.1) the provenience records function in this capacity.

One of the more unfortunate management decisions taken in 1977 and 1978 was to rely on the provenience records for site mapping. It was planned to develop software to plot the locations of each of the blocks using the computerized coordinates. Hence, standard site excavation maps showing the locations of each excavation unit by level were not drawn (or perhaps not retained in the files). Each of the crew chiefs, Terry Gibson at the Carriere structure in 1977 and Karie Hardie at Letendre's house in 1978 did record schematic sketch maps in their field notes showing the allocation of lots within most sub-operations. In addition, the Service's Engineering and Architecture Division has a crew of extant recorders whose job is to formally survey and record standing structures. In both 1977 and 1978 they also recorded excavated deposits
at both operations periodically throughout the respective field seasons. Hence, there exist very detailed and professional site maps for both structural complexes as a result of their work. However, these maps can be viewed as "snapshots" of the state of stratigraphic exposure at various times during the field work rather than a reverse chronological peeling of the temporally significant strata from younger to older deposits. These maps do not have indicated on them the boundaries between excavated lots and sub-operations.

As with any other computerized system, the provenience records had errors in recording of the coordinates. Without the backup of manually-drawn site maps this made plotting the excavation units (by hand; the map plotting software was never developed) and matching these with the observed strata on the extant recorders' maps tedious and fraught with a substantial amount of "judgement calls" guessing where each excavation might actually be in three-dimensional space.

Artifact Records

An artifact record in the Prairie and Northern Region system may be thought of as all the information needed to describe a number of identical artifacts excavated from a single lot. In its essentials, an artifact record's structure consists of the provenience, a code indicating the artifact class, an inventory number, the quantity of fragments described by that record, and up to sixteen different fields containing attribute codes which described the artifacts in question. The group of identical artifacts is bagged together and assigned a single inventory number in this cataloguing system.
This can be a very efficient system for block-oriented historic site excavations because it permits a detailed description of the material without assigning a catalogue number to each individual specimen. For example, a single lot might yield nails, window glass sherds, and a ceramic sherd. The window glass need only be counted, bagged, and assigned a single inventory number. The nails, regardless of quantities, would first be sorted by mode of manufacture and then segregated on the basis of length and whether or not they were bent and each grouping would be assigned a different inventory number.

The class code in the artifact record refers to one of nine different artifact classes. These are: lithics (code 01); glass (code 02); ceramics (code 03); nails (code 04); fastenings, such as screws, nuts, and bolts (code 05); other metal, which covers all miscellaneous metal artifacts which are not nails or fastenings (code 08); classified fauna, a class intended for use by fauna specialists and which, to the author's knowledge, has never been used (code 09); arms and ammunition (code 12); metal containers, which mostly covers tins cans but is also where one encodes washtubs and metal enamelware (code 14); and miscellaneous, which includes all organic and composite artifacts (code 99).

The attributes of each class need not be described here. What is important is that each of the sixteen attribute fields of each class have numeric codes which take on different meaning depending on the type of artifact class one is dealing with. Thus, a "06" coded in the first attribute of a lithic record means the artifact is a biface fragment. In the first field of a glass record, a "06" means the sherd's colour is green. Moreover, the inventory numbers assigned to each record are
unique within class only; they are not unique site-wide. Thus, to uniquely refer to an individual bag of artifacts from a particular site it is necessary to specify the full provenience, the class number, and the six-digit inventory number. For example, the Firstview projectile point alluded to in Chapter 3.1 has the following individual inventory number: 021N011P0077:01-000590.

To complicate matters further, more recent versions of this system also have provision for a catalogue number. A catalogue number differs from an inventory number in that the catalogue number is assigned to a single artifact and is unique within provenience. It is only assigned under certain circumstances, these being when it is referenced in a report, when a photograph is taken, when an artifact is sent away from the office (e.g. for conservation treatment or to another researcher), or when mending is done with ceramic or glass artifacts. This overcomes two problems with the inventory numbering system. First, it enables one to refer to an individual artifact. If two Firstview projectile points had been recovered in the same lot in the example used above, both would have been inventoried together. They would then have to be catalogued separately if one wished to discuss, for example, the use wear of each individual specimen. A catalogue number has its greatest utility when mending and cross-mending (cross-mending is the term used to refer to fragments which mend but come from separate cultural layers; the fact of the mend indicates those layers were laid down coevally) glass and ceramic sherds. A single chamber-pot might be reassembled with sherds from several different lots, each with their own sets of inventory numbers. The catalogue number is used to label the reassembled vessel.
Technically, references made in this thesis to individual artifacts in Chapters 6 to 10 ought to be catalogue numbers and they ought to specify the full provenience as well as the individual number. The author has chosen to use inventory numbers (abbreviated to IN in the text) throughout since only the collections manager in Winnipeg can assign catalogue numbers. As well, he has omitted the provenience prefix and has used only the class plus the inventory number to refer to individual artifacts which will uniquely specify the object in question.

4.3 The Analytical Methodology of This Study

4.3.1 Phase I: Recataloguing the Collection

The first step in this analysis was to correct the artifact data. As may be inferred from the preceding discussion, the Parks system is complicated. The coding system for artifacts, while complex even for archaeologists, must have been baffling at first to the layperson cataloguers hired to process the material. Add to this mix a high artifact volume and pressure to complete the processing in a single season (close to a third of a million artifacts were processed in 1978; see Table 4.1) and all the elements for inaccuracy are present. As mentioned earlier, the inaccuracies of the field coding first became evident to this author in 1980 when he was attempting to work with the material under David Burley.

In correcting the data to use for this thesis several guiding principles were kept in mind. First, the author was working with artifacts and computer data on file with a public institution. The
method chosen to alter either the data or the physical storage of the artifacts had to be done in a way that did not worsen the institution's ability to manage both records and artifacts.

Second, it has been the author's experience when correcting computerized databases that it is always better to identify an error and correct it in its electronic form rather than to transfer the correction through several media (i.e. keep manual records of corrections and then use a text editor to update the database) or to recatalogue and reenter the data from scratch. Even if a single computer record is ninety-nine percent incorrect, it is better to correct all but the one percent than to delete the record and reenter it. This way, the check for error performed on any individual computer record need only be performed once.

Finally, the data correction and subsequent analysis had to be done in such a way that all the information needed to proceed would be portable. It was beyond the resources of the Department of Anthropology and Archaeology to house the artifacts in this collection; with some exceptions, all the artifacts used in this analysis have remained in Winnipeg while the analysis and writing have been done in Saskatoon.

Accordingly, the author obtained a magnetic tape copy of the artifact and provenience database from the Canadian Parks Service and installed it on the University of Saskatchewan computer. He designed a computer program for use on an Apple II Plus microcomputer which recorded corrections to certain key attribute fields among the artifact records and created brand-new records for use in cases where certain individual bags of artifacts required separation into separate groups because of mixing. As well, certain additional data were collected over and above the attributes normally recorded in the Prairie and Northern
Region system. These were kept in distinct computer files separate from
the main correction data files and the files of new artifact records.
This software was thoroughly tested prior to production and, during the
subsequent recataloguing process, only three program "bugs" were
discovered and corrected with no serious ramifications.

The format of the computerized information for data correction was
designed to be identical to the format of data alteration commands used
by the Parks database management system of that time, DRS (see Table
4.1). It was planned to feed these commands into their system in bulk
once the recataloguing phase was over so that the Service's database and
the author's would match. The format of brand-new records likewise was
compatible with the input format for DRS.

For the author's own research purposes, he then designed and tested
a suite of programs on the campus mainframe computer which performed
data corrections and reworked brand-new records into a format matching
that of the existing data. This was necessitated, in part, by the fact
that the DRS database management system was unavailable for use on the
campus system. The author's software was written for the DEC-20 campus
mainframe and later rewritten when the mainframe was replaced by the
VAX-8600. Each computer record was revised and the additional data
collected were attached to each record as well. Key among these
additional data were text fields in which the author was able to record
particular observations about artifacts in the collection which could
not be expressed solely using the numerical attribute codes. This
textual information was, in the main, the sole source of the information
needed for the artifact description chapters of this thesis. Only in a
few cases were artifacts actually reexamined after the recataloguing
phase concluded.

The recataloguing phase took a little over a man-year to perform, most of it done in Winnipeg and spread intermittently over the years 1984 to 1986 as the author completed course work and found summer employment. In January of 1987 the accumulated data were fed into the DRS system in Winnipeg just before they converted to their current microcomputer database system (see Table 4.1). The campus copy of the data was available in its basic corrected format by 1986.

Since that time, the author's copy of the data has undergone considerable revision as he discovered inconsistencies in his own work. These have been corrected mostly through the use of information recorded in the text field and, in certain cases, by a phone call to Winnipeg. It should be stressed that the staff of that office has been tremendously cooperative and quick to respond to these requests.

The recataloguing phase proved to be more than justified. At the end of each stint in Winnipeg, the author provided the Region with a report of the types and quantities of errors found in the original data (Brandon 1983b; 1985). It was found consistently over the course of the recataloguing that one computer record in three required a change to a major attribute field. The number of records also consistently increased by twenty percent. Since each record describes a quantity of identical artifacts, this increase in the number of records may be thought of as a measure of the diversity of the assemblage which was lost in the original inventory and regained through recataloguing. This was mainly due to incomplete sorting. Certain high-quantity artifact types frequently had mixed in with them "goodies" which had been overlooked. The bags of window glass and faunal remains were
particularly richly laden with artifacts that were not pane sherds or bone. Similarly, the quantity field was not always accurate. It appears that the cataloguers under the time pressures they faced "guess-timated" the quantities of high-volume artifact groupings. As a result, the author entered into this research under the misguided impression he was dealing with about 75,000 artifacts from both structures. The assemblage totals about 97,000 artifacts in reality.

4.3.2 Phase II: The Layer/Event Correlation and Analysis

In this stage, the field notes and extant recorder maps were analyzed to combine individual lots into groups representing cultural layers in the site. As mentioned earlier in this chapter, the lot is the finest unit of recording in the Parks system. Most of the excavations at both structures worked with the 1 x 1 metre unit as the basic excavation unit. Individual layers within each unit were assigned lot numbers. This permitted a rough horizontal control of artifact location with a single stratum to be maintained.

The first step of the layer/event correlation was to group all lots from neighbouring 1 x 1 units into layers. Without field maps and with numerous inaccuracies in the computerized provenience records, this proved to be more difficult than would be normally the case. However, between the extant recorder's drawings and the crew chief's field notes it eventually proved possible to assemble overlay maps and a list of cultural layers from the site. This process took a year to complete in 1986 and 1987. The layer is the basic unit of analysis here since individual analysis of activity areas within cultural strata are beyond
the scope of this thesis. This reduced the number of analytical units from 1,513 lots to 193 layers. A layer in this sense can be anything from a broad scatter of demolition debris to the sterile fill of a post mould.

The layer/event correlation consisted of determining from the nature of the matrix and the location of the layer vis-à-vis the structural remains which known event of the buildings' life histories was responsible for the laying down of that layer. The most obvious examples in this regard were the demolition layers which had as their matrix large amounts of plaster or bark debris. The next step after this was to infer from the relative positioning of undated layers which of these were older or younger than the layers of known date, so far as was possible.

Each artifact record in the author's database was labelled with a two-character code indicating the layer of which it is a member. As the material culture analysis progressed, any artifacts with relatively narrow date ranges were labelled with their beginning and ending dates. The final stage of analysis was to cross-tabulate using standard software packages on the mainframe the dates from all such artifacts with the strata from which they were excavated. This refined the chronology of the strata and enabled the inferences about the construction sequence in Chapter 11 to be made.

The goals of the design of the analysis have been met. The computerized information has now been corrected and delivered to the institution which must care for these artifacts. Adjustments made to the author's copy of the database have resulted in divergences between the two copies. These will make it awkward but not impossible for
subsequent researchers at the Canadian Parks Service to identify the

groupings used in this thesis. Nonetheless, for their collections
management purposes, their version of the database is perfectly
functional as there is now a more or less one-to-one correspondence
between artifact bags in the collection and records in the database.
For their immediate goals, the author feels his responsibilities to that
institution have been fulfilled.
CHAPTER 5

THE CLASSIFICATION SCHEME AND HISTORIES OF CERTAIN TECHNOLOGIES

The purpose of this chapter is to introduce and explain the structure and contents of Chapters 6 to 10 in which the artifacts are classified and described. In Section 5.1 the structure and rationale for the classification scheme is explained. Subsequent sections provide general definitions and the chronological significance of terms, attributes, and manufacturing techniques alluded to in Chapters 6 to 10. This is done mainly to streamline discussion in those chapters. Only the major artifact classes of glass, ceramics, nails, and tin cans will be given this treatment as they are plentiful in the assemblage and their manufacturing technologies are quite complex and variable through time. Manufacturing techniques not covered in this chapter will be explained as encountered in Chapters 6 to 10.

5.1 Classification Schemes

As explained in Chapter 2, recognition of cultural patterning, particularly in inter-component analysis, is done by comparison of the fragment counts expressed as relative percentages of the total artifacts within activity groupings. Clearly, of key importance is the organization of these classes in some manner which facilitates comparison of components.

Over the years, historical archaeologists have developed a variety of different classification schemes based on an artifact's function.
This is an attainable goal in historical archaeology where the function of an artifact is knowable. This thesis does not attempt to compare components. Yet it is the author's responsibility to present the data in a manner that facilitates its use for these or other purposes. The organizational framework for the artifact description chapters that follow is a functional classification based on Sprague's 1981 scheme.

5.1.1 Sprague's Classification

Sprague's classification orders historical artifacts by function according to a hierarchy of categories that, at the primary level, progress conceptually from the individual outward into his or her world. He groups subcategories beneath this level which, in turn, comprise individual artifact types. Chapters 6 to 10 are ordered along these lines. Chapter 6 describes artifacts important to an individual's physical and emotional well-being. The primary physical needs of the individual such as clothing and medicine are included in Chapter 6. Artifacts of leisure and spiritual comfort as well as food and drink follow in Chapter 7.

Moving away from the individual to his or her interactions with the immediate household, domestic artifacts are dealt with next. Chapter 8 includes all the things needed by the immediate family to maintain a household. This includes all furnishings, housewares, and certain activities usually done in a household such as cleaning and maintenance.

The third primary category in Sprague's scheme are the artifacts connected with the physical structure itself. Aside from all architectural artifacts it includes plumbing, landscaping artifacts, and
fixtures. These artifacts are described in the first part of Chapter 9. Sprague considers heating and fixed lighting devices as architectural artifacts (1981:256) but they have been viewed as furniture here.

Sprague identifies four more groupings at the primary level which conceptually involve the family group with the outside world (1981:257-258). These include transportation, all outside work activities, and activities done in groups such as governmental, public educational, and worship activities. Chapter 9 concludes with artifacts representative of these groupings and includes all tool and machinery parts and artifacts of transportation, mostly horse-drawn.

Sprague utilizes a final class called "Unknowns." This is a catch-all category for items unclassifiable into the groupings mentioned earlier. All schemes include some sort of category like this and, although the artifacts in this category are effectively excluded from further analysis by being classified this way, one goal of a researcher is to reduce the membership in this grouping to a minimum. This is the subject of Chapter 10 and several types of unknowns are included. Large numbers of the commercial product packaging which could have contained any number of very different substances fall into this category. These are perfectly identifiable but are unclassifiable.

Prehistoric artifacts are also included here as they are of secondary concern to this thesis but also do not integrate very well into this scheme because the artifacts' functions are too vague. Chapter 10 includes unidentified items which, with more research effort, might be identifiable. The last cluster of unidentified artifacts are truly unidentifiable bits and pieces of glass, sheet metal fragments, nails shanks, and so on.
The advantages of using Sprague's scheme are several. Primarily, it works. Artifacts fall into classes and sub-classes that satisfy the intuition because they group into categories which are culturally meaningful. Even if Sprague does not suggest a category or sub-category into which certain artifacts may be categorized, a suitable spot can be found. Oddly enough, Sprague does not suggest where faunal remains ought to be placed. In this thesis, they are considered of primary importance to the individual, being food, and are thus described in Chapter 7. The classification is, therefore, expandable.

It also meets two other essential criteria of classifications: it is mutually exclusive and exhaustive. That is, no single type of artifact shows up in his scheme in more than one category and all artifacts are classified in one way or another.

The scheme also fluidly mixes artifacts of activities and structural artifacts. Sprague's system does not deviate in its general approach from that proposed by South (1977:83-137; 1979). The latter places a primary emphasis on functional activities in a systemic context and therefore, in the interests of consistency, South confronts us with the "structural technology subsystem unit" (South 1979:227). This grouping has significance as an "activity" when one considers the construction or demolition of a building. While it is standing it serves the more passive function of being an immovable facility in or about which other activities take place. Thus, calling architectural artifacts evidence of an "activity" is somewhat counter-intuitive.
5.1.2 Other Relevant Classification Approaches

Two other potential classification schemes considered for use here but rejected are those which classify on the basis of material type and those used by museums. The advantage of classifying by material types is that, when all the glass artifacts, for example, are grouped together the information necessary to explain a particular manufacturing technique observed among the specimens needs only to be explained once. The overwhelming disadvantage, as Sprague points out (1981:251), is that artifacts of identical cultural significance are scattered throughout the classification. For example, buttons must be hunted for in the glass section, again in the metals section, and perhaps in other sections as well, depending on the button materials present in the assemblage. All clothing buttons fasten clothing, however, and this is the culturally significant "fact" about a button, to an archaeologist. Sprague (1981:251-252) pointedly notes this is the method of choice selected by prehistorians writing up historical material.

Other schemes with frameworks based on technological types have been employed by museums. These may serve the interpretive needs of the institution but sometimes lead to classifications where artifact categories are not mutually exclusive. Sprague cites an example (1981:253) of a museum classification whose framework is based on the history of technology. In it, food preservation falls under the broader category of food production, preservation, and preparation yet refrigeration falls under the category of energy conversion.

A widely-used museum classification scheme is that of Chenhall (1978). Its greatest attraction to archaeologists is that the
categories are akin to those used by South and Sprague and it has an anthropological basis in that the Outline of Cultural Materials (Murdock 1982) is used as the final authority when judging how to classify an object. Chenhall's Nomenclature (1978) is a necessary companion when using the CHIN system of the National Museums Corporation, a nation-wide museum database system which the Ottawa material culture researchers in the Canadian Parks Service also use.

The staff of the Prairie and Northern Regional Office used Chenhall in the design of certain parts of their computer data coding system, notably the Miscellaneous and Other Metal categories (Canadian Parks Service n.d.). Chenhall's scheme proved particularly adaptable to expansion, especially as more and more artifacts were gathered from relatively recent and often very unusual contexts (e.g. frontier and mining artifacts from the Yukon and early Arctic explorer sites). Chenhall invariably had a category into which these items could be placed.

The key failing of Chenhall's system and perhaps that of systems which are museologically-oriented is that they implicitly assume the object in question is whole or nearly whole and that its main purpose is for interpretive display or material historical research. The system offers little of value when dealing with glass and ceramic sherds and so the Prairie and Northern Regional staff has developed a separate taxonomy oriented to identifying sherds.

The other flaw is that Chenhall is adamant (1978:8) that the subsequent re-use of an artifact is unknowable and so the primary purpose for which an artifact was manufactured is the category into which this item must be placed. Thus, one finds Chenhall's scheme has
all the categories of Sprague's except that Chenhall's "Category 10" includes all product packaging. Chenhall (1978:37,41) would classify a certain bottle as first a container and secondarily a whisky bottle.

This, of course, immediately foists the broader societal views of an artifact's purpose on an assemblage left by peoples who may not have shared these views. It no doubt mattered to the people who used that bottle whether it contained whisky or cleaning solvent and this is a culturally significant "fact."

None of the classification schemes really deal adequately with curated artifacts (i.e. those reworked for other uses). Chenhall's classification, of course, rejects the notion a priori. Yet these artifacts more than many others bear witness to the fact that a single artifact operates in different cultural spheres simultaneously or, at least, at different times in its "life history." It may even be taken as evidence that the people who modified these objects perceived their own waste as a handy resource.

The position taken here is that the last known use of an artifact determines its place in this classification. Thus, tin cans unrolled and shaped into roof patches appear among the architectural artifacts, lead foil tea wrappers converted to fish line weights are among the hunting and fishing tools, and a single bottle base reformed into a scraper appears among the prehistoric artifacts.

In order to facilitate the discussion in Chapters 6 to 10, the following sections describe artifact descriptive terms and manufacturing techniques which are used throughout the rest of thesis. The classes of greatest interest here are glass, ceramics, nails, and tin cans as they represent about seventy percent of the assemblage. The Artifact
Analysis Manual for Historical Archaeology (Canadian Parks Service n.d.) designed by researchers at the Prairie and Northern Regional Office of the Canadian Parks Service is cited frequently in some sections, particularly Sections 5.3 (ceramics) and 5.5 (tin cans). Because it is an internal governmental manual and still technically in a state of revision, it is unpaginated which precludes specific citation of page numbers.

5.2. Glass

About 40,000 glass artifacts are described in Chapters 6 to 10. While over half of the artifacts are window pane sherds, the rest are from formed vessels of different shapes, colours, functions, and made with a variety of techniques which, taken in combination, permit relatively narrow date ranges to be applied to many of them. Glass artifacts from the 1850s onward are particularly datable since this period saw many manufacturing innovations come into vogue. The glass and ceramic sherds in this collection were not mended which, in some cases, has inhibited their precise identification. What follows is an introduction to general glass terminology, manufacturing techniques, and other attributes which will be used in the following chapters when describing the glass artifacts. An excellent companion to this has been recently published by the Canadian Parks Service (Jones and Sullivan 1985) which covers the following information comprehensively.
5.2.1 The Nature of Glass and Glass Colour

Chemically, glass is classified as a liquid or a solution in which other substances are dissolved. Glass in its initial melted form often contains suspended impurities which alter the wavelengths of light passing through it and give it its colour. Iron oxide is the most frequent unwanted natural material found in glass. The addition of certain other chemical elements has been used throughout time to achieve certain desirable glass colours or to make it transparent (Frank 1982:6-10; Jones and Sullivan 1985:10-12). Colours in this collection are useful for identifying certain vessel types and, to a limited extent, can be helpful in judging the original cost of an item or its antiquity.

"Colourless" is the term recommended by Jones and Sullivan (1985:13) to use when speaking of sherds with no colour since other terms have been used in the literature with inconsistency. Related to this is "manganese-tinted" glass (also called "solarized" glass). Container glass sherds in varying hues of amethyst excavated from historical sites were originally colourless. Prior to World War One manganese was added to glass to overcome its natural green or yellow tint and make it colourless. Over time and exposure to ultraviolet radiation, the managanese oxidizes and gives the glass a purple tint (Frank 1982:142; Jones and Sullivan 1985:13). On sherds in the collection only slightly solarized this can give the glass a slightly smokey tinge.

Manganese-tinted glass in this collection has been assigned a terminus ante quem of 1914. While this date may not hold
absolutely for all glass manufacturers, Miller and Pacey (1985:44-45) present a compelling argument for a rapid industry-wide switch to selenium at about this time. It should be noted in passing that the absence of manganese tint cannot be used as an indicator of a post-1918 date as the degree of tint is entirely dependent on the amount of ultraviolet radiation absorbed which is quite variable, especially in buried deposits.

Another decolourizer is lead, whence the term "lead crystal." It is detectable in artifacts by exposing them to ultraviolet light under which glass with a lead content will fluoresce an ice-blue colour (Jones and Sullivan 1985:12). Some testing for lead was done when a UV lamp was available during recataloguing. Lead was detected in some fine tableware pieces and also in certain lamp chimney sherds and a watch crystal specimen where presumably optimal light transmission was desirable.

Other glass colours in the collection include green, olive-green, green-yellow, blue, cobalt blue, aqua, and opaque white. Some of these have certain specific uses in identifying artifact function but none have the chronological significance of manganese tint. Some archaeologists use the Munsell Colour chart to describe the precise colours of their artifacts (particularly beads). The chart will not be used here since the precise shades of these colours are not central to this analysis.
5.2.2 The Anatomy of Glass Containers

Most of the container types mentioned in Chapters 6 to 10 are self-explanatory. Bottles and jars are more or less distinguishable by the size of their apertures relative to their body diameters.

Overall container shape is somewhat difficult but not impossible to assess when working with unmended sherds. A vessel's shape is determined, in part, by the use for which it is intended. Generally, the planview of a vessel can be ascertained, depending on the sherd being examined. There are certain limitations to the shapes vessels can assume depending on the types of manufacturing technology available to the manufacturer. Bottles with rectangular planviews, for example, were impossible to produce with any symmetry by free-blown methods. Custom design has entered into the glass industry as elsewhere in our society. For example, several containers are described in Chapter 6 which have "Art Deco" designs and are thought to date to the 1920s and 1930s when this mode was in vogue. Miller and Pacey (1985) have published an excellent work describing the effects mass production had on bottle styling and the glass industry labour force.

Certain terms specific to the glass industry require some explanation. A bottle's "finish" is the top part of the neck. On a jar this is, strictly speaking, called the "rim." However, the two vessel types have the same secondary attributes. The inside and outside shaping of the finish is tailored to the type of closure used to seal the container e.g. a threaded cap or lid, a bottle cap, a cork and so on. The term derives from the days when all bottles were free-blown on the end of a pipe and shaped by hand. Obviously, the finish could only
be shaped after the vessel was removed from the blowpipe and reheated. This was the last stage of manufacture and so the term finish came into usage (Jones and Sullivan 1985:78-79).

The "bore" of the finish refers to the internal aperture and its shaping. The outside of a finish has two parts which, in combination, determine the particular closure which can be used and some of which are useful in identifying bottle function. The "lip" refers to the area on the outside top of the finish. The "string rim" refers to a ledge or ring encircling the finish immediately below the lip. For example, some bottle finish lips are threaded. The protruding ledge below these threads is the string rim. The term "bead" is also used but it refers only to a string rim below a threaded lip (Jones and Sullivan 1985:82). The distinction is important as it functions in some patents involving threaded closures as the surface against which the lid hermetically seals the container. On jars it also acted as a thicker area which could be gripped when removing the container from a mould without distorting the finish (Jones and Sullivan 1985:82). Toulouse (1969b:394) feels the bead on canning jars dates from about 1915 onward.

The definitive work on glass closures is Lief (1965). Not all the closure styles need be discussed here; however, certain types recur throughout the discussion in Chapters 6 to 10.

Threaded lips first emerged on canning jars where the search for a hermetic seal seemed never-ending. The seminal work, by Julian Toulouse (1969b:399-411), lists over 270 different canning jar patents between John Landis Mason's 1858 patent and the 1930s. Many of these, including Mason's original patent, used threads as a means of securing the lid.
"Discontinuous threads" or "lugs" are variants in which the threading is not a continuous spiral but instead consists of segments of several spirals distributed around the side of the lip. The advantage of this design is that lids can engage any of the several thread termini. They are easier to twist onto the jar and the amount of rotation needed is generally only a quarter-turn. The first patent for this concept in jar rims was issued in 1863 (Lief 1965:13).

On bottles, threaded finishes did not appear until after automated bottle manufacture was well-established. Between 1919 and the mid-1920s shallow metal and plastic screw-caps were developed for use on bottles. The industry standardized threads on glass containers about 1924 (Lief 1965:35). Screw-caps and screw lids vary only in size. They have been used on both glass and metal containers.

One other finish style worthy of mention here is the crown closure. This is the style which, until recently, was the most common form found on soda and beer bottles. The lip form of the crown finish is bulged while its string rim is "down-tooled" - that is, flares outward towards its bottom. The original patent drawing reproduced in Lief (1965:Figure 15) shows both the finish and its metal cap identical in form to those available today. While the patent was issued in 1892, it was slow to gain acceptance. It appears to have been well-established by 1901 or shortly thereafter (Lief 1965:17-20).

Other finish types noted in Chapters 6 to 10 are addressed as required in those chapters. The major types include the alcoholic beverage and pharmaceutical closures described in Chapters 6 and 7 and a variety of canning jar sealing styles which are covered in Chapter 8.
5.2.3. Glass Manufacturing Methods and Their Dates

There are basically two classes of methods by which glass containers were manufactured in this collection: mould-blown with finishing by hand and machine-made. Free-blown glass containers (i.e. containers hand-formed at the end of a blow-pipe) are not present in this assemblage although a doll’s eye is thought to have been made with that technique.

Mould-blown, Hand-finished Containers

All mould-blown, hand-finished variants were made on the same basic principles. A bubble of glass would be blown within a hinged steel mould which was pre-formed to create the desired shape and incorporate into the container’s surface any brand names or maker’s marks which might be desired. After cooling, the hinged mould could then be opened and the vessel removed. Practical extraction of the vessel body from the mould was the primary engineering goal of the mould designs to be described presently.

The top of the neck was then reheated and the finish shaped either free-form or with specially-shaped finishing tools which, when twisted around the finish area, created a uniform profile to the finish. The latter was important on food and beverage containers with closures requiring precise tolerances (e.g. the crown finish described above).

Bottles blown in a mould and hand-finished can be identified by the vertical mould seams on the body which disappear toward the top of the neck into an irregular area where the tool worked the glass. In general, this technique was in use from the mid-nineteenth century to
the 1920s with some negligible manufacture thereafter (Jones and Sullivan 1985:28). In Canada, the last recorded mould-blown, hand-finished bottles were made in 1942 (Miller and Sullivan 1981:14).

The particular ways in which the moulds were constructed left specific traces on the vessels. The most common type of round-planned bottle found in early contexts at this site were "turn-moulded." In this variant, a mould was coated with a moist paste and the glass bubble rotated inside the mould as it was being blown. Bottles made by this method will have no vertical mould seams on the body and, of course, moulded lettering or any other form of asymmetry was impossible to achieve by this method. Streaks or broad horizontal ridges left by imperfections in the paste can be seen on turn-moulded body sherds. Turn moulding was the predominant method of manufacturing liquor bottles between the 1870s and the World War One. On other container types it persisted to the 1920s (Jones and Sullivan 1985:30-31).

Another variant, "Rickett's-moulded" containers, was found in limited quantities in the collection. This type of mould had a single cup- or tube-shaped bottom piece and two hinged top-half pieces, the dividing line being at the shoulder of the vessel. This construction style had the advantage that moulded lettering could be achieved on the base and above the shoulder. Rickett's-moulded liquor bottles appear in contexts dating between the 1820s and 1840s. By the latter date it was also being used on small bottles (e.g. pharmaceuticals). By the 1880s and 1890s it was no longer being used to make liquor bottles but persisted on small bottles into the 1920s (Jones and Sullivan 1985:29-30).
The most common form of hinged mould had two body halves which hinged together and clamped over a cup-shaped separate base part. The general dates for mould-blown, hand-finished bottles cited at the beginning apply to this style. Without the finish it is unsafe to identify these bottles as hand-finished since glass-blowing machines, to be covered next, also used cup-bottom moulds (Jones and Sullivan 1985:28).

Machine-made Containers

Conventionally in historical site reports, 1904 is used as the commencement date for machine-made glass vessel manufacture. Actually, this date applies only to one type of machine. Semi-automatic glass blowing machines, for example the Arbogast and Ashley devices, were first used in the production of jars as early as the 1880s (Jones and Sullivan 1985:38). The traces these machines left on the vessels would be indistinguishable from later fully-automatic machines.

Regardless of the particular machine used, the finish is the first part of the vessel blown along with a pre-form of the body shape. This first body moulding is called the "parison." The fully-completed finish plus its attached unfinished body is then transferred to a second mould where the body is blown to its full size and shape. There are two key characteristics that positively identify a container as being of machine-made. The first is the fact that vertical body seams continue up and over the lip of the vessel. Because the body and finish are blown in two separate operations, sometimes this seam is slightly offset just under the string rim. The second characteristic, not always present but helpful when trying to identify a body sherd, is
the presence of a "ghost seam." This appears as a faint and often wavering seam close to the main vertical body seam. A ghost seam is the imprint left by the parison mould. It does not always survive the second blowing so the absence of a ghost seam on a sherd does not necessarily mean it was not machine-made.

Vessels produced by the first successful fully-automatic machine, the Owen's machine, are marked on the base by an additional characteristic. In the centre is a circular scar with feathery edges. The machine operated by sucking up a gob of molten glass into the parison mould. The shearing of the gob away from the vat left this scar. Owen's machines date at the earliest from 1904 onward. In Canada the first Owen's machine was used in 1906. It took until about World War One to be widely-used and continued in use until the 1940s and 1950s (Jones and Sullivan 1985:38-39; Miller and Sullivan 1981:13-14).

Because glass vessel-making machines are recent there is a great deal more known about their spread throughout the industry. Comprehensive research on the subject, especially as it pertains to Canada, is to be found in Miller and Sullivan (1981). A detailed corporate and technical history of the Canadian glass industry has been recently published by Tom King (1987), formerly of the Dominion Glass Company.

5.2.4 Markings on Glass Containers

Many glass manufacturers marked their wares with their trade marks. Often they also custom-marked bottles for particular clients. This is especially true of patent medicines. In this thesis the term
"manufacturer's mark" refers to the logo or other marking of the glass manufacturer. The "producer's mark" is that of the client of the glass company whose product was put into the bottle or jar.

The many producer's marks on glass described in this thesis were generally embossed. It was the custom of the glass manufacturer to create and maintain a series of metal plates engraved with the particular mark their client wanted moulded into his glass order. A suite of standardized moulds were kept with slots into which the marked plates could be slid to create a standardized bottle with customized lettering without creating a special container mould for each client. This was true for both hand and machine-made glassware. The expansion of machines caused the decline of this practice as it proved too costly for the manufacturer to interrupt a production run to switch plates. This, among other effects of the mechanization of glass manufacture, is documented in Miller and Pacey (1985).

A convention has been adopted in this thesis to describe lettering on glass and other marked artifacts. All lettering is indicated in bold-face type and is in block capitals when the specimen was likewise marked (the usual case) or a mix of upper and lower case letters when the specimen was marked the same. Script lettering is indicated by bold italics. Other printing styles such as Gothic are noted where warranted. Incomplete lettering where it is known there was more of the mark to the left and/or the right is indicated by a hyphen at the truncated end of the mark's text. Lettering that is not actually present on the sherd because of breakage is printed in normal-face type between brackets to indicate to the reader what the complete mark would have looked like. This is done only in cases where the mark is
confidently identified. Speculation about missing or partially illegible wording is indicated inside the bracketed lettering with question marks.

Foreign manufacturers' marks are too numerous to describe here. The seminal encyclopaedia on the subject is Toulouse (1971). The major glass manufacturing firms in Canada are Dominion Glass and Consumers Glass. Their trade marks up until recently were a D within a diamond and a C within an inverted triangle. The Dominion Glass Company incorporated in 1913 which is the beginning date listed in Toulouse (1971:154-157) for their mark. Recent research has revealed that it was not until June 27, 1928 that the diamond-D logo was actually used (King 1987:248). Consumers Glass has used its logo since 1917 (King 1987:247). It has also come to light recently (King 1987:247-250; Miller and Jorgensen 1986:2-4) that Dominion Glass vessels from the 1940s onward can be dated to within two months, a degree of accuracy any archaeologist would consider satisfactory, to say the least.

Bottle manufacturers in this century developed systems of encoding the factory and date at which a vessel was made for their own quality control purposes. These consist of a series of numbers, letters and other symbols situated around the manufacturer's logo. The information needed to decode these markings to determine a vessel's date of manufacture has been available to archaeologists but has not been used extensively, probably because components of 1920s vintage and younger have not been of much interest to them. The largest glass manufacturer in the world, Owens-Illinois Inc., began using their system in 1929. The information needed to decode their markings is reported in Toulouse (1971:403-406).
In Canada, the markings used by Dominion Glass beginning in the 1940s have been documented. Consumers Glass also had a similar system but the information necessary to decode their markings has so far not reached the archaeological literature. Gerald Stevens (1967:256) reported a system of dots and bars which was used by Dominion between 1940 and 1943. Miller and Jorgensen (1986:3) report that some specimens with this style of marking have been recovered but King (1987:250) doubts the system was ever operationalized. No specimens with this sort of marking were observed in the Letendre sample.

However, several specimens were recovered marked with the system which was used between 1941 and 1953. In this system the diamond-D logo is prefixed with a letter from A to F which represented a two-month period; i.e. vessels made in January or February are marked with an A. Suffixing the Dominion logo is a digit representing the the last digit of the year in which the vessel was made. Miller and Jorgensen (1986:3-4) report this in greater detail and cite specimens from dated archaeological contexts to support this information. As they point out (1986:4), there is as yet no way to distinguish vessels made in the overlap years i.e. 1941-1943 and 1951-1953. King says this system was initiated in 1934 (1987:250). This author concludes this is a misprint and 1943 is the correct date because of the corroborating detail provided by Miller and Jorgensen. The factory in which the vessel was made from 1941 onward is indicated by a dot close to the diamond-D. Its positioning relative to the logo indicates the factory. In this sample all specimens with the dot have it located at six o'clock, indicative of the Redcliff, Alberta factory (King 1987:247; Miller and Jorgensen 1986:4).
In 1953 Dominion replaced the letter system for the month-pair with the progressive box code system now used throughout the industry. The progressive box code consists of a glyph onto which segments are added for each two-month period until the code for November-December looks like a box with a cross inside (King 1987:247; Miller and Jorgensen 1986:4). This prefixes the diamond-D and the last digit of the year of manufacture continued to suffix the logo. Neither reference reports how the overlap, when a new decade began, was handled. This author has observed that some companies today appear to be using the last two digits of the year of manufacture.

Mould numbers also appear on marked vessel bases, usually distinctly separated from the markings just described. These served as serial numbers for the manufacturer in order to control the inventory of individual moulds required to service the needs of their clients. Often these appear in solitary without the manufacturer's logo. Miller and Jorgensen (1986) have published a detailed study of the known mould numbers used by the Dominion Glass Company. This has been of help in identifying the functions of certain specimens in this collection.

5.3 Ceramics

About 3300 historical ceramic sherds were recovered. The bulk of these were identified as belonging to various items of table and serving ware. Some toiletry vessels and commercial jugs and crocks are also represented. The remainder include smoking pipes, china doll parts, doorknobs, and the like. The single prehistoric potsherd recovered is included in Chapter 10 with the other prehistoric material.
The ceramic data presented in the following chapters is included to give subsequent researchers some idea of the variety present in the collection. A more complete ceramic analysis is neither possible at this time nor pertinent to the immediate objective of this study. The ceramics at this site would make a separate study by themselves.

Very few of the specimens have been mended to one another. This precludes any specific identification of vessel form although most sherds bear sufficient attributes to enable them to be classified. Mending would reduce the error in the identification of ware types. In the Batoche field lab, a type collection of over thirty different ware types was used for comparison of any sherd recovered. The differences among some of these can be subtle. This type collection was not available to this researcher during recataloguing and there may be some errors in ware type identification; for example, between white earthenware and vitrified white earthenware. A fully satisfactory examination of wares will be more practical after more complete vessels have been assembled.

A useful aid in mending is matching particular decorative methods and motifs on individual sherds. The Batoche field lab began a type collection of sherds ordered by method of decoration. Each decorated sherd in the collection has been assigned a numerical code in the database referring to a specimen in this type collection. This collection now has over 300 separate type specimens. Of these, less than 20 have been positively linked to known patterns produced by specific manufacturers. The balance may be more appropriately thought of as type specimens of design motifs, rather than patterns.
In late 1979, this collection was overhauled and many of the types were found to duplicate one another. Unfortunately, the pattern codes in the computer database were only partially updated to reflect this. Moreover, removal cards were infrequently left as place-holders in the main collection when sherds were removed to become type collection specimens. Consequently, many of the sherds were encoded in the database but could not be located until after the recataloguing stage was over. Personnel in the Winnipeg Canadian Parks Service lab did locate these in the type collection on the author's behalf but he never actually examined them. In subsequent chapters certain sherds will be classified by decorative method but the specifics of the motif will be indicated by "Unspecified." This refers to sherds which are in the type collection but were not seen during recataloguing.

As a final note, the primary aim of this thesis is to separate the material into dated components. As such, the artifacts primarily useful for this purpose are those which were in vogue during historically well-defined periods and which were discarded relatively quickly after their use. Ceramics have been shown to have applications for this purpose; i.e. South's mean ceramic dating formula (South 1977:217-237). This formula in its essentials applies the technique of seriation to the more detailed information available about historical ceramics. It is dependent on a thorough and accurate identification of the specimens, a criterion this collection cannot meet. However, selected specimens which have been identified can offer some dates useful in ordering the stratigraphy of the site. Dates obtainable from other artifact categories, particularly among the commercial packaging, are just as good and more plentiful. In the end, the ceramics can help but will
remain items to be dated in this analysis, not primarily useful as
dating tools in themselves.

What follows is an introduction to the terms that will be used in
the ceramic sections of the following chapters. Ware types and methods
of decoration will be described here. Discussion of individual vessel
forms and their classification will be reserved for the individual
sections of the appropriate chapters.

5.3.1 Ware Types

"Fabric" is the term applied to the type of paste used to form the
vessel. There are three general classes of fabric: earthenware,
stoneware, and porcelain. Each is defined by its mixture of clays and
other materials and also by the intensity of firing the vessel is
subjected to during manufacture. All ceramics are first formed and
fired in kilns to what is called the "biscuit" stage. The constituent
particles of the fabric are fully fused at that time and any pieces
which failed to stand up to the firing are discovered at that point.
After cooling a variety of different decorative techniques can be
applied and the piece is returned to the kiln to be finished. "Ware"
refers to the combination of a ceramic's fabric and the subsequent
decorative methods applied to it. The wares present at the site will be
briefly discussed. Much of this discussion is derived from Jennifer
Hamilton's "Ceramics" section in the Prairie and Northern Region coding
manual (Canadian Parks Service n.d.).
Earthenwares

This term is applied to non-vitrified pottery; that is, pottery fired at temperatures sufficiently low that the clay and temper particles fuse but do not flow (Savage and Newman 1974:103). Hamilton says that, like bone, earthenware sticks to the tongue while other fabrics will not (Canadian Parks Service n.d.).

Among the earthenwares recovered, white earthenware is the most common and was conventionally used for all types of table- and kitchenware as well as toiletry vessels such as basins and chamber pots. Vitrified white earthenware is less porous than normal white earthenware, having experienced more intense firing, but is not sufficiently fused to be classed as stoneware (although some manufacturers refer to it as "ironstone" china). White earthenware has been in use since the 1820s while vitrified white earthenware achieved popularity somewhat later from about the 1850s onward. Both are commonly used today for tableware (Canadian Parks Service n.d.).

Earthenwares of colours other than white in the collection include yellow, buff, and red earthenwares. Each is identified by the hue of its fabric. Yellow and buff earthenware are commonly found in kitchenware such as mixing bowls and storage containers. Hamilton says a clear lead glaze applied to yellow earthenware ware gives it its golden tone on the outside but the ware itself also varies from buff to dark yellow in colour (Canadian Parks Service n.d.). Yellow earthenware was most popular in the last quarter of the nineteenth century while buff earthenware persisted somewhat longer into the early twentieth century (Canadian Parks Service n.d.). Several sherds of creamware included in Chapter 8 are most likely misidentified yellow or buff
earthenwares. True creamware was used mostly in the late 1700s and early 1800s (Canadian Parks Service n.d.) and is unlikely to be present in a site of this vintage. Red earthenware at the site is limited to teapots and flower pots. This fabric is still made today but had its greatest popularity during all of the last century (Canadian Parks Service n.d.).

Stonewares

Stonewares are fired at higher temperatures which causes the fabric particles to fuse together. The fusing prevents liquids from percolating through the fabric and so most ceramic storage and commercial containers are made of stoneware (Canadian Parks Service n.d.). The term "stoneware" derives from the fact that the fabric is a mix of clays and a fusible stone (Savage and Newman 1974:275). Stonewares can be decorated with slips which are coloured fine clays which bake into glaze-like finishes. Stoneware slips are usually dark or earth tone in colour. More usual is the application of a saltglaze. In this technique, a quantity of salt is thrown into the kiln with the pieces when the highest temperatures have been achieved. The salt vapourizes and the sodium combines with the silicates to form a glassy glaze (Savage and Newman 1974:253). This glaze has a distinctive "orange peel" surface which, in addition to the fabric, is the main criterion for identifying stonewares.

Most of the stoneware fragments are from North American salt glazed and/or slipped commercial bottles, jugs, and crocks. Exotic stonewares found in the collection are Derbyshire, Fulham/Lambeth, and Bristol Glazed Buff wares, all named after districts in England where they were
made. Derbyshire is highly vitrified and fractures almost like glass. It is grey to buff in colour and was used up to 1875 and beyond to make bottles (notably for ink), preserve jars, and jugs (Canadian Parks Service n.d.).

Fulham/Lambeth is coarser and is grey in colour. The upper part of vessels made of this stoneware is often washed with a brownish slip, giving it a mottled finish. Mugs, pitchers and storage containers were made of Fulham/Lambeth stoneware up until about the turn of the century (Canadian Parks Service n.d.).

Bristol Glazed Buff ware is coarse-textured and buff in colour. It was used to make commercial bottles and jars between about 1835 and 1900 (Canadian Parks Service n.d.).

Porcelains

Porcelains are highly vitrified ceramics and appear glassy on freshly broken surfaces. They are formed by a mixture of kaolin clays and ground feldspathic rock. Upon firing the clays retain the form of the vessel while the rock fuses into glass. These wares are translucent (Savage and Newman 1974:227). The two main sub-groups of porcelain represented in the collection are hard and soft paste porcelains. Hard paste porcelain is highly vitrified while soft paste porcelain has a more granular appearance. A third form, parian, is an unglazed porcelain which, in this collection, is represented by several china doll parts and a possible dressing table vessel (Canadian Parks Service n.d.).
5.3.2. Decorative Methods

Many different decorative methods are found on the ceramics in this collection. In general, they are mostly pertinent to the discussion of tablewares in Chapter 8. All may be applied either over or under the piece's glaze. Glazes are washes of glassy minerals applied at the last stages of ceramic manufacture which fuse into a clear, or deliberately coloured, glassy coating which renders the piece waterproof. The techniques which will be discussed can be subdivided into printing, hand-painting, relief, and glazing processes.

Printing Processes

The most common printing technique which was used to decorate the tablewares in the collection is underglaze transfer printing. In this technique a copper plate engraved with a design and inked with a metallic oxide liquid prints the design backwards onto paper. The paper is pressed while the ink is still wet onto the biscuit-fired ceramic. Subsequent glazing and firing fixes the print onto the ceramic. The technique was developed in the mid-1700s (Savage and Newman 1974:296). Overglaze printing is much the same except it is done after glazing. There are a few examples of overglaze printing in the collection. The two methods can be distinguished on a sherd by holding it to the light. An overglaze print will be seen to lie on the glaze. Often, too, the print has eroded away with time and only the outline of where it formerly lay can be seen. Both techniques are sometimes referred to indiscriminately as transfer printing.
Lithography is most commonly used today to decorate over the glaze but it can also be used beneath. The pattern is printed onto paper sheets which are then pressed onto the ceramic which has been coated with varnish. The pattern clings to the varnish while the paper backing is sponged off (Savage and Newman 1974:180). More intricate prints with gradations of hues can be achieved with this process. Hamilton says the process achieved popularity on ceramics in the 1890s (Canadian Parks Service n.d.)

Painting Processes

Ceramics since earliest times have been painted. Whether overglaze or underglaze, painted decoration is applied with a brush by hand. The brush strokes are often visible. Rim bands, a common decorative method in this collection, are usually applied by dragging the brush around a piece which is rotating on a wheel. In this collection the rim band adds decoration to otherwise plain wares or serves as a border above or below some other form of decoration.

A few examples of painting with an atomizer instead of a brush have also been recovered from the site. Aerograph, as this technique is called, is now the main method of applying glazes and gilded decoration but was used for other designs from about 1890 onward (Canadian Parks Service n.d.). This is a speedy technique but it cannot deliver strong colour and so is often confined to the paler shades of decoration (Charles 1974:10, cited in Canadian Parks Service n.d.).

Many of the tableware fragments bear identical, crude, coloured flower motifs, often in combination with rim bands. These were applied by means of stamping. A design was cut into rubber or sponge roots and
stamped in a regular pattern on the biscuit. It is not a technique found on expensive wares and was introduced in the early 1900s (Canadian Parks Service n.d.). Savage and Newman (1974:273) use this term to describe motifs physically pressed into the fabric of the ceramic. This is not the meaning of the term used here and their terminology is described in the next section as "impressing."

A few sponged specimens were recovered among the ceramics of this site. Colour is dabbed onto the piece with a sponge to create a mottled effect after firing (Savage and Newman 1974:270). This technique was most popular during the mid-nineteenth century. In Canada, ceramics decorated this way are known as "Portneuf" (Canadian Parks Service n.d.).

Gilded rim bands were found on many of the ceramic sherds, particularly around the edges of teacups. It is mostly an overglaze painting technique. The gold is suspended in mercury and left behind when the latter vapourizes during firing (Savage and Newman 1974:25, 135).

Relief Processes

Wares decorated with bas-relief designs comprise most of the examples in this class of decorative methods. These are formed by casting liquid slip-like clay in a mould. Other coloured decoration can then be applied (Savage and Newman 1974:66). The most common sherds recovered with this type of moulded relief either have a wheat or floral pattern, or the sides of the vessel have flutes or ribs. The method became popular in the mid-nineteenth century. Related to this is the technique of scalloping a vessel's edges. A scalloped rim wavers in a
regular pattern of "continuous segments of a circle" (Savage and Newman 1974:257).

The opposite of moulded relief is impressing, which Savage and Newman refer to as stamping (1974:273). A pattern is achieved with this technique by pressing a design into the fabric of the vessel and then firing. Excluding makers' marks, the lone true example of impressing is a chain and floral motif impressed into a teacup.

Rouletting is done by rolling a toothed wheel around the surface of the ceramic being decorated (Canadian Parks Service n.d.). This technique is present in this collection around the rims of some clay pipe bowls.

Glazing Techniques

Most glazes are transparent and clear. Some opaque coloured glazes (in green and black in this collection) were applied over unappealing (but cheap to produce) fabrics. Among the deliberate decorative methods using glazes in the collection is slip-banding. Slips and glazes serve identical functions and the distinction is largely academic. Slip-banding is a decoration achieved by dipping the vessel in successive contrasting-coloured slips to give a striped appearance. It was most popular between 1840 and 1860 and continued to the early twentieth century (Canadian Parks Service n.d.). Examples in this collection include blue and white striped pitcher fragments. The technique also appears on some stonewares.

A particular decorative glazing technique sometimes found on kitchenware is mocha. Bernard Charles describes this as follows: "An oxide is mixed in a solution of nicotine, made by boiling tobacco in
water. Drops of this mixture are applied into wet slip, throughout which they spread of their own accord and form a fern-like pattern" (Charles 1974:167, cited in Canadian Parks Service n.d.). The only example of this technique in the collection is several sherds done in a blue mocha.

Finally, lustre is the term applied to a metallic or iridescent finish achieved by the deposition of metallic oxides on the ceramic's surface (Canadian Parks Service n.d.; Savage and Newman 1974:183). A small number of sherds with lustre finishes were recovered.

5.4 Nails

Nails (n=24,973) are the most common type of artifact after glass in the assemblage. All known forms of nail manufacture are represented with machine-cut nails dominating those of other forms, as one might expect in a site of this time period. Somewhat unexpectedly, several exotic nail varieties are present among the wire nails, some which mimic earlier styles, and others which may have been experimental types. The overwhelming majority of nails are construction types, but nails from crates, furniture, footwear and so on are also represented.

The best source for a discussion of nail manufacturing methods and their chronology is Nelson (1968). Fontana and Greenleaf (1962:44-66) augment this discussion somewhat but can be more useful for identifying particular nail functions. They derived much of their information from period trade catalogues (for example, Kimbark 1876). Peter Priess and Gary Adams devised the "Nails" section of the coding manual (Canadian Parks Service n.d.) also using period trade catalogues and clarifying
particular details of form gleaned from research at other Parks Canada sites. This section of the manual is more explicit than are Fontana and Greenleaf with regard to nail head form. One of the particular strengths of the coding manual is that it lists the range of acceptable lengths for a given type. For example, a fencing nail and a reinforced common nail have identical head forms but have mutually exclusive ranges of length. Both Nelson (1968) and the Prairie and Northern Region manual (Canadian Parks Service n.d.) lack page numbers.

In Chapters 6 to 10 of this report, metric measurements will be used although imperial measurements are more familiar. The pennyweight system is useful when consulting contemporary catalogues and the interested reader is referred to Fontana and Greenleaf (1962:55-56) for an explanation of this system. Terms such as "sprigs" and "brads" are also encountered in the literature but are ill-defined in both the archaeological literature and the contemporary catalogues. These terms will be used here sparingly. Likewise, the difference between a nail and a spike is arbitrary and the latter term will be used sparingly.

The four types of nail manufacture in this collection are wrought, machine-cut, wire drawn (hereafter referred to as wire), and cast. Discussion of the last method will be deferred to Chapter 10.3.2, as there are so few in the collection and their identification is by no means firm. Wrought nails and machine-cut nails both are square in cross-section but only wrought nails taper from the head to the tip in all four shank planes. Evidence of uneven hand forging may also be present on wrought nails but can be overlooked when corroded. Nails were made exclusively by hand forging from earliest times to the late eighteenth century. At that time machines were developed which sheared
off tapered slivers of iron which were subsequently headed by hand.

By the 1830s machine-cut nails headed by machine were the dominant type, when they were available. It was still more practical to make nails on the spot from a supply of iron in isolated frontier locations. Also, for custom nail styles and certain applications such as clinching, hand forged nails were superior (Nelson 1968). Either of these reasons probably explain the presence of wrought nails in this collection rather than temporal considerations.

Machines for cutting nails from a continuous strand of wire were first developed in France some time before the 1850s and were introduced later to the New World. According to Fontana and Greenleaf (1962:48), wire nail price lists were standardized in the United States in 1886 and by the 1890s they had superceded machine-cut nails as the most common form. Their cheapness and the diverse varieties in which they came promoted the acceptance of wire nails, not any innate technological superiority. In fact, it has been proven by experiment that cut nails had greater holding power (Nelson 1968). Cut nails also punch their own holes while wire nails spread the wood fibres which can split the wood being nailed (P. J. Priess: personal communication). For this reason, machine cut nails were still available in some hardware stores at the time Fontana and Greenleaf wrote (1962:50).

Wire nails are distinguished by a diamond-shaped tip, often by gripping marks beneath the head, and usually by the wire stock. Head forms for wire nails are usually round in planview. In this collection the diamond tip was the most reliable indicator, especially when identifying wire nails whose shanks were other than round in cross-section. In Chapter 10.3.2 wire nails made on square, triangular,
and even pentangular stock will be described. Persistent head forms, for example roseheads, were also found on wire nails. It is assumed these might have been transitional forms from around the turn of the century, but they may also represent a florescence of the wire nailer's art, perhaps for special crates or furniture.

It is clear from the quantities of each of these types that the main construction phases of the buildings used machine-cut nails. Wire nails were subsequently used for patching and additional minor construction. Articles built with nails and imported in the later occupations may also have contained wire nails. Wrought nails were probably specialized items. For dating purposes, it is important to remember that since the buildings were demolished well into this century, stratigraphy that is seemingly "reversed" may be expected.

5.5 Tin Cans

The precise identification and dating of a tin can on stylistic grounds depends on its dimensions and the presence of a number of manufacturing attributes. For certain canned foodstuffs the goal of technological development, as it was for glass jars, was to make an air-tight container cheaply and in quantity. For other goods packaged in tin, spoilage was not a concern; convenient access to the contents and resealability were more important design factors. Compared to other commercial containers - such as glass and ceramic bottles and jars - cans are more light-weight, thus reducing shipping cost, and can endure rougher handling (Powell 1919:4). The archaeological literature on the subject is especially sparse and disjointed. Unlike the previous
material classes, there are no definitive references to consult.

5.5.1 Notes on Tin Cans and Tin Can Research

Commercial non-edible products have been packed in loose-lidded tin cans since the mid-1700s (Canadian Parks Service n.d.). Nicholas Appert (1809) is conventionally credited with determining that foodstuffs could be preserved by cooking them inside hermetically-sealed containers, in this case made of glass (Busch 1981:95-96; Fontana and Greenleaf 1962:67-68). Actually, the concept was recorded by Spallazini some fifty years earlier (American Can Company 1943:25; Chenoweth 1930:15). Packing food in non-hermetically sealed tin containers had been tried in 1796 (Busch 1981:95). Commercial production of foodstuffs sealed in tin cans began in Great Britain in 1812-14 (Busch 1981:96; Fontana and Greenleaf 1962:68) and in the United States by 1839 (Busch 1981:96; Powell 1919:5).

Material cultural research on tin cans appears to be in a nascent stage compared to that available for other artifacts. Possibly this is because more recent sites in which tin cans are prominent in the assemblage are beginning to attract more attention from researchers. As with some other artifact classes the Johnny Ward's Ranch report (Fontana and Greenleaf 1962) contains the first significant compilation of technological and chronological milestones in tin can history. As with other artifact classes, subsequent research has provided better information. Unlike other artifact classes, however, there appear to be marked differences among the interpretations researchers have made, often using the same primary sources. The work of Sharon Keen, who
researched and designed the "Metal Containers" section of the Prairie and Northern Region artifact manual (Canadian Parks Service n.d.) is the most convincing and internally consistent of the references consulted. Keen's work corroborates with more precision Earl Chapin May's definitive, if outdated, The Canning Clan (1937). Other references consulted were Rock (1987) and Busch (1981), each of which have their strengths. Also consulted were a limited number of primary references written by food processing specialists in this century, including the American Can Company (1943), Chenoweth (1930), Cruess (1924), Cruess and Christie (1922), May (1937), Powell (1919), and Rector (1925).

What follows is an introduction to the morphology and chronology of tin can construction types. All the terms introduced here and their chronological implications will be used in Chapters 6 to 10 with no further explanation there. All measurements in those chapters will be in millimetres taken to the nearest tenth. This is because units of one-sixteenth of an inch have always been the industry's convention (Canadian Parks Service n.d.; Rock 1987:91-100).

5.5.2 Materials

Tin-coated iron originated in the fourteenth to sixteenth centuries. By the 1870s steel replaced iron and in 1937 electroplating replaced dipping as the means of applying the tin. Today, "tin" cans are made of aluminum and chromium-steel combinations (Rock 1987:1-3). A useful description of lacquers and other coatings used inside tin cans to preserve freshness and prevent corrosion is to be found in Rock
(1987:23-24). However, May (1937:259-265) provides better chronological information for researchers wishing to use this attribute for dating purposes. For more modern collections these may prove quite useful in determining a can's former contents, as each coating is designed to resist certain corroding agents found in different types of foodstuffs. The coatings on the tin can fragments in this collection were not considered in this analysis.

5.5.3 Body Construction

Methods used to join the ends of tinplate sheets in a can's body vary both chronologically and functionally. A "plumb" joint is made by abutting the two ends of the tinplate sheet together and soldering the seam (Rock 1987:4). This is the weakest form of joint but would require the least amount of tinplate of all the body construction techniques. No specimens were found in this collection with this kind of seam.

Several "lapped" side seams were identified in the collection. These are formed when the two ends overlap and are soldered down, both inside the cylinder and outside. This method was adopted early in the nineteenth century and became common by the 1840s (Rock 1987:4). The first machine-assisted lapped side seams were manufactured after 1877. Keen believes it is possible that cans made with lapped side seams and double-seamed ends (see below) might be found in contexts dating between 1904 and 1907 (Canadian Parks Service n.d.). During that time span the Sanitary Can Company, makers of the first open-top tin cans, were using the Ayers lapped side-seam machine to make their tin can bodies (May 1937:91-93).
The "interlocked" side seam is essentially that found on modern-day tin cans. Whether made by hand or by machine, the tinplate sheet is first nipped off at all four corners, the two ends are creased back upon the body in opposite directions, then hooked into one another. The resulting interlocking ridge, whether inside or outside, was then hammered flat and the fissure on the opposite side soldered. The first step of nipping the corners ensures that the ends of the resultant tube have only one thickness of metal over which the ends could be more easily attached. Keen (Canadian Parks Service n.d.) identifies a particular variant of this method called a Mennen side seam and which is used mainly in talcum powder cans. The interlocking principle is still essentially the same in a Mennen seam but the hook of one edge has an omega-like cross-section. When flattened, the resulting side seam (on the inside of the can) forms a sturdier "spine" which withstands the pressure when the shoulder piece is pressed on. At least one specimen of this sort of side seam is present in the collection. The seam was thought by its inventor, Gerhard Mennen, to be more airtight and was developed for his line of baby powder between about 1890 and 1902, the year of Mennen's death (Fucini and Fucini 1985:116-118).

There is a divergence of opinion in the literature regarding the nature and chronology of the interlocked side seam. Keen's terminology is adopted here as her reasoning has greater internal consistency. Rock (1987:5-6) distinguishes a "lock side seam" from a "double seam side seam," apparently in order to associate the latter exclusively with double-seamed top and bottom attachment (see below). The two terms appear to refer to essentially identical manufacturing techniques. Likewise, Busch (1981:97) also associates interlocked side seams
exclusively with double end seams. The term "lock and lap" is sometimes used by Keen in her description of this technique. Nonetheless, she presents a convincing argument that interlocked side seams were in use prior to double-seamed tops and bottoms (Canadian Parks Service n.d.). Her terminology is adopted here to avoid Rock's confusing application of the term "double seam" to both body and end seam manufacture in tin cans.

The technique first appeared on non-food containers in Europe around 1824 and in the United States in 1859 (Rock 1987:5). It became generally used in 1869 with the advent of an automatic locking machine. The Norton brothers in the United States improved the technique in 1883 by trapping a rubber gasket inside the folds and also by fully automating the process (Canadian Parks Service n.d.; Rock 1987:5). A thin rubber sealant solution developed in 1888 by Charles Ams (Canadian Parks Service n.d.; Fontana and Greenleaf 1962:72) further improved the seal. According to Keen, these rubber gaskets, apparently, did not eliminate the need for solder but did reduce the amount of solder needed as it no longer functioned to make the can air-tight (Canadian Parks Service n.d.).

The last method of body manufacture to be discussed here is "pressing" or "drawing." With this technique, sheet metal is pressed into shape in one action, in the case of pressed metal plates and trays, or drawn through successive pressings into more hollow shapes. Examples among tin cans include the bottoms/bodies of sardine and carbonated beverage cans. The method is also used to make collapsable tubes (e.g. toothpaste and other toiletry tubes). The latter were invented rather early, possibly appearing in the United States as early as 1841. By
1870 collapsible tube-making machines were introduced to the United States from Germany (Canadian Parks Service n.d.).

According to Keen, small single-piece drawn tin can bodies appeared in the 1850s and were first used in salve or ointment containers. Fontana and Greenleaf (1962:72) claim the first hermetically-sealed drawn sardine cans were in use by 1880. Neither Keen nor Rock are able to confirm this. Citing different sources, both credit George O. Grady (Canadian Parks Service n.d.) or George O'Grady (Rock 1987:58-59) with the first attempt to solder a top onto a drawn tin can body in 1897. Keen says double-seamed tops were applied to sardine cans from 1900 onward (Canadian Parks Service n.d.). Rock (1987:59) claims a later date of 1918 for this innovation. Possibly this date applies to its general acceptance by the fish packing industry.

5.5.4 Tops and Bottoms on Hermetically-Sealed Tin Cans

Following Keen (Canadian Parks Service n.d.), the distinction between a can's method of closure and the means by which its ends are attached will be maintained here. This becomes important when analyzing can fragments as does the distinction of top and bottom. The "top end" is defined as that end which shows evidence of opening; all other can ends are "bottoms." The "closure" method is defined by the means by which the contents were introduced or removed from the can. Usually but not always, the closure is found on the top end. For resealable containers, such as lidded cans and aerosols, the closure is at the top end. For some hermetically sealed foodstuffs, however, the end at which the can was filled cannot be determined without the complete specimen
being present, including the label.

These distinctions can have significant chronological and functional implications. Double end seams which are found today on most hermetically sealed tin cans were used to form bottoms on lidded cans and metal boxes forty years before they were used in the modern-day Sanitary can. Hole-in-top or vent hole cans were always filled through the end exhibiting these closure methods. Which of these attributes are present is dependent on the types of food being packed and their cooking requirements. This, in turn, has a bearing on the date range one may assign to the can, depending on the conventions adopted by the industry in question. Some condensed milk still comes in such cans. The vent hole also happens to be on the bottom, as the can is flipped over between sealing and applying the label. Finally, in archaeological sites seam fragments may be all that is preserved from the original container. As will be seen from the discussion below, knowing what part of the can a seam came from and what sort of container it belonged to is of significant value in assigning a precise date to the artifact.

There are three end attachment methods: cap-on, single seam and double seam. Cap-on ends are discs or rectangles of sheet metal with flanged edges which cap over the end of the container and are soldered in place. Among hermetically-sealed tin cans one end may exhibit a hole through which the container is filled and is subsequently sealed off after venting. The edges are flush with the surface of the finished end unlike the other two methods where the finished end is countersunk, leaving a vertical protruding edge. Cap-on ends date back to the beginnings of tin can technology in the early nineteenth century but can still be found today on some brands of evaporated milk. At first, these
ends were cut, crimped, and soldered entirely by hand. In the United States several patents were issued for devices which mechanically stamped out and flanged can ends between 1847 and 1849 (Fontana and Greenleaf 1962:69-70; May 1937:28). Mechanical means of soldering cap-on ends and other can seams will be described in a later section.

Single-seamed ends are similar to cap-on ends, but their manufacture includes the additional step of countersinking the interior of the container end so that the edges of the body wall can be sandwiched between the outside crimp and the rest of the can end. This lends greater strength to the finished seam. This technology can be found at the bottom joints of some bucket bases. Single seams can be mistaken for double seams, but the latter are more bulbous in profile because an additional curl to the seam is the last manufacturing step (see below). Single seams on tin cans are commonly found on the bases of tin cans where air and liquid tightness is not an important consideration, such as on some talcum powder, tea, and spice tins. Keen is uncertain but feels single seams with rubber gaskets trapped in the metal folds may have been used in hermetically-sealed food tins between the late 1860s and the advent of the double seam at about the turn of the century (Canadian Parks Service n.d.). Busch (1981:97) says that single seaming was the dominant can manufacturing method in use in Europe at the time the Ams double seam was developed.

Double seams are those found on modern-day tin cans. A rubber sealant compound is first applied to the edges being joined. The seam is formed by first interlocking the end and body edges in a manner akin to that of the single seam. A final additional roll of this seam outward completes the seam. For non-hermetically sealed containers such
as metal boxes and powder canisters double-seamed bases without the sealant were in use as early as 1859 in Britain (Canadian Parks Service n.d.; Cruess 1924:28). Providing an airtight seal with this method proved to be the main stumbling block to its adoption for hermetically sealed containers. An early attempt, known as the Karges system, was first used in Europe and later introduced in the United States in 1893. This employed a rubber gasket similar to those used in glass sealer jars which was trapped between the metal folds when in place. The Karges system was a double seam method (Cruess 1924:28) but did not flourish due to the costliness and awkwardness of using the gaskets (Canadian Parks Service n.d.; Cruess 1924:28). It is presumably the Karges system which May (1937:82) refers to when he says only double-seamed cans were permitted by law to be manufactured in Germany. He implies these German cans were not only double-seamed on the ends but also used interlocked side seams.

Between 1896 and 1897 Charles Ams and Julius Brenzinger developed a liquid rubber sealant to replace the Karges gasket and also the machinery to automatically manufacture the "Sanitary" or "open top" can of today (May 1937:80-83). The latter term refers to the fact that the can is packed with one entire end absent. This had the benefit of permitting whole fruits and vegetables to be packed without laceration from the edges of the narrower hole-in-top apertures (Cruess 1924:28). In 1904 the Sanitary Can Company was formed and the food packing industry in California was the first to adopt this new technology. In 1908 the American Can Company took control of the Sanitary Can Company and its patents. By 1911 the Sanitary can was in wide-spread use by industry in the western United States (Rock 1987:22). Universal
acceptance lagged because of the monopoly on the technology held by the American Can Company (Canadian Parks Service n.d.; Fontana and Greenleaf 1962:73). Keen says this monopoly was broken in 1916 (Canadian Parks Service n.d.). The American Can Company themselves (1943:32) of course make no allusion to this monopoly, but state that the industrial use of the Sanitary can became "practically universal" between 1918 and 1920. May (1937:95) cites 1922 as the year open top cans dominated the industry. Rock (1987:14) says British processors lagged behind their American counterparts, building the first plant to manufacture Sanitary cans in 1930.

No attention appears to have been paid in the literature to the cross-sectional form of can ends. The modern-day can top is not flat but is shaped with concentric ripples. All early illustrations of open top ends seem to exhibit this (see American Can Company 1943:48; Cruess 1924:Figures 4 and 5; Powell 1919:Figure 33) but it is not explained. It is tentatively inferred by this author that these ripple-like crinkles are there to provide some built-in slack when the double seaming process is performed. Presumably, there is some stretching of the metal end when the two curling steps are applied to the rim. Keen says only that these crinkles mean a mechanical stamping process was used to form the end. She is not clear whether these can be found on cap-on bottoms (Canadian Parks Service n.d.).

The same reasoning does explain the sequence of corrugations found on the bodies of modern-day cans (Sharon Keen:personal communication). Corrugations such as these make the can's body deform less readily when pressed from the sides. It is possibly significant that none of the double-seamed can bodies illustrated in the references cited above show
these body corrugations. Perhaps they are innovations developed since World War Two. It is not clear whether body corrugations were used in hole-in-top can bodies.

5.5.5 Soldering

Early soldered side and end joints were thick, lumpy and applied by hand. Between 1876 and 1883 soldering machinery was developed which dipped or rolled the seams in standing liquid solder baths (Rock 1987:8). In the early 1870s several patents were issued to E. M. Lang for pre-cast solder rings which could fit between the cap-on ends and bodies of cans and flow upon heating (Canadian Parks Service n.d.). It is believed most of the cap-on ends in this collection were likely manufactured with this technique as the solder around the end joints is generally not visible. In 1887 and 1902 patents were taken out for solder rings, or "hems," built into the edges of the caps used to seal hole-in-top cans (Canadian Parks Service n.d.). The canning manuals written early in this century strongly recommended their use in home canning (Chenoweth 1930:52; Powell 1919:51). Today, a thin swabbing of solder is applied by roller to the outside of Sanitary can interlocked side seams but is not used in the double-seamed ends (Canadian Parks Service n.d.).

5.5.6 Hermetic Tin Can Closures

Tin can closures can be broadly classified as hermetic or resealable in design. The major hermetic seals alluded to in the
foregoing discussion are hole-in-top/vent hole and open top ("Sanitary")
seals. This category also includes crown caps which were not only used
on glass bottles but sealed some beer cans as well. The keystrip is a
special means of opening meat, seafood, and coffee cans sealed by either
hole-in-top or open top methods.

Evacuation and Sterilization

The two key factors in all food canning, regardless of technology
used, are evacuation and sterilization. A vacuum can be achieved by
heating the filled container to a temperature at which water vapour
expands inside and expels the air through an aperture left for this
purpose (i.e. either a hole, the entire top of an open top can, or a
loosened glass sealer jar lid). The aperture is sealed prior to
cooling. Upon cooling the vapour condenses, leaving a vacuum which
inhibits the growth of aerobic organisms such as molds (Cruess 1924:28).
This method was used from the beginnings of canning. Actual "vacuum
packing" - that is, sealing the can under hypobaric conditions - appears
to have developed in the early 1920s. By 1924 dried prunes, coffee and
salmon were being commercially packed in this manner (Cruess 1924:191).
The process was also called "Geraldizing" after its inventor, F.F.
Fitzgerald of the American Can Company Research Department from 1921 to
1942 (American Can Company 1943:73). Several specimens in the
collection are embossed with VACUUM PACKED which probably refer
specifically to this process. Related to vacuum packing is the
exhaustion of air and its replacement by inert gases. This technique
appears to have been developed sometime prior to 1924 and has the
advantage that the gas does not induce corrosion of the metal and the
can is less prone to leak because it is at atmospheric pressure (Cruess 1924:191; Rector 1925:177-178).

Sterilization kills anaerobic bacteria and this can be done effectively only by cooking in the can or jar. Some foods such as stews and some vegetables were pre-cooked but this was for purposes of getting them into the can. These foodstuffs still had to be re-sterilized once inside (Alan McCurdy: personal communication). Early canned foodstuffs were sterilized by immersing the container in boiling water. In 1861 it was found that the temperature of the boiling water could be raised above 100 degrees Celsius by the addition of calcium chloride. Higher temperatures yet were achieved after 1874 when the pressurized steam retort was introduced. All these advances, in addition to sterilizing more thoroughly, reduced the amount of time and energy required to sterilize canned foods (American Can Company 1943:31; Cruess 1924:29).

Hole-in-top Closures

The terminology and chronology related to these closure methods have engendered the greatest variance in the literature. As mentioned earlier, Keen's typology (Canadian Parks Service n.d.) is favoured as it is more parsimonious than Rock's (1987:12-13, 18-21). In Keen's scheme, all tin cans which were sealed in their final processing stages by soldering shut an aperture of lesser diameter than that of the can itself are in the class of hole-in-top closures. The various forms of this depend mostly on the cooking requirements of the foods involved rather than on any chronological grounds. Rock's classification limits the term "hole-in-top" only to those cans sealed with a soldered cap without a vent hole (see below). He subdivides further by assigning
terms to related closures such as vent holes, hole-in-cap, and hole in top (hole and cap). For Rock, each has a particular chronological significance, but it would seem, by comparing with Keen, that these distinctions are specious.

All researchers agree that, in the main, hole-in-top closure technology is associated with cap-on end can manufacture. The technique rapidly died out in the commercial industry with the advent of double-seamed can end construction (i.e. open top closure methods). There may have been a persistence of this technique in home canning as it was more manageable to use and cheaper than were sanitary cans (Chenoweth 1930:18; Powell 1919:49-50). Some brands of condensed and evaporated milk cans today still exhibit the hole-in-top closure method on cap-on end cans (Busch 1981:98). To further complicate matters, Fontana and Greenleaf reported that, at the time of writing (1962:75), Borden brand condensed milk used a can with double end seams but sealed with a soldered cap.

Following Keen (Canadian Parks Service n.d.), the three variants of hole-in-top closures employed vent holes, filler holes with soldered caps, and filler holes with soldered caps having vent holes. Vent hole cans have identical cap-on tops and bottoms except the top centre has a small hole no larger than 3 mm sealed with a drop of solder. Rock (1987:18) also calls these holes "match stick filler" holes because their diameter is about that of a match stick and for products such as evaporated milk the contents were introduced through this hole.

Where Keen and Rock differ is that the latter says they were introduced around 1900 and were used most commonly for evaporated milk (Rock 1987:21). Keen cites several quotations which describe canning
processes from the earliest periods in canning history which would have used vent holes. Food products such as meats and seafoods were put in open cans, the cap-on ends soldered in place, and then the cooking took place. The cans were cooked either with open vent holes or were cooked completely sealed and then punctured to release the steam inside. This puncture was subsequently resealed. Her sources describe these methods as being in use from 1813 onward (Canadian Parks Service n.d.). Either would result in a can with a single vent hole in the top.

Hole-in-top capped closures and hole-in-top caps with vent holes are variants of the same notion. For both, the cap-on end has a pre-cut hole between 25 and 51 mm in diameter in the centre. This top was soldered on to the empty can. Foods were introduced to the can through this aperture. A small cap was soldered over the hole. This cap might have optionally a smaller vent hole in its centre which could be closed with a drop of solder before cooling (this latter step was called "tipping"). May (1937:28) says these procedures were in use from the beginnings of canning. The choice of cap to use (i.e. with or without a vent hole) depended on the cooking requirements of the food. An excellent sequence of photographs showing the sealing and tipping steps is to be found in Cruess and Christie (1922:Figure 4).

Variants of this technology are the McDonald and Gebee seals. Examples of both are in the collection. Both are hole-in-top seals but are not soldered; rather, they are essentially sheet metal bungs pressed into holes between 10 and 19 mm in diameter. The McDonald cap has a wide flange which rests flat against the surface of the cap-on top when in place. The Gebee cap fits over a burr projecting from the edge of the hole and the cap is crimped over it in the same way as a single seam
(see above) is formed. Neither Keen (Canadian Parks Service n.d.) nor Rock mention any dates for these sorts of closures but both say they were not perfect hermetic seals. The latter claims that they were commonly found on condensed milk cans (Rock 1987:13).

Open Top and Crown Closures

The description and chronology of open top closures have been covered earlier in the discussion of Sanitary cans. Likewise, crown caps have been discussed in the section on glass manufacture earlier in this chapter. While crown caps are normally associated with glass carbonated beverage bottles, they were also used on some beer cans in the United States. In 1935 Schlitz cone-top beer cans sealed with crown caps were introduced (Rock 1987:9) and were used until the 1950s (according to Busch '1981:1018 and Keen 'Canadian Parks Service n.d.8) or the 1970s (according to Rock 1987:9).

Keystrips

Technically, these are a means of opening some hermetically sealed containers although later some keystrip coffee cans were designed to be resealable as slip-lids after breaking the seal. They are made by including a tab during the body stamping operation which protrudes from the finished side seam. Parallel grooves are scored around the side of the can which bracket this tab. A slotted key is finally soldered to the bottom of the container which the consumer can break off and use to tear the scored strip by winding. Corned beef and coffee cans most frequently employ this mode of construction (although such unlikely products as tennis balls also come in keystrip cans). The keystrip can
was filled using the usual procedures of hole-in-top or open top technologies. Related technologies include pull-tab drink containers and pull-top sardine cans but none were recovered in this collection.

The idea was introduced in 1866 and by 1890 was in use on meat cans (Canadian Parks Service n.d.; Rock 1987:107). May (1937:221) credits Edwin Norton with inventing the keystrip in 1895. May is probably incorrect to apply this date to the keystrip per se but 1895 may be its first use in tapered corned beef tins. Fontana and Greenleaf (1962:71-72) and Rock (1987:58-59) are not specific but imply the technology was in use on sardine cans around the 1870s onward. The Hills Brothers Company was the first to introduce vacuum-packed coffee in 1900 (Fucini and Fucini 1985:207). Between 1903 and the 1920s the keystrip was adopted as was a technique of permitting the separated lid to become a slip-lid. By the 1930s most coffee cans were manufactured this way (Canadian Parks Service n.d.; Rock 1987:107). This slip-lid was secured by means of an internal collar attached to the inside raw edge. Several fragments of these types of collars were recovered from the site but the example found still attached was on a tobacco tin.

5.5.7 Resealable Closures

Closures designed to reclose a container include screw caps and lids, slip-lids (or external friction lids), plug-in lids (or internal friction lids), hinged lids, and sprinkler assemblies. Aerosol assemblies would also fall into this category but will not be discussed as none were identified in the collection. There are instances of overlap between hermetic and resealable closures. Some screw caps had
linings or membrane seals which permitted the contents to be delivered airtight or semi-airtight to the consumer.

Screw Caps and Lids

These closures have been used to seal both metal and glass containers. Tin cans containing gunpowder or kerosene were sealed with screw caps in the 1860s and, later in the 1890s, pepper, tea, and spices were also packaged in screw top containers (Rock 1987:17). A related innovation, the Amerseal lid which appeared in 1906, engages oblique lugs on the container top with four opposing inner projections. All glass container screw caps and lids were standardized about 1924 (Lief 1965:22). It is not known if this was also true of the tin can industry.

Slip-lids or External Friction Lids

Either term may be found in the literature. These are lids which slide on and off the container, capping over its outside edge. Both Keen (Canadian Parks Service n.d.) and Rock (1987:10) agree these containers were available as early as about 1750 but spread in popularity a century later when lithography and other decorative printing techniques became available. All sources state that these techniques enabled manufacturers to put more decoration or advertising information on these lids which increased the demand for them. Busch (1981:99) ascribes a somewhat later date of about the 1860s to lithography on tin cans, at least in the United States, while May (1937:404) tentatively suggests the technique was imported from Germany about 1880.
Plug-in or Internal Friction Lids

These are found on containers such as paint and cocoa. The lid has a broad flange around the edge which permits it to be pried out of a snug hole, either round or rounded-rectangular in shape, in the top of the can. Judging from the specimens recovered here, the form of the container top appears to take on one of two possibilities. The modern familiar form has a slight shoulder roughly 6 mm between the top edge and the edge of the plug-in aperture. Keen is uncertain of the chronology but believes this style coincides with the florescence of double-seamed tops. The stout outer double seam provides a sturdy fulcrum to enable the lid to be levered out of its hole. She says that paint appeared in this style of container in 1906 and was later used for honey, jams and peanut butter in the 1920s and 1930s (Canadian Parks Service n.d.).

Another form which could possibly take a plug-in lid has no shoulder. The top edge of the container is rolled outward. Nothing is known in the literature about this but several specimens of small, probably commercial pails were found with this sort of top. They are possibly lard pails.

Hinged Lids

Few hinged lids were recovered in the assemblage. They are slip-lids attached to one side by a hinge. The hinge is formed by cutting and interlocking segments of the lid lip and body top edge with a small rod. Rock (1987:11) says these were in use as early as the 1870s and became popular around 1900.
Sprinkler Closures

The basic principle of these is to permit the contents (usually powdered goods) to be sprinkled through perforations in the top of the can. The means of subsequently sealing the can vary from slip-lids, which cap over the sprinkler top, to sliding plates locked in place on the can top by folded tabs. The latter were frequently found on spice tins.

Gerhard Mennen is credited with developing the sprinkler top for his line of talcum powder between 1889 and 1892 (Fucini and Fucini 1985:116-118). He also pioneered the technique of nesting two perforated caps within one another so that the top could be opened by rotating the outer cap until the holes lined up. Fucini and Fucini do not say when he developed this but it was prior to 1902, the year of his death. The sliding plate on spice tins may have come later but no information was found in the literature to confirm this.
CHAPTER 6

THE MATERIAL CULTURE: PERSONAL ARTICLES AND PERSONAL CARE ARTIFACTS

The artifacts described in this chapter comprise all those articles and substances required by the individual for his or her personal well-being. These include articles of clothing (Section 6.1) and personal effects (Section 6.2), religious artifacts being among the latter. Tools and substances required for grooming (Section 6.3) and health (Section 6.4) are also included. Lastly, artifacts of the individual needs of infants are described (Section 6.5). Food, drink, and leisure artifacts are also important to an individual's well-being but discussion of them is reserved for Chapter 7. The breakdown of the artifact quantities covered in this chapter is provided in Table 6.1.

6.1 Clothing Parts and Footwear Artifacts

6.1.1 Clothing Scraps and Support Hardware

Cloth Scraps  n=38

Most of these cannot be described as they have been sent away for conservation treatment. Presumably some information about the parts of the clothing that these scraps came from will also emerge from this procedure. Five scraps of a dark green herring-bone weave were found in several parts of the site (IN 99-6912, 99-7483, and 99-9020). These may have been stained with oil; if so, it may have aided their preservation.
<table>
<thead>
<tr>
<th>ARTIFACT CLASS</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clothing Parts and Footwear Artifacts n=987</td>
<td></td>
</tr>
<tr>
<td>Clothing Scraps and Support Hardware</td>
<td>113</td>
</tr>
<tr>
<td>Clothing Fasteners</td>
<td>659</td>
</tr>
<tr>
<td>Footwear and Footwear Parts</td>
<td>215</td>
</tr>
<tr>
<td>Personal Effects n=165</td>
<td></td>
</tr>
<tr>
<td>Artifacts of Adornment</td>
<td>117</td>
</tr>
<tr>
<td>Religious Accoutrements</td>
<td>6</td>
</tr>
<tr>
<td>Pocket Gear</td>
<td>18</td>
</tr>
<tr>
<td>Accessories</td>
<td>27</td>
</tr>
<tr>
<td>Toiletry and Grooming Artifacts n=1,060</td>
<td></td>
</tr>
<tr>
<td>Artifacts Related to Ablutions</td>
<td>25</td>
</tr>
<tr>
<td>Artifacts Related to Dressing</td>
<td>47</td>
</tr>
<tr>
<td>Toiletry Product Containers</td>
<td>988</td>
</tr>
<tr>
<td>Medicine and Health Care Artifacts n=414</td>
<td></td>
</tr>
<tr>
<td>Patent Medicines</td>
<td>381</td>
</tr>
<tr>
<td>Other Medicine Containers</td>
<td>6</td>
</tr>
<tr>
<td>Other Health-Related Paraphernalia</td>
<td>27</td>
</tr>
<tr>
<td>Infant Care n=14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td>2,643</td>
</tr>
</tbody>
</table>
They may have belonged to a pair of pants. Other scraps are of a lighter, perhaps shirt-grade material. A mass of black fibres or filaments (IN 99-6502) may be a remnant of fur which could be from either clothing or butchering. A small length of piping, perhaps velvet (IN 99-801012), was also recovered.

Rubberized Clothing  \( n=37 \)

The most complete mass (\( n=26 \)) of this material (IN 99-10330) consists of rubber with a folded patterned edge and the imprint of cloth on the back. This material is most probably from either a raincoat sleeve or a gum boot top. The other eleven fragments consist likewise of cloth bonded to rubber.

Leather Clothing  \( n=8 \)

All but one of these are of thin leather. It is possible they might be parts of footwear but more likely they are remnants of leather gloves. The remaining specimen (IN 99-2111) consists of a wide strip of leather with parallel slots cut into one edge. A decorative leather fringe is inferred for this artifact.

Clothing Support Parts  \( n=30 \)

Twenty-nine clothing stays were recognized in the collection although possibly more may be found among the unidentified strips of sheet metal discussed in Chapter 10. Stays are springy strips of metal for bracing collars or corsets. Many are japanned. Some in the collection have separate grey/white metal tips to prevent the strip piercing the fabric. Their widths mostly range from 3 to 5 mm but some
are up to 12 mm wide. Many are very long and so are probably corset stays. Comparing these widths with other sheet metal strips in the collection, it is possible a small number of these could be misidentified egg beater blades or ruler strips.

A single isolated protector tip (IN 08-801140) possibly from a corset stay was identified by comparison to other tips still attached to the stays mentioned above. Its head is shaped somewhat like that of a modern-day safety pin. The stay would have been 8 to 9 mm wide and possibly as much as 2 mm thick. As such, this could also be a cap over a thong or a bootlace end.

6.1.2 Clothing Fasteners

Clothing Buttons n=575

A breakdown of buttons by material and diagnostic features may be found in Table 6.2. There are three broad classes of materials represented: glass (n=246), metal (n=205), and miscellaneous materials (n=124).

Glass buttons have been analyzed in more detail than those of other materials. The following classification is based on specimen morphology and technique of manufacture. The categories loosely follow the terminology agreed upon by collectors. At the broadest level they are separated by their attachment to clothing: by means of holes or wire loops. The holed buttons further break down into three general shapes among which several means of decoration are noted. The wire loop-backed glass buttons are subdivided by the way in which the loop is attached to the glass. Table 6.2 lists the numbers of specimens assigned to each
Table 6.2 Clothing button types of various materials.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Glass n=246</strong></td>
<td></td>
</tr>
<tr>
<td>Holed Buttons (&quot;Small Chinas&quot;)</td>
<td></td>
</tr>
<tr>
<td>Class I (&quot;Inkwell&quot;) plain</td>
<td>166</td>
</tr>
<tr>
<td>decorated (&quot;Calico&quot;, &quot;Ringer&quot;)</td>
<td>6</td>
</tr>
<tr>
<td>Class II (&quot;Dish, Saucer&quot;?) plain</td>
<td>22</td>
</tr>
<tr>
<td>decorated (&quot;Calico&quot;)</td>
<td>14</td>
</tr>
<tr>
<td>Class III (&quot;Piecrust&quot;) plain</td>
<td>9</td>
</tr>
<tr>
<td>decorated</td>
<td>3</td>
</tr>
<tr>
<td>miscellaneous holed buttons, plain</td>
<td>4</td>
</tr>
<tr>
<td>Wire-Eye Buttons (imitation jet)</td>
<td></td>
</tr>
<tr>
<td>Class IV with metal plate</td>
<td>13</td>
</tr>
<tr>
<td>Class V without metal plate</td>
<td>9</td>
</tr>
<tr>
<td><strong>2. Metal n=205</strong></td>
<td></td>
</tr>
<tr>
<td>Ferrous, Plain</td>
<td></td>
</tr>
<tr>
<td>Marked Buttons:</td>
<td>131</td>
</tr>
<tr>
<td>BEST SOLID EYESLET</td>
<td>13</td>
</tr>
<tr>
<td>other BEST marks</td>
<td>8</td>
</tr>
<tr>
<td>DOUBLE RING EDGE in Gothic Script</td>
<td>6</td>
</tr>
<tr>
<td>SUPERIOR QUALITY</td>
<td>2</td>
</tr>
<tr>
<td>DERBY</td>
<td>2</td>
</tr>
<tr>
<td>J.N &amp; Co and PATENT</td>
<td>2</td>
</tr>
<tr>
<td>HMS</td>
<td>1</td>
</tr>
<tr>
<td>T.Y &amp; V and PARIS. BREVETE S.G.D.G.</td>
<td>1</td>
</tr>
<tr>
<td>Decorated Buttons</td>
<td></td>
</tr>
<tr>
<td>stars around rim</td>
<td>4</td>
</tr>
<tr>
<td>anchor and chain motif</td>
<td>4</td>
</tr>
<tr>
<td>others</td>
<td>6</td>
</tr>
<tr>
<td>Military Buttons</td>
<td></td>
</tr>
<tr>
<td>crown and Canada in script</td>
<td>1</td>
</tr>
<tr>
<td>N.W.M.P.: Maynard, Harris, and Grice</td>
<td>1</td>
</tr>
<tr>
<td>N.W.M.P.: Smith and Wright</td>
<td>3</td>
</tr>
<tr>
<td>N.W.M.P.: Doulligibron, Halifax</td>
<td>1</td>
</tr>
<tr>
<td>N.W.M.P.: manufacturer unknown</td>
<td>3</td>
</tr>
<tr>
<td>R.N.W.M.P.: Smith and Wright</td>
<td>1</td>
</tr>
<tr>
<td>Miscellaneous Metal Button Styles</td>
<td></td>
</tr>
<tr>
<td>plain brass military</td>
<td>1</td>
</tr>
<tr>
<td>bright red metal button</td>
<td>1</td>
</tr>
<tr>
<td>domed tops</td>
<td>6</td>
</tr>
<tr>
<td>composite metal buttons</td>
<td>7</td>
</tr>
<tr>
<td><strong>3. Miscellaneous Materials n=124</strong></td>
<td></td>
</tr>
<tr>
<td>Bone</td>
<td>40</td>
</tr>
<tr>
<td>Shell</td>
<td>63</td>
</tr>
<tr>
<td>Plastic</td>
<td>6</td>
</tr>
<tr>
<td>Composite - Cloth-Covered Metal</td>
<td>14</td>
</tr>
<tr>
<td>Unknown Material</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL</strong>: 575</td>
<td></td>
</tr>
</tbody>
</table>
type.

The holed buttons are known collectively to button enthusiasts as "Small Chinas" because of their opaque, white, porcelain-like material (Luscomb 1967:183). The varieties of these types are illustrated in Figure 6.1. Some, particularly the individual styles in the miscellaneous category of Table 6.2, may actually be opaque white glass. Most of the specimens in the other three types were probably made by the Prosser process, however. In this process, pellets of clay, flint, and feldspar are tightly compressed and then fired. The method was invented in 1840 to overcome problems of differential shrinkage to which true ceramic buttons were prone. Technically, then, they are actually ceramics, not glass, although comparative analysis of glass and Prosser button material has shown them to be essentially the same (Davis 1984:25). Although this was not undertaken in this analysis, buttons of a Prosser manufacture can be distinguished from those made of true opaque white glass by a stippled "orange peel" texture on the back surrounding the holes (Davis 1984:26).

Among the holed glass buttons, Classes I, II, and III all have four holes, are lenticular in cross-section, and are concave on top. Class I buttons (Figure 6.1a) are known to collectors as "Inkwells" (Chamberlin and Miner 1967:222-223; Brown 1968:24-25). Class II is much the same as Class I but is angular at all surface intersections and the hole sizes relative to the overall button diameter are distinctly large in Class II specimens (Figure 6.1b). These may be the types collectors call "Dishes" or "Saucers" (Luscomb 1967:31) but this is unclear. Class III is known as a "Piecrust" (Chamberlin and Miner 1967:222-223; Luscomb 1967:152) because of the moulded pattern of ridges which radiate out
Figure 6.1. Opaque white glass buttons. Class I or "Inkwell" (a), Class II or "Dish" (b), Class III or "Piecrust" (c), miscellaneous specimens (d-j). Drawing by K. Graham-Stevenson, Canadian Parks Service.
from the centre, terminating just before the edge (Figure 6.1c). Some of the one-of-a-kind opaque white glass specimens are illustrated in Figure 6.1d-j.

Most of the 220 "Small Chinas" are plain but 20 were additionally decorated using techniques conventionally applied to ceramics. Colour styles include solid colouring, banding, and overglaze printing. These methods may be found on any of the types described above and so were not used as criteria for the classification. The five solid-coloured specimens are glazed completely black or chocolate brown. Nine specimens (some of which cross-mend) are rimmed around the edges with coloured bands, the most common of which was a sky blue. Other band colours are green, russet, burgundy, and dark brown. Three buttons have regular patterns of small red or brown flowers and two exhibit green speckled patterns. These are known as "Calicos" among collectors and were manufactured using an overglaze transfer-print process. They take their name from the fabric and, although these buttons are no longer attached to fabric, the button decorations may reflect the patterns of the clothes to which they were once attached (Luscomb 1967:31).

By contrast, the wire loop imitation jet buttons are designed to fasten garments of thicker material such as coats or some dresses. If the Hudson's Bay Company was the source of the black glass buttons then they would probably have reached Batoche no earlier than 1880. Davis reports (1984:24) that dress buttons of this kind do not appear in HBC inventories prior to that date.

Most of these buttons (Class IV - see Table 6.2) have a small brass washer between the glass and the wire loop, a method that was patented in 1868. The loop was soldered to the washer and then inserted with
cement into a pre-moulded cavity in the button back. The cement fused the two parts together when baked (Davis 1984:23). The nine buttons of Class V seem to have had their shanks embedded directly in the glass while it was still plastic. This was the method used prior the washer and cement method although the latter need not have supplanted the former.

All these buttons were made of patterned pressed black glass. Many of the specimens were coated with a lustre in the interior of the recessed designs. Of these, the most common (n=6) show figures of large and small leaping reindeer (Figure 6.2d). Perhaps this was a Christmas gift, possibly for a child, either in the form of a piece of clothing or as a set in and of itself. Other motifs include linear, floral, and plain designs and are illustrated in Figure 6.2a-g. One specimen (IN 02-20613) was pressed with a leaf pattern and has a small socket where perhaps a rhinestone was lodged (Figure 6.2e).

Few detailed measurements or notes were taken of the plain metal buttons in the collection (n=131). Many are marked (see Table 6.2) but little chronological information for the specific brands or line names has yet been found. The specimen from Paris (IN 08-800451) is large enough to have been from a coat or dress. It measures 24 mm in diameter.

Only one of the military buttons is possibly from the uniform of a member of the North-West Field Force. It is simply stamped with a crown and the word Canada in script (IN 08-4524; Figure 6.2i). The rest of the military buttons are from Mounted Police uniforms. All but one are embossed with a crown over a banner with the word CANADA inside. Below this is a large bison's head facing forward and N.W.M.P. below
Figure 6.2. Buttons of miscellaneous materials. Imitation jet buttons (a-g), metal military buttons (h-j), bone button (k), shell button (l), mother-of-pearl button (m).
The single exception to this (IN 08-13671) has instead on the bottom R.N.W.M.P. (Figure 6.2j). This artifact dates to between 1904 and 1920, the period during which the Mounted Police were officially called the Royal North-West Mounted Police (Phillips and Klancher 1982:1). The back of this button is stamped with the manufacturer's name: SMITH & WRIGHT LTD. and B'HAM (presumably Birmingham, England). Other manufacturers' names are stamped on the backs of most of the N.W.M.P. buttons. These are listed in Table 6.2.

The entry in Table 6.2 for composite metal buttons is not to be confused with the entry for buttons of composite materials later on in that table. Composite metal buttons are all-metal buttons fabricated with two or three pieces, depending on the construction style. All have an optionally decorated domed cap which is crimped over a backing. The attachment eye is either a loop cut into the metal of the backing or a separate wire eye which swivels in a hole in the backing.

The 40 bone buttons were originally mistaken for wood. They have a brown appearance with a grain resembling wood. It is not clear whether the colouration was an original stain or a transformation due to burial. All have a raised ring around the edge (Figure 6.2k). Bone buttons were carved from cattle bones on a device somewhat like a combination of drill press and lathe. The Hudson's Bay Company inventories offered bone buttons from about 1820 to the 1880s. They were sewn to non-formal garments of all types (Davis 1984:20-21).

Small shell buttons, 61 in number (an example is illustrated in Figure 6.2l), and a large dark mother-of-pearl specimen (IN 99-1911; Figure 6.2m) comprise the buttons made of this material. Three have been burned. Shell buttons were manufactured by hand during the
eighteenth and nineteenth centuries and by machines similar to those employed for bone buttons from about the 1820s onward. They were listed in Hudson's Bay Company inventories for use on jackets, shirts, and braces from about 1826 to 1882. As exotic varieties of dark South Seas shell became available and popular the Company offered buttons of this material beginning in 1861 (Davis 1984:22). All but the large dark specimen are of a size suggesting they came from shirts, blouses or undergarments. One specimen (IN 99-9472) has a cloth imprint on its surface. Davis (1984:22) makes no mention of deliberately cloth-covered buttons, so it is assumed the imprint was acquired from the garment to which it was sewn after deposition in the ground.

Thirteen metal button tops were recovered which likewise bear the imprint of fabric on their top surfaces. These are used on coats and vests and have existed as a style since the early 1800s. The Hudson's Bay Company inventories list "silk" and "vest" buttons from 1834 onward. Those of the nineteenth century at first had metal loop shanks but, because of their propensity to rust and stain the garment, they were replaced in 1825 by a design in which a tuft of cloth protruding from the back was used as the means of attachment (Davis 1984:18).

Six plastic buttons are also in the collection. The types include two large black Bakelite coat buttons, a small pink shirt or blouse button, and an ivory-coloured specimen constructed of two separate halves akin to the manner in which some metal buttons are put together. Finally, two buttons are of uncertain material which might be burned Bakelite. They are somewhat chalky in texture.
Clothing Snaps  n=6

Two metal female halves from clothing snaps were recovered. They resemble buttons but the undersides have springy composite metal assemblies to close over a male snap end. One specimen (IN 08-4081) has a letter marked on each of the four "petals" of this assembly. These letters are U.C.F. over C.

A metal cap 10 mm in diameter with two small, staple-like prongs set in mastic at the back (IN 99-800180) is assumed to be clothing-related in some fashion as is another specimen with a serrated edge (IN 99-7872). A loose white plastic cap (IN 99-8140) is probably the cover of a female half of a clothing snap.

Clothing Hook-eyes  n=17

These are small loops and hooks which fasten dress tops, bras, and maybe corsets. The loop ends are omega-shaped with each foot curled into a loop to facilitate sewing onto the garment. The hook ends are made from a single piece of wire, again with each end bent into a loop. Fifteen small-size specimens are in the inventory. The eyes and hooks were not differentiated in the database.

Two additional specimens (IN 08-8290 and 08-18680), both hook ends, were constructed as above but are very large (approximately 20 mm long). Perhaps these were for fastening coats or cloaks.

Zip-Fastener Handles  n=2

Two probable "zipper" toggles were recovered. One (IN 08-5024) is marked LIGH(TNING?) with a lightning bolt. Its obverse side is stamped with digits which are manufacturer's numbers of some sort. The other
(IN 08-18613) is stamped in a hollow diamond shape. It is unlikely but possible this is an alarm clock wind-up or time setting key.

Zip-fasteners were invented in 1893 and progressed through several unsuccessful design stages. The familiar style of today was first used in substantial quantities by the United States Army during World War One. They did not appear on the civilian market until 1920. B.F. Goodrich is credited with coining the term "zipper" when that company introduced the device on galoshes in 1923 (Panati 1987: 316-317).

Suspender and Coverall Parts  n=35

Eleven are button-like metal toggles at one time attached to either coverall bibs or blue jean front fasteners. They were attached by rivetting through the cloth. One specimen (IN 08-801270) is marked BOY'S EATON'S OVERALLS. The Eaton's Company catalogue business evolved out of a flyer Timothy Eaton distributed at the 1884 Toronto Industrial Exhibition. In the early 1890s, Eaton's began manufacturing its own line of clothing (Bliss 1987: 289-290). The last decade of the nineteenth century, therefore, is taken as the earliest date this coverall toggle could have been deposited at Batoche.

Two coverall or suspender strap garters are also in the collection. These are the wire attachments at the end of straps with loops on one end to hook around coverall toggles. Judging by the spacing in the wire on one specimen (IN 08-2390), its parent strap was 25 mm wide and hooked around a toggle with a 13 mm wide shank.

An adjuster for either coverall straps or suspenders is the function assigned to a serrated tin metal item (IN 08-16490). It is of the style with teeth which bite into the fabric when snapped shut.
Fifteen wire suspender adjusters were recovered which were probably used with elasticized suspenders. All have dual sharp prongs pointing inward. These would be suitable for penetrating cloth, not leather, and the prongs are sharp enough that they would not be comfortable next to the bare skin. Hence, they are unlikely to be stocking garter hardware. The tongue plate of one (IN 08-15733) is marked R & C L®. The last abbreviated word may be Lmitée and therefore the artifact may be of French or French Canadian ascription. Another specimen (IN 08-6911) is japanned and measures 32 by 25 mm. It is marked PARIS.

A small, stamped decorative tin ornament (IN 08-18664) is thought to be a piece attached to a suspender for ornamentation. Four leather tongue-like fragments with slit loops cut into them are tentatively identified as parts of the Y-shaped distal ends of suspender straps. One (IN 99-7392) is perforated by a large brass rivet.

Lastly, a small oblong loop with central metal rib (IN 08-11970) was identified as a bra or garter strap adjuster.

Clothing Belt Parts  n=13

The six clothing belt buckles are all small and relatively light-weight which distinguishes them from harness buckles. One is disc-shaped and decorated with a horeshoe motif (IN 08-9690). SMITH & GRIGGS is stamped on a rectangular wire buckle (IN 08-18571) which hung on a belt 25 mm wide. The others are rather small and may belong to belts suitable for women's dresses or children's clothing.

Two probable belt slides were recovered. A belt slide is the part which belays the loose end when the belt is fastened. One (IN 08-800310) is a plain rectangular loop. The other (IN 08-12280)
consists of a lozenge-shaped fancy stippled plate with a rectangular loop attached to the underside. It is augmented with stamped unseparated chainlinks at the four corners. Perhaps this was a belt slide from a woman's dress.

A belt tip sheath (IN 08-13673) is the last metal belt part to be discussed. It consists of half of a small folded sheet metal plate with circular cut-outs at the fold and small rivets at the end for securing it to the leather.

Only leather strips with tongue holes narrowly spaced and/or tooling marks were designated as clothing belt parts. All others were assigned to the harness category (see Chapter 9.2.2). Four leather strap fragments met these criteria. One specimen, a probable belt tip (IN 99-10861), is 30 mm wide, has a small but neatly awled tongue hole, and is cut square on one end. Another specimen (IN 99-8051), 25 mm wide, may also be a belt tip as its corners are trimmed (but not rounded). A segment 16 mm wide (IN 99-10651) exhibits tooling along the edges and a neatly awled tongue hole. The best specimen (IN 99-3020) has regular tongue holes punched at 19 mm intervals down the middle. Both edges have small holes at 13 mm intervals, possibly where it was sewn for reinforcement or where decorations were attached. Its tip may be rounded.

Thongs n=11

Strips of leather as thin as they were wide were assumed to be thong fragments although a few could be scraps from leather-working. They would have served a general clothing fastening function or as shoe/boot laces.
6.1.3 Footwear and Footwear Parts

Leather Footwear  n=140

A substantial amount of shoe and boot remains was recovered including nine whole or nearly whole specimens which have been conserved. Examination of these and 86 sole portions (many of them instep sections) proved fruitful both for general conclusions about footwear and for recognition of footwear hardware such as nails, shoe rivets, and grommets when they were found separately in the collection.

Most of the footwear recovered was made to cover very small feet, judging by the slender widths. One complete specimen (IN 99-11431) has a raised heel and is probably a woman's boot. It is about 200 mm long or slightly more. The other complete or sole portions are substantially smaller. The small sizes suggest that the bulk of the footwear artifacts may represent the discarded shoes and boots of children. This is not unexpected in an assemblage produced in part by a rapidly-growing family such as the Letendres.

The construction of the 24 heel sections proved useful for comparative purposes. These were generally constructed of laminae and rubber bottoms nailed through with shoe nails which would have been otherwise classified as finishing nails. One specimen in particular (IN 99-8390), in addition to square nail holes around its outside periphery, had two slightly larger round holes in the squared forward corners. This aided in the identification of shoe rivets (see below).

Another artifact which would have otherwise remained unidentified is a metal shoe protector (IN 99-10320) with some bits of leather still
adhering and a single small brass nail still attached. It has a rounded isoceles triangular shape, measuring approximately 30 mm on its short side and about 45 mm along the other two sides. Another small but thick disc pierced by a small nail (IN 08-11313) is probably a shoe protector. These plates are attached to heel or toe soles to prolong the wear of the shoe or boot.

Two rubber heels were moulded with marks during manufacture. One bears the word (C)ANADA (IN 99-6040). The other is imprinted with the patent date of June 1, 1916 and some inventory or sizing information.

The other footwear fragments consist of 17 uppers or tongue sections. Six of these have attached one or more grommets. One specimen (IN 99-3630) is more fancy than the rest. It is pierced by a tiny machine-cut nail and is medium brown in colour. The outside surface is patterned with a fine network of lighter lines.

Miscellaneous Footwear Hardware  n=63

Artifacts in this category include five galosh buckles. These are curved free-swivelling ladder-like buckles which fasten some rubber boots. Thirty-one grommets in addition to those described in the preceding section were also categorized as footwear-related. Their diameters range around 12 to 13 mm on the outside and 4 to 7 mm inside so both boot and shoe sizes are represented. Grommets of substantially larger-sized diameters are classified elsewhere as tent or tarpaulin grommets (see Chapter 9.3.4).

Two boot hooks are in the collection. These are stout but rounded hooks nowadays found only at boot tops which catch the final lengths of the laces. Boots of the last century were constructed entirely with
lines of loops and hooks which were engaged by means of a boot hook tool.

As mentioned earlier, the 25 shoe nails and rivets in this category were recognized by comparison to those still to be found embedded in the footwear artifacts they fastened. These nails are very short, most ranging in length between 19 and 23 mm (with some as small as 6 mm). They have very small head diameters relative to their shanks. The head forms are either round in plan and flat on top or resemble miniature casing or finishing head forms.

The best specimen (04-16092) of a shoe rivet is of wire manufacture and has a casing head. Its shank is somewhat more stubby than those found on shoe nails. This shank is square in cross-section but becomes round near the point which is of the typical diamond shape found on wire nails. It is 19 mm long. Other shoe nails reach lengths of up to 40 mm which would be suitable for building shoe or boot heels. Twelve shoe nails and rivets are machine-cut while the remaining 13 are wire-drawn in manufacture.

Rubberized Footwear n=12

The distinction between raingear and rubberized boot fragments was problematic during recataloguing. However, six are unquestionably footwear having a series of grommets to complete the identification. Five other fragments are of rubber-coated stout canvas and are generally flat. This flatness and the thinness of the rubber coating suggests they are gum boot fragments rather than pieces of fire hose. A single chunk of moulded cross-hatched foam rubber is probably a toe-thong fragment.
6.2 Personal Effects

6.2.1 Artifacts of Adornment

Beads  n=82

As was done with the buttons, the beads recovered are classified by material, morphology, and decorative technique. The range of variation in bead styles is presented in Table 6.3. All but three beads are glass, the others being plastic (n=1) and ceramic (n=2).

The glass bead types presented in Table 6.3 are in an order which loosely follows the methodology of Kidd and Kidd (1970); however, mode of manufacture is not the primary level of separation. Most of the glass beads are likely wire spun but this could be determined positively for only 28 in the sample (the facetted beads posed the greatest problems in this respect). Both colour and size are highly variable and are not utilized as criteria of separation.

Another technique of making beads is to blow a glass tube, section it, and tumble the sections until they are spherical. The pink glass seed bead (IN 02-803980) was manufactured this way. Under a microscope, striations are visible on the surface of this specimen as is a slight patina. The only other seed bead of this colour (IN 99-9470) is made of plastic. It is somewhat miraculous that the six seed beads were recovered at all. Large mechanical screens with 6 mm mesh were used during the excavations in both field seasons.

Of the two ceramic beads, one (IN 03-7984) is opaque and very crumbly. It could actually be a heavily burned glass bead. The other
Table 6.3. The materials, shapes and colours of beads.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass</td>
<td></td>
</tr>
<tr>
<td>Spherical, Plain: n=40</td>
<td></td>
</tr>
<tr>
<td>opaque white</td>
<td>13</td>
</tr>
<tr>
<td>translucent green</td>
<td>8</td>
</tr>
<tr>
<td>translucent amber</td>
<td>5</td>
</tr>
<tr>
<td>opaque opalescent cobalt</td>
<td>5</td>
</tr>
<tr>
<td>burned beyond recognition</td>
<td>3</td>
</tr>
<tr>
<td>opaque turquoise seed beads</td>
<td>4</td>
</tr>
<tr>
<td>opaque navy blue</td>
<td>1</td>
</tr>
<tr>
<td>pink seed bead</td>
<td>1</td>
</tr>
<tr>
<td>Polyhedral, Plain: n=21</td>
<td></td>
</tr>
<tr>
<td>translucent green</td>
<td>10</td>
</tr>
<tr>
<td>translucent yellow</td>
<td>8</td>
</tr>
<tr>
<td>translucent pink</td>
<td>2</td>
</tr>
<tr>
<td>imitation jet</td>
<td>1</td>
</tr>
<tr>
<td>Polyhedral, Flashed: n=1</td>
<td></td>
</tr>
<tr>
<td>white core, blue swirled flashing</td>
<td>1</td>
</tr>
<tr>
<td>Torus, Plain: n=3</td>
<td></td>
</tr>
<tr>
<td>milky translucent white</td>
<td>3</td>
</tr>
<tr>
<td>Oval, Plain: n=1</td>
<td></td>
</tr>
<tr>
<td>translucent cherry red</td>
<td>1</td>
</tr>
<tr>
<td>Oval, Flashed: n=2</td>
<td></td>
</tr>
<tr>
<td>opaque turquoise core, green flashing, large</td>
<td>2</td>
</tr>
<tr>
<td>Truncated Cone, Plain: n=1</td>
<td></td>
</tr>
<tr>
<td>opaque white</td>
<td>1</td>
</tr>
<tr>
<td>Spherical, Enamelled: n=1</td>
<td></td>
</tr>
<tr>
<td>colourless core with waist, red enamel</td>
<td>1</td>
</tr>
<tr>
<td>Spherical With Chain Links: n=9</td>
<td></td>
</tr>
<tr>
<td>opaque sky blue linked by brass chain links</td>
<td>5</td>
</tr>
<tr>
<td>opaque sky blue of same diameter, no chain</td>
<td>4</td>
</tr>
<tr>
<td>Other Materials</td>
<td></td>
</tr>
<tr>
<td>Ceramic: n=2</td>
<td></td>
</tr>
<tr>
<td>biscuit, earthenware</td>
<td>1</td>
</tr>
<tr>
<td>crumbly ceramic (burned glass?)</td>
<td>1</td>
</tr>
<tr>
<td>Plastic: n=1</td>
<td></td>
</tr>
<tr>
<td>pink seed bead</td>
<td>1</td>
</tr>
</tbody>
</table>

TOTAL: 82
The specimen (IN 03-16662) is definitely of some sort of fine earthenware. It is neither decorated nor glazed. But for the hole, it would have been mistaken for a clay marble.

The rest of the discussion focusses on the balance of the glass beads listed in Table 6.3. It seems that all the polyhedral beads were faceted by "marvering" rather than by moulding or grinding. Marvering is the term used to describe a glass blower's work with a paddle to shape glass in the plastic state. All the polyhedral beads are faceted asymmetrically around the surface (e.g. Figure 6.3b). Frequently, the vertices between facets are rounded or even smeared over in a burr onto an adjacent facet. This suggests a paddle was used to form them. Some polyhedral beads, for example the specimen of imitation jet (Figure 6.3f), have a mamelon ringing the hole on one end.

The technique whereby a glass item of one colour is coated with a thin layer of glass of another colour is called "flashing" (Jones and Sullivan 1985:53). Two large green-flashed oval beads are the largest of the beads studied (one is shown in Figure 6.3h).

The red enamelled bead (Figure 6.3d) may also be flashed except the finish is matte in appearance. This bead may have been moulded as it has a 1 mm thick waist around its equator. This is rather thick for a normal mould seam. If a deliberate design element then this may be a paternoster bead from a rosary. Paternoster beads are distinctive among the others on the chain and possibly the band and matte finish lends it a distinctive texture to enable it to be identified by touch. Alternatively, the paternoster can be identified by its placement on the chain a further distance away from the other beads. This bead has the same diameter as the nine sky blue specimens listed in Table 6.3. The
Figure 6.3. Beads and jewelry. Glass beads (a-f,h), imitation jet hat pin tip (g), cobalt blue glass ornament (i), imitation British half-sovereign pendant (j), collar stud (k), cufflink (l), imitation jet and metal brooch (m), hat or stick pin (o).
latter are linked by chains rather than strung (Figure 6.3c). This is another feature of a rosary since the beads are separated by an even spacing.

In Catholic practice, the Rosary devotion begins with a reaffirmation of faith and proceeds to a sequence of contemplations upon any of the 15 Mysteries connected with the lives of Jesus and Mary. The rosary chain is constructed of 165 beads strung at fixed intervals preceded by a paternoster bead, followed by 10 additional beads, followed by another paternoster bead, and so on. Five of these bead sets, or "decades", complete a rosary chain although some can contain 15 decades. This chain is threaded through the fingers during prayer. The meditation upon a particular Mystery begins when the paternoster is encountered and the 10 beads which follow are a means of keeping track of where one is in the meditation (Fr. Keith Moreau, St. Francis-Xavier Parish, Saskatoon, 1989:personal communication).

Other Jewelry  n=21

Among the glass jewelry recovered are two identical jet brooches, two amethysts, and three ornate cobalt blue cabochons which might actually be buttons. The imitation jet brooches (IN 99-6361 and 99-11622) are reminiscent of some of the buttons described earlier. They are oval and flat with an impressed and lustred floral design. Within the leaf or flower design elements are four holes which are likely sockets for rhinestones. These brooches are set in rope-patterned yellow metal backing with a hinged pin attached to the top of the back. One is illustrated in Figure 6.3m.
The amethyst from Letendre's house is doubtless a rhinestone (IN 02-25382). The facets have been moulded rather than ground and a mould seam runs around the intersection of the crown and the base. It may have been deliberately tinted purple, or it may be solarized glass with a manganese content. The other amethyst is very dark purple and its two halves cross-mend from different units (IN 02-7711 and 02-806101). It is rectangular with bevelled upper edges which converge slightly toward the centre along the long dimension. The bevels are of uneven width so this object may have been ground. Only further analysis will determine whether these gems are genuine or rhinestone.

The three cobalt blue artifacts (IN 02-20984, 02-39500, and 99-11581) may actually be button tops separated from metal backings. All are domed and have impressed designs consisting of six holes surrounded by a curly shield-like shape (Figure 6.31). The back sides are completely flat and an irregular burr or mould seam runs around each at the bottom. These burrs might be the means of attachment to the backings.

A single finger ring (IN 08-8940) is in the collection. Its inside diameter is 20 mm. It is a plain, brass-plated ferrous band.

A small jingle bell approximately 15 mm in diameter (IN 08-9963) is included in this category on the assumption it might been have attached to clothing; for example, to a dress hem. It would also be of suitable size for attachment to a dog's collar or harness.

A stamped yellow metal brooch was identified by two holes in the back where a clasp may have attached (IN 08-13400). It is boat-shaped and moulded with a small swallow. Perhaps it was part of a set which included a metal hat pin to be described in the next section. Two wires
of unknown function trail out from the underside of this bauble.

Most of the remaining 11 metal jewelry items are pendants. The most notable specimen (IN 08-15461) is an imitation British half-sovereign coin, apparently made in Germany. It is 13 mm in diameter (Figure 6.3j). The front is embossed with IMITATION OF A HALF SOVEREIGN and 1887 encircling a coat-of-arms. The obverse face has L CH(?) : LAUER : NURNBERG around the edge with the image of Queen Victoria in the centre. This artifact presumably dates between 1887 and some time after 1901, the year of her death. It might be worthwhile to reexamine the date stamped on this small pendant. If the stamped date is actually 1897 then this piece could be a commemorative of her Diamond Jubilee held in that year. Another metal pendant (IN 08-12650) is cast in the shape of a horseshoe but, curiously, is designed to be suspended upside-down which traditionally brings bad luck. This artifact is 12 mm long and has a 10-claw setting holding an amethyst-like gem. Six more assorted stamped yellow metal pendants (of a size found usually on earrings), a length of yellow metal jewelry chain, and a metal socket which may have at one time held a rhinestone complete the inventory of metal jewelry remains.

A complete and tiny conch-like shell (IN 99-11130) must have been a part of a piece of jewelry. It is iridescent and on the thick end has four small opposing holes drilled in the sides. These are assumed to have accommodated a four-claw setting.

Decorative Clothing Fasteners n=14

An imitation jet object (IN 02-16492) is thought to be a hat pin tip. It has a rounded rectangular shape, is faceted, and is wider at
the complete end than at the broken end. The broken end has a slot which might have been where a hat pin shaft inserted (Figure 6.3g). A more certain hat pin head (IN 99-6911) has a simple spherical imitation jet tip 8 mm in diameter. A portion of the metal shank is still attached.

Four ornate metal artifacts are former stick pins or hat pins. One (IN 08-800901) has an oval composite head measuring 22 by 16 mm with a ferrous pin shank protruding from one end. Specimen 08-11923 has a stamped brass swallow in flight along the pin shank (Figure 6.3n). A loop soldered on the back at one time could have anchored a free-swinging bauble now gone. Specimens 08-13321 and 08-16262 are both yellow metal and are either heads or shanks of ornamental pins or brooches.

All but one of the five possible cufflinks are broken and were distinguished from button heads by their shanks which are more robust and show no signs of a perforation. The best specimen (IN 08-9470) consists of two disks, one 19 mm in diameter and the other 16 mm across, joined by a solid shank (Figure 6.3i).

The three collar studs in the collection, alternatively, might have served as tie clasps or lapel pins. The most definite collar stud (IN 08-16491) is constructed in a similar manner to a cufflink. The plain backing is a yellow metal disc 13 mm across. A central rod from its back meets a simple yellow metal cup 7 mm across. In the cup setting is a jet cabochon gem with a thin ivory (?) band down the middle (Figure 6.3k). While it looks like a cufflink, the gem end is too small in diameter to belay the button holes of a French cuff. The plainest of the three (IN 08-18372) consists of a tiny brass flat top shaped like a
shield 10 mm long with a small rod attached perpendicular to the back. Another (IN 08-7491) may be gold-plated and the cap is moulded with a floral design. The attached backing uses two spring-loaded tabs to close. This backing has somewhat sharp edges on the surface facing the back of the stud so this artifact is not likely an earring.

6.2.2 Religious Accoutrements

Two possible rosary parts and four miraculous medallions are in the collection. Several possible rosary beads were described earlier among the other beads. Other rosary pieces recovered include a crucifix (IN 08-3710) which has a free-swinging suspension loop at its top and a specimen which resembles a tobacco seal. However, it is a circular disk (IN 08-11480) with three projections off the sides. The remaining edge is punctured with a hole to accommodate a suspension loop. This medallion is thought to be the junction piece linking the rosary chain with the crucifix.

When saying the Rosary, the preliminary reaffirmation of faith commences with the Creed which is said while holding the crucifix. The Glory Be, the last step of the preliminaries, is said on a junction piece to which the loop of rosary beads is attached and from which the crucifix and three additional beads dangle (Fr. Keith Moreau: personal communication).

Miraculous medallions are worn by Catholics to signify that they have chosen to follow the ways of Christ as exemplified in Mary's life. They ensure the bearer a peaceful death (i.e. with a priest in attendance). All but one of the miraculous medallions are fashioned of
grey metal and are not corroded. The exception (IN 08-8280) is a small, ferrous medallion identified as such by a small hole for suspension on one edge. It is too corroded to make out any markings.

The other three specimens are all small medallions embossed with images and lettering. Under a microscope the lettering can be made out but, because the soft metal is readily deformed, some of the words are indistinct. One small medallion (IN 08-7902) bears a picture of the Virgin Mary which is surrounded with the words MARY CONCEIVED WITHOUT (SIN) on one side and -PRAY FOR US WHO HAVE (RE) COURSE TO (THEE) on the other. The wording is a reference to the Immaculate Conception and asks Mary to intercede with her Son on the wearer's behalf, as the need arises (Fr. Alvin Pich, Our Lady of Grace Parish, Dodsland, Saskatchewan: personal communication).

Another medallion (IN 08-18663) also has the figure of the Virgin associated with several indistinct letters separated by dots. The obverse side is stamped with a Cross of St. John and CRUX S.P. BENEDICTI around the outside. Aside from several popes named Benedict who presided over the Holy See in the 1700s, the only pope of this name who reigned during the occupation span of the site was Pope Benedict XV. His tenure lasted from 1914 to 1922 (Kelly 1986:314-316). Since miraculous medals could be worn for a lifetime, it is assumed that this artifact was deposited at the site by an unknown person after the Mounted Police occupation but it is more reasonable to conclude that it belonged to one of the Nogiers.

The last medallion (IN 08-14730) may be related to the Order of the Sacred Heart nuns. It is moulded with a cross on top of a heart and ASSOCIATION DES COURS DEVOUES embossed inside.
Most of these artifacts were found in midden deposits. As these are sacred objects, it is considered inappropriate to dispose of them along with refuse. According to one informant (Fr. Keith Morrow: personal communication) they can be desanctified by burning prior to disposal or may be buried. This raises the possibility that the lettering which was obscured on the medals was deformed by heat. This may also explain how some of the beads in the collection came to be heat-altered.

6.2.3 Pocket Gear

Pocket Knives and Their Parts  n=11

The only complete specimen (IN 99-11450) recovered is a two-bladed penknife measuring 76.2 mm long (folded up) with black plastic side insets. A loose black plastic side inset fragment (IN 99-6503) was identified by its half-moon cross-section and a small rivet hole. A second pocket knife side inset was also recovered, this one made of carved bone. Although similar to the cutlery handles recovered (see Chapter 8.4.3), this artifact is clearly the side plate from a pocket knife (IN 99-5514). It is broadly half-moon in cross-section with two rivets and has a carved cross-hatched pattern different in style from those found on the cutlery.

Other pocket knife parts recovered include four blade fragments, the most complete of which (IN 08-6910) measured about 50 mm long. Three divider plates are in the collection. These are the plates which separate the compartments into which the blades retract when a jack-knife is closed. All are long and thin with rounded ends and small
rivet holes where the whole knife was fastened together. An incomplete, lone pocket knife spring (IN 08-800182) was identified and consists of part of the long metal lamina on the back of a jack-knife which displaces when the blades are opened. The pocket knife to which it belonged would have measured closed just a little over 85 mm.

Coins and a Trade Token  

The most interesting coin reported in the collection was not found during recataloguing (IN 08-1450). A card left to keep its place in the collection states that it is an English half-penny dated 1806. If this is correct, the artifact almost belongs among the prehistoric artifacts, given its purported vintage. The other two coins include an 1876 American dime (IN 08-6890) and a 1914 Canadian nickel (IN 08-10644).

The trade token (IN 08-9610), made of yellow metal, doubtless was of Hudson's Bay Company issue. One side shows a sailing ship with a British flag. The obverse side is stamped with SHIPS COLONIES & COMMERCE.

Keys and Key-Related Artifacts  

The three keys in the collection are all of the skeleton key type. One measures 51 mm long (IN 08-13490), the other whole specimen (IN 08-17872) measures 89 mm long, and the third specimen is a distal portion.

A possible leather keyring bauble (IN 99-11920), if correctly identified, is recent in vintage. It is cut in an hourglass shape, bevelled on edges, and has a nail or rivet hole in the centre. Other pocket items such as smoking pipes and harmonicas are discussed in
6.2.4 Accessories

Of the remaining personal glass articles, a sunglass lens (IN 02-801961) likely was deposited at the site recently. It is dark grey with a ground edge. Five possible watch crystals were found in the vicinity of Letendre's house (IN 02-801041, 02-803002, and 02-803302). They are delicate, small, and dish-shaped. One pair of sherds has a small bulged lip which is missing its edge where presumably it attached to the watch case. Their curvatures suggest the diameters of these items are approximately 35 mm, large enough to belong to a pocket watch. The one specimen which was subjected to ultraviolet light was found to contain lead.

Metal artifacts from items carried by an individual comprise a purse frame, 19 umbrella rib fragments, and a part of a pith helmet. The purse frame (IN 08-5570) measures 229 mm wide and 76 mm along the sides to the hinges. A metal attachment to the top centre of one side is moulded in a stylized bird shape and may have served as a snap closure. The umbrella ribs are fragments of sheet metal folded into thin rods. Some bear rivets or rivet holes where individual ribs hinged with their supports.

The pith helmet part (IN 08-16980) looks like a miniature four-spoked wagon wheel roughly 50 mm in diameter with a threaded hub. The rim is troughed where it articulated with the pith body of the helmet. When installed in a pith helmet it is situated at the top of the dome and provides ventilation through the gaps between the spokes.
(P.J. Priess: personal communication). The threaded hole permits a cap, a spike or a plume to be optionally screwed in as the occasion warrants.

6.3 Toiletry and Grooming Artifacts

6.3.1 Artifacts Related to Ablutions

Ceramic Toiletware  n=21

A single vitrified white earthenware rim fragment (IN 03-3244) was tentatively identified as part of a chamber-pot or bedpan. It is very thick and the curvature suggests it curled inward. This sherd is undecorated.

Seventeen ceramic sherds are thought to have belonged to wash basins or chamber-pots. Seven very thick white earthenware sherds (IN 03-17360) mend to form a flared rim which descends toward a brink, suggesting a rim suitable to catch splashing. Seven vitrified white earthenware sherds (IN 03-4340) also mend into a very thick flared rim. Three more (IN 03-10934) are from the edge of a vessel which was scalloped in form. The only colour-decorated sherds in this category are three white earthenware fragments (IN 03-16470 and 03-16471) with the Copeland B772 underglaze transfer-printed pattern. This pattern, which is discussed more fully in Chapter 8 with the tableware of the same design, dates between about 1839 to 1882 and later. This rim appears to be squared in cross-section.
Shaving Equipment  n=3

A shaving brush handle was recovered (IN 99-6521). This artifact consists of a stubby knob made of bone. It is hollow with threads carved inside. These would have accepted an end piece which screwed into the top of the handle.

Two straight razor fragments were also recovered to accompany it. One (IN 08-16360) is complete except for the handle into which it would have folded. It is 140 mm long with a blade about 76 mm long. The other specimen (IN 08-6430) is the tang and heel section of a razor.

Tooth Brush Handle  n=1

A nearly-complete toothbrush (the bristles are missing; inventory number 99-6522) may be made of ivory. Etched into the handle are the words THE ROYAL HAIR SECURE TOOTHERUSH with the word WARRANTED along side. Near the head is a single letter M, possibly standing for "Medium." This item seems much more robust than those in use today.

6.3.2 Artifacts Related to Dressing

Button Hooks  n=2

Two metal button hooks were recovered (IN 08-10860 and 08-11610). These were used to fasten boots which had loops and hooks instead of laces.

Hair Grooming Artifacts  n=45

The metal artifacts in this category consist of 10 bobby pins of varying lengths and completeness. The wire used for these is thinner
and round in cross-section in contrast to the thicker ones with rectanguloid cross-sections in use today. None of the specimens exhibited plastic tip guards.

The core of a "fine" comb (IN 99-6660) had been overlooked and included among the fauna during the 1978 lab season. It is made of bone and has very fine teeth extending in opposite directions. Another comb of the same design was also recovered (IN 99-8000) but this was made of fake tortoise-shell plastic. Fine combs were used for cleaning the hair of lice and nits (M. Marino, D. Meyer: personal communication).

Eleven comb spines and teeth of an unknown type of black plastic are also in the collection. Combs made of celluloid achieved popularity in the 1890s (Panati 1987:127) so these comb fragments may relate to the Letendre or Mounted Police occupations of the house. Twenty-two black plastic hair curler fragments also inventoried are probably quite recent.

Descriptions of several glass hair care product containers will be reserved for the next section which deals with toiletries and cosmetics in general.

6.3.3 Toiletry Product Containers

Glass Toiletry Bottles  n=64

This category comprises identifiable pharmaceutical bottles containing cosmetic rather than medicinal products. It also includes large bottles thought to have contained shampoo.

Six sherds belonging to Chesebrough containers may be bottles or small jars. Five of these (IN 02-2261) mend into a colourless body
sherd embossed in three lines of small arched letters which are
TR(ADE )M(ARK) over V(AS)ELIN(E) over CHE(SE)BRO(UGH). While this
container once held Vaseline, the other colourless shoulder sherd
embossed with (CHES)EBROUG(H) (IN 02-20033) may be part of a tonic
or shampoo bottle.

Robert A. Chesebrough discovered the healing properties of a
by-product of oil drilling in 1859 but did not market the product widely
in the United States until 1879 (Fike 1987:56). A company history from
Chesebrough-Pond's (Canada) Ltd. states that the Vaseline trade mark was
registered in Canada in 1912 (letter on file, Archaeological Services,
Canadian Parks Service, Prairie and Northern Regional Office, from K.
Rowe, September 14, 1979).

Three sherds of a manganese-tinted recessed bottle panel are
embossed K.S. HINDS (IN 02-26791). This may be an example of
"copy-cat" brand naming. No information could be found about K.S. Hinds
but A.S. Hinds of Portland, Maine produced a complexion cream with honey
and almond. This product was introduced in 1875 and was still being
manufactured in 1948 (Fike 1987:92). The two products sound the same
and perhaps the authentic product had such a success that another
company was tempted to imitate it, a common practice. Because they are
manganese tinted, they are not likely to have been made after World War
One.

Three colourless fragments (IN 02-2273 and 02-2690) from a large
recessed panel embossed with (WA)TKINS are considered to be from a
colourless tonic or shampoo bottle. The J.R. Watkins Company has been
in operation in the United States since 1868 and manufactures liniments,
soaps, medicines, and stock dip (Fike 1987:82,185).
Batchelor's Liquid Hair Dye No. 1 was a product of the W.A. Batchelor Wig Factory of New York. A single aqua-tinted flat bottle body sherd (IN 02-26210) may possibly be from such a hair dye bottle. The sherd is embossed with a word which begins with the letters BATCH-. The product was first advertised in 1850 and was still being produced as late as 1935 (Fike 1987:122). The specifications listed in Fike for this bottle technically match those of this specimen. A more positive identification of this specimen could be made if more of the panel was present.

A colourless rectangular bottle base was recovered embossed with the mould number 389 (IN 02-39504). The broad sides of this bottle are trimmed around the panel edges with diagonal rounded ribbing. Two other colourless glass body corner sherds with identical ribbing are in the collection (IN 02-27561 and 02-803360). These are believed to be from a bottle known to its manufacturer as a "Fancy Hair Oil" bottle. This trade term was used by the Dominion Glass Company in a druggist's glassware catalogue of uncertain date (called Catalogue No. 12 in Miller and Jorgensen [1986]). The stock item is illustrated on page 43 of this catalogue and reprinted in Stevens (1967:139). The styling and the mould number of the Letendre sherds match that shown in the catalogue. They are also identical to an archaeological specimen of that type recovered from Fort Walsh (see Lunn 1979:Figure 25). The base bears no maker's mark, however.

A study of Dominion mould numbers by Millar and Jorgensen (1986) permits an estimate of the availability timespan for the "Fancy Hair Oil" bottle. They believe catalogue No. 12 was published sometime between 1915 and 1920 (1986:7). The bottle is not listed in the 1926
Dominion Glass Company inventory but appears in a price list they believe was published in 1897-1898 by the Beaver Flint Glass Company (1986:39). Millar and Jorgensen believe the Beaver Flint Glass company did little of its own manufacturing but did distribute bottles made by the Diamond Glass Company, a precursor of Dominion Glass. Even though the Beaver Flint Glass Company did not incorporate until 1896 the Diamond Glass Company was in operation as early as 1890 (1986:5). Therefore, 1890 is the earliest possible date this style of bottle could have been manufactured (although we know for sure that it was available by 1897 or 1898) and that it may have been dropped from the Dominion Glass inventory by 1926.

Forty-one colourless sherds (IN 02-2480 and 02-2551) mend to make a near-complete bottle approximately 150 mm tall. The bottle was machine-made and has embossed on the base the inverted-triangle C logo of the Consumers Glass Company and the mould number VI02. The general styling is striking. The plan is an elongated hexagon at the base but all the edge facets merge into a single side ridge halfway up the side. The finish is threaded with a bead. This bottle is tentatively identified as a tonic or shampoo bottle.

The linear styling is reminiscent of the Art Deco mode of the 1930s. Millar and Pacey (1985:48) suspect such designs might have entered the glass industry at this time. Although the inverted-triangle C logo of the Consumers Glass Company has been registered since 1920 (King 1987:140), 1924 is preferred as the earliest date this bottle was made. This date is derived from the earliest standardized continuous-thread closures which were agreed upon industry-wide in that year or later (Lief 1965:27).
The pressed glass lid thought to be from a dressing table receptacle (IN 02-800042) is designed to slip over a jar. It might be misidentified, as several glass tableware lids were also recovered. A single ceramic jar rim sherd (IN 03-3241) made of parian, curls inward in profile and so probably took a loose-fitting lid. The outside is painted or aerographed in pink. Because it is a jar and made of parian it is most likely a container related to cosmetics (see Sussman 1979a:158). Since the lid did not seal tightly, some sort of dressing table receptacle is inferred tentatively as the function of this artifact.

Perfume Bottles n=12

The only complete bottle in this group (IN 02-38291) may or may not have contained perfume. It has a barbell-like profile, bulging at the heel and shoulder. It was blown in a cup-bottom mould and finished with a finish forming tool without secondary bore grinding to accommodate a stopper. The base is embossed with 44 followed by a small diamond. The finish is flared and flat on both top and bottom (called a "patent" style in Jones and Sullivan 1985:81,93). Although the bottle's shape is akin to that found on ink bottles, the lip is not suitable for pouring that particular substance. The bore is too small to permit a pen nib to be dipped into the contents directly and the size seems too small to contain any sensible quantity of liquid other than perfume or medicine.

Resolving the diamond mark with the hand-finish is problematic. In general, the hand-finished mode of manufacture persisted for small, specialized wares into the 1930s (Jones and Sullivan 1985:39). The small diamond might be a smeared version of the diamond-D logo of
Dominion Glass but this was only registered in 1928 (King 1987:248). The mould lists for Dominion Glass inventories dating 1926 and earlier (Miller and Jorgensen 1986:Appendices A-D) do not list a style number 44. Several predecessors of Dominion used diamonds as logos, so perhaps this was made earlier by one of these firms.

A small bottle base (IN 02-16844), oval in planview, with flaring sides is more confidently identified as a perfume bottle sherd. Its broad face is moulded with an inverse teardrop shape. The base has the mould number 983 embossed on it. The narrow oval base and flaring sides imply a very short bottle since the resting surface is too narrow to support a bottle of any height exceeding its longest basal dimension.

Consultation with the Dominion Glass catalogues reveals a one-ounce "Fiddle" bottle among the Montreal series of mould numbers (Millar and Jorgensen 1985:24). Other bottles of that capacity tend to be perfume or medicinal containers. The Fiddle is not described but the moulded teardrop shape on the sides and flared profile (beginning of an hourglass shape?) perhaps mean the bottle resembled a violin. If so, a date of 1890 to 1913 may be assigned tentatively to this artifact. This bottle style was listed in the inventories for the Beaver Flint Glass Company and the Diamond Flint Glass Company which implies a starting date of 1890 (the reasoning for this is the same as that used to date the "Fancy Hair Oil" product discussed earlier). The Diamond Flint Glass catalogue may date between 1908 and 1913, the latter being the date the company became the Dominion Glass Company. This mould number does not appear in any of the Dominion Glass Company catalogues which are estimated to date from 1915 onward (Miller and Jorgensen 1985:5-7).

A colourless body sherd moulded with a similar teardrop shape (IN
02-25270) may or may not be related to the Fliddle bottle.

Nine isolated colourless sherds moulded with narrow lattice patterning are all from very small bottles. Their moulded patterning is much the same as is found on modern-day perfume bottles. No manufacturing traits are present on these sherds to aid in assigning dates to them.

Personal Care Bottle Sherds  n=889

This category encompasses sherds from bottles with square or rectangular planviews and one or more recessed panels. Recessed panelled bottles contained a variety of products which cross-cut many of the broad functional categories. Hence, it is risky to include these under any single category, the most obvious being medicine. This style of bottle was also employed for toiletries (see above) and flavouring extracts (see Chapter 7.1.4). Judging by the quantities of recessed panel sherds from identifiable marked product bottles, however, those containing medicines and toiletries outnumber the flavouring bottles by more than ten to one. In fact, identified medicine bottles are represented by the overwhelming majority of marked sherds of this type. By calling these sherds personal care artifacts one may subsume both medicines and toiletries under one heading compatible with the typology. A breakdown of the artifacts by colour, portion, and manufacturing technique is provided in Table 6.4.

As may be seen in Table 6.4, more than three-quarters of these artifacts are aqua or colourless. Very few are definitely machine-made. This may be a function of the difficulty in recognizing machine-made attributes on sherds of this form. It is infrequent that ghost seams
Table 6.4. Panelled rectangular-planned personal care bottle fragments.

<table>
<thead>
<tr>
<th>SPECIMEN</th>
<th>MODE OF MANUFACTURE</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Machine-made</td>
<td>Mould-blown</td>
<td></td>
</tr>
<tr>
<td>Colourless</td>
<td>7</td>
<td>304</td>
<td></td>
</tr>
<tr>
<td>plain panels</td>
<td>17</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>embossed panels</td>
<td></td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>bases</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amber</td>
<td>1</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>plain panels</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>embossed panels</td>
<td></td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>bases</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green/Yellow</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>plain panels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>embossed panels</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquas</td>
<td>382</td>
<td></td>
<td></td>
</tr>
<tr>
<td>plain panels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>embossed panels</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bases</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manganese-tinted</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>plain panels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>embossed panels</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTALS: 25 864
survive on angular vessels. Finishes also carry definitive manufacturing attributes but none are represented in this group. "Mould-blown" as a manufacturing technique for this style of bottle is essentially meaningless. There is no other way to produce these vessels but in a mould, particularly those with embossed labels. Eleven of the sherds were blown in cup-bottom moulds but this feature can be found on both machine-made and manually-blown bottles. Manual mould-blowing persisted into the 1920s for bottles of this size, shape, and specialized function (Miller and Pacey 1985). None of the bases in this group had recognizable manufacturers' marks. About ten percent of the sherds carried embossed lettering. None of this lettering was complete enough to associate with particular brand names or producers. Thus, the only datable attributes in this group are machine manufacture (post-1904) and manganese tint (pre-1914).

Other Toiletry Product Containers  n=6

This grouping encompasses toiletry containers not already covered. It includes four ceramic jar sherds and two tin can and collapsible tube fragments. Sussman (1979a:158) differentiates jars for pastes or ointments from commercial food jars (e.g. those containing jams, jellies, preserved fruit and so on) by their ware types. The latter are stoneware containers while paste/ointment jars are made of earthenware. Three sherds of plain white earthenware include one rim section (IN 03-13682) which has an inside step suitable to take a plug-in lid. The body sherds are from cylindrical ceramic vessels, so their function as jar sherds was inferred. A single vitrified white earthenware sherd (IN 03-3542) is a neck and shoulder fragment. There is no part of the rim
present to determine the type of lid which may have closed it.

A tin can body and base fragment (IN 14-5111) exhibiting a Mennen-style interlocked side seam was recovered. The base of this container was capped on, although not enough of the base was present to determine the plan of the container. The Mennen side seam has been explained in Chapter 5.5.3, and dates between 1890 and 1902 onward. This type of seam is mainly used in talcum powder cans.

The other metal container belonging in this category is the nozzle and shoulder of a collapsible tube (IN 14-800470). Made of a grey metal such as zinc, this container likely held a product such as toothpaste, shaving cream, or hair grooming ointment. Its shoulder is molded in an arabesque pattern. What remains of the tube's side has painted on it a brand name beginning with the letter S.

Cake Cosmetics  n=2

A chunk of a green clay-like substance (IN 99-10654) was found without its original container. It can be classified equally well as a piece of cake cosmetic, such as eye-shadow, or the remains of a colour disc from a child's paint set.

The other member of this category (IN 99-6942) consists of a black plastic object deformed by melting but containing a pink clay-like substance. This is tentatively identified as a former blush or cake makeup container.
6.4 Medicine and Health Care Artifacts

6.4.1 Patent Medicines

Embosed lettering on (usually) recessed panels was used to identify specific patent medicine bottle fragments. Often enough letters are present to recognize specific products with confidence. Some identifications were assigned on the basis of just a few letters using their sequence and general styling as clues. The principle of "where there's some, there's more" was liberally applied here. This may seem unwise but, without a concerted mending effort, the researcher is forced either to make educated judgements or remain paralyzed with an uninformative and largely "unidentified" collection. Identified product names, attributes of the sherds identified, and the date ranges determined for each are summarized in Table 6.5.

Perry Davis Vegetable Pain Killer  n=95

Sherds from these bottles are almost ubiquitous in historic sites. They are identified by recessed panels embossed with the words DAVIS' (front), VEGETABLE (right side), and PAIN KILLER (left side). No whole bottles were recovered but at least five styles were defined in the collection. The associated five bases (sherd count: 19) and possibly one finish were not especially helpful in determining the modes of manufacture.

Classes I and II are distinguished by lettering styles and basal form. Class I specimens have thin, spread-out lettering, are smaller than Class II sherds, and the bases have a distinct dimple. The dimple
Table 6.5. Identified patent medicine artifacts and their dates.

<table>
<thead>
<tr>
<th>PRODUCT AND TYPE OF ARTIFACTS</th>
<th>NUMER OF ARTIFACTS</th>
<th>DATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perry Davis Vegetable Pain Killer n=95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class I - thin, spread-out lettering 13</td>
<td>1854 - 1920</td>
<td></td>
</tr>
<tr>
<td>Class II - bulbous, packed lettering 9</td>
<td>1854 - 1920</td>
<td></td>
</tr>
<tr>
<td>Class III - DAVIS not arched 4</td>
<td>1854 - 1920</td>
<td></td>
</tr>
<tr>
<td>Class IV - colourless sherd 1</td>
<td>1854 - present</td>
<td></td>
</tr>
<tr>
<td>Class V - machine-made 6</td>
<td>1904 - present</td>
<td></td>
</tr>
<tr>
<td>no Class assigned 62</td>
<td>1854 - present</td>
<td></td>
</tr>
<tr>
<td>Chas. H. Fletcher's Castoria n=12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>nearly-whole aqua machine-made 1</td>
<td>1928 - present</td>
<td></td>
</tr>
<tr>
<td>aqua embossed side panels 7</td>
<td>1890 - present</td>
<td></td>
</tr>
<tr>
<td>colourless embossed side panels 4</td>
<td>1890 - present</td>
<td></td>
</tr>
<tr>
<td>Dr. S. N. Thomas Eclectic Oil n=7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>aqua without F.P.H. Act 3</td>
<td>1874 - 1920</td>
<td></td>
</tr>
<tr>
<td>colourless with F.P.H. Act 3</td>
<td>1920 - 1940</td>
<td></td>
</tr>
<tr>
<td>aqua INVERTED side panel 1</td>
<td>1874 - 1940</td>
<td></td>
</tr>
<tr>
<td>Northrop and Lyman Company n=6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>aqua marked RT over LY 1</td>
<td>1874 - 1920</td>
<td></td>
</tr>
<tr>
<td>colourless machine-made 3</td>
<td>1920 - 1940</td>
<td></td>
</tr>
<tr>
<td>aqua LY over TO 1</td>
<td>1920 - present</td>
<td></td>
</tr>
<tr>
<td>aqua Northrop and Lyman 1</td>
<td>1874 - present</td>
<td></td>
</tr>
<tr>
<td>Henry R. Gray, Montreal n=2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>aqua side panel embossed KY R. 2</td>
<td>1882 - ?</td>
<td></td>
</tr>
<tr>
<td>Eno's Fruit Salts n=12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>embossed stopper 1</td>
<td>1880s - 1930s</td>
<td></td>
</tr>
<tr>
<td>finish fragments 6</td>
<td>1880s - 1930s</td>
<td></td>
</tr>
<tr>
<td>lead foil Eno's capsule 1</td>
<td>1880s - ?</td>
<td></td>
</tr>
<tr>
<td>recessed panel fragments 4</td>
<td>1880s - 1930s</td>
<td></td>
</tr>
<tr>
<td>Henry K. Wampole n=4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>colourless embossed body fragments 4</td>
<td>1900 - 1950</td>
<td></td>
</tr>
<tr>
<td>Shiloh's Consumption Cure n=4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>finish and embossed panel; all mend 4</td>
<td>1873 - 1907</td>
<td></td>
</tr>
<tr>
<td>Scott's Emulsion n=26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete aqua embossed bottle 26</td>
<td>1899 - 1930s</td>
<td></td>
</tr>
<tr>
<td>George Curling, London n=1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lead foil capsule 1</td>
<td>1868 - ?</td>
<td></td>
</tr>
<tr>
<td>Dr. Steilling's Pulmonary Syrup n=1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>colourless embossed side panel 1</td>
<td>1843 - ?</td>
<td></td>
</tr>
<tr>
<td>C.G. Clark Product n=1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>colourless; embossed; round plan 1</td>
<td>1890s - ?</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL: 171
was noted at the Roma site on specimens with this type of lettering but the Letendre specimens do not have the small mamelon noted on Roma specimens (Ayluila 1973:74). Class II sherds have larger, more bulbous lettering. The parent bottles were larger, judging by the basal dimensions, and Class II bases do not have a dimple. Both styles exhibit a pendulous smear in the glass on the front near the heel.

Front recessed panels embossed with the word DAVIS in arched moulded letters have been found in this assemblage with both forms of the lettering styles found on Class I and II sherds although none have been positively linked with these through mending. Four sherds with this word moulded in horizontal lettering were recovered but, as yet, have not been associated with any other type. Class III comprises these four sherds.

A single colourless sherd (Class IV) embossed with (P)AIN KIL(LER) is the only colourless Davis Pain Killer specimen identified.

Only one cup-bottom machine-made specimen was recovered (mended from six sherds; IN 02-21670 and 02-31541). It mode of manufacture was identified by the presence of ghost seams. No finish style could be associated with it. This Class V specimen is aqua in colour as are almost all the other Perry Davis sherds.

Most of the sherds (n=62) were not assigned to any type. These include the only base fragment exhibiting a manufacturer's mark. This specimen (IN 02-7771) was fractured part-way through a mould number. Because of the way it broke the digits either start with 87 or, when rotated, end with the figures 28. All the bottles are likely to have been mould-blown and hand-finished and therefore dates of 1854 to 1920 could be assigned to most of these classes. Nevertheless, the
machine-made specimen obliges the safer date range of 1854 to the present to be used.

The Davis Pain Killer formula was developed around 1840 and won particular fame as an effective cure during a cholera epidemic of 1849. Imitators flooded the market with counterfeits so a distinctive marked bottle was introduced by Perry Davis in 1854 (Sullivan 1984a:45). In the United States it was available in at least three sizes (Herskovitz 1978:14), and Sullivan (1984a:46) cites a specimen 210 mm high. This size suggests a consumption rate rather higher than one would expect of a medicine and, in fact, this was the case. Several recipes are known (see Herskovitz 1978:14 and Sullivan 1984a:45) utilizing a variety of rather alarming ingredients including opium, but the major constituent of the mixture was alcohol. Sir John A. MacDonald deplored its apparently heavy use as an intoxicant among members of the North-West Mounted Police in 1881 (quoted in Sullivan 1984a:45-46).

As mentioned, Perry Davis bottles seem to be found in almost every late nineteenth-century site. The classification described above may expand and serves as an example of the range of possible attributes that can be noted when studying these bottles. A cursory examination of other, whole specimens suggests to the author that size, the location of mould seams, the orientation of the embossed side panels relative to the front and ends of the bottle, as well as mode of manufacture and finish style are all features to be considered should a definitive material history on this bottle ever be done. Such an undertaking would be enormous. As many as 23 variations have been noted by bottle collectors (Sullivan 1984a:45) and the product was manufactured in Rhode Island, New York, Britain, and Canada. It is still available today from Davis

Chas. H. Fletcher's Castoria n=12

An aqua bottle missing its finish was the only marked patent medicine bottle recovered in almost whole condition. This specimen (IN 02-25290) has embossed on the bottom a D within a diamond and a 1 lying sideways to its right. It is aqua and has ghost seams and therefore was machine-made. It has plain recessed panels front and back and has embossed Chas. H. Fletcher's in script and CASTORIA on the respective side panels (Figure 6.4f). This specimen is dated post-1928 on the basis of the Dominion Glass mark (King 1987:248). The other specimens are side recessed panels with portions of the same embossed lettering described above.

There are both aqua and colourless specimens, the identification of the latter being somewhat tenuous because of insufficient lettering (only the script letters were identified as such, this being the only identified product with script embossment on a side panel in the collection). One of the aqua side sherds (IN 02-25321) is embossed (CAST)ORIA in letters almost twice as large as those of other specimens and they are much more closely spaced. Thus, there may be two or three different styles or sizes represented in the assemblage.

With the exception of the machine-made specimen, none of the other sherds give any hints as to their mode of manufacture. Fletcher's Castoria has been in existence since the early 1890s when it was introduced as a digestive aid and was still listed as a product by Glenbrook Labs of New York in 1984-1985 (Flke 1987:162). A date of 1890 is arbitrarily chosen for the introduction of this product.
Figure 6.4. Glass patent medicine artifacts. ENO'S stopper (a), SHILOH'S CONSUMPTION CURE panel (b), DR. S.N. THOMAS ECLECTRIC OIL panels (c and d), Wampole's bottle side (e), Fletcher's CASTORIA bottle, left and right sides (f). Drawings by K. Graham-Stevenson, Canadian Parks Service.
Dr. S.N. Thomas' Eclectric Oil and Northrop and Lyman n=13

Dr. S.N. Thomas' Eclectric Oil was distributed in Canada after 1871 by the Northrop and Lyman Company (Sullivan 1984b:3). While Northrop and Lyman sold products other than Eclectric Oil, limited mending of the thirteen sherds suggests only Eclectric Oil is involved. Nonetheless, they are separated in Table 6.5 for the sake of caution. Many variants of this product are present in the sample. The basic form of the bottle is rectangular with all four panels recessed. The front broad panel is embossed with Dr. S. N. THOMAS over ECLECTIC OIL with the registration number (see below) optionally sandwiched in between in smaller block capitals (Figure 6.4c,d). The back broad panels are embossed with NORTHRP & LYMAN CO LTD TORONTO, ONT. In this sample these words are juxtaposed in a variety of combinations all of which are temporally significant. The sides are embossed INTERNAL and EXTERNAL respectively where present. A detailed history of the product is to be found in Sullivan (1984b) and the following is largely derived from that source.

The word "eclectric" is thought to be a combination of the words "eclectic" and "electric," both of which might appeal to consumers of the nineteenth century. It appears to have been intended as a cure-all for respiratory ailments and minor wounds (Sullivan 1984b:3,7). The formula was variable throughout its history and between countries in which it was prepared. Sullivan cites several combinations of ingredients, among them processed fish oil, oil of thyme, and "Oil of Tar" while another source (Wilson and Wilson 1971:90) describes it as a dubious concoction of "...gum camphor, oils of gaultheria and origanym,
tinct. of opium, oil of sassafras and chloroform." The Proprietary or Patent Medicine Act of 1908 forbade or controlled the use of many patent medicines in Canada (Burns 1985:82-83) but it was not until after 1919 that individual product registration labelling under this Act was mandatory for patent medicines. Eclectric Oil bottles embossed with No. 5520 THE PROPRIETARY OR PATENT MEDICINE ACT, therefore, are thought to date no younger than 1920 (Sullivan 1984b:14). All specimens sufficiently mended in this sample make reference to Northrop and Lyman of Toronto. Eclectric Oil was introduced by the company in 1871 but in 1874 they moved their base from Newcastle to Toronto (1984b:3).

Patent medicine bottles were being manufactured by machine by 1920 although not necessarily exclusively; both Dominion and Consumer's Glass supplied Northrop and Lyman with these bottles as perhaps did other glass manufacturers. The only base fragment from this sample (IN 02-22132) is embossed with the mould number 4 which is not among those listed by Sullivan (1984b:17,18). Sullivan feels that as part of a general trend toward bottle standardization which occurred during World War Two all embossment was omitted from these bottles except that used for the Northrop and Lyman company name (1984b:9, 17). Finally, the layout of the wording on the back panel has varied through time and is illustrated in Sullivan (1984b:20). The combination of all these factors was used to determine the dates cited in Table 6.5.

Henry R. Gray, Montreal  n=2

Two aqua side panel sherds were recovered embossed with the letters -RY R.-. The lettering size and style matches a complete bottle recovered from Letendre's Store elsewhere at Batoche marked HENRY R.
GRAY on one side and MONTREAL on the other. Nothing is known about this product. Urquhart illustrates a similar specimen and has located a druggist in Montreal by that name listed in an 1882 directory (1976:40,230).

Eno's Fruit Salts n=12

A complete pale green glass stopper (IN 02-26191) measures 35 mm across the top. The shank has a diameter of 26 mm at its thickest point. The word ENO'S is embossed in a large circular depression in the centre of the top (Figure 6.4a). A specimen akin to this is illustrated in Jones and Sullivan (1985:153) and is peculiar to Eno's Fruit Salts bottles. Six fragments of a wide, straight-rimmed finish formed with a ledge inside the bore were found articulated with this stopper. This finish was hand-formed and subsequently fire-polished to smooth the rough edges. The finish bore is sufficiently wider than the diameter of the stopper shank so that a cork apron likely enveloped the shank to provide a snug fit. Four recessed panel sherds of the same colour were found in the same excavation unit. Two of these mend to form -O'S and the others are likely related.

A lead foil capsule in the collection (IN 99-800040) is stamped with ENO('S) and FRUIT SALTS at the top and bottom with (?) AND LIGHT in the centre. Judging from the width of the top surface of the capsule, the diameter of the finish it slipped over would have been about 30 mm.

Fike (1987:161) cites 1880 as the approximate date of introduction in England of this product. Eno's Fruit Salts are listed under J.C. Eno in the Canadian Trade Indices up to 1952 (Canadian Manufacturers
Association 1931-1952). In the United States the product name was changed to Eno's Effervescent Salts in 1948 (Fike 1987:161) and perhaps this occurred in Canada at about the same time. The terminal date for these artifacts is arbitrarily considered 1930 based on this information and the fact that this is the extreme limit of pharmaceutical bottle hand manufacture in Canada.

Henry K. Wampole  n=4

Four colourless sherds mend to become the body portion of a large bottle with an elongated octagonal plan. None of the panels are recessed and they have embossed on both front and back Henry K. Wampole in script (Figure 6.4e). A letter from W.E. Danner of Wampole Ltd., Perth, Ontario (on file, Canadian Parks Service, Prairie and Northern Region, October 10, 1979) identified this specimen as a tonic bottle sold between 1900 and the 1950s.

Shiloh's Consumption Cure n=4

The finish and front panel of a Shiloh's Consumption Cure bottle were recovered from the midden associated with Letendre's house. Embossed in block capitals on the panel are the words SHI(LOH'S) over CONS(UPTION) over C(URE) (Figure 6.4b). Wilson and Wilson (1971:138) estimate this product was introduced between 1876 and 1882 based on contemporary newspaper advertising. Fike gives an earlier introduction date of about 1873 and says the product was changed to Shiloh's Consumption Remedy in 1907. The product was invented and marketed by S.C. Wells and Co. of LeRoy, New York (Fike 1987:106). A complete manganese-tinted hand-finished specimen in the possession of
the author is embossed on the side panels with S.C. WELLS & CO. and TORONTO ONT respectively, indicating the product was marketed in Canada at about the same time.

Scott's Emulsion of Cod Liver Oil  n=26

Twenty-six sherds from the midden associated with Letendre's house mend to make a single large panelled bottle. All but one of the panels are embossed. The front reads SCOTT'S over EMULSION while the sides have COD LIVER OIL and WITH LIME & SODA respectively. The based is moulded with the image of a fisherman in nor'-wester with a large fish slung over his back. According to a company history (letter and pamphlet on file, Canadian Parks Service, Prairie and Northern Region, from L Haywood, Beecham Canada Ltd., September 28, 1979) the producers, Scott and Bowne, introduced the product in 1876. The fisherman and cod logo has been on every "pack" since 1883. Fike (1987:196) says the logo was first embossed in glass about 1890. WITH LIME & SODA appears on bottles about 1899. Possibly this was an enhancement to the product to disguise the taste. The finish for this specimen was hand-formed. Therefore, an arbitrary terminal date of 1920 is assigned to this artifact.

George Curling Lead Foil Capsule  n=1

The aperture of the bottle finish this artifact would have capped is estimated to have been 19 mm across. The top surface of the capsule (IN 99-7741) is stamped GEORGE CURLING AND COMPANY LONDON around the top edge. TRADE MARK flanked with LONDON, both in tiny letters, is stamped around the bottom edge. The centre is patterned with a field
of vertical stria. In a clear patch in this field is the word UBIQUE.

The top diameter is compatible with a medicine-size bottle finish. In a catalogue of suppliers between 1820 and 1875 to the Hudson's Bay Company (Laflèche 1979:22), George Curling and Co. is listed as a supplier of castor oil and medicines in the years 1868-69 and 1871. In 1874 the firm supplied drugs. Since Laflèche's research does not cover the period beyond 1875, it is not known how long this company continued to deal with the Hudson's Bay Company.

Dr. Steeling's Pulmonary Syrup ?  n=1

Another possible lung ailment remedy may be represented by a single colourless recessed side panel marked STEEL(L?). There is not enough of the sixth letter present to read but it is a letter with straight segments, such as an L or E (but not an F, H, or M). Fike (1987:230) describes an aqua version of Dr. Steeling's syrup which was advertised as early as 1843 but no more is known about this product. His specifications, except for the colour, match those of the Batoche specimen.

C.G. Clark & Co. Product ?  n=1

The letters G. C appear embossed on the body of a round-planned bottle fragment. The neck of this item was likely narrow in bore. One product or company which matches this lettering is the C.G. Clark Company of New Haven, Conn. Fike (1987:56,96) lists Coe's Dyspepsia Cure as this company's only product but the sherd does not match any of the specimens he describes. It may be an alternate bottle form of this
product, some other remedy of theirs, or a misidentification. Clark took over Coe's Dyspepsia Cure in 1897 (1987:96) so a provisional date for this specimen would be the 1890s.

Probable Medicine Bottle Fragments  n=210

The balance of the medicine container fragments were identified on the basis of general bottle form and finish type. Table 6.6 summarizes the specifics and date ranges for these bottle fragments. Included here are only those sherds which could be confidently distinguished from toiletry or flavouring product bottles. Criteria for this distinction include finish styles, evidence for graduations among bottle sides, and certain styles of markings. Sherds considered to be either medicine or toiletry container fragments have already been included under the "catch-all" category of personal care artifacts (see Section 6.3.3).

Three sherds, two from the Letendre house area and one from the Carriere building, are embossed with a large unidentified logo. This logo, made on colourless glass, consists of a large D superimposed upon and intertwined with a large letter K. Spikey fronds protrude from the ends of the letter segments. No known product or company has yet been associated with this logo. However, superimposition was a common way of creating a distinctive and compact corporate logo. It may be a plate-moulded bottle issued by a local druggist whose last name started with K. The specimens are machine-made and individual moulded bottles became too expensive to purchase by any but the largest companies by the 1920s (Miller and Pacey 1985:42).

Several amber panel sherds (n=42) from several individual bottles were found throughout the Carriere building. They are distinctive in
Table 6.6. Unidentified product artifacts related to health care and their dates.

<table>
<thead>
<tr>
<th>PRODUCT AND TYPE OF ARTIFACT</th>
<th>NUMBER OF ARTIFACTS</th>
<th>DATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Misc. Medicine Bottle Fragments n=210</td>
<td></td>
<td></td>
</tr>
<tr>
<td>colourless D on K; machine-made</td>
<td>1</td>
<td>1904 - 1920</td>
</tr>
<tr>
<td>panelled amber; dimples on sides</td>
<td>42</td>
<td>1941 - 1953</td>
</tr>
<tr>
<td>colourless; graduated; machine-made</td>
<td>2</td>
<td>1904 - present</td>
</tr>
<tr>
<td>colourless; graduated; manu. unknown</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>complete colourless or aqua, hand-finished</td>
<td>66</td>
<td>1820 - 1935</td>
</tr>
<tr>
<td>complete colourless, machine-made; continuous-threaded finish colourless ball neck</td>
<td>22</td>
<td>1924 - present</td>
</tr>
<tr>
<td>&quot;Patent&quot;/&quot;Prescription&quot; finishes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>aqua and colourless hand-finished</td>
<td>35</td>
<td>1820 - 1935</td>
</tr>
<tr>
<td>aqua, colourless; manuf. unknown</td>
<td>5</td>
<td>1820 - 1945</td>
</tr>
<tr>
<td>manganese-tinted; hand-finished</td>
<td>3</td>
<td>1820 - 1914</td>
</tr>
<tr>
<td>manganese-tinted; manuf. unknown</td>
<td>4</td>
<td>1870 - 1914</td>
</tr>
<tr>
<td>aqua Rickett's-moulded</td>
<td>4</td>
<td>1820 - 1920</td>
</tr>
<tr>
<td>aqua &amp; colourless machine-made cobalt; manufacture unknown</td>
<td>5</td>
<td>1904 - 1945</td>
</tr>
<tr>
<td>&quot;Bead&quot; finishes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>colourless; hand-finished</td>
<td>2</td>
<td>1820 - 1935</td>
</tr>
<tr>
<td>colourless; manufacture unknown</td>
<td>1</td>
<td>1820 - 1945</td>
</tr>
<tr>
<td>green/yellow; machine-made</td>
<td>1</td>
<td>1904 - 1945</td>
</tr>
<tr>
<td>colourless &quot;Ring/1OIll,&quot; hand-finished</td>
<td>1</td>
<td>1820 - 1935</td>
</tr>
<tr>
<td>cobalt &quot;Champagne;&quot; hand-finished</td>
<td>3</td>
<td>1820 - 1935</td>
</tr>
<tr>
<td>&quot;Straight&quot; finishes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>aqua; manufacture unknown</td>
<td>3</td>
<td>1820 - 1935</td>
</tr>
<tr>
<td>manganese-tinted; manuf. unknown</td>
<td>1</td>
<td>1870 - 1914</td>
</tr>
<tr>
<td>&quot;Flared&quot; finishes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>colourless; manufacture unknown</td>
<td>3</td>
<td>1820 - 1945</td>
</tr>
<tr>
<td>aqua; manufacture unknown</td>
<td>1</td>
<td>1820 - 1945</td>
</tr>
<tr>
<td>Ampoules</td>
<td>3</td>
<td>1900 - present</td>
</tr>
<tr>
<td>Medicines in Tin Cans n=3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pill tins</td>
<td>2</td>
<td>1900 - 1927</td>
</tr>
<tr>
<td>Dr. Chase's Ointment</td>
<td>1</td>
<td>1910? - 1927?</td>
</tr>
<tr>
<td>Fancy Medicine Stoppers n=12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>manganese-tinted finial</td>
<td>1</td>
<td>1870 - 1914</td>
</tr>
<tr>
<td>fancy colourless finials</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>colourless ground shanks</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Medicine Bottle Corkscrews and Corks n=14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wire corkscrews</td>
<td>11</td>
<td>pre-1945</td>
</tr>
<tr>
<td>corks</td>
<td>3</td>
<td>pre-1945</td>
</tr>
<tr>
<td>Thermometer Fragment</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL: 243
that the narrow sides are moulded with a sequence of wide dimples. These are all machine-made and have continuous-thread finishes, judging by the single finish recovered (IN 02-6572). The markings on the single base fragment, a 7 followed on the same line by an E and the diamond-D logo (IN 02-2262), indicate manufacture by the Dominion Glass Company between 1941 and 1953, the period when a letter code indicating the months of manufacture preceded the diamond-D logo (Miller and Jorgensen 1986:3-4).

Five colourless sherds from different bottle forms contained perhaps cough syrups. Two are machine-made while the others are of unknown manufacture. They all exhibit line graduations embossed along the narrow edges. One specimen (IN 02-18743) has CC over the digits 80. Eighty-eight sherds from six whole or nearly whole bottles are small or medium in size and have square or rectangular plans. Some have recessed panelling and all but one have prescription finishes. These are itemized in Table 6.6. The shoulder of one colourless specimen (IN 02-5412) rises at a 45 degree angle from the body to a moulded ring at the base of the neck. The latter rises from this ring straight up toward the finish. This ring is typical of a style of neck called a "ball neck" (Jones and Sullivan 1985:82) and is considered here to be part of a medicine bottle. In general, 1935 may be used as a rough terminal date for hand-formed bottle finishes. However, this technique persisted longer with pharmaceutical bottles than with other bottle forms (Jones and Sullivan 1985:39). Because only a cork could seal these types of closures, an arbitrary date of 1945 has been selected as the terminal date for artifacts of these styles (see Table 6.6). See Section 6.4.3 below for a fuller discussion of this reasoning.
"Patent" and "prescription" finishes have no string rims. In profile they are both flat on the sides and either flat on top (patent) or slope slightly into the bore (prescription). They are generally found on medicine bottles but can also appear on those containing flavouring extracts (Jones and Sullivan 1985:Figure 60). Four aqua sherds of this type were manufactured by the Rickett's three-piece moulding technique. While this method declined in use by the late 1800s, it continued to be used for small bottles into the 1920s (Jones and Sullivan 1985:30). A "bead" finish (after Fike 1987:Figure 2.3 and caption) has the same characteristics as the patent/prescription style but is rounded in profile.

The "Ring or Oil" finish type follows Fike's terminology (1987:Figure 2.11 and caption). It has no string rim and resembles a truncated cone in profile with a long taper from bottom to top. This style and that of the cobalt "champagne" finish listed in Table 6.6 resemble miniaturized versions of styles commonly found on liquor bottles. The four cobalt blue specimens may eventually mend with some of the round-planned body sherds. The latter are classified as unidentified (see Chapter 10.1.1) since the other cobalt finish types in the collection are from ink bottles (see Chapter 8.5.1). Finally, neither the "straight" (after Jones and Sullivan 1985:80) nor the "flared" finish styles have string rims. They are simply extensions of the neck with profiles as suggested by their names. Neither is a definitive medicine bottle style but both are designed for ease of pouring. They are provisionally classified with other medicine bottle finishes.
6.4.2 Other Medicine Containers

Phials and Ampoules  n=3

Two complete aqua phials were found with their corks lying loose in the bottoms (IN 02-32932). They both have heights of 32 mm and diameters of 19 mm (one is illustrated in Figure 6.5a). They were hand-blown in cup-bottom moulds and the finishes fire-polished to smooth the rough edges. They have distinct shoulders and a capacity of approximately 3 ml (roughly half a dram in apothecary measures) when filled to the shoulder. A tube end of very thin (0.6 mm) glass was recovered which may be from an ampoule (Figure 6.5b). The finish has a moulded, sharply indented groove around its circumference near the top. This might be to accommodate a cork. The identification of this artifact is tenuous and it should be reexamined.

Medicines in Tin Cans  n=3

There are two small hinged pill tin parts in the collection. Both are rounded rectangular in plan and have along one side a series of cut loops which, when interleaved with the other half of the tin, could be linked by a rod slid in between. Neither specimen still has its rod present. Because their dimensions are similar, it is possible that they are the top and bottom of the same container. Specimen 14-7631 measures 47.6 by 33.3 by 7.9 mm tall. Specimen 14-8420 measures 47.6 by 34.9 by 9.5 mm tall. Rock (1987:11) says hinged metal boxes may be as early as 1870 but were most popular around the turn of the century.

A round slip-lid (IN 14-15720) measuring 44.5 mm in diameter is lithographed DR. CHASE'S OINTMENT on a yellow background. Other
Figure 6.5. Ampoules and decorative medicine bottle finials. Phial and cork (a), possible ampoule? (b), decorative medicine bottle stopper finials (c-e,g), ground distal stopper shank (f).
text on the artifact indicates this product was used to heal skin irritations. The word EDMANSON is also present and may refer to the parent company. No information about this product was found in the literature. However, it was listed in a 1910-11 Hudson's Bay Company mail-order catalogue for forty-five cents. No illustration accompanies this entry (Watson and Dwyer Publishing Ltd. 1977:232). It was carried by Eaton's in their 1927 Spring and Summer catalogue on page 352. The tin illustrated there differs from the Letendre specimen. It shows the doctor's face with DR. A.W. CHASE'S and OINTMENT above and below. It was offered for fifty cents a tin and listed as a specific for "itching piles, hives, pin worms, etc." (Debra Cochrane 1989:personal communication; photocopy of advertisement sent to the author). These catalogues at least bracket the date for this artifact but it could have been deposited either earlier or later.

6.4.3 Other Medicine and Health-Related Paraphernalia

Decorative Medicine Stoppers n=12

A variety of decorative stopper finials are illustrated in Figure 6.5c-e, g. It is possible that these belonged to perfume bottles but none of the moulded patterns of the stoppers match any of the suspected perfume bottle fragments recovered. Moreover, the only perfume bottle finish described in Section 6.3.3 was not ground inside the bore, a necessary manufacturing step to ensure a tight seal. It is also unlikely these decorative knobs belong to fancy tableware or toiletry vessels because the diameter of the necks on these specimens, where present, is small and would not withstand any substantial torque. Two
(IN 02-23914 and 02-25542) have flat oblong heads of a type described in Jones and Sullivan (1985:153-154). The two shanks recovered have been ground after pressing (one is illustrated in Figure 6.5f).

Medicine bottles, particularly commercial patent medicines, were not sealed with glass stoppers, as a rule. To do so would have added significantly to the cost of the container and a tight seal during shipment could not be ensured. Rather, corks were used and a simple wire corkscrew (see below) attached by a string to the neck of the bottle was enclosed with each carton (for example, see Jones and Sullivan 1985:Figure 123a). Glass stoppers had the advantage of not crumbling with repeated insertions into the bottle (Jones and Sullivan 1985:152) and were also more decorative.

Medicine Bottle Corkscrews and Corks n=14

Eleven small wire corkscrews with the blunt ends twisted in a finger-size loop were recovered, one (IN 08-800170) with a chunk of cork still adhering. The three corks (IN 99-9300, 99-11190, and 99-11460) were distinguished from liquor bottle corks by their small size. They are approximately 15 mm long with tops that vary in diameter from 11 to 15 mm and distal tips of diameter 8 to 14 mm.

These artifacts can be dated in a general way by examining the trend toward threaded bottle closures in glass manufacture. Miller and Pacey found that by 1933, only 22% of the medicine-size bottles produced by Dominion Glass were still being sealed with cork (1985:Table 3). This was due to the fact that by this time machine-made bottles were being produced in quantity with standardized finishes to take continuous-threaded screw caps. Lief (1965:36-37) says the Spanish
Civil War (1936-1938) seriously disrupted supplies of cork and that during World War Two cork supplies were reserved for munitions since cork was used for gun wads. Therefore, it may be safe to conclude that almost no medicine bottles were sealed with cork after 1945.

**Thermometer Fragment  n= 1**

A colourless "lampworked" glass tube is thought to be a thermometer fragment. It is circular in cross-section and there are no graduations along its body. These have either eroded away or this specimen is from an outdoor thermometer mounted in a backing on which degrees were marked off. As thermometers for measuring body temperature are more subject to breakage it is likely this item is for measuring fevers rather than climate. Lampworking is the term used to describe the moulding of glass tubing over a Bunsen flame (Jones and Sullivan 1985:49).

**6.5 Infant Care**

**Safety Pins  n=11**

Safety pins are very versatile, but nevertheless have been included under this heading. One specimen (IN 08-13370) is 38 mm long and is constructed in the same way as are modern-day safety pins. That is, the catch is a separate, trough-shaped head of tin crimped onto the wire body. Possibly three more in the collection may be of the modern style but the heads have broken off. The rest have heads formed by coiling the blunt end and bending the coil in half to form a catch.
Possible Baby Pram Parts  n=3

A curved springy metal strip 13 mm wide has one end curled around a free-swinging D-shaped ring (IN 08-19280). Although it resembles a strap support for a bed or cot, it is too thin for this purpose. Therefore, a pram suspension or hood part is inferred as the function of this artifact.

A ferrous small spoked wheel (IN 08-1280) measures 127 mm in diameter and has eight bicycle-like wire spokes which protrude substantially out into the rim. This implies that the rubber tire, now gone, was solid, not pneumatic. This is thought to be a wheel from a vehicle the size of a baby carriage or a toy wagon. In addition to this wheel, an axle suitable to accompany it was also recovered (IN 08-11360). It is a rod 279 mm long with two holes at either end presumably to accept cotter pins. A wire nail about 70 mm long through one of these holes may have served in the same capacity as a cotter pin. As was the case for the wheel, this was either from a toy wagon or a baby carriage.
CHAPTER 7

THE MATERIAL CULTURE: SUBSISTENCE AND LEISURE ARTIFACTS

All food artifacts such as faunal and floral remains and commercial food containers, are included in this chapter in Section 7.1. Tools required for their preparation are to be found in Chapter 8.

Artifacts used during leisure activities are described here. Leisure, while not absolutely essential to human life, is important to an individual's well-being and social interactions. This category is split into two broad categories. The indulgences of alcohol and tobacco are described in Section 7.2. Artifacts of play, both adult and child, are dealt with in Section 7.3.

These artifacts are broken down into their basic headings with artifact fragment counts for each in Table 7.1.

7.1 Food and Drink Artifacts

Nourishment is a basic human need. This category includes all food remains and commercial food containers. The quantities of artifacts are immense, exceeding 22,000 in all. However, about 20,000 of these are faunal remains which are included but not analyzed.

This section is subdivided into meat and seafood artifacts, floral remains, milk containers, condiment containers, beverage containers, and generic food product packaging.
Table 7.1 Quantities of the artifacts described in Chapter 7.

<table>
<thead>
<tr>
<th>ARTIFACT CLASS</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food and Drink Artifacts n=22,526</td>
<td></td>
</tr>
<tr>
<td>Meat and Seafood Remains and Containers</td>
<td>20,672</td>
</tr>
<tr>
<td>Floral Remains</td>
<td>99</td>
</tr>
<tr>
<td>Dairy Product Containers</td>
<td>67</td>
</tr>
<tr>
<td>Baking Product Containers</td>
<td>42</td>
</tr>
<tr>
<td>Condiment and Food Spread Containers</td>
<td>153</td>
</tr>
<tr>
<td>Non-Dairy Beverage Containers</td>
<td>955</td>
</tr>
<tr>
<td>Generic Food Packaging</td>
<td>538</td>
</tr>
<tr>
<td>Artifacts of Indulgences n=3,260</td>
<td></td>
</tr>
<tr>
<td>Alcoholic Beverage Containers and Seals</td>
<td>3,096</td>
</tr>
<tr>
<td>Smoking Pipes and Tobacco Packaging</td>
<td>164</td>
</tr>
<tr>
<td>Artifacts of Pastimes n=86</td>
<td></td>
</tr>
<tr>
<td>Adult Pastime Artifacts</td>
<td>31</td>
</tr>
<tr>
<td>Children's Toys</td>
<td>55</td>
</tr>
<tr>
<td><strong>TOTAL</strong>:</td>
<td><strong>25,872</strong></td>
</tr>
</tbody>
</table>
7.1.1 Meat and Seafood Remains and Containers

Meat Cans  n=9

Tin cans likely to have contained meat products were identified by their rectangular planview or a keystrip method of opening. Dimensions, trade marks, and closure style further served to narrow down the nature of their former contents. Keystrips were used on meat cans starting in the 1890s (Canadian Parks Service n.d.; Rock 1987:107).

The only specimens having round planviews were two basal portions opened by keystrips. Because they both have diameters of 63.5 mm, they have been tentatively identified as bacon can parts. One specimen (IN 14-8100) stands 73.0 mm high and may be an example of early keystrip technology. While the closure portion is missing, the base of this specimen is attached with a single seam and the side seam is lapped, rather than interlocked. All seams have been sealed with a heavy coating of solder. Because of the seam styles and the keystrip opening, a date of about 1890 to 1920 has been assigned to this artifact. Unfortunately, the seam attributes on the other specimen (IN 14-8100) were not recorded. Therefore, it can only be dated from about 1890 onward.

The top and bottom of a rectangular keystrip-opened can were found in the same unit and likely belong to one another. The base end (IN 14-11611) measures 101.6 by 57.2 by 114.3 mm to the top of the raw edge. The base was attached with a single seam. The side seam is interlocked but also sealed with copious amounts of solder. This may mean the seam was formed without the use of the various rubber gaskets and sealants developed for use in interlocked seams in the 1880s. The top part of
this can (IN 14-11634) has a cap-on end with a hole-in-top closure. Given the manufacturing attributes and the likelihood the original can contained meat, a date of around 1890 to 1920 (but possibly not quite that young) is inferred for these artifacts.

One common feature of these hole-in-top meat cans is that their basal ends have single rather than cap-on seams. It was not recorded during recataloguing at which end the opening key was attached. It seems sensible to presume the can could not be conveniently stacked for retail display without each column rocking precariously on the attached keys. The single seam would provide a countersunk area in which to hide the key or, alternatively, it would serve as a built-in stand to cap over the protruding key of the can top below it on the stack.

Three can lids have rectangular planviews and hole-in-top caps. The edges of all three are smoothly cut, one (IN 14-13230) possibly being opened by slicing off the entire end of the can. These were categorized as meat rather than sardine can lids because they are rectangular and, the author surmises, sardines could not be conveniently packed through the apertures in hole-in-top cans. Stews and corned beef hash can be introduced to cans through hole-in-top filler holes. The only other food product noted for having been packed in early rectangular cans is asparagus (Cruess 1924:145), a seemingly remote possibility at this site.

The last two tinned meat can specimens are more recent in vintage. One is the double-seamed base end of a Burns Company Spork can and the other is a keystrip still bearing the lithographed tops of the letters from BURNS and a picture of a luncheon meat product. Spork does not appear in the Canadian Trade Index as a Burns product until 1941
Seafood Cans  n=15

All these specimens resemble in shape and mode of manufacture sardine or oyster tins. All show signs of being opened with a can-opener (in almost all cases the opener was of the wheel-action type) rather than having a keystrip or a pull-lid. Ten have double-seamed tops and drawn bodies. Two are fragmentary and are tentatively designated as seafood cans by their dimensions. They have single-seamed tops but the bodies and lids are missing. Likewise, the three seafood can lids recovered are so called because of their dimensions.

One loose lid (IN 14-7664) bears the lithographed mark of Brunswick Sardines. Among the complete specimens, five more fragments from three separate cans bear the same mark. Connors Brothers, the owners of Brunswick Sardines, have been packing the product since 1893 (letter on file, Canadian Parks Service, Prairie and Northern Regional Office; from N.F. MacLeod, October 1, 1979). The can styles suggest a more recent date of post-1920 or so. One other complete sardine can (IN 14-7491) shows traces of another unidentified brand name in blue lettering.

Faunal Remains  n=20,648

An analysis of the fauna from this site is beyond the author's competence. A program of faunal identification was evidently carried out by Jack Dubois of the Manitoba Museum of Man and Nature in 1977, for many of his identifications were written on cards accompanying the fauna of the Carriere building. This task was not completed and no report, to this author's knowledge, was ever issued. A brief attempt at analysis
was made in 1979 by the Batoche site assistant, who had some background in the subject, but other duties required her to abandon this task. Some portions of the faunal assemblage were examined by Kooyman (1981) for his M.A. research. At his request, selected fauna from those excavation units at Letendre's house thought at the time to be from "pure" Métis components were sent to him. All the faunal remains from the Carriere building and the residence of George Fisher (now thought to be a feature other than a house) were also included (Kooyman 1981:75-77). No inventory of identifications was returned with the sample nor does the thesis itself include such an inventory. Consequently the material, at least from the Carriere building, was re-analyzed in 1986 by Linda Seyers (n.d.).

As is by now evident, the faunal remains have been examined by several people in fits and starts. Anyone wishing to attempt the task in future will be dealing with 18,508 bone fragments, 1,928 fish scales, 130 freshwater bivalve remains, 81 eggshell bits, and a small rodent claw.

7.1.2 Flora Remains

Those seeds and fruit pits that were recovered were those which were too large to slip through the 6 mm mesh used in the power screen at Batoche. As such, the sample is too biased to be of much use in other than a presence/absence sense. Ninety-nine seeds were recovered by these means. Future excavations at the site ought to include flotation recovery, however, as the degree of preservation seems to be quite good.
the same initials. Therefore, the upper end of the date range will be considered 1950, the extreme date for use of the Owen's machine.

Two colourless milk bottle body sherds with an applied red enamel label reading in part Dairies on the back and Pa( lm) in script on the front were recovered from the Carriere structure (IN 02-6860). Five other sherds with similar form and labelling were found elsewhere at this structure. Palm became a separate company in 1929 (Henderson's 1929:138,436) and discontinued refillable bottles about 1970, according to Mr. Norm Swaney, a manager at Palm (personal communication:July,1988). The applied colour label implies a minimum date of about 1934 when this technique was first used commercially, at least in the United States (Jones and Sullivan 1985:76). A marked but unidentified colourless sherd has (PROPE)RTY moulded in a circle just below the shoulder (IN 02-7042).

Two milk bottle closures moulded with a ledge inside the rim to accommodate the cardboard plug and six neck fragments (four of them aqua in colour) complete the inventory of milk bottle sherds.

Canned Milk Products  n=35

All but three of the specimens in this category are evaporated milk cans. The remaining two complete cans and one top end are from condensed milk cans. Although both are concentrated through the reduction in moisture, the key ingredient present in condensed milk but not in evaporated milk is added sugar which aids in the prevention of spoilage when packed in vacuo.

Patents for sugar-aided milk canning were issued in Europe throughout the first half of the nineteenth century but Gail Borden's
1850s efforts in the United States are generally credited as the first commercially successful ones (May 1937:170-177; Rock 1987:42-43). Canned evaporated milk which kept without the addition of sugar was developed later by the Germans and Swiss between 1881 and 1883. The Helvetia Milk Condensing Company was the first in the United States to attempt to market this product in 1885 but it was not until 1890 that they became solidly established (May 1937:183-185). Both products are poured into their cans through wide vent holes which are subsequently sealed with solder. To this day, some milk cans are manufactured with cap-on tops and bottoms. Rock (1987:43) points out the key difference between these two types of milk which enables them to be distinguished in an assemblage. Condensed milk has a viscous consistency and cannot be removed from the can without opening it sufficiently to scoop out the contents. Evaporated milk is liquid and can be poured out of the can by puncturing the top at opposite sides. Juices, another significant liquid product packed in cans, were not successfully packaged in anything but bottles prior to the 1920s (Cruess 1924:205-236; May 1937:306,369). By that time double-seam ended tin cans were commonly used by commercial canners.

All of the 32 evaporated milk cans have interlocked side seams, cap-on ends, and soldered vent hole closures. They measure 76.2 mm in diameter by 108.0 mm high. Of these, six were unopened but have the dimensions and manufacturing traits just described. The rest were punctured on opposite sides of one end. These punctures are either slits or small round holes. One (IN 14-7174 [one specimen out of five]) has a triangular puncture, perhaps produced by the so-called "church key" type of opener. The "church key" was invented in 1935
(Rock 1987:112) but is more efficacious when used on double-seamed tops as they provide a rim for the opener to grip. Whether or not this kind of tool was used to open this can is therefore uncertain. Another specimen (IN 14-8971) thought to be an evaporated milk can was opened with a single large triangular slit at the top edge with the cut segment bent outward slightly. This can was opened with a sharp tool, not a "church key."

The three condensed milk specimens, two complete cans and one cap-on end fragment, are of the same general construction described above. The two complete specimens, however, (IN 14-7112 and 14-7124) were sealed with MacDonald-style metal plugs which may also have been soldered. These two specimens have different dimensions (73.0 mm diameter by 95.3 mm tall) than those of the evaporated milk cans described earlier. They have embossed around the edges of the top end portions of the wording THE BORDEN (?) CO. LIMITED followed by EAGLE BRAND. Both were opened by criss-cross cuts spanning the whole top of the can, an opening method which, as stated above, is appropriate for a condensed milk can.

Gail Borden created Eagle brand condensed milk in 1865. He operated various companies throughout the remainder of the nineteenth century but the Borden Condensed Milk Company incorporated in New Jersey in 1899 was the first of these to combine his name and Eagle Brand together (Rock 1987:42-43). The remaining cap-on end fragment (IN 14-7672) is embossed with the letters -N LIMITED in the same style and location on the rim as was found on the more complete specimens. How, or if, this specimen was opened could not be determined.
7.1.4 Baking Product Containers

Flavouring Extract Bottles  n=21

Only bottles positively identified as containing flavourings are included here, although other small recessed-panelled bottles in the collection without marks could be extract bottles. The most common brand name identified is Dr. Price. Nineteen colourless front panels were recovered embossed with various portions of the words DR. PRICE'S over SPECIAL over FLAVORING EXTRACTS, the edges of the latter phrase curling around the bottom of the recessed panel (Figure 7.1a). In the collection at least two sizes were noted. The specimens were too fragmentary to determine their modes of manufacture.

The spelling of the word "flavouring" suggests an American origin. Unreferenced notes on a file card in the Winnipeg Canadian Parks Service lab state that this product was made by the Price Baking Powder Company of Chicago (see also "Baking Powder" below) which began operations in 1855. Herskovitz (1978:22) noted two variants among the artifacts from Fort Bowie, Arizona. Some of his colourless specimens were marked as above but others were embossed DR. PRICE'S DELICIOUS FLAVORING EXTRACTS. The "Delicious" version was not observed in the Letendre sample. Use of the word "Special" rather than "Delicious" in the 1880s, at any rate, is confirmed by the wording of advertisements in the Chicago Daily Tribune (1882; quoted in Wilson [1963:60-61]) and the Rio Grande Republican (May 2, 1885; photocopy and letter on file, Canadian Parks Service, Prairie and Northern Regional Office, from John P. Wilson, September 16, 1980). Fort Bowie was in operation from 1862 to 1894 (Hersovitz 1978:1). Wilson (1963:61) collated
Figure 7.1. Glass flavouring and condiment bottle sherds. DR. PRICE'S recessed panel (a), IMPERIAL EXTRACTS bottle base (b), SANDHAM'S JAMAICA GINGER recessed panel (c), Lea and Perrins' sauce bottle base (d), HEINZ bottle base (e). Drawings by Kathy Graham-Stevenson, Canadian Parks Service.
a date range of 1865-1890 based on the operation span of Fort Union, New Mexico and Fort Laramie, Wyoming. The specimens from those sites were light blue in colour. For now, the date range of 1862-1894 compiled from the beginning and ending operational years of the three forts will have to serve for the Batoche specimens.

A badly pot-lidded but nearly complete extract bottle (IN 02-27320) was recovered just north of Letendre's house. It is colourless, round in plan, and stands 100 mm high with a diameter of 40 mm. The lip of the finish is down-tooled while the string rim is v-tooled (after the terminology of Jones and Sullivan [1985:81]; Fike calls this style a "double oil or mineral" [1987:Figure 2.2]). The base is embossed around the inner edge of the resting surface with IMPERIAL EXTRACT CO TORONTO (Figure 7.1b). The Rickett's moulding technique used to form this specimen persisted until about 1920 for small bottles (Jones and Sullivan 1985:30). A letter from Kellogg-Salada Canada, Inc. (on file with pamphlet, Canadian Parks Service, Prairie and Northern Region; from J.W. Sinclair, October 16, 1979) says that F.A. Shirriff formed Imperial Extracts in 1883 as an offshoot of his wholesale and retail food business in Toronto.

The last extract bottle fragment illustrates better than any other the risks entailed in making assumptions about partial embossed lettering. This sherd (IN 02-31543) is a green-yellow recessed panel embossed with SAN(?) over JAMAICA(CA) (Figure 7.1c). Consultation with standard bottle collectors' reference books such as Baldwin (1973:430) or Fike (1987:113) would have led one to conclude that this was a Sanford's Jamaica Ginger specimen. However, a complete specimen found in a cupboard in the extant Caron house at Batoche is embossed
SANDHAMS over JAMAICA over GINGER. The lettering of the Letendre house specimen matches in every detail the whole bottle from the Caron structure. It is likely Sandham's product was a "copy-cat" brand name chosen to resemble the more popular Sanford's extract, a common practice in the industry. No information about this product was found. If we assume that Sandham's was produced to mimic Sanford's then a date of sometime after 1876 is reasonable, this being the registration date for Sanford's (Fike 1987:113).

Spice Cans and Can Fragments  n=8

Small cans with tall and slim rectangular proportions were identified as spice containers. A body fragment (IN 14-8422) lithographed with GOLD STANDARD CLOVES on a red background was recovered which stands 82.6 mm tall. In addition to the front label are the words (PR)OFIT SHARING COUPONS IN THIS PACKAGE on the side. A more complete specimen (IN 14-13780) lithographed with an indistinct mark, possibly Blue Ribbon, measures 60.3 by 19.5 by 82.6 mm tall. The base may have been applied with a single seam while the top took a slip-lid. Three double-seamed base fragments (IN 14-631) belonged at one time to a tin can of dimensions 34.9 mm by approximately 54 mm long and of an unknown height. Because of the planview and small dimensions these specimens are categorized as belonging to a container for spices or some other dry baking good.

A can top end (IN 14-19530) was recovered exhibiting design features only found on spice tins. It measures 60.3 by 22.2 mm. The top has at one end an oval opening while sprinkler perforations have been stamped at the other end. In between are tabs which at one time
Figure 7.2. Food tin can artifacts. Starch can with a clenched single-seamed base (a), FRY'S cocoa can lid (b), single-seamed groats can base (c), baking powder slip-lids (d and e).
acted to guide a sliding plate, now absent, which could be set to cover one or the other dispensing aperture. Below the rim is a rib moulded into the can's body which suggests this can additionally took a slip-lid to prolong the freshness of the contents. Two fragments (IN 14-19280) of a perforated sheet metal slide assembly were also recovered. As detailed in Chapter 5.5.7, sprinkler tops may post-date 1889.

Starch Can Base  n=1

A solitary single-seamed base (IN 14-8674) embossed with COLMAN'S over NO. 1 over STARCH (Figure 7.2a) belonged to a can which could have been used in baking or laundering. However, its dimensions (63.5 by 38.1 mm) suggest the former is more likely.

Baking Powder Cans  n=10

Five of the baking powder cans are complete but missing their lids while the rest are slip-lids separated from their parent cans. Two baking powder cans lithographed with the Blue Ribbon label on a red background took at one time threaded lids, as the curled top edges are moulded with discontinuous lugs. They are crushed but both appear to be approximately 133.4 mm tall without their lids. One specimen (inventory number 14-15310) has a double-seamed base and an interlocked side seam. Its diameter is uncertain because of the crushing but is between 100 and 110 mm. This can has remnants of a putty-like substance adhering inside.

The other specimen (IN 14-13640) has the same height but is somewhat narrower, having a diameter of 79.4 mm. Unreferenced notes on a file card in the Winnipeg Canadian Parks Service lab (probably derived
from the Canadian Trade Index) say Blue Ribbon was formed in Winnipeg about 1905. However, Blue Ribbon teas and coffee were advertised in Dawson City, Yukon newspapers as early as 1902 (Archibald 1981:110).

Two Nabob brand baking powder cans were recovered, also missing their lids. One specimen (IN 14-8431) is similar to the Blue Ribbon specimens already described, having taken at one time a discontinuous threaded lid as its closure. Its dimensions are 81.0 mm in diameter by 127.0 mm tall without the lid. The labelling information includes some text which reads in part -MIX THOROUGHLY which could refer to a dry product like baking powder or cocoa. Baking powder is the preferred interpretation.

The other Nabob baking powder can (IN 14-14280) has also been crushed but was also 127.0 mm tall and the diameter is estimated to be a little over 76 mm. Unlike the other can, this specimen took a plug-in lid closure. The top is attached with a double seam and some recipe text is lithographed on the side. This can is probably recent. No specific information has yet been obtained about this brand name.

A tall and slender crushed can missing its plug-in lid (IN 14-7113) probably contained either baking powder or some other dry good such as cocoa. It measures about 76 mm in diameter by about 127 mm tall, dimensions that are consistent with the identified baking powder cans so far described. The ends are attached with double seams and the side seam is interlocked.

Two isolated slip-lids were recovered both embossed with WHITE STAR over a five-segmented asterisk or star over PURE & over WHOLESOME over BAKING POWDER. The two apparently belonged to two different sizes of can. The smaller of the two lids (IN 14-9561) measures 73.0 mm in
diameter (Figure 7.2e) while the other (IN 14-15070) is 82.6 mm across. Research done by staff at the Canadian Parks Service into the files of the Manitoba Department of Consumer and Corporate Affairs and elsewhere compiled the following information. White Star was a brand name of Dyson, Gibson and Company which was incorporated in Winnipeg in 1895. The picture in an advertisement (catalogue of the Kelly, Douglas and Co., 1901, page 13; photocopy) from 1901 shows a White Star baking powder can but the lid would appear to have been marked with the Dyson company name. The name was changed to White Star Manufacturing Company in 1903 to distinguish it from an Ontario firm also called Dyson's and its charter was revoked in 1943. The dates 1903-1943 are assigned to these artifact, assuming White Star was embossed on can lids after 1903.

A slip-lid (IN 14-13740) 81.0 mm in diameter has embossed on it in script running obliquely from lower left to upper right the word Eclipse. Below that is embossed CANADA'S over FINEST nested over the smaller words BAKING POWDER. Information on file in the Winnipeg office of the Canadian Parks Service indicates Eclipse was produced by the Western Grocers company for a short time after 1938.

One of the largest slip-lids recovered at the site measures 133.4 mm across (IN 14-13590). It is embossed with MAGIC over BAKING over POWDER over something else which is indistinct over PURE over WHOLESOME. This is a remarkably large lid for this type of product. The earliest date which can be determined for this artifact is 1901, although it was probably available earlier. Magic brand is still available today but the cans now have plug-in lids. An advertisement for goods produced by the E.W. Gillett Company in 1901 (catalogue of the Kelly, Douglas and Co., 1901, page 12; photocopy) lists Magic Baking Powder in sizes up to
five pounds.

The last baking powder slip-lid specimen (IN 14-15540) was away for conservation treatment at the time recataloguing was done. Canadian Parks Service records indicate it is embossed in the centre with Dr. PRICE'S CREAM over BAKING POWDER. Arched over this along the rim is THE MOST PERFECT over MADE. The bottom along the rim has 12 oz. over (?) WEIGHT (Figure 7.2d). A note made by an unknown researcher says the use of the wording MOST PERFECT appears on cans in an 1895 ad and that possibly after 1900 the wording became PERFECTLY MADE. This comment is not referenced and has not as yet been verified. However, an ad on May 2, 1885 in the Rio Grande Republican uses the "Most Perfect" version (La Cruces, New Mexico, page 4; photocopy accompanying a letter on file, Canadian Parks Service, Prairie and Northern Regional Office, from John Wilson, September 16, 1980). The same company which produced Dr. Price's Flavoring Extracts (see above) made this product starting in 1855. The terminal date of about 1900 for this artifact is accepted for the time being.

Groats Cans n=2

Two rectangular cans (INs 14-9471 and 14-11100) were recovered which at one time took slip-lids have single-seamed bases embossed with ROBINSON'S over GROATS (Figure 7.2c). Both measure 63.5 by 38.1 mm at the base and are 101.6 mm tall. Groats are a form of hulled oats. Notes by an unknown researcher on file in the Winnipeg lab state that the product was made by Keen, Robinson and Company until sold to J. & J. Colman in 1903. The implication in these notes is that the product's name changed at that time but there is no certainty of this.
7.1.5 Condiment and Food Spread Containers

Lea & Perrins' Worcestershire Sauce  n=13

Lea & Perrins' Worcestershire Sauce is represented in the collection by thirteen embossed body fragments, a base, and a possible finish, all pale green in colour. This popular condiment was first introduced around 1835 and by the early 1870s was being marketed world-wide (Lunn 1981:6).

Two different bottle sizes are present. The lettered body sherds are quite fragmentary but their ascription to Lea & Perrins was confirmed, in the main, by Kevin Lunn of the Canadian Parks Service and author of a study of these bottles (1981). These distinctive sauce bottles are lettered LEA & PERRINS up the side of the body and WORCESTERSHIRE SAUCE around the shoulder (Lunn 1981:5). A shoulder sherd horizontally embossed (WORCESTER)SH(RE) (IN 02-20040) probably belonged to a half-pint size bottle of this sauce. The bottle's mould seam touches the left edge of the "H" as it does in whole specimens (Lunn 1981:Figure 4). A full pint size bottle is represented by a sherd lettered (P)ERR(INS) which runs along the long axis of a pale green body sherd (IN 02-20172). The other body sherds have like embossment appropriately oriented on each. The base (IN 02-31940) is embossed A C B Co around its centre and would have belonged to a half-pint bottle (Figure 7.1d). This is the mark of the Aire and Calder Bottle Company which appears to have operated from the 1860s to, at most, the 1920s. The embossed pale green body appears to span about the same period (Lunn 1981:5,14). The finish (IN 02-20204) cannot be confirmed as a Lea & Perrins finish except that it matches the colour
and style of known whole specimens and was found in the same excavation unit as one of the body sherds cited above. It should be noted in passing that several lead foil capsule tops were recovered embossed with the Crosse and Blackwell logo (see Section 7.1.7). This company was the Canadian agent for Lea & Perrins in Canada since at least 1874 (Lunn 1981:6). The capsule fragments covered finishes of the same diameter as the specimen thought to be from a Lea & Perrins bottle. Of course, Crosse and Blackwell handled many other products besides Lea & Perrins.

**H.J. Heinz Condiment Bottle n=9**

Nine colourless fragments (IN 02-22670) mend to form a rectangular base embossed with H.J. HEINZ Co. over 13 (Figure 7.1e). Heinz formed in 1876 and, by the early 1890s when the famous "57 Varieties" slogan was created, the company was a diversified food empire (Fucini and Fucini 1985:102). A letter from the company (from E.C. Lehew, H.J. Heinz U.S.A., to B.J. Clarke, copy on file, Canadian Parks Service, Prairie and Northern Region) says that the "13" bottle was produced between 1880 and 1903. It would have contained pickles, celery sauce, or horseradish and would have been sealed with cork and wax. The lead foil capsules that, in turn, covered the corked finish were colour-coded: red foil covered sweet foodstuffs while green foil was used for sour-tasting products.

**Identified Brands of Ketchup and Mustard n=47**

Three separate but identical colourless bases comprising six fragments are embossed with LIBBY McNEILL & LIBBY Rd 1922 around the insides of the resting surfaces. In the centre is the
inverted-triangle C logo of the Consumers Glass Company. A letter from Libby, McNeill, and Libby of Canada tentatively identified these as ketchup jars used during the 1920s and 1930s (on file, Canadian Parks Service, Prairie and Northern Region; from Roberta Resnick, September 18, 1979, page 1). Resnick also opines that embossing the company name on the containers probably stopped in the 1940s.

The French's mustard jar base in the collection could not have been deposited at the site any earlier than 1939, to judge by the registration date moulded into it. This date is accompanied by the French's flag logo and a solitary diamond-D logo. Because there is no factory or date code information surrounding the Dominion Glass mark, this jar may have entered the archaeological deposits prior to 1941 (Miller and Jorgensen 1986:3-4) but there is no assurance of this.

Another mustard container is one of the few glass specimens with a paper label still adhering. Thirty-nine colourless fragments (IN 02-3950) and possibly another (IN 02-7060) mend to form a bottle or jar (the shoulder and finish are missing). The black paper and foil label identifies this specimen as a Danny Boy Mustard container. The container form is oval with flattened ends and is moulded with a series of concentric rectangles. The overall shape flares from base to shoulder. This linear style may be another example of the 1920s and 1930s "Art Deco" mode in glass containers (c.f. Miller and Pacey 1985:48). The base is embossed with CANADIAN CANNERS, a diamond-D with a dot above, and EST 24 at the bottom, as well as some additional mould numbering information. The "EST 24" might or might not mean "Established 1924" which would be consistent with the styling. However, the dot above the Dominion Glass logo would indicate this
particular specimen was made after 1941 when that company devised the factory dot code system (Miller and Jorgensen 1986:4).

Other Identified Condiment/Food Spread Jars and Lids  n=5

Two fragments of a jar finish inside a metal screw-cap (IN 02-3993) are quite recent. The cap is marked Empress Quality Products and Jelly, Marmalade, Jam. The name of the spread could at one time be read in the centre but has since corroded into illegibility.

A loose 63.5 mm pickle jar lid (IN 14-7372) lithographed with DYSON'S on top and ANCHOR CAP TORONTO in tiny letters around the side is of recent origin. The Dyson's referred to here is likely the Eastern company whose name caused Dyson, Gibson and Company of Winnipeg to change their name (see "White Star" baking powder above). Stylistically, this particular lid is a later variant of the Amerseal-style closure with the plastisol seal which was developed in the 1950s (Lief 1965:40-41).

A single screw lid measuring 69.9 mm across is lithographed with the Squirrel Peanut Butter logo. In tiny letters around the side is the following manufacturer's information 70 G ANCHOR D.S. STACKING CAP T.C. - 1186.

Non-specific Glass Condiment/Spread Containers  n=49

A limited number of vessel sherds are considered condiment containers by their form. Eleven unmarked condiment jar fragments have been so designated by their forms and resemblance to marked specimens. Ten of these are finish fragments and mend to make a beaded continuous-threaded finish and body section (IN 02-31830). Their form
is such that they could mend with the Libby, McNeill, and Libby bases described earlier. The other specimen (IN 02-7630) is a complete colourless probable pickle jar. The finish has four lugs which indicates the jar was sealed with an Amerseal cap. The flared and oval-planned jar form was registered in 1932, according to the moulding on the bottom. The accompanying Dominion Glass inventory control information narrows the date to between 1941 and 1953.

Ten colourless bottle sherds (IN 02-3974) mend to form a ketchup bottle body. It is hexagonal in plan, the sides terminate in arches at the shoulder, and what little remains of the neck rises in a cone toward the finish. The base is embossed with C.C. LTD., a diamond-D logo with inventory control information surrounding it, and ROG. 1932 at the bottom. Decoding the Dominion Glass codes yields a date of March or April, 1944, in which this bottle was made. To the left of the Dominion Glass logo is a B and to its right is a 4. The B indicates the pair of months in which the item was made and the 4 is the last digit of the year in which it was made (Miller and Jorgensen 1986:3-4).

Twenty-eight additional colourless sherds with polygonal plans, rounded side facet ends, and diameters akin to those described above were classified as condiment bottles.

Stoneware Preserve Jar Fragments  n=12

The ware type distinguishes ceramic jars such as these from toiletry jars (Sussman 1979b:160). Nine rim fragments (IN 03-1240) mend into an unglazed stoneware rim approximately 75 mm in diameter. While there is not enough of this rim to determine the sort of closure used, it is inferred that a wide cork probably sealed it because the top
contact surface is rough. Three other stoneware sherds (IN 03-1890 and 03-4550) slipped on the inside and salt-glazed on the outside have a narrow diameter and belong to a cylindrical vessel. They are therefore classified here.

Food Spread Cans  n=16

This category comprises squat lever lid cans and/or their lids which probably contained jams, peanut butter, or honey. All these can bodies have interlocked side seams and double end seams. Keen feels plug-in lidded cans for these food products came into use in the 1920s and 1930s (Canadian Parks Service n.d.). Only one specimen and its lid (IN 14-800170 'n=2$) bears a mark. The base of this can is stamped with a large letter M. Superimposed on this are Co. and a letter L. The top of this letter also composes the spine of the letter F. It is not known if this mark is that of the can manufacturer or the food processor who packaged their wares inside.

Dimensions among the other specimens were recorded. The remaining can and lid (IN 14-7172) measures 127.0 mm across by 120.7 mm tall. Two specimens missing their lids are slightly wider, both measuring 130.2 mm across. Their heights differ slightly, one (IN 14-13591) standing 114.3 mm tall while the other (IN 14-13630) is 120.7 mm tall. A third specimen missing its lid (IN 14-15520) is of equal proportions, measuring 101.6 mm in both directions. A final food spread can missing its lid was too deformed to obtain accurate measurements but appears to have about the same proportions as the others.

As containers like these are also used for paint products, care was taken to look for vestiges of paint or varnish on these specimens.
Absence of these materials also served as the basis for classifying some loose lever lids into this category. Of the eight lids recovered, seven measure 114.3 mm across the top and plugged into holes 108.0 mm in diameter. An eighth lid deviated from these consistent measurements, being approximately 127 mm in diameter. It bears no trace of paint and the lip is considered somewhat feeble in construction for use in a paint can.

7.1.6 Non-Dairy Beverage Containers

Soft Drink Bottles and Bottle Caps n=230

The oldest soft drink bottle in the collection probably dates between 1901 and 1912 (IN 02-27763 and 02-27770). This complete aqua specimen mended from 51 sherds has a hand-formed crown finish and a conical neck. ROOT is embossed in a shallow indentation just inside the resting surface. The side seams cross the base to intersect the lip of this circular indentation opposite the bottom of the word ROOT. The two side halves of the mould did not quite mesh perfectly as there is a slight offset on the side seams. Only one side piece of the bottle mould seems to have joined the bottom piece imperfectly. Therefore, it is suspected that this specimen was made in a two-piece, key-hinged mould rather than in a post-bottom mould. The former technique was sometimes used to disguise in the edge of a basal indent the mould seam of a two-piece mould as it crossed the base. This specimen is an oddity in that two-piece moulds fell generally into disuse around 1880 (Jones and Sullivan 1985:26-27). Moreover, the crown finish was not patented until 1891 (Lief 1965:18). The Root Glass Company was not formed until
Chapman J. Root invented the "Red Devil" semi-automatic bottle-making machine in 1912 and presumably switched to producing bottles with this device thereafter (Toulouse 1971:445). Unless this machine produced bottles like this one, a date of 1901 to 1912 is assigned provisionally to this artifact. The precise moulding technique used is either anomalous or a misidentification.

A complete machine-made colourless soft drink bottle mended from 56 sherds has embossed on the base C D L in large, superimposed letters. The top of the L is bifurcated. Elsewhere on the base is the unembellished diamond-D logo of Dominion Glass used between 1928 and about 1970. The mark may be that of Canada Dry Limited. If so, these dates probably can be refined further. The outer surface of the bottle has a deliberate orange peel texture up to the neck where a row of raised diamond shapes girdles the shoulder. The glass is smooth from the shoulder to the finish.

Mission Orange was introduced in the United States in 1934 (Riley 1958:266). Two sherds with black and white applied colour labelling match a specimen illustrated in Stock (1978:24). Ed Mazurek, of Beverage Central, Ltd., Saskatoon (personal communication:July, 1988), recalls Mission Orange was last seen in the Saskatoon area "25 or 30 years ago." The complete Orange Crush bottle (n=84 sherds) is no older than 1956, according to design registration information on the specimen itself.

The remaining soft drink bottle sherds consist of crown finishes and unusually thick and often textured body sherds. Five hand-made aqua crown finishes reinforce a greater antiquity for pop bottles at the site than one might at first suppose. Although the patent date for the crown
closure is technically 1891, the 1893 depression inhibited its spread. Lief suggests that by 1901 use of the finish was flourishing (1965:17-20). Six more finish sherds of machine or unknown manufacture have also been inventoried.

The 24 body sherds thought to be soft drink bottle fragments are colourless, aqua and pale green. They were identified by patterned moulding akin to that of the whole specimens and/or by having unusually thick walls and an appropriate diameter. The carbonation level of soft drinks is such that their bottles must be thick enough to withstand the internal pressure.

Although 60 crown bottle caps are in the collection, only two are from soft drink bottles. A single Pepsi-Cola cap (IN 08-1500) was recovered with a cork liner. Cork liners fell into disuse beginning in the early 1960s (Lief 1965:40). The other specimen (IN 08-4002) is lithographed with SUN CREST ORANGE in yellow on a scarlet background. It has no liner. The balance of the bottle caps are either beer bottle caps (described in Section 7.2.1 below) or cannot be assigned to either category (these are covered in Chapter 10.1.3).

Lead Foil Tea Packages/Crate Liners  n=724

From the beginnings of the trade, tea was wrapped in lead foil and also packed in foil-lined crates to ensure the salt water from the sea voyage did not affect the product. In the 1930s, unacceptable levels of lead were found in tea and the industry switched to packaging in aluminum foil (Harker 1964:242).

Single one-pound package foil fragments (n=325) were primarily identified by the end folding which was done in the same way one wraps a
parcel with paper. Many of these specimens bear the faded remnants of red or blue paint. Caught among the end folds of fifteen of these specimens are cardboard pieces which are assumed to have been coupons. One coupon specimen (IN 99-9601) has the Blue Ribbon brand still readable along with promotional information for other Blue Ribbon products. Blue Ribbon Ceylon tea was being advertised in Dawson City by 1902 (Archibald 1981:110) so presumably the product was available down south earlier than this date.

The lead foil lining the crates (n=187) was distinguished from the individual packages by having a thicker gauge and sometimes thin soldered seams where smaller sheets were joined to make larger ones. The remaining 212 fragments belonged to either crate or package foil.

Cocoa Can Lid  n=1

Embossed on a plug-in lid (IN 14-8423) are the words FRY'S BREAKFAST COCOA over MAKE(RS) over TO over H.M. THE KING (Figure 7.2b). Modern Fry's cocoa cans say the company has been operating since 1728. Barring an unlikely pre-Victorian vintage (i.e. pre-1837) for this artifact, it must be dated between early 1901 and 1953.

7.1.7 Generic Food Packaging Artifacts

Into this category fall artifacts as yet undiscussed which conveyed food from commercial packers to the consumer. Among other things, this category comprises all the hermetically-sealed tin cans and many of the glass jars. Those which contained specific, known types of products have already been covered in Section 7.1.1 to 7.1.6. Household food
storage containers such as canning jars and crocks were reused and are considered in this thesis as domestic goods or tools. They are covered in Chapter 8.

Commercial Glass Food Container Sherds n=324

Table 7.2 itemizes the datable attributes of these sherds. The most complete specimen in this group is a nearly-complete food bottle (IN 02-38281) attributed to the Charles Borron glass manufacturing firm. It was identified as a food bottle by Kevin Lunn who said it is identical to a specimen found at Fort Walsh with part of a J.T. Morton label still adhering (see Lunn 1979:Figure 9). The Fort Walsh specimen has a large M embossed inside the resting surface of the base. The Letendre specimen bears the same mark and has additionally the mould number 148. The research done to identify the Fort Walsh specimen concluded that this was most probably a commercial food package known as a "cork-mouthed kali" made by Charles Borron Company of Great Britain and operating between 1866 and 1922 (C. Weeden to K. Lunn, personal communication, September 22, 1978). Although the Letendre bottle is missing its finish, the Fort Walsh specimen took a cork 35 mm in diameter as a closure. J.T. Morton was among the suppliers of preserved food to the Hudson's Bay Company from 1857 onward (Laflèche 1979:21). Several Morton lead capsules are in this assemblage and are described later this section. While no positive association with Morton can be made conclusively for this bottle, on the basis of form alone the bottle is classified as a commercial food container.

Certain categories and terms used in the balance of Table 7.7 require elaboration. Toulouse (1969b:387-390) concisely outlines the
Table 7.2. Unidentified jar sherds classified by mode of manufacture.

<table>
<thead>
<tr>
<th>JAR PORTION</th>
<th>Machine Made</th>
<th>Owen's Machine</th>
<th>Mould Blown</th>
<th>Unidentified</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles Borron &quot;kall&quot; mark = M and 148</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Colourless Rims</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.t. with bead</td>
<td>63</td>
<td>19</td>
<td>82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.t. without bead</td>
<td>2</td>
<td>13</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.t., bead unknown</td>
<td></td>
<td></td>
<td></td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>bead, c.t. unknown</td>
<td>6</td>
<td>1</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colourless Body Sherds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>round vessel plan</td>
<td>8</td>
<td>13</td>
<td>82</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>shoulders: vessel plan unknown</td>
<td>5</td>
<td>8</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>polygonal vessel plan</td>
<td>21</td>
<td>2</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colourless Bases, Vessel Plan Round</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominion Glass 1943-1953</td>
<td>5</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Consumers Glass 1917-1962</td>
<td>5</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>no makers' marks</td>
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<td>2</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aqua Rims</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.t. with bead</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>style uncertain</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Aqua Body Sherds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vessel plan round</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>shoulders; vessel plan unknown</td>
<td>1</td>
<td>20</td>
<td>13</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Aqua Bases, Vessel Plan Round</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cup-bottom, valve mark, W over 74</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>cup-bottom, no mark</td>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>mark = 2</td>
<td></td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green/Yellow Body Sherd</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>shoulder, vessel plan unknown</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Manganese-tinted Body Sherd</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vessel plan round</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>TOTALS</strong>:</td>
<td><strong>94</strong></td>
<td><strong>5</strong></td>
<td><strong>65</strong></td>
<td><strong>160</strong></td>
<td><strong>324</strong></td>
</tr>
</tbody>
</table>
peculiarities of machine manufacture of jars. The date of the Owen's patent, 1904, is conventionally cited as the beginning date for automated glass vessel production. Semi-automatic machines which produced vessels with features indistinguishable from fully automated processes were developed decades before the Owen's machine. The first workable semi-automatics appeared in the 1880s, commencing in 1886 with the Ashley machines in Britain (Toulouse 1969:388). Jar manufacture more than any other container form was a particular goal of the drive to automate. Therefore, 1886 is used here conservatively as the earliest date for jar fragments with no other datable attributes. The category "mould-blown" in Table 7.2 denotes that some evidence such as a producer's mark or a mould seam is present on the sherd.

In Table 7.2, "c.t." is an abbreviation for "continuous thread." No discontinuous threads or lugs were noted on any of the unidentified jars. This is of little informative value unless taken in conjunction with the mode of manufacture. After all, Mason's 1858 patent included a continuous threaded finish (Toulouse 1969b:429). A "bead" is a moulded ring between the threads and the shoulder which was incorporated into designs to facilitate removal of the jar from its mould without distorting the finish. It dates from about 1915 onward but only in conjunction with a continuous-threaded finish (1969b:394).

The date range cited in Table 7.2 for Dominion Glass-marked base sherds is derived from decoding the quality control marking surrounding the diamond-D. The five logos are all preceded by a block capital letter and have the digit 3 trailing the logo. This style was in use between 1941 and 1953. The 3 is that last digit of the year; thus, the specimens were made either in 1943 or 1953. The dates for the
Consumers Glass marks cited in Table 7.2 are based on the date span of their use of a C within a sharp-pointed inverted triangle (King 1987:247)

The planviews of some but not all shoulder fragments could not be determined because all shoulders are rounded in profile but descend onto bodies of round or polygonal plan. The single manganese-tinted body fragment is considered to be a pre-World War One artifact because of its colour.

Unidentified Commercial Food Cans  n=176

All artifacts assigned to this category showed signs of belonging at one time to hermetically sealed tin cans. Usually, evidence of the use of a can-opener to access the contents was sufficient although certain attributes (e.g. hole-in-top closures and keystrips) were sufficient by themselves to imply the can's function. The closures of all but 44 of the artifacts were identified and split evenly between hole-in-top (n=65) and open top types (n=67).

Nine of the hole-in-top cans were complete, including their lids. Five had soldered caps but it was not recorded whether or not these caps had in addition soldered vent holes. One of these (IN 14-340) appears to have been disposed of without being opened, perhaps because the contents had putrefied. Three others have soldered caps with vent holes. One of these (IN 14-11590) was opened on the plain end but the closure end was also modified. Three square holes have been punched evenly-spaced in the area between the edge of the soldered cap and the central vent hole. It was impossible to determine the method of closure on the last specimen because the closure end was enveloped by the rest...
of the can when it was crushed. This can (IN 14-9692) looks much like an evaporated milk can and so may have been sealed with a vent hole.

Three hole-in-top cans were all but complete, missing their closure ends. Two of these had cap-on ends at both ends while the third was capped-on at the top end and bore a single seam base on the other.

Eighteen hole-in-top can lids or lid parts were recovered. As solder sealing in itself implies a hermetic seal, evidence for opening was not required. Two specimens were loose hole-in-top caps, both with vent holes in the centre and three were identified as isolated lead solder plugs from vent holes. Thirteen lids from the closure ends of hole-in-top cans or their fragments are also included here. Not all showed evidence of having been opened but the closure was sufficient to prove them as coming from food cans. Seven of these have soldered caps with central vent holes, one is a soldered hole-in-top cap without a vent hole, and five were only recorded as "hole-in-top."

Three of these lids are worthy of further note. Two of these bear single rectangular holes, suggesting they were subsequently nailed to something with machine-cut nails or spikes. One of these (IN 14-11540) also has a splash of bright chartreuse paint on it. Several tin cans described in Chapter 9.1.3 are thought to be possible roof patches because of their modifications. This can lid may have served a similar function but the modifications are not suggestive of this or any specific secondary use; it is therefore categorized here. One hole-in-top can lid (IN 14-7691) has embossed on the flat area between the rim and the soldered cap edge the words CROSSE & BLACKWELL and LONDON.
The remaining hole-in-top can fragments classified as non-specific food containers are 35 top end fragments bearing evidence of the can having been opened. At least 17 were plain cap-on ends (as opposed to the closure ends), and nine of these were opened by quartering the end with a sharp instrument such as a knife. This is a crude but effective way to open a can. The plain end would not have the extra thicknesses of the cap and its solder to hinder cutting.

Two specimens of particular note among the lids recovered were one (IN 14-13530) with a Gebee plug closure and five lid fragments of a hole-in-top keystrip-opened can (IN 14-800072), many of which mend. The Gebee closure is discussed in Chapter 5.5.6; as yet no specific use span has been determined. The diameter of the keystrip can would have been between 102 and 114 mm. This falls comfortably into the the range of diameters quoted for several canned meat tins with keystrip openings in a 1911 table of can specifications reprinted in Rock (1987:91). However, he also describes an MJB coffee can from the 1920s of similar dimensions and construction (1987:39). Therefore, these specimens cannot be categorized more specifically than as food containers.

A far greater proportion of open top cans, 41 of the 67 specimens, were recovered with their lids attached. Several merit particular attention because of their construction or marks. A can with double-seamed ends but having a lapped and heavily soldered side seam (IN 14-13840) seems to confirm Keen’s hypothesis (see Chapter 5.5.3) that lapped side seams could be found on "Sanitary" cans during the transition period from hole-in-top to double seam technology (Canadian Parks Service n.d.). If this can was made by the Sanitary Can Company, this artifact would date between 1904 and 1907. The specimen has been
fully opened with a levered blade type of can-opener and measures 88.9 mm in diameter by 108.0 mm tall.

Another double-seamed specimen (IN 14-7710) has been fully opened and measures 82.6 mm in diameter and stands 111.1 mm tall. It is stamped with CANCO inside an oval on one end. This is the mark of the American Can Company. The company was formed in 1901 (American Can Company 1943:31). Early advertisements taken out by this company in the Canadian Trade Index have a logo consisting of the word CANCO with solid semi-circles above and below. It was not until 1936 that their advertisements use a logo the same as that found on this specimen (Canadian Manufacturers Association 1936:802).

A can stamped VACUUM PACKED may have at one time contained either juice or milk as it has been opened with slit punctures at opposite sides of one end (IN 14-14140). Since all food cans are sealed to create a partial internal vacuum, it is assumed a can stamped in this way was packed inside an evacuated chamber. As mentioned in Chapter 5.5.6, this technique was not put into commercial use until the 1920s.

Six double-seamed cans missing their lids were also recovered. One exhibits body reinforcement corrugations (IN 14-7871) which might or might not be a post-World War Two feature on tin cans (see Chapter 5.5.4 for a discussion of this). The bottom of another specimen (IN 14-9694) has been punctured from outside inward by four small square holes. It is assumed these were made with machine-cut nails. Two top end fragments were recovered exhibiting double seams. One may have been rectangular in plan (IN 14-3290) and has a cleanly-opened edge. As this opening occurs rather far away from, but parallel to, the double top seam (about 10 mm), it may be that this opening is actually the aperture
for a plug-in lid as is found on some cocoa and exotic instant coffee cans. The other specimen (IN 14-13720) consists of the part of an opened can where the double top seam and interlocked side seam meet.

Closures from double-seamed cans include loose can lids (n=17) and a top end from a keystrip-opened can. Loose can lids from open topped cans were distinguished by their shiny internal lacquering or by having a corrugated cross-section (the rationale for this association is put forth in Chapter 5.5.4). All have been removed from their parent cans with either levered blade types of openers (n=3) or openers which use a wheeled blade (n=9). The keystrip-opened double-seamed top end (IN 14-5552) has unidentified lettering which was clipped at the top by the keystrip. It measures 130.2 mm in diameter. According to the manufacturers' specification charts reprinted in Rock (1987:101-103), since 1963 at least, a keystrip top of this diameter would have come from a can containing vacuum-packed coffee or shortening.

Finally, 44 can fragments had attributes enabling them to be classed as non-specific food containers but the type of manufacturing useful for dating could not be ascertained. Nineteen of these were loose can lids all of which have opener marks but no characteristics which permitted the parent can's closure method to be determined. Fourteen body strips (n=3) or keys (n=11) from keystrip openings were recovered. Eleven cans complete with their closures were not recataloged in sufficient detail to determine their modes of manufacture.

Appendix A describes efforts to identify specific tin can contents using the dimensions of the can and the style of opening as clues. While not generally successful as a method of tin can dating, fruitful
results might be obtained when applied to an intra-component analysis when the general date of the occupation is known. Can-opener chronology and idiosyncratic opening behaviour figures in the discussion in Appendix A.

Non-Specific Food Pails  n=11

Eleven fragments from five separate small pails, all bearing hemispherical side lugs for wire handle attachment, likely contained bulk commercial products such as honey or lard. Six fragments constituting two separate pails appear to have taken slip-lids (IN 14-13910 and 14-13911) while the rest have in-curled rolled top edges which might have taken plug-in lids. The most complete specimen (IN 14-13910, n=2) measures 123.8 mm in diameter and stands 144.5 mm tall. The lithographed mark reads in part 3 POUNDS NET. The other specimens were too fragmentary to give precise measurements but have about the same dimensions.

Food Wrappers and Bottle Capsules  n=27

Six scraps of paper and aluminum foil food wrappers are in the collection. Four have dark blue lettering and may be from a coffee package or a chocolate bar wrapper.

When analyzing the lead foil it was found that wads of crumpled-up lead of a size that fits comfortably in one's fist were apt to have hidden inside almost-perfectly preserved stamped marks. The inventory of marked lead foil capsules tripled as a result of prying the folds apart to see the interior. It is a natural human habit when taking the lead capsule off a wine bottle or other covered bottle finish to wad up
the foll and discard it. This has evidently had the effect of preserving not only the marks stamped in the lead but, frequently, the painted surfaces on these capsules.

Twenty-one food bottle capsules were preserved in this manner. Seven bear no particular brand name but the dimensions of the top surface of each is sufficiently broad (about 35 to 50 mm in diameter) to conclude that these were covered food bottles, such as the kali described earlier, rather than liquor bottles.

The most common (n=9) are from Crosse and Blackwell products. The best specimen (IN 99-10400) is stamped CROSSE & BLACKWELL around the upper edge and PURVEYORS TO HIS MAJESTY around the lower edge. In the centre is the firm's address: 21 Soho Square, London. All this is enclosed in a circle 19 mm across. The other specimens have lesser amounts of this wording intact. One specimen (IN 99-8784) substitutes HER MAJESTY in the marking described above. The year 1901 would temporally separate the two specimens with the reference to Queen Victoria dating prior to that time and the other capsule post-dating 1901. Crosse and Blackwell are still in business. As an indicator of when they started out, Lafleche (1979:21) lists them as suppliers of pickles, preserves, and bottled fruits to the Hudson's Bay Company in 1855 and then continuously from 1864 to 1875 and presumably beyond (the latter date being the most recent limit of his study).

The most complete of the four J.T. Morton capsule fragments consists of two mended fragments (IN 99-116136) stamped J.T. MORTON over (L)EADEN(HALL) over (L)ONDO(N). Lafleche (1979:45) lists an HBC supplier named John T. Morton for the years 1857, 1864, and 1872. This firm sold preserved provisions, groceries, sardines, and preserved
fruits.

A single fragment (IN 99-800131) marked GODDE(RHAM) in blue printed letters on the side of a gold-coloured capsule is the mark of another food packer (K. Lunn: personal communication). The imprint left by the bottle suggests the bore of the finish was 50 mm which is rather wide for a liquor bottle. Godderham is not mentioned by Laflèche (1979).

Other unidentified marks from food capsules include six specimens marked with a large crown surrounded on the outer edge by a ring of raised dots. Another (IN 99-9950) is marked with an arabesque motif inside rows of raised dots.

7.2 Artifacts of Indulgences

Artifacts in this category are not, strictly speaking, necessities of life but figure prominently in the social life of the individual and, as such, are important to his or her well-being. The two sub-groupings here are alcoholic beverage container fragments and artifacts to do with the consumption of tobacco; namely, smoking pipe parts and commercial tobacco seals and containers. Tea was another substance consumed socially. However, it was decided to include tea packaging in the previous section and tea-drinking paraphernalia in Chapter 8 for the sake of clarity.
7.2.1 Alcoholic Beverage Containers and Seals

These artifacts will be presented from the general to the specific. Most of the artifacts are glass (n=3,041) and were grouped in this category based on attributes observed without mending. Vessel form is important in differentiating spirit, wine, and beer bottles. Hence, it is more efficacious to define general alcoholic beverage bottle attributes before proceeding to particular beverages.

General Alcoholic Beverage Bottles  n=2,326

Assignment of glass sherds to this category was generally on the basis of colour and bottle form. Table 7.3 summarizes the modes of manufacture and relevant dates as well as the colours of the sherds in this category. About two-thirds of the fragments are a dark green colour with varying degrees of an olive tinge. These are commonly considered to be from liquor or wine bottles. Some turn-moulded amber bottle fragments qualified for this category on the basis of diameter, finish style, and basal form. Many of the amber bases were thick and about 80 mm in diameter. The green and green/yellow sherds may be wine or liquor bottle fragments. The three aqua sherds include two possible "pushup" base fragments and a "lady's leg" neck. A "pushup" basal profile describes the degree of indentation inside the container's resting surface. On champagne and other wine bottles this can approach an extreme parabolic shape. "Lady's leg" necks are more properly called bulged necks. These are commonly found on alcohol bottles and exhibit a noticeable bulge between the shoulder and neck. The Type VII finish specimen illustrated in Figure 7.3g has a bulged neck.
Table 7.3. General alcoholic beverage bottle colours and modes of manufacture.

<table>
<thead>
<tr>
<th>ATTRIBUTES</th>
<th>DATES</th>
<th>Dark Olive/Green</th>
<th>Amber</th>
<th>Green/Yellow</th>
<th>Green</th>
<th>Aqua</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turn-Moulded</td>
<td>1870-1920</td>
<td>819</td>
<td>410</td>
<td>3</td>
<td>11</td>
<td>1</td>
<td>1243</td>
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<td>Finishes: Type II</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turn-Moulded in Rickett's Mould</td>
<td>1870-1890</td>
<td>28</td>
<td>25</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>53</td>
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<tr>
<td>Hand-Finished</td>
<td>1820-1920</td>
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<td>10</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Finishes: Type II</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Owen's Machine</td>
<td>1904-1950</td>
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<td>1</td>
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<tr>
<td>Machine-Made</td>
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<tr>
<td>General Mould-Blown</td>
<td>n.d.</td>
<td>33</td>
<td>46</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>79</td>
</tr>
<tr>
<td>Unidentified</td>
<td>n.d.</td>
<td>526</td>
<td>62</td>
<td>166</td>
<td>14</td>
<td>2</td>
<td>790</td>
</tr>
<tr>
<td>Finishes: Type II</td>
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<td>TOTALS:</td>
<td></td>
<td>1543</td>
<td>558</td>
<td>196</td>
<td>26</td>
<td>3</td>
<td>2326</td>
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Figure 7.3. Schematic profiles of some common wine and spirit bottle finishes. Type I, "champagne" style (a); Types II to VI, wine and spirit finishes (b to f); Type VII, screw-cap style (g). Drawings by Kathy Graham-Stevenson, Canadian Parks Service.
The only finish style among these sherds which can be associated with a specific kind of alcoholic beverage is Type I (Figure 7.3a). It is called a "champagne" finish and is found on wine bottles (see "Wine and Champagne" below). Finish Types II to VI are illustrated consecutively in Figure 7.3b to f. All are suitable for cork closures and are commonly found on liquor and wine bottles. Type IV (Figure 7.3d) could take a cork or a Lightning-style wire bale seal, a common closure for beer bottles in the last century. None of the finishes of this type were recovered with bales attached, however.

In Table 7.3, the Rickett's-type turn-moulded specimens (IN 02-33560) exhibited the streaking of turn mould manufacture but has a slight bulge at the shoulder as is found in Rickett's or dip body moulds. For liquor bottles in particular, the Rickett's mould fell into disuse in the late nineteenth century (Jones and Sullivan 1985:30).

The Dominion Glass mark consists of the diamond-D logo with some inventory control markings surrounding it (IN 02-25233). The base on which it is embossed is very thick and machine-made with a post-bottom parison mould finished in a cup-bottom mould. The general bottle style together with the absences of the factory dot code and other 1940s innovations were considered for this specimen to indicate a pre-1941 Dominion marking style. The unidentified B-on-B mark (IN 02-7631) cited in Table 7.3 consists more specifically of a B stacked on top of another B. Mould number 288 and other inventory control information accompanied this mark.

While the vast bulk of the sherds could not be attributed to particular alcoholic beverages, some have attributes which lend themselves to specific identification. These are described below.
Liquor Bottle Sherds  n=43

All sherds in this category are colourless and were identified on the basis of finish/neck styles and base markings. Five sherds were of the bulged neck style, one of which dates post-1924 because of the continuous-threaded finish (Type VII in this typology - Figure 7.3g). Another such finish was found with its brown plastic cap still intact. While moulded with Seagram's Fine Whiskeys Since 1867 in Gothic lettering, the fact of the plastic cap dates this particular finish to post-1927 (Lief 1965:30). Thirty-five sherds were embossed CANADIAN SCHENLEY and also had the Dominion Glass logo with a progressive date code indicating a manufacture date after 1953. Two finishes of a Type II form have more antiquity than the last specimens; one is hand-finished.

Gin Bottle Sherds  n=139

All but eight of these artifacts were textured body fragments from dark olive green case gin bottles. These distinctive bottles are square in plan, flare from base to shoulder and have short necks. They were designed in this manner for ease of packing in crates or cases, hence the name (Jones and Sullivan 1985:72). The texturing (in this assemblage, either a wood-grain or pin-stripe pattern) may be optional but when noticed on sherds with flat aspects they are unmistakable. No finishes were recovered although on whole specimens they generally have Type V finish styles.

Very few sherds exhibited particular manufacturing features. Two shoulder fragments (IN 02-21461) have ghost seams, indicative of machine
manufacture and illustrative of the risks of dating bottles on the basis of presumed archaic styling. One base fragment (IN 02-7450) has an Owen's scar and a portion of an unidentified mark.

The lone colourless gin bottle specimen is a frosted 12-ounce flask base doubtless from a Gilbey's-brand gin mickey. This bears post-1953 Dominion Glass markings.

Wine and Champagne  n=324

Alcoholic beverage bottles which could be confidently called wine bottles (n=298) were identified by medium to high pushup bases and "champagne"-style finishes (Type I; Figure 7.3a). Some alcoholic beverage bottle sherds were further sub-categorized as wine bottles if their necks were conical in profile. All the complete wine bottles (n=11) are green and very recent, having continuous-threaded finishes (Type VII) and Dominion or Consumers Glass marks. Two dark olive green bases (IN 02-3130 and 02-21470) are marked with a large, rather crude K and additionally a 2 and an 8 respectively. These markings are tentatively identified as those of the Kinghorn Bottle Co. of Kinghorn, Fifeshire, Scotland, in use from 1907 to 1920 (Toulouse 1971:299). Although Scotland is more noted for its spirits than its wine, the bottle is still classified as a wine bottle because of its high pushup basal profile. Lunn (1979:37) cites an example from Fort Walsh in which the K is alternatively the factory designation for another glass company. More comparative examination may clarify the ascription of this particular mark.

A "champagne" finish consists of a tubular rim with a string rim square in profile below (see Figure 7.3:a). Despite its name, the style
is found on all types of wine bottles (Jones and Sullivan 1985:79). The term derives from the design which permitted a solid anchor for the tie-wires on champagne closures (Kevin Lunn:personal communication). The 26 possible champagne bottle fragments recovered were identified by their basal form. While none have manufacturing features useful for dating, all have a high pushup profile with a large protuberance, or "mamelon," at the top and centre. This, when prominent, is often found on champagne bottles (Jones and Sullivan 1985:87).

**Beer Bottle Fragments n=209**

Beer bottles are ubiquitous to all time periods at the site. All are amber and have forms which distinguish them from other amber glass bottles (e.g. solvent bottles and flasks). The earliest are two base fragments (IN 02-22092 and 02-29661) which cross-mend and are embossed with SB & G Co over the mould number 75. This base was blown in either a post-bottom or key-hinge mould some time between 1881 and 1905, the dates of operation of the Streator Bottle and Glass Company of Illinois, whose mark this is (Toulouse 1971:461-463). Twenty-one base specimens are embossed with Dominion Glass logos of types spanning 1928 to 1950. Of these, 12 have the particular mould number 7822 which was specifically assigned to the "Western Style" long-neck beer bottle, according to Tom King, a former Dominion Glass employee who has worked closely with researchers of the Canadian Parks Service (K. Lunn:personal communication).

A single sherd is embossed with the post-1970 D-within-a-D Dominion Glass logo (Miller and Jorgensen 1986:3). This specimen would have been part of a distinctive piece of Canadiana, now vanished, the "stubby"
beer bottle. For mature readers of this document the term needs no explanation. The stubby was introduced in 1962 by industry-wide agreement to reduce recycling costs (King 1987:167). In Saskatchewan, beer was bottled in the stubby with some exceptions between that date and 1984 (Mr. Daren Hawrish, Labatt's Saskatchewan Brewery Ltd., 1988:personal communication). Five shoulder sherds were identified as stubby bottle fragments while twenty are of the long-neck variety. Since the structures were excavated in the late 1970s, these would definitely not be part of the latest incarnation of the long-necked beer bottle. Sixteen amber crown finishes were classified as beer bottle fragments. As mentioned earlier (see Section 7.1.6) the crown finish was patented in 1892 and became popular in this century. One complete beer bottle with a long bulged neck has a crown finish and an Owen's scar on the base (IN 02-28491).

Alcoholic Beverage Bottle Seals  n=55

Among these are 44 lead foil capsule fragments, 19 of which were discovered during recataloguing mixed with wads of lead tea foil. The range of stamps and alcoholic beverages represented at the site is given in Table 7.4. The whisky capsules display two different spellings of the word. "Whiskey," according to the Concise Oxford Dictionary (Sykes 1982:1227), is an American spelling of the word but is also the proper spelling when applied to Irish whiskies. Most brands noted in Table 7.4 are Canadian. The most common brand represented is Peerless embossed in black lettering on a plain background. The 1883 is thought to be the date of the brand's creation rather than the age of the liquor since so many specimens are present (although a case load of
Table 7.4. Alcoholic beverage bottle seals.

<table>
<thead>
<tr>
<th>TYPE OF SEAL</th>
<th>QUANTITY</th>
</tr>
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<tbody>
<tr>
<td>LEAD FOIL CAPSULES</td>
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<tr>
<td>Distilled Spirits</td>
<td></td>
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<tr>
<td>(S)EAGRAM'S (WHISKY)</td>
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<tr>
<td>RED WHEAT WHISKY</td>
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</tr>
<tr>
<td>WHISKEY DISTILLER BELLEVILE, ONT, floral motif</td>
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<tr>
<td>RYE WHISKEY in red letters</td>
<td></td>
</tr>
<tr>
<td>CANADIAN RYE WHISKEY, black on orange</td>
<td></td>
</tr>
<tr>
<td>OLD SCOTCH WHISKEY</td>
<td></td>
</tr>
<tr>
<td>PEERLESS 1883 RYE</td>
<td></td>
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<tr>
<td>MALT, painted tartan pattern</td>
<td></td>
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<tr>
<td>Cognac</td>
<td></td>
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<tr>
<td>JAS. HENNESSY &amp; CO, Indian with tomahawk</td>
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<tr>
<td>COGNAC BREV(?) S.G.C.</td>
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<tr>
<td>J &amp; F. MA(???) COGNAC in royal blue</td>
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<tr>
<td>Wine</td>
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<tr>
<td>Reinhard Belliveau, Wine Merchant, Winnipeg</td>
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<tr>
<td>grape cluster motif</td>
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<tr>
<td>Ale</td>
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<tr>
<td>R. P(O)RTE(R), triangle logo, Bass A(le) in script</td>
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<tr>
<td>Rob Porter Co. in script over a bulldog</td>
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<tr>
<td>Miscellaneous</td>
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<tr>
<td>LB and SASK</td>
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<tr>
<td>Bernard in script, Bett's trademark, fleur-de-lis</td>
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<tr>
<td>&amp; Co. over (??)S in black paint</td>
<td>1</td>
</tr>
<tr>
<td>BEER BOTTLE CROWN CAPS</td>
<td></td>
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<tr>
<td>Big Chief, no liners:</td>
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<tr>
<td>Calgary Export, no liner:</td>
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<tr>
<td>Labatt's Blue, membrane liner, &quot;Happy Face&quot;</td>
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<tr>
<td>LIQUOR BOTTLE CORKS</td>
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<tr>
<td>38 mm long, 25 mm in diameter</td>
<td>4</td>
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<tr>
<td>TOTAL:</td>
<td>55</td>
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the 1883 distillation would also yield large numbers of capsules all stamped alike).

The capsules stamped with an embossed grape cluster motif could be equally classed as grape juice bottle capsules but wine is the preferred interpretation. Two different Rob Porter capsule styles are present (see Table 7.4). The Porter company was not located in the literature but he was a probably a distributor who handled Bass Ale and maybe other products. H.C. Bass and Company dealt in wine and bottled ale with the Hudson’s Bay Company in the 1860s and 1870s (Lafleche 1979:11). The unknown mark Bernard in script is accompanied by the Bett’s padlock trademark. Bett invented the lead foil capsule in the nineteenth century (Sharon Keen: personal communication).

The beer bottle crown caps are quite recent. Those listed in Table 7.4 without liners probably had cork linings originally. Cork as a lining was replaced by the current plastisol lining beginning in the early 1960s (Lief 1965:40).

All but one of the alcoholic beverage bottle corks are cylindrical, measuring 38 mm long by 25 mm in diameter. The single tapered specimen (IN 99-10351) measures 25 mm long and is 22 mm wide at one end and 16 mm wide at the other. These are more within the liquor bottle spectrum of size than that of medicine bottle corks.
7.2.2 Smoking Pipes and Tobacco Packaging

Clay and Ceramic Pipes and Pipe Parts n=91

Most of these specimens are made of kaolin pipe clay but stoneware, porcelain, and possibly meerschaum pipe fragments are also present. Most of the ball clay specimens (n=56) are white but 16 dyed red clay and two possibly deliberately dyed black clay pipe fragments were also recovered.

Three among the 14 white clay pipe bowls bear markings. A single effigy pipe bowl/stem junction (IN 03-15230) is embossed in the front with a bearded man's lower face. Another marked bowl (IN 03-9470) is moulded with a pair of crossed lacrosse sticks which are flanked on the right by a raised D. One other specimens bears the D portion (IN 03-16940). This mark is either a TD pipe (assuming a T flanks the lacrosse sticks on the left side) or is a variant of the Dixon's mark (see below). If this is a TD pipe, it is not especially useful for dating purposes. Walker (1971:31) says the TD mark first appeared in 1755 and was plagiarized by many manufacturers thereafter. A final marked white clay pipe bowl is embossed with the letters L.F inside a circle of raised dots. A Louis Fiolet was known to manufacture pipes from 1765 to 1921 (Walker 1971:30). One other white clay pipe bowl specimen of note (IN 03-16773) appears to have been deliberately polished but could have also acquired this finish by wear in the owner's pocket. The finish seems to be uniformly distributed, however.

Five of the 24 white clay pipestem fragments bear marks. Dixon's of Montreal is represented by three specimens, the most complete of which (IN 03-800541) is embossed inside a slightly recessed panel with
three dots then DIX(ON'S). The opposite side has the same sort of moulding and (MONTR)EAL. This firm operated from 1876 to 1894 (Walker 1971:25). Another specimen (IN 03-10281) is moulded with the letters -AL-. There may be another character after the L which would preclude it being another Dixon's specimen. The lettering -N(?) is moulded onto one other stem fragment. The area between the N and the period has flaked away.

Two black clay pipe bowl fragments look exactly like argillite (IN 03-800130 and 03-800150). The colouration is uniform inside and out. These may be deliberately dyed clay or uniformly burned white clay pipes. The 16 red clay pipes seem to be too numerous and uniform in decoration for their colour to be explained by burning. The colouration on all is uniform throughout the fabric and the clay still scratches with a finger nail (therefore, no vitrification took place if they were burned). There are 11 bowl fragments of this red clay. They are decorated by a single line of rouletting around the outer rim. One of the five stems (IN 03-1640) appears to have an angular rather than round bore. Another stem (IN 03-19151) bears circular scoring around its circumference.

The other ceramic pipe type recovered in substantial numbers (n=28) is a type of reed pipe thought to be of American origin. A reed pipe consists only of a bowl and a short stem. A reed of some other material was intended to slip into the stem portion. These specimens are made of a grey to reddish grey stoneware. The outside is moulded with a ribbed pattern which flows along the long axis of the pipe. The bowls and stem tips are moulded with a small reinforcement ring just below the rims. Over the whole outer surface a reddish coloured slip has been applied.
A stem fragment from such a pipe is illustrated in Klimko (1983:Figure 77c). Her research found that these pipes are considered American in origin and are rare in Canada (1983:179).

A porcelain pipe bowl (IN 03-16370) mended from four fragments also matches a specimen reported and illustrated by Klimko (1985:Figure 77f) from the Fort Pelly collection. The bottom half is slipped brown and glazed while the top half of the bowl is plain white and glazed both inside and outside. Her research (1985:179) suggests a German ascription for this artifact. Another specimen of unidentified fabric (IN 03-10151) has a caramel-coloured glaze. The bowl rim seems to constrict toward the top.

Finally, the two suspected meerschaum bowl fragments (IN 03-16812 and 03-17190) are of a buff-coloured material soft enough to scratch with a fingernail. A russet band runs around the top and outside of the rim. Meerschaum is a natural silicate (Sykes, ed. 1982:630) which is carved into pipes.

Pipe Parts of Other Materials  n=12

There are 11 plastic threaded tubes and mouthpieces from smoking pipes in this assemblage. Most are of either black "hard rubber" or bakelite. Four mouthpieces are made of yellow or orange-yellow celluloid. A modified bone mouthpiece was also recovered.

These are not out of place in sites of this vintage. Bakelite was developed in 1907 by Dr. Leo H. Baekeland and items made of this substance, which was notable for its ability to withstand extreme temperatures, became common-place after 1920 when his patent expired (Oliver 1956:596; Panati 1987:128). The Fort Bowie (1862-1894)
assemblage includes 19 plastic mouthpieces whose descriptions match the Letendre specimens (Herskovitz 1978:132-134). One of the Letendre specimens is a brown bakelite or hard rubber mouthpiece with a black proximal end (IN 99-6950) and is impressed with the mark WD at the distal end. An identical specimen was found at Fort Bowie (occupied 1862-1894). Herskovitz (1978:134) believes the marking is generic, not that of a particular company, as it also appears on ceramic pipe stems.

The four celluloid specimens could date from at least the 1890s onward. Celluloid was invented in 1868 and registered as a trade mark in 1872. Many objects, such as combs and shirt collars, were made of this plastic, especially in the 1890s (Panati 1987:126-127).

The probable bone pipe stem (IN 99-802251) was inadvertently inventoried with the fauna in 1977. It consists of a bone tube 31 mm long and threaded on the distal end. This end is 5 mm in diameter and may have been shaped by machine as the threads are uniform and regular. The shaft is irregular in cross-section, clearly having been filed into its present shape. The proximal end has been shaped into a mouthpiece. Perhaps it was reworked after breakage into a shorter but serviceable mouthpiece by this post-manufacture alteration.

**Tobacco Containers** n=8

Cigarette packaging in the collection consists of a fragment of stippled aluminum foil on a paper backing and the cardboard remains of a pack of Matinée-brand cigarettes.

Six tobacco cans and lids are in the collection. The Canadian tobacco industry, particularly in Quebec, goes back to the 1730s when the New France colonists were raising it for their own consumption and,
unsuccessfully, as a cash crop (Bliss 1987:65). A complete tobacco can (IN 14-19160; dimensions and manufacturing attributes not recorded) is lithographed with the image of a bird and ALOUETTE SMOKING TOBACCO in green lettering on a yellow background. Printing on the side indicates it was a product of the B. Houde Company Ltd. of Quebec. This company was in existence by at least 1931 and Alouette cut pipe tobacco was one of their brands. The Canadian Trade Index of 1944 (Canadian Manufacturers Association 1944:266) indicates the company merged with another Quebec firm in that year to become Houde and Grothé Ltd. The new firm was absorbed by Imperial Tobacco Ltd. in 1966 (Canadian Manufacturers Association 1966:B-185). Alouette may have been discontinued at that time since it was not listed in the indexes under the Imperial Tobacco entries after that year. Since neither Imperial nor Grothé are mentioned in the printing on the specimen, this can must have been deposited prior to 1944.

A screw lid for a can which had discontinuous lugs measures 108.0 mm across and is embossed with lettering superimposed on a large tobacco leaf. The lettering and lithographed black printing on a gold background indicates this is a product of the W.C. MacDonald Company of Montreal. This company became prominent as a tobacco manufacturing firm in the 1870s (Bliss 1987:242).

British tobacco exporters are also represented. Two products of the Ogden's Tobacco Company of Liverpool, England are present. The body of a slip-lidded can with a double base seam (IN 14-11612) measures 88.9 mm across and is 73.0 mm tall. A bit of the lithographed word Ogden's is still visible. Five nail holes are clustered in the base of this specimen. A can body (IN 14-19161) lithographed with the
picture of a chess rook on a red background also bears the printing OGDEN'S LIVERPOOL over TURRET FINE CUT VIRGINIA TOBACCO. This keystrip-opened container still has attached its internal collar which would date the specimen to the 1920s or 1930s at the earliest (see Chapter 5.5.6). The embossed words TADDY & CO. over a shield or coat-of-arms over the word LONDON are found on a slip-lid (IN 14-8142) which measures 73.0 mm across. Both Oden's and Taddy appear to have been independent companies at least as early as 1871-1887 (Alford 1973:161).

The last tobacco can slip-lid (IN 14-14521) to be described measures 101.6 mm in diameter. Lithographed over a red background is AMBER in yellow on a dark blue arched lozenge strip. (HA)LF POUND on a filigreed background appears below and FINE CUT, also in yellow on a dark blue reverse-arched strip. This brand is not among those attributed to British firms (Alford 1973).

Plug Tobacco Seals  n=53

These artifacts are small stamped metal shapes with two small prongs in the back for embedding in plug tobacco. Forty-four of these are heart-shaped with the centre cut out (also heart shaped). Around the upper edge is stamped W.C. MACDONALD. Around the bottom edge is stamped MONTREAL. The inner hole is encircled with the stamped words PRINCE OF WALES. On the least corroded specimen (IN 08-11862) a + or a lower-case t appears below the central cut-out. A variant of this style (IN 08-7550) is found on a round silvery disc stamped W. MACDONALD over PRINCE OF WALES over MONTREAL. Bliss (1987:242) this seal was part of a marketing gambit (the "tobacco with a heart") in the 1870s.
Isolated specimens of other brands of plug tobacco are represented by their seals. One (IN 08-800360) consists of a broad diamond shape with tabs on the back at the upper left and lower right. The centre has the following large cut-out letters: a large T with a small V or lower-case R to the left and C to the right. The only copper specimen (IN 08-14661) is a disc 22 mm across with SUPERIOR QUALITY stamped around the edge. The back tabs are punched out between these words. Stamped pairs of rings flank the tabs. A specimen shaped like a disc with frilly edges and arms offshooting in opposite directions is too corroded to determine if a mark is present. The prongs are situated off the back ends of these arms (IN 08-9050). Five rusted metal discs with prongs as described above are also assumed to be tobacco seals.

7.3 Artifacts of Pastimes

Included in this category are all artifacts pertaining to leisure time activities such as music-making and gaming. It is here that the presence of children at the site is most manifest. Toys for both girls and boys outweigh the evidence for more adult pastimes. The description that follows is subdivided along those lines.

7.3.1 Adult Pastime Artifacts

This category comprises 31 artifacts used to make music and also gaming pieces. Seventeen bits and pieces of several harmonicas and possibly an accordion were recovered all across the site. These include 11 small reeds and sounding boards. One reed is large enough to be part
of an accordion. Six probable harmonica side plates were identified, two definitely because of their stamped marks.

One side plate (IN 08-8932) is marked MARINE BAND over M. Hohner in script followed by a C (perhaps the key to which the instrument was tuned). These markings surmount U.S.A. PATENT AUG. 24th 1897. To the left is someone's picture (presumably that of M. Hohner although John Philip Sousa could also be considered). To the extreme left is MADE IN GERMANY. The other side plate (IN 08-8742) is also stamped with the Hohner mark with medal citations for excellence pictured. The dates on these range from 1871 to 1881. TRADE MARK is stamped over the image of a pair of hands holding a disc with some German wording inside it. This harmonica was approximately 85 mm long when whole. The other music-related artifacts are four fragments of black flat plastic or other similar material with fine grooving which were concluded to be phonograph record fragments. The nature of the material may prove useful in dating these artifacts but, as yet, this has not been attempted.

Gaming artifacts include nine wafer-like discs 30 mm in diameter which were identified as poker chips. They seem to be made of bone although one or two may be made of ivory. The last artifact in this category consists of a bullet (IN 12-2560) which was whittled into a shape resembling a chess pawn. As is customary in prehistoric archaeology, this artifact is classified as a "possible gaming piece" in the absence of any other informed ideas.
Children's Toys

Doll Parts n=23

Two doll's eyes and 17 ceramic heads are of primary interest in this discussion. Both eyes were designed to glue inside a ceramic doll's head. The iris of the most complete specimen (IN 02-12040) consists of a glob of brown glass overlying a clear circular piece pressed in a piecrust pattern. The opaque white glass body has a battleship plan and is hollow. A longitudinal seam runs along the back with no corresponding seam on the front. Overall, the object is delicate and arcs slightly backward between the two side tips. The hollowness and back seam suggest the item was made from a hand-blown bubble which was pinched shut at its equator while still on the blow pipe. The pre-made iris-pupil section was then applied and the half-bubble separated and flattened at the back.

Elaine Penn, a local doll collector, thought probably this eye was part of a doll's head, likely of French or German origin and made before the turn of the century. She said eye sockets on dolls from those countries tended to be almond-shaped. The other eye fragment (IN 02-22260) consists mainly of the iris-pupil section. This consists of a hemisphere of light blue glass attached to an opaque white glass backing with a black pupil of unknown material sandwiched between.

Various ceramic head fragments (n=17), 14 of parian and three of glazed porcelain, were hand-painted or, possibly in some cases to achieve the uniform skin-tones, aerographed. Only one specimen (IN 03-12621) is marked. An impressed 15 with the 1 much smaller than the 5 was found on a basal rim fragment. Penn said this was probably a
manufacturer's code to indicate the particular size of head. Five specimens are shaped with hollow eye sockets suitable for use with the glass eyes described earlier. The most striking specimen (IN 03-13011) could be described as a maxilla portion. A set of opaque white glass or porcelain teeth are glued against the back of the lip. Another specimen (IN 03-19124) is of a different style, having eyeballs moulded into the general facial contours. Perhaps this specimen was less expensive in its day than the others. The rest of the ceramic doll's head fragments are too small to describe here.

In addition to these china dolls, three plastic doll parts and a rubber Winnie-the-Pooh doll or squeeze toy are also in the collection.

Ceramic Toy Tea Set  n=11

A number of tiny porcelain tableware pieces were recognized as parts of a child's tea set(s). They include a plate fragment impressed with a radiating grooved design (IN 03-9431) and a complete plain plate or saucer measuring 46 mm across (IN 03-12280). Hollow-ware from this set or sets include a pitcher 25 mm high (IN 03-17380) and two different teapot top sections (IN 03-7980 and 03-10992). Six additional tiny hollow-ware pieces were also inventoried.

Marbles  n=6

The glass marble fragment (IN 02-37261) is of the same style available today having blue and white wisps embedded in its centre. Marbles were manufactured of clay commercially but any local clay could also have been used to make the five clay marbles in the collection. One specimen (IN 99-11621) is hard and therefore has probably been
partially fired. The others range in diameter from 15 to 25 mm.

Miscellaneous Toys  n=15

Among the metal artifacts in the collection (IN 08-12690) is a Derringer replica (the two halves of the body are joined by a rivet through the barrel). One side is moulded with USA No. 61. The obverse side is moulded PAT AUG 28 1882. Two other metal toys, presumably also used by boys, include a miniature toy wagon wheel with spokes and a machine-cut nail through the hub (IN 08-18232) and an artifact which may be the tail section from a cast toy airplane (IN 08-1962). The last metal artifact in this category is either a toy or an ornament. It consists of the front facade of a miniature but intricately-casted cathedral (IN 08-9710). The dome has a slot through which a lever may have protruded or else this object might be a piggy bank.

Both halves of a leather baseball were recovered (IN 99-6750). Seven plastic toys including a charm moulded in the shape of Walt Disney's "Bashful" dwarf are in the inventory. The latter would postdate 1938, the year the motion picture Snow White and the Seven Dwarfs was released (Panati 1987:176).
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CHAPTER 8

THE MATERIAL CULTURE: HOUSEHOLD GOODS

This chapter describes all the artifacts used inside a home and the tools and products necessary to maintain it. Following Sprague's classification (1981:256) this subdivides into three broad categories: furnishings, housewares and appliances, and cleaning and maintenance artifacts. The housewares category is the most formidable of these since most of the ceramics belong to it. In order to enhance readability, this category has been subdivided further into Sections 8.2 to 8.5 in this chapter rather than strictly following Sprague's hierarchy. A summary of artifact categories and quantities covered in this chapter may be found in Table 8.1.

The order of presentation, in the abstract, follows the order in which one might fill a household with one's possessions when moving in. Hence, floor covering artifacts and furniture parts will be described first. Smaller household articles which would normally be placed on furniture or the walls follow. The first of the housewares subsections is to do with heating and lighting artifacts which are discussed in Section 8.2. The first of the household chores subsections follow. These include all food preparation and preservation equipment (Section 8.3) and food serving and dining artifacts. Artifacts of home education, business and small household appliances are covered in Section 8.5. The chapter concludes with cleaning and maintenance artifacts in Section 8.6.
Table 8.1 Quantities of the artifacts described in Chapter 8.

<table>
<thead>
<tr>
<th>ARTIFACT CLASS</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Furnishing Artifacts n=486</td>
<td></td>
</tr>
<tr>
<td>Floor Covering Artifacts</td>
<td>88</td>
</tr>
<tr>
<td>Miscellaneous Furniture Parts</td>
<td>271</td>
</tr>
<tr>
<td>Household Hangings, Coverings, and Bric-à-brac</td>
<td>127</td>
</tr>
<tr>
<td>Heating and Lighting Artifacts n=2,823</td>
<td></td>
</tr>
<tr>
<td>Stoves and Stove-Related Artifacts</td>
<td>621</td>
</tr>
<tr>
<td>Lighting Devices</td>
<td>2,202</td>
</tr>
<tr>
<td>Food Preparation and Preservation Equipment n=324</td>
<td></td>
</tr>
<tr>
<td>Food Preparation Equipment</td>
<td>44</td>
</tr>
<tr>
<td>Canning Jars and Seals</td>
<td>280</td>
</tr>
<tr>
<td>Tableware and Cutlery n=2,086</td>
<td></td>
</tr>
<tr>
<td>Glass Tableware</td>
<td>104</td>
</tr>
<tr>
<td>Ceramic Tableware</td>
<td>1,962</td>
</tr>
<tr>
<td>Cutlery</td>
<td>20</td>
</tr>
<tr>
<td>Information, Business, and Small Appliance Artifacts n=151</td>
<td></td>
</tr>
<tr>
<td>Home Education or Business Artifacts</td>
<td>92</td>
</tr>
<tr>
<td>Informational Artifacts</td>
<td>7</td>
</tr>
<tr>
<td>Small Household Appliance Artifacts</td>
<td>52</td>
</tr>
<tr>
<td>Cleaning and Maintenance Artifacts n=192</td>
<td></td>
</tr>
<tr>
<td>Water-Drawing and Laundry Artifacts</td>
<td>94</td>
</tr>
<tr>
<td>Clothing Repair and Maintenance Artifacts</td>
<td>42</td>
</tr>
<tr>
<td>Miscellaneous Household Maintenance Artifacts</td>
<td>69</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>6,075</td>
</tr>
</tbody>
</table>
8.1 Household Furnishings

8.1.1 Non-Structural Floor Covering Artifacts

Among the small nails 88 carpet tacks were identified. Particulars about head form, manufacturing technique, and length ranges are summarized in Table 8.2. Carpet tacks are very similar in form compared to upholstery nails (see below). Both have broad, thin, flat, circular heads akin to those found on wire-drawn box nails and both are very short nail types. Machine-cut carpet tacks (n=72) have shanks whose taper towards the tip begins about half-way down the shank. Wire carpet tacks (n=14) look like small box nails but do not exceed 17 mm in length (Canadian Parks Service n.d.). No length specifications could be found among the references consulted for machine-cut versions of this nail. The upper end of machine-cut carpet tack lengths in this collection (40 mm) may be excessive but the distinctive half-taper was found on specimens of this length. No carpet tack in the collection was less than 15 mm in length. Carpet tacks were used to secure the edges of rugs to prevent them sliding underfoot. As such, the head form must lie flat when in place but should not penetrate deeply into the wood.

8.1.2 Miscellaneous Furniture Parts

Upholstered Furniture or Bed Parts  n=180

This category comprises upholstery or bed-related metal artifacts and upholstery nails and tacks. The bed or upholstery support artifacts include a bed or sofa-type spring and two springy metal strip fragments
Table 8.2. Nails and tacks from household furnishings.

<table>
<thead>
<tr>
<th>MORPHOLOGY AND MODE OF MANUFACTURE</th>
<th>QUANTITY</th>
<th>SIZE RANGE (mm): Shortest</th>
<th>Longest</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ROUND AND FLAT HEAD FORMS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carpet Tacks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine-cut</td>
<td>72</td>
<td>15</td>
<td>40</td>
</tr>
<tr>
<td>Wire</td>
<td>14</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>Manufacture Unidentified</td>
<td>2</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Upholstery Nails</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain Shanks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine-cut</td>
<td>41</td>
<td>13</td>
<td>31</td>
</tr>
<tr>
<td>Wire</td>
<td>4</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td>Manufacture Unidentified</td>
<td>3</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Clout Shanks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine-cut</td>
<td>40</td>
<td>13</td>
<td>25</td>
</tr>
<tr>
<td>Wire</td>
<td>5</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine-cut, fancy heads</td>
<td>2</td>
<td>14</td>
<td>41</td>
</tr>
<tr>
<td><strong>ROUND AND DOME HEAD FORMS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Push Tacks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>all ferrous complete</td>
<td>1</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>all yellow metal complete</td>
<td>46</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>broken</td>
<td>26</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>yellow metal heads, ferrous shanks</td>
<td>4</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td>complete</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trunk/Coffin Nails</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wrought</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>1</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>broken</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Machine-cut complete</td>
<td>29</td>
<td>24</td>
<td>74</td>
</tr>
<tr>
<td>broken</td>
<td>9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Wire, Ferrous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>1</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>broken</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Wire, Yellow Metal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>broken</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td></td>
<td></td>
<td>304</td>
</tr>
</tbody>
</table>
which look like the strips which support mattresses on children's beds and rollaway cots. Three stout wires are bent into shapes which suggest they served as spring connectors in upholstery or bedsprings. A single castor (IN 08-1293) in the collection includes both the wheel and a shaft for insertion into the end of a bedpost or some other wheeled furniture piece.

The furniture fasteners include a single brass-coated ferrous button (head diameter: 13 mm) with a long ferrous shank (at least 7 mm long) which is rectangular in cross-section (IN 08-3672). It is thought to belong to upholstery rather than clothing because of its more robust proportions and relatively long shank. The brass would be apt to stain fabric so perhaps this artifact was lodged in a leather-covered piece of furniture.

Upholstery nails (n=95) have the same attributes as carpet tacks but the taper begins immediately under the head. A variant with a clout shank is more readily identifiable as an upholstery nail. The side of a clout shank is deliberately sheared off toward the tip, creating a very sharp point. The length ranges among the specimens described in Table 6.2 are more conventional for nails of this type than was the case for carpet tacks. Two peculiar machine-cut nails have fancy decorative heads. One (IN 04-9671) is unquestionably an upholstery nail, having a clout shank and being only 18 mm long. The top of the head is shaped with a frilly patterning. The other specimen (IN 04-800641) resembles a machine-cut finishing nail but at the four corners of the head, lobes project outward. It is 41 mm long.

Push tacks (n=77) are arbitrarily deemed to have been used to pin down upholstery edges in this analysis although other uses are possible.
For example, during the fur trade they were often traded for use as decorative studs for gun stocks (Gary Adams: personal communication). The only all-ferrous tack recovered is very large and has a stubby, thick-walled head (IN 04-30032). The rest of the push tacks consist of combinations of yellow metal heads and yellow metal or ferrous shanks (see Table 8.2). Both round and square shank stocks were observed in the collection. The heads and shanks on all specimens were made separately and subsequently joined.

Chair Back or Arm  n=1

This artifact (IN 99-1872) consists of a piece of finished wood rectangular in cross-section with a broad sinusoidal curvature overall. It is probably the arm or back support from a plain wooden chair (i.e. either a kitchen or office chair). An attempt was made at some point to repair it with a wire nail approximately 65 mm long.

Trunk or Cabinet Fittings  n=65

Nails having dome-shaped heads with flat undersides were identified as trunk or coffin nails (n=44). Their modes of manufacture and length ranges are summarized in Table 8.2. All are ferrous except one yellow metal wire specimen (IN 04-14521). According to Knight's 1876 American Mechanical Dictionary (Knight 1979:2635), these were used in rows on trunks and coffins to provide a pleasing dotted effect. The possibility that these nails were intended for use in coffins should not be summarily dismissed. Between the years 1874 and 1888 the Letendres lost four of their thirteen children: two infants and two in their teens. As well, Letendre's brother was killed in the 1885 engagement
Among the metal artifacts in the collection are pieces of hardware which have been identified as furniture-related and are probably from cabinets, trunks, or chests of drawers. Some pieces are small enough to have been, alternatively, parts of small chests or wooden boxes (e.g. jewelry cases and the like). Among the latter are four small rings (one made of yellow metal) suitable to have served as carrying handles on small cases or as drawer pulls. Likewise, five small and ornate swivelling hooks, all with flat obverse faces to facilitate sweeping over a flat surface, were probably for latching shut either cabinet doors or small box lids.

A single small hinge (IN 08-2490) was perhaps from a cupboard/cabinet door or a trunk lid. An artifact thought to be a latch for a trunk (IN 08-4160) consists of a plain strip of metal 305 mm long with two tabs rolled like a hinge at one end and the other end folded in the same direction with two slits cut into it. Lastly, an unidentified fastening is thought to be perhaps a latch or lock part of some sort from a trunk or cabinet (IN 08-9793). It consists of a yellow metal plate shaped in a half-moon with a teardrop-shaped hole and a free-swinging tab on the round side. A narrow slit 40 mm long is cut parallel to the straight edge and runs for most of its length.

Nine drawer pulls or small cabinet door handles were recovered. Three are knobs, two are drop handles, and three are brass rings which pivot on screw-eye attachments. The only non-metal specimen is a round knob of hard paste plain porcelain (IN 03-980) which looks like a small insulator but has no hole. This knob is 25 mm across.
Unidentified Furniture Hardware  n=25

Miscellaneous small, sometimes ornate, sheet metal fittings and plates and also certain japanned cast iron pieces are collectively considered furniture parts of unidentified function. The sheet metal artifacts, mostly made of yellow metal, are presumed to have been decorative trim on cabinets or small cases. The japanning on the cast iron parts and their general form is more like that of furniture parts than that of cast iron stoves. For example, one japanned cast iron brace (IN 08-4473) has a T-shaped cross-section and countersunk screw holes along the wings. It may have braced a small table top like those found on writing or school desks.

One plate of ferrous sheet metal is intriguing (IN 08-4023). It is rectangular, measuring 25 by 102 mm, with the ends shaped into tabs with a single tack hole through each. Stamped faintly in the centre is a block letter B or R. This artifact could be a metal label from a file drawer.

8.1.3 Household Hangings, Coverings, and Bric-à-brac

Mirror Fragments  n=10

Mirror glass was distinguished from other flat glass by the remains of silvering compounds still adhering to the sherds. None of the sherds were edge portions which might have enabled distinctions to be made among wall mirrors, compacts, and hand-held mirrors. Possible glue remains were found on two sherds (IN 02-803280).
Oilskin or Tablecloth Fragments  n=4

One fragment (IN 99-7841) is composed of a tar-like substance bonded to cloth. The other three fragments are of pale blue plastic or paint which at one time were attached to cloth.

Unidentified Decorated Glass Fragments  n=84

This category comprises all decorated glass fragments of uncertain function. They are considered to be parts of lamp fonts, vases, ash trays, or other decorative household items.

A wide range of decorative motifs may be found among these artifacts including floral designs, fluting, and moulded or ground stripes. Most have been pattern-moulded or pressed. The pattern of one rim sherd (IN 02-802261) is moulded on the inside of the vessel, indicative of an optic moulding technique of manufacture (Jones and Sullivan 1985:32-33). Thirteen sherds have been wheel-ground with simple stripes or sprig floral designs. At least two of the latter (IN 02-800981) might have acquired their "decoration" in the power screens used at Batoche. This is suspected because of the crudeness of their design and the presence of mould seams, neither of which are usually found on hand-ground fancy glass. At least one specimen (IN 02-17532) was cut and polished. One artifact (IN 02-25254) belonged to a flat-sided vessel, possibly a vase. Emerald green in colour, it has a painted and applied glitter floral design. Three other green sherds have a knobby-textured outer surface bounded on one side by a frosted or wheel-ground area (IN 02-800731).

None of the manufacturing or decorative techniques are useful for dating purposes, as all have been in use for centuries. Further study
ought to include testing for lead content and mending in the hopes of recognizing documented patterns. Thirteen sherds exhibit manganese tint. For the moment, there is no reason to believe the purple hue was deliberately induced as part of the original colouration of the artifact. In fact, two rim sherds possibly from a lidded vessel (IN 02-801414 and 02-801833) admirably illustrate the variability of glass solarization within a single site. While they themselves are colourless, they cross-mend with a third manganese-tinted sherd (IN 02-20601).

Ceramic Ornaments, Vases, and Flower Pots  n=28

Six sherds of hard paste porcelain were inventoried as figurine pieces because they are decorated on the exterior by moulded relief and underglaze painting and because the interior surfaces are plain biscuit. The nature of the designs on each suggests they were figurines rather than doll parts. One body fragment (IN 03-16144) is painted green with moulding suggestive of flowing robes. This might have been a religious statue of some sort. Only one piece (IN 03-2340) bears a mark. The letters -KA- over CANADA can still be made out on a gilded paper sticker.

Two more sherds of white earthenware are impressed with a large star and painted with a design having a jester theme. Perhaps this item was from a child's crib ornament or meal set, as the motif is circus-like.

Unlike the toiletry ware (Chapter 6.3.1), none of the 18 possible vase fragments are decorated with patterns matching those of the tableware sets represented in the collection. Five rim sherds, three of
them with unglazed interiors, are thought to be vase fragments. All but one are soft paste porcelain (the exception [inventory number 03-1917] is hard paste porcelain) and are decorated with various combinations of moulded relief, aerograph, and gilding. Thirteen more sherds of white earthenware probably all mend into a vase or small bowl. The outer surface is moulded with a rugous texture and a chartreuse-coloured glaze which lends to the vessel the overall appearance of a toad's skin. The six rim sherds of this vessel are brown glazed with a moulded oblique ridged design.

Two buff earthenware biscuit sherds from one or more flower pots were recovered. One fragment (IN 03-10211) is moulded with the standard reinforced rim of a flower pot. The other, a base sherd (IN 03-10212), was identified by its drainage hole. It was at first mistaken for a hotplate insulator fragment.

Hard Rubber Ornament  n=1

A tan-coloured hard rubber ornament fragment in the shape of a bird's head (IN 99-800350) is likely from a plaque and is reminiscent of the sorts of bric-a-brac one finds hanging in some kitchens. The back has a groove intended to articulate into a frame.

8.2 Heating and Lighting Artifacts

8.2.1 Stoves and Stove-Related Items

Stoves are considered here as articles of furniture rather than components of the building itself, as Sprague does (1981:256). While
heating stoves are somewhat less portable than regular furniture, they occupy space in a room like other furnishings, unlike central heating which is more integrally part of a building's structure. The distinction between heating and cooking stoves is moot here and will not be attempted.

**Cast Iron Stove Fragments n=24**

Many different objects can be cast of iron. Those with ornate mouldings and not japanned as well as large cast iron plates with countersunk screw holes and other features suggesting a modular construction were classified as stove parts more or less by default. One stout plate with countersunk holes (IN 08-6600) has what are possibly ad hoc assembly instructions scratched into the obverse side. These are an 8 with On blind in printed letters.

Eight cast iron stove door hinge parts were catalogued. These consist of heavy-duty sockets and male hinge parts from stove doors which dropped into place when installed. All these items have broken edges suggesting they were attached to something larger. Seven thick nubs of cast iron about 40 mm long and 14 mm wide are thought to be stove door latches. All have one flat (top?) edge and a rounded bottom edge as if intended to slide into a catch. A single tray-like item with its edges cast in such a way as to suggest it sat at an obtuse angle is believed to be an oven door.

**Sheet Metal Stove Fragments n=252**

All but one of the artifacts in this group consist of broad chunks of sheet metal of a size and flat shape that suggest they are not jerry
can or washtub fragments. Therefore, it was inferred that these are tin stove fragments. The other artifact is a spoon-shaped cast iron foot attached by screws to sheet metal fragments (IN 08-4970). Tin stoves are small, light-weight, and more useful for heating than for cooking.

**Stove Pipe Segment Fragments n=165**

Stove pipe fragments, especially when highly disintegrated, look much the same as tin can fragments. Only those pieces with crimped ends or narrow corrugations like those found on stove pipe elbows were included in this group.

**Other Stove Pipe-Related Artifacts n=2**

A stove pipe masonry adaptor, or "thimble," was identified for the author by Peter J. Priess of the Winnipeg archaeology staff. It is a large sheet metal ring perforated with holes (IN 08-16512). Into it is stamped the mark MACUIRE'S THIMBLE. This plate would have girdled the stove pipe at the point where it entered a brick chimney flue. A local wood stove dealer in Saskatoon said the holes could function either to provide a draft or to reduce the amount of metal in this fitting which could get quite hot from the gases in the pipe.

The other stove pipe-related artifact is a small, hand-wrought wrench-like item (IN 08-2040). It was thought by Peter Priess to be a possible stove draft adjustment tool or a poker.

**Stove Fuel Remains n=161**

This category comprises bark, charcoal, and coal specimens and are more in the nature of samples than functionally useful artifacts. Bark
clusters can result from structure demolition but they are also indicative of former wood pile locations. Many of the specimens included here are scorched. Scorched twigs and charcoal fragments were also included here. Excluded from this category, however, are birch bark fragments which can serve as containers or linings (see Section 8.6.3). The two pieces of coal may indicate its use as fuel although this substance is sometimes part of the natural soil matrix in parts of Saskatchewan. A single clinker fragment also inventoried may support the idea that coal was used as a fuel. It was so used at the Batoche rectory at least by the 1920s and 30s (Brandon 1983a).

Miscellaneous Heating Devices  n=19

A dozen pieces of mica too large to be part of the natural soil matrix were inventoried. Mica was used in early toasters to reflect the heat from the elements. It was sometimes used in cast iron oven doors as a window (P. J. Priess: personal communication).

Six pieces of buff biscuit earthenware moulded with concentric ridges were identified as the element cradle and insulator from an electric hotplate. In the same excavation unit a piece of copper wire wrapped in woven asbestos insulation was also found (IN 08-9550).

8.2.2 Lighting Devices

Candle Fragments  n=6

Fragments of the wick and base of an exhausted taper were recovered together (IN 99-5160). The wax appears to have become brittle with time. Whether it was made by moulding or by dipping was not determined.
This artifact's possible domestic contexts include a dining table setting, a chandelier, or as a votive.

Fuel Oil Lamp and Lantern Metal Parts  n=20

These artifacts include five collars and hinged burner caps from kerosene lamps or Welsbach-type mantle lanterns. A kerosene lamp ferrule (IN 08-800280) consists of a brass ring 35 mm in diameter with remains of mastic where it attached to a glass font. The inside is threaded where the wick holder assembly once screwed in. Three rods used for fuel regulation or wick trimming are also in the collection. A circular metal foot 152 mm across with an assembly for a vertical post could be from either a fuel oil or electrical lamp.

Because it is made of brass which is commonly used with containers of flammable or explosive materials, a threaded plug (IN 14-4800) is tentatively identified as a fuel oil lamp reservoir plug. The head is domed in cross-section and measures 18 mm across. The shaft is 12 mm in diameter and finely threaded. Curiously, the underside of the head's lip is knurled but not its edge, suggesting it screwed into a projecting tube which would permit the fingers to grip the knurling. It was concluded that a fuel oil lamp reservoir might be sealed with a plug like this. The other specimen (IN 08-5772), also of brass, is very similar but is knurled on its flanged top edge. The top is 20 mm wide while the threaded part is 12 mm in diameter.

The lantern parts include hollow upper arms, regulators, and a crushed metal fuel reservoir. All are from Welsbach mantle-type lamps; therefore, they are more likely to be from lanterns than from lamps. One wire lantern handle (IN 08-3651) looks like a bucket handle but is
much smaller. Its top arc has been looped once at the top (a post-manufacture alteration) perhaps to ensure it could be suspended from a nail securely.

Lamp and Lantern Chimney Fragments  n=2,107

Lamp chimney body sherds can be confused with sherds of similar thinness from small commercial glass containers, lamp globes, and light bulbs. One study (Demeter and Lowery 1977:86-88) has found that lamp chimney body sherds do not exceed 1.0 mm in thickness. An attempt to test this with the Letendre lamp chimneys did not yield helpful results. Consequently, lamp chimney body sherds were subjectively identified during analysis by their thinness, a cylindrical or domed shape, and relatively broad diameter. Table 8.3 breaks down the lamp chimneys by portion, colour, and type of rim form.

Chimney colour indicates the cost and, in a general way, the period of use. Manganese-tinted sherds were assigned a terminal date of 1914. Due to variable access to an ultraviolet light source during analysis, slightly less than half the colourless sherds were tested for lead content. Eighty of 591 sherds tested under UV light fluoresced, indicating the presence of lead. Leaded glass chimneys would have transmitted light more effectively but appear to have cost more. Stevens (1967:121) illustrates a price list from an early Canadian glass manufacturer's catalogue which ranks "pure vulcan lead" chimneys before "crown fine flint" and "second quality" wares.

The "other" colour referred to in Table 8.3 was found on two scalloped rim sherds (IN 02-8921) with a pinkish hue and "crizzling." Crizzling refers to the devitrification of a glass surface through
Table 8.3. Lamp chimney glass broken down by portion and colour.

<table>
<thead>
<tr>
<th>PORTION</th>
<th>COLOUR</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Colourless</td>
<td>Manganese tinted</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAMP BODY SHERDS</td>
<td>1,744</td>
<td>146</td>
<td></td>
<td>1,890</td>
<td></td>
</tr>
<tr>
<td>LAMP RIMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plain</td>
<td>124</td>
<td>20</td>
<td></td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>scalloped</td>
<td>15</td>
<td>9</td>
<td>2</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>piecrust</td>
<td>10</td>
<td></td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>beaded</td>
<td>24</td>
<td>6</td>
<td></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>beaded &amp; scalloped</td>
<td>4</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>LANTERN RIM</td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>TOTALS:</strong></td>
<td><strong>1,924</strong></td>
<td><strong>181</strong></td>
<td><strong>2</strong></td>
<td><strong>2,107</strong></td>
<td></td>
</tr>
</tbody>
</table>
chemical action (Jones and Sullivan 1985:15-16). Coloured lamp chimneys were available after 1840 but were not common because of the unnatural light they threw off (Woodhead, Sullivan, and Gusset 1984:59). The crizzling might also indicate heat-alteration and it is possible, in the absence of other sherds of this colour, that the pink colour came about this way. Only 36 other lamp chimney sherds were heat-altered. Four colourless (IN 02-806410 and 02-804143) and four manganese-tinted sherds (IN 02-806211) exhibited wide (1.5 mm) seam-like marks. These may indicate a mould-blown manufacture (found on some non-cylindrical chimneys [Woodhead, Sullivan and Gusset 1984:58]) or a form of decoration.

Plain chimney rims were distinguished from tumbler and lantern rims subjectively, based on thickness. The number of plain rim sherds (n=144) is about twice that of the top-decorated fragments (n=70) and reflects the quantities of both undecorated chimneys, which are plain at both ends, and decorated chimneys, which have plain bases. The types and quantities of decorated rim sherds are described in Table 8.3 and are illustrated in Figure 8.1. Russell (1968:283) believes decorated chimneys first became popular in Canada around 1885 although they appeared in the United States somewhat earlier. Woodhead, Sullivan, and Gusset (1984:62), judging by the wares available in early Canadian glass catalogues, are inclined to think the use of decorated chimney tops decreased as decorated globes and shades became more popular. Most of the scalloped Letendre chimney rims (Figure 8.1a,c,f) were decorated by hand while some scalloped and most of the beaded variants were formed with a template (Woodhead, Sullivan and Gusset 1984:62).
Figure 8.1. The range of lamp chimney top forms. Scalloped (a), lantern (b), piecrust (c), plain (d), beaded (e), beaded and scalloped (f).
The lantern chimney rim fragments (n=3; inventory numbers 02-8212 and 02-804941) were tentatively identified by a moulded shoulder around the rim and ground top rim surfaces (Figure 8.1b). Lanterns had general household and outdoor utility, being portable, suspendable, and sturdy.

**Lamp Shade Fragments n=49**

Although not mended, the remains of at least one glass lamp shade were found scattered throughout the site. All fragments are of thin opaque white glass decorated with red and orange enamel or paint. One fragment (IN 02-7363) has also a green leaf motif, suggesting a floral design. One sherd (IN 02-6781) exhibits a ribbed moulded relief. It is likely that the shade had a hemispherical rather than spherical shape. Thirteen rim fragments were found which were at first thought to be from a Pyrex-type bowl but, due to their thinness, are probably the bottom rim of a shade. A single rim sherd (IN 02-3001) has a raised mounded area suggestive of the top aperture which allowed the chimney top to protrude.

Two fragments (IN 08-11620) which mend into a circle of wire 2 feet across were concluded to be the lower rim of a paper or cloth-covered lampshade.

**Possible Lamp Reflector Fragments n=18**

Gerald Stevens (1967:118) reprints an illustration of a lamp reflector made of glass taken from a catalogue of the Diamond Flint Glass Company. Although polished metal reflectors are more common and would have been more durable, it is felt that 17 fragments of thin silvered glass found west of the house are reflector glass. They
resemble at first glance the sort of glass found in Thermos bottles or Christmas tree baubles but the silvering compound used has a brownish tinge and the fragments have little or no curvature.

A piece of stamped sheet metal with frilly edges is thought to be a metal lamp reflector fragment (IN 08-800230).

Possible Fuel Can and Cap  n=2

These artifacts are included in the domestic category because kerosene lamps would have been the most obvious device requiring fuel, at least during the earlier occupations of the site.

A very large rectangular tin can may have contained turpentine or vegetable oil (IN 14-13770) but probably contained fuel. It measures 161.9 mm by 109.5 mm and is 285.8 mm tall. The body seam is interlocked and both the top and bottom are attached with single seams. All seams have been heavily sealed with solder, including the joint of the threaded spout at one corner of the top. The top centre has an attached carrying handle. On the base is stamped a large circle cross-sected with a line. This may or may not be a manufacturer's mark. The relatively lavish soldering suggests it contained a liquid which one would particularly not wish to leak out. A fuel of some sort, therefore, is assumed to have been stored in this can.

The other artifact (IN 14-4302) not associated with the can is a shallow brass cap which screwed into an aperture 34.9 mm in diameter. This is somewhat wide for the pouring spout of a fuel can but might be appropriate for a larger container such as a small drum. Because it is brass, it is assumed to have an association with fuel or gunpowder.
8.3 Food Preparation and Preservation Equipment

8.3.1 Food Preparation Equipment

Mixing Bowls  n=14

A thick basal sherd (IN 02-22222) of opaque white glass was recovered from the backfill of the 1976 excavations and is thought to be part of a Pyrex-type mixing bowl. It is embossed with MADE IN USA over a mark or lettering too smeared to read.

Corning produced the first line of glass ovenware (Pyrex) in 1916. Flame-resistant stove top Pyrex pots proved to be a bit more challenging and were not developed before 1936 (Panati 1987:124-125).

Six of the ceramic mixing bowl sherds are yellow earthenware, possibly all from one bowl. They have a ribbed moulded relief decoration with slip-banding at the rim. Four sherds have similar moulding and coloured glaze decoration. The fabric on these is buff earthenware.

All three of the metal dishes or bowls are about the size of a dog food dish. One (IN 14-9111) is complete but crushed. The base was approximately 100 mm across and it was as much as 50 mm in height. An unidentified almost fibrous white coating covers this vessel which may be either enamel or a fibreglass-like substance. The top edge is rolled outward and does not have a wire core.

The other two are not coated. Only about half of a dish measuring approximately 150 mm across and perhaps 50 mm high (IN 14-8580) was preserved. Its rim is curled outward and is stamped with a ribbed pattern around the inside edge. The other specimen (IN 14-10660) also
has a rolled rim which was curled around a wire core. The inside rim is
decorated with vertical striations.

Two fragments of a dark green plastic bowl or cup (IN 99-7852) were
inventoried. The type of plastic was not identified.

Metal Kettles, Pots, and Pans  n=24

One of these specimens is a utilitarian enamelled tea kettle (IN 14-4390). Another is a fancy kettle, possibly suitable for serving as
well as boiling water (IN 14-19170). It is plated with chrome or some
other shiny metal. The handle at one time had organic inserts at the
top and bottom of the grip which have since decayed. This artifact was
given extensive conservation treatment because it was considered
display-worthy.

A complete circular pan 300 to 450 mm in diameter was recovered (IN
14-800490). The top edge of this shallow vessel is rolled outward and
is 25 mm high. Both sides are coated with white enamel. Another
artifact (IN 14-800980) is a partial top rim of an enamelled vessel
which, judging by its general build and the gauge of the metal, was
probably part of a medium size pot or dish. Two other fragments (IN
14-800521) mend to make the curled top rim of a similar vessel. A
handle or carrying brace was at one time riveted just under the rim.

An ear from a medium- to large-sized enamelled metal vessel was
recovered (IN 14-19250). Blue and white speckled enamel covers the
rivets joining this handle lug to the body. This was probably from a
large cooking pot or kettle. Two scraps of metal (IN 14-5760 and
14-800791) bearing remnants of enamel belonged at one time to some type
of cookware.
Two complete pot lids were recovered. One, missing its handle (IN 14-15660), is shiny, approximately 150 mm in diameter, and possibly made of aluminum. According to Panati (1987:101), cast aluminum cookware were first marketed under the Wear-Ever brand in 1886. Consumer resistance to the idea was not overcome until 1903 and, by World War One, aluminum cookware was quite popular. The other pot lid (IN 14-15650) measures 137 mm across and has a simple wire loop in the centre for a handle. It probably covered a small cooking pot.

**Pot or Pan Handles n=13**

A simple wire loop reminiscent of that on the pot lid just described measures 32 mm in diameter (IN 14-6654). It might have been a pot lid or small pot side handle. A tab which was formerly soldered onto something (IN 08-5510) anchors a free-swinging oval ring. This is assumed to be a large roasting pan lid ring or side carrying handle.

An omega-shaped metal handle (IN 08-6140) may have been at one time plated. The size of the rivet hole suggests it was not meant to withstand any substantial tugging. It would have rested at an acute angle on the object to which it was rivetted. Therefore, it might be an oven tray (e.g. a cookie sheet) side handle.

Eleven possible pot lid or carrying side handles were inventoried. They are arched in a flattened omega shape. Three fragments (IN 14-13240) measure 16 mm wide and were perhaps japanned. Eight other specimens of the same form have no coatings.

A broken-off cast iron fry-pan handle (IN 14-8430) was recovered. Cast into the surface at the distal end is the mark EMPIRE 8 (or possibly 8 1/2), denoting the size of the pan. A stout aluminum rod
(IN 08-10420) snipped at both ends is thought to be a cookware handle of some sort. A folded sheet metal handle (IN 08-2521) with a swan's neck profile perhaps attached at one time to a metal pitcher or creamer.

Miscellaneous Kitchen Utensils  n=6

A machine-made, colourless glass jar neck is tentatively identified as a kitchen storage container. Its profile suggests the rim would flare outward. If so, it might be part of a cookie jar or some other dry storage container loosely sealed with a lid or cork.

A colourless turn-moulded hollow glass knob was identified by Kevin Lunn of the Prairie and Northern Regional lab as the "distal" handle of a glass rolling pin (IN 02-26361). These rather specialized kitchen gadgets were blown hollow and equipped with an aperture and cork in the end of the "proximal" handle. The rolling pin could be filled with ice and was used to roll pastry, the ice keeping the dough cool while being worked. The author was informed that when filled with ice they also served handily as martini mixers (George and Lucy Jane Brandon, 1980:personal communication).

Two can-opener parts were recovered. One is the distal end (IN 08-3150) of a "Yankee"-style can-opener. It has a crescent-shaped blade with a bottle opener claw on its top end and is 38 mm long. This design was patented in 1906 (Rock 1987:109).

The other specimen (IN 08-3870) is of the two-handled type with a butterfly-wing rotating handle. The wing handle is missing as is the feed wheel on this specimen. Although can-openers which used a cutting wheel date as early as 1870, the addition of the serrated feed wheel was a feature of the Star Can Opener Company's 1925 patent (Panati
An egg beater crank (IN 08-5580) was identified by Peter J. Priess of the Winnipeg Canadian Parks Service staff. It consists of a wheel 3 inches in diameter with cogs set at 45 degree angle. Its handle is a bulging coil of wire and the centre has a pivot hole. Lastly, an aluminum plate or rod (IN 08-10853) with a loop at one end and aluminum sheet metal riveted to the other is identified as a possible spatula handle.

8.3.2 Canning Jars and Seals

Assigning dates to canning jars presents special problems. They have the potential of being finely-datable artifacts as their design, particularly methods of effecting an air-tight seal, changed rapidly in the late nineteenth and early twentieth centuries. The seminal work by Julian Toulouse, *Fruit Jars*, lists over 270 different canning jar patents between John Landis Mason's 1858 patent and the 1930s (1969b:399-411).

Semi-automatic glass blowing machines, for example the Arbogast and Ashley devices, were first used in the production of jars (Jones and Sullivan 1985:38). Thus, attributes indicative of machine manufactures may be found on jars earlier than on other glass vessels.

Finally, another dating issue with regard to canning jars is their longevity of use. Like ceramics, a canning jar is not readily discarded. It may be in use for a relatively long period of time after its initial manufacture before it enters the archaeological record.
The artifacts described below are canning jars either identifiable by name or, given sufficient mending, by shape. Jar fragments totalling 186 sherds were embossed with lettering which could be positively matched with published illustrations. The individual jar types are described in Table 8.4. Some of these are illustrated in Figure 8.2. The other 37 canning jar sherds were identified on the basis of their forms.

Two general features enable determination of the starting production dates listed in Table 8.4. The presence of a "bead" (see Chapter 5.2.2) at the base of the finish is generally thought to indicate a post-1915 manufacture (Toulouse 1969b:394). The Improved Gem and Maryland Glass Company specimens both have beads (in the case of the Maryland specimen, the date of the maker's mark takes precedence, see below). In assigning dates to jars moulded with the words "Made in Canada," Toulouse seems to use 1920 as the date when this feature appeared although he does not explain why. For this reason, he gives a date of post-1920 to the Jewel Jar (1969b:162, his second specimen) and the Perfect Seal jar (1969b:236-237, his first and second specimens).

The Kerr "Self Sealing" Mason jar fragment listed in Table 8.4 was matched to Toulouse's illustration (1969b:169; his first specimen) by the relatively large size of the embossed words "Self Sealing" and by the quotation marks which surround them. He cites a beginning date of about 1915-1919 for this jar. In Table 8.4, the Atlas Mason's Patent specimen and the sherds embossed with various parts of the word "Atlas" are assigned the company dates for the Atlas Glass Company (1896-1901) and the company with which it subsequently merged, the Hazel Atlas Glass Company (1902-1964) (Toulouse 1969b:24-25; 1971:55-56). The Maryland
Table 8.4. Canning jar fragments from identified manufacturers.

<table>
<thead>
<tr>
<th>BRAND NAMES AND INVENTORY NUMBERS</th>
<th>QUANTITY</th>
<th>CHARACTERISTICS</th>
<th>PRODUCTION DATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerr &quot;Self Sealing&quot; Mason 02-22083</td>
<td>1</td>
<td>colourless body sherd</td>
<td>post-1915</td>
</tr>
<tr>
<td>Improved Gem 02-7273</td>
<td>70</td>
<td>colourless screw-threaded</td>
<td>post-1915</td>
</tr>
<tr>
<td>Jewell Jar - Made in Canada 02-6101</td>
<td>8</td>
<td>colourless body sherd</td>
<td>post-1920</td>
</tr>
<tr>
<td></td>
<td>02-6442</td>
<td>46 colourless screw-threaded</td>
<td>post-1920</td>
</tr>
<tr>
<td></td>
<td>02-7094</td>
<td>3 colourless body sherd</td>
<td></td>
</tr>
<tr>
<td>Perfect Seal - Made in Canada 02-11203</td>
<td>1</td>
<td>aqua body sherd</td>
<td>post-1920</td>
</tr>
<tr>
<td>Atlas Mason's Patent 02-25250</td>
<td>1</td>
<td>aqua body sherd</td>
<td>1896-1964</td>
</tr>
<tr>
<td>generic Atlas sherds 02-2493</td>
<td>8</td>
<td>aqua body sherd</td>
<td>1896-1964</td>
</tr>
<tr>
<td></td>
<td>02-2662</td>
<td>1 colourless body sherd</td>
<td></td>
</tr>
<tr>
<td>Maryland Glass Company jar 02-2890</td>
<td>47</td>
<td>colourless, complete; screw-threaded</td>
<td>post-1915</td>
</tr>
</tbody>
</table>

TOTAL: 186
Figure 8.2. Body sherds from canning jars of identified brand names. Kerr "Self Sealing" Mason (a), Improved Gem (b), Jewel Jar (c), Perfect Seal (d), Atlas Mason's Patent (e).
Glass Company jar has embossed on its base an M in a circle which has been its trademark since 1916 (Toulouse 1971:339).

Thirteen body sherds whose diameter, colouration, and moulded lettering suggested they are embossed canning jar fragments could not be definitely assigned to a specific brand name and are not included in Table 8.4 for reasons of space. Two colourless body sherds (IN 02-803034) are moulded with a floral design and have been inventoried as jars because of the bead above the shoulder on one sherd. It is possible but unlikely that they are from a fancy commercial container.

Fourteen sherds, all from machine-made, colourless, wide-mouthed jar finishes are sufficiently tall and sturdy that they are more likely to be from canning than commercial jars. Almost all have beads below the finish and therefore were made after 1915.

Like the patents which used threaded finishes as a central design feature, another sealing method which saw many variations was Putnam's "Lightning" bale seal method (Toulouse 1969b:352-355). Here, a wire loop was secured to the jar neck in such a way that it could be flipped over a ridged lid clamping the jar shut. Three aqua jar finish fragments of uncertain manufacture (IN 02-2594 and 02-2644) may belong to a variant called the Adjustable Lightning seal. The lip is straight in profile below which are moulded a large and small band. If these sherds are correctly identified, the tie-wire would have hung loosely between the two bands. After being secured over the lid, the wire assembly then could be rotated, torquing the wire binding down even tighter. Toulouse (1969b:467) says this was introduced around 1910-1915 in Canada.
Two aqua-coloured, machine-made sherds (IN 02-22080) mend into another Lightning-style finish with a dimple in which a wire bale assembly was once anchored. The word SIDE is embossed beside the dimple. A patent for this variant was assigned in 1889 to the Canton Glass Company, makers of the Canton Domestic Fruit Jar but they seem not to have introduced this style until 1914 (Toulouse 1969b:58-59,355). The machine manufacture of this artifact is consistent with the latter date. Two colourless rims (IN 02-27112 and 02-806384), one of them machine-made, have tubular finishes with bead-like projections lower down which may be from Lightning-style closures.

Lastly, a colourless rim fragment (IN 02-9613) may be the only example of a "blow-back" or "blow-over" technique of manufacture in the collection. It is a simple tubular rim (at least 7 mm tall) the top of which has been roughened. Because of this, a rubber gasket must have been seated between the finish and the lid to achieve the seal. A feature of the blow-back/blow-over method is that the entire vessel including the finish would be blown in a mould with a bit of glass protruding from the top where the vessel connected to the blow pipe. When cool, this burr would be ground down to make a flat and even surface (Jones and Sullivan 1985:41-42). The specific type of finish cannot be identified but it would seem to fall into the category of top sealing methods (see Toulouse [1969b:393-396] for greater detail on this class of sealers). This technique was incorporated in Mason's original patent but Toulouse considers Rowley's 1869 patent for a top seal the first workable version (1969b:437). It is not clear if the rest of this finish is threaded, so a more precise determination of style is impossible for the time being.
Resealable Food Bottles  n=39

Food bottles lie somewhere in the middle of the jar-bottle continuum. They have short but definite necks, medium bores of between 38 and 51 mm, and squat bodies. Commercially-prepared foodstuffs were sold in such bottles and have been included in Chapter 7.1.7. Those food bottles were likely sealed with cork and wax. The specimens included here were resealable or even intended as reusable home preserve containers by design. While the apertures were inconveniently small to can large fruits and vegetables, small vegetables such as peas could be put up in such containers.

One of the few intact glass containers recovered from this site is a hexagonally-planned food bottle of pale green-yellow glass (IN 02-33552). It was blown in a two-part cup-bottom mould and hand-finished with a finishing tool. A small ledge inside the finish is 2 mm wide and located the same distance below the rim. The base is embossed with 5697 near one edge over C. S. & Co Ld at the other. The digits are a mould number and the lettering is the mark of Cannington, Shaw and Company of St. Helens, Lancs., England (Toulouse 1971:147). This company was relatively progressive in its adoption of automated glass manufacturing machinery. The company itself was formed about 1872 and began conversion to Ashley semi-automatics in 1897, acquiring six machines by 1899 (Toulouse 1971:147-150). In general, the Ashley machine met a Luddite-type of resistance from glass workers' unions (English 1923) so it is assumed that the machine output probably did not dominate this company's production immediately. Therefore, a date of 1872 to 1899 is assigned to this artifact to bracket the maximum expected dates of hand production at this factory.
A machine-made specimen of the same shape, colour, and with similar markings is housed by the Glenbow Museum in Calgary (Glenbow specimen C-3237-A). The manufacturer's mark is identical, but for the different mould number 5302. The Glenbow specimen has a cam levered vacuum cap (Glenbow specimen C-3237-B) which operates by squeezing a rubber disk sandwiched between the top and bottom metal plates. This action expands the rubber into the space between the cap and the glass to effect the seal. An identical 51 mm diameter metal cap (IN 08-16982) was recovered from the same excavation unit as that of the food bottle in the midden west of the Letendre house. It is counted among the other vacuum caps in a section below.

It is likely such a cap would have been too costly for use as a disposable commercial container seal. It is clearly designed to be reused and must have been expensive to manufacture in relation to other available commercial seals. On the other hand, a reusable commercial bottle and seal might have attracted consumers in a way the original contents might not necessarily have done. Toulouse does not describe this specific jar cap design although the stopper patented April 3, 1866 by T. O. Oliver (Toulouse 1969b:423) is very similar.

Without mending, the identification of fragments which might have belonged to similar bottles is by no means firm. Other finish fragments were recovered which in profile resemble that of the food bottle described above. Their estimated diameters range between 25 and 51 mm. The green-yellow specimens (n=10) and those of aqua-coloured glass (n=6) have all been hand-finished. The colourless (n=5) and manganese-tinted fragments (n=2) are too incomplete to determine their method of manufacture.
Body fragments identified as preserve bottle pieces were so
designated tentatively based on their polygonal plan and large estimated
diameter. Thirteen of these are of uncertain manufacturing method while
two were identified as machine-made by the presence of ghost seams.

Glass Canning Jar Lids  n=8

Glass canning jar lids were used in conjunction with rubber seals
to overcome the metallic taste which zinc and other metal lids imparted
to the foods in the jars they sealed. They could be either lids in
their own right (e.g. those with Lightning-type seals) or liners used
with metal caps or rings (Lief 1965:10-13). Only one glass lid suitable
for closing a Lightning-style jar was recovered. Two colourless sherds
(IN 02-21463 and 02-25261) cross-mend to form a dome-shaped lid. A
portion of a raised wing which has a four-pointed star-shaped planview
is located in the top centre. A spring-bale from a Lightning-style jar
would have been secured by sliding over this wing into a notch. Most
Lightning-style lids had large raised dots rather than wings to secure
the bail. An example similar to the Letendre specimen is illustrated on
a Canton Domestic jar in Toulouse (1969b:59) but other brands are
possible. Therefore, starting dates for Lightning designs of
approximately 1877 but more likely 1882 (1969b:353) are assigned to this
artifact. No terminal date has been determined.

Lewis R. Boyd’s 1869 patent for a glass lid to separate the jar’s
contents from the metal lid is credited with assisting Mason’s jar to
achieve popularity (Toulouse 1969b:350-352; Lief 1965:12). The recessed
disc achieved a seal by means of a rubber gasket between the top of the
jar and the lid flange. At first it was used as a liner for zinc caps
but, upon elimination of the dome of the cap leaving just the threads, the familiar screw-ring came about. Four heavily manganese-tinted fragments (IN 02-15603, 02-16102, and 02-16103) mend to form one such lid. The top centre of this lid is recessed while the underside is pressed in a radiating pattern of rays. No specific lid type has been assigned to this artifact, but the tint and the date of Boyd's patent (1869) suggest a range of dates of about 1870 to 1914. An aqua lid of similar style (IN 02-2971) is assigned a post-1870 date. An aqua lid sherd moulded with concentric raised platforms (IN 02-4261) may have been a lid or a liner but is too fragmentary to determine with certainty.

Canning Jar Gaskets  n=7

Flat rubber ring fragments were identified as canning jar gaskets. The only complete specimen (IN 99-6853) may be from some sort of resealable bottle. It measures 52 mm across with a 32 mm inside diameter. Two indentations on one side but on opposite sides of the ring may be the imprints from the lid or finish or may have something to do with its attachment to its parent lid or finish.

Metal Sealer Caps and Rings  n=3

A sealer ring and lid (IN 08-2170) were recovered fused together and were inventoried as one artifact. The lid portion has a rubber seal around the inside rim. It is stamped KERR in script and would fit a 64 mm jar finish. Two other loose sealer rings were also inventoried (IN 08-1480 and 14-7374).
Three vacuum caps were recovered of the kind already discussed above in connection with the Cannington and Shaw bottle. Toulouse (1969b:482) says this general sort of design post-dates 1866. The specimen (IN 08-16982) found in the same unit as the Cannington and Shaw bottle would be suitable to seal a food bottle with a 51 mm bore. Another would have plugged a bottle or jar with a 76 mm bore (IN 08-9962). The third (IN 08-17320) is stamped around its top circumference with CROSSE & BLACKWELL CO. LONDON.

8.4 Tableware and Cutlery

8.4.1 Glass Tableware

Tumbler Fragments  n=64

As mentioned earlier in this chapter, the author was not entirely satisfied he recognized the threshold between thick lamp chimney glass and some of the more delicate tumbler sherds. The plain tumbler fragments include a lone body sherd, 47 rims, and a single plain base (IN 02-21474) which was distinguished from bottle bases by its lack of seams, manufacturers' marks, and clearly defined resting surface. Among the 15 ornate tumbler sherds a variety of decorative methods are found. Overall, 11 of the 64 tumbler fragments are manganese-tinted.

Among the decorated tumblers the most distinctive is the base (IN 02-25240) illustrated in Figure 8.3a. This specimen is manganese-tinted and the resting surface is ground and polished. The base is recessed 12 mm and has embossed a W within a heart. This mark has not been
Figure 8.3. Some identified patterned glass tableware fragments. Tumbler (a), "Nova Scotia Diamond" (Canada) or "Fine Cut and Panel" (U.S.A.) pattern (drawing by Kathy Graham-Stevenson, Canadian Parks Service); tableware lid fragments (b, c), "Sheraton" (Canada) or "Ida" (U.S.A.) pattern (drawings by Brenda Smith).
positively identified but may be that of C.E. Wheelock and Company of Peoria, Illinois (Peterson 1968:24). Two colourless fragments (IN 02-26034 and 02-802350) do not mend with the base but exhibit the same pattern. All three specimens may belong to a single object but one should not discount the possibility that a patterned set of glass tableware was in use at the site.

In Canada this design is a panelled form of the "Nova Scotia Diamond" pattern (Unitt and Unitt 1970:28; McLaren 1974:27; Stevens 1967:215) or simply the "Diamond" pattern (Rottenburg and Tomlin 1982:40). Despite its name, the pattern need not have originated in Canada and could have been manufactured by several different companies. Stevens (1967:215) states that the Canadian prototype of this pattern originated with the Burlington Glass Company of Ontario which would imply a minimal age of approximately 1878 to 1897 (Rottenburg and Tomlin 1982:25).

An American version called "Fine Cut and Panel" is even closer in resemblance, having the rib subdivisions which the Canadian Diamond patterns cited above do not. Fine Cut and Panel may have been made by Bryce Brothers of Pittsburg in the 1880s. It was reissued by the U. S. Glass Company in the early 1890s (Miller 1975:308).

A variety of one-of-a-kind decorated tumbler fragments were recovered. Simple wheel-ground horizontal bands below the rim or elsewhere on the tumbler body are the most common form of decoration. One colourless specimen (IN 02-802260) has a single ground band exactly 10 mm below the rim. The use of metric spacing may indicate a Continental European ascription for this artifact. Three other colourless sherds from the same excavation lot but from different
vessels were also embellished with single ground bands (IN 02-20220 and 02-20221). A manganese-tinted body fragment (IN 02-19850) exhibits two narrow and parallel ground bands. Three manganese-tinted sherds mend to form another decorated tumbler base (IN 02-31522, 02-31524, and 02-800081). The lower part of the body is moulded with broad flutes while the resting surface is ground but not polished. The base is indented 3 mm. Another colourless fluted sherd (IN 02-26184) has a floral design ground on an unfluted section. Moulded floral or leafy designs are also found on three colourless sherds (IN 02-800330 and 02-801040).

**Stemware n=7**

The most complete artifact of this category consists of two colourless fragments which mend to form the body of a small plain wine glass bowl (IN 02-802971). The mouth of this vessel is constricted relative to the body diameter. Another fragment from the bowl-stem junction area of another wine glass (IN 02-27720) is streaked on the outside from turn-moulded manufacture. While a useful dating indicator among glass containers, turn moulding is frequently the method used to produce stemware today (Jones and Sullivan 1985:127).

Another method of stemware production is in moulds with three or more pieces. These permit intricate designs to be patterned on the glass while facilitating the removal of the item from the mould (Jones and Sullivan 1985:127). The application of this method to a particular glass piece is indicated by the presence of more than two body side seams on the artifact. On stemware, particularly large pieces, the presence of any seam implies this moulding technique probably was used
to form the vessel. A colourless bowl-stem junction fragment (IN 02-801043) with a mould seam is likely from some item of stemware other than a stemmed drinking glass. Likewise, a frosted stemware foot fragment also has a mould seam (IN 02-800144) but is too robust to belong to a drinking vessel. A fragment of pale orange glass (IN 02-802200) may be from the underside of a goblet or the top of a fluted stem. It is uncertain whether this artifact was moulded or cut. Finally, a manganese-tinted fragment (IN 02-14900) with a mould seam is thought to be part of the body or lid of a stemmed serving piece.

Bowl and Other Hollow-ware Fragments  n=11

Bowls are hollow-ware vessels of wider aperture than they are tall. Fragments too truncated to judge by this criterion were assigned to the hollow-ware category by virtue of their decoration.

Diagonal ribbing lined the bottom above the footring of a pair of bowl base fragments (IN 02-802601). A rim specimen found nearby (IN 02-36860) may be part of this same bowl but does not mend with the other sherds. This rim is very thick and may have had a side flange or ledge suitable for a lid to rest upon. A colourless rim (IN 02-20211) shaped with fancy scallops on the lip and a moulded pattern of large squat diamonds below on the outside was identified as a probable fruit nappy fragment by Olive Jones of the Canadian Parks Service, Material Culture Research Section, Ottawa.

Two colourless fragments of a fruit nappy or dish cover are moulded with a sprigged maple leaf pattern on a stippled background. This may be part of a highly variable pattern known as "Canadian" (v. Lockett: personal communication). Published illustrations of this pattern show a
cottage scene in a central panel but the details of each vary (compare two specimens in Unitt and Unitt 1970:137 with each other and with King 1987:262). Stevens reports this pattern was found during excavations at the Burlington Glass Works (1967:212,228). He suggests that the variations in cottage scenes might have been derived, at least conceptually, from a popular book published in 1882 and thereby infers that year as a tentative *terminus post quem* for the Canadian pattern. Unitt and Unitt suspect several Canadian factories may have made Canadian (1970:137). Sources of American production of the pattern are unknown but it is estimated that the pattern appeared around 1870 (Welker and Welker 1985:333; they add, perhaps sardonically: "This pattern could possibly have been made in Canada").

The only specimen of "carnival" glassware in the collection, a rim (IN 02-6540), was identified by its iridescent orange colour. Carnival glass was cheap to produce because manufacturers could use low-quality glass and anneal a metallic salt finish onto it with a pleasing effect. It was known as the "poor man's Tiffany glass" (Klamkin 1976:10). The four major producers in the United States began their output no earlier than 1907 and the fad peaked by about 1920-1925. Carnival glass was still to be had in the late 1920s but its popularity dwindled until revived briefly by a nostalgia fad in the 1960s (Klamkin 1976:18-23).

Four other glass vessel rims with moulded or ground decoration, one of them manganese-tinted, cannot be associated with known patterns.
Small Dishes n=7

Seven fragments were recovered of small dishes approximately the size and shape of candy dishes or ash trays. One complete specimen (IN 02-3422) seems quite modern and inexpensive in appearance. It is pressed colourless glass moulded with a ridge pattern radiating out from the centre of the base which gives way to a fine lattice pattern. The rim has vertical and horizontal flanges set at right angles to one another, possibly indicating the vessel took a lid. Chartreuse enamel coats the entire outer surface. Three other fragments with this design and enamelling were recovered (IN 02-3540 and 02-7634). Two colourless dish fragments have been pressed with a radiating ridge pattern on the base which continues up the body, each rib terminating at the rim in a pointed scallop (IN 02-3550 and 02-25253). It is estimated that the complete vessel(s) would have stood 25 mm high. The only manganese-tinted dish fragment (IN 02-6051) is suspected to have been deliberately coloured amethyst rather than changing to that hue through time (K. Lunn: personal communication).

Cup Fragments n=4

A teacup or punch glass handle was recovered of a similar orange-pink tint to a stemware specimen described above (IN 02-11180). The other glass handle is emerald green in colour (IN 02-25252) and has been slightly heat-altered. Its colouration suggests it might actually be the finger loop from a jug but it is elongated, curves upward, and is probably not sturdy enough to have been part of a jug neck. The inside mould seams are crude and prominent which would be uncomfortable if one were holding any substantial weight by one's finger. Similarly, it is
unlikely to be the finger loop from a hand-held lamp although lamp fonts of this colour were available (Stevens 1967:110).

Two fragments of opaque white glass mend to form a segment from rim to footring of a cup or possibly a tiny bowl (IN 02-22221). Because of its rounded profile it is unlikely it functioned as the familiar cheapware coffee mug.

Miscellaneous Tableware Items  n=11

Three colourless fragments from two possible tableware lids were recovered which probably covered butter dishes, sugar bowls, or the like, judging by their size and shape. Two of these (IN 02-28204) are decorated with a motif resembling a sequence of half wagon wheels on a stippled background sandwiched between two beaded bands (Figure 8.3b,c). This is known as the "Sheraton" pattern in Canada and has been found in excavations at the Burlington Glass Works (Unitt and Unitt 1970:101). Although this company began operation in 1874, the production of tableware began in earnest in the first half of the 1880s, frequently copying American patterns and assigning them Canadian names (King 1987:61,64). In the United States the Sheraton pattern goes by the name "Ida," a patent for which was granted to Bryce, Higbee and Company around 1885 (Welker and Welker 1985:441). A terminal date has not been established. Another rim fragment (IN 02-800010) is stepped in profile and is either part of a lid or a lidded vessel. It is moulded with a loop or drape design pendant from the rim and a grape motif away from the rim.

A colourless decorated small bottle neck (IN 02-28712) is thought to belong to a cruets or caster (after Jones and Sullivan 1985:133).
Because the neck does not include the finish it is not possible to determine which of these functions it might have served. The decoration consists of ground overlapping round facets girdling this artifact. Five fragments of a ribbed and panelled square-mouthed small container (IN 02-29123) are tentatively identified as parts of a salt or pepper caster. Lastly, two fragments of a shot glass base were recovered (IN 02-20164). There is not enough of this artifact extant to determine if it was graduated.

8.4.2 Ceramic Tableware

In view of the rudimentary ceramic analysis that has been performed on this material, a comprehensive description of tableware vessel form and decorative patterns is inappropriate. Tables 8.5 to 8.10 break down the 1,962 tableware fragments recovered by decorative method, ware type, and vessel type when known. The techniques of ceramic decoration alluded to in those tables have been described in Chapter 5.3.2. In Tables 8.5 to 8.10, the columns have been arranged in order of flatware vessels then hollow-ware vessels followed by unique pieces and sherds known to be tableware but from unknown types of vessels.

Flatware includes plates, saucers, and platters. Their distinguishing characteristic is that they are shallow and this can be determined by the curvature and aspect of the sides. Often but not always, these pieces have "brinks," the term used to describe the ledge at the boundary of the rim and the shallow walls of the piece. Small-diameter plates were classified as saucers but the most distinguishing characteristic of true saucers is the presence of a
Table 8.5  Ceramic tableware with blue underglaze transfer prints.

<table>
<thead>
<tr>
<th>TABLEWARE TYPE AND PATTERN/MOTIF</th>
<th>TABLEWARE</th>
<th>PIECE</th>
<th>REPRESENTED</th>
</tr>
</thead>
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<td>ware</td>
<td>Cup</td>
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<td>1</td>
</tr>
<tr>
<td>Makav/Fagoda</td>
<td>20</td>
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<tr>
<td>B700</td>
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<td>Grapevine (light blue)</td>
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<td>Rural Scenes</td>
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<tr>
<td>aquamarine floral</td>
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<td>2. Vitrified White Earthenware</td>
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296
Table 8.6. Ceramic tableware with other underglaze transfer prints.

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<th>TABLEWARE</th>
<th>PIECE REPRESENTED</th>
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<td>Platter/ Unid. Served Flatware</td>
<td>Unid. Hollowware</td>
</tr>
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<td></td>
<td>Saucer Plate Dish Ware</td>
<td>Cup Pitcher Ware</td>
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<td>1 9 13</td>
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<td>2 2</td>
</tr>
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<td>2 2</td>
</tr>
<tr>
<td>Hakai/Pagoda</td>
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<td>2 2</td>
</tr>
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</tr>
<tr>
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<td>4 4 2 2 8 9</td>
<td>2 2</td>
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<td>2 2</td>
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<td>6. Black: White Earthenware</td>
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</tr>
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<td>2 2</td>
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<td>7. Green: White Earthenware</td>
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<td>8. Green: Vitrified White Earthenware</td>
<td>Spode/Copeland Pattern:</td>
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| TOTALS: 3 7 6 17 7 4 8 9 96 157 |
Table 8.7. Ceramic tableware decorated with mould relief patterns.

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<th>Plate Ware</th>
<th>Saucer Plate Ware</th>
<th>Cup Bowl Pitcher</th>
<th>Other Unid.</th>
<th>TOTALS</th>
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<td>Wheat/Ceres pattern</td>
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</tr>
<tr>
<td></td>
<td>ribbed/ fluted</td>
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<td>With Other Decorative Methods:</td>
<td></td>
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<td>3. Yellow Earthenware</td>
<td></td>
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</tr>
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<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
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<td></td>
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</tr>
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<td></td>
<td></td>
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<td></td>
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<td></td>
<td>With Other Decorative Methods:</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>with gilding</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Soft Paste Porcelain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mustache Cup: swirled, ribbed</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>relief; gilded rim band</td>
<td>1</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>TOTALS</strong></td>
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Table 8.8. Painted ceramic tableware sherds.

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<th>REPRESENTED</th>
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</tr>
<tr>
<td>Blue Banded</td>
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</tr>
<tr>
<td>plain sky-blue bands</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>with stamped red and green flowers</td>
<td>9</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>wide navy band trimmed with two thin gilded bands</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Brown Banded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plain bands inside and outside vessel</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Chartreuse Banded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plain</td>
<td>6</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>with stamped red flowers</td>
<td>25</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>with stamped purple flowers</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Purple Banded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plain paired bands</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>with stamped purple flowers</td>
<td>18</td>
<td>21</td>
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</tr>
<tr>
<td>Gilded Banded</td>
<td>Bowey Pottery Company</td>
<td>59</td>
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</tr>
<tr>
<td>with painted blue floral design</td>
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</tr>
<tr>
<td>Miscellaneous Polychrome Decoration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>russet sponged, overglaze</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>polychrome painted</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>underglaze painted polychrome</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>floral design</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>painted, brown</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>painted, chartreuse</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>stamped brown flowers</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2. Vitrified White Earthenware</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Banded</td>
<td>Grindley Hotel Ware</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Gilded Banded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plain</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous Polychrome Decoration</td>
<td>white overglaze painted flowers</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>on blue background</td>
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<td>1</td>
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</tr>
<tr>
<td>Unspecified</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3. Porcelain - General</td>
<td></td>
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</tr>
<tr>
<td>Gilded Banded</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>plain rim band</td>
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<tr>
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<tr>
<td>4. Hard Paste Porcelain</td>
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</tr>
<tr>
<td>Gilded Banded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plain</td>
<td>10</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Orange Banded</td>
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</tr>
<tr>
<td>broad, plain band on inside</td>
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</tr>
<tr>
<td>Black Banded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with silver lustre decoration</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Chartreuse Banded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>broad band trimmed with thin black bands</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Russet Banded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with bluish biscuit border - Oriental?</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5. Soft Paste Porcelain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gilded Banded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plain</td>
<td>14</td>
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<tr>
<td><strong>TOTALS:</strong></td>
<td>76</td>
<td>10</td>
<td>6</td>
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Table 8.9 Miscellaneous decoration on ceramic tableware.

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<th>PIECE</th>
<th>REPRESENTED</th>
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<tr>
<td></td>
<td>Unid.</td>
<td>Flat-Saucer</td>
<td>Plate</td>
</tr>
<tr>
<td>1. Slip-banding</td>
<td></td>
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</tr>
<tr>
<td>White Earthenware</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>blue and white broad bands</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2. Overglaze Painting/Painting</td>
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<tr>
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<td>silver conifer design</td>
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</tr>
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<td>blue print, grey glaze</td>
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</tr>
<tr>
<td>black wispy painted design</td>
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</tr>
<tr>
<td>Soft Paste Porcelain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>print (eroded away)</td>
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<td>1</td>
<td></td>
</tr>
<tr>
<td>3. Mocha</td>
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<td>blue mottling</td>
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<td>4. Lustre</td>
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<tr>
<td>White Earthenware</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>broad, faded rim band</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Hard Paste Porcelain</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>indistinct due to burning</td>
<td>2</td>
<td>2</td>
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</tr>
<tr>
<td>5. Aerograph</td>
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<td>pink glossy rim band</td>
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<td>gilded design (small creamer)</td>
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<td>6. Lithograph</td>
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<td>White Earthenware</td>
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<tr>
<td>Aristocrat Florals</td>
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<tr>
<td>polychrome floral design</td>
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<td>1</td>
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<tr>
<td>Vitrified White Earthenware</td>
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</tr>
<tr>
<td>lithograph on biscuit</td>
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<tr>
<td>Hard Paste Porcelain</td>
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</tr>
<tr>
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<tr>
<td>molded relief on border</td>
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**TOTALS:** 8 31 1 2 1 11 16 70
Table 8.10. Marked and unmarked plain tableware sherds.

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<th>WARE TYPE AND MAKERS' MARKS</th>
<th>TABLEWARE</th>
<th>PIECES</th>
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</tr>
<tr>
<td>Johnson Brothers</td>
<td>30</td>
<td>63</td>
<td>4</td>
</tr>
<tr>
<td>Wood and Sons</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alfred Meakin (script)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Robert Cochrane</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Made in Japan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unidentified marks</td>
<td>1</td>
<td>1</td>
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</tr>
<tr>
<td>Vitrified White Earthenware</td>
<td>21</td>
<td>14</td>
<td>34</td>
</tr>
<tr>
<td>Grindley</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood and Sons</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J &amp; G Meakin</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Wilkinson</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Johnson Brothers</td>
<td>1</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>St. Johns Stone ChinaWare</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thomas Furnival and Sons</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alfred Meakin</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyott and Sons</td>
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</tr>
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<td>unidentified marks</td>
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<td>1</td>
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</tr>
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<td>Creamware</td>
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</tr>
<tr>
<td>Buff Earthenware</td>
<td>9</td>
<td></td>
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</tr>
<tr>
<td>2. Stoneware</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Coarse Stoneware</td>
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</tr>
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<td>3. Porcelains</td>
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</tr>
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<td>Porcelain - General</td>
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<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Hard Paste Porcelain</td>
<td>8</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Made in Japan</td>
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<td>1</td>
</tr>
<tr>
<td>unidentified mark</td>
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<td></td>
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</tr>
<tr>
<td>Soft Paste Porcelain</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>TOTALS:</td>
<td>72</td>
<td>93</td>
<td>46</td>
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</tbody>
</table>
"cup-well." Cup-wells are the shallow depressions on the bottom of a saucer in which its accompanying teacup rests. Platter sherds have thick walls, a broad curvature, and usually the planview of the parent vessel was oval. Often, platters have no "footring," the term given to the ring-shaped resting surface of most place-setting pieces.

Hollow-ware is defined as any class of vessel whose height approaches or exceeds its diameter. Cups, mugs, bowls, teapots and pitchers are included in this category. The test used in this analysis to identify a rim sherd as hollow-ware was to rest the rim upside down on a flat surface. If the angle of intersection with this surface was more than 45 degrees, it was classified as part of a hollow-ware vessel. A body sherd was assigned to this category if enough of it was present to infer the curvature of the walls of its parent vessel.

Mugs and cups were distinguished on the basis of sherd thickness, mugs generally being thicker and more utilitarian in decoration. The handles of both were recovered and body sherds with the stumps left where handles used to be were classed as cup or mug fragments. Bowl sherds were identified by their larger diameter compared to that of mugs and cups. Teapots and pitchers were distinguished by the type of spout they possessed, when present. Many of the sherds of these types are handle fragments, which are generally large, relative to teacup handles, and also hollow. All sizes from large table pitchers to small creamers were collectively called pitchers. Unidentified tableware sherds were generally too small to meet any of the criteria presented above but were of appropriate thickness and curvature that they could not be mistaken for vessels from other categories such as chamber pots and wash basins. Frequently, the presence of decoration on the sherd along with its shape
enabled it to be classified as tableware.

Blue Underglaze Transfer-Printed Tableware  n=453

Most of the relevant information about these ceramics is laid out in Table 8.5. Some examples of these sherds are illustrated in Figure 8.4a-e,g. Almost all the identified patterns are Spode/Copeland prints. In the trade, a pattern was registered by its design but the colour was irrelevant to this copyright. Hence, the Hakaw/Pagoda border pattern appears in Table 8.5 as a blue print and in Table 8.6 as a red print. They are identical in design. Moreover, specific registered patterns were not limited to tableware only. The B772 pattern described in Table 8.5 is also found on a wash basin rim (see Chapter 6.3.1). Unless otherwise indicated, the shade of blue on these specimens is navy.

The definitive work on Spode/Copeland registered patterns is Lynne Sussman's *Spode/Copeland Transfer-Printed Patterns* (1979b). The following information is gleaned from that work. Patterns identified on white earthenware sherds will be discussed first.

B772 pattern has a distinctive border consisting of wavy linear segments (Figure 8.4a). It was manufactured by Copeland between about 1839 and about 1882 (1979b:65). The pattern apparently never had a formal name but went by its factory pattern number. The Hakaw and Pagoda patterns have identical rim designs with a curlicue background (Figure 8.4b) but have different images in the centre. Only rim sherds were recovered having these patterns. Since both were in use at the same time, about 1838 to post-1872 (1979b:146,155), the distinction is unimportant for the time being.
Figure 8.4. Some underglaze transfer printed ceramic patterns. Copeland B772, navy blue (a); Copeland Makaw/Pagoda, navy blue or red (b); Copeland B700, navy blue (c); Copeland Grapevine, light blue (d); Copeland Continental Views/Louis Quatorze, navy blue (e); Ridgways unidentified pattern, brown (f); Copeland Shamrock, navy blue or green (g); Copeland Ivy, purple (h). Drawing by Diane Milton, Canadian Parks Service.
B700 is another print which goes by its factory print number. The border has a honeycomb-like pattern (Figure 8.4c). This pattern is one of the earliest recovered from the site, having been manufactured between ca. 1838 to after 1847 (1979b:64). The Grapevine pattern was introduced some time after 1847 (Sussman 1979b:237). The specimens recovered from this site are light blue in colour (Figure 8.4d).

Like the Makaw and Pagoda patterns, the border designs for the Continental Views pattern series and the Louis Quatorze pattern are identical (Figure 8.4e). Their border design is floral and busy with curly tendrils. It was first registered in 1844 as Louis Quatorze and the following year as Continental Views. These ran until about 1882 (1979b:92,145). The Rural Scenes border was manufactured from 1850 into this century. The design is a leafy floral one with vines and artichoke-like flowers (1979b:179). By contrast, the Thistle border is simpler with alternating sprigs and thistles. It was made between about 1869 and the twentieth century (1979b:219).

The last identifiable Copeland print is the Flower Vase pattern (named for its design element in the centre, not from any preponderant application to flower vases). This is another floral print with a long period of use by the Copeland firm. It ran between about 1828 and this century (1979b:115). A single sherd (IN:03-7460) with an unidentified floral print is marked on its obverse side with the only Copeland mark in the collection. Unfortunately, this sherd was not re-examined by the author and so the specifics of the pattern and the mark cannot be reported here. It is puzzling why so many Copeland prints are found on the Letendre ceramics but only one Copeland-marked specimen was recovered.
The only other manufacturer positively associated with blue underglaze transfer-printed ceramics from this site is Allerton. The Chinese pattern name is taken from the text of a marked sherd found elsewhere at Batoche (Figure 8.5a); only two sherds of the pattern itself were recognized at the Letendre complex. The style of the Allerton's mark in the type collection dates to between about 1903 and 1912, according to Godden (1964:Figure 88).

The balance of the white earthenware blue prints have been roughly categorized by their motifs and shades of blue in Table 8.5, when known. About thirty different pattern codes were assigned in the field lab to sherds in this grouping. Sherds grouped under the "non-specific blue" category are those sherds resident in the type collection about which the author has no notes. A concerted mending effort will almost certainly collapse these into far fewer distinct patterns. Many of them will be found to be parts of the Copeland patterns described above. Perhaps other unrecognized patterns will be found. For example, the pattern described in Table 8.5 as "bunched spheres" could actually be sherds from the Grapevine pattern described earlier. It could also be part of the Copeland Bramble pattern which features a border of blackberries, flowers, and leaves (Sussman 1979b:60).

As an aid to mending, plain sherds with flecks of blue or what might appear to be an artificial blue coloured glaze have also been included in Table 8.5. Recalling the process of transfer-printing (see Chapter 6), the moist print is fixed to the piece during the second firing. Sometimes the dye will flow throughout the glaze or spit onto a neighbouring ceramic in the kiln (J. Hamilton:personal communication). This is called "flow blue." Since printed ceramics have blank areas in
Figure 8.5. Manufacturers' marks on decorated ceramic sherds. Allerton (a), Ridgeway (b), Bovey Pottery Company (c), Aristocrat (d), Grindley Hotelware (e). Drawing by Diane Milton, Canadian Parks Service.
their designs, there is a high likelihood plain sherds exhibiting flow blue may mend into these areas as the piece is reconstructed.

Among the white earthenware sherds with unidentified blue decorative motifs in Table 8.5, two specimens also bear makers' marks. A sherd from an unidentified tableware piece with a blue floral print has on the obverse side a bit of the top of a crown and the letter L above and to the right (IN 03-10714). This is probably the last letter of the word Royal. Many manufacturers used a crown and this word as part of their logo. The mark remains unidentified.

A portion of the British Patent Office diamond device was found impressed on the obverse side of a blue-printed sherd from an unknown hollow-ware piece (IN 03-7470). The portion of the diamond shows a letter V nestled into the right-hand corner of the diamond. This indicates a registration date encoding protocol used by the Patent Office after 1867 and the V indicates a registration year of 1876. All patterns and vessel shapes could be patented for a period of three years and each was assigned a diamond code. The letters and numbers in each of the four corners of the diamond indicate the year, month, and day of registration (Godden 1964:526-527). On this sherd, the letters -LAN- are also impressed which could be part of either COPELAND or ENGLAND.

Among the underglaze blue transfer-prints found on vitrified white earthenware, only information about the Shamrock pattern needs to be added. A sherd from this Copeland print is illustrated in Figure 8.4g. Sussman (1979:211) says this pattern was registered in 1861 and appears in a W.T. Copeland and Sons catalogue dated 1882. She is not clear as to whether the pattern was available for sale before that date. A
terminal date of 1910 is taken from the date range of the style of the maker's mark Sussman found on the original copper plate of this pattern.

Other Underglaze Transfer-Printed Tableware  n=157

Transfer-printed patterns in purple, red, brown, black, and green colours have been recovered in smaller quantities than those of the blue patterns. These are broken down by print colour, ware type, and vessel type in Table 8.6.

Two Copeland patterns with no blue counterparts at the site are both done in purple. The Ivy pattern, a sherd of which is illustrated in Figure 8.4h, was offered by Spode/Copeland between 1845 and some time after 1865 (Sussman 1979b:135). The Strawberry pattern had a longer run, being available between 1852 and this century (1979b:217). The remaining Copeland patterns which appear in Table 8.6 have already been discussed above, namely a red version of the Makaw/Pagoda border design and a sherd decorated with the Shamrock pattern done in green.

A single teacup handle of vitrified white earthenware (IN 03-10191) may have a Ukrainian ascription. A sequence of small red crosses reminiscent of the style painted on Ukrainian Easter eggs is printed up the outer spine of this handle. Further mending may determine whether this assumption is warranted.

A brown daisy-like printed pattern made by the Ridgeways Company was recovered in substantial numbers from the excavations at Batoche village. This pattern is illustrated in Figure 8.4f. The three Ridgeways-marked sherds present in this collection (IN 03-7952 and 03-18281) bear a stamp with a bow and quiver motif (Figure 8.5b). Godden says (1964:Figure 3310) this motif with the words STOKE-ON-TRENT
sweeping off to the upper right was registered in 1880. He goes on to say that Stoke-on-Trent does not appear on earlier versions of the logo. None of the specimens from the Letendre collection have Stoke-on-Trent which implies they were perhaps purchased during the 1880s. Later marks of this company (Godden 1964:Figures 3311-3314) were all registered around 1905 and 1912 which is not to say that they necessarily supplanted the mark found at Batoche. A comprehensive range of vessel forms bearing this pattern is evident in the collection (see Table 8.6). This suggests more breakage activity was at work here than normal wear and tear. Two activities which might result in massive discard of entire sets of tableware are site abandonment activities and the known looting of the house.

Stevenson (1982) has found that hastily abandoned sites have large quantities of discarded, and even whole, ceramics, a scenario which presumably would not apply to the withdrawal of either the Letendre family or the N.W.M.P. detachment from the house, unless the residential move presented an opportunity to discard older, less favoured patterns.

The alternative of pillaging, during which the Métis fighters and soldiers of the North-West Field Force might have smashed anything they found in the house, would also result in a large amount of a tableware set ending up in the archaeological record. This could be tested at a later time by comparing the distribution of the sherds at the site. It is reasonable to expect that broken ceramics discarded in the midden as a result of a house cleanup after the 1885 event would have a randomly-mixed number of vessels. A set discarded en masse during a move would have a tighter distribution in the midden and sherds belonging to the same vessel would not be too far removed from one
another.

In view of this and for our present purposes, the author chooses to conclude that this Ridgways print was probably the Letendre family pattern in service at the house in the 1880s.

The last set of entries in Table 8.6 describe 12 sherds which, the database codes suggest, bear underglaze transfer-prints of unknown colour or design. This is suspected to be erroneous coding. These are most likely plain sherds but, for the sake of prudence, have not been classified as such. During recataloguing it was noted that many undecorated sherds or sherds with remnants of flow blue were coded as bearing patterns and sometimes also maker's marks. This may have come about during one of the many transformations of the database or perhaps one coder in the lab misunderstood the use of these fields. Whatever the case, many records had to be corrected because of this, and these probably represent ones that were overlooked by the author.

Two of these sherds are also alleged to bear marks. The white earthenware specimen (IN 03-9380) is probably a spurious entry in the database. The vitrified white earthenware specimen (IN 03-16733) was not specifically described but was assigned the mark code for Thomas Furnival and Sons. If it has a mark and it is the same as other Furnival marks to be described presently, it would date between 1881 and 1890 (Godden 1964:Figure 1649).

Ceramic Tableware Decorated with Moulded Relief n=139

Table 8.7 breaks down these ceramics by ware type and vessel type, when known. No specific historical pattern names could be assigned to any of the specimens in this category. The 36 sherds identified as
bearing a Wheat or Ceres pattern may be misleading in this regard. The term is applied to a class of moulded relief ceramics which are decorated with motifs resembling straws of wheat or other grasses. One work which covers vitrified white earthenware wheat patterns encompasses 14 similar but distinct patterns made by 42 different manufacturers beginning in 1848 (Sussman 1985:7). As such, there is probably no other class of decoration which requires complete information about the specifics of a design and clear association with a particular manufacturer before an accurate identification can be made.

None of the moulded relief tableware specimens in this collection could be associated with particular manufacturers' marks. As was mentioned earlier, patterned areas of ceramic vessels are generally restricted to the walls and rims of vessels while the marks are found on their obverse bottoms. Consequently, mending is required to link moulded relief patterns with particular manufacturers.

The data presented in Table 8.7 are largely self-explanatory. One of the unique ceramic tableware vessels recovered from this site is a rim portion of a moustache cup. These nineteenth-century novelties look like normal teacups with inside ledges which keep the liquid in the cup from sloshing against the moustache of the sipper (Savage and Newman 1974:198). The Letendre specimen (IN 03-3110) consists of the part of a teacup where the handle joins to the body. A horizontal divider which sweeps to one side is situated in the interior 25 mm below the rim. The sherd is of soft paste porcelain and is moulded with a ribbed pattern which spirals up the body of the sherd. A single thin gilded painted band encircles the rim on the outside.
Painted Ceramic Tablewares  n=244

On most of the painted tableware sherds described in Table 8.8 the common "motif" is a simple coloured rim band usually on the outside of the vessel. Hence, Table 8.8 has been organized by ware type, the colour of the rim band, and vessel type, when known. Many of the parent vessels to which these sherds at one time belonged probably had this band as the sole means of decoration. Other specimens have in addition painted or stamped floral decoration below the rim band on the bodies of the vessels. Most of the painting and stamping is underglaze in application although most of the gilded rim bands were overglaze painted. The specimen in the "Other" category in Table 8.8 (IN 03-16813) has a profile exactly like that of a small glass bottle neck. It is likely from a small cruet or caster. The nature of the underglaze design was not recorded.

Two different manufacturers' marks were noted among the sherds in this category. Fifty-five sherds (IN 03-1820 and 03-3041) cross-mend to form approximately half of a saucer 191 mm in diameter. The inside rim is decorated with three thin concentric gilded bands. The obverse bottom has the mark of the Bovey Pottery Company Ltd. which is illustrated in Figure 8.5c. This is a relatively recent artifact, according to Godden who says (1964:Figure 493) this style of mark was in use between about 1937 and 1949.

The other marked specimen is a complete utilitarian bowl with a simple green underglaze painted rim band around the outside edge. The obverse base is printed with the mark of the Grindley Hotel Ware Company Limited. This is illustrated in Figure 8.5e. The text of that mark refers to "hotelware" which is consistent with the style of the bowl and
is a term generally applied to simple yet sturdy wares used in institutions. They are usually thick-walled, and vitrified white earthenware is the conventional fabric of these pieces (J. Hamilton: personal communication). This type of Grindley mark has been in use since the formation of the company in 1908 (Godden 1964: Figure 1840).

**Tablewares Decorated With Miscellaneous Techniques n=70**

Little elaboration need be added to the data presented in Table 8.9. The single marked specimen is very recent in origin and the lithography used to apply the floral pattern is consistent with this. This mark is that of the Aristocrat Florals and Fancies Company, found on one sherd of white earthenware (IN 03-1501). Godden (1964: 34) says this company has been in operation since 1958. Although the front of the fragment bearing this mark is decorated only with a polychrome floral pattern, the text of the mark (WARRANTED 22K GOLD) implies that a gilded rim band or bands were also probably applied to this piece.

**Plain Ceramic Tableware Fragments and Makers' Marks n=899**

Almost all the ware types described in Table 8.10 have counterparts already encountered among the decorated sherds. The two creamware sherds are probably misidentified but are reported here as inventoried (creamware is too early in historical popularity to expect at this site; see Chapter 5.3.1). The other exotic wares, namely the red and buff earthenwares and the coarse stoneware, are all probably from teapots and, as such, are not out of place as tableware.
The "Other" category in Table 8.10 includes a knob from a small vessel lid of white earthenware (IN 03-10520). The fragment of vitrified white earthenware (IN 03-3731) is moulded in the shape of a robust flared vessel foot. This is thought to be a tureen base. Two buff earthenware fragments (IN 03-800590 and 03-800600) are cylindrical body sherds from a small bottle like a cruet or caster. Lastly, a piece of an eggcup made of hard paste porcelain was inventoried (03-8170).

As alluded to earlier in this section, the greatest numbers of sherds marked with manufacturers' logos are otherwise plain. The bottoms of tableware pieces are often undecorated, probably because they are intended to be covered with food. This is not always the case; the only way to distinguish Spode/Copeland Makaw and Pagoda patterns described earlier is to compare their central design elements. The chronological information which follows about makers' marks is almost entirely taken from Godden (1964). Some of the marked specimens are illustrated in Figure 8.6.

Five different identifiable manufacturers' marks and four other marks were found on white earthenware sherds. The Johnson Brothers mark found on a white earthenware sherd (IN 03-1190) illustrated in Figure 8.6a matches that used by the company between 1883 and 1913 (1964:Figure 2176). Another sherd (IN 03-14850) marked with the Wood and Sons logo in use after about 1910 (1964:Figure 4286) is illustrated in Figure 8.6b. Not illustrated here are three sherds marked with an Alfred Meakin mark done in script (IN 03-13090). The only Alfred Meakin mark in script listed by Godden (1964:Figure 2590) was in use by the company from about 1930 onward. The mark of Robert Cochrane of Glasgow (Figure 8.6c) was found on one sherd (IN 03-16651). It compares with a specimen
Figure 8.6. Manufacturer's marks on plain ceramic sherds. Johnson Brothers (a), Wood and Sons (b), Robert Cochrane (c), Grindley Hotelware (d), Wilkinson (e), Alfred Meakin (f). Drawing by Diane Milton, Canadian Parks Service.
illustrated in Godden (1964:Figure 966) which dates between about 1846 and the end of World War One. The last identifiable mark is not a company name but reads MADE IN JAPAN found on one sherd (IN 03-3260). The author has not been able to ascertain when it became the norm to identify the country of origin on products in general but his impression is that it is a phenomenon of this century. It is possible that the use of the word Japan rather than Nippon may also be of some significance in assigning a date to this artifact. The remaining five white earthenware specimens with makers' marks have only scraps of marks on them and it will not be particularly informative to describe each.

Thirty-seven marked vitrified white earthenware sherds are in the collection. A variation of the Grindley Hotel Ware mark described earlier was found on a cup base (IN 03-10941; Figure 8.6d) which does not match either of the two samples illustrated in Godden (1964:293). Thus, the date for the formation of the company (1908) must stand as the earliest this artifact could have reached the site. The Canadian distributor mentioned in the text of the mark, Cassidy's, could not be found in the Canadian Trade Index for any year.

Two sherds (IN 03-1092 and 03-1132) cross-mend to form a Wood and Sons mark the same as that illustrated in Figure 8.6b. This mark was also found on a white earthenware sherd and has already been discussed earlier. These sherds, therefore, post-date about 1910. Four sherds (IN 03-9850 and 03-12992) were recovered marked with various parts of the words IRONSTONE CHINA over the British lion and unicorn coat-of-arms over J & G MEAKIN over HANLEY over ENGLAND. This style of mark was in use by J. & G. Meakin Limited after about 1890 (1964:Figure 2601).
None of the marks of Arthur J. Wilkinson Limited illustrated in Godden (1964:Figures 4168-4176) precisely match that printed on one sherd (IN 03-12370) illustrated in Figure 8.6e. The closest is a simple crown motif with A. J. WILKINSON Ltd. over ENGLAND (1964:Figure 4175). This mark was in use after about 1930. Godden says (1964:673) all Wilkinson marks were printed between 1891 and 1947 and also that the word "Ltd." was added to all marks about 1896. Therefore, the Letendre specimen dates at the earliest from 1896 or possibly 1930 until 1947.

The only definitely Canadian ceramic in the collection (IN 03-10221) bears the mark of the St. Johns Stone Chinaware Company. This company was in operation from 1873 to 1899 (Collard 1967:281-290). Hotelware was an important part of their production.

The mark found on more individual vessel sherds than any other is that of Thomas Furnival and Sons. Five sherds (IN 03-9932 [n=2], 03-16710, 03-16814, and 03-19240) bear parts of the mark of this company in use between 1881 and 1890 (Godden 1964:Figure 1649). The beginning date of 1881 is actually an inference. Strictly speaking, Godden says this version of the mark was in use between about 1818 and 1890. However, the company was not in existence before 1871. It is therefore assumed that the last two digits were misprinted in a transposed position in Godden. Three sherds inventoried together (03-16393) actually belong to two different vessels. All are marked with various parts of the Alfred Meakin logo (illustrated in Figure 8.6f) which Godden (1964:425) says post-dates 1897. Lastly, a single sherd marked with the logo of Hyott, Son and Co. (IN 03-12373) was not seen by the author and so the specifics of the mark cannot be compared to logos.
illustrated in Godden (1964:Figures 2809-2812). The company has been in business since 1898.

Ten sherds bearing partial marks were recovered. Little useful information was recorded about these.

The remaining plain sherds with makers' marks are all hard paste porcelain sherds. All are suspected to be made in Japan. Three are definitely so marked (IN 03-6320, 03-13071, and 03-13083). The last four (IN 03-12890) are marked with a reddish/brown smear of like colour to marks found on Oriental wares.

8.4.3 Cutlery

Table Knives  n=8

A complete bone-handled table knife (IN 99-9340) is typical of what was evidently a cutlery set. It is 216 mm long with a round-tipped blade 127 mm long. The bone insets on the handle are secured by two copper rivets. These insets are embellished with a carved cross-hatched pattern. Another specimen recovered, missing its insets, is otherwise identical (IN 08-17940). Five other fragments, mostly the rounded distal tips or entire blade portions were also identified as dinner knife pieces. Lastly, a distal knife blade fragment with a pointed tip (IN 08-4650) is thought to be from a carving rather than a hunting knife.

Table Forks  n=7

One nearly-complete specimen (IN 99-9341) has a bone handle but is plain, unlike the other bone-handled cutlery fragments. The distal end
has three tines and almost no curve to it. Although the tips have corroded off, this fork is estimated to have been 178 mm long. The bone handle is 76 mm long and lies flush where it meets the shank. The other complete specimen (99-800290) has a wooden handle but also a suspect provenience. It was on display at one time but, apparently, was never previously inventoried. It could very well be from some other structure at Batoche. Among the five additional distal fork fragments a specimen with four tines and a square heel (IN 08-4290) is ferrous, possibly cast iron. It was probably plated at one time, as iron imparts an unpleasant taste to food.

Table Spoons  n=11

All five of the spoons are of stamped manufacture. Two pieces mend into a spoon 140 mm long (IN 08-13312) while two other spoon fragments (IN 08-14980) mend into a distal piece with an unidentified substance melted into the depression. Spoons are sometimes "retired" to shops and other places in the household. There, they are used for prying open paint and varnish lids and stirring or measuring out non-food substances.

Included with spoons are six proximal cutlery ends, all of stamped metal and of a shape suggesting they are either spoon or fork handles. Spoons can be used to pry off lids and are therefore more subject to breakage than are forks. One of these (IN 08-13480) is stamped NOELLES ALBALOID MADE IN GERMANY. No information about this mark has been sought.
Other Cutlery Handles and Handle Insets n=5

Four of these specimens are bone insets and exhibit the same carved cross-hatched pattern noted on the complete table knife described earlier. Three have been burned. The fifth artifact in this category (IN 99-2191) is the shank of some sort of cutlery piece which was at one time hafted to a wooden handle. Slivers of wood still adhere to the tang as does a large brass rivet which once held the handle in place.

8.5 Information, Business, and Small Appliance Artifacts

This grouping includes all artifacts of educational or informational value to the household residents, those which helped them regulate their schedules, and other small devices. Into the first category fall all artifacts of home education and bureaucracy. Into the second category fall artifacts which help regulate time in the household (except watch artifacts which have already been included in Chapter 6.2.4 as personal effects) and parts of small instruments which perhaps assisted both functions (or, if not, are nonetheless probable household goods).

8.5.1 Home Education or Business Artifacts

Some of the artifacts included here are obviously children's school supplies. Others, such as pen nibs, have more general utility for writing. Still others are more likely to be found in an office than connected with primary education.
Slate Writing Tablet Fragments  n=27

These artifacts were identified as such by their thinness and polished surfaces. Five fragments were from the edges, including a corner piece. These have edges bevelled on both faces for insertion into the wood frame. Seventeen specimens are scored with parallel lines although the distance between these varies (but all are multiples of one-sixteenth of an inch, indicating a non-Continental European manufacture). This suggests the tablet(s) were intended for school use, the parallel scoring aiding penmanship development.

Pencils of Slate and Other Materials  n=17

The presence of slate tablet fragments, of course, necessarily implies the presence of something with which to inscribe them. Eight slate pencil sections were recovered. All but one have round cross-sections and all but one brown specimen are of dark blue-grey slate. The specimen with a square cross-section may have been recycled by sawing up a shattered writing tablet. A lone distal segment has been whittled to a point.

Three sections of another form of pencil are made of a pale grey-green substance identical to steatite but probably some sort of cast or compressed man-made amalgam. One has been used to the point of exhaustion (IN 99-9521). Its distal tip has been whittled while the proximal end is shaped with a groove around its tip. The words W. FABER - BAVAR(IA) are indented up the side. This mark may have temporal significance once more research is done.

Modern pencils include a carpenter's pencil and two modern proximal ends with erasers. Mechanical pencils are represented by a small lead,
square in cross-section, and a cylindrical mechanical pencil lead marked NO. 2 BACG(LE). The modern wood and lead pencils and the mechanical pencil leads very easily could be explained by the presence of archaeologists and other specialists at the site over the years.

Pen Parts  n=27

The most common artifacts in this group are 17 pen nibs which range in length from 32 to 48 mm. Nine other metal artifacts were identified as the ferrules and internal parts of nibbed pens. A single small spring (IN 08-8743) looks like a ballpoint pen spring but could be a part of any small instrument.

Ink Bottle Fragments  n=5

Two cobalt blue glass finish fragments were recovered which were considered to be ink bottle pouring spouts. Very few finishes of this colour were found among the glass artifacts; the other two were of a style found on medicine bottles (reported in Chapter 6.4.1). Therefore, without mending, it is impossible to include unidentified cobalt blue body fragments in either category (they are covered in Chapter 10.1.1). One ink bottle finish fragment (IN 02-31320) consists of a pouring lip split longitudinally. The other (IN 02-30292) is a neck fragment the upper portion of which leads up to a flared rim of some sort (either another pouring spout finish or one shaped like a trumpet bell).

Three ceramic sherds from a small bottle were identified as ink bottle fragments because of their Derbyshire ware. The mark impressed on the heel portion on one specimen reads BOURNE over DENBY. This matches the description of a specimen found at Lower Fort Garry
(Sussman 1979a:164). She says this mark dates anywhere from 1809 onward which is the span of time Joseph Bourne and Sons Ltd. has been in business (Godden 1964:89-90).

Metal Stationery Supplies  n=16

Seven very thin strips of sheet metal are thought to be pieces of the metal which protrudes from ruler edges. Some of these might be mis-identified collar stays. One (IN 08-4510) has a herring-bone pattern of nicks on both sides which would be useful in gripping the wood of the slot in a ruler. It measures 3.5 mm in width.

File builders are copper or brass items with heads like push-tacks and two-pronged strip metal shanks. These are put in file folders and correspondence is spindled onto the shanks. The latter are then bent over. Seven of these were recovered.

Lastly, a complete metal and cardboard circular tag (IN 99-800390) and another rim missing its cardboard centre (IN 08-10263) were inventoried. There is a strong possibility this was left at the site during the 1976 field season. However, these artifacts have business as well as administrative uses so perhaps either the Letendres or the Mounted Police occupants left these artifacts behind.

8.5.2 Informational Artifacts

Newspaper Fragments  n=5

All but one of these are scraps and some may be packing material, as they are cut in strips. The printed narrative on one specimen (IN 1990) is sufficient to date it between 1940 and 1962. The text mentions
both John Diefenbaker and the CCF party. As Batoche lies in
Diefenbaker's former riding, he would have been newsworthy from his
first election (1940) onward. The CCF was founded in 1933 and changed
its name to the NDP in 1962.

Flashbulb Ferrules  n=2

Both are unthreaded metal ferrules with glass and could have been
left behind by early tourists as they are of the bayonet style.
Flashbulbs were developed in Europe in the mid-1920s but it was not
until the 1930s that their use on this continent was wide-spread (Focal

8.5.3 Small Household Appliances

Time-keeping Artifacts  n=5

An alarm clock key which folds down when in place (IN 08-18930) and
three alarm clock gears are in the collection. An internal plate
drilled with numerous holes in which clock gears could be seated was
also found (IN 08-11841). It is mostly circular except on one side
(presumably the bottom edge) where it is flattened. It measures 64 mm
across.

Long thin strips of sheet metal folded into rods were recognized as
the metal strips along the tops of calendars. Some of the 17 specimens
still retain the paper they clinched.
Unidentified Small Instruments  n=5

Four adjustment screws for small instruments or tools include what might be the screw from a pair of drafting compasses and a wing nut from a carpenter’s plane (or a surveyor’s transit). This cannot be determined with certainty. A small metal item which looks like a ballpoint pen trigger but has a small loop on the end is also included here.

DryCell Batteries  n=16

Most of these artifacts are quite recent and include complete plastic-coated modern small instrument batteries but, as well, the internal carbon rods and fragments of the metal sheathing from decayed flashlight batteries. Seven circular metal cap-like end pieces were initially mistaken for metal container parts.

The only specimen of note is a flashlight-size battery (IN 99-640) with a wire soldered to its top which may be part of an early radio battery. Elsewhere at Batoche, a large battery was recovered which consisted of two cardboard flats of 24 flashlight batteries each stacked on top of one another and wired in series. A local informant (Ed Bruce: personal communication) remembers that early radios used these contraptions for power sources. It might be worthwhile exploring at a later date whether the telegraph or telephone known to have been installed in the house during the Mounted Police occupation might have required a battery of this sort of construction.
Miscellaneous Other Electrical Items  n=9

Five of the artifacts in this category are small stamped metal items and knobs which resemble switches or terminals in electrical devices. Three are copper wires or insulation of the sort which could be found in any electrical or motorized device. An unidentified metal ferrule rim fragment is thought to be either from a light bulb or a fuel oil lamp.

8.6 Cleaning and Maintenance Artifacts

This category includes domestic tools and products needed to maintain the household. Almost all of these artifacts pertain to laundering and repairing clothing but a limited number of possible storage wrappings are included here. Mousetrap parts also fall into this category.

8.6.1 Water-Drawling and Laundry Artifacts

Water Buckets and Bucket Fragments  n=20

One complete but crushed pail (IN 14-800510) was found. It is not galvanized and has a double-seamed base and an interlocked side seam.

Two bucket base fragments were identified by their robust seams. The double-seamed specimen (IN 14-800580) may be galvanized. The other (IN 14-800201) is not galvanized and consists of a curved single-seamed base segment.

The four rim fragments were also categorized as possible bucket parts because of their stoutness. All have outwardly-curved rims, one
of which is rolled around a wire core (IN 14-800620). Two of these also include a portion of a lapped and soldered side seam. This type of side seam is not a particularly sturdy mode of construction for this type of tool.

All the pail handle specimens but one are U-shaped stout wires with loops on each end for hooking into bucket lugs. One specimen (IN 08-1200) consists of wire rope twisted at both ends and bent into a U-shape. This was evidently an ad hoc repair to a bucket which lost its handle.

Wash Tub  n=1

This specimen (IN 14-19300) was not seen during recataloguing as it was stored in an oversize artifact area not handy to the author at the time. It was inventoried in 1977 and so is likely to have been correctly identified.

Other Laundry Tools  n=24

Seventeen fragments of perhaps a single aqua-coloured glass washboard (J.R. Thompson: personal communication) were recovered from various excavation units of the Carriere building. The working surface is patterned with a regular series of rope-textured moulded ribs. The obverse side has an "orange peel" texture indicating contact of this surface with a metal mould during manufacture. A pressed mode of production is inferred.

A complete wood and spring clothespeg and six loose clothespeg springs were also recovered.
Laundry and Other Cleaning Products  n=49

The 39 glass household product bottle fragments were recognized by their shapes and amber colour. All but one of these are fragments of amber Javex bleach bottles. One of these is a complete bottle moulded with horizontal ribbing above the heel and at the shoulder, the latter interrupted by large hollow lettering reading JAVEX (IN 02-23002). This 32-oz. size bottle is sealed with a metal screw-cap stamped 35 (presumably cents) in the blue-black ink of a grocer's pricing wand. Javex first appeared as a product in 1938 (Canadian Manufacturers Association 1938:197). However, all base fragments are marked with the diamond-D logo of the Dominion Glass Company flanked with the progressive box code in addition to JAVEX and TRADE MARK. The other Javex bottle body fragments were recognized by the peculiar ribbing.

Another complete 8-oz. amber bottle (IN 02-23000) held either medicine or some cleaning fluid. Its base is also marked with the diamond-D and progressive box code over the mould number V-2120. The black plastic cap has a foil membrane liner. This specimen, from the same excavation unit as the complete Javex bottle cited above, would have been deposited sometime after 1953 when the progressive box code was introduced. This deposition might have taken place relatively shortly after 1953. King (1987:249) reports that the V prefix to mould numbers was introduced in late 1945 to overcome the problem of a large mould number inventory bloated with many numerical gaps. The prefix served to distinguish mould numbers of the new series from those of the old. It is no longer used but King does not specify when it was dropped.
Soap-making was undertaken at this site as can be seen from the marked lye can remains. All but one of these artifacts are Gillett brand and all but one are lids. Seven slip-lids are stamped around the top with GILLETT’S 100% PERFUMED AND POWDERED LYE. They measure 73.0 mm in diameter and are 7.9 mm tall. An anonymous note among the records for this product photocopied for the author cites a letter (probably from the parent company, Standard Brands Ltd.) sent to the Winnipeg Canadian Parks Service staff informing them this style of lye can lid was used between 1904 and 1933.

A can top end which took a plug-in lid (IN 14-5110) has the same diameter as the slip-lids just described. The aperture is 38.1 mm. Between it and the rim are embossed the words GILLETT’S FLAKE LYE and EATS DIRT. No information about this style of Gillett’s can was obtained. Gillett’s lye is still available today.

The remaining lye can lid (IN 14-7563) has identical dimensions to those of the Gillett lids described above. It is embossed around the top edge with ROYAL CROWN LYE and GUARANTEED 100% PURE. In the centre is an embossed shield with a crown over top and a repeat of the words ROYAL CROWN LYE. This brand name was used by Royal Crown Soaps. Archibald reports Royal Crown soap products had reached Dawson City by 1901 (1981:113). Presumably, the company was in operation for some time before. The last time it was listed in the Canadian Trade Indexes was 1943 (Canadian Manufacturers Association 1943:310). The brand name was not assumed by any other lye manufacturer, so it would appear Royal Crown went out of business in that year.

The references to "perfume," "dirt," and "purity" on these specimens clearly point to a use in soap manufacture. An early home
canner's manual by Ola Powell (1919:358) includes procedures for making soap. Perfume was added to toilet soap while laundry soap was made without it. It appears the degree of chemical purity among the commercial caustic sodas was variable and had a bearing on the success of the reaction. She recommended obtaining supplies of the substance from a local chemist but, failing that, one could get good results with commercial lye by reducing the amount of water used to dilute the lye solution. The bars of soap could be left to set only in enamelled pans or ordinary pans lined with wax paper, according to Powell. Perhaps some of the enameware fragments described earlier in this chapter were put to this use.

An amount of loose blue crystals (IN 99-7821 [n=1]) was recovered and analyzed by the Conservation Division of the Canadian Parks Service in Ottawa. The substance was determined to be laundry blue used to whiten the wash. How it survived in the ground for even more than a single year remains a mystery.

8.6.2 Clothing Repair and Maintenance Tools

This grouping includes all sewing tools and a coat hanger, 42 artifacts in all. Among the four scissors fragments recovered is a handle (the thumb half) broken off just above the hinge (IN 08-1170). The others are distal tip fragments.

Of the nine needles recovered, two have no eyes and are perhaps crocheting needles and one (IN 08-800610) may be a knitting needle. The others are sewing needles, some nickel-plated, ranging from 45 to 70 mm long. The 23 straight pins vary in length from 28 to 39 mm; some may
have been nickel-plated.

Five thimbles and a wire coat-hanger complete the inventory of clothing maintenance equipment. One of the thimbles is marked with a 2 at its base, presumably indicating its size.

8.6.3 Miscellaneous Household Maintenance Artifacts

Birch Bark  n=60

Many of these show signs of being cut. Their shape and small size suggest that they are probably trimmings from the fabrication of some unidentified birch bark object. Frequently in historic and prehistoric sites, birch bark has been found in storage contexts such as pit linings or basketry. It is unlikely that the trees around Batoche were large enough to be a suitable source of birch bark for canoes. Hence, these fragments are included under this general heading but their precise function is unknown.

Recent Kitchen Wrappings  n=6

Five pieces of aluminum foil were inventoried, one of them burned. Reynolds Metals introduced kitchen foil in 1947 (Panati 1987:113). A plastic-coated twist tie was also inventoried. There is every likelihood this was deposited by the 1976 or 1977 excavators to be dutifully inventoried in 1978.

Mousetrap Parts  n=3

The hinge and jaw assembly of a mousetrap (IN 08-1222) as well as two probable trap triggers constitute the members of this category. In
the event that the fauna are analyzed in depth, perhaps a very few of those remains will require transfer from food and drink to the "Pest Control Category," as Sprague calls it (1981:256).
CHAPTER 9

THE MATERIAL CULTURE: ARTIFACTS RELATED TO
STRUCTURES, TRANSPORTATION, AND LABOUR

These three categories operate at the primary level in Sprague's classification (1981:256-257). Summaries of artifact quantities for these three groupings are shown in Table 9.1.

Structural artifacts, discussed in Section 9.1, include those which hold the buildings and fences together and the hardware associated with doors and windows. As well, plumbing, heating, and other fixtures which are permanent features of buildings are included. Hence, wire insulators and chimney bricks are included here while the devices which may have employed these items from within the building have already been covered in Chapter 8.

Both horse-drawn and motorized modes of transportation are described in Section 9.2. It is expedient to encompass hardware used with farm draft animals (but not the actual machinery parts) here, since the distinction between harness used to pull wagons and that used for ploughs is beyond the author's capabilities.

Section 9.3 covers most tools used to perform work. Domestic labour artifacts have already been described in Chapter 8. One category of prominence in this section is the firearms category. At sites with more tranquil histories this would be normally subsumed under hunting, fishing and trapping tools. The events of 1885 and the Mounted Police occupation of the site require that particular attention be paid to the firearm artifacts (see Section 9.3.5).
Table 9.1. Quantities of the artifacts described in Chapter 9.

<table>
<thead>
<tr>
<th>ARTIFACT CLASS</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building and Fence Hardware n=45,639</td>
<td></td>
</tr>
<tr>
<td>General Construction Nails</td>
<td>20,775</td>
</tr>
<tr>
<td>Structural Fastenings</td>
<td>217</td>
</tr>
<tr>
<td>Roofing Artifacts</td>
<td>151</td>
</tr>
<tr>
<td>Miscellaneous Structural Fragments</td>
<td>361</td>
</tr>
<tr>
<td>Door and Window Artifacts</td>
<td>24,071</td>
</tr>
<tr>
<td>Plumbing or Propane Fittings</td>
<td>4</td>
</tr>
<tr>
<td>Fence Hardware</td>
<td>57</td>
</tr>
<tr>
<td>Transportation Artifacts n=283</td>
<td></td>
</tr>
<tr>
<td>Horse-Drawn Vehicle Hardware</td>
<td>47</td>
</tr>
<tr>
<td>Harness Parts</td>
<td>73</td>
</tr>
<tr>
<td>Animal Care Artifacts</td>
<td>53</td>
</tr>
<tr>
<td>Automotive Parts</td>
<td>110</td>
</tr>
<tr>
<td>Work Activity Artifacts n=542</td>
<td></td>
</tr>
<tr>
<td>Small Shop Tools</td>
<td>126</td>
</tr>
<tr>
<td>General-Purpose Tools</td>
<td>14</td>
</tr>
<tr>
<td>Agricultural Tools and Machine Parts</td>
<td>28</td>
</tr>
<tr>
<td>Trapping, Fishing, and Hunting Artifacts</td>
<td>23</td>
</tr>
<tr>
<td>Firearm Ammunition and Accoutrements</td>
<td>338</td>
</tr>
<tr>
<td><strong>TOTAL</strong>: 46,448</td>
<td></td>
</tr>
</tbody>
</table>
9.1 Building and Fence Hardware

9.1.1 General Construction Nails

Figure 9.1a–o shows the types of construction nail head forms. Table 9.2 shows the ranges of lengths, head forms, and manufacturing techniques of nails for general construction purposes. Table 9.3 shows the same attributes among nails used for fine work.

In these tables and for all nails in general, length was not recorded for broken specimens. Their classification was based solely on head form and shank profile. If one reworks the figures in Tables 9.2 and 9.3 to determine the ratios of broken nails to all nails of a given manufacture, one forms a strong impression of the relative tensile strengths of machine-cut and wire nails (the sample of wrought nails is too small to include in this comparison). Twenty-four percent of machine-cut construction nails (ratio=4567/18935) are broken while only two percent (ratio=39/1824) of the wire specimens are broken. This may be a measure of inherent flexibility among wire nails or possibly the presence of metal fatigue among the older machine-cut specimens extant in the structures at the time of demolition.

Common and Reinforced Nails  n=20,055

Head forms for common nails of machine-cut manufacture are rectanguloid in plan and profile (Figure 9.1a). The head in profile projects over the shank on all four sides. Depending on the quality of the heading process, the head can sometimes look round or oval in plan.
Figure 9.1. Building and fencing nail head forms. Machine-cut common (a), machine-cut reinforced (b), wire common (c), wire box (d), rosehead (e), multi-facettted (f), clasp heads (g,h), machine-cut finishing (i), wire finishing (j), machine-cut T-head (k), machine-cut L-head (l), machine-cut headless (m), machine-cut casing (n), wire casing (o), wire roofing (p), machine-cut fencing (q). After Canadian Parks Service (n.d.).
Table 9.2. The attributes of general construction nails.

<table>
<thead>
<tr>
<th>HEAD AND SHANK FORMS AND MODE OF MANUFACTURE</th>
<th>QUANTITY</th>
<th>SIZE RANGE* (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Shortest</td>
</tr>
<tr>
<td>COMMON NAIL HEAD FORMS</td>
<td></td>
<td>Longest</td>
</tr>
<tr>
<td>Wrought Rectangular Plans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine-cut plain, complete</td>
<td>13,714</td>
<td>24</td>
</tr>
<tr>
<td>plain, broken</td>
<td>4,105</td>
<td>132</td>
</tr>
<tr>
<td>reinforced, complete</td>
<td>151</td>
<td>67</td>
</tr>
<tr>
<td>reinforced, broken</td>
<td>287</td>
<td>141</td>
</tr>
<tr>
<td>Wrought Round Plans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wire, complete</td>
<td>1,757</td>
<td>23</td>
</tr>
<tr>
<td>plain, broken</td>
<td>36</td>
<td>160</td>
</tr>
<tr>
<td>box head, complete</td>
<td>4</td>
<td>105</td>
</tr>
<tr>
<td>FACETTED HEAD FORMS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wrought Rosehead</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>7</td>
<td>34</td>
</tr>
<tr>
<td>broken</td>
<td>82</td>
<td>75</td>
</tr>
<tr>
<td>Machine-cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>Wire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>normal, complete</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>triangular shank, complete</td>
<td>3</td>
<td>52</td>
</tr>
<tr>
<td>triangular shank, broken</td>
<td>1</td>
<td>70</td>
</tr>
<tr>
<td>Wrought Clasp Head</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>1</td>
<td>47</td>
</tr>
<tr>
<td>Broken</td>
<td>20</td>
<td>103</td>
</tr>
<tr>
<td>manufactures unidentified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>13</td>
<td>53</td>
</tr>
<tr>
<td>broken (large size)</td>
<td>1</td>
<td>53</td>
</tr>
<tr>
<td>Spiral SHANK FORMS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wrought Machine-cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>broken shanks</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Wire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>common head, complete</td>
<td>1</td>
<td>65</td>
</tr>
</tbody>
</table>

TOTAL: 20,236

* These measurements are presented for complete nails only.
Table 9.3. The head forms of construction finishing nails.

<table>
<thead>
<tr>
<th>HEAD FORMS</th>
<th>QUANTITY</th>
<th>SIZE RANGE* (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Shortest</td>
</tr>
<tr>
<td>FINISHING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine-cut, Slight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>284</td>
<td>28</td>
</tr>
<tr>
<td>broken</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>Wire, Bulged</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>T-HEAD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine-cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>87</td>
<td>28</td>
</tr>
<tr>
<td>broken</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>L-HEAD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wrought</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>4</td>
<td>30</td>
</tr>
<tr>
<td>broken</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Machine-cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td>HEADLESS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine-cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>15</td>
<td>26</td>
</tr>
<tr>
<td>broken</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CASING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine-cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>6</td>
<td>49</td>
</tr>
<tr>
<td>broken</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Wire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>3</td>
<td>44</td>
</tr>
<tr>
<td>broken</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* These measurements are presented for complete nails only.
A single hand-forged specimen with this type of head form was recovered. One machine-cut specimen illustrates the imperfections mass-production processes can sometimes have. It is 100 mm long and would have been difficult to drive in, being headed on the wrong end (IN 04-7753). Two specimens 78 mm long (IN 04-1603) were covered after driving with blue paint, the analysis of which may aid the Canadian Parks Service in reconstructing the Carriere structure.

Reinforced common machine-cut nails have a smaller raised platform on the top of the head (Figure 9.1b). In sizes under 89 mm they are considered fencing nails (Canadian Parks Service n.d.) which are discussed below. According to Fontana and Greenleaf, this raised nub in larger nails absorbed the heavy pounding to which they were subjected (1962:56-57). They are wrong in claiming that this platform is obliterated by use. Of the 151 complete specimens recovered, 43 are bent indicating some sort of utilization and to that one might also add the 287 broken specimens (see Table 9.2). The platform on reinforced nails need not always be rectangular. Four nails were recovered with hemispherical or dimpled circular raised nubs.

Wire common nails have heads round in plan and flat on top (Figure 9.1c). Frequently, seams from the heading process run along the underside of the head to the shank. Below the head there are often ridges encircling the shank. These are usually the jaw marks of the part of the machine which grips the nail as its head is stamped, but they also can be accentuated deliberately (in which case they are called "barbed") to provide greater holding power to the nail. Seventy of the wire common nails are barbed. A wire common nail has a thicker head in profile than a box nail (Figure 9.1d). Box nails, despite their name,
are also frequently used in construction as well as in wooden boxes and crates (see Chapter 10). Those listed in Table 9.2 are culled from the others and included here because their long lengths and small numbers suggest they were more likely used exclusively for building repairs.

Because their quantities by far outstrip those of other nail types, the lengths of whole machine-cut common and reinforced nails have been graphed in comparison to those of wire common nails in Figure 9.2. The Y-axes of both graphs are logarithmic while the X-axes are in millimetre intervals. Imperial measures have been included parallel to both X-axes. This graph shows the variability in nail lengths around conventional "mean" sizes in imperial measures. It also permits some statements about the buildings' construction to be made.

Fully a quarter of the machine-cut nails fall in the 37-40 mm range (1 1/2 inches) while the next most common length is between 50 and 53 mm (2 inches). The part of the Letendre house requiring the most nails would have been the shingles and siding. The suspicion that 1 1/2 inch nails were probably used for shingles is made stronger by the fact that only 102 roofing nails (see Section 9.1.3) were found in the whole assemblage. Nails of shorter lengths are required for this function so as not to puncture too deeply into the roof, causing leaks. Roofing nails have wide heads in order to plug the holes they make. Circular slugs called roofing discs can be used, much like washers, with common nails to overcome this problem, but apparently were not used in these structures since none were recovered.

The lengths of the wire nails reinforce the notion that their use was limited to repair functions. The most common are slightly shorter, being in the 32-34 mm range (ca. 1 1/4 inches) while the next most
Figure 9.2. Histograms of the lengths of complete machine-cut and wire common nails.
frequent wire nail measures 38-42 mm (1 1/2 inches). Very few of the more robust wire nail sizes (i.e. greater than 80 mm) are present, indicating that the core structural members of the buildings were secured with machine-cut nails. The slightly larger deviation from a "mean" imperial length of one to two millimetres of wire nail lengths compared to those of machine-cut nails is likely a measurement error.

Rosehead and Clasp Nails  

Rosehead nails have quadrilateral head tops with circular plans (Figure 9.1e). Clasp heads have only two facets and the long axis lies in the same plane as the long side of the nail shank (Figure 9.1g). In larger sizes the ends of the head droop below the top of the shank (Figure 9.1h). Rosehead nails were used for hidden construction work such as framing or lathing. Clasp heads served the same function, but because the head is elongated they would be easier to countersink into the wood along the grain. Both can also serve a decorative function on trunks or other furniture where the protruding heads form a pleasing studded effect (Nelson 1968). The raised centre of both head types could serve the same function as that of the platform on reinforced common nails (i.e. to stand up to pounding). The rosehead and clasp nails described in Table 9.2 are of medium size and are therefore more likely to have served a construction function.

Rosehead and other facetted head forms were the standard and easiest method of forming a head on a hand-forged nail (Nelson 1968). The head is complete after only four strokes. Multi-faceted nail heads (actually one of the wrought rosehead nails has more than four facets) have been shown to carry idiosyncratic styles peculiar to the individual
blacksmith (Carlisle and Gunn 1977). This type of head form is illustrated in Figure 9.1f. One of the machine-cut specimens (IN 04-2563) actually has no facets but instead is conical.

Rosehead styles on machine-cut nails are not unusual but their presence on wire nails seems quite odd. Two of the wire specimens exhibit this head form on standard round wire stock. The remaining four were made on wire stock triangular in cross-section which is doubly strange. Of these, two have diagonal barbs on two and maybe all three faces of the shank from the head to the diamond tip (IN 04-7360). Another (IN 04-800490) is barbed on only one face; this, too, runs the full length of the shank, thus distinguishing it from heading jaw marks. The barbs suggest these nails were part of an object for which holding power was very important: perhaps a crate, a wagon or a piece of furniture. For the time being, however, they are stylistically identical to the other roseheads and so remain classified as construction nails.

Spiralled Nails n=3

The single spiral-shanked wire nail listed in Table 9.2 is of the pallet nail type commonly available today (Canadian Parks Service n.d.). The twist provides greater holding power.

The two broken spiralled machine-cut shanks are more problematic. There is no mention of such types in contemporary hardware catalogues. They may have attained their shapes accidentally by being twisted and pulled during the structures' demolition (neither nail is complete). As has been noted above, however, machine-cut nails tend to break rather than bend and the spiralling on these specimens is quite marked. On one
(IN 04-28480), the spiralling begins 20 mm below the head, suggesting that the twisting force was applied from the tip rather than the head. The twisting is such that this nail most probably was formed hot or annealed after twisting. Perhaps it was a standard machine-cut common nail reworked into its spiralled form on site.

Finishing Nails  n=539

This term encompasses all nail varieties used for fine wood finishing such as window and door construction and securing moulding. The head forms are intended to be unobtrusive when installed. The range of specific finishing nail types is given in Table 9.3.

Overall, the quantity of these nails seems somewhat low for a site with a house that was said to be well-appointed. Finishing nails represent only three percent of the construction nails. Two possible explanations for this ratio come to mind. First, when dismantling moulding it is far easier to lever the entire strip off its base than to pull each nail. The moulding from the house along with the nails which held it in place may have been disposed of or reused elsewhere as in the case of the windows. Alternatively, perhaps many of the broken machine-cut shanks were deliberately decapitated and used as ad hoc headless nails (see below). This would skew the quantities of finishing nails recorded in the collection. Further study of the smaller machine-cut shank tops for signs of clipping and subsequent hammering might prove fruitful.

"Finishing nail" is a term applied to both the general class of fine work nails and also a particular nail type (n=360; see Table 9.3). Machine-cut finishing nails have essentially the same form as
machine-cut common nails but the head is very slight, projecting from the shank very minimally both horizontally and vertically (Figure 9.11). Wire finishing nails have heads whose diameter only slightly exceeds that of the shank. In profile the head is barrel-shaped (Figure 9.1j). Both wire and machine-cut head forms are designed to be countersunk into the wood and subsequently covered up with putty.

T-headed nails (n=136) are particular types which were called "patent brads" in the contemporary catalogues (Canadian Parks Service n.d.). "Brad" is an ambiguous term generally referring to a nail suitable for finishing. However, there is much variability in brad head forms. A perusal of the lists in the Parks Canada coding manual reveals two kinds of wrought nails, four machine-cut varieties and one wire nail type with the word "brad" (Canadian Parks Service n.d.). The author prefers to avoid using the term.

A T-headed machine-cut nail resembles a common head when viewed from the front. The edges of the head project over the shank on the tapered sides (Figure 9.1k). On the faces which are parallel to one another, however, the head is flush with the shank. This makes for an elongated head form. Fontana and Greenleaf say (1962:58) this, as well as a shank taper which starts about half-way to the tip rather than directly under the head, permits this nail to be driven flush with moulding surfaces without damaging the surrounding wood. The half-taper was also noted on the Batoche specimens but is not unique, being also observed on carpet tacks.

L-headed nails (n=14) are shaped like upside-down Ls, as their name implies (Figure 9.11), and are known as "common brads" in the trade catalogues (Canadian Parks Service n.d.). They can be confused with
malformed common nails; therefore size and mode of manufacture are important. Among wrought nails, L-heads may reach 101 mm in length while they appear not to exceed 51 mm on machine-cut nails (Canadian Parks Service n.d.). This is because they were even easier to form at the forge than roseheads, requiring only one stroke to head. While the same single-stroke action could be used to head machine-cut nails, some machines appear to have been designed to automatically form L-headed nails, at the same time maximizing metal use. Nelson (1968:Figure 5) illustrates a method of L-headed nail production which involves flipping the metal plate over and over as it is fed into the stamping press. The tip of each L-head was nestled into the underside of the head of the preceding nail. The L-heads in this collection are limited to the smaller sizes of nails, none exceeding 77 mm in length (see Table 9.3).

Among the very small sizes caution must be exercised. The author has seen barrel hoop nails on a display specimen at Lower Fort Gary in Manitoba which are L-head in shape and are used to anchor the hoop so that it does not slide off the barrel. In that case the tip was flattened to a spatulate shape, presumably to minimize puncturing the wood of the barrel. An L-headed nail used for this purpose is mentioned in Chapter 10.1.5.

Nails deliberately made without heads were marketed in the nineteenth century (Figure 9.1m). These were intended for securing moulding while leaving unobtrusive nail holes which could then be covered with putty. Presumably, they were used in situations where one knew one's mind, for these would have been very difficult to extract. All headless nails (n=16) were examined carefully for signs of breakage on their tops in order to distinguish them from broken machine-cut nail
shanks. As suggested above, the number of headless nails may be under-represented as it is a simple matter to lop off the head of an appropriately-sized common nail to achieve the same type.

On both machine-cut and wire casing nails (n=13) the head is countersunk on its underside rather than meeting the shank at a right angle (Figure 9.1n,o). Two of the wire specimens have a cross-hatched pattern moulded into the top of the head. This may be decorative or may serve some other functional purpose. According to Fontana and Greenleaf (1962:57-58), casing nails are so designed to avoid splitting the wood. They are used on windows and doors and especially on tongue-in-groove flooring. The quantities recovered are too small to have been used in flooring.

9.1.2 Structural Fastenings

Screws, Nuts, Bolts, and Washers  n=194

The particulars of these artifacts are summarized in the first part of Table 9.4 and need not be elaborated here. Excluded from this grouping are certain fastenings usually found on horse-drawn vehicles. A few terms used in Table 9.4 may require clarification.

"Countersunk," when applied to fastenings, means the fastening head or washer has the profile of an inverted truncated cone. By design, these fastenings are intended to fit into countersunk holes flush with the surface they fasten. A "chamfered" head (i.e. Bolts in Table 9.4) is one which has a rounded top edge. Bolts of this type are used in places where sharp protruding edges are undesirable.
Table 9.4. Fastenings recovered from the Letendre site.

<table>
<thead>
<tr>
<th>FASTENING TYPE</th>
<th>QUANTITY</th>
<th>SIZE RANGE* (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood Screws n=153</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slotted, Countersunk</td>
<td>123</td>
<td>13 - 51 (length)</td>
</tr>
<tr>
<td>complete</td>
<td></td>
<td></td>
</tr>
<tr>
<td>incomplete</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Slotted, Domed</td>
<td>4</td>
<td>32 - 38</td>
</tr>
<tr>
<td>complete</td>
<td></td>
<td></td>
</tr>
<tr>
<td>incomplete</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Square Sockets, Countersunk</td>
<td>3</td>
<td>22 - 58</td>
</tr>
<tr>
<td>complete</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slot Form Unidentified</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Shanks</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Bolts n=15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slotted, Countersunk</td>
<td>3</td>
<td>32 - 33 (length)</td>
</tr>
<tr>
<td>complete</td>
<td></td>
<td></td>
</tr>
<tr>
<td>incomplete</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Slotted, Domed</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>Flat, Hexagonal</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Chamfered, Square</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>incomplete</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shanks</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Washers n=17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Countersunk, Small</td>
<td>8</td>
<td>8 - 10 (diameter)</td>
</tr>
<tr>
<td>Flat, Round</td>
<td>6</td>
<td>12 - 45</td>
</tr>
<tr>
<td>Countersunk, Large</td>
<td>2</td>
<td>12 - 50</td>
</tr>
<tr>
<td>Lock Washer</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Nuts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Square</td>
<td>9</td>
<td>12 - 24 (width)</td>
</tr>
<tr>
<td>Rivets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flat, Circular</td>
<td>2</td>
<td>12 - 15 (length)</td>
</tr>
<tr>
<td>Screw Hooks</td>
<td>4</td>
<td>40 - 70 (length)</td>
</tr>
<tr>
<td>Screw Eye, Incomplete</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Hanger Bolt</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Gate Hook</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Dogs</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Wire Braces</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Tool Wall Brace</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Ceramic Wire Insulator</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL:</strong> 217</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The measurements presented are for complete specimens only.
Miscellaneous Fastenings  n=23

Fastenings with more specialized uses are described in the last part of Table 9.4. The two rivets mentioned in that table at first glance look like broken-off wire spike heads but the distal ends are smooth. The heads on these specimens are also thinner than spike heads. It is uncertain what sort of function they may have served. Screw eyes and screw hooks are used to suspend items like teacups and shop tools. The latter function is the preferred interpretation of the function of these specimens since all are of robust size.

The lone hanger bolt (IN 05-1460) was not seen by the author but was probably identified correctly by the field lab. These are stout rods, square in cross-section, and threaded on one end with wood screw-type threads and on the other with machine bolt threads. They are conventionally screwed into ceiling beams with a wrench and an object to be hung, such as an electric light fixture or chandelier, is then screwed onto the protruding end. The gate hook is self-explanatory although it has other household applications. "Dog" is the term applied to any large driven fastening; in this case, hooks. The three in the collection are very large (about 180 to 230 mm long) and are probably hand-forged.

The last three artifact types mentioned in Table 9.4 also have specific functions. Wire is a versatile material to have around a homestead. The wire braces were clearly used to lash together posts. Some were wrapped around 2 x 4s and tightened with a turn-buckle action. The tool wall brace (IN 08-3751) looks like a rounded W. The central peak is flattened and curved outward. It attached to the wall by means of a baseplate with two countersunk holes spaced 102 mm apart. It is
inferred that a pole or pipe 38 mm in diameter was slung into this brace. The four ceramic insulators are small and might have been suitable to carry a radio antenna, or perhaps they were part of the telegraph or telephone at the house.

9.1.3 Roofing Artifacts

Roofing Nails  n=102

Any short nail with an unusually wide, flat, and circular head (Figure 9.1e) was classed as a roofing nail used for attaching shingles. As already mentioned, their quantities suggest they were not the primary means of attaching shingles. The range of lengths and manufacture are summarized in Table 9.5. No such types are listed among any of the nineteenth-century trade catalogues featuring machine-cut nails (Canadian Parks Service 1988). Nonetheless, Nelson briefly alludes to this type when describing hand-wrought nails, so it seems the concept was known early on.

The machine-cut specimens recovered from this site (n=59) have the same morphology as that of their wire-drawn counterparts. Two (IN 04-17474 and 04-801600) may be galvanized or coated in some other fashion. Fontana and Greenleaf (1962:50) say that galvanizing wire roofing nails started in 1900-1901 in the United States as a result of the poorer weathering qualities of wire roofing nails compared to machine-cut nails. The barbed shanks noted on 20 of the wire specimens consist of diagonal or herringbone-patterned slashes running the length of the shank to increase holding power. The Mounted Police reshingled the roof in 1904 (see Chapter 3.6). It could be that these roofing
### Table 9.5. The attributes of roofing nails.

<table>
<thead>
<tr>
<th>ROOFING NAIL TYPES</th>
<th>QUANTITY</th>
<th>SIZE RANGE* (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Shortest</td>
</tr>
<tr>
<td><strong>PLAIN</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wrought</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>4</td>
<td>29</td>
</tr>
<tr>
<td>Machine-cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete</td>
<td>43</td>
<td>22</td>
</tr>
<tr>
<td>broken</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Wire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete, plain shank</td>
<td>13</td>
<td>24</td>
</tr>
<tr>
<td>complete, barbed shank</td>
<td>17</td>
<td>23</td>
</tr>
<tr>
<td>Manufacture Unidentified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>broken</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>COATED</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine-cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete, possibly coated</td>
<td>2</td>
<td>32</td>
</tr>
<tr>
<td>Wire (Galvanized)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete, plain shank</td>
<td>5</td>
<td>27</td>
</tr>
<tr>
<td>complete, barbed shank</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td>102</td>
<td></td>
</tr>
</tbody>
</table>

* These measurements are presented for complete nails only.
nails were introduced to the site at that time although their small numbers are not consistent with a major reshingling operation.

Metal Shingle  n=4

A galvanized sheet of patterned metal (IN 08-15070) cut to shape and nailed in three places is thought to be a fancy shingle. The metal is stamped with a pattern of bars and chevrons. Since there is only one and it has been modified, it probably served the function of a roof patch.

Chimney-Related Roofing Artifacts  n=45

The historical photographs of the Letendre house show brick chimneys. Only two chunks of brick were inventoried (IN 03-800490 and 03-800500) although the excavation records indicate general brick debris was encountered in several strata. A crushed sheet metal tube with a threaded rod soldered on the edge of one end (IN 08-11340) is tentatively identified as a stove chimney although other explanations are quite possible. The rod may have supported the conical cap which is situated over top of the vent to keep the elements out of the chimney flue.

Sheet metal aprons which are nailed to the roof around chimneys to seal the place where the chimney breaches the roof are called chimney flashing. Thirty-six pieces of medium-sized sheet metal showing signs of being trimmed and/or nailed are believed to be pieces of flashing. Many are galvanized and the way in which these pieces were trimmed (often with a circular cut-out or in a large triangular shape) suggests they were fitted piecemeal around the base of the chimney.
Six former tin cans were evidently dismantled, unrolled and used as patches. The solder seams at the sides and ends are still visible on some, the predominant seams being interlocked or, in one case, lapped side seams. All these are punctured with square holes at the edges and particularly at the corners. The holes were probably made with machine-cut nails. One in particular (IN 08-16652) appears to have been a former tin can (jerry can?) stamped with a warning to return it to the company which owned it. This has bright green paint on it. The porch roof trim was known to have been painted green (Payment 1979:89).

9.1.4 Miscellaneous Structural Fragments

Plaster, Chinking, and Masonry n=61

Newsprint adheres to 15 plaster fragments recovered. This may be a part of the plastering process, some aspect of patching, or pieces may simply have melded to one another after deposition. A chunk of paper coated with clay also may be related to chinking or plastering or may be poorly-cleaned paper. Masonry and wall mortars include 32 foundation and chimney mortar fragments and 13 pieces of chinking. The chimney mortar pieces may be of a Portland-type cement. The mortars used in foundations at Batoche are consistently gritty and pale yellow with flecks of limestone. Analysis has shown that locally-quarried limestone was used and first burned to drive off the water. This was mixed with coarse sand and slaked with water. As a mortar it required exposure to the air to cure and, apparently, was not as resilient as Portland cement (Stewart, Sergeant, and Laflèche 1977; Stewart and Laflèche 1979). A number of lime kiln pit features have been recorded on land north of
Batoche (Donahue 1978:72-73). Since plaster and chinking were treated for the most part as cultural matrix, only a few chunks were collected as artifacts. More specimens may be found in the soil samples which remain unanalyzed.

Wood Fragments  n=15

Sundry wood pieces made their way into the artifact collection separate from formal structural wood samples. However, nine samples from the Carriere building sills are included in this total; they have yet to be analyzed. Three are knots from finished lumber (archaeologists' stakes?) while another is a small stick fragment. Two segments of tongue-in-groove 2 x 4's may be part of the original structures, however. Tongue-in-groove boards are commonly used in broad surfaces such as flooring and roofing. As noted earlier, the number of casing nails in the collection suggests this type of flooring was not used to any great extent (or, alternatively, nails other than casing types were used).

Linoleum and Tar Paper  n=255

Linoleum fragments (n=40) were identified by their smooth and coloured patterned top surface and/or a cross-hatched moulded bottom surface. Only 13 fragments still retain their top decorated surfaces. It is probable these fragments were parts of linoleum tiles rather than broad sheets as are used today. In addition to the linoleum, 215 bits of tar paper were inventoried.
Weather Stripping n=30

Twenty-seven rubber strip fragments are thought to be pieces of weather stripping. The best specimens (IN 99-6910) of this consist of long strips of patterned rubber 12 mm wide with circular indentations on one surface at regular intervals. These are thought to be where screw or nail heads pressed into the rubber. Other rubber strips in this category may be less confidently attributed to this function.

As well, three long thin strips of sheet metal with regular nail holes along their lengths may have served as door jamb linings.

9.1.5 Door and Window Artifacts

Door Hardware n=29

The eight door hinges inventoried include types suitable for household doors and also those more commonly found on outbuilding doors. Three are undecorated plates having three countersunk holes and three tubular hinge pin barrels off one side. This type may be found supporting any internal room household door. Strap hinges are long tapered hinge plates used on barn and shed doors. Five of these were recovered.

A variety of door knobs, latches, and lock parts were recovered. These include six plates which attach to the inside or outside of a door and hold the knobs in place. Two are plain and of light-gauge stamped sheet metal. These would be suitable for internal room doors. Another specimen (IN 08-5753) was more likely an outside door knob plate. It has an hourglass shape with frilly pointed ends but a plain surface. This artifact was accessioned into the National Reference Collection in
Ottawa in 1986. Three other cast plates with ornate moulding exhibit slots which guided thumb bars and latches at one time.

Door opening mechanisms include two thumb latches, two door knobs, and five door knob spindles. One of the thumb latches consists of a rod with one end formed into a P shape (IN 08-8911). This would have penetrated through a door to attach to a swivel beneath a drop bar. When the looped end was grasped and lifted up, the drop bar lifted out of the keeper, thus freeing the door. This type of thumb latch is often used in utility buildings. The other thumb latch (IN 08-5791) is a standard tongue-shaped thumb handle found on front doors of both houses and public buildings alike. It is made of cast iron.

One of the two door knobs is a light-weight crumpled brass hemisphere approximately 50 mm in diameter (IN 08-801780) and made by crimping two halves together. The other (IN 03-17300) consists of a porcelain door knob with a spindle 89 mm long still attached. The five loose door knob spindles in the collection are square in cross-section and threaded on both ends.

Keepers (n=2), a door bolt, and door lock parts (n=2) were also recovered. A keeper is the box set into a door jamb into which a sliding lock bolt or latch inserts. The door bolt (IN 08-9794) was distinguished from other unidentified bar fragments by the presence on one end of a small nub onto which it is assumed the retraction spring hooked. By a similar sort of inference, one of the lock parts was identified. The other lock specimen (IN 08-800461) consists of an entire lock assembly complete with inner workings broken in half along the keyhole. What is left measures 57 by 13 mm. This specimen was also removed to Ottawa to the National Reference Collection. It is
Interesting to speculate that this assembly broke due to forcible entry to the house.

Lastly, a rectangular plate shaped with a hump along its longitudinal centre (IN 08-10401) was either the guide sleeve for a sliding bolt from an outbuilding door or is a bolster which clamped a pole with a diameter of about 12 mm. This plate measures 165 by 83 mm.

Other Door-Related Artifacts n=3

A very large padlock, 114 mm long (IN 08-6411) has a sliding brass flap over the keyhole to keep out the elements. This flap has stamped on it the mark FIELD'S GOOD. A possible second padlock flap (IN 08-800500) is keystone in shape with a large hole at the wide end. It measures 47 mm long. If not a padlock flap then it might be the complete back of a smaller padlock.

A long thin spring with loops at both ends (IN 08-10380) was recognized as a screen door spring.

Window Glass Sherds n=23,870

Window glass sherds were distinguished from container glass of polygonal plan by their parallel surfaces, colouration, more or less uniform thickness and the absence of the silvering compounds which are found on mirror fragments. Sixty percent of all glass artifacts recovered were fragments of window glass and they constitute the most abundant single artifact type from the site. The large quantity is likely due to breakage when the buildings drew fire during the 1885 engagement. Many of the window frames were salvaged during dismantling of the house, possibly with the glass intact, and today are in the
possession of a local farmer. The house was well furnished with windows, a costly feature for the times. The carpenter, Ludger Gareau, complained at the Rebellion Losses hearings about the high cost (twenty-five cents each) of eight by ten inch window panes (Payment 1977:42).

No attempt was made to record fragment thickness. Although some effort has been made to use this variate as a chronological indicator, the results are unreliable (Jones and Sullivan 1985:172) and hardly worth the effort when other more precisely datable artifacts are plentiful.

Tint was at first recorded during the analysis but abandoned later when the perceived benefits were outweighed by the time spent distinguishing and sorting by colour. Two distinct tinges were noted, however. Colourless or slightly green-yellowish sherds numbered 4,399 while the majority, 13,108 sherds, exhibited a distinct aqua tint. It seemed that the latter also tended to be thicker than the former. The remaining 6,363 sherds were not sorted by colour. If these proportions are in any way accurate, it may be that one hue (probably aqua because of their larger numbers) was that of the original windows while panes of the other hue were used to replace those shattered during the battle. Only one sherd had putty still adhering and only 16 sherds were heat-altered (although more might be represented among the melted unidentifiable glass).

Window Pane Puttying Artifacts  n=162

Glazier points (n=138) are small sheet metal isosceles triangles used to secure glass in its frame prior to puttying. All are ferrous
except 16 which are grey metal and may be home-made. Another 16 of the ferrous specimens are clearly home-made from tin cans (and are not punchouts from tin cans opened with a "church key").

Twenty-three segments of window putty were recovered as was a small 1 lb. can of window putty (IN 14-7663). It is of relatively recent origins, judging by the well-preserved lithographed label. It takes a plug-in lid and was produced by the Marshall-Wells company, who included instructions for its use on the back. This is not an entirely modern-day artifact as all the labelling and use instructions are in English only.

Window-Related Hardware  n=7

Window buttons are butterfly-like toggles which swivel on screws in window sashes and are used to secure storm windows. Three were inventoried.

Artifacts found indoors around windows include a roller blind bracket (IN 08-9800). This specimen held the end of the roller which does not rotate, as it has a rectangular slot cut into the top. A white metal disc 23 mm across with a central hole 5 to 6 mm across and three smaller holes evenly spaced around the surface (IN 08-7903) is tentatively identified as the cap end of a roller blind.

A segment of a possible rolled hollow sheet metal curtain rod (IN 08-800600) and white metal cap (IN 08-16510) suitable to go over its end complete the inventory of window-related artifacts.
9.1.6 Plumbing or Propane Fittings

The four artifacts in this category are probably recent, as the site never had running water. It was not determined how long propane has been used domestically. A small copper faucet missing its barrel and handle (IN 08-5752) could be plumbing-related or have associations with a drum or keg. The inside diameter of the spigot is 8 mm. A plumbing reducer is a small section of pipe threaded on both ends, which have different internal diameters. These are used to link pipes of differing diameters and also serve to regulate the flow and internal pressure of the system. One reducer specimen (IN 08-15663) was recovered.

A heavily-corroded metal ring (IN 08-10831) is thought to be related in some way to plumbing or perhaps a washing machine. Finally, a length of copper tubing with one end beveled in facets (IN 08-5004) is believed to have some connection with plumbing, gas lighting or heating.

9.1.7 Fence Hardware

Fence Fastenings  n=50

Most of the artifacts in this category are fence staples (n=41). These are U-shaped round-wire fastenings with clout tips. The specimens in the collection vary from 13 to 49 mm long.

There is no independent evidence to suggest the nine machine-cut fencing nails were actually used in fences at this site. They have reinforced common nail heads (Figure 9.1q) and would be classed as such but for the fact that they have lengths between 61 and 89 mm. As such,
they are in a class separate from the longer reinforced common nails (Canadian Parks Service n.d.). Fontana and Greenleaf (1962:56-57) say they were used to cobble together rough hardwood lumber fences and required the reinforced head to withstand the pounding. As is the case among the reinforced common nails, one specimen (IN 04-10274) has a circular rather than rectangular nub. Most probably the nub shape reflects the styles of different suppliers rather than any difference of function.

Barbed Wire Fragments  n=7

Barbed wire keeps animals from leaning on wire fences. Although not done in this analysis, it is possible to identify and perhaps even date particular types of barbed wire.

Non-barbed fence wire is probably present among the unidentified wire in the collection but the uses of single-strand wire on a homestead are legion (e.g. for general repairs, binding hay bales, and so on). Plain wire strands in general will not be classified but are covered in Chapter 10.3.3.

9.2 Transportation Artifacts

9.2.1 Horse-Drawn Vehicle Hardware

Wagon or Carriage Parts  n=35

Three robust, square U-shaped bars with bolt holes on either end were tentatively identified as wagon step-ups (alternatively, they may be building braces of some sort).
An assembly consisting of two slightly curved metal plates 191 mm long and 25 mm wide joined together at both ends by bolts was counted as one artifact (IN 08-1134). It was identified as a brace for holding wooden slats in place on the side of a wagon box. Both plates have holes 10 mm across at both ends but on one plate these are square and on the other they are round. A carriage bolt joining the plates leaves a gap between them of 38 mm.

Eight wagon hubs were recovered. These are tubular heavy-duty iron rings with three stubby projections from the sides. Most measure 53 mm wide with a 90 mm outside diameter to the tips of the three nubs. The inner diameter is 69 mm. One specimen (IN 08-3080) is larger than the others, having an outside diameter of 110 mm and an inside diameter of 98 mm. This hub exhibits a lapped joint, indicating hand-forging.

Carriage rivets and carriage bolts derive their names from their most common applications. The five carriage rivets are 35 mm long with domed heads and also domed distal ends when installed. The lengths of the carriage bolts (n=14) range from 48 to 133 mm. The heads are domed with a shoulder which is square in planview and usually larger in dimensions than the diameter of the round shank below. This permits the shoulder to be hammered into the wood, thus embedding it to prevent the bolt from turning when the nut is tightened. The result leaves the bolt almost flush with the wood surface, a desirable effect on wagon box interiors.

The axle clip in the collection (IN 08-11591) was not seen by the author. This is a particular fastening on wagons and carriages consisting of a strap of iron with rounded and threaded ends. This is used to bind the axle to its bed underneath the vehicle (Berkebile
Carriage knobs resemble giant map pins which can be riveted, driven, or screwed into wood, depending on the type of shank they have. Three were recovered, all with wood screw-type shanks. Berkebile (1978:355-356) illustrates several examples of these fittings and says they were used to secure the curtains in a carriage.

Sleigh Parts  n=9

The single sleigh runner bolt in the collection (IN 05-2732) was identified by Peter Priess. It consists of a bolt with a countersunk head having no slot. It would have been used to bolt the iron runner of a sleigh onto its wooden frame. The absence of the slot would cause the bolt head to merge smoothly with the runner surface and decrease the drag. It measures 51 mm long with threads starting 18 mm from the end. It is unclear to the author how such a fastening could be tightened.

Small yellow metal spheres, each with a loose pellet inside, were identified as sleigh bells. Eight of these were inventoried.

Tree Parts  n=3

A "tree" is the term applied to any of the timbers which extend from the vehicle alongside the horse or horses. The animals are hitched into these. Berkebile (1978:392-393,398) cites several types of trees including single- or swingletrees, whiffletrees, and doubletrees.

A presumably complete swingletree was recovered (IN 08-11621) but was not seen by the author. If correctly identified, it would look like "...a bar of wood about thirty to thirty-six inches long, with hooks at the ends for attachment to the traces, and a clip or staple in the
center for attachment to the evener" (Berkebile 1978:393). An "evener" is the cross-bar on trees passing in front of or behind the horse (1978:328).

Judging by Berkebile’s description, the single tree hook in the collection (IN 08-15372) is correctly identified. It resembles a small sickle in outline with the "handle" bent back. The tip is tapered while the other end has been broken off. It is 125 mm long.

Lastly, an unidentified assembly is thought to be associated with some sort of vehicle tree. It consisted of a 76 mm long bolt, washer, and nut assembly holding a large, free-swivelling, D-shaped wedge, the inside hole of the latter showing wear from the bolt (IN 08-801420). The wedge measures 40 mm in both directions and is 13 mm thick at one end and beveled at the other. This attachment might be attached at some swivelling joint in a tree assembly.

9.2.2 Harness Parts

Identified Harness Parts n=18

A bit was recovered (IN 08-3560). It consists of a simple robust rod 152 mm long with eyes on either end. Attached to each eye is a loop 76 mm in diameter for the reins.

The harness cheek pad in the collection consists of a rounded square piece of thick leather approximately 102 mm across which has stitching holes around its edge (IN 99-2260). It is believed to be one half of a cheek pad which on a bridle prevents the other straps from chafing the animal's cheek.
Hames are the broadly S-shaped wooden or metal pieces situated vertically in front of an animal's shoulders on the neck yoke. Ten hame staples were inventoried. These look like very large squat rectangular staples. They would have been attached to a wooden hame's sides and served as guides through which the reins would have threaded. A lone eye-bolt (IN 08-10854) measuring 127 mm long was identified by an anonymous researcher in the Winnipeg lab as a neck yoke clamp. This has not been confirmed by the author.

Five metal discs were inventoried as rosettes. This identification is made with confidence for only one specimen (IN 08-13660). It is an ornate stamped metal disc with two wires soldered on the back for purposes of attachment. Rosettes are used as decorations to cover up strap junctions. The other four specimens are very tentatively included in this category. They are between 32 mm and 45 mm in diameter and consist of simple sheet metal disks with four opposing wobbles in the edges, not unlike a potato chip. There are no visible means of attachment but perhaps when installed they were riveted. The wobbles suggest some function involving separation of two crossed items, such as strap junctions, hence their classification as rosettes.

General Harness Fasteners  n=42

Harness rings (n=4) are robust, rectangular or D-shaped loops which are used at halter strap and other harness piece junctions. Twelve harness buckles were distinguished from clothing buckles by their larger size and lack of ornamentation.

A harness snap is a robust hook with a springy metal strip inside the hook and its shank, which snaps shut once a ring is passed between.
The proximal end is moulded with an elongated slot through which a harness strap would be looped and rivetted. Five were recovered from the site. Typical of these is a specimen (IN 08-5001) 76 mm long with a slot wide enough to accommodate a strap 19 mm wide.

Twenty-one harness rivets and/or roves were inventoried, some with leather remains still bound between and all of copper or brass. A "rove" is a small washer-like object over which a rivet tip is flattened in leather work to prevent it pulling out. Six of the specimens with leather between the rivets and roves have diameters of between 9 and 25 mm. These particular artifacts served as the comparative specimens by which the remaining artifacts in this category were classified. That is, the leather and relatively large diameters are sufficient to distinguish these artifacts from the smaller copper rivets found at pocket junctions in blue jeans (none of the latter are in the collection). Unused rivets (n=4) and roves (n=8) were also recovered, indicating harness repair took place at the site.

Harness Belts and Straps  n=13

The distinction between harness and clothing belts was made during analysis on the basis of general size and, where present, the distance between tongue holes. Also, harness gear which largely consists of belts and straps would be more likely to wear out in quantity than would clothing belts.

The seven harness belt sections range in width from 32 to 51 mm. Two segments long enough to exhibit multiple tongue holes had them spaced 51 mm apart, a spacing more appropriate to the girth of an animal.
Six smaller straps are considered to be harness parts although they could be parts of footwear or military uniform accoutrements. Some are rivetted.

9.2.3 Animal Care Artifacts

Calf or Colt Head Guard  n=1

One of the more unusual artifacts in the collection is a possible weaning or blow-fly nose basket (IN 08-19081). The wire frame with bits of fine metal mesh adhering to the outside resembles a food strainer, but for the placement of the mesh on the outside and a loose ring attached to a joint between a frame rib and the base. These devices were fitted over a calf's or colt's head to prevent it from suckling at weaning time. Alternatively, some companies offered blow-fly guards to be fitted the same way at blow-fly breeding time. Apparently, blow-flies lay their eggs in the moist nostril tissues of young animals and the basket prevents this (Sharon Keen: personal communication).

Horse and Oxen Shoes  n=11

Eight horseshoes were inventoried and will not be described in detail here. Oxen shoes (n=3) differ from horseshoes in that they are attached to an ox's cloven hoof in pairs. The shoes are broad crescents and are much wider than horseshoe arms. One specimen (IN 08-19380) still retains the nails which might be useful for comparative purposes to distinguish horse from oxen shoe nails at a later time. Another specimen (IN 08-19350) appears to be a home-made ox shoe made of heavy-gauge copper and roughly cut. The material, being soft and
malleable, might present certain advantages to either the comfort of the animal or the sureness of its footing on hard and uneven ground (i.e. rocky or ice-covered areas).

**Animal Shoe Nails**  n=41

A horseshoe nail has a wide, thick countersunk head while the shank is thin metal tapering on all four sides toward a sharp tip. On most of the specimens the head is not centred over the shank but rather overhangs on one side in the broad dimension. This is a built-in feature to enable the nail to curve slightly outward in its passage through the hoof when pounded in. A straight horseshoe nail will curve inward as it enters the hoof, running the risk of penetrating the sensitive inner tissues of the animal's foot (Lungwitz and Adams 1981:100-101). A farrier in the Macdowall area (Cecil Bendle 1989:personal communication) told the author that any marks or patterning on the side of the head would be on the overhung side so the farrier could determine the proper orientation of the nail by feel. Mr. Bendle said the nails in the collection were probably stamped whole by machine and imported to Batoche, as it is difficult to achieve precise straightness by hand-forging. The 10 complete specimens vary in length from 50 to 64 mm.

About three-quarters of the specimens were incomplete, including two distal tips recognized by their distinctive point. Broken horseshoe nails in this collection are likely indicative of shoeing areas rather than accidental loss. The last step when installing a horseshoe nail is to snip off the excess protruding nail tip and clinch the stub back into the side of the hoof (Lungwitz and Adams 1981:102-103). Mr. Bendle
added that nails removed during reshoeing would have this clinch "buffed" (i.e. clipped or filed off) whereas nails which accidentally dropped out of the shoe would still retain the clinch. Unfortunately, this feature was not recorded in the database among the incomplete nails. Mr. Bendle went on to add that complete but bent horseshoe nails would also be associated with shoeing areas, as they are almost impossible to straighten out successfully once bent.

Special shoeing is required to give animals surer traction in winter conditions. In addition to special horeshoes and screw calks, nails with high heads can be used which protrude to give a grip on slippery surfaces (Lungwitz and Adams 1981:110-111). Fourteen nails with high heads (one, inventory number 4-26684, rose as much as 6 mm above the widest part of the head) were noted in the collection and were likely for winter use.

As has been seen, oxen shoes are found in small numbers in the collection (see above). Mr. Bendle informed the author that oxen require shorter and heavier shoe nails. He expressed relief that he did not have to deal with oxen. A contemporary instruction manual originally published in 1902 places greater emphasis on managing these animals while shoeing them than on the technology to be employed for the task ("Obstinate oxen may sometimes be controlled by giving a light blow with a stick at the base of the horns" [Lungwitz and Adams 1981:152].)

9.2.4 Automotive Parts

Most of the artifacts in this category are from either motorized vehicles or agricultural machinery.
Suspension and Wheel Artifacts  n=69

Two very heavy-duty springs 178 mm long and 32 mm in diameter are parts of either carriage, automotive, or agricultural machinery suspension systems.

A possible car or truck ad hoc hub nut (IN 08-8283) resembles a propane fitting but is not made of brass. It has a rounded top and a threaded hole underneath. The bottom has been filed into a hexagonal nut shape. A cotter pin 51 mm long also in the collection (IN 08-5310) is bent but not splayed. It is sufficiently robust to have attached to the wheel of a large machine. Lastly, 64 fragments of a rubber inner tube and a possible chunk of whitewall tire were also inventoried.

Miscellaneous Automotive Parts  n=41

Seven colourless glass sherds with narrow-ribbed outer textures were at first mistaken for patterned flask body sherds. The ribbing runs vertically and the curvature suggested a broad flask side. Subsequent reflection suggests that these artifacts most likely belong to a rectangular vehicle headlight and are very recent.

This grouping also includes 12 chunks of black plastic with moulding suggestive of a modern vehicle battery casing. Fourteen flat fragments of grey metal from a relatively small box-like object were also recovered. Some pieces show signs of acid corrosion. It is suggested these artifacts might be from a motorcycle battery.

Seven circular metal plate fragments with stamped holes are likely muffler fragments. Both lawn mowers and some tractors have puck-shaped exhausts like the kind these artifacts would seem to belong to.
Finally, an unidentified large wire loop with remnants of patterned rubber attached are thought to be in some way connected with a bicycle tire (IN 99-7853).

9.3 Work Activity Artifacts

Specific work activities represented among the artifacts in this category include tools useful for doing chores around a homestead such as carpentry, painting and the like. Agriculture, trapping, fishing, and hunting are represented as well.

Technically, the firearm artifacts, almost all of them cartridges, could be viewed as hunting equipment, but for the fact of the 1885 battle and the occupation by the Mounted Police. They are treated in a separate sub-section (9.3.5). Regardless of the precise function of the firearm artifacts, hunting, fighting, and target shooting can all be considered "work," in a sense.

9.3.1 Small Shop Tools

Carpentry and Other Identified Tool Fragments  n=10

The only saw blade in the collection (IN 08-1281) was removed for study by the Interpretation Division of the Prairie and Northern Regional Office at the time the author was recataloguing. Hence, the type of blade (e.g. hack saw, wood saw, compass saw, etc.) cannot be reported at this time. An auger bit from a hand drill was also inventoried. No dimensions were recorded for this artifact (IN 08-4010).
Two set wrench head fragments were recovered. It is not impossible that they are fragments from a single wrench as one has a gap suitable for working a 1/2 inch nut (IN 08-10300), the other would fit a 5/8 inch nut (IN 08-10261). Often wrenches of this type have different gap sizes at either end. The shanks of both specimens are recessed and probably had manufacturer's names and wrench sizes cast in recessed panels.

Three awls are in the collection, one of them a complete offset awl (IN 08-4611). The others are thin pointed fragments with diamond cross-sections. Somewhat related in function are three large and curved sacking needles.

Sharpening Equipment  n=13

The shop files in the collection include four triangular files, five flat finishing files, a mill bastard, and a possible metal file handle. The complete triangular files range in length from 101 mm to 153 mm with faces that are from 6 mm to 10 mm wide. These files are often used to sharpen wood saw teeth (P. J. Priess; personal communication).

The body of the largest of the flat finishing files is 254 mm long and is stamped at the heel with GT.WESTERN (IN 08-11710). The others are incomplete. The mill bastard (IN 08-8220) is not a rasp but, rather, a larger finishing file. The possible file handle fragment consists of a squared bar 23 mm wide and 5 mm thick with a 10 mm wide square slot at the intact end (IN 08-800820). Although no file teeth are evident on the distal end, this is thought to be possibly the heel section from a file with a slot in the handle for hanging on a shop wall.
Two grey rectangular stone-like fragments mend to form a whetstone 32 mm wide by at least 102 mm long. This stone is fine-textured and therefore might have been reserved for finishing purposes. It has not yet been determined if it is a natural stone, such as an Arkansas stone, or an artificial amalgam like a carborundum stone. It resembles the latter because of the uniform grey colour. If so, a date after 1892 could be assigned to this artifact if carborundum was the first artificial whetstone to be developed (Room 1982:49).

Oil Can Spout  n=1

A thin tapered sheet metal tube (IN 14-19150) measures 60 mm long. It is thought to be an oil can spout which would have general uses for sharpening and lubrication.

Painting and Varnishing Cans and Equipment  n=8

Letendre's house was said to have been painted white with green trim (Payment 1979:89). Remnants of white paint still adhere to the lid of the most complete specimen in this category (IN 14-11581). It is a small, crushed can and lid measuring approximately 76 mm in diameter and 71.4 mm tall. A portion of the paper label is still attached, mostly illegible although the word through could be made out in the remaining printing. The base is capped-on, rather than double-seamed and, as such, may be an early style of commercial paint can. Housebuilders mixed their own paint until 1880 when Henry Sherwin and Edward Williams offered ready-mixed oil paints for sale (Panati 1987:151). Sharon Keen says plug-in lids were first used on paint cans in 1906 (Canadian Parks Service n.d.). White lead is no longer used in paint bases. A chemical
analysis of the paint in this container to see if it contains lead or titanium oxide might further narrow down the age of this artifact.

Two loose plug-in lids were recovered belonging in this category. One (IN 14-14980) is 96.8 mm in diameter. Globules of varnish, shellac, or some other like substance adhere to the inside surface of this artifact. The other plug-in lid has no paint on it but is 146.1 mm in diameter. This was assumed to be too wide to have plugged into a food spread can and so is categorized here.

In addition to the paint cans recovered from the site, a glob of bright red paint was also inventoried (IN 99-11430). It is petroleum-based, judging from the smell it gives off when burned. A formal analysis may determine its precise constituents, some of which may be chronologically-sensitive.

In keeping with the principle that the last use for an artifact determines its place in this typology, two chunks of fabric with spatters of paint on them have been included here. One (IN 99-6872) is black cloth with gilded paint on it while the other piece (IN 99-1991) has green paint.

Lastly, a No. 3-size hole-in-top food can (IN 14-13520 [1 of 2 specimens]) was reused to mix or hold a small quantity of red paint. It is probable that it was used for this prior to about 1920 when hole-in-top cans declined in commercial use.

Miscellaneous Small Tool Fragments and Fastenings  n=14

This category comprises artifacts too fragmentary to specifically identify and also fastenings used on several different types of small tools.
Two large lead collars or spouts are thought to be possible funnel parts. The most complete (IN 08-1211) has a parabolic-shaped tongue leading off the wide edge, a feature frequently found on funnels to provide a finger grip. The other specimen (IN 08-3223) is possibly the remains of a lead soldered collar around the junction of a funnel bell with its spout. The author does not have complete confidence in the accurate identification of either of these artifacts.

Four tool blades were recovered, most with bevelling and thicknesses which precluded their being knife blades. It is more likely that three of them are fragments from spokeshaves or other drawn knives rather than, for example, plane blades. The fourth specimen (IN 08-14522) is 52 mm long and exhibits bevels of different angles on the same side of both ends. They may be adjustable dado saw blades or perhaps router bits.

Some sort of tool handle is the suspected function of a deliberately-cut segment of small-gauge red rubber tubing with moulded ridges running along the outside surface longitudinally (IN 99-1561). It may be a pail or other small tool handle or a segment of garden hose cut to serve a similar function.

A portion of a circular wooden disc machined with a large semi-circular groove around its edge is thought to be part of a block and tackle apparatus (IN 99-11650). The grain of the wood runs perpendicular to the plane of the disk. As such, it may not have been very sturdy. Other possible identifications include some sort of jar lid or a piece from a toy.

Among the more identifiable tool fastenings are two tool heading wedges. These are small tapered metal wedges with rounded distal tips.
and are used for securing axe or hammer heads to their handles. It is more common for these wedges to have a series of steps cast into the body parallel to the flat edge to act as barbs to keep them in place. Neither of these specimens have barbs. One is 11 mm wide across the top and 18 mm long while the other is 13 mm wide and 21 mm long (IN 08-12271 and 08-13021 respectively).

Another artifact which is either another tool heading wedge or a cold chisel tip measures 8 mm wide with bevels of differing widths and angles on either face of the distal end (IN 08-801491). The bevelling is more like that found on a cold chisel yet the width is more akin to a wood chisel used for fine work.

Two tool ferrules were inventoried. These are sheet metal sleeves on wooden tool ends (for example, where the blade exits from its haft on a chisel) which bind the wood to prevent it from splitting. Two wing nut fragments in the collection are of a size which would be suitable for adjusting the legs on a surveyor's tripod or the amount of blade on a wood plane. The most complete of these (IN 05-5861) has a truncated conical shank with high wings. The inside-threaded core has an outside diameter of 18 mm.

Finally, an unidentified ferrous oval tube with a finely-ridged texture both inside and out (not threads) is tentatively classified as a hose fitting, possibly from a fire hose (IN 08-4724). The ridged texture is a feature of hose fittings to enable the hose to be slid over the end but resist pulling out again. The ring measures 51 by 38 mm and is 32 mm wide.
Shop Waste n=93

Artifacts in this category include lead sprue (n=14), the term applied to hardened splashes of once-molten lead from gun ball casting or soldering activities. The other 79 artifacts are sheet metal work trimmings. They consist of irregular strips, curls, and bits of sheet metal (much of it of the same metal gauge as is found on tin cans). All bear evidence of deliberate cutting along one or more edges.

9.3.2 General-Purpose Tools

Long-Handled Tool Fragments n=6

Two shovel heads were recovered, one deliberately modified for some other purpose. The distal half of a flat-nosed shovel head with flanged edges is 203 mm wide (IN 08-8630) and the steel out of which it is fashioned is not especially heavy-gauge metal. The other specimen (IN 08-3480), a spade head 267 mm long, has been cut from the top right-hand corner down to the centre of the blade edge. The author could not determine whether this had been done with a hacksaw or a cutting torch.

Four D-shaped handles of the type found on short spades, lawn edgers, and some fire extinguishers were also recovered. One (IN 08-12260) consists of a rod 115 mm long joining two hemispherical caps. The rod would at one time have spindled a wooden handle which spanned the gap between the caps. One cap is stamped PAT. 09 (presumably 1909).
Tow Chain and Steel Cable Artifacts  n=8

Approximately 400 mm of a towing assembly was inventoried (IN 08-5020). One end has an eye-bolt with a washer and two nuts. This is assumed to have been permanently attached to the vehicle it was used with. The other end has a hook fashioned from a stout rod bent double and also looped around the last chain link. The intervening chain links all show heavy wear on only the inside surfaces which articulate with the neighbouring link. Another artifact consisting of a piece of bar stock (8 mm gauge) worked into a figure-8 shape is thought to have served some similar purpose on the end of a chain but this is unconfirmed. A single heavy-duty chain link was also recovered.

Four hook tip fragments possibly from the sorts of hooks found on the ends of tow chains or block and tackle assemblies are in the collection. They have robust claw-like tips.

Finally, a grey metal collar which is roughly key-shaped is thought to be a cable guide or grip (IN 08-4310). This artifact is 32 mm long and 18 mm wide at the thick end. This end has two facing flanges joined by two rivets. Attached to the narrow end is a short threaded shank. Without this shank the artifact could be confidently identified as a cable grip which is used on guy wires to bind the end of the wire rope into a loop. The shank implies it was additionally bolted onto something else.

9.3.3 Agricultural Tools and Machinery Parts

This category includes hand-tools for harvesting as well as pieces of identifiable agricultural machinery. Unidentified parts from
non-automotive machinery are considered probably agricultural machinery and are included here as well.

Agricultural Hand Tool Parts  n=2

A scythe head ring (IN 08-8771) was positively identified by Peter Priess and Ellen Lee of the Winnipeg lab. This tubular ring is robust and tapered along its flat dimensions. Its function is to slip over the scythe blade's brace plate and distal scythe handle shaft binding them together. This facilitates removal of the blade for sharpening.

A curved pointed rod was at first taken to be a large awl but was eventually concluded to be a pitch fork tine (IN 08-800390).

Agricultural Machinery Parts  n=17

An even larger curved tine than the pitch fork tine just described was identified as a mechanical hay rake tooth (IN 08-12520).

Two isolated teeth from a mechanical mower were inventoried. Each tooth has an angular parabolic shape and a broad bevel along the edge of one face. On the machine, the teeth are set on the knife which vibrates back and forth to cut the hay. This sort of mower could have been used by any of the farmers who worked this land but is also the type employed by the Park staff to control the weeds.

Peter Priess and Biron Ebell of the Winnipeg lab identified the 14 threshing belt mending staples in the collection. These are long thin strips with right-angle prongs on the ends, often bent with the prongs facing one another. When folded up these measure 20 mm long. The heads are 5 mm wide. They are intended for use in the fields when the belt on a thresher breaks. The ragged ends of the belt are cut square.
and lines of these menders are pinched into the belt ends in staggered series. The two lines of menders are interleaved and a rod threaded through to bind them together.

Agricultural machinery appears to have reached Batoche quite early. A photograph taken of Batoche village in 1885 immediately after the battle (Payment 1979:94) shows one such implement. In the gap in the building between Letendre's blacksmith shop and Fisher's store, the grain nozzle and bin of a threshing machine can be made out faintly.

Unidentified Non-Automotive Machinery Parts  n=9

An anonymous researcher identified a wind generator brush in the collection (IN 99-9050). It resembles a whetstone but is light grey and made of a graphitic substance. Piercing one end are two yellow metal bolts and washers, presumably where electrical wires attached.

Three robust levers which look like oversize lever tap handles are thought to be handles attached to hatches or machinery controls. All have holes or washer and bolt assemblies on the distal ends which are more suited for lifting rather than twisting. Related to these is a rod 5 mm in diameter and 267 mm long. The distal end has a socket with internal threads while the proximal end is flattened into a slotted loop (IN 08-16951). This artifact could be a window blind crank or some sort of agricultural machine adjustment handle. For the time being, it is categorized here. Four other unidentified robust and intricately-formed metal artifacts are clearly parts of some sort of machinery but the specific kinds remain unknown. They need not be described.
9.3.4 Trapping, Fishing, and Hunting Artifacts

Trap Parts  n=2

A ferrous disc 38 mm in diameter with a lever projecting 21 mm from the side was identified as a trap pan (IN 08-5680). The projection has on its end a hinge hole and catch.

The other trap part (IN 08-9551) consists of a springy bar or strip bent into a V-shape. Each end has holes of differing diameters. This artifact is believed to be a trap spring.

Fishing Tackle  n=12

All the fish hooks (n=6) in the inventory are single-barbed and large, ranging between 32 and 64 mm long.

Virtually all material things made of lead which found their way to Batoche were seen by the inhabitants of this site as suitable for refashioning into fishline weights (n=6). Two gun balls (IN 08-5290 and 08-801110) were partially split and used for this purpose. A bullet (IN 12-3011) with a flat base of approximately .45 calibre (an informant at Batoche said it resembles bullets thought to be from the Gatling gun [E. Bruce:personal communication]) was also deliberately split longitudinally. The upper inside edges of this split show small regular oblique knurl marks. These may have come about by being split with a finely-serrated instrument such as a hacksaw blade or the marks may have been acquired by pressing a twisted cord onto the cavity.

Lead commercial packaging was also re-used for this purpose. A disc of lead folded into a flattened tube 35 mm long (IN 08-4451) is thought to have been originally a bale seal of some sort. Two line
weights made from either tea package foil or bottle capsules are also in the collection. One was once a tightly-rolled slender wad with a small hook or loop fashioned on one end (IN 99-8050). This artifact no longer retains this shape, as the author unrolled it in 1981 without first photographing it in his quest for possible embossed bottle capsule marks. The other specimen (IN 99-800370) is similar and has not been disturbed. It measures 30 mm long and is 8 mm wide.

Metal Arrow Heads  n=5

So far as the author is aware, no study has ever been undertaken to compare metal trade point design with prehistoric stylings. The artifacts in this category are considered hunting artifacts for the time being although perhaps they were intended as commercial trade goods during the early occupations of the site. The coders on the project evidently shared this uncertainty as two of the artifacts were coded in the "Other Metal" category while three were entered as "Arms and Ammunition".

All are stemmed although no two are alike in the minor details of design. This would indicate that the points were probably made at Batoche rather than mass-produced and imported. The four complete points range in length from 48 to 87 mm. It is not impossible these were used by the young boys at the house for hunting although there is no way to prove this.

Tent or Tarpaulin Parts  n=4

Four of the grommets and rivets in the collection were thought to be too large to qualify as footwear or riding tack artifacts. Tents and
tarpaulins would have been necessary gear for any extended trading or hunting expeditions. Also, the Mounted Police would have carried them for bivouacking.

Of the two suspected canvas grommets, one has a 15 mm outside diameter and a 10 mm diameter inside (IN 08-6420). The other (IN 08-2020) measures 22 mm outside and 10 mm inside.

Two possible canvas rivets were also recovered. One, a possible rove (IN 08-800020), is punctured in the middle and is decorated with two concentric rings of dots. The other specimen is a rivet (IN 08-9082) stamped with the mark J.W. WOODS OTTAWA ONT.

9.3.5 Firearm Ammunition and Accoutrements

The artifacts of this category in the collection represent a microcosm of firearm development from flintlocks to machine guns. These are described separately from the hunting and fishing category because the events of 1885 and the Mounted Police occupation contributed substantially to the quantities of ammunition remains recovered. Those relevant to the battle and Police activities will be identified where possible. It is misleading to formally segregate artifacts relevant to these events. The ammunition used by the Métis during the battle cannot be distinguished from that used for other purposes and the firearms in use by the Mounted Police during their occupation of the house could have been used earlier by others at the site. All the artifacts described below consist of either ammunition parts or gunflints. Gun parts may have been recovered but not recognized for what they were. If so, a further examination of the metal artifacts
might prove fruitful. Tables 9.6 to 9.9 show the range of ammunition and firearm accoutrements.

As mentioned above, the range of represented firearm types is striking. It is extremely unwise to infer greater antiquity for specimens representing older styles of firearms. The selection of a firearm would depend on its intended purpose, its price, and the security of ammunition supply. For example, the N.W.M.P. in their first few years had single-shot Snider and a few Martini-Henry rifles as standard service issue but also shotguns, both breech- and muzzle-loading, for foraging purposes. Inventories of N.W.M.P. equipment from the 1870s even include eight flintlocks, for some unaccountable reason (Phillips and Klancher 1982:6-7).

It would seem that native peoples, unfettered as they were by the constraints of government purchasing practices, rapidly acquired the latest innovations from south of the Border throughout the 1870s:

> Although many of the Indians and Metis [sic] occupying the Canadian West had been armed with ancient muzzle loaders [sic] when the Mounties first arrived, they were rapidly acquiring repeaters, notably the Spencer, the Henry, and the Winchester, Models 1866 and 1873. The already obsolete single-shot Snider carried by the Force was no match for these (Phillips and Klancher 1982:11).

Despite this, one might expect the latest weaponry to be unattractively priced for some Natives and Métis. Also, the rifles cited above took self-contained cartridges which, save for the practice of reloading, would make the owners dependent on a readily-available supply of store-bought ammunition. In a frontier situation a muzzle-loader required only the bulk commodities of powder, flints or percussion caps, and a supply of lead. By the same token, the five metal arrow heads recovered (see above) indicate the persistence of an even earlier weapon
Table 9.6. Pistol cartridge calibres, marks, and dates available.

<table>
<thead>
<tr>
<th>CALIBRE</th>
<th>HEADSTAMP</th>
<th>DATES</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>.38 Short Colt</td>
<td>W.R.A. Co.</td>
<td>1876 - 1940</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>none</td>
<td>1876 - ca. 1940?</td>
<td>1</td>
</tr>
<tr>
<td>.44 S &amp; W Russian</td>
<td>W.R.A. Co.</td>
<td>1878 - 1940</td>
<td>2</td>
</tr>
<tr>
<td>.450 Revolver</td>
<td>Eley</td>
<td>1868 - 1918</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>unidentified</td>
<td>1868 - ca. 1940?</td>
<td>1</td>
</tr>
<tr>
<td>.455 or .476 Enfield</td>
<td>D.C. Co.</td>
<td>1897 - 1942</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>none</td>
<td>1885 - 1942</td>
<td>19</td>
</tr>
</tbody>
</table>

**TOTAL:** 47
Table 9.7. Rifle cartridge calibres, marks, and dates available.

<table>
<thead>
<tr>
<th>CALIBRE</th>
<th>HEADSTAMP</th>
<th>DATES</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>.22 Short</td>
<td>D</td>
<td>ca. 1900 - present</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>1884? - present</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>U</td>
<td>1867 - present</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>HP</td>
<td>? - 1930 ?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>none</td>
<td>1857 - present</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>unidentified</td>
<td>1857 - present</td>
<td>1</td>
</tr>
<tr>
<td>.22 Long &amp; Long Rifle</td>
<td>D</td>
<td>ca. 1900 - present</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>1884? - present</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>U</td>
<td>1871 - present</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>1897 - 1946</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>SUPER-X</td>
<td>1898? - present</td>
<td>1</td>
</tr>
<tr>
<td>.22 Winchester Auto</td>
<td>H</td>
<td>1904 - ca. 1972</td>
<td>1</td>
</tr>
<tr>
<td>.32 W.C.F. (.32-20)</td>
<td>U.M.C.</td>
<td>1882 - 1911</td>
<td>1</td>
</tr>
<tr>
<td>.38 Long</td>
<td>W.R.A. Co.</td>
<td>1875 - ca. 1900</td>
<td>1</td>
</tr>
<tr>
<td>.38 W.C.F. (.38-40)</td>
<td>W.R.A. Co.</td>
<td>1880 - 1940</td>
<td>1</td>
</tr>
<tr>
<td>.44-40 Winchester</td>
<td>W.R.A. Co.</td>
<td>1873 - 1940</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>none</td>
<td>1873 - present</td>
<td>1</td>
</tr>
<tr>
<td>.45-70 Gov't</td>
<td>none</td>
<td>1873 - present</td>
<td>16</td>
</tr>
<tr>
<td>.45-75 Winchester</td>
<td>D.C. Co.</td>
<td>1900 - 1914</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>W.R.A. Co.</td>
<td>1876 - 1935</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>none</td>
<td>1876 - ?</td>
<td>17</td>
</tr>
<tr>
<td>.577 Snider</td>
<td>none</td>
<td>1885 - 1885</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>unidentified</td>
<td>1885 - 1885</td>
<td>14</td>
</tr>
</tbody>
</table>

**TOTAL: 161**
Table 9.8. Shotgun shells and their brand names and dates.

<table>
<thead>
<tr>
<th>IGNITION</th>
<th>GAUGE</th>
<th>HEADSTAMP</th>
<th>DATES</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinfire</td>
<td>12</td>
<td>ELEY LONDON</td>
<td>1841 - 1925</td>
<td>1</td>
</tr>
<tr>
<td>Centrefire</td>
<td>16</td>
<td>ELEY LONDON</td>
<td>1860 - 1925</td>
<td>1</td>
</tr>
<tr>
<td>Centrefire</td>
<td>12</td>
<td>ELEY LONDON</td>
<td>1860 - 1925</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ELEY LONDON - GASTIGHT</td>
<td>1860 - 1925</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ELEY BROS. LONDON</td>
<td>1860 - 1925</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E B LONDON</td>
<td>1860 - 1925</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HOLLAND &amp; HOLLAND - ELEY</td>
<td>1886? - present</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MURRA(Y?) - ELEY</td>
<td>1860 - present?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>KYNOCO BIRMINGHAM</td>
<td>1862 - present</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEPHEN GRANT</td>
<td>1866 - ca. 1960</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MACNAUGHTON</td>
<td>1860 - ?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BRADDELL &amp; SON</td>
<td>1860 - ?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>U.M.C. Co. NORMAL NIMROD</td>
<td>1874? - 1910</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>U.M.C. Co. NEW CLUB</td>
<td>1892 - 1910</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>U.M.C. Co. NITRO</td>
<td>1892 - 1910</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>W.R.A. Co. RIVAL</td>
<td>ca. 1875 - 1910-20</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WINCHESTER</td>
<td>ca. 1875 - present?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WINCHESTER BLUE RIVAL</td>
<td>ca. 1875 - present?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>none or unidentified</td>
<td>1860 - ?</td>
<td>6</td>
</tr>
<tr>
<td>Centrefire</td>
<td>10</td>
<td>none</td>
<td>1860 - present</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>unidentified</td>
<td>1860 - present</td>
<td>2</td>
</tr>
</tbody>
</table>

**TOTAL:** 46
Table 9.9. Firearm accoutrements and ammunition fragments.

<table>
<thead>
<tr>
<th>SPECIMEN</th>
<th>SPECIFICS</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartridge Fragments</td>
<td>shotgun or .577 Snider case fragments</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>primer</td>
<td>1</td>
</tr>
<tr>
<td>Bullets and Bullet Parts</td>
<td>.22 calibre</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>.577 Snider calibre</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>clay plugs (.577 Snider)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>.32 calibre</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>.38 or .40 calibre</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>deformed</td>
<td>8</td>
</tr>
<tr>
<td>Shot and Gunballs</td>
<td>3 - 18 mm diameter</td>
<td>19</td>
</tr>
<tr>
<td>Powder Scoop</td>
<td>for black powder</td>
<td>1</td>
</tr>
<tr>
<td>Shotgun Wads</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Gunflints</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Gun Worms</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Percussion Cap</td>
<td>&quot;top-hat&quot; style</td>
<td>1</td>
</tr>
<tr>
<td>Percussion Cap Tin Can</td>
<td>stamped &quot;ELEY LONDON&quot;</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td></td>
<td><strong>84</strong></td>
</tr>
</tbody>
</table>
technology.

Given these caveats, the discussion that follows will not follow an order based on any particular technological chronology. Cartridges will be subdivided into pistol, rifle and shotgun categories and described in order of ascending calibre. This division is arbitrary, in some cases, because both pistols and rifles were chambered for some rounds.

Except for the pinfire specimen (see Table 9.8) and the various .22 calibre rounds (see Table 9.7), all cartridges are of the centrefire type; that is, they have a separate ignition primer inserted in the centre of the head. The priming compound in rimfire cartridges (e.g. the .22-calibre casings) is contained in the rim and, as such, the cartridge is all one piece. This means that rimfire cartridges cannot be reloaded and they were superceded by centrefire cartridges, generally, by the 1920s (Barnes 1980:286). This is not entirely true, however; the ever-popular .22 calibre is a rimfire round to this day. Pinfire ignition systems are described in the introductory remarks about shotgun shells later on.

Pistol Cartridges  n=47

The five .38 Short Colt cartridges were at first mistaken for .38 Special Smith & Wesson rounds. Four are stamped W.R.A. Co. over .38 S. (Figure 9.3a) and the fifth bears no headstamp. It appears to be an industry standard to use .38 S. to mark .38 Short Colt rounds (e.g. White and Munhall 1977:119, specimen 5-885) and SPL, S. & W. SP, or SPECIAL to identify .38 Special cartridges (White and Munhall 1977). Colt captured the domestic American market with pistols chambered for this and the .38 Long Colt rounds (see below) from 1876 onward (Barnes
Figure 9.3. Some pistol and rifle cartridge calibres and headstamps. Firing pin marks have been omitted in these figures. Pistol: .38 Short Colt, Winchester (a); .44 S & W Russian, Winchester (b); .450 Revolver, Eley (c); .455 Enfield, Dominion Cartridge Co. (d). Rifle: .22 cartridges manufactured by Dominion Cartridge Co. (e), Winchester (f), Federal Cartridge Co. (g), Peters Cartridge Co. (h), Western Cartridge Co. (i); .32 W.C.F., Union Metallic Cartridge Co. (j); .38 Long, Winchester (k); .38 W.C.F., Winchester (l); .44 W.C.F., Winchester (m); .577 Snider Mark IX (n). Drawing by Phyllis Marjerrison.
1980:176; Hogg and Weeks 1978:218). The four specimens stamped W.R.A. Co. can be given a terminal date of about 1940. Although the Winchester Repeating Arms Company manufactured very few pistols themselves (Watrous 1966) they made ammunition for a wide range of popular calibres. Cartridges made by this company were stamped W.R.A. Co. (when stamped at all) from the company's beginnings to about 1940 when the Co. suffix was dropped (Hogg 1982:158; White and Munhall 1977:156). As will be seen, no Winchester Repeating Arms Company cartridges stamped with only W.R.A. were recovered from this site. No specific terminal date for the unstamped .38 Short Colt specimen can be determined. However, Barnes (1980:176) says the round has been obsolete for "many years." Therefore 1940 has been arbitrarily selected since no other pistol rounds recovered at this site are more recent than the 1940s.

The .44 calibre Smith and Wesson cartridges also include W.R.A. Co. in the headstamp (Figure 9.3b) and therefore were not likely manufactured beyond 1940. This date happens to also apply to the commercial production of this round in general (Barnes 1980:181). The .44 Smith and Wesson Russian pistol evolved from the .44 Smith and Wesson American model but accommodated cartridge specifications insisted upon by the Czarist government. These specifications produced a superior cartridge and manufacture of this pistol from 1870 to 1878 for the Russian government effectively removed Smith and Wesson from the domestic American market. Upon filling this contract, Smith and Wesson offered it for civilian sale and designed several pistols chambered for the .44 Russian as late as 1913 in an effort to recapture some of the market share they had lost to Colt (Hogg and Weeks 1978:223-225).

It would seem that they also sold to other governments while
concentrating on their Imperial Russian obligations. The N.W.M.P. bought 30 Smith and Wesson Russian pistols in 1873-74 (Phillips and Klancher 1982:9) which were used briefly while quality problems with the Adams revolvers were overcome in 1875. There is very little information about ammunition supply to the force for this pistol; .44 Russian cartridges are mentioned only once in an 1876 N.W.M.P. inventory (Phillips and Klancher 1982:9). Because of the brief tenure and low quantities of this pistol issued to the Force, it is doubtful that they brought this round to the site, except possibly on visits to Batoche prior to their formal residency at the house. Therefore, a date of 1878 has been used in Table 9.6 as that of the earliest commercial availability of this round.

The two .450 Revolver cartridges (also known as the .450 Short, .450 Adams, or .450 Colt) were also used by the British military but enjoyed wide-spread civilian popularity as well. The Adams revolver took this round and was the first centrefire cartridge adopted by the British Army, who used it from 1868 to 1880 (Barnes 1980:188). The N.W.M.P. used the Adams from 1874 to 1882 when the .476 Enfield was adopted as their official side-arm. Supply problems with the .476 Enfield ammunition took from 1885 to 1887 to be sorted out. In the meantime, the .450 Revolver ammunition was used in the .476 Enfield. While technically compatible with this revolver, it proved somewhat under-powered when fired (Phillips and Klancher 1982:94-95). The specimen marked ELEY LONDON over 450 (IN 12-660; Figure 9.3c) is identical to a N.W.M.P. specimen illustrated in Phillips and Klancher (1982:Figure 238). The cartridge body is made of brass while the head and primer are made of copper. As is the case with the .44 Smith and
Wesson Russian rounds, this could have been left at the site by a N.W.M.P. patrol prior to 1885. However, a civilian ascription is equally possible. Because the primer on this specimen is copper it cannot have been made after 1918, the year in which Eley switched to brass primers (Burrard 1956:68). The other specimen (IN 12-2563) has a brass body, a heavily corroded ferrous head, and a copper primer. Since no manufacturer can be determined, the terminal date for this specimen is tentatively taken as about 1940 when American manufacturers (at least) stopped loading it (Barnes 1980:173).

The 38 .455 or .476 Enfield cartridges, however, were most likely fired by the N.W.M.P. The dates cited for these in Table 9.6 do not take into account the actual known occupation of the buildings by the Force (1895-1906). Both rounds have specific periods of use by both the British Army and the N.W.M.P. However, the spent cases are virtually indistinguishable (the .455 Mk-1 is 0.05 mm shorter than the .476 (Barnes 1980:190)). The .476 was used by the British Army from late 1881 to 1892 (Barnes 1980:189-190). The N.W.M.P. used it from 1882 to late 1904 (Phillips and Klancher 1982:21-23). The 19 specimens stamped D.C. Co. over 45 Enfield (Figure 9.3d) cannot have made their way to the site before 1897, the earliest date they are known to have headstamped their supplies to the N.W.M.P. in this manner (Phillips and Klancher 1982:98). The 45 in the stamp implies its use in the .455 New Service Colt revolvers which replaced the .476 Enfields in 1904 and was used by the Police until 1942. However, this is misleading; the round is known to have been used in both revolvers (Phillips and Klancher 1982:45,94-95). It is possible that members of the Field Force carried the .476 Enfield during the Battle. Barring its use by civilians, 1885
is the earliest date the unstamped rounds would have been deposited at the site.

Rifle Cartridges  n=161

The most common calibre of rifle cartridge recovered is .22 Short, Long, and Long Rifle (n=77; see Table 9.7). The .22 Short was the first self-contained metallic cartridge to be produced commercially in the United States. It was first introduced by Smith and Wesson in 1857 as a pistol round (Barnes 1980:289; Hogg and Weeks 1978:213) and both pistols and rifles have been chambered for this ever since. The .22 Long and Long Rifle cases are indistinguishable, as the only difference is that the latter has a longer bullet and a larger powder charge (Barnes 1980:299; Hogg 1982:15). Only one whole round, a .22 Long, was recovered (IN 12-660). The .22 Long was first listed in 1871 while the .22 Long Rifle came on the market in 1887 (Barnes 1980:289). If Winchester’s history is any indication of the general industry trend, rifles chambered to accept all three styles came into being in this century (a modified version of the Winchester Model 1906 Repeater so chambered was introduced in 1908 [Watrous 1966:68]).

The widest variety of headstamps was noted on specimens of .22 Short, Long, and Long Rifle calibre. Cartridges with plain or unidentified headstamps can be dated only by their calibres. The rest can be narrowed down somewhat by the incorporation dates of the companies represented. However for these and other calibres, actual dates of manufacture are not available. Also, the stamps used on rimfire cartridges are frequently simple single-letter logos which differ from the stamps used by the same companies on centrefire
Several headstamps appear on both classes of .22 calibre casings. A D (Figure 9.3e) has been used by the Dominion Cartridge Company (later CIL) from about 1900 to the present (Manarey 1973:69). An H (Figure 9.3f) has been used by the Winchester Repeating Arms Company on rimfire cartridges from its inception in 1866 (the H commemorates the Henry rifle) to the present (White and Munhall 1977:23). Winchester did not enter the .22 calibre rifle market itself until 1884. In that year the .22 calibre version of the Model 1873 was introduced, the first American .22 calibre repeating rifle (Watrous 1966:19). This date has been used here as the starting date for .22 calibre cases stamped H although it is entirely possible the company was manufacturing ammunition for use in other makes of firearms prior to that year. A U indicates manufacture by the Union Metallic Cartridge Company and its successors, Remington Arms Company, from 1867 to the present (White and Munhall 1977:31). The single complete .22 Long round cited above is stamped with this logo.

Of the remaining .22 Short headstamps not covered by the preceding discussion, the stamp HP found on a single .22 Short specimen (IN 12-1681; Figure 9.3g)) is not a company logo but stands for Hi-Power, a brand name of the Federal Cartridge Company (White and Munhall 1977:24). This brand name was in use prior to the company's reorganization in 1922 and appeared on shotgun cases, at any rate, until approximately 1930 (Vinson 1968:94). Possibly the brand was dropped at that time; current Federal .22 calibre rounds are stamped F (Randy Bimson: personal communication; White and Munhall 1977:21). The remaining .22 Short casings can only be ascribed dates pertaining to the
calibre itself - 1857 to the present.

Additional headstamps found only on .22 Long and Long Rifle cartridges include one specimen stamped with a P (IN 12-3553; Figure 9.3h). This is the mark of the Peters Cartridge Company, later absorbed by Remington. A bolder P than that found on the Batoche specimen was substituted by the company in 1946 (White and Munhall 1977:28). This company was founded in 1897 and continued to operate under its own name after its merger with Remington in 1934 (Vinson 1968:91; Hogg 1982:124-126). SUPER-X (IN 12-1962; Figure 9.3i) is a brand name of the Western Cartridge Company (White and Munhall 1977:30). This company was founded in 1898 (Vinson 1968:91) and in 1931 purchased the Winchester Repeating Arms Company (Watrous 1966:102). Shortly thereafter, in 1933, Winchester introduced the Model 63 Self-Loader chambered for this brand (Watrous 1966:107). Since it is specifically singled out by Watrous, perhaps the brand carried a higher powder charge than conventional .22 Long Rifle rounds. In any case, the Super-X brand was in existence by at least 1933 and presumably earlier. It is still commercially available although the mark has changed to Super-X in script (Randy Bimson: personal communication).

A single .22 Winchester Auto round stamped with the H of the Winchester Repeating Arms Company was recovered. This round was specially developed by Winchester for the Model 1903 self-loading rifle which was the company's first semi-automatic weapon and the first American semi-automatic designed to use .22 calibre rimfire cartridges (Watrous 1966:61). This model was manufactured from 1904 to 1932 and no other weapon was ever chambered to take these cartridges (Barnes 1980:291). Mr. Bimson told the author that he had Winchester-stamped
.22 Auto rounds in stock up to 1972 and had been able to obtain supplies of the round from "certain Winchester distributors." Barnes (1980:291) reports that Remington still listed the round but that Winchester no longer produced it. For the time being, 1932 shall be used as the terminal date for this specimen.

According to Barnes (1980:60), almost all firearm manufacturers chambered both rifles and pistols for the .32 W.C.F. round. The specimen recovered (IN 12-4040) is stamped U.M.C. over 32 C.F.W. (Figure 9.3j). C.F.W. doubtless stands for "Centre Fire Winchester" and may have been a standard way for the Union Metallic Cartridge Company to identify special Winchester ammunition of U.M.C. manufacture (c.f. White and Munhall 1977:148, specimen 5-1203). As mentioned earlier, U.M.C. switched to stamping their ammunition with REM-UMC in 1911. The round was specially developed for the Winchester Model 1873 Repeater in 1882 (Watrous 1966:17). Winchester brought out several .32 W.C.F. models until 1947 when the calibre had ceased to be popular (Watrous 1966:110). The brand and calibre dates bracket the age of this specimen between 1882 and 1911.

The centrefire .38 Long was introduced to replace the rimfire version around 1875-1876 but became obsolete before its predecessor around the turn of the century. As mentioned earlier, both .38 Long and Short cartridges were popular and used in both pistols and rifles. Some rifles could be modified to use either rimfire or centrefire (Barnes 1980:100). The single centrefire version recovered (IN 12-1852) was also made by the Winchester Repeating Arms Company (Figure 9.3k) but this is of no particular help in narrowing the date range as no Winchester weapon was chambered for this calibre (Watrous 1966).
results might be obtained when applied to an intra-component analysis when the general date of the occupation is known. Can-opener chronology and idiosyncratic opening behaviour figures in the discussion in Appendix A.

Non-Specific Food Pails  n=11

Eleven fragments from five separate small pails, all bearing hemispherical side lugs for wire handle attachment, likely contained bulk commercial products such as honey or lard. Six fragments constituting two separate pails appear to have taken slip-lids (IN 14-13910 and 14-13911) while the rest have in-curled rolled top edges which might have taken plug-in lids. The most complete specimen (IN 14-13910, n=2) measures 123.8 mm in diameter and stands 144.5 mm tall. The lithographed mark reads in part 3 POUNDS NET. The other specimens were too fragmentary to give precise measurements but have about the same dimensions.

Food Wrappers and Bottle Capsules  n=27

Six scraps of paper and aluminum foil food wrappers are in the collection. Four have dark blue lettering and may be from a coffee package or a chocolate bar wrapper.

When analyzing the lead foil it was found that wads of crumpled-up lead of a size that fits comfortably in one's fist were apt to have hidden inside almost-perfectly preserved stamped marks. The inventory of marked lead foil capsules tripled as a result of prying the folds apart to see the interior. It is a natural human habit when taking the lead capsule off a wine bottle or other covered bottle finish to wad up
Barnes (1980:77) says that the .38-40 or .38 W.C.F. cartridge was introduced in 1874. However, this is actually the date of the introduction of the Winchester Model 1873 lever action repeater. This firearm was initially chambered for only the .44-40 (.44 W.C.F.) cartridge. It was not issued in the .38 W.C.F. calibre until 1880 (Watrous 1966:17). Barnes (1980:77) goes on to say that no rifle was made in .38 W.C.F. calibre after about 1937. The specimen recovered (IN 12-3140) is stamped with W.R.A. Co. (Figure 9.31). As noted earlier, the Co. seems to have been dropped from Winchester headstamps about 1940 (White and Munhall 1977:156; Hogg 1982:158).

Four of the five .44-40 (.44 W.C.F.) cartridges are marked with the pre-1940 version of the Winchester Repeating Arms Company headstamp (Figure 9.3m). The other is unmarked and, as the round is still loaded (Barnes 1980:116), it dates to the present. This round was Winchester's first centrefire cartridge and was introduced in 1873 (Watrous 1966:18).

Two different styles of .45 calibre cartridges have been recovered. None of the 16 .45-70 U.S. Government cartridges bears a headstamp which makes narrowing down the vintage on this very popular calibre difficult. The round derives its name from its adoption as the official U.S. military arm in 1873. It became popular for sport and, although discontinued in the 1930s, it has staged a come-back and is still made today (Barnes 1980:81). By way of gleaning some indication how soon it took to drift into the civilian firearm market, the Union Metallic Cartridge Company was partially supplying the Fort Bowie garrison with this ammunition as early as 1878 (Herskovitz 1978:50). Presumably, once they tooled up to produce a round, it was available to the civilian market. Winchester did not introduce a firearm chambered for the .45-70
Gov't until 1884 (Watrous 1966:27). The Gatling gun used at Batoche was .45-70 in calibre (Phillips and Klancher 1982:75). However, the gun was not deployed during the battle in this area (Hildebrandt 1985). These specimens were distributed evenly across the southern half of the site. Presumably, the output from a machine gun would be highly localized. Nonetheless, this weapon is a candidate for the origin of these rounds and their quantities match those of the .45-75 W.C.F. and .577 Snider, both used during the battle.

A substantial number of .45-75 Winchester cartridges were recovered, 25 in all. Winchester developed this round for the Model 1876 repeater and chambered no other firearm for it (Watrous 1966:21). They discontinued manufacture of the cartridge about 1935 (Barnes 1980:123). The Model 1876 was carried by Boulton’s Scouts during the battle and was the official issue of the Mounted Police between mid-1878 and 1914 (Phillips and Klancher 1982:13). Its use was intermittent after 1895 among the Police but, evidently, the detachment stationed here used none of the other rifles issued to them around the turn of the century because all were in British .303 calibre, specimens of which are not present at the site. This weapon was made by Winchester between 1876 and 1897 (Watrous 1966:21-22). The battle occurred during the mid-range of its popularity so it may have been a common rifle carried by the Métis participants.

In the interests of conservativism, the author has chosen not to attribute the presence of these cartridge casings solely to the N.W.W.P. stationed here between 1895 and 1906. Civilian firearms and Mounted Police visits up to 1922 while the land was still a police reserve (Payment 1979:98) might account for the presence of at least some of
these. However, the specimen stamped D.C. Co. (IN 12-220) is doubtless of Mounted Police issue. The Dominion Cartridge Company began supplying the Force with .45-75 ammunition in 1888 (Phillips and Klancher 1982:85) but did not begin stamping their cartridges in this manner until 1897 (for pistol ammunition, at any rate; Phillips and Klancher 1982:98) or 1900 (Manarey 1973:69). It is doubtful any civilian consumer would tolerate the poor quality that D.C. Co. ammunition had in those days (Phillips and Klancher 1982:83-100). Therefore, this particular cartridge is considered to be a Mounted Police issue and was deposited at the site some time between 1900 and 1914 when the Winchesters were replaced. As noted above, the seven specimens stamped W.R.A. Co. date between 1876 and 1935 and no terminal date can be assigned to the unmarked ones.

Finally, the largest-calibre rifle cartridge remains are those of the .577 Snider, the single-shot rifle carried by the North-West Field Forces during the 1885 Uprising. The N.W.M.P. used Sniders even after their official replacement with Winchesters in mid-1878 (see above) due to a shortage of ammunition for the latter. Eley of London shipped Snider ammunition to the Police as late as 1881 (Phillips and Klancher 1982:85). All 34 specimens may be soundly assigned dates between May 9th and 12th, 1885 and attributed to members of the North West Field Force.

The Snider cartridge used was the Mark IX version and was composite in construction (Figure 9.3n). The casing was of brass sandwiched between layers of paper and attached to the separate base with papier mache and brass collars and sleeves. The base plate on the outside was a black lacquered iron disk. Because of this construction, some of the
bases and casings have separated and 14 of the base plates were too corroded to determine whether they were head stamped. Almost all were crushed as the brass case was more foil-like than the modern-day drawn brass case. Remnants of the paper layers are still attached to some specimens. The outer layer was abandoned in later .577 Snider cartridge versions of Canadian manufacture as it was found to absorb moisture from the air and to swell, rendering the ammunition useless (Hoyem 1982:86-90). Since none of these cartridges were recovered unfired from the site, perhaps this may not have been a problem during the battle.

**Shotgun Shells  n=46**

Two types of ignition systems are represented among the shotgun shells in the collection (see Table 9.8). The pinfire system was the first self-contained cartridge developed for breech-loaders. Pinfire cartridges resemble a rimfire shotgun shell with a pin protruding from the side near the base. A hammer falling upon the pin drives it into a priming fulminate which, in turn, ignites the main powder charge. The original patent was issued in France in 1835 to H. Lefaucheaux, after whom the type is named, and later improved into its final form by Houlier in 1846 (Hoyem 1981:117). Although soon superseded by centre fire shells, the pinfire system persisted and the cartridges are still used in parts of Europe (Barnes 1980:300). The single marked specimen (IN 12-850) is an Eley product (Figure 9.4a). The Eley brothers were manufacturing pinfire cartridges as early as 1841 (Hoyem 1983:xii). They ceased manufacture in London in 1925. Since London is mentioned in the headstamp, 1925 has been chosen as the terminal date for this artifact.
Figure 9.4. Headstamps on 12-gauge shotgun shells. Eley Brothers (a,b,c), custom ammunition made by Eley for gunsmiths (d,e), Kynoch (f), Stephen Grant (g), MacNaughton (h), Braddell and Son (i), Union Metallic Cartridge Co. (j,k,l), Winchester Repeating Arms Co. (m,n,o). Drawing by Phyllis Marjerrison.
Unlike the cartridges discussed so far, shotgun shell calibres decrease in size as the gauge number increases. This is a hold-over from the days of smooth-bore muzzle-loaders. The gauge of a smooth-bore is defined by "...the number of spherical balls of pure lead, each exactly fitting the inside of the bore, which go to make up a pound" (Burrard 1956:14). Eley Brothers made most of the 45 centrefire shotgun shells recovered, either under their own name or as specialties made for particular gunsmiths. The other British name of prominence in the munitions field, Kynoch, is also represented (Figure 9.4f).

Unfortunately, little specific manufacturing history is known about these and other British firms. Their factories were prime targets during World War Two and most of their records were lost in the bombing (Barnes 1980:222). The literature available on the histories of American firms is marginally more enlightening. Vinson (1968) provides a useful introduction to the major American shotgun shell manufacturers and lists the prominent brand names they carried. He does not list the dates each line was introduced but does mention the incorporation dates for each of the firms. Moos (1968) provides a helpful company history of the Union Metallic Cartridge Company. Unlike rifle and pistol cartridges, however, the gauge of a particular shotgun shell is not helpful in refining dates. Almost all gauges were available to take centrefire shotgun shells from their beginnings. Hence, dates assigned to specimens in the discussion that follows were mostly derived from either the commencement of the companies identified or the first patent date for centrefire shotgun shells as an arbitrary terminus ante quem.
The first centrefire breech-loading shotgun was produced by Charles Lancaster in 1851 (Barnes 1980:300) and the first centrefire shotgun shell was patented by George Henry Daw in 1860 (Hoyem 1983:xii). The following short history of Eley and Kynoch is taken from Hoyem (1983:xii-xv). As mentioned earlier, the three Eley brothers had been making self-contained ammunition as early as 1841 and expanded throughout the nineteenth century. Kynoch was formed in Birmingham in 1862 and also expanded, issuing their first ammunition catalogue in 1882. Kynoch was the first to introduce the new smokeless powders in Great Britain, loading cordite in 1889. World War One had a drastic effect on all British industry. In 1918 the major munitions firms in Great Britain, including Eley Brothers and Kynoch, merged to form Explosive Trades Ltd. The name later changed to Nobel Industries Ltd. and, in 1926, to Imperial Chemical Industries Ltd. (ICI). This industrial reorganization ended Eley's ammunition manufacture in London; Kynoch took over all ammunition operations in Birmingham. Because of this shift of operations, 1925 has been chosen as a terminal date for Eley shells whose headstamps mention London. It is uncertain whether the Eley and Kynoch names were retained on post-merger headstamps or if the new corporate names were added. One older reference consulted illustrates a combination of both. Twelve-gauge shells illustrated in Burrard (1956:Figure IX) are stamped ELEY-KYNOCH over ICI, the latter inside a lozenge-shaped figure.

Burrard (1956:68) makes the interesting observation in passing that all primers on Eley revolver cartridges prior to the 1918 merger were made of copper and of brass thereafter. It is not known if this is true of shotgun shells as well. However, an examination of the primers on
the 21 shotgun shells of Eley manufacture showed promising results. One specimen (IN 12-470) is missing its primer. The rest but one have copper primers. The single brass primer is in a specimen marked ELEY over NO. 12 over LONDON (IN 12-1090). The type of primer metal used, then, may be significant for Eley shotgun shells because the lettering on the mark otherwise gives no clue to a difference among these specimens. More research at other sites may provide further insight into this matter.

Both firms appear to have manufactured specialty ammunition for prominent gunsmiths. The specimen (IN 12-742) stamped HOLLAND & HOLLAND over ELEY was made for the former by the Eley (Figure 9.4d). Holland and Holland were in operation at least as early as 1886 when they bought the Fosbery patent for shotgun muzzle rifling (Hoyem 1983:14). Information on other gunsmiths for whom Eley and/or Kynoch likely made specialty ammunition is more difficult to come by. A local Saskatoon gunsmith, Mr. Randy Bimson, said that Stephen Grant (Inventory number 12-1060; Figure 9.4g) was a well-known maker of side-by-side shotguns who in 1866 opened in partnership with another prominent smith named Boss. This firm merged with Joseph Lang in the 1920s and later went out of business in the 1960s. The 12-gauge specimen stamped MACNAUGHTON and EDINBURGH & PERTH (Figure 9.4h) is also a gunsmith's specialty product. Mr. Bimson has records of a gunsmith named MacNaughton who first appeared in Edinburgh, Scotland in 1808 and was last listed in that City in 1848. Mr. Bimson concludes that, if this is the MacNaughton in question, the firm most likely merged with someone else and continued. Mr. Bimson had no information to offer about the smiths Braddell and Son, of Belfast. A 12-gauge shell stamped with
their name was also recovered (IN 12-4012). Finally, a 12-gauge shell was recovered whose headstamp was too indistinct to read fully (IN 12-280). It is stamped No. 12 over ELEY. To the left is MURRA(y?) and Co. Ltd.. Continuing to the right is the lettering (?)CKNOW (Figure 9.4e). Murra(y) would be the name of another unidentified gunsmith for whom Eley manufactured shotgun shells. The full last word of the company name could be read if submitted to conservation treatment. It is intriguing to think that this word might be Lucknow. If so, this shell has travelled quite a distance to reach Batoche from a gunsmith's shop in India.

American manufacturers are represented in the collection by the Union Metallic Cartridge Co. and the Winchester Repeating Arms Co. All the U.M.C. shell bases recovered are stamped U.M.C. Co. only. According to Moos (1968:41), Remington was added to the headstamps on their products after the merger of the two companies in 1910. A precise date for the specimens stamped NORMAL NIMROD (IN 12-830 and 12-1091) cannot be assigned (Figure 9.4j). However, U.M.C. Co. did not start producing paper shotgun shells until 1874 (Moos 1968:40). The New Club (Figure 9.4k) and Nitro lines (c.f. inventory numbers 12-3340 and 12-10 respectively) were both introduced in 1892 (Moos 1968:40-41).

Three 12-gauge shells stamped W.R.A. Co. over RIVAL (IN 12-3810 and 12-4011) represent Winchester in this class of firearms (Figure 9.4o). Vinson (1968:91) says: "The Rival was available from the late '70s until the early 1900s in primed empty brass cases in addition to paper shells." The three specimens recovered were of the paper-bodied variety. The other two Winchester shells are both stamped WINCHESTER (Figure 9.4m). Only one (IN 12-2320) has in addition a line name
BLUE RIVAL (Figure 9.4n). The other (IN 12-2530) is a complete brass casing 64 mm (2.5 inches) long. Vinson indicates Blue Rival is a relatively new product line for Winchester in one of his illustrations (1968:93) but is unclear how recent it might be. The use of WINCHESTER rather than W.R.A. Co. may be specific to shotgun shells or may indicate a post-1940 style of headstamp. The earliest these specimens could have been manufactured was about 1875 when shotgun shells appeared for sale in a Winchester catalogue (Vinson 1968:91). While the evidence is inconclusive, the author leans toward a recent twentieth-century vintage for these specimens, in contrast to the vast majority of firearm cartridges found at the site.

Miscellaneous Weaponry Parts  n=84

The information about artifacts in this category is summarized in Table 9.9. Although reasonably sturdy items, some cartridges in the collection have disintegrated with time. Twenty-seven cartridge fragments were recovered. Seven were thick brass foil attributed to either metal shotgun shell or .577 Snider casings. Nineteen curved brass cylinder fragments of appropriate metal gauge and curvature were identified as either pistol or rifle cartridge fragments. A single small nipple-shaped metal stud with a flanged base (IN 12-3890) was identified as a loose centrefire primer.

Parallelling the proportions of cartridges recovered, most of the 28 loose bullets and bullet parts appear to be .22 or .577 Snider bullets (n=16). The latter are identifiable by their size and the three cannelure grooves about the base. The latter is hollow and plugged at the base with a red pressed clay truncated cone. Two of these clay
plugs were recovered separate from their parent projectiles. This method of bullet construction is known as the Enfield-Pritchett style (Bailey 1972:67). When the cartridge is fired the clay plug is forced further up into the bullet cavity by the expanding powder gases. This squeezes the sides of the bullet outward to more snugly engage the rifling grooves in its passage down the gun's barrel, thus improving the chamber pressure and the spin imparted to the bullet in flight. Several of the Snider bullets were deformed by impact. Another specimen (IN 12-800100) also exhibits three cannelure rings but its base diameter is 10 mm. This is not a .577 Snider bullet but more likely either .38 or .40 calibre. A single long and slim (31.8 by 8 mm) bullet was identified as .32 calibre (IN 12-2321). Eight other bullets were too deformed to obtain accurate measurements for identification purposes.

Nineteen lead shot were recovered. Five of these fall below 9 mm in diameter which, according to a chart in Barnes (1980:307), falls into the buckshot size range for shotgun pellets. The diameters of the remaining 13 specimens evenly distribute between 9 and 18 mm. These are likely gunballs from muzzle-loaders.

One of the more intriguing artifacts at one time in the collection is a brass powder scoop missing its handle. This was observed in the collection in 1981 but has since gone astray. It consisted of two nested brass cylinders, the outer one closed at the bottom and the inner one having a small threaded hole near the lip into which a handle could be screwed. A small nub projected from the inner cylinder through the wall of the outer one and tracked along a slot shaped roughly like a squared Y lying sideways. Beside each terminus of a leg in this
slot were stamped, from bottom to top, 30, 40, and 50. Thus, by rotating the nub into one of these slots one could lengthen or shorten the tube into one of three prescribed lengths. This was shown to a local gunsmith in Winnipeg at the time and also described to Mr. Randy Bimson. Both believed this to be a powder scoop calibrated in drams and suitable for black powder measures only. Because of the size of the charges implied by the calibrations, they both believed this to have been suitable only for loading shotgun shells.

The N.W.M.P. were known to have reloaded their ammunition (Phillips and Klancher 1982:101-102) as early as 1882 but it is not clear whether this also applied to the shotguns they were issued for foraging purposes. Barnes (1980:300) says that it was common practice to load one's own shotgun shells prior to 1920. The major ammunition manufacturers, for example Winchester in about 1875, expanded their existing lines by offering empty shell casings for sale (Vinson 1968:91). Thus, this would seem to have been a natural element of the material culture of this time period. Presumably, its loss would have been keenly felt by its owner.

Related to this artifact are two circular masses of fibre approximately 20 mm in diameter which are tentatively identified as shotgun shell wads (IN 99-6872 and 99-9141). They consist of a coarse brown felt-like substance and would have served to keep the pellets and powder secure inside a shotgun shell. Their presence on the site is consistent with the number of shotgun shells recovered and the evidence for ammunition reloading.

Of the three gunflints recovered, two show heavy unifacial edge damage. This may have come from being used to exhaustion but it is also
possible they were used as strike-a-lights (P.J. Priess: personal communication). The more complete specimens were distinguished from aboriginal unifaces by their polyhedral shape which results from the blade technology used to manufacture them. The most fragmentary of the three was made of a dark grey-brown material not observed among any of the aboriginal lithics; it was identified as a gunflint by default.

Two gun worm fragments are in the collection. Both (IN 08-9770 and 08-18672) are distal fragments which resemble stout bottle corkscrews but, unlike the latter, there is a sharp taper along the length of the coil. These devices are used to ream out gun barrels to remove powder and lead remains which could foul the weapon if allowed to build up.

A top-hat primer (IN 08-3964) was at first mistaken for a clothing snap. An identical specimen is illustrated in the report of artifacts from Fort Bowie (Herskovitz 1978:Figure 17:a). Percussion caps lie developmentally between flintlocks and self-contained cartridges. They consist of a small brass or copper cup with a fulminate compound applied to the bottom. Muzzle-loading percussion cap guns were equipped with a tube-like nipple leading to the main power charge. The cap was inverted over this nipple and the falling hammer ignited the primer. The flash travelled down the tube to ignite the black powder charge. These primers or percussion caps may be formed as simple cups with grooved sides or, like this specimen, with four broad flanges protruding from the rim to provide a better grip.

A small circular slip-lid (IN 14-9150) embossed with ELEY over LONDON measures 38.1 mm in diameter and the rim is 14.3 mm high. The first Eley brothers perfected a particular kind of waterproof percussion cap in 1837 (Hoyem 1983:xii). As mentioned earlier, 1925 is
used here as the terminal date for this artifact because of the mention of London.

Very similar cans are described by Rock (1987:84) from the excavated inventory of the wreck of the Steamboat Bertrand which sank in the Missouri River April 1, 1865. Those cans have paper labels, rather than embossing, and their printing makes mention of percussion caps. The Bertrand can lids have the same diameter as the Batoche specimen but their rims are 4.8 mm high. The overall height of the American cans is 14.3 mm, however. It is possible that the Batoche specimen may have slipped down completely over its base. It is common for companies to maintain familiar overall dimensions as much as possible while changing certain design features.
CHAPTER 10

MISCELLANEOUS AND UNCLASSIFIED ARTIFACTS

This chapter encompasses all those artifacts which cannot be soundly classified among any of the groupings of the preceding chapters. The broad categories and the artifact quantities subsumed under each are listed in Table 10.1.

Section 10.1 covers generic commercial packaging. Sprague provides a broad category called "Commerce and Industry" (1981:257) for which these artifacts are certainly evidence. His subdivisions of this grouping do not quite serve comfortably as a classification here as his subcategories are quite specific (e.g. food and drink in the context of hotelery, banking artifacts exclusive of coins, and so on). This author feels it may prove beneficial for further work with the assemblage to identify packaging as a separate grouping, not as evidence for commerce, which is timeless, but rather as evidence for an increasing dependence by the occupants of the site on external supplies.

Section 10.2 groups together all artifacts bearing evidence of the use of prehistoric technology. As mentioned in Chapter 3.1, some very early projectile point types are present in the assemblage. Also, a single reworked glass container base falls under the same heading.

Section 10.3 covers unclassifiable, unidentified, and unidentifiable artifacts. Unclassified artifacts are those artifacts which are mostly complete but could be placed equally well into two or more categories in the classification. A good example is patterned ceramic sherds. The sherds which will be described in Section 10.3
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cannot be arbitrarily classified as tableware since wash basins and
camber pots were also decorated with the same patterns as are found on
tableware. The difference between unidentified and unidentifiable
artifacts is that the former could be identified with further analysis
but the latter are those items too fragmentary to be identified with
reasonable effort; e.g. glass crumbs, nail shanks, and a variety of
metal fragments.

10.1 Generic Commercial Packaging

10.1.1 Glass Container Fragments

Glass Jug Fragments  n=52

Jugs fragments were identified by unusually broad curvatures and
more specific indicators such as neck finger loops. Forty fragments are
amber in colour, perhaps from chemical or cleaning product containers,
and the rest are colourless. Wines, particularly the less-expensive
vintages, as well as other bulk liquid products are sold in jugs.
Manufacturing methods could not be determined for most (n=34) of the
sherds. Of the two finishes recovered (both machine-made), a colourless
neck portion exhibited a finger loop and a continuous-threaded closure
(IN 02-23911). The other, amber in colour, also had a finger loop and
was designed to be sealed with a plug. It has no string rim and is a
simple tube with rounded bead at the top (IN 02-9893). A single large
base was marked with the Dominion Glass logo, the words DESIGN
REGISTERED, and No. 51, presumably a specific jug style (IN 02-22131).
Unidentified Bottle Fragments  n=3,963

Tables 10.2 and 10.3 summarize the datable attributes of bottle fragments and bottle finishes respectively. Bottle fragments were identified on the basis on neck attributes, where present. Sherd curvature was used as a secondry attribute of identification. Those sherds whose curvatures overlapped medium or large bottles and jars were excluded. In only one case was colour considered a definitive bottle attribute. These were the cobalt blue body sherds (n=117) which, if mended, might be associated with one or the other cobalt blue finish fragments described in earlier chapters among the medicine bottles (Chapter 6.4.1) or ink bottles (Chapter 8.5.1).

The data for bottle body fragments in Table 10.2 require little elaboration. The mark of the Hazel-Atlas Glass Company consists of a large H sheltering a small, squared A beneath. This was found on the colourless base of a bottle manufactured with the Owen's machine (IN 02-7550). The terminal date given in Table 10.2 for this artifact is that of Owen's machine use in the glass industry.

The bottle finish styles named in Table 10.3 are based loosely on common styles recognized in the literature (Jones and Sullivan 1985:78-82). Continuous-threaded bottle finishes were standardized in 1924 (Lief 1965:29). "Perry Davis" and "club sauce" finishes are distinct types which are elaborated in Jones and Sullivan (1985:78-82 and Figure 55). These are not necessarily limited in application to bottles of the products their names imply. "Stopper" finishes are tubular with a ledge at the bottom inside of the bore. These were designed to accommodate glass stoppers wrapped in cork. The ledge provided a seating for this closure. This style can be found on a wide
### Table 10.2. Attributes of unidentified bottle body fragments.

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<td>plain</td>
<td>post-1928</td>
<td>3</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>with factory dot code</td>
<td>post-1941</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>no dot code or prefix</td>
<td>1928-1941</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>letter prefix</td>
<td>1941-1953</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>diamond-D on Owen's</td>
<td>1928-1950</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumers Glass Co.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>inverted-triangle C</td>
<td>1920-1962</td>
<td>1</td>
<td>2</td>
<td></td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazel-Atlas Glass Co.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H over A logo (Owen's)</td>
<td>1920-1950</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Marks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>capacity, Made in Canada</td>
<td>post-1920?</td>
<td>10</td>
<td>2</td>
<td>6</td>
<td></td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mould numbers</td>
<td>?</td>
<td>9</td>
<td>2</td>
<td>2</td>
<td></td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>unid. logo portions</td>
<td>?</td>
<td>6</td>
<td>1</td>
<td></td>
<td></td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>unid. producers' marks</td>
<td>?</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Totals:** 1609 776 102 14 48 1276 3825

* includes 165 manganese-tinted specimens which would alter the terminal dates in each of the respective categories to 1914.
Table 10.3. Datable attributes and styles of unidentified bottle finishes.

<table>
<thead>
<tr>
<th>MANUFACTURE</th>
<th>DATES</th>
<th>Continuous Threaded (post-1924)</th>
<th>Perry Davis/ Club Sauce</th>
<th>Stopper Finish</th>
<th>Straight-Sided</th>
<th>Down-Tooled</th>
<th>Unident. String Rims</th>
<th>Unid. TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rickett's-Moulded</td>
<td>1840-1920</td>
<td></td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40</td>
</tr>
<tr>
<td>Hand-finished</td>
<td>1820-1920</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>Machine-Made</td>
<td>1904-present</td>
<td>36</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>47</td>
</tr>
<tr>
<td>General Moulded</td>
<td>?</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>6</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Unidentified</td>
<td>?</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>8</td>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>38</strong></td>
<td><strong>48</strong></td>
<td><strong>6</strong></td>
<td><strong>9</strong></td>
<td><strong>10</strong></td>
<td><strong>14</strong></td>
<td><strong>13</strong></td>
<td><strong>138</strong></td>
</tr>
</tbody>
</table>
variety of bottles and flasks. The glass stoppers themselves will be discussed presently. "Straight-sided" finishes resemble stopper finishes in that the rim is relatively long vertically but the bore is smooth or gently constricted from aperture to neck. It is frequently found on liquor as well as other corked bottles. "Down-tooled" finish rims flare from top to bottom and may be found on anything from medicine to cognac bottles. All the above finish styles have optionally a variety of string rims.

Unidentified Flask Fragments  \( n=256 \)

Flask fragments were identified by their oval or rounded-rectangular planview. As can be seen in Table 10.4, these are largely colourless but specimens of other tints are present. Among the amber flask artifacts, a complete 8-ounce hand-finished specimen was found with its stopper still articulated (the cork wrapping was absent). This was treated as a single artifact.

Specific attributes used to assign dates to these artifacts in Table 10.4 have been explained elsewhere and only the Owens-Illinois mark needs further elaboration. The logo of the Owens-Illinois Glass Company in use from 1929 to 1954 resembles a cat's eye at first glance but is actually a capital I and O, all superimposed on a broad diamond. The symbols surrounding this logo can be narrowly dated after the fashion of some Dominion Glass marks. On the colourless base cited in Table 10.5 (IN 02-6561) a 7 denoting the particular factory of origin appears to the left of the logo and a 4 denoting the year of manufacture appears to its right. Toulouse (1971:403-406) does not specify how this last digit is to be interpreted. Assuming that it refers to the last
<table>
<thead>
<tr>
<th>Attributes</th>
<th>Dates</th>
<th>Colourless</th>
<th>Green</th>
<th>Aqua</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MACHINE-MADE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td>post-1904</td>
<td>31</td>
<td>1</td>
<td>1</td>
<td>36</td>
</tr>
<tr>
<td>Owens-Illinois Glass Co.:</td>
<td>1934-1954</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;cat's-eye&quot;</td>
<td>post-1941</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominion Glass Co.:</td>
<td>1941-1951</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOULD-BLOWN</td>
<td></td>
<td>2</td>
<td>27</td>
<td>45</td>
<td>100</td>
</tr>
<tr>
<td>Plain</td>
<td>post-1900</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partial registration date</td>
<td>post-1920?</td>
<td>1</td>
<td>29</td>
<td>1</td>
<td>51</td>
</tr>
<tr>
<td><strong>MOULD-BOTTOM MOULDED</strong></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td>post-1900</td>
<td>?</td>
<td>1</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Capacity (8 oz.)</td>
<td>post-1920?</td>
<td>?</td>
<td>29</td>
<td>1</td>
<td>51</td>
</tr>
<tr>
<td><strong>CUP-BOTTOM MOULDED</strong></td>
<td></td>
<td>?</td>
<td>37</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Plain</td>
<td>post-1900</td>
<td>?</td>
<td>1</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>mould number</td>
<td>post-1920?</td>
<td>?</td>
<td>29</td>
<td>1</td>
<td>51</td>
</tr>
<tr>
<td>HAND-FINISHED</td>
<td></td>
<td>9</td>
<td>6</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Stopper finish with stopper</td>
<td>1820-1920</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UNIDENTIFIED</strong></td>
<td></td>
<td>30</td>
<td>1</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>TOTALS:</td>
<td></td>
<td>137</td>
<td>45</td>
<td>2</td>
<td>256</td>
</tr>
</tbody>
</table>
digit of the year of manufacture, a date range has been chosen of 1934, the first year ending in 4 after this scheme was introduced, to 1954 when it was replaced with the progressive box code.

"Club Sauce" Glass Stoppers  n=13

These distinctive glass artifacts have a disc-shaped handles and shanks which are sometimes straight for a distance and then taper toward the tip or, alternatively, taper directly from the underside of the handle to the tip. These were generally wrapped in cork and sealed sauce bottles but also have been found on medicine containers (Jones and Sullivan 1985:152). The unidentified complete amber flask described earlier was found with this style of stopper still articulated. As such, they are quite identifiable but remain unclassifiable, even when found "in situ."

Seven complete stoppers were recovered, mostly amber in colour (n=5) but a single specimen each of colourless and aqua glass are also in the collection. Six handle rim fragments were recovered, one of which (IN 02-31070) is embossed with the letters LAMP around the outer edge. This aqua piece seems to have a frilly decorative patterning in the sunken interior. The mark would have been attributed to the Lambert Pharmacal Company (Fike 1987:67) but for the fact that the last letter is clearly a P and not a B.

Unidentified Glass Container Fragments  n=1,346

Most sherds have been identified to the broad level of vessel form (i.e. bottle, jar, flask, and so on) but those which can not are designated as unidentified containers. Among these, attributes broadly
useful for dating were noted and are summarized along with vessel plans in Table 10.5. The relative sherd quantities among the planview forms illustrate the degree of ambiguity exhibited by these artifacts. Most (n=919) are round in plan and, judging by their curvature and thickness, could belong to either jars or bottles. The vessel planviews (n=331) of many shoulder and some heel fragments were too ambiguous to identify. Sherds from vessels of angular plans presented fewer classificatory problems but, in some instances, they could have been parts of bottles or jars.

Most of the datable attributes in Table 10.5 have been explained elsewhere. "Mould numbers" refer to embossed letters or numbers which are felt to be part of a glass manufacturer's inventory control coding. Marks indicating vessel capacity in fluid ounces and those with various portions of the words Made in Canada may be a post-1920 phenomenon. Toulouse (1969) felt that canning jars embossed with Made in Canada were made sometime after 1915. Burns' study of Canadian legislation relating to packaging mentions no statute that specifically required vessel capacity or country of origin to be embossed on containers. However, many statutes were passed requiring such information to be printed on paper labels attached to the containers. Most of this and other legislation which standardized container sizes and shapes was passed in the 1920s (Burns 1985).

10.1.2 Ceramic Commercial Containers

Almost all the stoneware in the collection (n=375) was classified as commercial container fragments. As can be seen from the number of
Table 10.5: The attributes of unidentified glass containers.

<table>
<thead>
<tr>
<th>MANUFACTURING ATTRIBUTES</th>
<th>DATES</th>
<th>SQUARE/RECT. POLYS.</th>
<th>PRODUCERS' MARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OWIN'S MACHINE</td>
<td>1904-1914</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>plain</td>
<td>ca.1920-1950</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>capacity mark</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MACHINE-MOULD</td>
<td>1904-1914</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>plain</td>
<td>ca.1920-1950</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>mould numbers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>manufacturers' marks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>capacity mark</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONSUMERS GLASS</td>
<td>1920-1962</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>plain</td>
<td>ca.1920-1962</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>manganese-tinted</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mould numbers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>manufacturers' marks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>capacity mark</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GENERALIZED MOULD-BLOWN</td>
<td>1904-1914</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>plain</td>
<td>ca.1920-1970</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>mould numbers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>manufacturers' marks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>capacity, pressure mark</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MANGANESE TINTED</td>
<td>1904-1914</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>mould numbers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>manufacturers' marks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>capacity mark</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNIDENTIFIED</td>
<td>1904-1914</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>mould numbers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>manufacturers' marks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>capacity mark</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td>919</td>
<td>919</td>
</tr>
<tr>
<td>SQUARE/RECT. POLYS.</td>
<td></td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>PRODUCERS' MARKS</td>
<td></td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>manganese-tinted</td>
<td></td>
<td>331</td>
<td>331</td>
</tr>
<tr>
<td>capacity mark</td>
<td></td>
<td>1346</td>
<td>1346</td>
</tr>
</tbody>
</table>
unidentified container fragments listed in Table 10.6, the fragmentary state of the ceramic collection hampered efforts to identify specific stoneware vessel types. Jugs, crocks, and jars were commonly used as both commercial containers and household storage vessels. Since there is no convenient way to distinguish these activities, they have been arbitrarily classified as commercial containers. The various ware types mentioned in Table 10.6 and in the discussion that follows have been described in Chapter 5.3.1.

The ceramic jug fragments were distinguished from other stoneware sherds by the presence of spouts (n=6) or neck finger loops (n=2). The majority of jug sherds (n=133) are shoulder fragments, almost all of which are broad, dome-shaped, thick sherds. One exception to this (IN 03-1930) is a shoulder/neck sherd from a jug whose shoulder would rise in a cone toward the spout. This is also one of the few stoneware vessels bearing any sort of decoration. Just below the shoulder are three thin painted bands in shades of blue and white. Several sherds (n=26) with a matte slip, almost russet in colour both inside and outside the dome, were also slip-banded with an off-white slip on the body below the shoulder.

The two exotic jug ware types identified in Table 10.6 have fabrics which are buff in colour. Both are jug spout fragments. The Bristol Glazed ceramic (IN 03-10284) is classified as a jug although the lip is more of a flared rim than a pouring spout. It might have contained at one time preserves or boot polish. The other specimen has an unidentified fine buff-coloured fabric. This sherd (IN 03-17270) has a more conventional spout form with a bore measuring 38 mm across.
Table 10.6. Ceramic commercial container stonewares and vessel forms.

<table>
<thead>
<tr>
<th>WARE TYPE</th>
<th>JUG</th>
<th>CROCK</th>
<th>UNIDENTIFIED</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt Glaze, North American Slip</td>
<td>138</td>
<td>17</td>
<td>165</td>
<td>320</td>
</tr>
<tr>
<td>Bristol Glazed Buff</td>
<td>1</td>
<td>3</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Derbyshire</td>
<td></td>
<td></td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Fulham/Lambeth</td>
<td></td>
<td></td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Coarse Stoneware</td>
<td></td>
<td></td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Fine Stoneware</td>
<td>1</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**TOTALS:** 140 20 215 375
The crock fragments (n=20) could only be identified with confidence if the sherd in question was a rim fragment or, in some cases, if it resembled a jar shoulder but had a very broad curvature. It seems quite likely that more crock sherds will be found among the unidentified fragments once mending is carried out. The only marked stoneware specimen is a crock rim sherd (IN 03-3870) printed or stamped on the outside with a black numeral 5 in hollow lettering. This is commonly found on crocks below the rim and indicates the vessel's size. Seventeen sherds with a white, blue, and white trio of thin bands encircling the body just above the heel mend to make a vessel 192 mm in diameter. These seem as if they might be related to the similar jug specimen alluded to above but neither mends to the other. Perhaps they were part of a set or were a distinctive patterning used by a particular manufacturer.

The remaining 215 stoneware sherds, although the majority in this grouping, possess no distinguishing characteristic other than their ware types. These are listed in Table 10.6.

10.1.3 Commercial Container Seals

Threaded Closures  n=33

Threaded caps and lids are used on glass bottles, jars, and metal containers containing any number of products. In the absence of brand names there are few stylistic attributes which give clues to the function of each. The size of the vessel's aperture determines whether a threaded closure is a cap or a lid. In this collection, all closures greater than or equal to the arbitrary threshold diameter of 51 mm (2
inches) are classed as lids; those of lesser diameter are classed as caps.

Six of the 13 metal screw caps have consistent dimensions of 34.9 mm in diameter and are 9.5 mm high. Such caps could have sealed bottles or vegetable oil and turpentine cans. It is possible that these, being the most common, were made during the period after 1924 when glass container closure dimensions and threading were standardized (Lief 1965:27). The rest all have individual diameters ranging from 47.6 mm across down to 23.8 mm across.

In addition to the metal screw caps, three made of plastic were recovered. Lief (1965:30) says these were introduced to the packaging industry in 1927. Two paper and foil cap liners suitable for inserting in either plastic or metal screw caps were also inventoried.

The 15 screw lids are very likely from glass jars but there is no absolute certainty of this. Most (n=13) of the lids would have fit onto finishes with discontinuous lugs, the other two are threaded lids. Six of the specimens measure 63.5 mm in diameter. Three of these have plastisol contact surfaces which, on glass jars, creates the air-tight seal. This type of seal dates from about World War Two onward (Lief 1965:38). The next most common diameter is 76.2 mm which was also the largest size recorded among these artifacts.

The rest range in size between 50.8 and 76.2 mm in diameter. One specimen of particular note (IN 14-10320) measures 57.2 mm across and resembles two lids nested inside one another with the bottom edge of the outer lid folded over the inner lid. This could be an example of a double-shelled screw lid mentioned in passing by Lief (1965:37). About these types of closures he says only that they were discontinued in
World War Two due to metal shortages.

Metal Bottle Seals  n=92

The remaining 51 crown bottle caps not discussed in Chapter 7 could not be grouped with either the alcoholic or non-alcoholic beverage artifacts described there. Of these, 26 still retain their cork liners and therefore date between about 1901 and the 1960s (Lief 1965:20,40). Twenty-two additional complete caps and a cap edge fragment no longer have their linings. A single specimen post-dates about 1960 as it has a plastisol lining. Finally, a single cap with a "spot" liner was inventoried. This is a cork and paper backing with a disc of foil over the centre of the surface which contacts the bottle's contents. Lief says (1965:25-26) this was developed in 1916 to prevent beer from acquiring an off-flavour from the cork. It was subsequently used for other beverage crown caps.

Two metal caps with crimped edges bear similarities to crown caps but are a little too wide and definitely too squat to effectively cap a crown closure. One of these (IN 08-6130) measures 34 mm across the top and is 4 mm from top to bottom. The other specimen (IN 08-16380) has similar dimensions but is flat across the top and the side crimping is much finer than that found on crown caps. It is tentatively concluded these might be metal grips which were at one time crimped over bottle corks to serve as stopper grips (e.g. like those found today on Grand Marnier bottles).

The other sort of metal bottle seals which were covered in part in Chapter 7 is lead foil bottle capsules. Other capsule pieces (n=39) were recovered of which 27 bear no markings other than paint but were
identified by their form and lead metal gauge.

The other 12 capsule specimens categorized here bear seven different makers' marks but none of these could be associated with any particular commercial product. Three capsule fragments are stamped with the Bett's padlock logo which refers to the patent on lead foil capsules in general. Three more fragments (IN 99-7590) mend into a mark consisting of a five-pointed star inside a circle of raised dots. The imprint of the finish that this capsule once enveloped suggests the bottle top measured 38 mm across. Another specimen stamped (WI)NINPE(G) (IN 99-800252) has more of the mark to the upper right which may be readable with conservation treatment. Another illegible mark is stamped into a capsule which may be identifiable after treatment.

The remaining capsule specimens bear legible marks but no information has as yet been found about the producers. Another Winnipeg concern is represented by a capsule (IN 99-800081) stamped with G.E. & J. GA(??)T over a motif resembling a snowflake. Below this is WINNIPEG over MAN. On the side of the capsule adjacent to the word MAN. is a small castle motif. Two separate capsules are stamped with embossed yellow letters on a gold background. One reads J. BROWN & CO. over a crown or crest (IN 99-10890). The other provides in addition the wording LONDON & GLASGOW. The latter specimen (IN 99-8783) also bears the Bett's logo. Lastly, specimen 99-800661 is embossed NICHOLSON with perhaps room for another name. Below that is the image of a cat seated in front of a building with TRADE MARK over LONDON beneath. Perhaps the London reference and the cat image refer to the Dick Whittington story.
10.1.4 Non-specific Pails and Tin Cans

Unidentified Commercial Product Pail  n=6

Six fragments from a single large pail top end could not be classified in a more specific category. Its diameter is about 130 mm. There is no evidence that this pail, which accepted a plug-in lid, contained paint. It is a little larger than the food product pails described in Chapter 7.1.7. The top end seam is double while the base end seam is double and clenched (folded under the container). The significance, if any, of this latter attribute is uncertain. The domed lugs on this specimen have square holes where the wire handle would have articulated.

Slip-Lidded Tin Cans and Their Lids  n=63

Any reasonably safe substance may be packed in a slip-lidded can including spices and other baking goods, medicines, ointments, tooth powders, and machine lubricants. The dimensions of the can may give some clue to its former contents. Those have been classified in appropriate categories in the preceding chapters. Thirty-four cans and 29 slip-lids were recovered which cannot be classified more specifically than as generic product packaging.

All the slip-lidded can bodies were identified by their raw top edge. Of the 18 partial specimens, two consist of bits of the top rim and five more are large enough to determine that they came from cans with round rims. Eleven fragments may have at one time belonged to rectangular slip-lidded cans.
The rest of the slip-lidded cans are complete. Construction attributes were recorded for most of these although they were not for the lone oval specimen (IN 14-7670). Its dimensions were recorded, however, and it stands 108.0 mm tall and in planview measures 63.5 by 34.9 mm wide. It may have contained a toiletry product or some other substance. The single can with a rectangular planview in this group (IN 14-9070) has a cap-on base and measures 98.4 mm tall. The base is 60.3 mm long and of indeterminate width.

The other 14 specimens have round plans. All the recorded side seams are interlocked. The range of basal attachment seams includes cap-on ends (n=4), single seams (n=2), and double seams (n=6). In general, these cans are squat in shape with the height exceeding the diameter by only about 25 mm.

Twenty-one of the 29 loose slip-lids have round planviews and range in diameter from 38.1 mm to 95.3 mm. One of these (IN 14-6963) is made of yellow metal and has a diameter of 38.1 mm. It has a rather long lip, standing 21 mm tall. Four fragments were tentatively identified as slip-lid rims, being clearly either the flat edges of a slip-lid or the rim of a slip-lidded can. They were inventoried as lids because they show evidence of terminating not far away from the rim edge. No planviews for these could be determined.

Lastly, a yellow metal possible slip-lid (IN 14-7470) is stamped with HICKS over CENTRAL PIPE. It measures 39.7 mm in diameter. No information about this product has yet been obtained. It could be related to smoking pipes or perhaps it capped a small can of plumber's grease.
Keystrip Can Collar Rings  n=2

Two fragments of collar rings from coffee or tobacco cans were recovered (IN 14-290 and 14-8180). These are strips of sheet metal 10 mm wide with both lateral edges curled. Such rings were employed inside keystrip-opened coffee cans at the junction where the two halves opened. The upper part could be used as a slip-lid after opening by clipping it down over the edge of the ring. This style was introduced sometime between 1903 and the 1920s and became almost universally used on coffee cans by the 1930s (Canadian Parks Service n.d.; Rock 1987:107). The only specimens found attached to a can in this assemblage, however, are on the upper edge of a tobacco can described in Chapter 7.2.2. Therefore, they are categorized as generic packaging.

Plug-in Cans and Their Lids  n=45

Most of the can body fragments believed to have taken plug-in lids (n=28) are top edge fragments and all have curled top edges. There was some vagueness in the recording of these in that it was not specified whether these curled inward or outward in relation to the planview of the can. Only five are sufficiently complete to determine that they had round planviews. In retrospect, the distinction would have been helpful in distinguishing cans taking plug-in lids, which are assumed here, from some slip-lidded cans. Fancy cookie canisters commonly have their edges curled inward, presumably to protect reaching hands from the sharp edge of the metal. Also, some larger slip-lid edges are curled outward. Even if mis-identified, these body fragments still fall into the generic commercial tin can category. For the immediate purposes of this study, this oversight in recataloguing is not serious.
Sixteen fragments of round plug-in lids were categorized here because they are less than 101.6 mm in diameter and bear no remnants of paint products. They could have plugged cans containing any number of food products such as cocoa or baking powder. Plug-in lids are also commonly found on cans containing dangerous substances; for example, lye and drain cleaning compounds.

A single rounded-rectangular plug-in lid bears the stamped mark KAR in tall and thin lettering. It would have plugged a hole that measured 50.8 by 31.8 mm. No manufacturer has yet been associated with this mark.

Screw-top Cans  n=4

Only three complete open-mouth cans with screw-lug projections on the side of the top are in the collection. This reinforces the notion that most of the lids of compatible design belonged to glass jars rather than cans. All are round in planview and have bases attached with double seams. The largest of the three (IN 14-14300) measures 184.2 mm tall and has a diameter of about 100 mm. It is crushed and also has been punched both on the base and the sides with square holes (presumably made by machine-cut nails). This specimen is striking because of its lapped side seam in combination with the double base seam. The combination is not usually found on hermetically sealed cans but may have been more common and have persisted longer among cans with removable lids. The other two are both 133.4 mm high and have diameters of about 76 mm. One has an interlocked side seam; the side seam of the other was not recorded.
A complete large can (IN 14-12140) has a hole in one corner of the top where a screw-top pouring spout was at one time soldered. The side seam is interlocked and the top and bottom seams are single, which is a common type of end seaming technique for this sort of can. There is no attached carrying handle on the top. The artifact could be classified variously as a vegetable oil, turpentine, or fuel can.

Commercial Tin Can Bases and End Fragments  n=76

Twenty-nine fragments consist of flat pieces of sheet metal most likely from block-shaped tin cans and another 47 are more confidently identified as tin can bases. As defined in Chapter 5.5.4, a can base is that end of the can which shows no signs of opening. This criterion encompasses tin cans in which a wide range of commercial products were packaged; therefore, a finer classification is not prudent.

Most (n=39) are round in planview. Thirty-two of these are loose cap-on ends that evidently dropped off their parent cans, something that one might expect to occur more frequently with cap-on end attachments since the joint is not reinforced by folds in the metal. One base bears a single seam while another with double seams was separated from its parent can by the action of corrosion. Five fragments are too corroded to say with certainty what seaming method was used. The range of diameters among round bases is from 50.8 mm to almost 130 mm.

The range of attachment methods among the seven rectangular bases also include cap-on (n=2), single seams (n=2), and double seams (n=1) while no information was recorded about the seventh specimen. The two single-seamed fragments (IN 14-800111) mend to make a base measuring 165.1 mm long by 66.7 mm wide.
The lone cap-on base with an oval planview (IN 14-4850) has dimensions which almost match those of the oval slip-lid described earlier. This base measures 63.5 mm long by 38.1 mm across. The two specimens were not found in the same excavation unit.

The 29 end fragments look like tin can ends but have no other identifying features or evidence for the use of a can-opener. All are heavily corroded. They might have been parts of tin can ends or closures of any of the types discussed above.

Tin Can Seams  n=111

Into this category fall fragments of end and body seams with enough additional metal present and having appropriate size to positively identify them as tin can parts. Sixty-two of these are end seams, 50 of which are double seams. Since a double seam has five thicknesses of metal, it seems to be the last part of a can with this type of end attachment to deteriorate. Eight of these are corner pieces from cans with square or rectangular planviews. The pieces are too fragmentary to determine planviews for the balance of the double seam fragments nor could the shape be determined of the seven cap-on end lip fragments or the five single seam pieces. The latter were distinguished from possible bucket bases by their general size.

Much like double seams, all body seams appear to be the last part of a can to rot away. This is because all body seams are soldered to some degree and lead does not corrode as readily as iron. Nine specimens are lapped side seams while 17 are interlocked. Seam type was not recorded for 13 specimens during recataloguing.
10.1.5 Commercial Container Fastenings

Crate Fastenings  n=422

The most common artifacts in this category are box nails (n=289). Wire box nails resemble common nails but their heads are thinner and the slight countersink on the underside of some common nail heads is always absent on box nails (compare Figures 9.1c and 9.1d). This design permits the nail to have a wide enough head to anchor the side of crates and boxes yet be driven flush with the wood without excessive pounding.

They are often used in construction despite their name and, thus, the excessively long sizes have been included with the construction nails described in Chapter 9.1.1. Those included here are deemed to be crate-related for several reasons. First, bulk was more common than individual packaging prior to World War Two. Also, one would expect a lot of crates in a site which was supplied remotely from other centres. Most of the box nails are wire (n=240) and therefore played no part in the primary construction phases of the buildings. Finally, a histogram of their lengths would show few clusters, indicating that a large supply of these nails was not on hand. All box nails in this category are under 70 mm long and most are between 25 and 40 mm long, a suitable size for crates.

Seven of the wire nails have marks on the heads. Six of these have simple cross-hatching which may be more functional than stylistic. One (IN 04-803981) is embossed with a B on a background of either stippled or radiating lines. This mark on a nail with round stock is found commonly among the unidentified nails with triangular shanks (see Section 10.3.2 below).
The machine-cut nails classified as box nails are somewhat problematic. The only cut head form called "box" in the nineteenth century catalogues had a clasp head and a specific length of 41 mm (Canadian Parks Service n.d.). The machine-cut nails in this collection inventoried as box nails have heads identical in form to their wire counterparts. These are of sufficient quantities (n=49) and have comparable lengths to those of the wire box nails (range: 24 to 69 mm among the 47 complete specimens); the author believes they are a legitimate type rather than being quirkily-formed common nails.

Crate staples (n=30) were distinguished in the collection from fence staples by their small sizes and (usually) squared U-shaped headforms. These are used to fasten sides to small crates and to secure basket rims to the main wicker body. The staples in the collection have been made on both square and round wire stock. Some have been pointed by clouting. The lengths range from 9 to 20 mm while their heads vary in width from 8 to 19 mm.

Another type of artifact also called a crate staple (n=5) acts more as an internal reinforcement to stout wooden box corners. They consist of small corrugated strips of metal with small serrations along one edge. They are hammered into the tops of crate corner joints to prevent separation of the sides.

Lastly, 98 small pronged fastenings are thought to be crate corner reinforcements. These bear a strong resemblance to both tobacco seals (see Chapter 7.2.2) and threshing belt mendes (see Chapter 9.3.3) and there is a good chance some may have been mis-identified as a result. Most are lenticular or broadly diamond-shaped stamped sheet metal strips between 26 and 32 mm long and 13 mm wide. Each arm has a prong off the
end at a right angle as do both threshing belt menders and tobacco seals. The menders, however, are much more narrow and the tobacco seals are not as long as these artifacts. None of the reinforcements are marked. According to informants who have seen these in situ (P.J. Priess, Bill Wilson: personal communication), these are hammered in series up the sides of crate corners to reinforce the joints.

Barrel or Keg Fastenings  n=35

Thirty-two barrel hoop fragments and a single complete hoop were recovered. The fragments consist of stout strips of metal approximately 20 mm wide with parallel sides and sometimes a rounded outer surface. Some have been lapped and rivetted. The complete specimen (IN 08-800480) measures about 250 mm across and is 25 mm wide.

Another complete barrel hoop-like metal ring (IN 08-5030) measures about 300 mm in diameter but has one edge rolled outward. It is perforated at regular intervals by wire common nails 33 mm long which were clinched around something approximately 5 mm thick. This artifact is thought to be a rim from a keg.

Lastly, a probable barrel hoop nail was recovered (IN 04-800951). This specimen would be otherwise classified as an L-head finishing nail but it has an intentionally-formed spatulate tip and is only 16 mm long. The author observed a nail of this type securing the hoop on a barrel on display at Lower Fort Garry. The shortness and tip design permits the nail to be installed without puncturing the keg. The L-head provides a check to the hoop’s tendency to slip off the end of the barrel.
Cardboard Package Fastenings  n=7

Four cardboard carton staples were inventoried. These are identical to common paper staples in shape and the method of clinching but are much larger. The specimens in the collection have heads measuring between 25 and 35 mm wide.

A small sheet metal object bent at a right angle was identified as a cardboard box corner reinforcement (IN 08-4672). The edges are rounded and the item is perforated with a sequence of holes. The cardboard is squeezed through these holes when the fastening is in place. The author has seen these fastenings on the top corners of small cardboard boxes used for file cards.

The last two cardboard container fastenings are very tentatively identified as such. One specimen (IN 08-16661) consists of a grey sheet metal disc which was subsequently cut in half. The disc when whole probably had a diameter of 76 mm. The intact outer edge is rolled in a single seam like those found on the tops and bottoms of some cylindrical cardboard containers; for example, on household porcelain cleanser cans. One side, however, has a slot cut into it. One suggestion (Gary Adams: personal communication) is that it might be part of a salt package and the slot perhaps held a retractable spout.

The other possible cardboard container part (IN 08-18890) also has a folded single seam suggesting it was part of a cardboard tube container. It is domed and measures 82.6 mm in diameter. The surface has been modified with a series of rough punctures, suggesting it may have served a later function as a shaker can of some sort.
10.1.6 Miscellaneous Commercial Packaging Artifacts

Commercial Wrappers and Package Labels  n=429

The remaining 412 fragments of lead foil as yet unclassified fall into this category. These consist of small bits of lead from either tea package or crate foil or bottle capsules. Since both are forms of packaging the distinction is moot and will not be made.

Other wrappings include nine fragments of paper-backed aluminum foil. Four are printed with indistinct dark blue lettering and could be from coffee or chocolate bar wrappers. Four sections of burlap sacking may be from potato or onion sacks although no printing could be discerned.

Two paper fragments with straight edges and printed borders are likely the remains of a bottle or can label. The lettering is too indistinct to read but includes a word ending in the letter A. Two more paper or light cardboard fragments are in poor condition but may have printing. They could be from either a light cardboard container or a tea package promotional coupon.

Customs and Tamper-Proofing Seals  n=5

Of perhaps greater historical interest than the artifacts just described are five bale or customs lead seals. These are lead slugs crushed over wires or strapping iron in such a way that the seal must be broken to open the package. This prevents tampering of certain pre-weighed goods (e.g. fur bales in the fur trade), controlled goods (e.g. firearms or possibly liquor), or measuring devices (e.g. meters). One specimen (IN 08-16732) looks exactly like the tamper-proofing seal.
found on modern residential gas meters. It is a lead plug 13 mm in diameter and is crushed over two wires. Another specimen (IN 08-6670) is similar in that it exhibits two holes where perhaps a pair of wires were trapped at one time. It is stamped with -(0 or U)MS and DETROIT MICH. The first word is thought to be the word CUSTOMS and it is believed this might have been attached to a crate whose trans-border shipment was controlled, for example, firearms or ammunition. The third such seal (IN 08-17941) apparently bound something thicker as the pair of holes piercing the disc longitudinally each has a bore of 6 mm. Both sides have indistinct marks squeezed into the lead. One of the marks reads in part U.S. and is therefore considered another customs seal.

A bale seal presumably attached by the manufacturer was also recovered (IN 99-10721). This consists of a lead loop joined by a strip to a disc and stamped WILB(RAH)AM. Laflèche (1979:63) lists a James Wilbraham as inspecting "strouds" in 1858. Gary Adams informed the author that Wilbraham seals were recovered at York Factory and that Wilbraham was a supplier of bulk wool to Hudson's Bay Company. Lastly, two wads of lead pressed together with an oval hole cut out of the centre (IN 08-9652) is thought also to be a seal of the sort just described. No mark is discernable on this specimen.

10.2 Prehistoric Technology

The term "technology" rather than "artifacts" is used here because, while there are 482 lithic artifacts and a single prehistoric potsherd in the collection, there is also a bottle base reworked into a scraper. This suggests but does not prove that the Métis inhabitants (or native
were familiar with stone-working technology.

Almost every Métis site excavated in Western Canada has prehistoric materials mixed with the historic artifacts. In Saskatchewan, the Petite Ville (FdNm-15), Four Mile Coulee (DjOc-2), and the Dirt Hills Camp (DlNh-1) sites all yielded flakes and, at the last site named, also prehistoric pottery (Burley, Horsfall, and Brandon 1988). The same mixture was found just across the Alberta border from the Four Mile Coulee site at the Kajewski Cabin site (DjOo-120) (Elliott 1971). Also in Alberta, the most recent occupation of a multi-component site (Buffalo Lake site - FdPe-1) was that of a Métis encampment. In Manitoba, the Garden site (DkLg-16) yielded both lithic and pottery artifacts (McLeod 1983) but Delorme House (DkLg-18; McLeod 1982) stands as the only site with a Métis component where prehistoric artifacts are not associated. In none of the site reports just cited are the authors convinced it was the Métis themselves who were responsible for the lithic and pottery deposition. The two hypotheses which remain to be tested in this matter are that: 1) Métis did use prehistoric technology but not extensively; or 2) Métis criteria for site selection closely matched those held by prehistoric peoples.

This question cannot be settled here. All the diagnostic artifacts discussed below have modern or historical (i.e. Métis vintage or later) surface proveniences. Since the topsoil is relatively shallow at Batoche, the mix of time periods implied by the diagnostic artifacts may indicate that a mixed multi-component prehistoric site was disturbed by the construction of Métis dwellings here. Alternatively, some of these diagnostics could have been brought in as curios by the historic occupants from somewhere else.
Lithic Artifacts  n=482

The range of lithic materials and the types of artifacts made from them is given in Table 10.7. The fire-broken rock is included here for the sake of expediency but could have been created by either the prehistoric or historic occupants.

The terms for lithic materials used in that table are those names assigned by the Canadian Parks Service whose staff designed the "Lithics" section of the coding manual (Canadian Parks Service n.d.) with intended use on sites from Saskatchewan to the High Arctic. Therefore, specific local lithic terms cannot be assigned without greater examination of the artifacts than the author has so far undertaken.

The Firstview projectile point base cited in Table 10.7 (IN 01-590) and illustrated in Figure 10.1a is of Swan River chert. The Scottsbluff-Eden shoulder fragment (IN 01-2010) is of heavily-patinated Knife River flint (Figure 10.1c). These two Early Plains Indian points are not out of place for this part of Saskatchewan and would date on stylistic grounds to approximately 10,150 years ago and 8,600 years ago respectively (Dyck 1983:79).

The Late Plains Indian period is represented by a thin, well-made Swan River chert projectile point (Figure 10.1b; IN 01-720). It is triangular with no notching and is identified as a possible Avonlea projectile point. Avonlea times lasted from about 1750 to 1150 years ago (Dyck 1983:122-125).
Table 10.7. Lithic cores, debitage, and formed bifaces and unifaces.

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Figure 10.1. Prehistoric projectile points and a glass scraper. Firstview base (a), possible Avonlea projectile point (b), Scottsbluff-Eden shoulder midsection (c), scraper made on a green/yellow bottle base (d).
Prehistoric Pottery  n=1

Late Plains Indian pottery is represented by a single cord-wrapped paddle impressed potsherd (IN 99-803080). It is thick and was heavily smoothed prior to firing, according to Kit Krozser (1985:personal communication).

Bottle Glass Scraper  n=1

One specimen of particular note among the unidentified bottles is a green/yellow base fragment (IN 02-22520) from a midden deposit associated with Letendre's house. It is rectanguloid in planview and has been fashioned into a scraper and used as such (Figure 10.1d). Glass can break in a wide variety of ways and trampling can cause both unifacial and bifacial flaking to occur. This specimen has been unquestionably formed by primary and secondary retouch, all from the inside of the bottle outward. The tips of the arrises have been sheared off and the whole edge exhibits heavy macro-wear.

10.3 Unclassified, Unidentified, and Unidentifiable Artifacts

10.3.1 Unclassified Artifacts

Glass Artifacts  n=81

Eighty-one glass sherds are classed as having an ambiguous function. They exhibit more attributes than the truly unidentifiable specimens but their possible functions overlap several categories. The 23 colourless round-planned turn-moulded specimens, for example, could belong to wine glasses, lamp chimneys or globes, or tumblers. Many
other sherds are pattern-moulded and suggest they are parts of tableware or fancy canning or commercial jars.

Unidentified Ceramics  n=708

Table 10.8 describes the ceramic sherds too small to classify. To give the reader an idea of their fragmentary nature, only 60 are of sufficient size to determine that they probably belonged to some sort of hollow-ware vessel. All sherds in this category could have belonged at one time to either tableware vessels, toiletry vessels, or vases. The bulk of these (n=587) are plain small chips whose only identifying characteristic is their ware types.

Several decorated sherds are in this grouping, some having specifically identified patterns. All but one of those patterns listed by name in Table 10.8 have been described and assigned dates in the tableware section of Chapter 8 (Section 8.4.2). The exception is the blue "Honeysuckle" pattern found on a single sherd (IN 03-8292). This pattern was registered by Copeland in 1855 and was sold until at least 1882 (Sussman 1979b:126). Sussman says this also went by the name "Empire" and that at least one other company copied it between 1884 and 1890.

Five specimens in this grouping bear maker's marks but there is not enough present of any of these marks to warrant describing them here.

Unclassified Metal Containers  n=78

Included in this category is a set of very large tin can-like objects. They could have been commercial containers or kitchen storage containers for bulk items like flour. Aside from fancy biscuit tins,
<table>
<thead>
<tr>
<th>DECORATIVE METHOD</th>
<th>EARTHENWARES</th>
<th>STONEWARES</th>
<th>PORCELAINS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>White</td>
<td>White</td>
<td>Salt Glaze</td>
</tr>
<tr>
<td>1. Plain</td>
<td>423</td>
<td>114</td>
<td>6</td>
</tr>
<tr>
<td>2. Underglaze Painting</td>
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<tr>
<td>Blue Patterns:</td>
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<tr>
<td>B772</td>
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<tr>
<td>Hakav/Pagoda</td>
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<tr>
<td>Mulesuckle (Empire)</td>
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<td>Grapevine</td>
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<td>Flow blue spattered</td>
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<td>Aquamarine floral print</td>
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<td>Purple Patterns:</td>
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<tr>
<td>3. Underglaze Painting</td>
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<td></td>
<td></td>
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<tr>
<td>Rim bands: purple, blue</td>
<td>2</td>
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<tr>
<td>Floral design</td>
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<td></td>
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<tr>
<td>4. Slip Banding</td>
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<td></td>
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<tr>
<td>Dark blue and khaki</td>
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<td></td>
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<tr>
<td>5. Moulded Relief</td>
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<td></td>
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<tr>
<td>Floral, flinged</td>
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<tr>
<td>Ribbed, fluted</td>
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<td>With print/coloured glaze</td>
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<tr>
<td>With underglaze painting</td>
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<tr>
<td>6. Coloured Glaze</td>
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<td></td>
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<tr>
<td>Robin's egg blue</td>
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<td></td>
<td></td>
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<tr>
<td>Pumpkin-coloured</td>
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<td></td>
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</tr>
<tr>
<td><strong>TOTALS:</strong></td>
<td>495</td>
<td>153</td>
<td>1</td>
</tr>
</tbody>
</table>
some surprisingly large commercial product containers were manufactured, possibly for bulk use by camp cooks or possibly for their attraction as useful household containers after their original contents were used up. For example, Rock (1987:25) describes a 2 pound baking powder container made between 1928 and 1936 which measures 209.6 mm by 177.8 mm.

The most complete specimen from this assemblage took a slip-lid, and measures 304.8 mm tall and is about 150 to 180 mm across. Unfortunately, no seam data were recorded but the top edge is raw, not curled. Eight slip-lids varying in diameter from 114.3 to 139.7 mm were recovered. Three fragments (IN 14-9933) of a slip-lid rim were recovered. These are more like collars than rim fragments, suggesting the top surface may not have been metal but, rather, cardboard or some other material. A metal collar measuring 100 to 130 mm across (IN 14-7380) consists of a metal strip folded in half and then made into a circle. This might have been the rim of a cardboard-walled canister but ought to be re-examined to see if any paper remains are present in the fold.

The artifacts described above all have round planviews. Twenty-nine fragments of possible metal boxes were recovered and were identified on the basis of their flat sides or angular corner pieces. Twelve fragments show signs of having single seams, some of which were soldered and one of which has a rivet through all three layers of metal. Two pieces mend to suggest they belonged to a container at least 250 mm across.

Artifacts which could belong to either commercial product pails or water buckets are included here (n=12). Six stout pieces of wire bent in semi-circles were identified as pail or bucket handles. The gaps
between the two ends range from 150 to 250 mm. Two have slight bends upward at the top of the arc to form a separate segment of the handle. It is assumed that wooden roller handles were attached at these places. Two bucket ears and two hemispherical cap lugs where bucket handles articulated with the body were also recovered. Finally, two robust curled top edges are assumed to be from pail edges but they were too fragmentary for further identification.

Lastly, 24 formed metal container edges are included in this category. These artifacts exhibit at least one edge that is deliberately formed, either raw (n=4) or curled (n=20). Either style may be found on slip-lidded cans or their lids. However, raw sheet metal edges are also found on stove pipe joints. Curled edges are found also on cookware and other items.

10.3.2 Unidentified Artifacts

Unidentified Glass Artifacts  n=135

Among the glass artifacts, 135 sherds are intriguing and worthy of re-examination. They include ornate moulded sherds which might be tableware or lamp fonts recognizable to researchers specializing in glass material culture. Most are simply isolated, strange items.

For example, four sherds of opaque turquoise-brown or aqua glass were recovered. These have been heated and one suggestion is that they may actually be sherds of a more familiar tint, for example dark olive green, that have changed colour and transparency through heating (K. Lunn:personal communication).
Ten sherds of a crude fire-polished colourless rim may eventually mend. The rest of the body flares away from the edge at a broad angle. This item may be a globe or, because of the crudeness of the rim, it may have been secured inside a metal ferrule which hid this rim from view.

Twenty-eight sherds were recovered which were flat like window glass but were of a delicate thinness found only among lamp chimneys or thermos glass. Other sherds, through mending, may prove to be more arcane glass objects.

Unusual Nails  n=104

Into this category fall some fairly odd nails recovered from this site. The most intriguing are the wire nails made on triangular stock (n=80), others of which already have been classified on the basis of specific head forms in other categories (see Chapter 9). All those described here appear to have box nail-like heads but their head diameters seem slightly larger than standard box nails. The diamond tips seem to be deliberately made sharper, having longer facets than those found on standard wire nails. Although four of these were missing their heads and 28 were too corroded for an accurate determination, all the rest are marked on the heads. Most (n=35) are stamped with a B on a stippled background while 11 are stamped with the same B but on a cross-hatched background. Two have simply a stipple-patterned head with no lettering. Two of the cross-hatched variety had barbs on one or more faces for the length of their shanks. Lengths of the triangular-shanked nails range from 25 to 58 mm.

These nails have been recovered from other sites in Saskatchewan. A letter of enquiry to an expert in the nail industry (letter to Dr.
Triangular nails have always been specialties. They were used mainly as 'dating nails' - the heads impressed with a number. Sometimes the triangular faces were marked. They would not be a commonly used nail because, no matter how oriented, they will split dry wood. When used as a dating nail they were driven in moist telephone poles or railway ties. They date from the early 1900s and were first made in the U.S. (reply to Wilson and Klimko from Dr. Alan B. Dove, Burlington, Ontario, December 20, 1977; letter on file, Museum of Natural History, Regina, Saskatchewan).

This information is puzzling. A true "dating nail" is indeed represented in the collection (see below) but its shank is square in cross-section. Dr. Dove's statement about splitting of dry wood is informative, however, because these nails otherwise would be classified as box nails. A call to the wider archaeological community in the newsletters of the Society for Historical Archaeology and the Association for Preservation Technology (Priess 1981a, 1981b) for more information elicited no response.

Other wire nails made on wire stock other than round include five with square cross-sections. They have common or box heads and range in length from 41 to 65 mm. One nail shank (IN 04-801932) was made on pentagonal wire stock. While incomplete, it was at one time at least 37 mm long.

Four wire nails on round stock are diamond-pointed at both ends. These are sometimes used to prevent two joined pieces of lumber from sliding laterally against one another and can occur in construction
contexts and in wagon construction (P. J. Priess: personal communication).

A single tiny yellow metal wire nail (IN 04-18272) has a domed head and is likely from a small container such as a jewelry box, or it may have secured some sort of stock plate on a firearm. At the other end of the length spectrum, five very long (between 152 and 161 mm) spikes or bolts made by hand forging or with wire nail manufacture have square shanks and domed heads. They look like bolts but are not threaded.

Three machine-cut nails have distinct fins along one narrow edge from head to tip. Very probably these were mangled in the stamping process to create this effect but one creative suggestion is that they might have been fed from an early nailing gun (G. Adams: personal communication).

Two possible cast nails were recovered. One inventory number 04-1170) is a shank exhibiting a "parting joint" (Nelson 1968) or burr where the liquid metal seeped into the mould joint. This artifact should be re-examined. The other (IN 04-1634) matches the description of a "dating nail" quoted in Dove's letter above. The head is 19 mm in diameter and 2 mm thick; the square shank is 5 mm wide. The top is embossed with a large 13, the digits of which protrude at least 1 mm.

Finally, a wrought nail (IN 04-6753) with a clasp head and a very distinct spatulate tip is 52 mm long and falls into no particular category. A large wrought or cast inverted quadrahedron may not even be a nail. It vaguely resembles a golf tee with squared sides.
Unidentified Tin Can Parts  n=34

Eleven drawn body parts (IN 14-10780, 14-11381, and 14-11520) may be the remains of a small round slip-lidded can. The base is coated with a grey metal, possibly zinc and it measures approximately 76 mm in diameter by 22.2 mm tall. The top edge is raw and a stop-rib where the lid would have come to a rest is molded into the body a little below the edge.

Two corner portions of a grey metal-coated rectangular slip-lid (IN 14-800240) were also recovered. The function of these containers is unknown but they might possibly have contained percussion caps or some other explosive material. Non-ferrous metals do not spark when struck or rubbed. Alternatively, they might have held some sort of corrosive material to which the grey metal coating was resistant. An example might be soldering flux.

Another specimen (IN 14-13120) resembles a hinged lid which would flip over the end of a long tube. A lapped tongue protrudes from one side and has a slit near the end. Beside this slit is a hinge approximately 175 mm long. If this is a hinged cap, it would be awkward to operate as the lip of the lid is 24.5 mm wide.

Twenty fragments of a probable tin can body mend to make a container having two separate interlocked side seams and a raw edge top suitable to accept a slip-lid. The original planview of this object could not be determined.

Unidentified Metal Artifacts  n=123

Most of the unidentified metal parts can be generally described but their function is unknown. They include metal tubes, rods, probable
ornaments, and springs - all doubtless used for something but precisely what is unknown. It is more or less pointless to describe them. The few which will be described here will be limited to reworked metal artifacts.

Four firearm cartridges have been reworked, possibly to serve as tool ferrules. Two of these are shotgun or Snider cartridges which have been unrolled and used for other unknown purposes.

Seven fragments (IN 14-11580) of a plug-in lid over 300 mm in diameter were evidently from a large lid, possibly from a metal drum, which has been reworked. The centre has been deliberately cut around a constant 50 mm from the rim. Perhaps it served as chimney flashing. Its actual re-use remains unknown.

Lastly, a former food can base (IN 14-14530) with a single-seamed end measuring 106.4 mm across the bottom has been reformed. The interlocked side seam has been cut into with tinsnips 35 mm up the side and deliberately cut all the way around (the two ends of the cut do not quite meet). Two horizontal slits have been cut into the side and the body area in between bent outward as if a rod was intended to slide into the slot thus formed. Such an ad hoc device could serve as a dipper or ladle.

10.3.3 Unidentifiable Artifacts

Glass Fragments  n=1,989

Most of these sherds are crumbs of glass exhibiting few attributes other than colour. Without fortuitous linkage to other specimens by mending these are wholly unidentifiable. Of these, only 140 exhibited
any particular planview; the round ones fitting comfortably with container glass, lamp chimneys, or tumbler fragments and the two flat-sided chips belonging to either window glass or angular-planned containers. Most are colourless \( (n=1,209) \) while aqua \( (n=221) \), manganese-tinted \( (n=207) \), green/yellow \( (n=65) \), and unsorted \( (n=287) \) chips made up the balance. About thirty percent \( (n=613) \) of the unidentifiable pieces are heat-altered beyond recognition.

**Unidentifiable Nails**  \( n=3,323 \)

Fifty-four of these are recognizably nails but are too mangled or corroded to classify. At least 19 of these are machine-cut and 14 are wire-drawn but no specific head forms could be recognized. The remaining 3,269 nails in this category are broken shanks. While some could be classified on the basis of general size (i.e. spikes and tacks) the more balanced approach is to leave them unclassified. Six are wrought, 3,231 are machine-cut, and 32 are wire-drawn in manufacture.

**Metal Scraps**  \( n=1,368 \)

The artifacts in this category are more or less only identifiable as to their type of metal stock (i.e. wire, sheet metal, plates, and so on).

All the bits of corroded sheet metal \( (n=941) \) are of a gauge suggestive of tin cans but which could be from any other similar-gauged object (i.e. metal tinware, stove and stove pipe parts, and so on). None were substantial enough to determine the shape of the item of which they were originally part. A small number of these are non-ferrous metal. Two are of a thicker gauge and are vaguely rectangular. They
might be more accurately called plates.

A large number (n=241) of formed metal strips and straps were recovered. Many are probably crate strapping, some are building trim such as weather stripping (they have nail holes), and still others might be sheet metal trimmings although these have been separated and described in Chapter 9.3.1. Four specimens are folded in half lengthwise. They could be calendar tops or seams from containers with cardboard bodies.

Lengths of wire (n=106) were recovered of all different gauges from those of paper clips to pail handles. Wire is a generally useful material around a homestead. Two lengths of brass wire were perhaps used for snaring while other pieces of wire rope and coated wire might have been suitable for a clothesline.

Lastly, 80 pieces of metal are so corroded or fragmentary that not even their mode of manufacture is certain.

Unidentified Substances n=53

Thirty-six fragments of possibly kettle or boiler scale were recovered. They are tabular chunks which are ferrous but look like grey crumbly rock. Usually, one side of a fragment bears traces of rust.

Seventeen tabular chunks of a graphite-like substance were recovered and sent to the Ottawa Conservation Division of the Canadian Parks Service for analysis. All are hard and approximately 5 mm thick. As yet no word has been received back identifying these objects.
Miscellaneous Unclassified Materials  n=51

This catch-all category comprises all scraps of leather (n=12) and rubber (n=7) too small to assign to any particular function. There are also 17 pieces of plastic and celluloid. The materials of 15 more artifacts cannot be ascertained with confidence and are too fragmentary to warrant further examination.
The purpose of this chapter is to present selected elements of the stratigraphy in and around both structural complexes and to assign dates to the major strata using the chronological information presented in Chapters 6 to 10. As was described in Chapter 4.3.2, a layer/event correlation was performed out of which emerged the identification of 193 separate strata. To be discussed here will be only those which can be assigned relatively specific dates, using either the artifact chronological information or a stratum's position above or below another dated stratum. Matrices of lesser consequence, for example ash pockets or post moulds, which cannot be dated specifically will not be addressed. However, the full list of strata in the site is given in Appendix B. It is a list of all layers in the site and the lots excavated in each one. This appendix will be of greatest use in further research at this site but is not essential for this discussion. The stratigraphy of both excavations has been described generally in the preliminary structural summaries compiled after the 1977 and 1978 field seasons (Burley 1980:15-45; Donahue, Hall, and Putt 1978:10-28; Gibson 1977; Hardie 1978). These need not be recapitulated fully here but will be drawn into the discussion as needed.

Profiles will be used only in discussing cellar and other pit fills as those features are the only parts of the site with any vertical depth to speak of. The bulk of the strata are best viewed as laminae of uncertain thicknesses stacked on top of or interleaved among one
another. When reconstructing the site maps from the computer records, field notes, and engineer's drawings (see Chapter 4.3.2), it was found that the vertical depths recorded for each lot were very unreliable. These inaccuracies pose no handicap since it is the relative positioning of the layers which is important in this study. In all cases, the strata will be presented from the surface down to sterile layers.

Figure 11.1 shows a schematic outline of all excavation units from the two field seasons. Each part of the site which has been selected for particular discussion here is marked on that map. Section 11.1 explores the stratigraphy of the Carriere building in a bit more detail than other zones of the site will receive. In that section individual layer maps have been included. Each layer map is loosely based on the drawings made by the engineers during the 1977 and 1978 field seasons and the other kinds of records listed above. Copies of the author's strata maps are on file with the Canadian Parks Service's Winnipeg research lab. Thus, while these will only be included here for one part of the site, all are on file with a public institution. Since the focus is on layers and not lots, the layer maps included here will have the boundaries of particular excavation lots marked in but they will not be labelled. Since each lot has a 12-character identifier, it was felt that labelling each would clutter the figures unnecessarily.

The analytical method used in conjunction with the layer maps was to create seriation graphs. When reproduced here, these will take the form of an X-axis calibrated in years with bars indicating the time spans of those artifacts found in each key stratum which are of greatest use in assigning specific dates to that stratum. The type of artifact represented by the bar appears beside each as well as the quantity.
Figure 11.1. Schematic map of excavations at the Letendre site, 1977 and 1978. Based on Donahue, Hall, and Putt (1978:Figure 8) and Burley (1980:Figure 9).
This seriation was performed using only presence and absence of dated artifacts; the relative quantities of dated artifacts will be used in the estimation of a layer's age only in the section which addresses the midden deposits.

As may be seen in the preceding chapters, not all artifacts have useful date ranges. Of the 97,000 artifacts recovered, about 7,000 (not counting nails) have dates finer than that of the entire occupation span of the site. Clearly, certain dates will be more useful than others. For that reason nails take little part in this exercise because it was found that, generally, the presence of machine-cut or wire nails in a given stratum was not especially informative even though the interface between these two technologies is roughly 1890.

By way of illustration, the Carriere building, described first, will be examined in greater detail using distribution maps and detailed seriation graphs to show the sorts of results which can be obtained with this method and type of assemblage. This will also serve as a general model of the stratigraphy at the other structures since all have sod, demolition, and living floor areas. A detailed graphical presentation of one structure will obviate a recapitulation of other similar structures. Thereafter, the structural and stratigraphic areas of interest will be analyzed by reference to tables listing the strata and the temporally relevant artifacts which were excavated from them.
11.1 The Carriere Building

11.1.1 Surface Layers

The Carriere building is situated at the south end of the site (Figure 11.1a). Figure 11.2 shows the extent of the 1976 excavations. The artifacts recovered in that year have not been included in this analysis because the field notes are too sketchy to determine where the trenches were placed or how deeply they penetrated. The trenches shown in Figure 11.2 were re-opened in 1977, formally mapped, and the fill screened. A rather large number of artifacts (n=1,475) was recovered. Figure 11.3a graphs the date ranges of the more significant artifacts from those trenches. As may be seen in that graph, artifacts spanning 1845 to 1953 are mixed together in the 1976 trench fill. Thus, the relatively uncontrolled excavations in that year may have bit deeply into older deposits. If so, they are better viewed as sources of disturbance than sources of artifact recovery.

On the other hand, the artifacts from the 1976 excavations may be viewed as contemporaneous with those from the sod layer on the site. Figure 11.3b graphs the temporally significant artifacts recovered from those sod units which were screened. Figure 11.4 is a planview of the extent of the sod units. The lighter-shaded units in that figure are those which were not screened. According to Gibson's field notes, the practice was taking up too much field time and was abandoned midway through the season. An examination of the artifacts graphed in Figure 11.3b shows that a broad temporal range is to be found among the artifacts in the sod layer, from 1855 to the present. This is somewhat
Figure 11.2. The extent of the 1976 excavations re-exposed in 1977. Based on maps prepared by Canadian Parks Service engineers.
Figure 11.3. Seriation graphs of artifacts recovered from the upper Carriere layers. 1976 trenches (a), sod (b), plaster demolition layer (c), bark and wood demolition layer (d).
Figure 11.4. Map of the sod units, screened and unscreened, at the Carriere structure.
puzzling as the layers found deeper in the site show reasonably narrow date ranges. There is little indication that the site was deeply penetrated by ploughing. It is therefore difficult to account for the broad time range exhibited by the sod artifacts. The explanation favoured here is that cultural layers away from the building tend to be shallower than those inside its outlines. Ploughing the areas away from the building would mix older and younger artifacts together more readily than would be the case within the structure's outlines. Indeed, very old artifacts have been found in this layer. The principal investigator found the Scottsbluff-Eden shoulder and stem fragment described in Chapter 10.2 somewhere on the surface of the site.

11.1.2 The Demolition Layers

In Figure 11.5 may be seen the extent of the plaster and bark layers which were left by the demolition of the building. The southwest room of the Carriere building was evidently internally plastered while the northeast room was a simple log structure. There is no indication, in either the historic photographs or in the site, that either structure was covered by an external mud plaster coating. In Figure 11.5 both the plaster rubble and the bark and wood debris zones are cross-cut by trenches which were dug before these layers were identified and excavated as separate entities. The trench in the northeast room is a deep test trench dug in search of the sill beams of the structure. The artifacts from that trench are of mixed time periods and will not be discussed further. The trench in the southwest room was dug into the cellar of that room. The strata found in that trench will be discussed
Figure 11.5. Map of the plaster and bark demolition layers at the Carriere structure. Based on maps prepared by Canadian Parks Service engineers.
later on.

The graphs of the chronologically significant artifacts for both demolition layers are shown in Figure 11.3c,d. As one might expect, there are relatively few datable artifacts from either of these layers. Since they are the debris of demolition rather than strata from living floors, one would not expect a high artifact yield, other than those of an architectural function. It is puzzling in that respect that there are remarkably few nails in the assemblages from either stratum.

Demolition layers are not living floors and, as such, it may be expected that artifacts, other than architectural ones, became incorporated in the debris in one of three ways. First, artifacts pre-dating the demolition event may have been enveloped by the falling debris. During excavation, these would be difficult to distinguish stratigraphically. Second, artifacts post-dating the demolition may have been deposited shortly thereafter while the debris was still exposed on the ground surface. As time goes by, aeolian accumulation and plant growth will cover the debris and create a stratigraphic separation or, at least, inhibit younger artifacts from percolating in among the demolition remains. The last way artifacts not dating to the demolition event itself can be incorporated in the debris is by imperfect separation of the strata above and below the demolition layers during excavation. This is always a possible factor but the degree of mixing by this means is expected to be minimal.

The point of the foregoing discussion is to clarify precisely what is being dated by examining the date ranges of the artifacts from the demolition layers. It may be expected that artifacts older than the date of the demolition will be present. It is also expected that
artifacts dating to the time of the demolition or shortly thereafter will also be present but it is less likely that artifacts dating years after the event will be found among the debris.

The artifact dates graphed in Figure 11.3 tend to support these expectations. First, in comparing the sod layer (Figure 11.3b) with the demolition layers (Figure 11.3c,d), artifacts post-dating 1953 (i.e. those marked with the Dominion Glass progressive date code) are found only in the sod, suggesting the demolition took place prior to 1953 and the debris had time to become overgrown before these sherds were deposited.

The plaster demolition layer covering the southwest room contains artifacts (Figure 11.3c) pre-dating the 1920s (i.e. the turn-moulded glass and tin can fragments). It also contains a beer bottle manufactured in 1946. It is concluded that the pre-1920s artifacts were incorporated in the debris from the deposit below. In particular, these probably were excavated with the demolition layer from those areas immediately outside the southwest room's boundaries (in later sections it will be shown that the clay layer immediately beneath this demolition layer inside the room was laid down in the early 1940s). The presence of the 1946 bottle suggests the demolition of this room took place shortly before or after 1946.

The artifacts from the bark and organic demolition layer of the northeast room (Figure 11.3d) also date, in some cases, before the 1940s. However, the presence of the baking powder slip-lid and the Dominion Glass flask base suggest a demolition date of around 1938-1941 or shortly thereafter.
11.1.3 Immediate Pre-Demolition Living Floors

Beneath the demolition layer in the southwest room was a clay layer the extent of which is shown in Figure 11.6. This layer was strictly confined to the interior of the southwest room, according to Gibson's notes. This, coupled with the fact that it is the layer immediately below the demolition layer compels one to conclude that it was laid down while the building was still standing. Therefore, artifacts associated with it ought to have been the last ones deposited in the southwest room before the demolition took place. In Figure 11.6 a portion of this layer lying within the central cellar test trench has been included to show that this layer capped the fill which was placed into the cellar hole (to be discussed later). Although the presence of the cellar hole necessarily implies a floor in this room, no floorboard remains were found either above or below this clay layer. Since clay makes good flooring when compacted, it is proposed that the layer was probably laid down deliberately for this purpose rather than as some sort of fill.

The equivalent layer in the northeast room is a brown A-horizon. The exact texture and makeup of this stratum are not detailed in the field notes nor have any soil samples collected from Batoche been analyzed. The brown A is ubiquitous in and around the Carriere structure with the important exception of the southwest room. Beneath the brown A (and, in the southwest room, beneath the clay layer) is a black A-horizon. The black A is considered the original ground surface; the brown A above it is considered to be of the same material but differing in colour due to cultural activity which has churned it up.
Figure 11.6. Extent of the most recent living floors in the Carriere rooms. Based on maps prepared by Canadian Parks Service engineers.
The portion of the brown A-horizon shown in Figure 11.6 is only that which lies within the bounds of the northeast room. It has been segregated from the rest of the brown A-horizon in order to examine the temporally significant artifacts recovered from it so as to find out when this part of the Carrière building might have been demolished. No traces of flooring were found during the excavation of this structure.

The dated artifacts recovered from the southwest room clay layer are graphed in Figure 11.7a and those from the brown A-horizon in the northeast room are graphed in Figure 11.7b. Chronological information from both groupings of artifacts is meagre. The only artifact with a narrow date range is the tin can with the lapped side seam and double end seams found in the clay layer. Ostensibly, this artifact was deposited during the Mounted Police occupation. However, it will be shown in subsequent discussion that the cellar fill beneath the clay layer dates to the 1940s and 1950s; therefore, the can is intrusive from an earlier occupation. The author concludes that the early artifacts from the clay layer probably adhered to the underside of the clay pad and more appropriately belong with the black A horizon beneath. The dates obtained from the brown A-horizon in the northeast room are even less useful for dating the demolition event. There is no artifact with a terminus ante quem which would enable the time when this room was demolished to be estimated.

Examined from another point of view, however, the dates of these two layers clarify another issue. The date ranges can be interpreted as indicating the building definitely stood vacant between the police abandonment and their subsequent occupation in the 1940s. If one looks at the beginning dates of the artifacts in Figure 11.7a,b, not a single
Figure 11.7. Seriation graphs of artifacts from sundry strata at the Carriere structure. Clay floor (a); brown A living floor (b); refuse zones, central trench (c); outside brown A (d).
item post-dates 1906 when the last historically documented occupants left the site. If any squatters occupied the Carriere buildings between 1906 and the 1940s, they surely would have left some datable indication of their presence.

11.1.4 Southwest Room Cellar Fill

Figure 11.8 shows the profile of the cellar hole in the southwest room. In the field, this profile was drawn after the sod, the demolition plaster layer, and most of the clay layer had been removed. The clay fill which is the uppermost stratum of the profile is the remnant of the broad clay layer covering the rest of the room.

The structural features of the cellar hole have been reported in Donahue, Hall, and Putt (1978:22). As they note, the two refuse fill layers below the clay layer are recent. However, neither the 1958 ceramic item nor the piano sounding board they report are currently inventoried in the assemblage. The piano sounding board is clearly visible in field photographs and is housed in the Winnipeg lab (albeit marked with a provenience indicating it came from the Letendre store excavations) but this author was never able to trace it to any particular record in the database.

The two refuse layers differ in matrix but apparently not in age. Therefore, the datable artifacts from both have been combined and are graphed in Figure 11.7c. The lower of the two layers has a plaster rubble matrix while the upper layer is reddish and consists mostly of trash thrown into the hole to fill it up. Gibson concluded that the lower layer consisted of sweepings from the floor of the southwest room.
Figure 11.8. Profile of the trench through the cellar, southwest room, Carriere structure. Reprinted from Donahue, Hall, and Putt (1978:Figure 13).
As can be seen in the graph of artifact dates, there are some early artifacts (the Ivy-patterned ceramic sherd belongs to the lower layer) in these fill layers. Gibson's hypothesis of sweepings would explain the presence of these earlier artifacts. However, the newspaper fragment and the Dominion Glass mark indicate unequivocally that the fill was placed in the hole some time after 1941 but before 1944, the terminus post quem of the Alouette tobacco can. This result is consistent with the later 1946 deposition of the the Dominion Glass bottle in or under the plaster demolition layer discussed earlier in Section 11.1.2.

There are two ramifications of this. First, the southwest room must still have been standing in 1941 (which affirms the interpretation of the date from the bottle just mentioned). Second, the presence of the plaster in the lower refuse layer can be explained if the building was re-occupied after a period of disuse during which some of the plaster dropped off the walls. The artifacts found in the brown A-horizon surrounding the the structure (exclusive of the room interiors) reinforce this conclusion. The graph of selected artifact dates for this stratum is shown in Figure 11.7d. Artifacts from all time periods of the site's occupation were recovered. The most recent artifact, a beer bottle manufactured in 1942, indicates occupation in that year.

These implications support the claim by Mrs. Justine Caron Nogier that she lived in the vicinity around 1940 (see Chapter 3.7), perhaps as a squatter, and then from 1943 until 1950 as the wife of Clovis Nogier. As far as can be ascertained from the historical records (and reinforced by the absence of post-1906 artifacts in the clay and brown A room
interior layers, as has been shown), the Letendre site stood derelict after 1906 when the Mounted Police abandoned it. It is possible that in the intervening years the floorboards became rotten and that it was more expedient and cheaper to fill in the cellar hole in order to render the place habitable.

Since Mrs. Nogier's claim to occupancy of the site is borne out by the artifact record, there is every reason to accept the rest of her statement, that is, the couple lived there until 1950 when Clovis Nogier retired. If the Nogiers lived in this part of the Carriere structure until 1950, it may be safely affirmed that the building still standing in the 1948 photograph (Figure 3.6) is this southwest room, as was proposed in Chapter 3.7. The fate of the northeast room remains unknown but by 1948 it had clearly been torn down, according to that photograph. In sum, not only did the Carriere building remain standing in 1917 when the Letendre residence was dismantled, but both halves of the Carriere building were demolished at different times, the northeast section being the first to go some time between 1938 and 1948. Possibly it was demolished at the same time as the southwest room was refurbished but this cannot be ascertained.

It is worthwhile to point out that the extreme ends of the test trench penetrate deep into the B and C horizons. Thirteen specimens of the prehistoric lithics in the collection were recovered from the C-horizon zones at either end of the trench. As was mentioned earlier, the vertical control of the excavation lots was imperfect, so it is possible that these came from higher up in the B-horizon. Whatever the case, their presence well below the living floors of the known historical occupants supports the idea that a buried prehistoric
component lies below that of the historic components. None of the lithics recovered from these units are diagnostic artifacts.

11.1.5 The Black A-Horizons Inside Both Rooms

In both rooms the bottom cultural layers consist of a black A-horizon. As mentioned earlier, this material is probably the parent material for the brown A-horizon although it is less culturally-modified than the latter. It is considered the original ground surface which the historic inhabitants occupied. These ideas are supported by the fact that there is no brown A-horizon in the southwest room where floorboards were present.

In both rooms this stratum extends to the the limits of the foundations or sills. Thus, they each lie directly beneath the strata mapped in Figure 11.6 and need not be repeated in a figure. Likewise, the temporally significant artifact yields from each room are not diverse enough to warrant graphing.

The black A-horizon lies beneath the clay layer in the southwest room in all parts but the cellar hole. Temporally significant artifacts from this stratum consist of single sherds each of the Copeland Ivy ceramic pattern (produced from 1845 to 1865) and the Continental Views or Louis Quatorze pattern (produced from 1844 to 1882), two .45-70 U.S. Government rifle cartridges, and a lone double seam tin can. There is reason to believe (based on inconsistencies in the artifact recording) that the rifle cartridges were incorrectly inventoried in this unit. The only artifacts from the northeast room which have relatively narrow date ranges are four turn-moulded glass sherds which would date between
about 1870 and 1920. None of these dates are of use in determining when either part of the Carriere building was erected.

11.1.6 Strata Surrounding the Structure

The remaining strata to be discussed in connection with the Carriere building proper consist of the broader extents of the brown A-horizon and black A-horizon. Both are distributed ubiquitously in almost all excavation units surrounding the two rooms which have been discussed so far. As such, their extent can be seen in Figure 11.6 if one looks at the unshaded areas within the boundaries of the excavation.

As proved to be the case inside the northeast room, the brown A-horizon elsewhere around the building contains artifacts used by all occupants of the building. The graph of the temporally significant artifacts from the brown A-horizon is Figure 11.7d. In many ways, this graph illustrates better than the previous ones the accumulation through time of the deposits left by the building’s various inhabitants. The earliest artifact from this stratum is actually not shown in Figure 11.7d; it is the Avonlea projectile point described in Chapter 10.2.

The earliest packaging artifacts appear in this stratum with the Rickett-moulded liquor bottle sherds. The Letendre presence in the 1880s is indicated by the Ridgeways daisy-patterned ceramic sherds. The 1885 Uprising is represented by two Snider .577 cartridges. A button from a North-West Mounted Police uniform was found in this stratum. Finally, the most specific date, 1942, from the Nogler period, is found on a beer bottle base. The larger number of datable artifacts is a function of the large sample size. A total of 6,592 artifacts were
recovered from the brown A-horizon, about half of which can be assigned dates but most of which are of little utility for precise dating (the total includes 2,255 nails).

As was surmised earlier, the black A-horizon is probably a less disturbed version of the brown A. The artifacts recovered from this deposit in the general vicinity of the building do not really differ in any respect from those found in the brown A-horizon. All the firearm cartridge styles found in the brown A-horizon are also found in the black A material. Even the prehistoric projectile point from the brown A-horizon has a companion in the black A matrix, in this case the Firstview projectile point mentioned in Chapter 10.2.

Overall, the artifacts recovered from certain strata in the Carriere structure have been helpful in ascertaining when it was demolished. They have not clarified when the building was erected although some artifacts, notably the Ivy ceramic sherds and the Rickett-moulded glass bottles, have an antiquity which points to an early date for this construction. While it cannot be stated unequivocally that the Carriere building was the first erected at the site, this cannot be ruled out either. The structure could still turn out to be Letendre's first house and/or store.

11.2 The Unidentified Structure Between the Buildings

It was pointed out in Chapter 3.4 that the 1886 Winnipeg Sun sketch depicts a low structure located between Letendre's house and the Carriere building. This building appears to have been removed very shortly after the sketch was made, judging by later photographs. The
1978 test trenches revealed a rectangular pit feature in about the same location south of the main house (see Figure 11.1b). This pit was about 1.3 m deep and had been deliberately filled in at some point in the past; no depression betraying its presence was visible on the surface. Hardie concluded at the time that this feature was an ice house rather than a cellar from a building since he found no evidence for sill beams or foundations. A sparse artifact recovery from the pit and a scatter of wood and birch bark supported this conclusion (Burley 1980:23-25).

Approximately two metres southeast of this pit, a clay pad was also discovered in the test trenches. This proved to be a shallow, elongated pit having associated with it a small wooden post and artifacts including nails, ceramics, and faunal remains. No particular function was assigned to this feature (Burley 1980:25).

This combination of cellar pit and a shallow pit containing refuse is a pattern consistent with that of an hivernant Métis dwelling. Excavations of hivernant sites (Burley, Horsfall, and Brandon 1988; Elliott 1971) have found that these structures almost always have small refuse pits both inside and outside the structures, which were used until full and then covered over. It is believed by this author that these two features are probably the remains of the low unidentified building and that this structure was one of the earliest buildings erected at the site, based on the apparent hivernant structural style.

The strata and dated artifacts from these features are presented in Table 11.1. Of greatest interest are the three different Copeland ceramic sherds found at the bottom of the larger pit. The important point is that all three sherds are of different patterns and that these
Table 11.1. Strata and key artifacts from the unidentified building.

<table>
<thead>
<tr>
<th>FEATURE AND STRATA</th>
<th>ARTIFACT TYPE AND QUANTITY</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PIT FEATURE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sod and Upper Plough Zone</td>
<td>Continental Views/Louis Quatorze ceramic (n=1)</td>
<td>1844 - 1882</td>
</tr>
<tr>
<td></td>
<td>W.R.A. Co. .45-75 WCF cartridge (n=1)</td>
<td>1876 - 1935</td>
</tr>
<tr>
<td></td>
<td>W.R.A. Co. .38 Short Colt cartridge (n=1)</td>
<td>1876 - 1940</td>
</tr>
<tr>
<td></td>
<td>D.C. Co. .455 Enfield cartridge (n=1)</td>
<td>1897 - 1942</td>
</tr>
<tr>
<td></td>
<td>Kynoch 12-gauge shotgun shell (n=1)</td>
<td>post-1862</td>
</tr>
<tr>
<td></td>
<td>tin can with double end seams (n=1)</td>
<td>post-1920</td>
</tr>
<tr>
<td>Lower Plough Zone and Original Ground Surface</td>
<td>W.R.A. Co. .38 Long cartridge (n=1)</td>
<td>1875 - 1900</td>
</tr>
<tr>
<td>Plough Zone and Top of Fill</td>
<td>hole-in-top tin can - Crosse &amp; Blackwell (n=1)</td>
<td>1847 - 1920</td>
</tr>
<tr>
<td></td>
<td>tin can, possibly with double seams (n=6)</td>
<td>post-1920</td>
</tr>
<tr>
<td></td>
<td>MacDonald &quot;heart&quot; tobacco seal (n=1)</td>
<td>ca. 1870's</td>
</tr>
<tr>
<td><strong>Pit Fill</strong></td>
<td>no diagnostic artifacts</td>
<td></td>
</tr>
<tr>
<td><strong>Pit Floor</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>bone button (n=1)</td>
<td>1820 - 1890</td>
</tr>
<tr>
<td></td>
<td>B700 ceramic pattern (n=1)</td>
<td>1838 - 1847</td>
</tr>
<tr>
<td></td>
<td>Ivy ceramic pattern (n=1)</td>
<td>1845 - 1865</td>
</tr>
<tr>
<td></td>
<td>Grapevine ceramic pattern (n=1)</td>
<td>post-1847</td>
</tr>
<tr>
<td><strong>CLAY PAD</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Plough Zone and Original Ground Surface</td>
<td>Strawberry ceramic pattern (n=1)</td>
<td>1852 - 1900</td>
</tr>
<tr>
<td></td>
<td>D.C. Co. .455 Enfield cartridge (n=1)</td>
<td>1897 - 1942</td>
</tr>
<tr>
<td><strong>Upper Pit Fill</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>bone button (n=1)</td>
<td>ca. 1820 - 1890</td>
</tr>
<tr>
<td></td>
<td>shell button (n=1)</td>
<td>ca. 1826 - 1882</td>
</tr>
<tr>
<td></td>
<td>jet button (n=1)</td>
<td>post-1880</td>
</tr>
<tr>
<td><strong>Lower Pit Fill</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>bone button (n=1)</td>
<td>ca. 1820 - 1890</td>
</tr>
<tr>
<td></td>
<td>shell buttons (n=2)</td>
<td>ca. 1826 - 1882</td>
</tr>
<tr>
<td></td>
<td>Perry Davis medicine bottle sherd (n=1)</td>
<td>post-1854</td>
</tr>
</tbody>
</table>
patterns are the earliest ceramic types in the collection. This diversity increases if one considers also the Continental Views/Louis Quatorze sherd found in the uppermost stratum and the Strawberry-patterned sherd found in the clay pad feature. The date range for the cellar floor deposits would be 1845 to 1865 based on these sherds. Since ceramic pattern registration dates tend to lag behind deposition dates, the true age of this deposit is felt to be somewhat later than the 1860s.

The upper levels of the pit feature are a mix of plough zone soil and, if this is the interior of a structure, the original living floor of the building. As such, the strata are mixed; this can be seen by the presence of artifacts post-dating the apparent removal of the building in about 1886, especially the tin can with double seams. Depending on whether or not one includes the more recent artifacts the range of dates for these strata is either 1862 to 1920 or 1876 to 1897. The dates from the strata associated with the clay pad suggest they were laid down between 1854 and the early 1880s, if one assumes that the Enfield cartridge drifted in as a result of the ploughing.

It is concluded that this feature is most probably the remains of the unidentified structure in the Sun sketch. This structure was one of the earliest buildings put up at the site, if not the first. Choosing between this building and the Carriere building there are now three (if one counts each room of the Carriere structure separately) possible candidates for Letendre's first house and store. Future excavations at this site should focus on the deposits surrounding these pit features to see if a building's outlines can be discovered.
11.3 The Letendre Residential Complex

There is little which needs to be added to the known structural evolution of the Letendre house (see Burley 1980:15-45). The broad examination of the stratigraphy associated with certain sections of the house complex will enable the relative intactness of the deposits to be assessed. For purposes of this discussion a planview showing the major structural remains of the complex is provided in Figure 11.9. The summer kitchen, the kitchen annex, and the main residence are indicated in Figure 11.1 as c, d, and e respectively.

11.3.1 The Summer Kitchen

The log structure visible to the south of the main house in some of the historic photographs is believed to be a summer kitchen. This was a common structure in the area; the Batoche rectory, for example, had one at its rear. This structure is potentially the most interesting of all the parts of the Letendre residence because it lacked flooring, unlike the other parts of the residential complex. The dirt floor acted as an artifact trap, so it is the only part of the residence where internal activity areas can potentially be examined.

In 1978 this structure was fully excavated and the remains of footing stones and sills but no floorboards or joists were uncovered. The structural remains to be seen in Figure 11.9 show five footing stones. The sixth in the southeast corner is missing. Hardie believed this was an indication of disturbance by ploughing but that the strata were not otherwise seriously disturbed (Burley 1980:41-42). The extent
Figure 11.9. Excavated features at the Letendre house. Reprinted from Burley (1980:Figure 15).
of ploughing over this structural area can be seen in the 1948 photograph (Figure 3.6). The stratigraphy of this structural area consists of sod, a layer of demolition debris immediately below and, at the bottom, the structural members and a living floor which is a mottled mix of black loam, bright yellow sand, and patches of clay.

The sod layer contains artifacts of all vintages but in lesser quantities than those of the demolition layer below. The demolition rubble consists mainly of plaster chunks and wood debris. This material is no different from the rest of the demolition debris surrounding the Letendre residence. It is concluded that the plaster in the matrix of this layer probably came from the main residence rather than from the log structure itself.

The majority of artifacts from this structure occur in this layer and range from the Letendre occupation to extremely recent times. A selection of these is listed in Table 11.2 just to illustrate this point although many more (n=912; excluding the nails) of the artifacts from this stratum are datable. The post-1960s artifacts listed in Table 11.2 are considered anomalous, for the rest of the dated artifacts, both those listed and others, solidly date to the Letendre and Mounted Police occupations.

The interpretation of this is that the ploughing did more damage than Hardie supposed. Clearly, the demolition layer ought to lie separately above artifacts of this vintage yet they are all mixed together. Therefore, it is concluded that the ploughing penetrated both the original demolition layer and the upper part of the occupation layer, mixing them thoroughly. The part of the occupation layer remaining intact has been described above but the artifacts from it
Table 11.2. Dated artifacts from the demolition layer of the summer kitchen.

<table>
<thead>
<tr>
<th>ARTIFACT TYPE AND QUANTITY</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Makaw/Pagoda ceramic pattern (n=3; in blue)</td>
<td>1838 - 1872</td>
</tr>
<tr>
<td>Grapevine ceramic pattern (n=2)</td>
<td>post-1847</td>
</tr>
<tr>
<td>Perry Davis Vegetable Pain Killer sherds (n=3)</td>
<td>post-1854</td>
</tr>
<tr>
<td>MacDonald's heart-shaped tobacco seals (n=5)</td>
<td>ca. 1870's</td>
</tr>
<tr>
<td>paint can with cap-on base (n=1)</td>
<td>1880 - 1906</td>
</tr>
<tr>
<td>Snider .577 cartridge (n=1)</td>
<td>1885</td>
</tr>
<tr>
<td>J. &amp; G. Meakin ceramic sherd (n=1)</td>
<td>post-1890</td>
</tr>
<tr>
<td>Dominion Cartridge Co. .455 Enfield cartridge (n=1)</td>
<td>1897 - 1906</td>
</tr>
<tr>
<td>Henry K. Wampole bottle sherd (n=1)</td>
<td>1900 - 1950</td>
</tr>
<tr>
<td>soft drink bottle marked ROOT (n=44)</td>
<td>1901 - 1912</td>
</tr>
<tr>
<td>crown bottle caps with cork or no liners (n=4)</td>
<td>ca. 1901 - 1960</td>
</tr>
<tr>
<td>Gillett's Lye slip-lids (n=2)</td>
<td>1904 - 1933</td>
</tr>
<tr>
<td>crown bottle cap with plastisol liner (n=1)</td>
<td>post-1960</td>
</tr>
<tr>
<td>beer bottle heel with the Dominion Glass D within D logo</td>
<td>post-1970</td>
</tr>
</tbody>
</table>
cannot be considered a complete sample of the material left behind by the occupants of the house.

The bright yellow sand and clay patches of the bottom layer which is considered the intact occupation level are probably the remnants of the mud plaster known to have been applied to the outside walls as well as some chinking material. There are some dated artifacts from this layer which, as one might expect, show the living floor was used by both the Letendre family and the Mounted Police. The earliest artifacts include ceramic sherds bearing the Strawberry (1852-1900) and Makaw/Pagoda (in red; 1838-1872) patterns and later artifacts include a North-West Mounted Police uniform button.

While it seems the ploughing seriously mixed up the upper half of the stratigraphy, the dates of the artifacts from the undisturbed lower layers point to the fact that these would have been mixed normally through successive use of the building by the Letendres and the Mounted Police. For purposes of future analysis, all strata from the surface to the bottom may be considered one homogenous layer of mixed cultural components, albeit the processes of mixing have varied in time.

11.3.2 The Main Residence and Kitchen Annex

Both the main part of the house and its kitchen annex had cellars (Figure 11.9). Because the flooring over top of these prevented artifacts from falling into the soil, the recovery from the occupation layers was very sparse. However, large numbers of artifacts were recovered from both feature interiors, almost all from fill deposits. The profiles of both cellars are reproduced in Figure 11.10. Since the
Figure 11.10. Profile of cellar features, Letendre residence. Main house (a), kitchen annex (b). Reprinted from Burley 1980: Figure 14.
discussion so far has progressed from south to north across the site, the kitchen annex will be discussed first.

The Kitchen Annex Deposits

The kitchen annex fill is a uniform mix of loams and clays with some plaster chunks mixed in, virtually from the top to the bottom (Figure 11.10b; Burley 1980:32-38). Strikingly absent from the strata of this feature is the separate demolition layer found everywhere else around the residence. Because plaster is mixed in with the soils of the annex fill, it is concluded that the cellar hole was filled in at a later date using soil from the immediate vicinity of the hole.

Because the fill was excavated in arbitrary levels, it is possible to segregate artifacts at the top from those at the bottom. Each excavated level yielded artifacts whose dates span the entire occupation of the site. This can be seen from the date ranges of the artifacts selected for inclusion in Table 11.3. As indicated in that table, not even the lowest level of the cellar is totally free of artifacts post-dating 1906 when the Mounted Police left and after which the building was demolished. Artifacts which cross-mend with sherds from other stratigraphic contexts are marked with an asterisk in Table 11.3. The two Streator Bottle & Glass Co. beer bottle base sherds are widely separated vertically but mend. The Wampole sherds mend with the one mentioned in the earlier discussion of the kitchen annex stratigraphy. The food bottle finish mends with a fragment in an area west of the residence. These cross-mends not only confirm the homogeneity of the fill but also suggest the places around the annex cellar from which the fill might have been obtained. Because many of the artifacts date
Table 11.3. Summary of artifacts and their dates from the kitchen annex strata.

<table>
<thead>
<tr>
<th>STRATA</th>
<th>ARTIFACT TYPE AND QUANTITY</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sod</td>
<td>Borden’s Eagle brand condensed milk (n=2)</td>
<td>post-1899</td>
</tr>
<tr>
<td></td>
<td>Owen’s machine made glass container (n=1)</td>
<td>1904 - 1950</td>
</tr>
<tr>
<td></td>
<td>tin cans with double seams (n=4)</td>
<td>post-1920</td>
</tr>
<tr>
<td></td>
<td>Walt Disney’s &quot;Bashful&quot; plastic charm (n=1)</td>
<td>post-1938</td>
</tr>
<tr>
<td>Upper Fill</td>
<td>manganese-tinted glass (n=6)</td>
<td>pre-1914</td>
</tr>
<tr>
<td></td>
<td>* food bottle finish; mould-blown hand-finished</td>
<td>pre-1920</td>
</tr>
<tr>
<td></td>
<td>* Streator Bottle &amp; Glass Co. beer bottle sherds (n=1)</td>
<td>1881 - 1905</td>
</tr>
<tr>
<td></td>
<td>* Henry K. Wampole bottle sherds (n=3)</td>
<td>1900 - 1950</td>
</tr>
<tr>
<td></td>
<td>Libby, McNeil, &amp; Libby container sherds (n=4)</td>
<td>1922 - 1940</td>
</tr>
<tr>
<td></td>
<td>Dominion Glass, Owen’s machine-made container (n=5)</td>
<td>1928 - 1950</td>
</tr>
<tr>
<td>Lower Fill</td>
<td>Derbyshire stoneware bottle sherds (n=1)</td>
<td>ca. 1800 - 1880</td>
</tr>
<tr>
<td></td>
<td>Rickett’s moulded small bottle sherds (n=4)</td>
<td>ca. 1880 - 1920</td>
</tr>
<tr>
<td></td>
<td>Wilkinson mark on ceramic sherd (n=1)</td>
<td>1896 - 1947</td>
</tr>
<tr>
<td></td>
<td>Myott &amp; Sons mark on ceramic sherd (n=1)</td>
<td>post-1898</td>
</tr>
<tr>
<td></td>
<td>tin can fragments with double seams (n=28)</td>
<td>post-1920</td>
</tr>
<tr>
<td>Eastern Cellar Fill and Matrix From Cribbing</td>
<td>Crosse &amp; Blackwell capsule with &quot;Her Majesty&quot; (n=1)</td>
<td>1855 - 1900</td>
</tr>
<tr>
<td></td>
<td>manganese-tinted Nova Scotia Diamond tumblers (n=1)</td>
<td>pre-1914</td>
</tr>
<tr>
<td></td>
<td>W.R.A. Co. .45-75 WCF cartridge (n=1)</td>
<td>1876 - 1935</td>
</tr>
<tr>
<td></td>
<td>Fry’s cocoa can lid with &quot;His Majesty&quot; (n=1)</td>
<td>1900 - 1953</td>
</tr>
<tr>
<td></td>
<td>Alfred Meaki mark in script on a ceramic sherd (n=3)</td>
<td>post-1930</td>
</tr>
<tr>
<td>Occupation Floor</td>
<td>hole-in-top food cans (n=5)</td>
<td>pre-1920</td>
</tr>
<tr>
<td></td>
<td>* Streator Bottle &amp; Glass Co. beer bottle sherds (n=1)</td>
<td>1881-1905</td>
</tr>
<tr>
<td></td>
<td>Peerless whiskey lead capsule (n=1)</td>
<td>post-1883</td>
</tr>
<tr>
<td></td>
<td>ceramic sherd marked Wood &amp; Sons (n=1)</td>
<td>post-1910</td>
</tr>
</tbody>
</table>

* denotes the sherd cross-mends with a sherd from another lot
beyond 1917 when the structure was demolished but pre-date the 1940s and 1950s, it is concluded this cellar was probably filled in by the Nogiers, possibly because it presented a hazard to children or to ploughing nearby.

The Main Residence Deposits

As may be seen in Figure 11.10b, the stratigraphy of the main house cellar is more complex than that of the kitchen annex cellar. Selected artifacts which can be dated are listed along with the strata from this pit in Table 11.4.

Artifacts were collected from the surface of this feature. While some of the artifacts listed in Table 11.4 have early dates, others are recent and probably post-date the occupancy of the site by the Nogier family. The best explanation is that these were among the trash deposited by local residents in the Batoche district and were missed by the Parks Canada staff when they cleaned out these depressions (see Chapter 3.7).

The sod and the underlying clay and sand fill have much the same temporal profile as do the arbitrary levels in the annex cellar; that is, artifacts can be associated with all known occupants of the site in these layers. They were probably added to the fill by the Nogiers.

Below these layers is a plaster and mottled clay layer. The artifacts from this are either older than or contemporaneous with the known date of the structure's demolition. Thus, this layer caps deposits laid down during either the Mounted Police or Letendre occupations. These are limited to the southern third of the cellar. In Figure 11.10a, two deposits are identified: the black loam and light
Table 11.4. Summary of artifacts and their dates from the main house cellar strata.

<table>
<thead>
<tr>
<th>STRATA</th>
<th>ARTIFACT TYPE AND QUANTITY</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Material</td>
<td>Ivy patterned ceramic sherd (n=1)</td>
<td>1845 - 1865</td>
</tr>
<tr>
<td></td>
<td>tin cans with double end seams (n=2)</td>
<td>post-1920</td>
</tr>
<tr>
<td></td>
<td>Javex bleach bottle fragments (n=11)</td>
<td>post-1938</td>
</tr>
<tr>
<td></td>
<td>Spork keystrip tin can (n=1)</td>
<td>post-1941</td>
</tr>
<tr>
<td></td>
<td>Dominion Glass marks; progressive box date coding</td>
<td>post-1953</td>
</tr>
<tr>
<td>Sod and Upper Fill</td>
<td>turn-moulded bottle sherds (n=136)</td>
<td>ca. 1870 - 1920</td>
</tr>
<tr>
<td></td>
<td>Snider .577 cartridge (n=1)</td>
<td>1885</td>
</tr>
<tr>
<td></td>
<td>French's mustard jar sherds (n=4)</td>
<td>post-1939</td>
</tr>
<tr>
<td></td>
<td>Dominion Glass progressive box date coded (n=1)</td>
<td>post-1953</td>
</tr>
<tr>
<td>Clay and Sand Fill</td>
<td>MacDonald &quot;heart&quot; tobacco seal (n=1)</td>
<td>1870's</td>
</tr>
<tr>
<td></td>
<td>N.W.M.P. uniform button (n=1)</td>
<td>1895 - 1906</td>
</tr>
<tr>
<td></td>
<td>Owen's machine-made bottle glass (n=2)</td>
<td>1904 - 1950</td>
</tr>
<tr>
<td></td>
<td>tin can stamped with CANCO (n=1)</td>
<td>post-1936</td>
</tr>
<tr>
<td>Plaster and Loam Fill With Some Sand</td>
<td>Continental Views/Louis Quatorze pattern (n=2)</td>
<td>1844 - 1882</td>
</tr>
<tr>
<td></td>
<td>U.H.C. Co. 12-gauge shotgun shell (n=1)</td>
<td>1874 - 1910</td>
</tr>
<tr>
<td>Black Loam and Light Yellow Clay Fill</td>
<td>Rickett-moulded glass sherds (n=22)</td>
<td>1840 - 1920</td>
</tr>
<tr>
<td></td>
<td>turn-moulded glass sherds (n=6)</td>
<td>ca. 1870 - 1920</td>
</tr>
<tr>
<td></td>
<td>imitation jet button (n=1)</td>
<td>post-1880</td>
</tr>
<tr>
<td>Lower Levels of Units Not in the Cellar</td>
<td>lead tea foil (n=1)</td>
<td>pre-1935</td>
</tr>
<tr>
<td></td>
<td>turn moulded glass (n=2)</td>
<td>ca. 1870 - 1920</td>
</tr>
<tr>
<td></td>
<td>.45-75 WCF cartridge (n=1)</td>
<td>post-1876</td>
</tr>
<tr>
<td></td>
<td>machine-made glass sherds (n=2)</td>
<td>post-1904</td>
</tr>
</tbody>
</table>
yellow clay layer and an unidentified deposit nestled in the south corner of the cellar hole. According to the field notes, both were excavated as one unit. The dates from this deposit range from 1880 to about 1920. Thus, the material could have been deposited during either the Letendre or Mounted Police occupations. Because of the shape and location of this deposit, the author is inclined to think it represents slumpage from the walls of the cellar hole. The walls of this cellar were uncribbed and it evidently had no wooden flooring (Burley 1980:33).

The Nogiers figure in the explanation of the stratigraphy in these two cellar holes because they are the last known occupants of the site. As has been shown, many of the strata post-date the structure's dismantlement but do not post-date the occupancy of the Nogiers. Logically, they are the people most likely to have been responsible for the strata's deposition. Since they were true residents of the site, artifacts which can be attributed to their period of occupancy represent in every sense an archaeological component - albeit a relatively recent one. Some artifacts which probably post-date their occupancy are best considered intrusive. These are of lesser analytical utility because no known group of people can be associated with them.

11.3.3 The Deposits Surrounding the Residence

The west, north, and east sides of the residence were fully excavated and all have the same general stratigraphy. Immediately below the sod is the building demolition layer. Below that is the original A-horizon material.
Almost all the dated artifacts from these zones, regardless of the stratum they were found in, date either to the Letendre residency or to the Mounted Police occupation. Of the 363 datable artifacts recovered from the three strata on the west side, four post-date 1906 when the police left the site. The strata on the north side yielded 329 dated artifacts of which nine are more recent than 1906. Finally, eight dated artifacts out of 153 on the east side are more recent than the Mounted Police occupation. All these recent artifacts are either glass containers, tin cans, or, in one case, a spot crown bottle cap.

Part of the reason for the relative uniformity in the dates of these artifacts is because all three areas had porches. The verandah on the north and east side of the house was probably added in 1886 when the house was repaired after the Uprising. The footing stones for this are visible in Figure 11.9. A set of probable porch sill beams (discussed by Burley [1980:40-41]), which is thought to have been an alternate entrance to the kitchen annex, can be seen in Figure 11.9 nestled where the annex and the main structure meet. These structural features would protect the accumulating deposits from mixing by foot traffic. This is not to say that they would effectively cap these deposits, however. Despite the addition of the front porch in 1886, many artifacts which likely date to the Mounted Police period must have found their way beneath it, including almost half of the .22-calibre cartridges recovered from the site (most of these are stamped with the D of the Dominion Cartridge Company which means they are post-1900). Aside from this, the areas outside of the cellar depressions would not tend to attract deliberate post-occupational trash deposition or other activity. Thus, once the demolition layers were laid down, they effectively capped
the deposits below where they remained undisturbed until they were excavated.

Venturing further away from the building, a variety of peripheral features were explored during the excavations. These included the fenceline northwest of the house (see Figure 11.1) as well as numerous clay pads, ash concentrations, bone clusters and other anomalies found in the test trenches. The datable artifact assemblages from these did not prove helpful in either dating or determining the function of any of these features.

11.4 The Midden Deposits Over the Embankment

A formidable number of artifacts were recovered from midden deposits which were first discovered in the test trenching program over the terrace edge (see Figure 11.1f-m). A little over one-quarter of the entire assemblage was excavated from these deposits. These were generally excavated en masse because little vertical stratigraphic separation was discerned or these deposits were explored in the last few weeks of the field season.

Rather than describe the specifics of the strata in the midden area and the dated artifacts from each, Table 11.5 has been prepared as a summary of this information. In that table, each midden stratum is labelled and its location over the embankment is indicated by reference to Figure 11.1. These deposits have been described from north to south. Only the strictly dated artifacts from the Letendre era and the time of the Mounted Police occupation have been included since only two artifacts (one in the North Midden and one in the lower level of the
Table 11.5. A summary of the dated artifacts from midden strata.

<table>
<thead>
<tr>
<th>STRATUM DESCRIPTION</th>
<th>LOCATION ON FIGURE 11.1</th>
<th>LETENDRE (pre-1895)</th>
<th>POLICE (1895-1940)</th>
<th>TOTAL ARTIFACTS IN STRATUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Scatter</td>
<td>f</td>
<td>136</td>
<td>3</td>
<td>369</td>
</tr>
<tr>
<td>North Midden</td>
<td>g</td>
<td>13</td>
<td>2</td>
<td>7,455</td>
</tr>
<tr>
<td>Central Midden</td>
<td>h</td>
<td>27</td>
<td></td>
<td>1,064</td>
</tr>
<tr>
<td>Rifle Pit Test</td>
<td>i</td>
<td></td>
<td></td>
<td>648</td>
</tr>
<tr>
<td>Hearth #1 - Upper</td>
<td>i</td>
<td></td>
<td></td>
<td>426</td>
</tr>
<tr>
<td>Hearth #1 - Lower</td>
<td>i</td>
<td></td>
<td></td>
<td>107</td>
</tr>
<tr>
<td>Hearth #2 - Upper</td>
<td>i</td>
<td></td>
<td></td>
<td>283</td>
</tr>
<tr>
<td>Hearth #2 - Lower</td>
<td>i</td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Hearth #3 - Upper</td>
<td>i</td>
<td></td>
<td>2</td>
<td>218</td>
</tr>
<tr>
<td>Hearth #3 - Lower</td>
<td>i</td>
<td></td>
<td></td>
<td>193</td>
</tr>
<tr>
<td>Scattered Midden</td>
<td>i</td>
<td>1</td>
<td></td>
<td>134</td>
</tr>
<tr>
<td>Main Midden - Upper</td>
<td>i</td>
<td>9</td>
<td>1</td>
<td>1,867</td>
</tr>
<tr>
<td>Main Midden - Lower</td>
<td>i</td>
<td>47</td>
<td></td>
<td>10,223</td>
</tr>
<tr>
<td>Main Midden - Mixed</td>
<td>i</td>
<td>30</td>
<td>30</td>
<td>3,098</td>
</tr>
<tr>
<td>Charcoal/Gravel Lens</td>
<td>i</td>
<td></td>
<td></td>
<td>115</td>
</tr>
<tr>
<td>Clay Pad</td>
<td>i</td>
<td></td>
<td></td>
<td>153</td>
</tr>
<tr>
<td>Ash Lens - Upper</td>
<td>j</td>
<td>2</td>
<td></td>
<td>228</td>
</tr>
<tr>
<td>Ash Lens - Lower</td>
<td>j</td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Carriere Midden #1</td>
<td>k</td>
<td>1</td>
<td></td>
<td>617</td>
</tr>
<tr>
<td>Carriere Midden #2</td>
<td>l</td>
<td></td>
<td></td>
<td>230</td>
</tr>
<tr>
<td>Refuse Pit - A Horiz.</td>
<td>m</td>
<td>1</td>
<td></td>
<td>461</td>
</tr>
<tr>
<td>Refuse Pit - Grey Fill</td>
<td>m</td>
<td>2</td>
<td></td>
<td>360</td>
</tr>
<tr>
<td>Refuse Pit - Red Soil</td>
<td>m</td>
<td></td>
<td></td>
<td>184</td>
</tr>
</tbody>
</table>

**TOTALS:** 269 39 28,433
Main Midden) would date to the period when the Nogiers lived there.

By "strictly dated" the author means artifacts which fall only within the time periods indicated in the table. This method was selected to overcome the problem of wide date ranges for most of the dated artifacts. The date ranges used to prepare the table values are somewhat wider than the actual known occupation spans in order to flexibly include artifacts which most likely date to the period in question but their actual date ranges slightly exceed the actual occupation spans.

One reason for doing this is to show without detailed analysis that the Letendre component is by far the largest in the midden deposits. In fact, the police component is almost negligible in certain places over the embankment. Thus, not only are the midden strata the largest single type of deposit on the site, they are close to being "pure" Métis remains. As mentioned above, the representation of the Nogier occupation in these strata is negligible. There is none from later periods at all, unlike the situation in the cellar deposits of the residence.

As one might expect, the areas of highest midden concentration are close to the areas of the longest occupation. The massive Main Midden is directly opposite the kitchen and summer kitchen. In contrast, the midden deposits seem to become sparser as one moves south. This may be a function of sampling; however, as can be seen in Figure 11.1, test trenches were excavated over the embankment at five-metre intervals. It may relate to a lesser amount of residential use of the Carriere building.

Future excavations should carry on the exploratory testing perhaps further downslope and at finer intervals along the embankment. This
The author believes that the embankment may have buried on its slopes extensive midden deposits from end to end which may have been missed by the test trenches. The areas further down the slope are particularly inviting and these were not touched by the test trenches of either field season.
CHAPTER 12

SUMMARY AND CONCLUSIONS

This short chapter summarizes the thesis both in terms of what was embarked upon and what was accomplished. It concludes with some general impressions about the material culture and some suggestions for further research at the site.

12.1 Summary

Before proceeding a brief synopsis of the thesis is in order. The first three chapters of this study outlined the natural setting of the site, the research goals in their theoretical perspective, and the historical sequence of past residents at the site from earliest prehistory to about a decade ago.

Chapter 5 laid out the classification scheme to be used to organize the artifact descriptions and also discussed the rationale for using one published scheme rather than any others. The last part of Chapter 5 provided an overview of certain key material cultural technological histories. This served as a basis to introduce certain technical terms and explain the chronological significance of the various attributes to which these terms referred. The technological histories of glass, ceramics, and nails were synthesized from various published material histories. The disagreement found in the literature over the history of tin cans required the author to carry out some very limited primary research in this area to resolve the contradictions in the literature.
Chapters 6 to 10 which constitute the bulk of the thesis organized and described the artifacts. The groupings used in those chapters conceptually radiated outward from the individual to his or her larger physical and social world. Chapter 6 covered clothing, personal effects, and grooming and health care artifacts. Chapter 7 described food remains, their containers, and also the artifacts of leisure time activities. The latter included alcoholic beverage containers and the artifacts of the smoking habit. Chapter 7 also described pastime artifacts such as those used in games or to make music.

Chapter 8 described all the contents of the household while Chapter 9 dealt with the structural artifacts. Artifacts of transportation and of work outside the household were also covered in Chapter 9. Chapter 10 was a "catch-all" chapter in which the artifacts which would not fit into the classification scheme were described. These included identified artifacts whose functions could be associated with more than one of the categories in earlier chapters. It also included all the prehistoric artifacts and the unidentified objects.

Chapter 11 was an overview of the strata at the site. Its main purpose was to re-examine the deposits excavated at the individual structures and to use the chronological information assembled in the preceding chapters to determine the sequence of building construction and demolition at the site. It was hoped that the chronological information in the material culture chapters could be augmented by stratigraphic associations among artifacts, thus separating the Letendre, Mounted Police, and later components from one another in the assemblage. In general, it was found that few strata contained artifacts exclusively belonging to single components.
12.2 Assessment of the Research Goals

12.2.1 Separation of Components: An Evaluation

This was the first research goal set out in Chapter 2.2.1. It was hypothesized there that the artifacts of the late nineteenth and early twentieth centuries could be assigned relatively narrow dates based on known historical variations in their technologies. It was recognized that these temporally significant attributes could not stand alone but, given associations with other artifacts in a cultural stratum, the dates could be refined further and also artifacts with no datable attributes (e.g. bone, window glass, and the like) could be dated by association.

Dates could be determined for 6,815 artifacts (not counting nails) based on their stylistic attributes alone. However, most of these were of an accuracy only slightly more refined than that offered by the nails. A substantial number of artifacts could be assigned date ranges of a few decades. The types of attributes used for dating in this study fall into two general categories: technological attributes and product histories. Technological attributes are those covered, in the main, in the last part of Chapter 5. Product historical information was introduced in Chapters 6 to 10 as particular brand names, ceramic patterns, or manufacturer's logos were encountered.

The technological attributes of glass most frequently used for dating in this analysis were turn moulding (1870-1920), the World War One termination of the use of manganese to decolourize glass, and the traces left by machine manufacture. Among tin cans the boundary of roughly 1920 separates hole-in-top cans from those with double end seams.
and this was frequently relied upon. Other technological attributes, such as ceramic ware types, were not as frequently used.

Among the product histories which were used, the most prominent example was the factory date code used by Dominion Glass. In some cases, especially in the Carriere building analysis, dates accurate to within a single year were determined.

It was the product historical information which proved most useful as it tended to be more fine-tuned than the dates offered by the technological attributes. However, the product historical dates were in far shorter supply than those obtained from technological attributes.

Separation of components using technological attributes would have worked quite successfully had the stratigraphic separation been present. Not enough of this was available but this is not through any failings on the part of the excavators. Rather, it seems that, for the majority of the strata, roughly 80 years of site occupation are all compacted together and cannot be separated unless an unusual circumstance causes layers up to a certain point in time to be closed off.

There are two broad examples where layers have been capped and isolated from later artifact deposition. The most obvious are the demolition layers. These mostly sealed strata older than 1917 (at the residence) and the late 1940s or early 1950s (at the Carriere building) from subsequent contamination. There was no equivalent event to separate the Letendre artifacts from the Mounted Police artifacts.

The other places where deposits were somewhat isolated were under the porches and possibly in the midden areas. While there was still mixing of components in these areas, there may yet be reason to hope that a finer analysis of these artifacts will enable some useful
statements to be made.

In the case of the middens, a more in-depth assessment of the chronological information than was done here could be carried out. The result of the midden analysis suggested, but did not confirm, that the Mounted Police artifact quantities are small and maybe even negligible when compared to those from the Letendre time period. If this can be supported then it may be justifiable to ignore the later period artifacts and treat some of the midden deposits as pure Métis components.

In the end, the goal of subdividing the assemblage into components associated with the Letendres, the Mounted Police, and the Nogiers was not fully achieved. Datable artifacts from the Nogier component can be segregated from the other two components. Likewise, artifacts more recent than those left by the Nogiers could be identified but were not nearly as plentiful as at first supposed.

Datable artifacts from the Mounted Police and the Letendre occupations have date ranges which, mostly, are too broad for an adequate separation of these components. In all cases, the artifacts with no particular temporal limits to their use (harness parts, for example) could not be separated into components because the stratigraphic separation (and therefore dates by association with datable artifacts) was not present.

12.2.2 Assessment of the Structural Sequence

This second research goal was attained. While little needed to be added to Payment's research into the construction and demolition of the
main residence, new information about the other buildings emerged.

First, Payment's impression that the Carriere building was standing and occupied beyond 1917 was confirmed. Due to a clay capping in the interior of the southwest room of the Carriere structure, artifacts were isolated in the cellar which could only have been deposited between 1941 and 1944. Because the southwest room is clearly the building in the background of Figure 3.6 we know that it was still erect in 1948 and torn down some time later. Based on the artifacts associated with the demolition layer, the northeast half of the structure must have been torn down sometime between 1938 and 1948. It was not possible to determine if the Carriere buildings were Letendre's first house and store but some of the earlier artifacts from the site tend to be associated with that structure.

The discovery of another early building on the site was another result of this study. Although the three very early ceramic sherds at the bottom of the cellar in this unidentified building do not define its age with certainty, they do suggest that further excavation of this area will prove very worthwhile.

The location of Letendre's first house and store remains unsettled but, barring the discovery of additional buildings south of Letendre's 1878 residence, the inference can be made the the Carriere structure and the unidentified building south of the main house are most probably his first residence and business establishment. As has been seen, some of the oldest artifacts from the site, particularly the ceramics, were excavated from these structures. Unfortunately, the lack of stratigraphic separation precludes examining these early artifacts in isolation.
A method which might settle this question would be to plot maps of the locations of selected classes of artifacts to confirm whether or not the earliest tend to be associated with these two structures. So far, the only indications that they are the earliest buildings have been found among the ceramics and, for these, the lag between manufacture and deposition dates for which ceramics are noted is clearly a factor (the manufacturing date ranges of many of these come close to pre-dating the known occupation of the site). To carry this out with profit will require taking into account artifact frequencies, a variable not used in this analysis. It is pointless to attempt this until a larger sample from the unidentified structure is collected.

12.3 Conclusions

This study has achieved two things. First, more is now known about the construction sequence of the buildings on the site, particularly the earlier buildings. While it is not absolutely certain when the Carriere structure and the unidentified building were erected, they were probably put up in 1872 or thereafter. The means of proving this have been proposed earlier in this chapter. It has emerged from this work that the unidentified building, thought as a result of the 1978 excavations to be an ice house, has greater significance. Future excavations at the site should concentrate on this feature.

Second, a corpus of artifact description is now available from the Batoche site for use by others. Should the time ever come to reassess the interpretation at Batoche, the information contained in Chapters 6 to 10 can be consulted to decide what sorts of artifacts would be more
appropriate for display - either in the Batoche visitor reception centre or in Letendre's house when it is reconstructed. Since this could take place years in the future, a program of conservation should be considered for some of these artifacts. There will be an increasing urgency for this the longer it is left. The author became aware as he worked his way through the collection in 1984 to 1986 that artifacts he had seen in 1980 had deteriorated since that time. The metal artifacts are especially prone to this. Of course, a very low number of artifacts need be to be submitted to this costly and time-consuming treatment (some artifacts take more than two years to be treated). The dating information contained in this thesis as well as the inventory numbers cited for specimens of particular interest can be used to judiciously select specimens for this.

These descriptions, it is hoped, will also be of value to other archaeologists. There are relatively few site reports whose subjects are this recent and none from Métis sites of vintages later than the 

hivernant period. As interest increases in sites of this century the artifact description chapters may help others in identifying and dating their material.

One of the key points which has emerged from this work is that one can never make bland assumptions about the age of artifacts based simply on the fact that they are still around today. As has been seen, some technologies stretch back to the turn of the century and beyond. Likewise, certain products and brand names have surprising longevity which stretches back, in some instances, a century or more.

Finally, it has been seen that the rapid technological change which occurred during the period under study has produced variations in
artifact attributes which can be relatively narrowly dated. Despite this, it was found that stratigraphic separation was still necessary to isolate artifacts from particular components. The strata in the site, while excavated separately, do not appear to have been laid down and left undisturbed by later occupants of the site although a few capped deposits were found. The most recent occupation of the site, that of the Nogiers, could be more or less separated from the others despite this lack of stratigraphic association. This was because the long period of vacancy at the site permitted technological attributes to evolve so that there was little overlap with those of the earlier occupations. Moreover, some of the glass artifacts of the 1940s onward can be dated to within a single year and this was used to great advantage in Chapter 11 when dating particular strata. This suggests that sites of the 1940s and younger have the potential for extremely fine chronological control using the glass containers as fossil indices.

For the earlier components, it emerged that the midden deposits may be largely attributable to the Métis occupation. It was also suggested that more midden deposits remain to be explored down the embankment to the west of the structures. When the time comes to do more archaeology at the site, this area should also be a major focus of attention. In 1977 and 1978 no micro-stratigraphic separations were made when these deposits were excavated. This is not to say that they were not present. Future excavators should be vigilant of these, even if it means employing the point provenience techniques used by prehistorians.
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APPENDIX A

SOME NOTES ON FOOD TIN CANS AND THEIR DIMENSIONS

Through the years, there have been two disadvantages of packing foodstuffs in tin cans. First, disagreeable and sometimes toxic interactions between the metals of the tin can and its contents at one time limited their usefulness as containers for certain foods. Recent research into the fate of the Franklin Expedition in the 1850s has determined that lead poisoning from the soldered seams of canned supplies may have been responsible for certain irrational decisions taken by the members that led to their deaths (Beattie and Geiger 1988). Lead was barred from use in internal solder seams in Great Britain in the 1890s (Canadian Parks Service n.d.) and, in this country, by Order in Council in 1921 (Burns 1985:60). Lacquer internal coatings introduced early in this century eliminated these risks and greatly improved the quality of foods commonly packed in tin cans (May 1937:259-265).

Second, unlike glass jars, the soundness of a tin can's contents cannot be judged except by opening. Swelling or leaking are obvious indicators of a breached seal and/or decomposition of the contents but these are not always evident. A formal lexicon evolved in the food processing industry to classify the external indicators of advancing decomposition in tinned food. Terms such as "flippers," "springers" and "swells" (Cruess 1924:185-186; Cruess and Christie 1922:5-8) referred to various stages of increased internal pressure in a can as gaseous by-products of putrefaction accumulated.
Preserving foodstuffs is not the exclusive domain of commercial packers. May says (1937:10) that the impetus for home canning came from the availability of an English translation of Nicholas Appert's *The Book For All Households* in the 1830s. "Canning" at home is conventionally associated with glass sealer jars, probably because of their reusability. Nonetheless, canning in tin cans was done in the home and, in some quarters, assumed the proportions of a cottage industry in the form of Canning and Home Demonstration Clubs. Frequently, the yields were formally marketed by these clubs under the 4-H brand. In the United States, a variety of government publications were written in the first two decades of this century to promote optimal canning procedures for a variety of foodstuffs (see Chenoweth 1930:20-21 for a brief history of these developments).

Ola Powell's manual (1919), written during the transition from hole-in-top to sanitary cans, describes methods and equipment available to the home canner. The capital cost of canning at home in sanitary cans was the highest compared to that needed to can in hole-in-top cans and glass jars (Powell 1919:49-50). A similar manual written about a decade later was still oriented toward the use of hole-in-top cans and especially glass jars in home canning, although the author acknowledged that the sanitary can by then almost wholly dominated the commercial industry (Chenoweth 1930:18). Comparing "standard" can sizes available to home canners (Chenoweth 1930:51; Powell 1919:50) with those available to the commercial industry (Rock 1987:91-100) it is quite clear that only a limited range of tin can sizes and shapes were in use by home canners. Unless the tools or possibly solder chunks are present in an archaeological site, it is difficult to think of a way to prove home
canning in tin cans was an activity undertaken by the former inhabitants.

Literally anything that man (and beast, if one includes pet foods) considers edible has been packed in tin cans. The size, shape and construction design of a given tin can is dependent on the types of foodstuffs it is intended to preserve, their basic forms and consistency after processing, and the units in which they will be used by the consumer. Over the years, the canning industry has evolved standardized can sizes intended for use with certain products or groups of products. Therefore, one ought to be able to infer, in a general sense, a given can's contents from its dimensions and the method used to open it.

For example, the most commonly-used open top tin can, the No. 2 size, has a diameter of 87.3 mm (3 7/16 inches) and is 115.9 mm (4 9/16 inches) tall. These specifications are standarized across the can manufacturing industry and have not changed in at least 70 years (compare entries in the charts of official can specifications reprinted in Rock '1987:92-103S for the years 1917, 1919, 1922, 1934, 1939, 1963, and 1970). The No. 2 is used to pack vegetables, fruits, juices, soups, and specialty items. If a No. 2 can which was opened with a pair of opposing punctures on one end was recovered from a site, one might be able to classify it as a juice can. Depending on the dated context of such an artifact, one might even be able to narrow down the range of juices it was likely to have contained.

In view of the foregoing, an attempt was made to infer the contents of selected unidentified food cans based on their dimensions and opening style. Only those which had not been greatly deformed were selected. Table A.1 summarizes the results among cans with hole-in-top closures.
while Table A.2 compares open top specimens to industry standards. In selecting official specifications to compare to the archaeological specimens, a leeway of two-sixteenths of an inch was allowed to accommodate potential measurement error among the latter. In both tables, as is noted in their footnotes, all dimensions have been listed using the industry's method of encoding in units of one-sixteenth of an inch. All columns are listed in ascending order of diameter, following the conventions found in the tables reprinted in Rock (1987:92-103). The Canadian dimensions, when listed, are derived from specifications legislated in 1918 and 1920 by Orders in Council and described in Burns (1985:55, 58), not from specifications which might have been agreed upon independently by the Canadian industry. A comparison of the 1918 and 1920 tin can specifications and designations to their American equivalents suggests the Canadian industry fell into line behind their American counterparts after the latter had come to a consensus about the more popular sizes.

The Orders in Council do not describe the can closure methods. It is tempting to think that the two sets of specifications (i.e. 1918 and 1920) may reflect the change-over from hole-in-top to open top can styles. In general, there is little difference between the specifications for the same size can between the two years. In Table A.1, for example, the difference between the 1918 version of the No. 3 can and the 1920 version is a single sixteenth of an inch in diameter. This could very well reflect the difference in width between cap-on and double end seams. However, more research is needed into the canning industry in Canada, a task which is beyond the scope of this thesis.
Table A.1. A comparison of seven tin cans with hole-in-top closures to contemporary industry standards.

<table>
<thead>
<tr>
<th>Inventory Number*</th>
<th>Amount &amp; Style of Opening</th>
<th>Diameter By Height**</th>
<th>Comparable Specifications**</th>
<th>Industry Term***</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-13610</td>
<td>100%, around the edge</td>
<td>211 x 213</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>14-6531</td>
<td>100%, criss-cross cuts</td>
<td>300 x 306</td>
<td>300 x 306</td>
<td>U.S.: Evaporated Milk (post-1931)</td>
</tr>
<tr>
<td>14-7861</td>
<td>100%, around the edge</td>
<td>300 x 408</td>
<td>215 x 408</td>
<td>U.S.: 1 Pint Soup (1911)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>215 x 409</td>
<td>Canada: No. 1 Tall (1920)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>300 x 406</td>
<td>U.S.: Evaporated Milk, No. 1 Tall (pre-1931)</td>
</tr>
<tr>
<td>14-9934</td>
<td>100%, around the edge</td>
<td>300 x 508</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>14-8970</td>
<td>75%, then bent back</td>
<td>307 x 408</td>
<td>306 x 409</td>
<td>Canada: No. 2 (1918)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&quot; x &quot;</td>
<td>U.S.: No. 2 (1917, 1922)</td>
</tr>
<tr>
<td>14-11590</td>
<td>100%, around the edge</td>
<td>307 x 408</td>
<td>306 x 409</td>
<td>(see Canada &amp; U.S. No. 2 above)</td>
</tr>
<tr>
<td>14-9450</td>
<td>100%, mostly around the edge then veers inward</td>
<td>404 x 414</td>
<td>403 x 414</td>
<td>U.S.: No. 3, 4 7/8&quot; high (1917, 1922)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>404 x 414</td>
<td>Canada: No. 3 (1918)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>405 x 414</td>
<td>Canada: No. 3 (1920)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>U.S.: No. 3, 4 7/8&quot; high Fish Can (1919)</td>
</tr>
</tbody>
</table>

* All inventory numbers cited here represent a single tin can.

** By industry convention, the first three figures represent the diameter and the last three the height of the can. For each set, the first digit is the integral portion of the measurement in inches. The following two digits represent the fractional portion of the measurement in units of one-sixteenth of an inch.

*** Sources: Burns 1985: 55, 58 (Canadian specifications) Rock 1987: 45, 91-92, 97-98 (U.S. specifications)
Table A.2. A comparison of 18 tin cans with open top closures to contemporary industry standards.

<table>
<thead>
<tr>
<th>Inventory Number</th>
<th>Amount &amp; Style Of Opening</th>
<th>Diameter By Height**</th>
<th>Comparable Specifications**</th>
<th>Industry Term***</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-15050</td>
<td>100%, criss-cross cuts</td>
<td>300 x 406</td>
<td>300 x 407</td>
<td>(see U.S. No. 300 above)</td>
</tr>
<tr>
<td>14-7370</td>
<td>100%, around the edge</td>
<td>300 x 406</td>
<td></td>
<td>(see U.S. No. 300 above)</td>
</tr>
<tr>
<td>14-7130</td>
<td>100%, around the edge</td>
<td>300 x 408</td>
<td>300 x 407</td>
<td>U.S.: No. 300 X (1934)</td>
</tr>
<tr>
<td>14-7121</td>
<td>50%, then randomly cut</td>
<td>300 x 408</td>
<td></td>
<td>(see above)</td>
</tr>
<tr>
<td>14-13820</td>
<td>100%, criss-cross cuts</td>
<td>300 x 411</td>
<td>301 x 411</td>
<td>U.S.: No. 1 Tall (1939, 1963, 1970)</td>
</tr>
<tr>
<td>14-7502</td>
<td>100%, criss-cross cuts</td>
<td>302 x 408</td>
<td>303 x 406</td>
<td>U.S.: No. 303 (1934, 1939, 1963, 1970)</td>
</tr>
<tr>
<td>14-7660</td>
<td>100%, cuts in a star pattern</td>
<td>302 x 504</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>14-7710</td>
<td>100%, around the edge</td>
<td>304 x 406</td>
<td>303 x 406</td>
<td>(see U.S. No. 303 above)</td>
</tr>
<tr>
<td>14-13700</td>
<td>100%, criss-cross cuts</td>
<td>304 x 408</td>
<td>303 x 406</td>
<td>(see U.S. No. 303 above)</td>
</tr>
<tr>
<td>14-14970</td>
<td>100%, criss-cross cuts</td>
<td>306 x 409</td>
<td>307 x 408</td>
<td>U.S.: No. 2 Special (1934)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>307 x 409</td>
<td>U.S.: No. 2 (1917-1970)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&quot; x &quot;</td>
<td>U.S.: No. 2 Fish Can (1919)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&quot; x &quot;</td>
<td>Canada: No. 2 (1920)</td>
</tr>
<tr>
<td>14-13500*</td>
<td>50%, then bent back</td>
<td>307 x 409</td>
<td>307 x 409</td>
<td>(see Canada &amp; U.S. No. 2 can types above)</td>
</tr>
<tr>
<td>14-13840</td>
<td>100%, around the edge</td>
<td>308 x 404</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>14-7371</td>
<td>50%, then bent back</td>
<td>400 x 410</td>
<td>401 x 411</td>
<td>U.S.: No. 2 1/2 (1922-1970)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&quot; x &quot;</td>
<td>Canada: No. 2 1/2 (1920)</td>
</tr>
<tr>
<td>14-7173</td>
<td>100%, around the edge</td>
<td>411 x 400</td>
<td>none</td>
<td>none</td>
</tr>
</tbody>
</table>

* All inventory numbers cited here represent a single tin can except specimen 14-7661 (n=3) and specimen 14-13500 (n=2).

** By industry convention, the first three figures represent the diameter and the last three the height of the can. For each set, the first digit is the integral portion of the measurement in inches. The following two digits represent the fractional portion of the measurement in units of one-sixteenth of an inch.

*** Sources: Burns 1985: 55, 58 (Canadian specifications) Rock 1987: 45, 92, 97-103 (U.S. specifications)
In general, the attempts to identify specific types of tin cans as presented in Tables A.1 and A.2 were of mixed success. First, it is satisfying to know that dimensional data can be matched to the known can sizes used throughout this century. Almost all the intact archaeological specimens could be matched with official can sizes. In that respect, the specimens which did not come close to matching a known type may take on greater significance. These cans might have been made in Europe or may have contained exotic specialties not commonly packed by the industry and therefore omitted from their specification tables.

Second, the dimensional information is of lesser utility as an aid to dating the artifacts overall than is the manufacturing information. A good example of this is the hole-in-top specimen 14-6531 (see Table A.1). This can matches the specifications for evaporated milk cans after 1931 (see Rock '1987:44-46$ for a discussion of this transition). However, this can was opened completely which, as discussed in Chapter 7.1.3, is oftener found on condensed milk cans than on evaporated milk cans. There is no evidence that suggests that cans of this size and shape were also used for condensed milk. Nonetheless, Rock (1987:44-46) cites marked examples of turn-of-the-century Borden condensed milk cans with the same specifications. In this case, one could only classify this can as a condensed milk can in archaeological contexts known to be older than 1931. The reverse logic does not hold; that is, the dated context in this case would assist in the functional classification of the artifact but the artifact cannot be used as such to date the layer from which it was excavated.
Third, successful matching of the can to a known can size does not especially narrow identification of the can's contents. All the numbered can sizes listed in Tables A.1 and A.2 were general in purpose. Although they were used mainly for fruits and vegetables, they increased in versatility as time went on and more foodstuffs such as soups, juices, and pet foods were packed in these cans (compare the uses mentioned for these sizes in the tables for 1939, 1963, and 1970 reprinted in Rock '1987:100-103$):

Fourth, the opening style was not as helpful as was anticipated. Only five of the cans sampled were opened partially (see Table A.1: inventory number 14-8970 'n=18; in Table A.2: inventory numbers 14-7121 'n=18, 14-7371 'n=18, and 14-13500 'n=28). All are No. 2, 2 1/2, or 3 size cans. The contents must have been easily removed when opened only partially. Therefore, one might infer they at one time held small-sized items, such as peas, or a semi-congealed product which poured easily out of the can, such as creamed corn. Obviously; this information is not especially useful. At certain sites, a knowledge of can contents would be key to any study of diet. Dimensional information will be helpful in certain cases and may prove to be a useful variable to guide the application of other analytical techniques, for example, residue analysis in which archaeologists are taking an increasing interest of late.

One unexpected result emerged upon examining opening styles in the assemblage. Presumably, the way one opens a can is dependent on the tool available and personal habit. A strong and counter-intuitive correlation was noted between the method of opening and the closure styles: the crudest method of opening cans has been more frequently
applied to the more modern of the two closure styles. This is partially
evident comparing Tables A.1 and A.2. In Table A.2, 10 of the 18
specimens have been hacked open with a sharp tool, usually by quartering
one end but also in several other patterns. This suggests the use of a
knife or some instrument other than a can-opener to open the cans. By
contrast, only one of the seven hole-in-top cans described in Table A.1
has been opened in such a fashion. This observation is reinforced
further when expanded to include the full sample of unidentified food
can fragments (i.e. loose can lids, top end fragments, Keystrip cans,
and the like; see Chapter 7.1.7). In total, 24 (including the 10 listed
in Table A.2) of the 67 open top cans and can fragments have been
crudely cut open while only 10 of the 65 hole-in-top specimens were
opened this way.

Most of the tin can specimens evidently were opened with a
can-opener. It was felt that a study of can-opener history and the
sorts of traces each might leave behind on tin cans or their lids has
potential as a means of dating tin cans. Only two references were found
describing can-opener development. Both agree that this tool was
apparently an afterthought in the progression of tin can technology but
Charles Panati states it best:

Even the Englishman William Underwood, who in the
early 1800s established in New Orleans America's first
cannery, saw no need to produce a special device for
opening his product. His advice, standard for the
day, was to employ whatever tools were available
around the house.

Not all this oversight, however, was due to
widespread stupidity on two continents. In truth,
early cans were large, thick-walled, often made of
iron, and sometimes heavier than the foods they
contained; Sir William Parry's can of veal weighed,
when empty, more than a pound. Only when thinner cans
of steel, with a rim round the top, came into general
use, in the late 1850s, did a can opener have the
possibility of being a simple device (Panati
1987:115).

Panati says the first patented can-opener was invented in 1858 but
only came into significant use after the American Civil War. This
device was sickle-shaped and was driven around the can's rim. He says
the first can-opener to use a rolling cutting wheel was patented by
William W. Lyman in 1870. The sprocketed feed wheel which grips the
edge of modern-day cans was added later in 1925 (Panati 1987:115-116).
A can-opener like this is in the assemblage and is described in Chapter
8.3.1.

Rock (1987:109-111) provides an extensively-illustrated section on
can-openers but the chronological information is scant and somewhat at
variance with Panati's. Rock says can-openers were in existence by at
least 1869; however, he may be referring to the expanded post-war use of
the 1858 patent cited by Panati. One useful patent date Rock provides
(1987:109) is the year the "Yankee" can-opener was invented, 1906. This
opener, still readily available today, has a crescent-shaped blade which
is shaped at one end to open cans and at the other with a tooth for
opening crown caps. The handle to which this blade is hafted also has a
retractable cork-screw attachment which rotates out perpendicular to the
handle when in use. A Yankee-style can-opener blade is among the
artifacts described in Chapter 8.3.1.

It would seem from Panati's and Rock's descriptions that the two
main methods of opening cans are by inching a levered cutting blade
around the edge (c.f. the "Yankee" style opener) or by rotating a wheel
around the edge (c.f. Lyman's patent). It was presumed that the former
would leave a wobbly cut edge, while the edge of a can opened with a wheeled opener would be smooth. The traces of neither method on tin can remains is particularly useful as a dating tool at this site, it would seem from the above discussion.

Both styles are evident in the assemblage on both types of can closure style. As one might expect in view of the developmental order of can-opener types, the hole-in-top cans were oftener levered open (18 of the 65 specimens opened around the rim with a can-opener). Nonetheless, six hole-in-top specimens had smooth-cut edges and it is presumed an opener with a cutting wheel was used on these.

The open top cans which were opened around the rim with a can-opener (n=25 of the 67 open top tin can fragments) divided almost equally between both opening styles: 11 specimens were levered open while 14 bear evidence for the use of a wheel type of opener. Presence or absence of the distinctive knurling left behind by the feeder wheel of post-1925 openers was not recorded.

Opening style, then, is not necessarily a helpful dating indicator. Also, a seemingly crude method of opening does not necessarily indicate a greater antiquity for the tin can on which it was performed. The use of any particular opening tool may indicate the handiness of an opener or personal habit.

In sum, tin can dimensions may eventually prove useful for archaeologists to use in analysis of foodstuffs consumed when analyzing particular, narrowly-dated components. With time and more research, this particular variate may become an important measure. For that reason, the author has presented the tin can measurements cited in this thesis in metric units to maintain some consistency with the
measurements of other artifacts. As has been shown, however, these metric measurements are, effectively, approximations of the industry's units of one-sixteenth of an inch. For that reason, the tin can measurements have been taken to the nearest tenth of a millimetre.

It has also been found here that can-openers leave distinctive traces, depending on their design. It has also been shown that the method used to open a can may reflect idiosyncratic behaviour, a variable not frequently manifest in assemblages of mass-produced goods.
APPENDIX B

LIST OF EXCAVATED LOTS BY STRATUM

The lots listed here are only those which contain artifacts. Other lots were excavated but were sterile. These may be found in the map overlays on file with the Archaeological Services Division, Prairie and Northern Regional Office, Canadian Parks Service, Winnipeg.

B.1 Carriere Excavations

B.1.1 Main Structure Area

1976 Excavation Backfill Rescreened:
021N011M0001

Main Structure: Sod

Mixed Test Units South of Structure - Upper Levels:
021N903A1111, 021N903A1112, 021N903A1211, 021N903A1212

Mixed Test Units North of Structure - Upper Levels:
021N903A0521

Deep Test Units - Northeast Room:
021N011P0006, 021N011P0007, 021N011P0008, 021N011P0009, 021N011Q0005, 021N011Q0006, 021N011Q0007

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Plaster Demolition Layer - Southwest Room:
021N011M0201, 021N011Q0015

Bark and Organic Demolition Layer - Northeast Room:
021N011P0046, 021N011P0050, 021N011P0100, 021N011Q0037

Southwest Room - West Wall Test:
021N011P0015

Southwest Room - Southwest Corner Units:
021N011Q0009, 021N011Q0012, 021N011Q0013, 021N011Q0014,
021N011Q0017, 021N011Q0025, 021N011Q0100

Northeast Room - South Side, Upper Brown A - Possible Doorway:
021N011Q0044

Northeast Room - South Side, Upper Black A-Horizon Lens:
021N011Q0045

Southwest Room - Ash Deposit, South Side:
021N011Q0029, 021N011Q0031, 021N011Q0033

Southwest Room - Clay Layer:
021N011N0004, 021N011N0029, 021N011N0050, 021N011N0051,
021N011N0052, 021N011N0053, 021N011N0054, 021N011N0055,
021N011N0056 (relabelled as 021N011P0130), 021N011N0057 (Relabelled
as 021N011Q0130), 021N011P0016, 021N011P0130 (formerly labelled
021N011N0056), 021N011Q0130 (formerly labelled 021N011N0057)

Brown A-Horizon:
021N011P0022, 021N011P0024, 021N011P0025, 021N011P0026,
021N011P0027, 021N011P0028, 021N011P0029, 021N011P0030,
021N011P0032, 021N011P0044, 021N011P0045, 021N011P0051,
021N011P0052, 021N011P0053, 021N011P0054, 021N011P0055,
021N011P0056, 021N011P0057, 021N011P0058, 021N011P0059,
021N011P0060, 021N011P0061, 021N011P0062, 021N011P0063,
021N011P0064, 021N011P0065, 021N011P0067, 021N011P0068,
021N011P0069, 021N011P0070, 021N011P0071, 021N011P0072,
021N011P0073, 021N011P0074, 021N011P0092, 021N011P0093,
021N011P0094, 021N011P0099, 021N011P0098, 021N011P0101,
021N011P0102, 021N011P0200, 021N011P0201, 021N011Q0019,
021N011Q0021, 021N011Q0026, 021N011Q0034, 021N011Q0035,
021N011Q0038, 021N011Q0039, 021N011Q0040, 021N011Q0042,
021N011Q0043, 021N011Q0046, 021N011Q0047, 021N011Q0048,
021N011Q0049, 021N011Q0050, 021N011Q0051, 021N011Q0052,
021N011Q0053, 021N011Q0054, 021N011Q0055, 021N011Q0056,
021N011Q0057, 021N011Q0058, 021N011Q0059, 021N011Q0061,
021N011Q0070, 021N011Q0071, 021N011Q0072, 021N011Q0073,
021N011Q0074, 021N011Q0075, 021N011Q0076, 021N011Q0097,
021N011Q101, 021N011Q200, 021N011Q201, 021N011T0001,
021N011T0003, 021N011T0004, 021N011T0005, 021N011T0006,
021N011T0007, 021N011T0008, 021N011T0009, 021N011T0010,
021N011T0011
Overburden - Clay Pad North of Northeast Room:

Upper Ash Deposit - North Side, Southwest Room:
021N01P0033, 021N01P0034, 021N01P0035, 021N01P0036

Lower Ash Deposit - North Side, Southwest Room:
021N01P0038, 021N01P0039, 021N01P0040, 021N01P0041

Black A-Horizon:
021N01N0058, 021N01N0059, 021N01N0060, 021N01N0061, 021N01N0062, 021N01N0063, 021N01N0079, 021N01P0037, 021N01P0076, 021N01P0077, 021N01P0078, 021N01P0080, 021N01P0081, 021N01P0082, 021N01P0083, 021N01P0084, 021N01P0085, 021N01P0086, 021N01P0087, 021N01P0088, 021N01P0089, 021N01P0103, 021N01P0104, 021N01P0105, 021N01P0110, 021N01P0112, 021N01P0113, 021N01P0114, 021N01Q0022, 021N01Q0027, 021N01Q0077, 021N01Q0078, 021N01Q0080, 021N01Q0081, 021N01Q0082, 021N01Q0083, 021N01Q0084, 021N01Q0085, 021N01Q0086, 021N01Q0087, 021N01Q0088, 021N01Q0089, 021N01Q0090, 021N01Q0095, 021N01Q0096, 021N01Q0098, 021N01T0012, 021N01T0013, 021N01T0014, 021N01T0015, 021N01T0016, 021N01T0017, 021N01T0021

Mixed Brown A- and Black A-Horizons - Southwest Room
021N01N0003, 021N01N0031, 021N01P0002, 021N01Q0002

Mixed Brown A- and Black A-Horizons - Northeast Room
021N01P0010

Lowest Levels - North Side
021N03A1113, 021N03A1213, 021N03A1311, 021N03A1312

Lowest Levels - South Side
021N01P0151

Post Moulds Associated with the Clay Pad,
North side of Northeast Room
021N01N0070, 021N01N0072, 021N01N0075, 021N01N0077, 021N01N0083, 021N01P0096, 021N01P0097, 021N01Q0092, 021N01Q0093, 021N01T0018, 021N01T0020, 021N01T0022, 021N01T0023, 021N01T0024, 021N01T0026, 021N01T0027, 021N01T0029, 021N01T0031, 021N01T0032

Ash Pocket - Northwest Corner, Northeast Room
021N01T0019

Outside Post Moulds - South Side, Southwest Room
021N01Q0011, 021N01Q0099
B.1.2 Strata in the Cellar - Southwest Room

Mixed Sod, Demolition Debris, and Possibly Clay Layer
021N011N0001, 021N011N0002, 021N011N0026, 021N011N0027, 021N011N0028

Mixed Sod, Plaster Demolition Debris, and Lower Cultural Levels
021N011Q0001

Mixed: All Cellar Hole Strata Together
021N011N0030

Mixed B- and C-Horizons Including Some Cellar Fill Material
021N011N0005, 021N011N0032, 021N011N0034, 021N011Q0003

Recent Trash Layer
021N011N0006, 021N011N0033

Prehistoric Component
021N011N0007, 021N011N0035, 021N011N0036, 021N011Q0004

Lower Plaster Debris Layer
021N011N0008, 021N011N0009, 021N011N0037, 021N011N0038

Earlier Fill

C-Horizon
021N011N0042

B.1.3 West of the Carriere Main Structure

West of Main Structure: Sod

West of Main Structure: Sod and Sub-Sod

Clay Pad Test Trench - A-Horizon
021N903A0731, 021N903A0741

Clay Pad Test Trench - Ash Concentration, A-Horizon
021N903A0821, 021N903A0831

Clay Pad Test Trench - Plaster and Mortar Layer
021N903A0911, 021N903A0921, 021N903A0931
Clay Pad Test Trench - A-Horizon
02IN903A1011

Refuse Pit/Root Cellar - A-Horizon
02IN011V0001, 02IN011V0003

Refuse Pit/Root Cellar - Grey Pit Fill
02IN011V0002, 02IN011V0007, 02IN903A0833

Refuse Pit/Root Cellar - Reddish Soil
02IN011V0004, 02IN011V0005, 02IN011V0009

Refuse Pit/Root Cellar - Reddish Soil and Bark Lining
02IN011V0010

Refuse Pit/Root Cellar - Bark Lining and Bottom of Pit
02IN011V0006, 02IN011V0011, 02IN011V0012

West of Structure - Sub-Sod A-Horizon
02IN903A2102, 02IN903A2103, 02IN903A2106, 02IN903A2107

Test Trench - B Horizons
02IN903A0732, 02IN903A0742, 02IN903A0822, 02IN903A0832, 02IN903A1012

Burned Organic Ash Zone
02IN903A0923

B.1.4 Features and Testing in the Yard North of the Carriere Building

Mixed A- and B-Horizons in the Test Trenches
02IN903A0111, 02IN903A0112, 02IN903A0120, 02IN903A0121, 02IN903A0122, 02IN903A0130, 02IN903A0131, 02IN903A0132, 02IN903A0140, 02IN903A0141, 02IN903A0142, 02IN903A0150, 02IN903A0151, 02IN903A0152, 02IN903A0231, 02IN903A0232, 02IN903A0233, 02IN903A0241, 02IN903A0242, 02IN903A0311, 02IN903A0312, 02IN903A0341, 02IN903A0342, 02IN903A0411, 02IN903A0421, 02IN903A0422, 02IN903A0621, 02IN903A0622

Possible Pit Feature and Ash
02IN903A0211, 02IN903A0212, 02IN903A0213, 02IN903A0221, 02IN903A0222

Unidentified Soil Disturbance (1976 Trench?)
02IN903A0321, 02IN903A0322, 02IN903A0331, 02IN903A0332

Possible Clay Pad or Rodent Den
02IN903A0611

Possible Pit Feature with Clay and Charcoal
02IN903A0631, 02IN903A0632, 02IN903A0641

Soil Disturbance Near Midden #1
02IN903A0161, 02IN903A0162
B.1.5 Midden Deposits Over the Embankment West of the Carriere Building

Midden #1 - Mixed Sod, Sub-Sod, and Ash
021N903A0171, 021N903A0181, 021N903A0191

Midden #1 - Sub-Sod
021N011U0002, 021N011U0005, 021N011U0006

Midden #1 - Ash Lens
021N011U0007

Midden #1 - A-Horizon Around the Ash
021N011U0008, 021N011U0009, 021N011U0010, 021N011U0011, 021N903A0172, 021N903A0182

Midden #1 - B-Horizon
021N903A0173

Midden #2
021N903A0352, 021N903A0353, 021N903A0361, 021N903A0362

Rock Feature - Sod and A-Horizon
021N011R0001, 021N011R0004, 021N011R0007, 021N903A0251

Rock Feature - Upper B-Horizon
021N011R0002, 021N011R0005, 021N903A0252

Rock Feature - Lower B-Horizon
021N011R0003, 021N011R0006, 021N903A0253

Other Test Units over the Embankment
021N903A0261, 021N903A0262, 021N903A0271, 021N903A0651

B.1.6 Miscellaneous Units

Surface Finds
021N903A0000
B.2 Le tendre's House Excavations

B.2.1 Interior of the Main House

Surface Debris and Artifacts
021N009A0000

Sod and Upper Fill
021N906B1502, 021N906B1503, 021N906B1508, 021N906B1510, 021N906B1901, 021N906B1902, 021N906B1903, 021N906B1904, 021N906B1905

Clay and Sand Cellar Fill
021N906B1511, 021N906B1512, 021N906B1513

Lower Interior Strata Not in the Cellar

Plaster and Mottled Clay Cellar Fill
021N906B1514

Black Loam and Light Yellow Clay Cellar Fill
021N906B1515

Mixed Plaster/Mottled Clay and Black Loam/Light Yellow Clay
021N009A0001

Mixed Units in the Interior
021N906B1501, 021N906B1516, 021N906B1909

Mortar Sample
021N009A0101

B.2.2 Gap Between the Main House and The Kitchen Annex Foundations

Test Units in Debris
021N009B0101, 021N009B0102

B.2.3 Interior of the Kitchen Annex

Mortar Sample
021N009B0201

Sod and Possibly Aeolian Silt and Sand
021N906B1801

Upper Cellar Fill: Plaster, Balck Loam, Clay
021N906B1802, 021N906B1803, 021N906B1804
Lower Fill  
02IN906B1805

Eastern Half of Cellar - Cellar Fill  
02IN906B2001

Eastern Half of Cellar - Cribbing Matrix  
02IN906B2002

Eastern Half of Cellar - Occupation Layer  
02IN009B0001, 02IN009B0002, 02IN009B0003, 02IN009B0004, 
02IN009B0005, 02IN009B0006, 02IN009B0007, 02IN009B0020, 
02IN009B5004, 02IN009B5005, 02IN009B5006, 02IN009B5007, 
02IN009B5008, 02IN009B5009, 02IN009B5010, 02IN009B5011, 
02IN009B5012

B.2.4 Summer Kitchen Area

Sod  
02IN906B2105, 02IN906B2108, 02IN906B2109, 02IN906B2111, 
02IN906B2112, 02IN906B2113, 02IN906B2114

Demolition Layer: Plaster and Other Debris  
02IN009G0102, 02IN009G0103, 02IN009G0102, 02IN009G0103, 
02IN009G0304, 02IN009G0305, 02IN009G0306, 02IN009G0307, 
02IN009G0308, 02IN009G0309, 02IN009G0501, 02IN009G0502, 
02IN009G0503, 02IN009G0504, 02IN009G0505, 02IN009G0506, 
02IN009G0507, 02IN009G0508, 02IN009G0509, 02IN009G0601, 
02IN009G0602, 02IN009G0603, 02IN009G0604, 02IN009G0605, 
02IN009G0606, 02IN009G0607, 02IN009G0701, 02IN009G0702, 
02IN009G0703, 02IN009G0704, 02IN009G0705, 02IN009G0706, 
02IN009G0707, 02IN009G0708, 02IN009G0710, 02IN009G0711, 
02IN009G0712, 02IN009G0714, 02IN009G0801, 02IN009G0802, 
02IN009G0803, 02IN009G0804, 02IN009G0805, 02IN009G0806, 
02IN009G0807, 02IN009G0808, 02IN009G0809, 02IN009G0810, 
02IN009G0901, 02IN009G0902, 02IN009G0903, 02IN009G0904, 
02IN009G1101, 02IN009G1102, 02IN009G1103, 02IN009G1104

Clay Pad  
02IN009G0608, 02IN009G0609, 02IN009G0610

Occupation Floor Between Summer Kitchen and Kitchen Annex  
02IN009G0201, 02IN009G0202, 02IN009G0203, 02IN009G0204, 
02IN009G0205

Occupation Area South and East of Summer Kitchen  
02IN009G1501, 02IN009G1502, 02IN009G1503, 02IN009G1504, 
02IN009G1505, 02IN009G1506, 02IN009G1507, 02IN009G1508, 
02IN009G1509, 02IN009G1510, 02IN009G1511, 02IN009G1512, 
02IN009G1513, 02IN009G1514, 02IN009G1515, 02IN009G1516, 
02IN009G1517, 02IN009G1518, 02IN009G1519, 02IN009G1520, 
02IN009G1521
Summer Kitchen Interior: Occupation Floor, North Half
021N009C0101, 021N009C0102, 021N009C0103, 021N009C0104, 021N009C0105, 021N009C0106, 021N009C0107, 021N009C0108, 021N009C0122

Summer Kitchen Interior: Occupation Floor, South Half
021N009C0113, 021N009C0114, 021N009C0115, 021N009C0116, 021N009C0117, 021N009C0118, 021N009C0119

Summer Kitchen Interior: Below Occupation Floor, South Half
021N009C0201, 021N009C0202, 021N009C0206, 021N009C0207, 021N009C0211, 021N009C0212, 021N009C0216, 021N009C0217

Summer Kitchen Interior: Mixed Strata
021N009C0109, 021N009C0110, 021N009C0111, 021N009C0112, 021N009C0121

Mixed Test Trenches
021N906B0725, 021N906B0726

Wood Samples

Rock Feature - Post Mould?
021N009G2000, 021N009G2001

Rock Feature Proper
021N009G2002, 021N009G2003

B.2.5 Possible Hivernant Structure

Cellar/Pit Feature: Mixed Plough Zone
021N906B0921, 021N906B0922, 021N906B0923, 021N906B0924, 021N906B0925, 021N906B1222, 021N906B1225, 021N906B1234

Cellar/Pit Feature: Sod and Upper Plough Zone
021N906B1202, 021N906B1203, 021N906B1204, 021N906B1205, 021N906B1206 (June 9), 021N906B1207, 021N906B1208, 021N906B1209 (June 9), 021N906B1210 (June 9), 021N906B1211 (June 9), 021N906B1212, 021N906B1213, 021N906B1214 (June 12), 021N906B1215, 021N906B1216, 021N906B1217, 021N906B1218

Cellar/Pit Feature: Lower Plough Zone and Ground Level Occupation Level
021N906B1206 (June 13), 021N906B1209 (June 13), 021N906B1210 (June 13), 021N906B1211 (June 13), 021N906B1214 (June 13), 021N906B1219, 021N906B1220, 021N906B1221, 021N906B1223, 021N906B1224, 021N906B1226, 021N906B1227, 021N906B1228, 021N906B1230, 021N906B1231

Cellar/Pit Feature: Plough Zone and Top of Fill
021N009D0001
Cellar/Pit Feature: Upper Mixed Pit Fill and Wood Samples
021N009D0002, 021N009D0003, 021N009D0004, 021N009D0005, 021N009D0006, 021N009D0007, 021N009D0008, 021N009D0010

Cellar/Pit Feature: Dark Mottled Cellar Fill
021N009D0009

Cellar/Pit Feature: Light Mottled Cellar Fill
021N009D0011, 021N009D0012

Cellar/Pit Feature: Bottom of Fill
021N009D0013 (artifacts dug before July 4)

Cellar/Pit Feature: Occupation Level, Cellar Floor
21N009D0013 (artifacts dug July 4 approximately)

Clay Pad/Refuse Pit Feature: Mixed Plough Zone
021N906B1232, 021N906B1233, 021N906B1235, 021N906B1236, 021N906B1237

Clay Pad/Refuse Pit Feature: Sod and Upper Plough Zone
021N906B1201

Clay Pad/Refuse Pit Feature: Lower Plough Zone and Occupation Level
021N906B1229

Clay Pad/Refuse Pit Feature: Upper Fill
021N906B2701, 021N906B2702, 021N906B2703, 021N906B2704, 021N906B2705

Clay Pad/Refuse Pit Feature: Bottom Fill and Occupation Level
021N906B2706

B.2.6 North Porch of Main Structure

Sod and Upper Levels of Test Units
021N906B1403, 021N906B1404, 021N906B1405, 021N906B2101, 021N906B2110

Demolition Debris
021N009H0101, 021N009H0102, 021N009H0103, 021N009H0104, 021N009H0105

Verandah and Porch Level
Mixed: Sod, Demolition, and Verandah Level
02IN009E1100, 02IN009E1101

Miscellaneous Probes Into Features
02IN009H0401, 02IN009H0501, 02IN009H0502, 02IN009H0503,
02IN009H0507, 02IN009H0508, 02IN009H5001, 02IN009H5002,
02IN009H5003, 02IN009H5004, 02IN06B2601

Possible Prehistoric Component
02IN06B2602

B.2.7 East Side of Structural Complex

Sod
02IN06B2106, 02IN06B2107, 02IN06B2102

Demolition Debris
02IN009F0101, 02IN009F0102, 02IN009F0203, 02IN009F0204,
02IN009F0205, 02IN009F0206, 02IN009F0301, 02IN009F5001

1976 Trench Rescreened ("Humbolt Trench")
02IN009F0201, 02IN009F0202

B.2.8 West Side of Structural Complex

Sod
02IN06B1406, 02IN06B1407, 02IN06B1408, 02IN06B1409,
02IN06B1410, 02IN06B1411, 02IN06B1412, 02IN06B1413,
02IN06B1414, 02IN06B2103, 02IN06B2104

Demolition Debris
02IN009E0101, 02IN009E0102, 02IN009E0201, 02IN009E0202,
02IN009E0203, 02IN009E0204, 02IN009E0205, 02IN009E0206,
02IN009E0207, 02IN009E0208, 02IN009E0209, 02IN009E0210,
02IN009E0211, 02IN009E0212, 02IN009E0213, 02IN009E0214,
02IN009E0215, 02IN009E0216, 02IN009E0217, 02IN009E0218

Porch Occupation Zone – A-Horizon
02IN009E0301, 02IN009E0302, 02IN009E0303, 02IN009E0304,
02IN009E0305, 02IN009E0306, 02IN009E0401, 02IN009E0402,
02IN009E0403, 02IN009E0404, 02IN009E0405, 02IN009E0406,
02IN009E0501, 02IN009E0502, 02IN009E0503, 02IN009E0504,
02IN009E0505, 02IN009E0506, 02IN009E0501, 02IN009E0502,
02IN009E0503, 02IN009E0504, 02IN009E0505, 02IN009E0506
B.2.9 Area Northeast of the Structural Complex

Plough Zone: In Vicinity of Possible Historic Ploughed Field
021N906B0201, 021N906B0202, 021N906B0203, 021N906B0204,
021N906B0205, 021N906B0206, 021N906B0207, 021N906B0208,
021N906B0209, 021N906B0210, 021N906B0301, 021N906B0302,
021N906B0303, 021N906B0304, 021N906B0305, 021N906B0306,
021N906B0307, 021N906B0308, 021N906B0309, 021N906B0310,
021N906B0311, 021N906B0312, 021N906B0401, 021N906B0402,
021N906B0403, 021N906B0404, 021N906B0405, 021N906B0406,
021N906B0407, 021N906B0408, 021N906B0409, 021N906B0410,
021N906B0501, 021N906B0502, 021N906B0503, 021N906B0504,
021N906B0505, 021N906B0506, 021N906B0507, 021N906B0601,
021N906B0602, 021N906B0603, 021N906B0604, 021N906B0605,
021N906B0606, 021N906B0801, 021N906B0802, 021N906B0803,
021N906B0804, 021N906B0901, 021N906B0902, 021N906B0903,
021N906B1001, 021N906B1002, 021N906B1003, 021N906B1004,
021N906B1101, 021N906B1102

Plough Zone: Internal To the Yard
021N906B0214, 021N906B0215, 021N906B0216, 021N906B0217,
021N906B0218, 021N906B0219, 021N906B0220, 021N906B0221,
021N906B0222, 021N906B0223, 021N906B0224, 021N906B0225,
021N906B0226, 021N906B0227, 021N906B0228, 021N906B0229,
021N906B0317, 021N906B0318, 021N906B0320, 021N906B0321,
021N906B0322, 021N906B0325, 021N906B0326, 021N906B0345,
021N906B0346, 021N906B0347, 021N906B0348, 021N906B0349,
021N906B0350, 021N906B0351, 021N906B0352, 021N906B0411,
021N906B0412, 021N906B0413, 021N906B0414, 021N906B0415,
021N906B0416, 021N906B0417, 021N906B0418, 021N906B0420,
021N906B0421, 021N906B0422, 021N906B0423, 021N906B0424,
021N906B0425, 021N906B0426, 021N906B0446, 021N906B0514,
021N906B0515, 021N906B0516, 021N906B0517, 021N906B0518,
021N906B0519, 021N906B0520, 021N906B0521, 021N906B0522,
021N906B0607, 021N906B0608, 021N906B0609, 021N906B0610,
021N906B0611, 021N906B0612, 021N906B0613, 021N906B0614,
021N906B0615, 021N906B0616, 021N906B0617, 021N906B0618,
021N906B0619, 021N906B0620, 021N906B0621, 021N906B0622,
021N906B0623, 021N906B0624, 021N906B0625, 021N906B0706,
021N906B0707, 021N906B0708, 021N906B0709, 021N906B0710,
021N906B0711, 021N906B0712, 021N906B0713, 021N906B0714,
021N906B0715, 021N906B0716, 021N906B0717, 021N906B0718,
021N906B0719, 021N906B0720, 021N906B0721, 021N906B0722,
021N906B0723, 021N906B0724

Demolition Debris in the Yard
021N906B0327, 021N906B0328, 021N906B0329, 021N906B0330,
021N906B0331, 021N906B0332, 021N906B0333, 021N906B0334,
021N906B0335, 021N906B0336, 021N906B0337, 021N906B0338,
021N906B0339, 021N906B0340, 021N906B0341, 021N906B0342,
021N906B0343, 021N906B0344, 021N906B0427, 021N906B0523,
021N906B0524, 021N906B0525
Clay Zone Anomaly
02IN906B0211, 02IN906B0212, 02IN906B0213

Disturbance - Not Described
02IN906B0230, 02IN906B0231, 02IN906B0232, 02IN906B0233,
02IN906B0234, 02IN906B0235, 02IN906B0236, 02IN906B0237,
02IN906B0238, 02IN906B0239, 02IN906B0240, 02IN906B0241,
02IN906B0242

Bone Concentration #1
02IN906B0313, 02IN906B0314, 02IN906B0315, 02IN906B0316

Trench Feature
02IN906B0419

Post Hole
02IN906B0447, 02IN906B0448

Bone Concentration #2
02IN906B0508, 02IN906B0509, 02IN906B0510, 02IN906B0511,
02IN906B0512, 02IN906B0513

B.2.10 Fenceline Northwest of the Structural Complex

Post Hole #1: Sod and Demolition Debris
02IN906B0546, 02IN906B0547, 02IN906B2503

Post Hole #1: Posthole Fill
02IN009H0402

Post Hole #1: Sample of Wooden Post
02IN009H5005, 02IN009H5101

Post Hole #2: Sod and Possible Stone Dressing Area
02IN906B2501

Post Hole #2: Posthole Fill
02IN009H0405

Post Hole #2: Post Mould Material
02IN009H5106

Post and Stake #3: Sod and Topsoll
02IN906B0449, 02IN906B0450, 02IN906B0461, 02IN906B0462,
02IN906B0463, 02IN906B0464

Post and Stake #3: Fill from Large Post
02IN009H0001

Post and Stake #3: Sample From Large Squared Post
02IN009H0007, 02IN009H5105
Post and Stake #3: Small Sharpened Stake Sample
021N009H0002

Post #4: Sod and Topsoil
021N906B0465, 021N906B0466, 021N906B0467, 021N906B0468

Post #4: Fill for Post
021N009H0004, 021N009H0008

Post #4: Sample of Post
021N009H0003

Corner Post and Pit #5: Sod, Reddish-Brown Sand, and Black A-Horizon
021N906B0353, 021N906B0354, 021N906B2502

Corner Post and Pit #5: Buried Pit Fill
021N009H0403

Corner Post and Pit #5: Fill From Post
021N009H0404

Corner Post and Pit #5: Sample of Post
021N009H5006, 021N009H5102

Fence and Gateway(?) #6: Sod and Topsoil over Post
021N906B2511

Fence and Gateway(?) #6: Sod and Topsoil over Gateway(?)
021N906B2512

Fence and Gateway(?) #6: Post Fill
021N009H0406

Fence and Gateway(?) #6: Sample of Squared Post
021N009H5007, 021N009H5103

Anomaly (Pit? Post?) #7: Turf and Topsoil
021N906B2514, 021N906B2515

Anomaly (Pit? Post?) #7: Pit Feature?
021N009H0410

Post #8: Sod and Topsoil
021N906B2517

Post #8: Top of Post
021N009H0409

Post #8: Post Hole Fill
021N009H0408

Post #8: Sample of Post
021N009H5104
Unidentified Pit #9: Sod and Topsoil
021N906B2521, 021N906B2522

Unidentified Pit #9: Pit Fill
021N009H0407

Fence Line: Test Trenches
021N906B2509, 021N906B2510, 021N906B2513, 021N906B2516,
021N906B2518, 021N906B2519, 021N906B2520, 021N906B2523,
021N906B2524

B.2.11 Outer Northwest Area

Test Trenches
021N906B0248, 021N906B0249, 021N906B0250, 021N906B0251,
021N906B0252, 021N906B0253, 021N906B0254, 021N906B0255,
021N906B0256, 021N906B0257, 021N906B0258, 021N906B0259,
021N906B0260, 021N906B0261, 021N906B0262, 021N906B0263,
021N906B0264, 021N906B0265, 021N906B0266

Clay Pad: Sod and Clay
021N906B0243, 021N906B0244, 021N906B0245, 021N906B0246,
021N906B0247

Intermittent Clay Pad
021N906B0251, 021N906B0252, 021N906B0253, 021N906B0254,
021N906B0261, 021N906B0262, 021N906B0263, 021N906B0264,
021N906B0265, 021N906B0266

Demolition Debris
021N906B0548, 021N906B0549, 021N906B0550

Possible Hearth
021N009E0001, 021N906B1701, 021N906B1702

Questionable Post Mould
021N906B2504

B.2.12 Features Over the Embankment

Ash/Charcoal Concentration: Upper Level
021N906B1134, 021N906B1135

Ash/Charcoal Concentration: Lower Level
021N009G0005

Clay Pad: Clay, Wood, Dark Soil
021N906B1032, 021N906B1033, 021N906B1034, 021N906B1035
Charcoal/Gravel Anomaly
02IN906B1036, 02IN906B1037, 02IN906B1038

South Midden: Upper Levels
02IN906B1039, 02IN906B1040, 02IN906B1301, 02IN906B1302,
02IN906B1303, 02IN906B1304, 02IN906B1305, 02IN906B1306,
02IN906B1308

South Midden: Lower Levels
02IN009G0006, 02IN009G1001, 02IN009G1002, 02IN009G1003,
02IN009G1004

South Midden: Mixed
02IN009G1005, 02IN009G1006

General Midden
02IN906B1311, 02IN906B1313, 02IN906B1315

Hearth #1: Upper Levels
02IN906B0941, 02IN906B1314

Hearth #1: Hearth
02IN009G0001, 02IN009G0007, 02IN906B0951

Hearth #2: Upper Levels
02IN906B0942, 02IN906B0953

Hearth #2: Hearth
02IN009G0002

Hearth #3: Upper Levels
02IN906B0943, 02IN906B0944, 02IN906B0952

Hearth #3: Hearth
02IN009G0003, 02IN009G0004, 02IN009G0008

Rifle Pit Testing
02IN906B0945, 02IN906B0946, 02IN906B0947, 02IN906B1601,
02IN906B1602, 02IN906B1603

Central Midden
02IN009H0006, 02IN906B0843, 02IN906B0844, 02IN906B0845,
02IN906B0846

North Midden
02IN009H0005, 02IN009E1001, 02IN009E1002, 02IN009E1003,
02IN009E1004, 02IN009E1005, 02IN009E1006, 02IN906B0746,
02IN906B0747, 02IN906B0748, 02IN906B0749, 02IN906B0750

Northern Midden-like Deposits
02IN906B0645, 02IN906B0646, 02IN906B0647, 02IN906B0648,
02IN906B0649, 02IN906B0650
B.2.13 Yard Area South of the Letendre House Area

Test Trenches
021N906B0742, 021N906B0743, 021N906B0744, 021N906B0745,
021N906B0805, 021N906B0806, 021N906B0807, 021N906B0808,
021N906B0809, 021N906B0810, 021N906B0811, 021N906B0812,
021N906B0813, 021N906B0814, 021N906B0815, 021N906B0816,
021N906B0817, 021N906B0818, 021N906B0819, 021N906B0820,
021N906B0821, 021N906B0822, 021N906B0823, 021N906B0824,
021N906B0825, 021N906B0826, 021N906B0827, 021N906B0828,
021N906B0905, 021N906B0906, 021N906B0907, 021N906B0908,
021N906B0909, 021N906B0910, 021N906B0911, 021N906B0912,
021N906B0913, 021N906B0914, 021N906B0915, 021N906B0916,
021N906B0917, 021N906B0918, 021N906B0919, 021N906B0920,
021N906B0921, 021N906B0922, 021N906B0923, 021N906B0924,
021N906B0925, 021N906B0926, 021N906B0927, 021N906B0928,
021N906B0929, 021N906B0930, 021N906B0931, 021N906B0932,
021N906B0933, 021N906B0934, 021N906B0935, 021N906B0936,
021N906B0937, 021N906B0938, 021N906B0939, 021N906B0940,
021N906B1005, 021N906B1006, 021N906B1007, 021N906B1008,
021N906B1009, 021N906B1010, 021N906B1011, 021N906B1012,
021N906B1013, 021N906B1014, 021N906B1015, 021N906B1016,
021N906B1017, 021N906B1018, 021N906B1019, 021N906B1020,
021N906B1021, 021N906B1022, 021N906B1023, 021N906B1024,
021N906B1025, 021N906B1026, 021N906B1027, 021N906B1028,
021N906B1029, 021N906B1030, 021N906B1031, 021N906B1103,
021N906B1104, 021N906B1105, 021N906B1106, 021N906B1107,
021N906B1108, 021N906B1109, 021N906B1110, 021N906B1111,
021N906B1112, 021N906B1113, 021N906B1114, 021N906B1115,
021N906B1116, 021N906B1117, 021N906B1118, 021N906B1119,
021N906B1120, 021N906B1121, 021N906B1122, 021N906B1123,
021N906B1124, 021N906B1125, 021N906B1126, 021N906B1127,
021N906B1128, 021N906B1129, 021N906B1130, 021N906B1131,
021N906B1132, 021N906B1133, 021N906B3101, 021N906B3102,
021N906B3103, 021N906B3104, 021N906B3105, 021N906B3201,
021N906B3202, 021N906B3203, 021N906B3204, 021N906B3205,
021N906B3301, 021N906B3302, 021N906B3303, 021N906B3304,
021N906B3305, 021N906B3306, 021N906B3307, 021N906B3308,
021N906B3309

Possible Demolition Debris from the Unidentified Log Structure
021N906B0820, 021N906B0821, 021N906B0822, 021N906B0823,
021N906B0824, 021N906B0825, 021N906B0835, 021N906B0836,
021N906B0837, 021N906B0838, 021N906B0839, 021N906B0840,
021N906B0841, 021N906B0842

Possible Demolition Debris From the Main Structure
021N906B0741

B.2.14 Miscellaneous Excavation Material

Material Recovered from 1976 Trenches
021N009Y0000

Spurious Units
021N906B1253, 021N906B1263, 021N906B2823, 021N906B3131