ARCHAEOLOGICAL MONITORING OF THE CONSTRUCTION OF THE MANITOBA THEATRE FOR YOUNG PEOPLE AT THE FORKS

Submitted to

MANITOBA THEATRE FOR YOUNG PEOPLE

QUATERNARY CONSULTANTS LIMITED

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EXECUTIVE SUMMARY

The construction of the Manitoba Theatre for Young People at the northeast corner of the intersection of Pioneer Boulevard and Forks Market Road had impacts upon undisturbed soils. These impacts derived from augering holes for the seating of concrete piles, excavations for the pouring of pilecaps and foundation walls, and excavations for the installation of water and sewer pipes.

The auger drilling was monitored and archaeological artifacts were recovered in only one hole in the northeast corner of the building footprint. The excavations for the watermain installation were monitored and a minor manifestation of a cultural horizon was recorded in the northwest corner of the building site. Other excavations were monitored as needed and resulted in the recovery of artifacts relating to the railway activities at the site over the past century. Indicators of cultural activity, between the end of the Fur Trade Period and the Railway Period, were recovered from a small cultural horizon which pre-dates the 1881 flood and post-dates the 1826 flood. The primary result of the archaeological monitoring is the compilation of soil stratigraphic data which provides information for the determination of flood activity at The Forks over the past 3000 years.
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1.0 INTRODUCTION

The new facilities for the Manitoba Theatre for Young People are being constructed on the northeast corner of the intersection of Pioneer Boulevard and Forks Market Road at The Forks (Figure 1). Due to the presence of archaeological resources recorded during the Stage I construction program (Kroker and Goundry 1990:29-36, 42-44), the initial geotechnical investigation in 1995 was archaeologically monitored (Quaternary 1995a). That report recommended that all sub-surface construction activity be monitored—specifically open-cut trenches for service installations and pre-boring for concrete piles (Quaternary 1995a:7).

In accordance with those recommendations, Quaternary Consultants Ltd. was retained to provide heritage resource management for the construction which began on November 4, 1998. All construction activity was monitored under the terms of Heritage Permit A80-98 (Appendix A), issued by Historical Resources Branch, Manitoba Heritage, Culture and Citizenship. Quaternary Consultants worked in concert with Man-Shield Construction Inc. who had been retained to undertake the construction of the facility and Parkdale Construction Ltd. who installed the services for the building.

This report details the archaeological activities undertaken in conjunction with the construction project and discusses the recovered data (Section 2, Section 3) in terms of the overall history of The Forks (Section 4) and the specific application to this project (Section 5).

1.1 Location and Scope of the Project

As depicted on Figure 1, the project was located on the northeast corner of the intersection in the southwest corner of the existing asphalt parking lot. Construction occurred in three phases which required archaeological monitoring. The first phase was open-cut trenching for the installation of water connections from Pioneer Boulevard into the building site and continuations of the trench within the building footprint. This phase also included the excavation of vertical shafts for horizontal boring for sewer linkages to connect with the existing sewer main underlying Forks Market Road.

The second phase was the drilling of holes for seating the concrete piles for the foundation. These holes were drilled with 16” augers to depths of 25’. The third phase continued directly from the second phase wherein backhoes excavated around each pile to enable cut-off at the appropriate depths for pouring the foundation walls.

1.2 Study Team

The archaeological resources management program, i.e., the monitoring of construction excavations, was undertaken by Sid Kroker (Senior Archaeologist) and Iosef Moravetz (Field Archaeologist). No mitigative excavations requiring additional staff occurred. Laboratory operations, resulting from artifact recovery, were supervised by Pam Goundry (Research Archaeologist). Computer cataloguing
was completed by Pam Goundry and documentation and analysis was undertaken by Sid Kroker and Pam Goundry.

Figure 1: Theatre Footprint with Locations of Service Excavations and Soil Profiles

1.3 Excavation Monitoring Methodology

During the monitoring of the open-cut trenches for services installations, the monitoring archaeologist continually observed the excavations. The upper sediments, immediately underlying the asphalt and gravel surface of the parking lot, represented the railroad period at The Forks after 1890. When the excavation extended into undisturbed original sediments below the 1890 soil horizon, the monitoring archaeologist watched for buried soil horizons and changes in soil texture which could indicate possible former ground surfaces. The soil profiles were recorded and all instances which suggested potential archaeological horizons were carefully examined. The indicators watched for were charcoal layers, ash lenses, and/or reddish stained soil. The colour change is usually indicative of oxidation
of the iron particles in Red River silt by heat—the more intense the heat, the redder the soil. These features can indicate either a natural event such as a brush or prairie fire or a cultural event such as a campfire. The presence of food remains, particularly mammal or fish bones, resting upon a buried soil would be a positive indicator of an archaeological occupation horizon. Other positive indicators would be the presence of lithic tools or flakes resulting from tool manufacture and fragments of earthenware containers.

Periodically, the archaeologists entered into the trench to record soil stratigraphy and closely examine the buried soils visible on the trench walls. This has resulted in the compilation of a linear sequence of soil deposition showing past flood events over the last 3 millennia. In addition, all buried soil horizons were examined in the trench walls and any artifacts present were curated. A similar procedure occurred with the vertical shafts which were excavated on the south side of the new structure for sewer installation.

The drilling for the piling holes was conducted by a truck-mounted auger with a 5' long bit which had a 16" diameter. These holes were drilled to depths of 25 feet. The driller would auger downward until the bit length was filled. When the auger was brought to the surface, the soil on the bit was examined by the archaeologist who recorded changes in soil stratigraphy including the depths and thicknesses of different soil layers. Indicators of cultural occupation layers were also noted. Due to the rotary action of the auger and the very sticky nature of the sediments, thin soil layers (less than 1 cm thick) were almost indiscernible due to smearing. Thus, micro-stratigraphy showing very thin layers of flood deposited sediments and brief soil formation periods cannot always be observed during an augering procedure.

The augering began on November 10, 1998 and continued until November 16, during which time 126 holes were drilled. Immediately thereafter, pilecap excavations commenced and these were monitored on an intermittent basis. The data obtained during the monitoring of the drilling had indicated areas which had higher degrees of potential for archaeological resources. Excavations in these areas were continuously monitored while excavations in areas of low potential were spot checked. After the pilecaps had been excavated, trenches were dug connecting the piles for the construction of foundation forms. As no pre-European archaeological deposits had been encountered during the monitoring of the pilecap excavations, these foundation excavations were monitored on an intermittent basis. Occasionally diagnostic artifacts relating to the railroad period were recovered from the upper layers.

1.4 Archaeological Site Designation

Each artifact is assigned a Borden designation as part of its catalogue number. The Borden designation, consisting of a four-letter prefix and a numerical suffix, is a Canada-wide system of identifying archaeological sites based upon latitude and longitude (Borden 1954). The four letter identifier, DiLg, designates a geographical block between 49° 50' and 50° 00' North latitude and 97° 00' and 97° 10' West longitude. Within each block, archaeological sites are assigned sequential
numbers upon discovery. This site has been designated as DILg-33. As this location has had numerous archaeological projects over the last decade (Kroker 1989; Kroker and Goundry 1990, 1993a; Quaternary 1990, 1992, 1993, 1994a, 1994b, 1995a, 1995b, 1996a, 1996b, 1999), the site designation has been expanded to include a sequential year/project identifier. The identifier, for the site of the Manitoba Theatre for Young People, is 98D, denoting that this was the fourth project at The Forks during 1998.

1.5 Laboratory Procedures

Twenty-eight artifacts were recovered during this project (Section 3). These were brought to laboratory facilities at Quaternary where they were washed and identified by the lab personnel. Identification was carried to the limit obtainable by available reference works and staff expertise.

Each artifact received a catalogue number consisting of the Borden designation for the site and a sequential number for permanent identification. All pertinent data associated with the artifact was entered into the computer cataloguing system which is based upon the Canadian Heritage Inventory Network (CHIN) system (Manitoba Museum of Man and Nature 1986; Kroker and Goundry 1993a: Appendix B). The computer cataloguing program is derived from DBASE3 and generates individual artifact catalogue cards.

The processed artifacts were prepared for storage by inserting the specimens and the catalogue card into standard plastic storage bags, then stapling the bags closed. At the end of the project, the recovered artifacts (Appendix B) will be delivered to the Manitoba Museum of Man and Nature, the repository designated by The Forks North Portage Partnership for artifacts recovered at The Forks.

2.0 STRATIGRAPHY AND OBSERVATIONS

Stratigraphic profiles were derived from two different operations, the auger drilling and the open-cut trench excavations. The profiles derived from observations of trench walls are much more accurate in terms of thickness of layers, texture of soils, and colour of soils inasmuch as the thinner horizons tend to be smeared during the drilling process. Accordingly, detailed stratigraphic profiles will represent those obtained during monitoring of the trench excavations, while the information obtained during the drilling process is more generalized and provides an overall picture of the entire site as opposed to the location specific data obtained from the trenches.

2.1 Auger Drilling

A total of 126 holes were drilled to seat the piles which support the structure. The piles extend around the outer periphery of the building as well as under load-bearing walls within the building. The holes were drilled to depths approximating 25 feet and provided generalized stratigraphic data. In addition, the observation of buried soil horizons at specific loci enabled determination of the necessity for further monitoring if the excavations for the pilecaps extended to that depth.
Generally, fill layers, including asphalt, gravel, cinder, and relocated silts and clays, extended to depths of 80 to 120 cm. At some loci, fill extended to depths of 240 cm. A distinct buried soil horizon was observed in most holes at depths between 180 and 210 cm. This soil horizon contained considerable charcoal and, in the northeast corner of the building footprint, severely decomposed bone material. No diagnostic cultural artifacts were recovered and the only identifiable specimen is that of a beaver (*Castor canadensis*) bone from Hole 15.

A second distinct buried soil horizon occurred at a general depth of 275 cm at intermittent locations across the site. No cultural artifacts or faunal artifacts were observed in this stratum which did contain moderate quantities of charcoal, perhaps signifying a natural event such as a prairie fire. The other extensive stratum observed across the site is a thick layer of sand which occurred at depths between 390 and 450 cm.

### 2.2 Open Cut Excavations

The stratigraphy from open cut excavations is derived from the watermain trench in the northwest corner of the building footprint, the vertical shafts for sewer connections on the south side of the building, and pilecap excavations at various locations within the building footprint.

The following table (Table 1) details the stratigraphic profiles recorded at five different locations along the watermain trench (Figure 1) in the northwest corner of the building site. The stratigraphy at The Forks is rarely continuous due to varying degrees of deposition and erosion during the numerous flood events over the past millennia. It is very common for specific soil layers, even relatively thick layers, to pinch out and disappear over short distances. The original deposition of the sediment (sand, silt, clay) is a function of the speed of the water, the density of the sediment load, obstructions of flow such as ice jams, or back eddies and swirls caused by tree falls. In addition, subsequent flood events can result in differential erosion of previous layers varying due to topography, speed of water, and degree of vegetation which would anchor the soil.

This variability is readily evident in the composite profiles detailed in Table 1. Except for the very upper layers representing the last 150 years, no individual soil layer is present in all five profiles. Some of the more widespread layers occur in three or four profiles but the depth below surface varies as does the thickness of the layer.

A similar situation occurs with the correlations of the strata as depicted on Table 2. These profiles were recorded at different locations within the footprint of the building (Figure 1) and show that even the thicker strata are not necessarily found at all locations. These discontinuities make correlation of non-continuous profiles difficult and, therefore, the sequence of deposition and correlation with specific flood events is not always feasible.

As noted above, the upper strata extend across the entire site and were the only consistently artifact-bearing horizons. Two discrete historic strata contained artifacts: the railroad cinder horizon, dating
between 1888 and 1984, and the organic horizon which probably predates the 1881 flood. The artifacts from these horizons are discussed in the following section.

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<th>PROFILE 2</th>
<th>PROFILE 3</th>
<th>PROFILE 4</th>
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<td></td>
<td></td>
<td>light brown sand</td>
</tr>
<tr>
<td>261 - 262</td>
<td>149 - 163</td>
<td>149 - 163</td>
<td></td>
<td></td>
<td></td>
<td>BASE</td>
</tr>
<tr>
<td>262 - 303</td>
<td>149 - 163</td>
<td>149 - 163</td>
<td></td>
<td></td>
<td></td>
<td>BASE</td>
</tr>
</tbody>
</table>

Table 2: Soil Profiles from the Sewer Vertical Shaft and Pilecap Excavations
3.0 RECOVERED ARTIFACTS

Twenty-eight artifacts were recovered during the monitoring of the Manitoba Theater for Young People project. Two artifacts were assigned to the Pre-Contact era, while seventeen were from the Homestead Period and nine were identified as being from the Industrial Period. The Pre-Contact Period is defined as that era of Aboriginal history prior to the arrival of La Verendrye in 1737. The Homestead Period is a generalized term for the beginning of settlement following the Fur Trade Period and prior to the Industrial Period which, while variously defined by different archaeologists, is generally considered to be beginning in the latter portion (circa 1860) of the 19th century.

3.1 Pre-Contact Artifacts

Two faunal specimens, identified as Pre-Contact artifacts, were recovered from two different locations. The element and species were assigned on the basis of the available references—Gilbert (1973), Olsen (1960, 1964) and Schmid (1972).

DLg-33:98D/1 is an incomplete humerus from a beaver (*Castor canadensis*). It is the proximal end of the humerus and weighs 18.7 grams. It was recovered during the monitoring of the pile hole augering from Hole 15 (in the northeast corner of the building footprint) at a depth of 215.0 cm. No evidence of cultural modification is present.

DLg-33:98D/2 is a complete astragalus from a bison (*Bison bison*). It weighs 109.0 grams. It was recovered during the excavation of the watermain (4.30 metres east of the property line at Profile 2) at a depth of 135.0 cm. This artifact was present in a diffuse buried soil horizon and, again, has no evidence of cultural modification. No other faunal remains or any cultural artifacts were recorded in this horizon at any of the three loci where it occurred (Table 1).

3.2 Homestead Period Artifacts

The Homestead period material came from a section of an organic horizon at a depth of 85.0 cm. The horizon is not extensive being recorded in only Profile 3 and Profile 4 (Table 1) with artifacts present only in the vicinity of Profile 4. The seventeen artifacts assigned to this period fall into the categories of Architectural Object (2), Clothing (1), Faunal (7), Floral (2), Soil (4), and Container (1).

3.2.1 Architectural Object

Two artifacts were curated in this category, one in the sub-category of Hardware and the other in the sub-category of Structure. DLg-33:98D/5, the hardware item, is a single piece of corroded, bent, iron wire measuring approximately 68.7 mm in length and 3.6 mm in diameter. Wire is manufactured by the extrusion technique.
DILg-33:98D/8 is fragment of grey slate measuring 79.4 mm by 48.1 mm with a thickness of 6.0 mm. It was catalogued as part of a structure, in that it could be from a floor or a roof.

3.2.2 Clothing

One artifact was assigned to the clothing category in the sub-category of footwear. DILg-33:98D/4 is the ankle/leg portion of a lace-up style of shoe. This leather fragment has a single, intact, copper hook, where the lace would have wrapped around. The size of the piece, along with the hook, indicates that it would have come from an adult's shoe, versus a child's shoe, but it cannot be assigned to either a man's or a woman's shoe.

3.2.3 Faunal Recoveries

The seven faunal specimens are all the residue from food resources (Table 3). Five specimens, the radius, the mandible with two molars still intact, and the three molars which may fit onto the mandible, are all from cow (*Bos taurus*). DILg-33:98D/10, the innominate, may also be from a cow, however not enough was present to ascertain this for certain. DILg-33:98D/9 could not be identified for certain to either element or species.

<table>
<thead>
<tr>
<th>TAXON</th>
<th>ELEMENT</th>
<th>QTY</th>
<th>SIZE</th>
<th>CAT. #</th>
<th>WEIGHT</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cow (<em>Bos taurus</em>)</td>
<td>radius</td>
<td>1</td>
<td>adult</td>
<td>11</td>
<td>21.6</td>
<td>incomplete</td>
</tr>
<tr>
<td></td>
<td>molar</td>
<td>3</td>
<td>adult</td>
<td>12</td>
<td>11.4</td>
<td>may go with #13</td>
</tr>
<tr>
<td></td>
<td>mandible, tooth</td>
<td>1</td>
<td>adult</td>
<td>13</td>
<td>116.0</td>
<td>may go with #12</td>
</tr>
<tr>
<td>Mammal</td>
<td>innominate</td>
<td>1</td>
<td>adult</td>
<td>10</td>
<td>31.2</td>
<td></td>
</tr>
<tr>
<td>Large</td>
<td>undetermined</td>
<td>1</td>
<td>adult</td>
<td>9</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>Medium/Large</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td>181.4</td>
</tr>
</tbody>
</table>

Table 3: Faunal Recoveries from the Homestead Period

3.2.4 Floral Recoveries

Two small pieces of coal, DILg-33:98D/6, were recovered from this organic deposit. The presence of coal suggests that this horizon post-dates the advent of steam boats on the Red River.

3.2.5 Soil

DILg-33:98D/7 consists of four exfoliating fragments of manure. This could be from horse, as the time frame of the horizon appears to correlate with the presence of the Hudson's Bay Company flour mill on the north bank of the Assiniboine River.
3.2.6 Containers

DILg-33:98D/3 is an Unassigned bottle sherd which has been catalogued in the Storage category. It is a small portion, 46.2 mm long, 23.4 mm wide, and 4.0 mm thick, of the body of an aqua bottle. There are no markings whatsoever to indicate whether the contents might have been a beer, a soft drink, a juice, etc., whether the manufacturer of the contents was a local or extra-local firm, or whether the manufacturer of the bottle itself was a Canadian company or a company from another country.

3.3 Industrial Period Artifacts

The nine artifacts assigned to this period were all found in the fill which occurred during the building up of the land after the construction of the first, and subsequent, railroads on The Forks area. Seven of the artifacts are faunal recoveries, with the remaining two being Container artifacts.

3.3.1 Faunal Recoveries

Table 4 outlines the recoveries from the Industrial period. The sheep (*Ovis aries*) radius is complete except for a diagonal slice from the middle of the distal end 32.3 mm down the shaft (the entire radius measures 128.1 mm in length). The three pieces of skull include the complete top of the skull, a portion of the maxilla (with three molars), and a portion of a zygomatic arch.

The cow (*Bos taurus*) radius is from the proximal end of the shaft and has been sawn at both ends. Both saw cuts are not totally through the diaphysis, a portion of the bone was sawn and then snapped.

The complete vertebra was assigned to the medium mammal size range but could possibly be from the sheep. DILg-33:98D/17 is a portion of a long bone from a foetal animal of medium size, possibly also a sheep.

<table>
<thead>
<tr>
<th>TAXON</th>
<th>ELEMENT</th>
<th>QTY</th>
<th>SIZE</th>
<th>CAT. #</th>
<th>WEIGHT</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cow (<em>Bos taurus</em>)</td>
<td>radius</td>
<td>1</td>
<td>adult</td>
<td>18</td>
<td>197.7</td>
<td>sawn</td>
</tr>
<tr>
<td>Sheep (<em>Ovis aries</em>)</td>
<td>radius</td>
<td>1</td>
<td>adult</td>
<td>15</td>
<td>18.5</td>
<td>missing slice at distal</td>
</tr>
<tr>
<td></td>
<td>skull</td>
<td>3</td>
<td>adult</td>
<td>19</td>
<td>63.2</td>
<td>3 molars intact</td>
</tr>
<tr>
<td>Mammal Medium</td>
<td>vertebra</td>
<td>1</td>
<td>adult</td>
<td>16</td>
<td>7.1</td>
<td>complete</td>
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<td></td>
<td>longbone</td>
<td>1</td>
<td>foetal</td>
<td>17</td>
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<td>7</td>
<td></td>
<td></td>
<td>289.2</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Faunal Recoveries from the Industrial Period
3.3.2 Containers

Both of the containers were catalogued in the Storage Category and both are stoneware specimens. DILg-33:98D/14 is a complete, brown, stoneware ink bottle. It measure 54.9 mm in height with a diameter of 50.2 mm. A small fragment of the cork closure is still extant inside the bottle. In some recoveries of these types of bottles, the name of the manufacturer of the bottle has been stamped on it. However, this specimen has no maker's mark on it.

DILg-33:98D/20 is a body, base sherd from a stoneware crock. The exterior is grey in colour while the interior is brown. These styles of crocks were made by several companies, including the various ceramic firms from Medicine Hat, Alberta and Red Wing, Minnesota. However, this specimen has no indication of a manufacturer on it. The size, which in some instances is printed on these types of containers (but not on this one), would have been one gallon.

4.0 HISTORICAL CONTEXT

The Forks became accessible for archaeological investigation in 1984 (Priess et al. 1986) during the planning phases for the creation of The Forks National Historic Site. Numerous archaeological projects have taken place at this site since 1988 when the ownership of the area was transferred from the Canadian National Railway to The Forks Renewal Corporation and Canadian Parks Service. These projects have included development-related impact assessments, mitigative operations in conjunction with all construction projects, and research-oriented projects as well as the Public Archaeology Program (1989 - 1993).

4.1 The First Inhabitants (8000 B.C. - A.D. 1737)

Approximately 9000-10,000 years ago, Glacial Lake Agassiz drained from the Winnipeg area (Fenton et al. 1983; Last and Teller 1983; Teller and Thorleifson 1983). The region would have been colonized by both plants and animals and, subsequently, by people utilizing the new food sources. The first occupation of The Forks likely occurred shortly after the lake waters drained into Hudson Bay. The people were bison hunters, who followed the herds into this area from the south and the west (Pettipas and Buchner 1983:444).

The recession of the glacial waters was followed by a long-term warming trend known as the Altithermal (or Hypsithermal). The Altithermal has been variously dated: 7000-2500 B.C. with the maximum temperatures occurring at 3500 B.C. (Last and Teller 1983); 4000-1000 B.C. with a maximum at about 2000 B.C. (Ritchie 1983:167); and 6000-2000 B.C. with the warmest period about 5200 B.C. (Ashworth and Cvancara 1983; Webb et al. 1983:162). The variations in time periods are the result of research in different areas as not all locations experienced the same climatic shifts at the same time.
The Altithermal was characterized by extended drought conditions which likely caused the bison herds to abandon the central prairies. With a change in the availability of bison, human populations would have had to rely on a more varied diet of small game, fish, and plants. Habitation sites would have been close to permanent sources of water. During construction activities at The Forks, the remnants of two campfires were discovered near the north bank of the Assiniboine River. These campfires, containing charred fish bone, are estimated to be 6000 years old (4000 B.C.) (Kroker and Goundry 1990:162).

4. 1.1 The Archaic Period

By 3000 B.C., distinctly different ways of life had been developed by groups of people who lived on the prairies and by those who lived in the Boreal Forest. The period, from 3000 B.C. to about A.D. 1, is archaeologically known as the Archaic Period. Places like The Forks became important locations where these different groups of people came to trade with others from different regions. In this way, products of the forest were available to people of the south and products of the prairies were accessible to the people of the north and east.

A major requirement for a trade centre campsite would be ease of access for the different groups. The Red and Assiniboine Rivers would have provided water transportation routes from the south, the north, and the west. In addition, food resources would have had to be sufficient to provide for many people for a considerable period. At The Forks, the rivers would have provided fish, the gallery forest would have provided small game, herbs, berries, and nuts, and the plains to the west would have been the location of migrating bison herds.

A major occupation horizon of the Archaic period was discovered in 1988 (Kroker 1989). Other occupations of the same time period were located in 1989 and 1990 (Kroker and Goundry 1990, 1993a). The campsite has been estimated to cover 2500 square metres of area, set back about forty metres from the north bank of the Assiniboine River. The initial recoveries suggested that the junction of the two rivers was an important meeting place, used by the Aboriginal peoples as a fishing location and a trade centre. Lithic materials from widespread source areas and a diagnostic projectile point provided evidence for the hypothesis that two or more groups of people would meet at The Forks on an annual basis (Kroker 1989). Mitigative excavations during the construction for the Wall Through Time and the Assiniboine Riverfront Quay discerned that there were two distinct occupation zones—an upper horizon dated at 300 B.C. and a disjunct, lower horizon which provided radiocarbon dates clustering around 1000 B.C. (Kroker and Goundry 1993a:168).

The 1992 and 1993 Public Archaeology Projects (Kroker and Goundry 1993b, 1994) were detailed excavations of the Archaic horizons. Diagnostic projectile points indicated that three distinct cultural groups were present—Hanna from the western and southwestern plains; Pelican Lake from the parkland area; and Shield Archaic from the boreal forest. The types of lithic material indicate widespread travel and trading by the members of these three groups. Sources for the stone material are the Souris area of Manitoba, the Upper Assiniboine region of Manitoba and Saskatchewan, the Canadian Shield, the Interlake region of Manitoba, the Thunder Bay area in Ontario, the Knife River...
region in North Dakota, and northwestern South Dakota. Two artifacts from two exotic sources were also recorded: native copper ore from the Lake Superior area and a stone tool made of Alibates Chert which is only found in the Texas Panhandle.

Artifacts from the lower horizon provided considerable information about the subsistence activities of the peoples camped on the bank of the Assiniboine River. The large quantity of fish remains indicated mass harvesting for daily food and preservation for future requirements. The recovery of a toggling fish harpoon (Marr 1993:119, 126) demonstrated a degree of fishing technological sophistication hitherto unsuspected for an inland culture. Many of the lithic tools could have been used during fish processing activities. The stone knives would have been used to butcher the fish and cut fillets while the scrapers would have been used to remove the scales. There is evidence to suggest that drying racks were built over linear fires for drying and smoking the fish.

Mitigative excavations of a contemporaneous bison processing area at the Johnston Terminal, about fifty metres north of the public archaeology site (Quaternary 1993), demonstrates that mammal as well as fish resources were extensively harvested. In conjunction with the extensive fishing activities, the people were harvesting the complete pantheon of animal resources that would be present in the riverine gallery forest.

4.1.2 The Woodland Period

Post-A.D. 1, an important technological innovation was introduced into southern Manitoba from the east. A forest-adapted culture in southeastern Manitoba began making ceramic containers, primarily using the coil technique. These containers, distinguished by various decorative markings, have been archaeologically designated as Laurel (Manitoba Culture, Heritage and Recreation 1989). Evidence of peoples of this culture has been found throughout the southern Boreal Forest and from the Red River to the Manitoba/Ontario border. In some areas, the Laurel culture lasted until A.D. 1000.

In southern Manitoba, pottery with a different decorative style serves to denote the Blackduck culture. This new style is primarily decorated with impressions made by thin cord-wrapped objects. Sherds from vessels of this style are the earliest to be recovered at The Forks (Priess et al. 1986). Representations of occupations by the peoples who made this type of pottery have been found at numerous locations throughout The Forks (Adams et al. 1990; Kroker 1989; Kroker and Goundry 1990; Quaternary 1988, 1989, 1990, n.d.). Several radiocarbon dates have been obtained from charcoal and animal bone associated with these ceramics. These dates range from A.D. 510 to A.D. 1450. Current evidence indicates that Blackduck and subsequent Rainy River Composite ceramic traditions (Lenius and Olinyk 1990) continued until the advent of the Fur Trade.

Another ceramic tradition, the Selkirk tradition, developed in northern Manitoba around A.D. 1000 and expanded southward (McLeod 1987:48). Although the peoples of the Selkirk culture visited The Forks (Kroker 1989:150-151), they lived primarily to the north and to the east of this area. Several sites in the Red River area have yielded Selkirk ceramics (FRC 1988:39).
In addition to the above local types of ceramics, a small archaeological horizon containing Plains Woodland ceramics—subsequently identified as Avonlea (Speidel 1996; pers. comm.)—was excavated during mitigation of the construction of the Manitoba Travel Idea Centre (Quaternary 1994b). Sandy Lake ware, another non-local type, was recovered during the mitigation of the North Point Interpretive Node construction (Adams et al. 1990). More extensive excavations of the known ceramic locations will probably recover non-local wares in conjunction with the local wares. Ceramic vessels containing goods for trade would have been brought to The Forks, continuing the tradition observed in the Archaic period.

Unfortunately, no firm information is available to link groups of the late Pre-Contact period with those groups who were in the area when the first recorded Europeans arrived in 1737. During the period immediately preceding the Fur Trade era, Cree, Ojibwa/Saulteaux, and Assiniboine groups regarded the area of The Forks as their territory. The Sioux/Dakota oral tradition makes reference to visitations to The Forks.

4.2 Contact Period (1737-1821)

The Forks area was used during the 18th and early 19th centuries by several Native groups, by parties of explorers, by two major fur trading companies, and by independent traders. The visitations were usually temporary; few long-term occupations have been recorded and few descriptive records exist of these occupations.

La Verendrye, invited to The Forks by the Assiniboine Nation, was the first known European to visit the area. During his first visit in 1737, two villages of Assiniboine occupied The Forks; in 1738, ten cabins of Cree were present. Fort Rouge was established in 1738 by M. de Louviere, a compatriot of La Verendrye (Guinn 1980a:33). The fort was abandoned by 1749. Disagreement exists as to whether this structure was located on the north bank or the south bank of the Assiniboine River (Coutts 1988:36).

Archival records indicate that the French explorer, Jacques de Saint Pierre, had a winter camp at The Forks in 1752-1753, perhaps at the ruins of Fort Rouge (Coutts 1988:38). Independent Montreal-based traders Bruce and Boyer established a winter camp (1781-1782) in the area. In 1793, McKay reported a camp of Nor'Westers present (Guinn 1980a:37). Alexander Henry, a partner in the North West Company who visited the location on numerous occasions, reported members of that company made regular use of The Forks area from 1800 to 1808. Louis Dorion, an independent trader, over-wintered during 1803-1804 (Coutts 1988:76-77).

By the turn of the 19th century, despite fear of attacks by the Sioux, several Métis families had settled at The Forks. They worked as commercial buffalo hunters for the North West Company (Guinn 1980a:24; Coutts 1988:8).
4.2.1 Fort Gibraltar I (1810-1816)

Due to the fact that The Forks was becoming an important transfer point for the North West Company after 1800, the company appears to have had a semi-permanent presence at the junction of the Red and Assiniboine Rivers. The cargoes of trade goods from Montreal were broken into smaller shipments for transport to the inland posts, while the bales of fur, obtained by the wintering partners, were combined for shipment to the east.

During the summer of 1810, John Willis, a bourgeois with the North West Company, began building Fort Gibraltar at The Forks as a central post to handle the transfer of goods and furs. In addition, Fort Gibraltar became the focal point of the pemmican industry, with supplies being brought here, stockpiled, and then transported to the smaller posts.

The post, constructed by craftsmen from the local Métis community, was finished by the following winter. One of the workers, Jean Baptiste Roi, described the establishment:

_It was a wooden picketing, made of oak trees split in two, which formed its enclose. Within the said enclosure were built the house of the partner, 2 houses for the men, a store, two hangards or stores, a blacksmith's shop, and a stable; there was also an ice-house with a watch-house (guerite) over it; these houses were good log houses, large and inhabited. In the house of the partner were his clerks and interpreters, and in the other house his engage (servants) to the number of eight or ten men; each of the houses could have contained twenty men_ (Coutts 1988:79-80).

Another workman, Jean Baptiste Mennie, also provided a description of the fort:

_We were employed a whole year building. In the winter there were twenty men there who were all employed. The fort was built by one Mr. Willis, who died there and was succeeded by Mr. Duncan Cameron. There were in the fort one house, sixty-four feet long, one of thirty, a kitchen of fifteen feet, another house twenty-eight feet, a store twenty-two feet, and other buildings_ (Coutts 1988:80).

The first Selkirk Settlers arrived in 1812 and they became caught up in the conflict between the North West Company (NWC) and the Hudson's Bay Company (HBC). The settlers and the HBC employees constructed Fort Douglas (also called the Colony Fort) in 1814. This post was located on Point Douglas, approximately 2.5 km downstream from Fort Gibraltar. In 1815, the Nor'Westers, after most of the Selkirk Settlers had left for eastern Canada or York Factory, destroyed the largely abandoned HBC establishment. The York Factory contingent of the Selkirk Settlers returned and rebuilt Fort Douglas during the winter of 1815-16. In the spring of 1816, Colin Robertson, Robert Semple and a group of HBC men and settlers, seized Fort Gibraltar. Robertson noted that the fort...

*_is certainly in an excellent state of defence; it has two good bastions at the two angles of the Square and the Square is formed with Oak Palisades, eighteen feet in height and these are proof against Muskettry. This is not only a strong place but very comfortable lodgings, such as I have not been accustomed to for some time past_ (Coutts 1988:81).
In June, “the greater part of the NWCo. House and buildings and stockades were pulled down and conveyed to Fort Douglas” (Guinn 1980a:52). Those parts of Fort Gibraltar that could not be used were burned, so as not to provide resources for the Nor’Westers. After the battle of Seven Oaks, the settlers and the HBC traders were forced to leave the colony and the North West Company took possession of Fort Douglas. In January of 1817, the Des Meurons regiment, recruited by Lord Selkirk, captured Fort Douglas and the colonists returned. The conflict resulted in action by the Canadian administration and William Coltman was appointed to investigate. His report called for the restitution of all property and, consequently, the North West Company began the construction of the second Fort Gibraltar, overlooking the junction of the two rivers at The Forks (Guinn 1980a:54). With the amalgamation of the two companies in 1821, the era of fur trade competition came to an end.

4.3 The Transition Period (1821-1870)

The post-amalgamation period saw further developments to The Forks area. After its take-over by the Hudson’s Bay Company, Fort Gibraltar II was renamed Fort Garry. Fort Garry was severely damaged by the flood of 1826 and further declined in importance when Lower Fort Garry was built in 1832. After further damage during the flood of 1852, the structures were abandoned (Guinn 1980a:87).

The location of Lower Fort Garry, 30 km down the Red River, was not optimum as the trade network focussed on the river highways and The Forks was the natural trans-shipment location. In 1835, work began on its replacement, Upper Fort Garry, a limestone-walled structure located to the west of present-day Main Street (Loewen and Monks 1986: 23-26). Remnants of the foundations of many of the buildings were uncovered during the reconstruction of Main Street in 1996 to 1998 (Quaternary 1998).

During the Transition Period, several attempts were made to establish an agricultural base at The Forks site. As early as 1808, Métis settlers had established small farms along the banks of the rivers (Coutts 1988:78-79). In 1836, the Hudson’s Bay Company commissioned Captain George Cary to establish an experimental farm for the rearing of “sheep and Black Cattle and for the growth of Flax and Hemp” (Guinn 1980a:68). The area under consideration was the “low ground on each side of the New Establishment at the Forks” (Guinn 1980a:68). The location has been described in an undated document in the Hudson’s Bay Company Archives. The area extended

….from the north bank of the Assiniboine River immediately below George Thane’s [lot],
North 3° East, one hundred and fifty chains [3017 m], or thereby and then 65° East ... to the
Red River, from there round the shores of the Red and Assiniboine Rivers to the place of
beginning (save and except the ground occupied by or required for Upper Fort Garry...)”
(Guinn 1980a:178).

Barns and stables were constructed north of the river junction (Warkentin and Ruggles 1970:192193), immediately north of the present location of the Manitoba Children’s Museum. By 1838, only 20 acres were cultivated and by 1841 the farm was abandoned. Governor George Simpson reported that
The experimental Farm, which has not been productive of the benefits that were expected when it was established although attended with considerable outlay has been abandoned. Mr. Cary and the servants have been permitted to retire (Guinn 1980a:69).

In 1848, a group of British Army veterans, the Chelsea Pensioners, were granted land adjacent to The Forks (Coutts 1988:129). Between 1846 and 1862, British Army troops were stationed at Upper Fort Garry. During their stay, both groups may have used the now-abandoned gardens and fields of the Experimental Farm to grow crops for their own consumption.

A number of events occurred in the latter part of this period that would have major ramifications for the future of The Forks. In particular, the disappearance of the bison totally disrupted the lifeways of Aboriginal groups and the Métis. This eventually led to political action by the Métis and the Confederation of Manitoba within Canada in 1870.

4.4 Industrialization and Immigration Period (1870-1888)

A major increase in immigration to western Canada occurred between 1870 and 1888. In 1872, two immigration sheds with detached cookhouses were built near the former location of Fort Gibraltar I. A shanty town developed on the flats between the west bank of the Red River and the Fort Gibraltar I area and along the north edge of the Hudson's Bay Preserve. The shanty town disappeared by 1884 and the immigration sheds by 1885 (FRC 1988:50).

Three industrial sites were constructed in The Forks area between 1870 and 1888. The Hudson's Bay Company developed a large warehouse (Steamboat Warehouse or Warehouse #4) on the north bank of the Assiniboine River in 1872 near the present location of The Forks Market. In 1877, the structure was moved 120 feet back from the river. It was demolished in 1895. The Clarke and McLure Lumber Yard, located in the central portion of The Forks, operated from 1876 to 1890.

A major development by the Hudson's Bay Company was a large flour mill complex, located to the south of the current Johnston Terminal. The first structures were built in 1874 and other buildings (sheds, warehouses) were added until the complex consisted of nine buildings. The in-filled cellar was located in 1988 (Kroker 1989:165-166), as were a series of oak pilings (Kroker 1989:168-170). Additional pilings were exposed during the 1992 and 1993 public archaeological projects, yielding tree ring dates of 1881 and 1888 (Nielsen 1993) and 1876, 1892, and 1893 (Nielsen 1994). These dates seem to correlate with archival evidence of structural renovation of one of the buildings in the 1890s (Kroker 1994:200-205). The entire complex was demolished in 1907 (Guinn 1980a:142-3).

4.5 The Railway Period (1888-1988)

In 1888, a charter was granted to the Northern Pacific and Manitoba Railroad. That same year, the Hudson’s Bay Company sold 20 acres of land to the railway for $10,000 (Guinn 1980a:135). The site of Fort Gibraltar I was located within these 20 acres. This property remained under railway
control until the area was transferred to Canadian Parks Service and The Forks Renewal Corporation in 1988.

The Northern Pacific and Manitoba Railroad began construction of two buildings in 1889. A large repair shop and roundhouse were built north of the junction of the Red River (Guinn 1980b:4). The roundhouse was demolished in 1926 but the repair shop, known today as the Bridges and Buildings (B&B) Building, still stands and is located just to the southwest of the Fort Gibraltar I excavation areas. It has been renovated and now serves as the new home of the Manitoba Children's Museum. The train depot was at the intersection of Main Street and Water Avenue. Subsequently, the Grand Trunk Pacific Railway bought out the Northern Pacific and Manitoba Railroad and the Canadian Northern Railway established its presence with the construction of a roundhouse in the central portion of the rail yard. In 1911, the two companies joined forces to construct Union Station and the High Line railroad track. During the 1920s, the two companies were amalgamated as the Canadian National Railroad (Regehr 1985).

For the past century, the railway has been the dominant industry at The Forks. The excavation area has been affected by this railway activity, either as an active area of railroad-related work or as a dumping ground for the by-products of railway activities (ash, cinders, and refuse). The use of large quantities of coal-derived cinders as landfill has provided a thick layer (up to two metres in some locations), which has served to protect heritage resources from disruption.

5.0 DISCUSSION

The geo-technical program, in 1995, recorded several buried soil horizons in the proposed footprint area of this structure (Quaternary 1995a:325). The depths of these strata ranged from 90 cm to 580 cm below surface, with several occurring at more than two loci. Similarly, layers of sand, representing rapid flood waters, were present at depths below two metres.

Many of these strata were observed during the excavations for the construction of the facility (Table 1, Table 2). Due to undulations of the buried soil layers and the tendency for strata to pinch out and disappear, direct correlation with the observations deriving from the drilled holes of the 1995 investigation is not possible. In fact, correlations between profiles recorded at different locations along the same trench do not appear obvious (cf. Profile 3 and Profile 5).

Generally, the railroad stratum was present at all locations, although part of it had been stripped during the development of the parking lot during Stage I construction. The former topsoil immediately below the railroad layer would represent ground level in 1885, prior to the establishment of the rail facilities. The artifacts from this horizon are generic in the sense that they cannot be ascribed to a specific time period. The ink bottle and crock probably pre-date World War I but this cannot be confirmed by maker's marks or any other indicators. The faunal remains, representing sheep and cow, likely derive from garbage deposition in the cinder fill. An early Winnipeg city dump existed at The Forks around 1907 to 1910 (Kroker 1989:181-182).
The organic horizon, equated in this report with the Homestead period, represents a ground level prior to the 1881 or the 1861 flood, which would have deposited the silty clay layer above it (Profile 3, Profile 4). The artifacts are again temporarily vague. The shoe fragment is a style that was present from the mid-1800s to the 1920s or later. The bottle sherd provides no temporal data. The presence of coal indicates that this horizon occurs after the beginning of steam transportation on the Red River with the arrival of the Anson Northup in June 1860 (Collard 1967:39). The presence of manure fits this time frame as all personal transportation and cartage utilized horse-drawn conveyances.

The plow zone (Pilecap 3) represents farming activity during the operation of the Hudson's Bay Company Experimental Farm (1836-1848). The laminated tan sands (Pilecap 4) may represent deposits during the massive flood of 1826; alternatively they could represent the flood in the 1790s or even earlier.

The profiles show numerous layers of different textured and different coloured sediments. Clay layers would have been deposited by slow-moving and/or stationary flood waters while sand deposits would have been laid down during the initial phases of fast-moving, intense flood waters. The sands are noted at depths below 2 metres in the 1995 studies and were also observed in Profile 1 (Table 1) and the sewer profile (Table 2). Previous studies have identified a massive flood as occurring approximately 750 years ago (Kroker and Goundry 1990:143) as well as several larger flood episodes circa 3000 years ago (Kroker 1997:14). The upper sand levels probably represent the 750 year flood, while those below 3 metres would correlate with the 3000 year floods.

The buried soil horizons occasionally correlate across the site. Table 5 indicates the locations and depths at which each of these horizons were encountered. Occasionally, very thin, short traces of buried horizons were encountered at individual loci (Table 2 - Cap 2) which fell between the major identified strata.

Minimal quantities of cultural evidence was encountered during either the 1995 test program or the 1998 construction program. Decomposed fish bone was observed in Horizon 4 in Hole 6 of the 1995 investigation (Quaternary 1995a:S). An astragalus (ankle bone) from a bison was recovered from Horizon 2a in Profile 2. The only other artifact was a humerus from a beaver recovered from an auger hole in the northeast corner of the building at a depth which would equate with Horizon 5.

Even though minimal evidence of cultural activity was recorded within the construction impact zone, several of the buried soil horizons can be correlated with previously identified cultural loci which were observed during the Stage I construction project (Kroker and Goundry 1990). The buried soil layer identified as Horizon 5 appears to correlate with two previously identified cultural deposits at Long Trench 391-395 and Long Water 385 (Kroker and Goundry 1990:34, 36). At these locations faunal material was recovered but there were no diagnostic artifacts which would permit the identification of a specific cultural group. Previous studies in this vicinity have not identified the presence of cultural occupations at Horizon 2a. The depth below the railroad stratum appears to be similar to that of an extensive upper horizon (Horizon B) encountered during the Forks Access
Project which entailed the reconstruction of Pioneer Boulevard (Quaternary n.d.). This horizon has radiocarbon dates indicating that the campsite was occupied about 665 years ago.

<table>
<thead>
<tr>
<th>Horizon</th>
<th>1995 Test</th>
<th>Profiles</th>
<th>Pilecaps</th>
<th>Thickness</th>
<th>Upper Depth</th>
<th>Lower Depth</th>
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<tbody>
<tr>
<td>1</td>
<td>2,6</td>
<td>2,3,4,5</td>
<td>2,5</td>
<td>2 cm</td>
<td>76</td>
<td>119</td>
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<tr>
<td>2</td>
<td>2,4</td>
<td>1,2,3</td>
<td>Sewer, Cap 1,2,4</td>
<td>1-2 cm</td>
<td>102</td>
<td>127</td>
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<tr>
<td>2a</td>
<td>3</td>
<td>1,2,3</td>
<td>Sewer, Cap 2</td>
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<td>151</td>
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<tr>
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<td>1,3,5,6</td>
<td>1,2,5</td>
<td>Sewer, Cap 2</td>
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<td>188</td>
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<tr>
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<td>2,3,4,6</td>
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<td>Sewer</td>
<td>1 cm</td>
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<td>204</td>
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<tr>
<td>5</td>
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<td>232</td>
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<td>251</td>
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<td>none</td>
<td>1 cm</td>
<td>504</td>
<td>579</td>
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Table 5: Correlation of Buried Soil Horizons

Even though minimal evidence of cultural activity at this specific location was recorded, the archaeological monitoring of the project has resulted in compilation of soil stratigraphic sequences which aid in the determination of the chronology and intensity of floods in the Red River valley. The end result of these soil studies will probably require many additional studies to develop a complete sequence due to the variability of flood deposits. This project has contributed data towards this ultimate end.
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Ritchie, J.C.

Schmid, Elisabeth

Teller, James T. and L. Harry Thorleifson

Warkentin, John and Richard L. Ruggles

Webb, T. Ill, E.J. Cushing and H.E. Wright, Jr.
APPENDIX A

HERITAGE PERMIT
The Heritage Resources Act (Subsection 14(2) and Sections 52 and 53)

Heritage Permit No. A80-98

Pursuant to Section/Subsection 53 of The Heritage Resources Act:

Name: Quaternary Consultants Ltd.
Address: 130 Fort Street
Winnipeg MB R3C 1C7

ATTENTION: Mr. Sid Kroker

(hereinafter referred to as “the Permittee”),

is hereby granted permission to:

monitor and, if necessary, mitigate the construction of the Manitoba Theatre for Young People at The Forks, D1Lg-33, at the intersection of Forks Market Road and Pioneer Boulevard;

during the period:

November 2, 1998 to March 31, 1999

This permit is issued subject to the following conditions:

1. That the information provided in the application for this permit dated the 30th day of October 1998, is true in substance and in fact;

2. That the permittee shall comply with all the provisions of The Heritage Resources Act and any regulations or orders thereunder; Please note attachment re custody and ownership of heritage objects

3. That the Permittee shall provide to the Minister a written report or reports with respect to the Permittee’s activities pursuant to this permit, the form and content of which shall be satisfactory to the Minister and which shall be provided on the following dates:

   March 31, 1999

4. That this permit is not transferable;

5. This permit may be revoked by the Minister where, in the opinion of the Minister, there has been a breach of any of the terms or conditions herein or of any provision of The Heritage Resources Act or any regulations thereunder;
Special Conditions:

a. All heritage objects are to be deposited with the Manitoba Museum by March 31, 1999, for permanent curation and storage, unless appropriate loan requirements are arranged with the Curatory of Archaeology prior to that date;

b. A complete set of archaeological field records, catalogue sheets, laboratory analysis records, photographs, reports, etc. are to be deposited with the Manitoba Museum of Man and Nature upon completion of the archaeological research, or sooner if required; and any subsequent revisions or additions to these records are to be filed as soon as possible thereafter;

c. Neither the Government of Manitoba nor the party issuing this permit be liable for any damages resulting from any activities carried out pursuant to this permit, and the Permittee specifically agrees, in consideration for receiving this permit, to indemnify and hold harmless the Minister and the Government of Manitoba, the Minister and any employees and officials of the Government, against any and all action, liens, demands, loss, liability, cost, damage and expense including, without limitation, reasonable legal fees, which the Government, Minister or any employee or official of the Government may suffer or incur by reason of any of the activities pursuant to or related to this permit.

Dated at the City of Winnipeg, in Manitoba, this 6th day of November 1998.

[Signature]
Minister of Culture, Heritage and Citizenship
APPENDIX B

CATALOGUE OF RECOVERED ARTIFACTS
<table>
<thead>
<tr>
<th>Cat. #</th>
<th>Qty</th>
<th>Object Name / Object Type</th>
<th>Material / Cultural Phase</th>
<th>Location / Unit</th>
<th>Coll. Date</th>
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<td>1</td>
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<td>Humerus CASTOR CANADENSIS</td>
<td>Bone</td>
<td>Pre-Contact</td>
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<tr>
<td>4</td>
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