ARCHAEOLOGICAL MONITORING
OF THE GEO-TECHNICAL
INVESTIGATIONS ALONG
THE VIA RIGHT-OF-WAY
AT THE FORKS

Submitted to
The Forks North Portage Partnership

QUATERNARY
CONSULTANTS
LIMITED

January, 2001
TABLE OF CONTENTS

TABLE OF CONTENTS ........................................... i
LIST OF APPENDICES ........................................... i
LIST OF FIGURES ............................................... i
LIST OF TABLES ................................................ i

1.0 INTRODUCTION ................................................. 1
2.0 STRATIGRAPHY ................................................. 1
3.0 DISCUSSION .................................................. 4
4.0 BIBLIOGRAPHY ............................................... 5

LIST OF APPENDICES

APPENDIX A: Heritage Permit .................................. 6

LIST OF FIGURES

1: Location of Test Holes and Adjacent Known Cultural Horizons ................. 2

LIST OF TABLES

1: Stratigraphic Columns ....................................... 3
1.0 INTRODUCTION

The Forks North Portage Partnership commissioned a geo-technical investigation along the right-of-way between the CNR Main Line and the parking lot west of Pioneer Boulevard (Figure 1). Archaeological resources are known to occur throughout The Forks. Specifically relevant are the various locations along Pioneer Boulevard (Kroker and Goundry 1990) and along the north bank of the Assiniboine River (Kroker 1989; Kroker and Goundry 1990, 1993a, 1993b, 1994; Quaternary 1993). It was deemed prudent to have the geo-technical drilling monitored by an archaeologist, and, accordingly, Quaternary Consultants Ltd. was engaged for the project. The drilling was monitored by Sid Kroker, Senior Archaeologist with Quaternary Consultants Ltd., under the terms of Heritage Permit A74-00 (Appendix A), issued by Historic Resources Branch, Manitoba Culture, Heritage and Tourism.

The archaeologist observed and recorded the extracted soil which was removed on the 5” diameter bit. The 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 fire in the gallery forest lining the banks of the rivers or a cultural event such as a campfire. When evidence of fire is observed, the layer is investigated to ascertain if the cause was natural or cultural. The presence of food remains, particularly mammal or fish bones, resting upon a buried soil is a positive indicator of an archaeological occupation horizon. Other positive indicators are the presence of lithic tools, flakes resulting from tool manufacture, and/or fragments of earthenware containers. One of the goals of the archaeological monitoring was to obtain information on buried soil horizons and attempt to correlate those horizons with the known cultural levels to the east.

2.0 STRATIGRAPHY

Four holes were bored: two shallow holes, twenty-five feet (25’) deep, and two deep holes which extended into the till layer, underlying the lacustrine clays deposited by Glacial Lake Agassiz which drained approximately 8500 years ago. The observed strata are listed in Table 1 and attempts at correlating the levels through placement in the table are made. However, as the test holes were located considerable distances apart, this is not successful. Previous investigation of linear trenches (Kroker 1989; Kroker and Goundry 1990; Quaternary 1994, 1996, 1999, 2000) have shown that alluvially deposited layers in this location are usually of short linear extent. Even thick layers tend to pinch out and disappear over a distance of ten metres. Thus, attempting to link stratigraphic features separated by several metres, let alone hundreds of metres, becomes impossible.
Figure 1: Location of Test Holes and Adjacent Known Cultural Horizons
<table>
<thead>
<tr>
<th>HOLE 1</th>
<th>HOLE 2</th>
<th>HOLE 3</th>
<th>HOLE 4</th>
<th>STRATUM</th>
</tr>
</thead>
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<td>0 - 5</td>
<td>0 - 5</td>
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<tr>
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<td>5 - 45</td>
<td>5 - 30</td>
<td>Gravel</td>
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<td>45 - 170</td>
<td>30 - 150</td>
<td>150 - 152</td>
<td>Clay fill</td>
</tr>
<tr>
<td>185 - 290&lt;sup&gt;1&lt;/sup&gt;</td>
<td>135 - 160</td>
<td>170 - 175</td>
<td>235 - 235</td>
<td>Medium brown silty clay</td>
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<tr>
<td></td>
<td></td>
<td>175 - 175</td>
<td></td>
<td><strong>Relict soil horizon (2mm)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>175 - 235</td>
<td></td>
<td>Medium brown silty clay</td>
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<tr>
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<td></td>
<td><strong>235 - 235</strong></td>
<td></td>
<td><strong>Relict soil horizon (3mm)</strong></td>
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<tr>
<td></td>
<td></td>
<td>235 - 245</td>
<td></td>
<td>Medium brown silty clay</td>
</tr>
<tr>
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<td></td>
<td><strong>245 - 245</strong></td>
<td></td>
<td><strong>Relict soil horizon (2mm)</strong></td>
</tr>
<tr>
<td>290 - 293</td>
<td>160 - 162</td>
<td>245 - 305</td>
<td>245 - 425</td>
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<td>293 - 350</td>
<td>162 - 230</td>
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<tr>
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<td>230 - 231</td>
<td></td>
<td></td>
<td>Tan sand</td>
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<td>231 - 290</td>
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<td>Brown silty clay</td>
</tr>
<tr>
<td>353 - 455</td>
<td>305 - 335</td>
<td>305 - 330</td>
<td></td>
<td>Marly brown silty clay</td>
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<td>455 - 462</td>
<td>330 - 333</td>
<td>333 - 370</td>
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<td>Brown sandy silt</td>
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<td>462 - 520</td>
<td>370 - 370</td>
<td>370 - 430</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td><strong>Relict soil horizon (2mm)</strong></td>
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<td>430 - 440</td>
<td>425 - 520</td>
<td></td>
<td>Brown silty clay</td>
</tr>
<tr>
<td>350 - 365&lt;sup&gt;3&lt;/sup&gt;</td>
<td>440 - 455</td>
<td></td>
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<tr>
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<td></td>
<td>Brown silty clay</td>
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<tr>
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<td>373 - 390</td>
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<td>390 - 610</td>
<td>455 - 580</td>
<td>525 - 610</td>
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<td>Brown sandy silt</td>
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<td>Brown silty clay</td>
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<td>685 - 690</td>
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<td>Brown sandy silt</td>
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<td>690 - 700</td>
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<td></td>
<td>Brown silty clay</td>
</tr>
<tr>
<td>700 -</td>
<td>830 -</td>
<td></td>
<td></td>
<td>Lake Agassiz clay</td>
</tr>
</tbody>
</table>

1 - thin (1.0 mm layer of caliche at 287 cm)
2 - stained greyish brown
3 - thin (1.5 mm oxidation layer at top of stratum)

Table 1: Stratigraphic Columns
3.0 DISCUSSION

As is obvious from Table 1, there is very little degree of correlation between the layers recorded in the four test holes. Buried soil horizons were observed at four depths: 175 cm, 235 cm, 245 cm, and 370 cm. All were recorded in Test Hole 3. The soil horizon at 175 cm may correlate with cultural strata recorded at Long Trench 306, Long Trench 317, Long Trench 347, Long Trench 391, Long Water 275, Long Water 280, or Long Water 385 (Kroker and Goundry 1990:31-36). The two deeper horizons (235 cm and 245 cm) may correlate with Long Trench 317 or Long Trench 404 (Kroker and Goundry 1990:31-36). The deepest layer at 370 cm may correlate with Long Trench 314, Long Trench 333, Long Trench 337, Long Trench 351, Long Trench 355, Long Water 339, or Long Water 418 (Kroker and Goundry 1990:31-36).

As noted earlier, the degree of reliability for correlating strata across considerable intervening distances is minimal because of the vagaries of fluvial sedimentation. Thus, the buried soil horizons observed during the geo-technical investigation may have no direct linkages with previously recorded soil levels or cultural horizons. The minimalistic investigation afforded by a small auger in a large area does not allow one to draw definitive conclusions. Even dense, wide-spread cultural layers have areas which contain no evidence of the surrounding matrix. The situation becomes more pronounced if the cultural layer is thin and/or sparse. Accordingly, on the basis of information obtained from this project, Quaternary Consultants Ltd. can neither confirm nor deny the presence of sub-surface cultural horizons in the vicinity of the right-of-way. A more extensive testing program, using a linear trench, would be necessary to provide definitive data.
4.0 BIBLIOGRAPHY

Kroker, Sid

Kroker, Sid and Pamela Goundry

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


Quaternary Consultants Ltd.

1994 Archaeological Monitoring of Services Installations for the Manitoba Children's Museum at The Forks. On file with Manitoba Children's Museum; The Forks Renewal Corporation; Winnipeg Hydro; Manitoba Department of Culture, Heritage and Citizenship, Historic Resources Branch.


APPENDIX A

HERITAGE PERMIT
Heritage Permit No. A74-00

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 the drilling of geo-technical bore holes at The Forks in the parking lot area between The Forks Market Road and York Avenue, Pioneer Boulevard and the CN embankment in order to record the soil stratigraphy, the presence or absence of cultural materials and recover artifacts, should they be present, during the period:


This permit is issued subject to the following conditions:

(1) That the information provided in the application for this permit dated the 2nd day of January 2001, 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: June 30, 2001;

(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 June 30, 2001, for permanent curation and storage, unless appropriate loan requirements are arranged with the Curator 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 shall 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 3rd day of January 2001.

[Signature]
Minister of Culture, Heritage and Tourism