

ARCHAEOLOGICAL MONITORING OF
SERVICES INSTALLATIONS FOR THE
MANITOBA CHILDREN'S MUSEUM
AT THE FORKS

Prepared for

THE FORKS RENEWAL CORPORATION,
MANITOBA CHILDREN'S MUSEUM,
WINNIPEG HYDRO

QUATERNARY
CONSULTANTS
LIMITED

February, 1994

EXECUTIVE SUMMARY

An archaeological resource monitoring program was undertaken as part of the installation of services for the Manitoba Children's Museum at The Forks. The program consisted of continual observation of all excavations. There were eleven discrete components within the construction project, including:

- a. installation of water service to the B&B Building,
- b. installation of two hydrants,
- c. installation of a sanitary sewer connection to the B&B Building,
- d. installation of three catchbasins and a land drainage sewer line, and
- e. installation of underground Hydro services to the B&B Building and the Parks Canada Interpretive Node.

Cultural material was encountered at fourteen locations during the monitoring program. Nine of the locations are identified as representing activities that occurred after Contact. One location relates to activities adjacent to Fort Gibraltar I (1810-1816), three occurred during the period of the Immigration Sheds (1872-1885), and five are related to railroad period activities (1888-1988). Of the five Precontact locations, three are interpreted as occupation locations during the Late Woodland Period (A.D. 500-1737). The remaining two locations represent natural deposition of faunal remains through river flooding activities.

None of the recovery locations are extensive. The most significant recoveries are the brick foundations of the former roundhouse at the north end of the B&B Building (North Catchbasin locus), the midden relating to the occupation of the Immigration Sheds ('Old Boot' locus on the East Hydro trench) and a small, previously disturbed, Precontact occupation site (Centre Catchbasin locus).

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
TABLE OF CONTENTS	ii
LIST OF APPENDICES	iii
LIST OF TABLES	iii
LIST OF FIGURES	iii
1.0 INTRODUCTION	1
1.1 Study Team.	1
2.0 METHODOLOGY	3
2.1 Field Methodology	3
2.2 Laboratory Procedures	4
3.0 OBSERVATIONS AND RECOVERIES	5
3.1 Land Drainage Sewer - Northern Extension	5
3.2 Sanitary Sewer Extension	5
3.3 Watermain Extension	5
3.3.1 East Hydrant Extension	6
3.3.2 North Watermain	6
3.3.3 West Hydrant and Watermain	6
3.4 New Land Drainage Components	7
3.4.1 North Catchbasin	7
3.4.2 Northwest Catchbasin	7
3.4.3 Centre Catchbasin	7
3.4.4 Southwest Land Drainage Sewer Line	9
3.4.5 Southeast Building Drainage Line	9
3.5 Hydro Installations	10
3.5.1 West Trench	10
3.5.2 East Hydro Trench	11
3.5.2.1 East Hydro Location	11
3.5.2.2 'Old Boot' Location	12
3.5.2.3 Railroad Period Feature Locations	15
3.5.3 Parks Manhole	15
3.5.4 Southeast Trench	16
3.5.5 FRC Control Panel Linkage	16
3.5.6 Drainage Line Linkage	16
4.0 DISCUSSION	17
5.0 BIBLIOGRAPHY	20

LIST OF APPENDICES

APPENDIX A: Heritage Permit 22
APPENDIX B: Catalogue of Artifacts 26

LIST OF TABLES

1: 'Old Boot' Faunal Recoveries 14

LIST OF FIGURES

1: Map of Placement of Site Services 2
2: Locations of Archaeological Resources 18

1.0 Introduction

Development of the Children's Museum at The Forks required the extension of services to the B&B Building: a sprinkler water line, a domestic water line, a sanitary sewer line, and the hydro-electric line (Figure 1). In addition, landscaping components around the building required the installation of catch-basins and land drainage (storm sewer) lines (Figure 1). These sub-surface services were extended from the ends of the lines that had been installed during the Stage I Construction Project (Kroker and Goundry 1990).

Discussions between the archaeological consultant (Quaternary Consultants Ltd.), the engineers (Wardrop Engineering Ltd.), the architect (Cooper Rankin Architects), the landscape architects (Hilderman Witty Crosby Hanna and Associates), and the site managers (The Forks Renewal Corporation) were initiated to minimize the degree of impact to the site. As a result, installations of service lines were coordinated and placed in parallel corridors where possible. In addition, the existing, abandoned combined sewer line, parallel to the west side of the building was televised and found to be usable. When a design which addressed all concerns as fully as possible had been determined, the archaeological consultant discussed the development with Historic Resources Branch, Manitoba Culture, Heritage, and Citizenship. The proposed construction monitoring program was approved and Historic Resources Branch issued Heritage Permit #A34-93 (Appendix A).

As archaeological resources had been recorded in the general vicinity during the Stage I Construction (Kroker and Goundry 1990) and the B&B Foundation Investigation (Quaternary 1992), the archaeological monitoring team was prepared for mitigative operations. In addition, the contractor, Red River Construction, was apprised that it may be necessary to relocate operations if archaeological resources were encountered. This would mean short-term cessations at locations where archaeological horizons would be mitigatively excavated.

1.1 Study Team

The project was directed by Sid Kroker. The construction monitoring was conducted by Sid Kroker, Steve Lundin, and Pat Carroll.

Laboratory operations, resulting from artifact recovery, were supervised by Pam Goundry. Paul Speidel and Pat Carroll processed the material. Computer cataloguing was completed by Pam Goundry. Documentation and analysis has been undertaken by Sid Kroker and Pam Goundry.

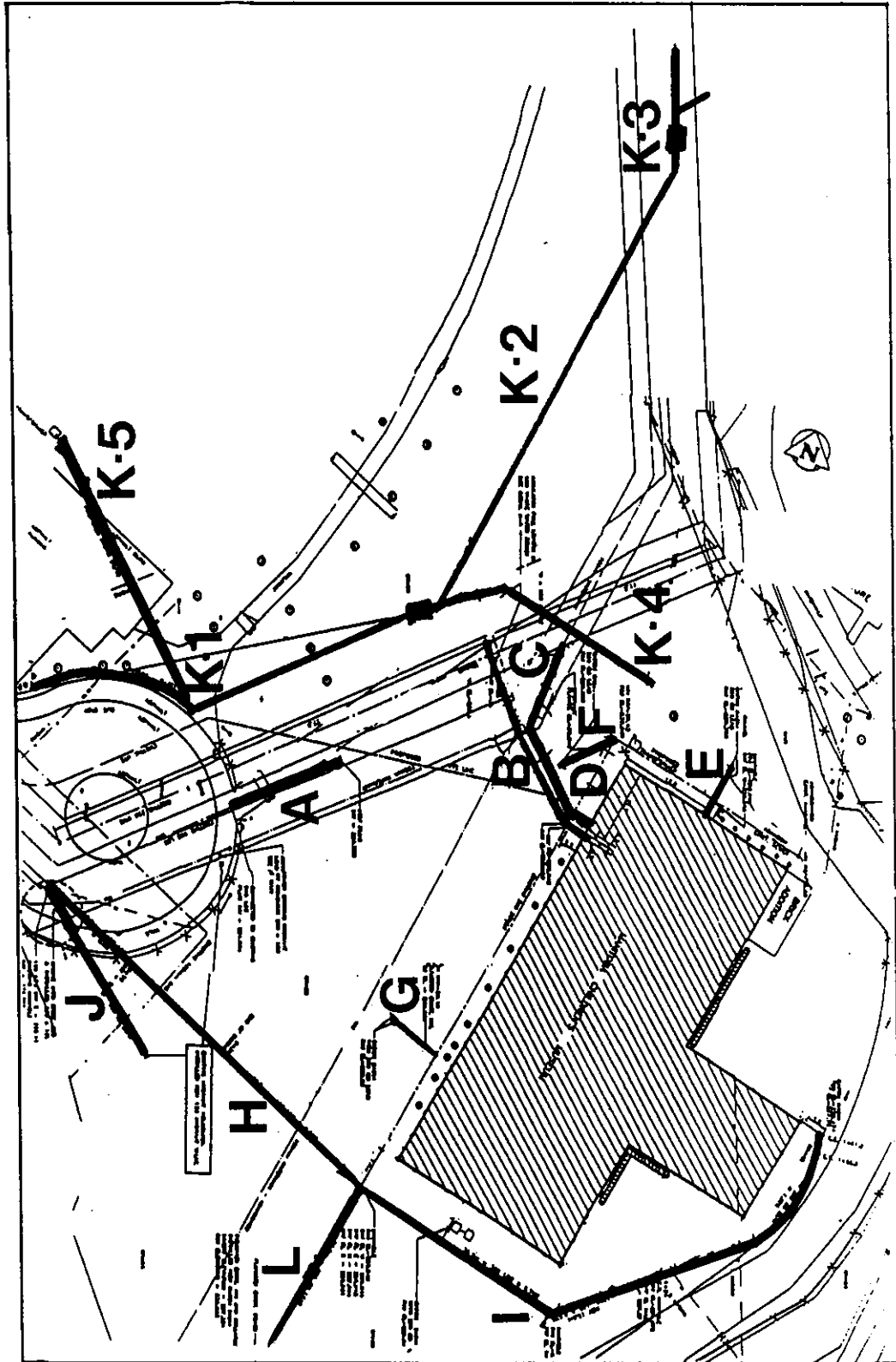


Figure 1: Map of Placement of Site Services

2.0 Methodology

The primary focus of the construction monitoring program was the determination of the number and extent of cultural horizons. Artifacts were retrieved and analyzed to provide temporal and cultural data. All recovery locations were recorded using the contractors' field location system which was then converted to The Forks Archaeological Survey Grid. This grid uses the City of Winnipeg survey marker (87R548), at the north end of the Low Line Bridge, as the Site Datum. This marker has been assigned the arbitrary provenience of 1000N/1000W. The 1000E/W Baseline extends from the marker to the second concrete pier (to the south of the embankment) of the CNR Main Line Bridge (Kroker 1989:9).

2.1 Field Methodology

All excavations were monitored by the archaeological team. The archaeologists would observe the excavations and continually check the walls of the excavation for relict soil horizons and evidence of Precontact occupation. This entailed development of a rapport with the construction workers, the equipment operators, and the foremen. Enthusiastic cooperation was received from all personnel.

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

The historic strata consisted of thick deposits of railway debris (cinders, clinkers, gravel, etc.) containing metallic, glass, and ceramic fragments. As these horizons have been extensively described (Kroker 1989, Kroker and Goundry 1990, 1993), only diagnostic specimens were retrieved when they occurred in context with a feature.

When a Precontact cultural horizon was identified, the monitoring archaeologist would have the backhoe operator selectively excavate the stratum and place the soil to the side of the excavation area. Staff, using trowels, were able to excavate the material as if it were still *in situ*. Excavation trenches were profiled to provide sedimentary sequences and contexts for cultural horizons.

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

Stratigraphic profiles were recorded at relevant locations along each trench. The trench wall was examined and the thicknesses of each stratum (cultural horizon, fluvial deposit, relict soil zone, etc.) was recorded.

2.2 Laboratory Procedures

The artifacts were brought to the laboratory facilities, washed, and sorted by material class. When dry, all artifacts were identified by the lab personnel. Material of the same type (i.e., bison rib bones) from the same locality were combined under a single catalogue number. Identification was carried to the limit obtainable by available reference works and staff expertise. Faunal remains were, where possible, identified to element and species.

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

Each artifact, or cluster of artifacts, received a sequential catalogue number which consisted of the Borden designation for The Forks (DILg-33), followed by the project designator (93E - indicating the fifth project of 1993 at The Forks) and the specimen number (e.g., DILg-33/93E-123). All pertinent data associated with each artifact were entered into the computer cataloguing system. The cataloguing system is based upon the Canadian Heritage Inventory Network (CHIN) system (Manitoba Museum of Man and Nature 1986; FRC 1988:110, 171). The computer cataloguing program was developed by Brian Lenius, based upon **DBASE3**, for use on personal computers. The project used an IBM AT clone computer with a 40 megabyte hard drive and a dot matrix printer for the generation of individual artifact catalogue cards on fanfold 3" x 5" cards.

Processed artifacts were prepared for storage by inserting the specimens and the catalogue card into a standard plastic storage bag and stapling the bag closed. All subsequent analysis and research on the artifacts has been undertaken in the facilities provided by Quaternary Consultants Ltd. All recovered artifacts will be housed at the Manitoba Museum of Man and Nature which has been designated as the repository for artifacts and documentation of archaeological projects undertaken within the jurisdiction of The Forks Renewal Corporation (FRC 1988:129).

A total of 404 artifacts were curated during the project. These specimens are tabulated in Appendix B. The catalogue numbers DILg-33:93E/42 to DILg-33:93E/55 do not appear in the artifact list as they have already been published in the catalogue of artifacts related to The Forks Heritage Plaza Project (Quaternary 1993). The installation of a land drainage sewer component (Figure 1L) for the proposed orrery was monitored under this Heritage Permit (A34-93) but the results were germane to a different report.

3.0 Observations and Recoveries

The sub-surface operations took place at several locations, each of which will be discussed separately. While archaeological recoveries did not occur within each sector, useful stratigraphic data were recorded. The sectors are denoted on Figure 1.

3.1 Land Drainage Sewer - Northern Extension

The existing land drainage sewer, installed during Stage I, had to be extended beyond the cobblestone-paved bus turn-around (Figure 1A). As this extension paralleled the previous installation of a watermain, a considerable portion of the southern side had been previously impacted. The new extension, 19.7 m in length, was excavated to a depth of 224.7 m asl (slightly more than six meters below surface).

Due to inclement weather and prior impacts, the soil was extremely unstable. Because numerous slumps and wall collapses occurred, wall inspections and stratigraphic examinations were undertaken only in the sewer cage. No occupation horizons were observed, although what appeared to be a brownish lanceolate lithic tool was noticed at an estimated depth of 1.5 meters. While the possible artifact was being observed through a transit, the wall collapsed. The backhoe operator, while re-excavating the trench, set several cubic meters of soil from the collapsed area aside for archaeological examination. The artifact was not found but seems to have been isolated, as no distinct soil horizon or evidence of occupation was observable at that depth at that location.

3.2 Sanitary Sewer Extension

The existing sanitary sewer line was extended into the B&B Building (Figure 1B). The upper stratum consisted of railroad period deposits (clinkers, coal dust, and gravel). The excavation encountered the abandoned steam heat piping leading from the Steam Plant to the B&B Building. The pipe was encased in a wood and concrete framework. Other observed artifacts were portions of track, milled lumber, and corroded metal fragments.

The strata below the railroad deposits consisted of layers of riverine silts and clays with three relict soil horizons at 90 cm, 110 cm, and 170 cm below surface. Some charcoal and ash occurred at the lowest relict soil horizon, along with traces of fragmented gastropod shell. The material does not appear to represent a cultural occupation but, rather, probably represents a fire during which existing vegetation was burned.

3.3 Watermain Extension

The existing watermain terminated near the northwest corner of the B&B Building. This line was exposed and three new lines were extended from the end. A northward section was extended to the location of a new fire hydrant (Figure 1C). Two lines, the sprinkler and domestic water lines, were

tied into the existing watermain and were extended into the B&B Building (Figure 1D). These twin lines were placed parallel to the sanitary sewer line.

In addition, the existing hydrant near the Johnston Terminal had to be relocated, requiring a new watermain extension in the western portion of the project (Figure 1J).

3.3.1 East Hydrant Extension

This component consisted of a northward extension from the original terminus of the watermain (Figure 1C). A hydrant was installed on a slight eastward extension, perpendicular to the watermain.

The railroad period deposits extended to 85 cm below surface with a thin silt horizon immediately below. This silt horizon contained small fragments and stains of decomposed wood. Two thin organic strata, containing some charcoal, were recorded at 90 cm and 110 cm below surface. An undulating, organic horizon, containing charcoal and some ash, was recorded at 170 to 180 cm below surface. No cultural material was present in these horizons.

3.3.2 North Watermain

This component consisted of the parallel domestic water and sprinkler water lines (Figure 1D) which extended from the former terminus of the watermain to the B&B Building. The trench was slightly wider than normal due to the necessity of placing two parallel water lines. The railroad period deposits extended to a depth of 110 cm and included corroded pipe, broken bricks, metal fragments, and milled lumber. A thin (5 cm) brown clayey silt horizon lay immediately below the cinder horizon, with a greyish clayey silt horizon below that. Subsequent strata were layers of riverine deposits with slightly varying colour and texture. Three relict soil horizons were observed at 231 cm, 256 cm, and 266 cm below surface. Traces of ash were seen in the horizons.

The sole recovered artifact derives from the relict soil horizon at 266 cm. The specimen has been identified as a fragmented scapula (DILg-33:93E/65) from a large Artiodactyla (deer, moose, elk, or bison). The artifact shows evidence of intense weathering prior to incorporation in the soil. Both anterior and superior surfaces show cavitation in addition to weather staining. No other material was encountered in this horizon and the presence of the artifact is not directly attributable to human action.

3.3.3 West Hydrant and Watermain

The existing hydrant had to be relocated and was re-installed to the south of the bus turn-around loop (Figure 1J). The hydrant was linked to the existing watermain. The northwestern portion of the trench went through previously impacted deposits. The southeastern portion, excavated to a depth of slightly over two meters, traversed undisturbed sediments. Traces of thin, dark relict soil horizons were observed. However, none were distinct and no cultural material was present.

3.4 New Land Drainage Components

Landscaping components around the building required the installation of catch-basins and land drainage (storm sewer) lines. These were tied into a system that utilized portions of the existing abandoned combined sewer and looped back into the main trunk at the bus turn-around.

3.4.1 North Catchbasin

A short trench was excavated at the north end of the B&B Building to instal a catchbasin and link it to the existing land drainage line (Figure 1E). Two courses of sub-surface brick foundations were encountered. The courses appear to run parallel to the north face of the building. The first course was 5'4" (1.61 m) from the foundation of the building and the second course was a further 6' (1.81 m) north of the first.

The brickworks consisted of the same type of bricks that compose the walls of the B&B Building. The bricks were cross-laid and bound by mortar, which had disintegrated considerably. The soil between the building foundation and the first course consisted of re-deposited silty clay with some admixture of clumps of loam. The matrix between the two sections of brick foundation was solely clinkers and coal dust. No artifacts other than bricks were observed and no bricks were curated. All bricks were undiagnostic in that there were no impressed markings to denote company or location of manufacture.

3.4.2 Northwest Catchbasin

A short trench and catchbasin was installed at the northwest corner of the B&B Building (Figure 1F). The standard railroad cinder deposit overlay the riverine sediments. A series of relict horizons and occupation zones were observed in profile. A thin, black organic horizon occurred at 179 cm below surface. A thin relict soil horizon, also containing traces of ash and decomposed fish bone was observed at 190 cm. Another thin, black, organic horizon occurred at 206 cm below surface. The deepest horizon, recorded at 217 cm, also contained quantities of ash (white, tan, orange) but no faunal material.

The 190 cm horizon did not yield any artifacts. The stratigraphic location suggests that this may be a sparse outlying portion of the horizon recorded during the B&B Foundation Assessment (Quaternary 1992:8-10).

3.4.3 Centre Catchbasin

A catchbasin was installed on the west side of the B&B Building and linked to the existing combined sewer line with a short trench (Figure 1G). The trench extended 9.5 meters, perpendicular to the combined sewer line. A cultural deposit was observed during backhoe excavation and the operator placed several buckets of removed soil to the side for inspection. Two relict soil horizons were evident in the wall of the trench. A continuous, artifact-bearing horizon occurred at 198 cm below surface and a thin, discontinuous horizon was present at 208 cm. The

strata had been previously impacted by north/south excavations for the parallel combined sewer line and abandoned watermain. The abandoned watermain excavation was approximately one meter wide and located 3.6 meters west of the combined sewer.

Artifacts were retrieved from the set-aside soil as well as the cultural stratum evident in the walls of the trench. A total of 81 artifacts, consisting of lithic and faunal material, were recovered. Lithic artifacts consist of a scraper, a retouched flake, a wedge, and four flakes.

The chert scraper (DILg-33:93E/58) has end and left side working edges. The overall dimensions of the scraper are: length 19.9 mm, width 16.1 mm, and thickness 8.0 mm. The artifact appears to have shattered during use, resulting in incomplete dimensions for the end working edge. The remaining portion of the end working edge has a working edge width of 12.6 mm, a length of 1.7 mm, and a step-fractured working edge angle of 70°. The dimensions of the complete left side working edge are: width 19.2 mm, length 1.8 mm, and angle 55°. Slight edge rounding occurs on both working edges.

The cathead chert retouched flake, DILg-33:93E/56, is a primary decortification flake with portions of the limestone matrix on the external surface. Both lateral edges, subtended by the bulb of percussion, have had overlapping unifacial retouch. The right working edge has a width of 35.2 mm, a length of 3.9 mm, and an angle ranging from 53° near the bulb of percussion to 32° at the distal end. The left working edge is on the distal portion. The measurements are width 18.8 mm, length 0.6 mm, and angle 35°.

The chalcedony wedge (DILg-33:93E/59) is roughly trihedral in shape with heavy battering at the proximal end and step fracture, shattering, and pulverizing. The overall dimensions are 30.4 mm in length, 25.8 mm in width, and 16.3 mm in thickness, with a linear working edge of 17.0 mm.

Two of the flakes consist of Knife River Flint, one of which, DILg-33:93E/60, is a relatively large cortical flake. The remaining two flakes are small chert specimens.

The faunal specimens consist of naturally deposited specimens and butchering remains. The naturally deposited artifacts include one Lymnaeidae (gastropod) shell and two mandible/incisor fragments, a femur, and two innominate fragments representing one very small rodent. Food resources are represented by a section of Unionidae (freshwater clam) shell, a maxilla from a Leporidae (hare/rabbit), and 15 small unidentifiable fragments of small to medium mammal. The remainder of the butchering remains consist of fish ribs, scales, vertebrae, and unidentified specimens. The only taxon that was identifiable was *Aplodinotus grunniens* (freshwater drum) which was identified from an otolith and a mandible.

Although no diagnostic artifacts were recovered, the occupation was ascribed to the Late Woodland period based upon the stratigraphic position of this horizon. As noted above, considerable disturbance has occurred in this vicinity and the portion of this horizon that remains intact is undeterminable.

3.4.4 Southwest Land Drainage Sewer Line

To provide drainage for the southern and eastern portion of the site, a land drainage sewer line was installed and linked into the existing system at the bus turn-around loop (Figure 1H). The line extended from the loop to the combined sewer at the southwest corner of the B&B Building. The line was installed using a combination of open excavation and horizontal boring. The open excavations were to a depth of 5 meters and spaced approximately 25 meters apart. This resulted in only one open excavation between the beginning and end excavations. Due to the presence of the former watermain, boring was not feasible for the final section of this line (10 to 12 meters) and the end excavation was considerably longer than the beginning or middle excavations.

The railroad period deposits extended to depths of 120 cm in places with the average being approximately one meter. No cultural strata were observed at the middle excavation. Prior disturbance, due to the former watermain, was readily observable at the western portion of the end excavation. No cultural strata were observed in the section between the former watermain and the combined sewer.

3.4.5 Southeast Building Drainage Line

This component extended along the south face and east side of the building from the intersection of the Southwest Primary Line and the re-used abandoned combined sewer line (Figure 1I). This component included the installation of three catchbasins, tied into the drainage line.

The soils in the portion of the excavation directly south of the building consisted of an upper layer (averaging 85 cm) of clinkers and gravel and a lower component consisting of fluviually deposited silts and silty clays. No evidence of occupational horizons or relict soil zones was observed.

The profile along the eastern portion of this excavation consisted of an upper zone of clinkers and gravel, a series of sand horizons, and a basal component of fluvial deposits. The sand horizons relate to the construction of the B&B Building (Kroker *et al.* 1990, 1991, 1992). Artifacts were recovered from the interface of the sand horizons and the fluvial silts.

The recovered historic artifacts include four non-faunal specimens and thirty-eight butchering remains. DILg-33:93E/12 is a portion of a kaolin pipe stem. There are no marks on this artifact to indicate either a manufacturer or country of manufacture. DILg-33:93E/13 is a corroded sheet-cut nail, 8.6 cm (3 1/2 inches) long. DILg-33:93E/14 is the bowl and a short handle portion of a large, galvanized (or plated), iron spoon. The bowl measures 81 mm by 49 mm in size. Again, there are no marks on this spoon to indicate manufacturer. The final artifact is a gabbro spall (DILg-33:93E/15) which has a portion of a smooth flat cortical surface. The specimen may be a broken portion of masonry stone.

The recovered faunal remains consist of one Unionidae (freshwater clam) shell fragment, one Aves (bird) fragment, twelve fish bones, and 24 mammal bones. The avian specimen is a coracoid (DILg-

33:93E/39) from a medium to large bird. The fish remains consist of ten ribs, one coracoid (species undetermined), and one complex vertebra (DILg-33:93E/19) from a catfish (*Ictalurus* sp.).

All but two of the mammal remains derive from Artiodactyla (cow, pig, sheep family). DILg-33:93E/26 is a carnivore chewed section of an innominate from a medium mammal and DILg-33:93E/41 is a calcined vertebral fragment. Some of the artiodactyl specimens were identifiable to species. Pig (*Sus scrofa*) is represented by one femur (DILg-33:93E/31), one humerus (DILg-33:93E/38), and a canine tooth (DILg-33:93E/40). The long bones are lacking epiphyseal endings indicating an immature individual. Cow (*Bos taurus*) is represented by a tarsus (DILg-33:93E/24), a medial phalanx (DILg-33:93E/28), and a terminal phalanx (DILg-33:93E/21). The remaining mammal specimens, albeit only identified to Artiodactyla, probably derive from domestic cattle. The elements represented are mandible, skull, vertebra, sacrum, costal cartilage, radius, ulna, and calcaneus. Evidence of sawing, as well as cut marks, occurs on many of the specimens. Carnivore chewing is present, particularly on the pig bones. Some bones show more evidence of weathering than others and may have been at the surface of what appears to be a midden deposit, perhaps related to the occupation of the nearby Immigration Sheds (FRC 1988:50).

3.5 Hydro Installations

In conjunction with the delivery of electric power to the Children's Museum and the long range plan to eliminate overhead power lines, Winnipeg Hydro installed sub-surface power lines. This installation began at the end of the existing sub-surface lines near the overflow parking lot and continued, in a wide curve, to the transformer servicing Parks Canada near their Interpretive Centre (Figure 1K). Two subsidiary lines were extended from the main lines: to the FRC Site Control Panel near the overflow parking lot and to the Children's Museum transformer pad near the northwest corner of the B&B Building.

The trenching was excavated to a depth of 2.0 meters below surface for the hydro lines with the manholes excavated to 3.0 meters. A drainage sewer line, at a depth of 3.0 meters, was installed below the hydro lines, connecting the manholes with the existing site drainage lines. The excavations were continuously monitored and artifacts were recovered from five locations.

3.5.1 West Trench

This portion of the excavations, between the existing terminus and the first manhole (Figure 1K-1), was the shallowest portion of the operation. The stratigraphy consisted of railroad cinder fill to a depth of 120 cm, underlain by a sand/pea gravel stratum to 140 cm. Lower strata are riverine deposits of silt and silty clay with a thin black organic horizon at 175 cm. No cultural material below the railroad deposit was present. Identifiable artifacts from the railroad stratum were curated.

DILg-33:93E/66 is a small, oval, brown glass flask manufactured in a two-piece post mold. It has a vertical applied lip with a stepped interior for seating a stopper. The base is embossed with "2" and a reversed "C". No other marks are present. DILg-33:93E/67 is a small fragment of brown glass stopper. The colour is the same as the flask.

A white porcelain doorknob (DILg-33:93E/68) with a portion of the iron connecting bar attached was recovered. A small triangular file (DILg-33:93E/69) measures 149.8 mm in length. The tang tapers to a sharp point, perhaps indicating that the file was originally hafted in a wooden handle. DILg-33:93E/70 is a corroded iron horseshoe 130 mm wide by 127 mm long. An interior carbon core from a large dry cell battery, DILg-33:93E/71, was recovered. The final artifact (DILg-33:93E/72) is a portion of a flanged white metal coupling.

3.5.2 East Hydro Trench

This section extended between the two manholes (Figure 1K-2). There are two artifact recovery locations, at 7 meters and 36 meters north of the first manhole. Stratigraphic data and Postcontact features were recorded at several locations. A drainage line was installed between the manholes and connected to the new extension of the land drainage sewer. This line was placed approximately 70 cm below the Hydro lines and was installed by horizontal boring between vertical cuts.

3.5.2.1 East Hydro Location

This location is 7.0 meters north of the first manhole. The stratigraphy consisted of railroad clinker fill to a depth of 50 cm, fine sand to a depth of 75 cm, coarse gravel with charcoal and glass sherds to 80 cm, and gravelly sand to a depth of 140 cm. Underlying the recent deposits, a thin black organic layer occurred with a greyish silty clay horizon below. At the base of the greyish stratum, a thicker layer containing charcoal, ash, and bone was present. Faunal remains, consisting of 15 mammal bones and 92 fish bones, were recovered from the stratum. Riverine deposits occurred below the cultural horizon with a thin, organic horizon at 186 cm. The base of the excavation was at 206 cm.

The mammal bones consist of a portion of an innominate (DILg-33:93E/91), the distal portion of a humerus (DILg-33:93E/104), and two vertebral fragments (DILg-33:93E/92) from a large Artiodactyla, probably domestic cow. The innominate section had been sawn at each end and also has evidence of axe cuts. The humerus shows slight traces of charring and some weathering. In addition, two vertebral fragments (DILg-33:93E/103) probably derive from the same individual. Two unidentifiable fragments (DILg-33:93E/101) could not be identified beyond mammal nor could six calcined unidentifiable fragments (DILg-33:93E/102).

The fish remains consist of a pterygiophore (DILg-33:93E/98), a coracoid (DILg-33:93E/99), and two complex vertebral sections identified to catfish (*Ictalurus* sp.). The remaining artifacts were not identifiable to species: 24 ribs, 21 vertebra, 2 potentially identifiable elements, and 41 unidentifiable fragments.

Given the butchering evidence, i.e., sawing and cutting with an axe, this horizon represents a Postcontact occupation. Based upon the stratigraphic location of the horizon, it must predate the Immigration Shed period, which would be represented by the organic horizon above the greyish clay layer. This leaves the Hudson's Bay Company Experimental Farm Period (1836-1841) and the Fort Gibraltar I Period (1810-1816) as potential contexts. The greyish clay layer probably

represents the 'plow zone' of the Experimental Farm and this horizon, underlying the greyish clay, probably dates to the occupation of nearby Fort Gibraltar I.

3.5.2.2 'Old Boot' Location

This location is 36 meters north of the first manhole. The cultural horizon occurs at a depth of 155 cm below surface. The horizon is overlain by a series of recent historic deposits - clinker fill, fine sand, white ash, a second layer of black clinker fill, and gravelly sand (Figure 2). The stratum consists of artifacts mixed in a layer of compressed, peat-like manure. There are also localized deposits of sand and reddish-coloured ash and decomposed wood. No relict soil horizons occurred below the stratum.

Of the 119 artifacts recovered, 60 were butchering remains. The remaining 59 artifacts include the following categories: smoking equipment, hardware, containers, clothing, detritus, and unknown. DILg-33:93E/124 is a small-diameter portion of the stem of a kaolin pipe. There are no marks to indicate a manufacturer. Hardware artifacts consist of six sheet-cut nails. T-heads are identifiable on three of the specimens.

The container category is represented by stoneware, porcelain, glass, and metal sherds from storage, dinnerware, and ornamental vessels. DILg-33:93E/139 is a portion of a stoneware lid from a large (5 or 10 gallon) crock. This specimen shows evidence of moderate to severe thermal alteration. Two porcelain artifacts were recovered. DILg-33:93E/136 is a small blue-on-white body sherd with portions of a different blue pattern on each side. The sherd may come from either a bowl or a cup. DILg-33:93E/137 is an unmarked fragment of a white plate. A small sherd of milk glass, DILg-33:93E/138, possibly derives from a vase. An early, olive-coloured, hand-blown, glass beverage bottle is represented by a lip, neck, shoulder sherd (DILg-33:93E/141). The applied lip shows no evidence of tooling nor has the rim been ground. A second beverage container consists of two body, base sherds of an aqua Blackwoods bottle (DILg-33:93E/142). The company logo is embossed on the base and portions of the company name ("...S") and advertising text ("...E") are embossed on the sides. Based upon the fragmentary text on the body of the specimen, it is not possible to positively ascribe a Chopping type, although it would be MWIN BA5, 6, 8, 8-1, or 8-2. The first two numbers represent crown lip bottles and the latter three numbers represent bottles with Hutchinson closures (Chopping 1978:101-102). The logo on the base has a raised dot below "BB" which eliminates MWIN BA5, 8, and 8-2 but matches MWIN BA8-1. The logo for MWIN BA6 is not illustrated. The diameter of MWIN BA6 is given as 6.1 cm and that of MWIN BA8-1 as 6.0 cm. The diameter of the portion of the recovered specimen is 6.03 cm. Based upon the diameter and the basal logo, DILg-33:93E/142 is identified as Chopping type MWIN BA8-1. DILg-33:93E/146 consists of two pieces of a crushed, severely corroded tin can.

The clothing specimens consist entirely of several fragments of leather footwear hence the appropriate name 'Old Boot'. DILg-33:93E/128 is the heel of a medium-sized man's shoe consisting of six wafers of leather. There are still remnants of nails in this heel.

DILg-33:93E/129 is a fragmented, largely complete, woman's or small man's boot. The artifact has a flat rubber sole and a fabric upper. The welt (portion of the boot near the sole) has been covered with a thin rubber coating. The fabric is a tight weave of a moderate thread. The fabric portion extends 20 cm above the sole, however, the upper edge may not be the original termination of the fabric. Some evidence of cutting is apparent at the top edge of the legging portion. There is a manufacturer's logo on the bottom of the sole. This consists of an embossed, circular design, possibly the upper torso of a person standing with arms akimbo. Embossed text is present with a portion of a word, "...RUZEE", above and "...OF MONTREAL" in an arc below the design. The number "8", which could indicate the size of the boot, is embossed to the lower left of the logo.

DILg-33:93E/131 is the sole, heel, and part of the upper of a small woman's shoe. In comparison with DILg-33:93E/129, this specimen is at least two sizes smaller. The words "STEEL SHANK" are imprinted into the sole. The toe is square in shape. The upper, made of thin leather, has close-spaced eyelets along the fore edge of the quarter and probably represents a high-laced style of footwear.

DILg-33:93E/140 consists of five pieces of the sole of a single shoe. It is nearly identical in size to DILg-33:93E/129. The material is leather and appears to have been stitched to the upper with a double seam. The undersurface of this sole shows extreme wear.

The remaining nineteen pieces of leather (DILg-33:93E/130) may be from a single shoe as the thickness of the material is relatively constant. This may be the remainder of the shoe represented by DILg-33:93E/140, the sole.

The detritus category (corroded and/or fragmented metallic objects which cannot be ascribed to a function) accounts for ten specimens. The types of metal represented are iron (6), lead (2), and tin (2). One lead artifact (DILg-33:93E/134) is a linear portion of cast metal with lateral notches at the proximal end and perhaps derives from a machine. The remainder are too fragmentary for even tentative identifications.

The unknown category is represented by DILg-33:93E/145, which consists of seven wire-like pieces of iron that could not be assigned, at this time, to a definite functional category. The more complete pieces have a small flattened proximal end with a needle-like hole in it. The iron appears to have been coated with a black substance, possibly rubber, paint, or enamel. As a point of speculation, these may be the spines from an umbrella.

The faunal recoveries derived primarily from domestic animals (Table 1). Only one of the 60 specimens was fish, a dorsal spine from a catfish. The remains of domestic cattle are most prevalent, accounting for 53 (88%) of the specimens. Three elements of pig and two elements of sheep/goat were recovered. One small fragment of long bone could only be assigned to the medium mammal category.

Considerable evidence of butchering processes was visible. Many of the specimens were sawn and a few had been sectioned with an axe. The only elements which showed no butchering marks

derived from the lower extremities: the cow calcaneus and the sheep/goat metatarsal bones. Where possible the elements were sided (Table 1). Based upon the numbers of elements of each side, it was possible to determine the number of individuals represented by the faunal recoveries. A minimum of three cattle were represented, based upon the premaxilla quantities. As different portions of the skeleton have epiphyseal fusing at different ages of the individual, it is not possible to ascertain if the juvenile individual represented by a tibia fragment is also represented by one of the premaxillary specimens. If a premaxilla from the juvenile is not present, then there are elements from four cattle present. The recoveries indicate that both one pig and one sheep or goat are present.

Preservation of the specimens was good and it appeared that there had been minimal post-deposition deterioration. All specimens except one cow maxilla were stained a dark brown colour. The staining is probably the result of the manure matrix in which the specimens were located.

TAXON	ELEMENT	CAT	LEFT	RIGHT	TOTAL	COMMENTS
Cow	Tibia	113	2	1	3	Sawn; one juvenile
	Radius/Ulna	112	1	1	2	Robust (1), medium (1)
	Calcaneus	118	1	-	1	Complete
	Humerus	117	2	-	2	Sawn
	Scapula	119	-	1	1	Axe-cut
	Maxilla/Molars	115	-	1	1	Broken, charred
	Maxilla/Molars	116	-	1	1	Broken
	Premaxilla	121	2	3	5	Incomplete
	Innominate	111	2	-	2	Sawn
	Skull	114	-	-	16	Fragmented
	Atlas	147	-	-	1	Broken
	Axis	106	-	-	3	Sawn (1), axe-cut (1)
	Vertebra	108	-	-	4	Sawn
	Rib	120	-	-	1	Proximal head
	Rib	107	-	-	8	Sawn (1)
Long bone	122	-	-	2	Fragmented	
Pig	Humerus	109	-	-	1	Juvenile
	Innominate	105	1	1	2	Sawn
Sheep/Goat	Metatarsus	110	1	1	2	
Medium Mammal	Long Bone	144	-	-	1	
Catfish	Dorsal Spine	123	-	-	1	
TOTAL					60	

Table 1: 'Old Boot' Faunal Recoveries

Based upon the context, this horizon is interpreted to represent a midden deposit. Temporally, the stratigraphic position and the recovered artifacts indicate that the midden developed during the period of occupation of the nearby Immigration Sheds (1872-1885) and Shanty Town (Guinn 1980:108-109).

3.5.2.3 Railroad Period Feature Locations

The first feature encountered was at 7 meters north of the manhole. It consisted of six horizontal timbers, perpendicular to the excavation trench. The timbers were spaced approximately 140 cm apart and occurred in a coarse sand and gravel layer at a depth of 100 cm. The timbers were overlain with a black cinder layer, a fine sand layer, and a second black cinder layer. These timbers probably relate to the Northern Pacific and Manitoba track extending from the bridge across the Assiniboine River to the depot at Main and Water. No artifacts were associated with the timbers. Two relict soil horizons were observed below the feature, at depths of 144 cm and 196 cm.

At 45 meters north of the first manhole, vertical planks were encountered. The bases rested on what appeared to be a wooden floor (196 cm below surface), resting on a thin sand layer. They extended upward into the black cinder fill horizon. Disturbed sandy clay fill, mixed with ash and charcoal, extends approximately 50 cm on either side of the vertical planks.

At 65 meters north of the first manhole (10 meters south of the second manhole), a series of rectangular pits were observed in the gravel horizon. These pits had been infilled with black cinder. Given the spacing and the stratigraphic context, they probably represent locations at which track ties had been situated. After removal of the ties, the holes would have been filled with the continually deposited cinder fill.

3.5.3 Parks Manhole

The manhole is situated near the end of the hydro installation and just south of the branch to the Parks Canada transformer pad (Figure 1K-3). The upper stratigraphy is standard - railroad deposits overlying riverine sediments of varying textures. Two relict soil strata were observed at 195 cm and 229 cm below surface. The upper stratum was composed primarily of white ash, ranging in thickness up to five centimeters. Faunal material was recovered from this horizon.

Recoveries consisted of a large mammal rib (DILg-33:93E/73) and four unidentified mammal fragments. The rib has evidence of spiral fracture, partial cutting, and carnivore chewing. Based on the size of the specimen, it probably derives from moose, elk, or bison. Fish remains consist of 13 ribs and a catfish (*Ictalurus* sp.) dorsal spine, DILg-33:93E/76. Three large fragments of ring porous charcoal (DILg-33:93E/78) were collected. While no lithic artifacts or other culturally diagnostic specimens were recovered, the butchering marks on the rib indicate that this horizon is an occupation zone. The depth of the horizon suggests that the time period of occupation pre-dates the establishment of Fort Gibraltar I (1810) and probably relates to the Late Woodland occupations recorded during the Provencher Bridge Project (Quaternary 1988).

3.5.4 Southeast Trench

This portion of the project consisted of a trench which extended from the first manhole to the site of the Children's Museum transformer pad (Figure 1K-4). The trench began in an easterly direction and then jogged southeast to cut through the previously impacted gap in the foundation wall of the Roundhouse, when pipe was installed during Stage I.

The railroad fill extended to 70 cm with a series of black organic horizons separated by silty clays. The relict horizons were recorded at 100 cm, 152 cm, and 168 cm. A sand layer occurred between the lower two levels and represents one of the major floods.

Faunal material was encountered at two locations prior to the southeast jog. At 1.3 meters east of the manhole, several large mammal elements were recovered at a depth of 122 cm. The elements consisted of a tibia (DILg-33:93E/89), a metatarsus (DILg-33:93E/90), an astragalus (DILg-33:93E/88), a medial phalanx (DILg-33:93E/79), and a terminal phalanx (DILg-33:93E/80). No cut marks are evident and all bones show evidence of weathering and hematite staining. These bones were not associated with a relict soil horizon and may have been relocated through flood action.

The second location of faunal recoveries occurred at 1.5 meters east of the manhole at a depth of 152 cm. The material in this horizon was primarily fish bone mixed with charcoal. Recoveries consist of three scales, seven ribs, and an unidentified fragment plus a pectoral spine from a catfish (DILg-33:93E/83) and a coracoid from a sucker (DILg-33:93E/84). In addition, one calcined mammal bone fragment and four rodent-gnawed mammal bone fragments derived from the horizon.

Based upon the stratigraphic sequence, both recovery locations appear to post-date the occupation of Fort Gibraltar I. The locations are higher in elevation than Fort Gibraltar I deposits (Kroker *et al.* 1990) and the Precontact recoveries noted at Centre Catchbasin (Section 3.4.3) and the B&B Foundation excavation (Quaternary 1992). The elevation of the second location is nearly identical to that of the 'Old Boot' location and is probably equivalent in time depth.

3.5.5 FRC Control Panel Linkage

The power lines were extended from the middle of the west trench to the FRC Site Control Panel, located at the northeast corner of the Overflow Parking Lot (Figure 1K-5). The depth of the installation was one meter. Throughout most of the operation, the entire trench occurred in railroad cinder fill. Occasionally, the base of the trench intruded into original clays. No significant artifacts were observed.

3.5.6 Drainage Line Linkage

This section of the project, between the first manhole and the terminus of the extended Land Drainage Sewer, was installed by horizontal boring. Open excavations exposed stratigraphy similar to that which had been observed at the manhole. The end of the drainage line was in previously placed fill.

4.0 Discussion

The archaeological monitoring of sub-surface services installations relating to the redevelopment of the B&B Building yielded further information about the heritage resources at The Forks. The purpose of the monitoring was to ascertain the presence or absence of cultural strata, to determine the extent of these strata, to recover archaeological artifacts which could provide temporal and/or cultural determinations, and to record stratigraphic sequences of soil deposition.

During the course of the project, a total of fourteen artifact-bearing strata were encountered (Figure 2). The nine Postcontact locations include the North Catchbasin locus (#1), the Southeast Building Drainage Line (#2), the West Hydro trench (#3), the East Hydro trench (five locations), and the Southeast Hydro trench (#9). The five Precontact locations consisted of the North Watermain locus (#10), the Northwest Catchbasin locus (#11), the Centre Catchbasin locus (#12), a second location in the Southeast Hydro trench (#13), and the Parks Manhole locus (#14).

The Postcontact locations can be further sub-divided by cultural/temporal period. Those features and locations which relate to the railroad period are the North Catchbasin locus (#1), the West Hydro trench (#3), East Hydro trench - 7 meter locus (#5), East Hydro trench - 45 meter locus (#7), and East Hydro trench - 65 meter locus (#8). Three of these locations relate directly to railroad operations - the foundation of the Roundhouse at the North Catchbasin locus, the residual rail ties at East Hydro trench - 7 meter locus, and the tie impressions left after the removal of the ties at East Hydro trench - second manhole locus. The East Hydro trench - 45 meter locus represents a partially-cribbed cellar which would have been excavated at some point after the first deposits of cinder fill had been placed. The last location, West Hydro trench, represents standard recoveries of identifiable artifacts encapsulated within the black cinder fill horizon. Some locations, especially those adjacent to the north bank of the Assiniboine River, contained a myriad of identifiable artifacts (Kroker 1989, Kroker and Goundry 1990, 1993). Other areas contain only unidentifiable metal and glass fragments.

Three Postcontact deposits which pre-date the railroad period have been assigned to the Immigration Period (1870-1885). The locations are the 'Old Boot' locus along the East Hydro trench (#6), the Southeast Hydro trench (#9), and the Southeast Building Drainage Line (#2). Based upon stratigraphic evidence, the recoveries at the East Hydro locus (#4) appear to represent activities contemporaneous with the occupation of Fort Gibraltar I (1810-1816).

Within the Precontact locations, the North Watermain locus (#10) and a location in the Southeast Hydro trench (#13) are not attributable to human action and represent natural deposition. Unassignable cultural horizons were observed at the Northwest Catchbasin locus (#11), the Centre Catchbasin locus (#12), and the Parks Manhole locus (#14). None of these cultural horizons appear to extend back in time to the Archaic period and, stratigraphically, all would seem to have been deposited during the Late Woodland Ceramic period.

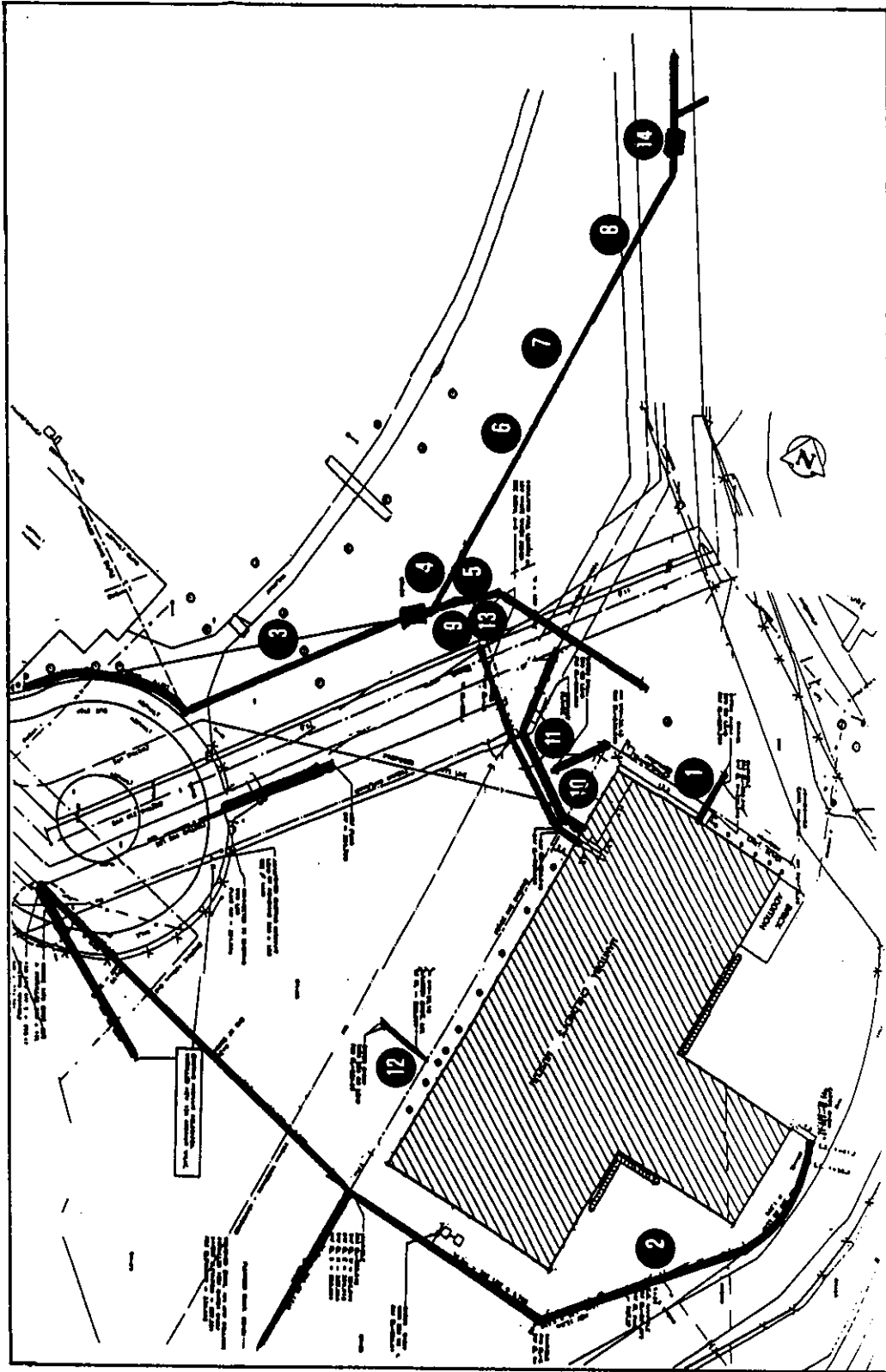


Figure 2: Locations of Archaeological Resources

Numerous relict soil horizons were recorded during the project. Each would represent a period of soil development between floods, characterized by development of successional vegetation habitats. Each horizon would also represent a potential soil surface upon which occupational evidence could occur. Due to the irregularity of soil strata sequences at The Forks, where varying thicknesses and truncation of horizontal strata is standard, it was not possible to correlate the relict horizons across components of the project. The presence of these relict horizons indicates that former soil surfaces and, concomitantly, possible cultural horizons may be encountered at any depth below the railroad deposits at almost any location within The Forks.

5.0 Bibliography

Chopping, George C.

1978 *Bottles of the Canadian Prairies*. Self-published: George C. Chopping, Spy Hill, Saskatchewan.

Forks Renewal Corporation, The

1988 *The Forks Archaeological Impact Assessment and Development Plan (The Forks Archaeological Plan)*. The Forks Renewal Corporation, Winnipeg.

Guinn, Rodger

1980 *The Red-Assiniboine Junction: A Land Use and Structural History*. Parks Canada, *Manuscript Report Series No. 355*.

Kroker, Sid

1989 *North Assiniboine Node Archaeological Impact Assessment*. The Forks Renewal Corporation, Winnipeg.

Kroker, Sid and Pamela Goundry

1990 *Archaeological Monitoring of the Stage I Construction Program*. The Forks Renewal Corporation, Winnipeg.

1993 *Archaeological Monitoring and Mitigation of the Assiniboine Riverfront Quay*. The Forks Renewal Corporation, Winnipeg.

Kroker, Sid, Barry B. Greco, Arda Melikian and David K. Riddle

1990 *The Forks (1989) Pilot Public Archaeology Project: Research Report Excavations at 21K (Fort Gibraltar I)*. Canadian Parks Services, Historic Resources Branch, and The Forks Renewal Corporation, Winnipeg.

Kroker, Sid, Barry B. Greco and A. Kate Peach

1992 *1991 Investigations at Fort Gibraltar I: The Forks Public Archaeology Project*. The Forks Public Archaeology Association Inc., Winnipeg.

Kroker, Sid, Barry B. Greco and Sharon Thomson

1991 *1990 Investigations at Fort Gibraltar I: The Forks Public Archaeology Project*. Canadian Parks Services, Historic Resources Branch, and The Forks Renewal Corporation, Winnipeg.

Manitoba Museum of Man and Nature

1986 *Guides and Manuals for Processing Archaeological Materials*. E.L. Syms (Ed.). Winnipeg, Manitoba.

Quaternary Consultants Ltd.

1988 *Provencher Bridge Project Archaeological Impact Assessment*. Report on file with City of Winnipeg and Historic Resources Branch, Manitoba Culture, Heritage and Citizenship, Winnipeg.

1992 *Archaeological Monitoring of Sub-Surface Activities at the B&B Building*. Report on file with Manitoba Children's Museum and Historic Resources Branch, Manitoba Culture, Heritage and Citizenship, Winnipeg.

1993 *Archaeological Monitoring and Impact Assessment Component of The Forks Heritage Plaza Project*. Report on file with The Forks Renewal Corporation and Historic Resources Branch, Manitoba Culture, Heritage and Citizenship, Winnipeg.

APPENDIX A
HERITAGE PERMIT



Heritage Permit No. A34-93

FORM 11

PURSUANT to Section/~~Subsection~~ 53 of *The Heritage Resources Act*:

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

ATTENTION Mr Sid Kroker

(hereinafter referred to as "the Permittee"),

is hereby granted permission to:

carry out an archaeological impact assessment and monitoring of the proposed land drainage, water main, sanitary sewer and hydro connections as identified in the plan attached to the permit application for the Manitoba Children's Museum in the B and B Building at The Fork (D1Lg-33) in Downtown Winnipeg to determine the presence or absence of heritage resources and their nature and extent if present;

during the period:

August 3 to September 30, 1993

This permit is issued subject to the following conditions:

- (1) That the information provided in the application for this permit dated the 27th day of July 1993, 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, 1994
- (4) That this permit is not transferable;
- (5) This permit may be revoked by the Minister where, in the opinion of the Minister, there has been a breach of any of the terms or conditions herein or of any provision of *The Heritage Resources Act* or any regulations thereunder;

(6) Special Conditions:

- a. All surface collections, excavations, etc. are to be carried out using the provenience system established for use at The Forks and this project will be designated 93E;
- b. All heritage objects (artifacts) recovered from The Forks are to be catalogued according to the CHIN system and the relevant Borden designation will be D1Lg-33/93E;
- c. All heritage objects from The Forks are to be deposited with the Manitoba Museum of Man and Nature by March 31, 1994, for permanent curation and storage, unless appropriate loan requirements are arranged with the Curator of Archaeology prior to that date;
- d. 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;
- e. All computer systems and programs employed in archaeological research should be compatible with the computer system established for The Forks;
- f. Appropriate arrangements and funds should be made available for the conservation of perishable heritage objects collected from The Forks;
- g. In the event that any human remains are encountered during the excavations, all activity in that particular locus will cease immediately, and the Historic Resources Branch notified immediately so that appropriate action can be determined and taken;
- h. The Permittee will be on-site supervising all aspects of the field work, including the removal of the railroad overburden during site preparation, at least 75% of the time, but when the Permittee must be absent, a qualified designate acceptable to Historic Resources Branch (copy of vita to be filed prior to commencement of field work) shall be present;
- i. The Permittee shall be responsible for the conduct of the laboratory analysis of recovered heritage objects and information to be included in the permit report;
- j. The report identified in #3 above shall conform at a minimum to "The Contents and Format of a Heritage Resource Impact Assessment" (copy attached)
- k. 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.

8280h

Dated at the City of Winnipeg, in Manitoba, this 27th day of July 1993.


Minister of Culture, Heritage and Citizenship



Culture, Heritage
and Citizenship

Historic Resources

MANITOBA CULTURE, HERITAGE
AND CITIZENSHIP
HISTORIC RESOURCES BRANCH
100 PELLERIN, 210 NOTRE DAME AVE.
WINNIPEG, MB R3B 1N3

October 7, 1993

Quaternary Consultants Ltd
130 Fort Street
Winnipeg MB R3C 1C7

Attention: Sid Kroker

Dear Mr Kroker:

RE: HERITAGE PERMIT No A34-93

I am writing to amend the period of time during which Permit A34-93 is in effect. Activities carried out under the permit shall occur during the period August 3 to October 30, 1993. All other terms and conditions of Heritage Permit No. A34-93 continue to apply.

Sincerely,

Donna Dul

Donna Dul
Director of Historic Resources Branch
for the Minister of Culture,
Heritage and Citizenship

POW
0774h



APPENDIX B
CATALOGUE OF ARTIFACTS

SPECIMEN CATALOGUE RECORD

Site: DLLG-33:93E THE FORKSArea: RED RIVERClient: CHILDREN'S MUSEUM

Acc. No.: _____

Cat. #	Qty	Object Name / Object Type	Material / Cultural Phase	Location / Unit	Coll. Date
1	2	FLAKE	CHERT LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930805
2	7	VERTEBRA FISH	BONE LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930805
3	3	SCALE FISH	SCALE LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930805
4	15	RIB FISH	BONE LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930805
5	21	UNIDENTIFIED FISH	BONE LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930805
6	15	UNIDENTIFIED MAMMALIA	BONE LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930805
7	2	MANDIBLE; TOOTH RODENTIA	BONE; TOOTH LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930805
8	1	FEMUR RODENTIA	BONE LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930805
9	2	INNOMINATE RODENTIA	BONE LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930805
10	1	MAXILLA; TOOTH LEPORIDAE	BONE; TOOTH LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930805
11	1	MANDIBLE; TOOTH AFLODINOTUS GRUNNIENS	BONE; TOOTH LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930805
12	1	PIPE	KADLIN HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
13	1	NAIL SQUARE	IRON HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
14	1	SPDON	IRON HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
15	1	SPDON	IRON HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
16	1	VALVE UNIONIDAE	SHELL HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
17	1	CORACOID FISH	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
18	10	RIB FISH	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
19	1	VERTEBRA ICTALURUS	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
20	3	LONG BONE MAMMALIA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
21	1	PHALANX BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
22	2	MANDIBLE ARTIODACTYLA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
23	1	VERTEBRA ARTIODACTYLA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
24	1	TARSUS BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
25	1	CALCANEUS ARTIODACTYLA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816

SPECIMEN CATALOGUE RECORD

Site: DLG-33:93E THE FORKSArea: RED RIVERClient: CHILDREN'S MUSEUM

Acc. No.: _____

Cat. #	Qty	Object Name / Object Type	Material / Cultural Phase	Location / Unit	Coll. Date
26	1	INNOMINATE MAMMALIA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
27	1	MOLAR ARTIODACTYLA	TOOTH HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
28	1	PHALANX BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
29	1	COSTAL CARTILAGE ARTIODACTYLA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
30	1	SKULL ARTIODACTYLA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
31	1	FEMUR SUS SCROFA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
32	1	MANDIBLE; TOOTH ARTIODACTYLA	BONE; TOOTH HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
33	1	SACRUM ARTIODACTYLA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
34	1	ULNA ARTIODACTYLA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
35	1	RADIUS ARTIODACTYLA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
36	1	VERTEBRA ARTIODACTYLA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
37	1	VERTEBRA ARTIODACTYLA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
38	1	HUMERUS SUS SCROFA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
39	1	CORACOID AVES	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
40	1	CANINE SUS SCROFA	TOOTH HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816
41	1	VERTEBRA MAMMALIA	BONE HOMESTEAD	MUSEUM SERVICES SE DRAINAGE TRENCH	19930816

SPECIMEN CATALOGUE RECORD

Site: DLLG-33:93E THE FORKSArea: RED RIVERClient: CHILDREN'S MUSEUM

Acc. No.: _____

Cat. #	Qty	Object Name / Object Type	Material / Cultural Phase	Location / Unit	Coll. Date
56	1	RETOUCHED FLAKE	CATHEAD CHERT LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930804
57	1	FLAKE	KNIFE RIVER FLINT LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930804
58	1	SCRAPER	CHERT LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930804
59	1	WEDGE	CHALCEDONY LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930804
60	1	FLAKE	KNIFE RIVER FLINT LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930804
61	1	SNAIL LYMNAEIDAE	SHELL LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930804
62	1	VALVE UNIONIDAE	SHELL LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930804
63	1	OTOLITH APLODINOTUS GRUNNIENS	BONE LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930804
64	3	RIB FISH	BONE LATE WOODLAND	MUSEUM SERVICES CENTRE CATCHBASIN	19930804
65	1	SCAPULA ARTIODACTYLA	BONE LATE WOODLAND	MUSEUM SERVICES NORTH WATERMAIN	19930804
66	1	BOTTLE BOTTLE	GLASS INDUSTRIAL	MUSEUM SERVICES WEST TRENCH	19930915
67	1	STOPPER BOTTLE	GLASS INDUSTRIAL	MUSEUM SERVICES WEST TRENCH	19930915
68	1	DOOR KNOB	PORCELAIN; IRON INDUSTRIAL	MUSEUM SERVICES WEST TRENCH	19930915
69	1	FILE TRIANGULAR	IRON INDUSTRIAL	MUSEUM SERVICES WEST TRENCH	19930915
70	1	HORSESHOE	IRON INDUSTRIAL	MUSEUM SERVICES WEST TRENCH	19930915
71	1	BATTERY DRY CELL	CARBON INDUSTRIAL	MUSEUM SERVICES WEST TRENCH	19930915
72	1	COUPLING	ZINC INDUSTRIAL	MUSEUM SERVICES WEST TRENCH	19930915
73	1	RIB MAMMALIA	BONE PRE-CONTACT	MUSEUM SERVICES PARKS MANHOLE	19931005
74	1	LONG BONE MAMMALIA	BONE PRE-CONTACT	MUSEUM SERVICES PARKS MANHOLE	19931005
75	13	RIB FISH	BONE PRE-CONTACT	MUSEUM SERVICES PARKS MANHOLE	19931005
76	2	DORSAL SPINE ICTALURUS	BONE PRE-CONTACT	MUSEUM SERVICES PARKS MANHOLE	19931005
77	3	UNIDENTIFIED MAMMALIA	BONE PRE-CONTACT	MUSEUM SERVICES PARKS MANHOLE	19931005
78	3	CHARCOAL ANGIOSPERMAE	CHARCOAL PRE-CONTACT	MUSEUM SERVICES PARKS MANHOLE	19931005
79	1	PHALANX ARTIODACTYLA	BONE PRE-CONTACT	MUSEUM SERVICES SOUTHEAST TRENCH	19931006
80	1	PHALANX ARTIODACTYLA	BONE PRE-CONTACT	MUSEUM SERVICES SOUTHEAST TRENCH	19931006

SPECIMEN CATALOGUE RECORD

Site: DLLG-33:93E THE FORKSArea: RED RIVERClient: WINNIPEG HYDRO

Acc. No.: _____

Cat. #	Qty	Object Name / Object Type	Material / Cultural Phase	Location / Unit	Coll. Date
81	3	SCALE FISH	SCALE PRE-CONTACT	MUSEUM SERVICES SOUTHEAST TRENCH	19931006
82	7	RIB FISH	BONE PRE-CONTACT	MUSEUM SERVICES SOUTHEAST TRENCH	19931006
83	1	PECTORAL SPINE ICTALURUS	BONE PRE-CONTACT	MUSEUM SERVICES SOUTHEAST TRENCH	19931006
84	1	CORACOID CATOSTOMIDAE	BONE PRE-CONTACT	MUSEUM SERVICES SOUTHEAST TRENCH	19931006
85	1	UNIDENTIFIED FISH	BONE PRE-CONTACT	MUSEUM SERVICES SOUTHEAST TRENCH	19931006
86	1	UNIDENTIFIED MAMMALIA	BONE PRE-CONTACT	MUSEUM SERVICES SOUTHEAST TRENCH	19931006
87	4	LONG BONE MAMMALIA	BONE PRE-CONTACT	MUSEUM SERVICES SOUTHEAST TRENCH	19931006
88	1	ASTRAGALUS ARTIODACTYLA	BONE PRE-CONTACT	MUSEUM SERVICES SOUTHEAST TRENCH	19931006
89	1	TIBIA ARTIODACTYLA	BONE PRE-CONTACT	MUSEUM SERVICES SOUTHEAST TRENCH	19931006
90	1	METATARSUS ARTIODACTYLA	BONE PRE-CONTACT	MUSEUM SERVICES SOUTHEAST TRENCH	19931006
91	1	INNOMINATE ARTIODACTYLA	BONE HOMESTEAD	MUSEUM SERVICES EAST HYDRO TRENCH	19931016
92	2	VERTEBRA ARTIODACTYLA	BONE HOMESTEAD	MUSEUM SERVICES EAST HYDRO TRENCH	19931016
93	1	VERTEBRA ICTALURUS	BONE HOMESTEAD	MUSEUM SERVICES EAST HYDRO TRENCH	19931016
94	1	VERTEBRA ICTALURUS	BONE HOMESTEAD	MUSEUM SERVICES EAST HYDRO TRENCH	19931016
95	21	VERTEBRA FISH	BONE HOMESTEAD	MUSEUM SERVICES EAST HYDRO TRENCH	19931016
96	24	RIB FISH	BONE HOMESTEAD	MUSEUM SERVICES EAST HYDRO TRENCH	19931016
97	2	IDENTIFIABLE FISH	BONE HOMESTEAD	MUSEUM SERVICES EAST HYDRO TRENCH	19931016
98	1	PTERYGIOPHORE ICTALURUS	BONE HOMESTEAD	MUSEUM SERVICES EAST HYDRO TRENCH	19931016
99	1	CORACOID ICTALURUS	BONE HOMESTEAD	MUSEUM SERVICES EAST HYDRO TRENCH	19931016
100	41	UNIDENTIFIED FISH	BONE HOMESTEAD	MUSEUM SERVICES EAST HYDRO TRENCH	19931016
101	2	UNIDENTIFIED MAMMALIA	BONE HOMESTEAD	MUSEUM SERVICES EAST HYDRO TRENCH	19931016
102	6	UNIDENTIFIED MAMMALIA	BONE HOMESTEAD	MUSEUM SERVICES EAST HYDRO TRENCH	19931016
103	2	VERTEBRA MAMMALIA	BONE HOMESTEAD	MUSEUM SERVICES EAST HYDRO TRENCH	19931016
104	2	HUMERUS ARTIODACTYLA	BONE HOMESTEAD	MUSEUM SERVICES EAST HYDRO TRENCH	19931016
105	2	INNOMINATE SUS SCROFA	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917

SPECIMEN CATALOGUE RECORD

Site: DLLG-33:93E THE FORKSArea: RED RIVERClient: WINNIPEG HYDRO

Acc. No.: _____

Cat. #	Qty	Object Name / Object Type	Material / Cultural Phase	Location / Unit	Coll. Date
106	3	VERTEBRA BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
107	8	RIB BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
108	4	VERTEBRA BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
109	1	HUMERUS SUS SCROFA	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
110	2	METATARSUS OVIS ARIES	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
111	2	INNOMINATE BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
112	2	RADIUS; ULNA BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
113	3	TIBIA BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
114	16	SKULL BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
115	1	MAXILLA; TOOTH BOS TAURUS	BONE; TOOTH HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
116	1	MAXILLA; TOOTH BOS TAURUS	BONE; TOOTH HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
117	2	HUMERUS BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
118	1	CALCANEUS BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
119	1	SCAPULA BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
120	1	RIB BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
121	5	MAXILLA BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
122	2	LONG BONE MAMMALIA	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
123	1	DORSAL SPINE ICTALURUS	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
124	1	PIPE	KAOLIN HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
125	5	NAIL T-HEAD	IRON HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
126	1	NAIL	IRON HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
127	1	SCRAP	IRON HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
128	1	SHOE	LEATHER; IRON HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
129	1	SHOE	RUBBER; CLOTH HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
130	19	SHOE	LEATHER HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917

SPECIMEN CATALOGUE RECORD

Site: DLLG-33:93E THE FORKS Area: RED RIVER
 Client: WINNIPEG HYDRO Acc. No.: _____

Cat. #	Qty	Object Name / Object Type	Material / Cultural Phase	Location / Unit	Coll. Date
131	1	SHOE	LEATHER; IRON HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
132	4	SCRAP	IRON HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
133	2	SCRAP	TIN HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
134	1	SCRAP	ALUMINUM HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
135	1	SCRAP	TIN HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
136	1	SHERD BOWL?/ CUP?	PORCELAIN HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
137	1	SHERD PLATE	PORCELAIN HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
138	1	SHERD VASE?	GLASS HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
139	1	SHERD CROCK	PORCELAIN HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
140	5	SHOE	LEATHER HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
141	1	SHERD BOTTLE	GLASS HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
142	2	SHERD BOTTLE	GLASS HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
143	1	SCRAP	IRON HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
144	1	LONG BONE MAMMALIA	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
145	7	ROD	PLASTIC; IRON HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
146	2	FRAGMENT CAN	IRON HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917
147	1	ATLAS BOS TAURUS	BONE HOMESTEAD	MUSEUM SERVICES OLD BOOT	19930917