

THE UNIVERSITY OF MANITOBA

THE FORT VICTORIA FAUNAL ANALYSIS:
CONSIDERATIONS OF SUBSISTENCE CHANGE OF
THE FUR TRADE ERA IN NORTH CENTRAL ALBERTA

by

HEINZ W. PYSZCZYK

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A dissertation submitted to the Faculty of Graduate Studies of
the University of Manitoba in partial fulfillment of the requirements
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ABSTRACT

The faunal analysis from Fort Victoria (1864-1897) located 70 miles northeast of Edmonton, Alberta, along the North Saskatchewan River, was undertaken by the author. The historic literature indicates that the fort spanned a critical period when the major food source, the plains bison, disappeared. It was felt that the faunal analysis would allow some insight as to what subsistence alternatives were reverted to during these difficult times. The results indicated that an increased efficiency and intensity of large game animal use took place as well as a use of a large variety of small mammals, birds and fish. The analysis also showed a shift to domestic stock prior to the disappearance of the bison. The Fort Victoria faunal sample was compared to three earlier fur trade and provisioning posts, Fort George, Buckingham House, and Fort White Earth, located on the North Saskatchewan River. Comparisons were limited to faunal distributions, game animal preferences and variety, and butchering patterns.

Overall results of the faunal analysis of historic fur trading posts and the review of the literature, indicates that faunal samples are affected by numerous factors such as off-site butchering, trade of provisions to posts, seasonal game use, and disposal of garbage at sites, which were difficult to control from use of only the archaeological record. A flow chart, similar to Schiffer's (1972) model on disposal patterns was devised to point out these limitations.

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CHAPTER I

INTRODUCTION

Background

Archaeological investigations of the fur trade era in Alberta, especially the area along the North Saskatchewan River, have had a relatively short history. Within the last ten years, research of fur trading posts such as Fort George (1792-1800) (Kidd 1970); Buckingham House (1792-1800) (Nicks n.d.); and Fort White Earth (1810-1813) (Nicks n.d.); have yielded valuable information on the beginnings of the fur trade along the North Saskatchewan River (Fig. 1). While research of these early posts is continuing, no major archaeological project encompassing the latter portion of the fur trade was undertaken prior to 1974.

With this in mind, W. D. Clark, head of the Historic Sites Service of Alberta, proposed that excavations of a Hudson's Bay Company post occupied during the latter period of the fur trade be undertaken. Such a project would provide valuable information on various aspects, such as the artifact content, the construction techniques employed, and the subsistence patterns of the period. The site chosen for excavation was Fort Victoria (1864-1898), a Hudson's Bay Company post, located sixty-five miles east of Edmonton along the North Saskatchewan River. It was felt that this site would provide the information needed because of its long period of occupation.

Preliminary archaeological investigations at Fort Victoria were conducted by K. Arnold (1971), Department of Anthropology, the University

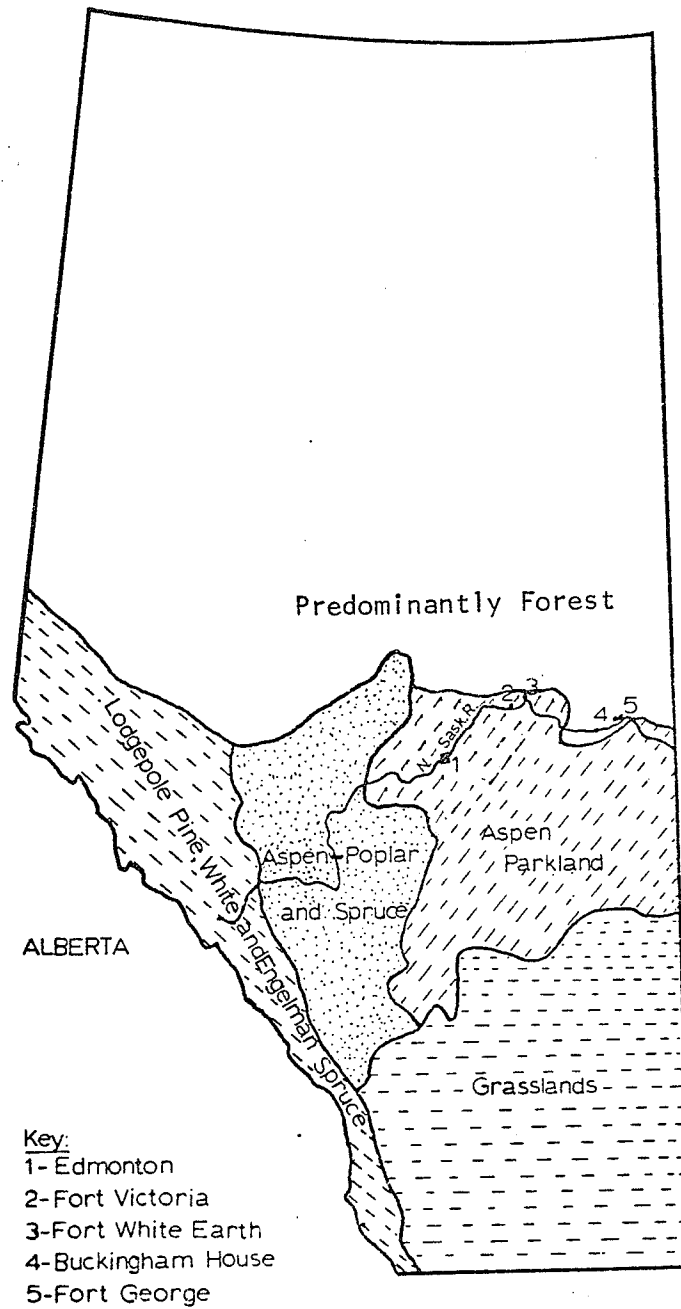


Fig. 1 Location of Fur Trading Posts and Local Vegetation
(After Hardy ed. 1975)

of Alberta, who unsuccessfully attempted to determine the location of the fort palisades and boundaries. During that same year W. D. Clark and J. S. Nicks, Historic Sites Service of Alberta, excavated in front of the Factor's House prior to restoration of the original boardwalk. Clark, however, felt that more extensive excavations of the site were required; this field work was conducted during the spring and summer months of 1974, 1975 and 1976, and was directed by T. C. Losey, the Department of Anthropology, the University of Alberta, as an archaeological field school and funded by the Historic Sites Service of Alberta.

The faunal remains recovered during the 1974 field season were analyzed by Losey and Prager (1975) who later presented a research paper at the Canadian Archaeological Association Conference in 1975 on their finds. The major aspect of their research dealt with the demise of the bison on the Northern Plains during the occupation of Fort Victoria, and with the effects of the loss of this food source on the inhabitants of the fort. It was felt that further research and a larger faunal sample would provide valuable insight into the problem.

The author, working as an assistant supervisor on the Fort Victoria Project, undertook the analysis of faunal remains recovered during the 1975 and 1976 field seasons. The faunal samples from the three years of excavations were then combined to form the data for further research on the subsistence patterns of the occupants at Fort Victoria.

The Problem

Adams (1977:131) has defined historical archaeology as the, "...conjunction of historical and archaeological methodologies in the

study of culture; it should not be limited to any geographical, temporal, or cultural area." Schuyler (1970:88) states that:

Technically Historic Sites Archaeology is a testing ground for methods and approaches used in general archaeology and which on occasion, as in the "new archaeology" arise in part out of anthropological theory.

Binford (1968:21) indicates that, in many cases, ethnographic and ethnohistoric data only partially aid in understanding human subsistence patterns:

Finally my primary interest was in a class of material-bones - about which historical accounts were mute and even the men who produced the patterns were unaware of their existence and meaning. This was an archaeological problem.

The reason for this discrepancy between the historical and archaeological sample is pointed out by Ferguson (1968:7): "The historical and archaeological records are different analogs of human behavior, and they should not necessarily be expected to coincide." Therefore, in order to more fully understand fur trade subsistence patterns both sources of data must be used.

In many instances, the faunal analyses from fur trading posts are relegated to a few tables in the appendices of reports. It was therefore felt that a more detailed analysis would contribute greatly to our knowledge of the subsistence patterns of the fur traders of Alberta. This study presents an opportunity to not only investigate the lifeways of Fort Victoria inhabitants, but to compare European subsistence patterns throughout the fur trade era. Furthermore, investigation of the Fort Victoria subsistence alternatives is an important historically and archaeologically documented study of culture change and process over a relatively short time period. It outlines how and why articulated

variables within a cultural system shift over time when confronted with a major catastrophe. This subsistence shift in north central Alberta involved the European fur traders and aboriginal peoples and indicates how these two cultures reacted to the loss of a major food source - the plains bison. The study shows some general interrelationships between these two groups and how each attempted to restore the subsistence equilibrium during those critical years when the bison herds were disappearing on the northern plains. Finally, this documented subsistence shift has broader implications and may yield greater insight on culture change in prehistoric societies that underwent similar subsistence changes.

There exist a number of other reasons why the faunal analysis of a site such as Fort Victoria may prove to be of value. Although occupied for a period of thirty years, very few primary documents of its history or the lifeways of its people have survived. Archival research has provided little data; most information consists of scattered references throughout the literature by those who visited it or were concerned with business transactions of the fur trade. However, only a small percentage of this information deals with the subsistence of the people. The faunal analysis will therefore help to provide data on the variety of animals that were utilized, the method of processing for meat and other products, and, in some instances, the time of year they were utilized.

Although very few specific references of the fort exist, there are a considerable number of primary references available pertaining to subsistence patterns of the fur trade in the general area during the time when the site was occupied. The compilation of these data provides a broad basis to which the faunal remains of the site can be compared.

Fort Victoria spans a critical period of history when wild game resources were being replaced by domestic stock and agriculture. Though the historic literature indicates that a change in the subsistence patterns in the area occurred during the late 1870's, it provides no detail on the transitional period - a time which must have been a crucial one for the fur trading posts.

In dealing with a faunal sample such as that from Fort Victoria several problems may become evident. There is a good deal of evidence in the historic literature that the faunal remains cannot totally account for the variety and proportion of animals consumed. Such factors as off-site butchering, and the provisioning of posts with dried meat and pemmican may not be reflected in the faunal record. Schiffer's (1972) discussion of refuse disposal and the processes that create the archaeological sample is important in this regard. A better understanding of these processes would provide greater insight into the subsistence patterns of the Fort Victoria inhabitants: "What is advocated here, and elsewhere is a concern with explaining how the archaeological record is produced . . ." (Schiffer 1972:156).

Objectives

The objectives of this study may be summarized as follows:

1. To reconstruct the patterns of animal utilization during the occupation of the fort with respect to relative importance of species, their seasonal use and large mammal butchering patterns.
2. To compare this reconstruction with historical accounts of animal use at Victoria and elsewhere during the fur trade in Alberta.
3. To investigate the changes in animal use at the fort, particularly during the decline of the bison in the area.

4. To compare the patterns of use during this decline with those derived from three earlier fur trade posts that date to a period of bison abundance.

In order to achieve these aims, this thesis is organized in the following manner. First, the historical and environmental background of the Edmonton district is presented paying particular attention to Fort Victoria, and the earlier posts of Fort George, Fort White Earth, and Buckingham House. Next, in Chapters Three and Four, historical evidence of hunting, butchering, provisioning, dietary and disposal patterns relating to the fur trade are presented with particular emphasis upon the subsistence changes accompanying the demise of the bison. This historical review outlines the general patterns of animal use expected in the archaeological record, and, more specifically, the changes in faunal remains that should accompany the shift from a bison hunting to an agricultural economy. The latter expectations are detailed in Chapter Five dealing with methodology, and a general discussion of the problems of measuring animal use through faunal remains. Chapter Six summarizes the excavations at Fort Victoria and describes the nature of the deposits and features that contained animal remains. The next two chapters present the results and discuss the faunal analysis in view of the historic evidence presented earlier. A final summary is followed by a brief reiteration of some of the problems of faunal analysis.

CHAPTER II

HISTORICAL AND ENVIRONMENTAL BACKGROUND

General History

The early exploration of Alberta by such men as Anthony Henday, Peter Pond, Alexander Mackenzie, Angus Shaw, Duncan M'Gillivray, Peter Fidler and David Thompson helped to map the basic geography of the west and establish direct European participation in the fur trade of Alberta. These explorations were primarily the result of the competition between the fur trading companies: "Their own restless curiosity drove them forward, but it was the struggle between the fur trading companies that made their explorations possible and necessary." (Hardy 1975:306).

A North West Company explorer, Peter Pond, opened up the Athabasca region during the 1770's. He was followed by Alexander Mackenzie in 1789 who descended the Mackenzie River to the Arctic Ocean; four years later Mackenzie established a post at the present-day Peace River, Alberta (Hardy 1975:305). In 1789, Angus Shaw built a post at Moose Lake, near Bonnyville, Alberta, and by 1792 Fort George was constructed, ". . . the first station on the Alberta side on the North Saskatchewan River." (Hardy 1975:305).

The Hudson's Bay Company, in 1792, established Buckingham House beside the North West Company's Fort George. In 1795, the Hudson's Bay Company moved further west up the Saskatchewan River and established Fort Edmonton, ". . . almost side by side with the Nor'-westers' 1794 Fort Augustus, both of these forts being at the confluence of the Sturgeon and North Saskatchewan Rivers, not far from where Fort

Saskatchewan now stands." (Hardy 1955:41). During the next ten years the posts were frequently being moved and rebuilt along the North Saskatchewan River. After a short occupation of Fort White Earth between 1810-1813, the final move back to Edmonton took place and the two companies constructed another fort on the present legislative grounds.

Following the amalgamation of the two companies in 1821, Fort Edmonton became one of the most important establishments in the Saskatchewan country. The fort not only controlled the fur trade of an extensive area, but also furnished many of the northern posts in the Athabasca country with dried meat and pemmican: ". . . Edmonton was well supplied and contributed heavily to other districts including the North country." (MacDonald 1954:174). The fort had easy access to large numbers of bison that were hunted and processed during the winter and spring months. However, during winters when bison were scarce in the area, the fort was unable to help the northern posts or its own outposts, and great hardships were endured. Presumably these times of feast and famine also occurred in the surrounding area. As with Fort Edmonton, the early posts (Fort George, Buckingham House, and Fort White Earth) controlled a large area of trade during their occupation and had access to a region which previously was untouched. A more detailed discussion on occupation, population and functions will ensue. One aspect of importance to be noted is that Fort George and Buckingham House had the same period of occupation, were located in close proximity to one another and thus had access to similar resources; they therefore provide a means of validating the studies on the game animals that were taken for food and fur during the late 1700's.

Fort George

Fort George, a North West Company post located on the north side of the North Saskatchewan River, was occupied from 1792 to approximately 1800. Kidd (1970:7) states that the main reasons for constructing the fort were for fur trading purposes and as a provisioning post, particularly for the Athabasca River brigades. The fort was situated in an excellent position for obtaining provisions: "The parklands along the southern bank of the Saskatchewan were the wintering ground of the bison, where they were obtained both by the post hunters and by Indian bands." (Kidd 1970:7). The amount of processed and fresh meat intake for one year was considerable. McGillivray in 1794 estimated that 10,000 pounds of pounded meat and grease were traded to the fort and that, ". . . by February 19, 413 bison had been brought to the fort by the hunters . . ." (Kidd 1970:7).

Few population estimates for the fort exist, although Kidd (1970:10) indicates that in 1794 the post contained 80 men and approximately the same number of women and children. Fort George was finally abandoned in 1800 due to the rapidly diminishing quantity of furs in the area and the continual westward 'leapfrogging' by the North West and Hudson's Bay Companies.

Archaeological investigations at Fort George were conducted in the summer months of 1965, 1966, 1967 and again for several days in 1970 by Robert S. Kidd of the Provincial Museum of Alberta. An estimate of the fort's enclosures is approximately 200 x 150 feet. The major features excavated at Fort George include palisade trenches, the east enclosures, the Main House, Northwest House, Northeast Structure,

Central Refuse Pit, the Blacksmith's Area, numerous cellar depressions and the West Structures (Kidd 1970:23, Fig. 8). These main features also included numerous sub-features such as cellars, trash pits, etc. It is also evident that the excavation priorities were directed towards the exposure of structural remains, as very few test units outside the fort were opened.

Buckingham House

Buckingham House was constructed by William Tomison in 1792, approximately four hundred yards west of Fort George. The close proximity to the North West Company fort allowed the Hudson's Bay Company to keep an eye on their competition (Nicks 1969:16). No population estimates are given for Buckingham House, although it was probably smaller than Fort George. Like Fort George, Buckingham House was close to the plains and the occupants were able to procure large numbers of bison for the spring outfits. Nicks (1969:21) mentions that: "Sometimes the men made up as much as 1000 pounds in one day."

This fort, like Fort George, was abandoned in 1800, although the reason for abandonment is not clear. Nicks comments that the move, ". . . likely was related to the necessity to keep watch on the North West Company, who had just abandoned Fort George." (Nicks 1969:26).

Archaeological investigations at Buckingham House were conducted during the summer months of 1968, 1972 and 1975 by John Nicks of the Provincial Museum of Alberta. A final publication is not yet available, but a preliminary analysis of the faunal remains has been completed.

Fort White Earth

Fort White Earth was built in 1810 and abandoned by 1813. The post was jointly occupied by the North West and Hudson's Bay Companies who shared a "common stockade" and were only separated by a picket fence (Nicks 1969:28). The post is located about two miles upstream from the mouth of the White Earth Creek in the region of present-day Smoky Lake, and is approximately six miles downstream from Fort Victoria (Fig. 1). Like the other three fur trading posts, White Earth is situated on the north side of the river. The decision to combine the two fur companies within one stockade was apparently due to a number of reasons. Nicks (1969:28) states that operating costs were cut by having only one post, but the main reason may have been one of protection against the Blackfoot Indians trading at the post. The post was abandoned because of the poor trade (ibid:30), and both companies decided to establish a new post at present-day Edmonton. However, the abandonment may also have been due to the lack of large game animals in the area. There is some evidence from the historical journals that the Indians were deliberately driving the bison from the post by burning large areas near the fort. Apparently the fort location was not to their liking (Nicks, personal communication). In 1810, Fort White Earth contained 220 people, the North West Company having 135, while the Hudson's Bay Company had only 85 people. This census consisted of only the summer complement (Coues ed. 1965:603).

Fort Victoria

Local Environment

Fort Victoria is situated on the northern edge of the Aspen

Parkland transition (Fig. 1). The parkland is rich in flora and fauna, having components of both the boreal forest to the north and prairie to the south. Only a brief description of the local vegetation and fauna is warranted here; a more detailed discussion of the vegetation can be found in Bird (1967) and Moss (1955), while Banfield (1974), Salt and Wilk (1958), and Paetz and Nelson (1970) can be consulted for further information about the local fauna.

Vegetation A general description of the Aspen Parkland zone of Alberta is summarized by Bird (1967:292):

In typical areas aspen groves alternate with grassland, while stands of aspen and willow mingled with conifers increase the range of the woodland along wide stream valleys Lakes seem to be scattered in careless profusion throughout the parkland, varying from large and shallow waters, as at Beaverhill, Buffalo and Sullivan Lakes, to smaller expanses, usually ringed quite delightfully with trees but often surrounded by alkaline shores. Everywhere, too, are sloughs and marshes circled with willows and aspens.

Four major plant communities dependent upon soil and moisture conditions are found in the parklands zone: 1) fescue prairie; 2) aspen groves and woodland, creeks; 3) river bottom forests; 4) marshes and wet meadows (Hardy ed. 1975:139).

The natural vegetation surrounding the old Victoria settlement has been altered by the gradual increase of land-clearing and subsequent agricultural activities over the past century. Portions of the North Saskatchewan River valley still contain dense aspen stands on both river terraces while an abundance of white spruce and some birch are found on the north facing slopes of the valley. Dense stands of willow grow along both banks of the river. Black spruce and larch are rare in

the immediate vicinity of the site but occur in the poorly drained low lying areas to the north. Pure stands of jack pine are found on sandy uplands three miles east of the fort.

Sources of adequate timber for building construction were apparently scarce in the vicinity of the fort. John McDougall mentions that timber for the Victoria Mission was harvested some thirty-five miles upriver and then rafted downstream (McDougall 1896:91). Pine, used for construction of the palisades, was probably harvested from the jack pine stands three miles east of the fort (Losey et al. n.d.).

A variety of berry-producing species, including chokecherries, saskatoons and pincherries can be found in the Victoria district. Grant, when travelling through the jack pine stands to the east of the fort in 1872, comments on the abundance of berries in that area:

Another, ten miles broad, near Victoria, was a sandy ridge producing scrub pine, or as the people call it cypress, . . . The ground was literally covered with cranberries, bearberries, the Uva ursi, and other creepers (Grant 1971:172).

Fauna The large variety of mammals, birds and fish found in the area were important resources. Because Fort Victoria was located between the boreal forest and the grasslands, its inhabitants had access to a diversity of food and fur animals. That its position was advantageous is further emphasized by Grant (1971:176) who noted the settlement was well situated, ". . . on account of its advantages of soil, river, lakes abounding in fish and wild fowl, and nearness to the plains where the buffaloes are always found."

The more important large mammals in the northern parkland during fort occupation included bison, moose, elk, mule and whitetailed deer, black bear and grizzly bear (Banfield 1974). The large bison herds

grazed on the northern plains during the spring and summer months and moved into the parkland region in the late fall and winter except in mild winters with little snowfall, herds would remain on the plains. Elk and moose had extensive ranges during the 19th century, but by 1893 they had been restricted to the more isolated areas of their former ranges (Turner 1950:549). Moose were found primarily in the northern lowland lake regions northeast of Victoria.

Mule and whitetailed deer were common throughout the region especially in riverine habitats and also in the jack pine stands: "There were jumping deer that ranged in the heavy Jack Pine bush about four miles east of the home place (Victoria Mission). They were in bunches as high as fifteen to a herd." (Erasmus 1976:164). Pronghorn antelope formerly ranged to the North Saskatchewan River although today the species is only found in the southeastern part of the province (Banfield 1974:404).

Both the grizzly and black bear previously occupied the plains and parklands regions of Alberta. The Plains grizzly was regarded as very dangerous by traders and was hunted only when the hunter's horse was considered fast enough to outrun them (Kane 1925:90). Banfield states that: "Grizzlies once occurred on the prairies as far east as the Red River valley, Manitoba, but they were exterminated along with the bison in the early days of exploitation." (Banfield 1974:311).

A variety of smaller mammals also inhabit the Parklands. Some of the more important fur bearers include beaver, muskrat, mink, ermine, several weasel species and river otter. The latter species is now extinct in the Victoria area (Banfield 1974:342). Other species such

as lynx, fox, coyote and the wolf also roamed the parkland region, and a large variety of smaller rodents including numerous species of mice, voles, shrews and ground squirrels occur. The snowshoe hare was an important food animal especially in years of population peaks about every 10 years. During this peak hares have been known to reach populations of up to 3,400 individuals per square mile (Banfield 1974:82). Jack rabbits are also found in the region but only in relatively small numbers.

The Parkland's extensive sloughs, marshes and lakes support a variety of bird life (Hardy ed. 1975:148). The Canada goose is one of the more important nesting species; Ross's goose and snow geese pass through the area on the way to their northern nesting grounds. Whistling swans and white pelicans are also abundant, and a great variety of ducks nest in the lakes and marshes (Salt and Wilk 1958). Upland game birds include spruce, ruffed and sharp-tailed grouse, and prairie chicken.

A large variety of fish species are found in the North Saskatchewan River and the surrounding lakes. Some of the major food species include northern pike, walleye, sauger, perch and burbot (Paetz and Nelson 1970). The largest river species, lake sturgeon, may have been present in relatively large numbers during fort occupation. Many of the surrounding lakes contained large quantities of lake whitefish which were taken in considerable numbers by both whites and Indians who considered them an important food source (McDougall 1896:116).

History

Relatively few historic records and documents pertaining to the

history of Fort Victoria exist. A few personal records of the chief clerks working at the fort have been found, but references to Victoria by such Chief Factors as Richard Hardisty at Fort Edmonton, are thinly scattered throughout the literature. These records have aided in establishing a general history of the fort. The following brief history of Fort Victoria is a condensed version from the 1974 Fort Victoria preliminary report (Losey et al. 1977).

Victoria settlement, located on the North Saskatchewan River approximately 65 miles northeast of Edmonton, Alberta, (Fig. 1), was established as a Methodist Mission by the Reverend George McDougall in 1863 (Clark 1971:13). McDougall mentions that the establishment was also intended to introduce agriculture to the Native people, as the missionaries anticipated a decrease of wild food sources. The mission was well situated to receive Cree parties journeying to and from the plains. During the spring of 1863, John McDougall, the son of the founder, noted that, ". . . for several weeks we had hundreds of lodges beside us." (McDougall 1896:51).

This large gathering of Indians did not go unnoticed by either the Hudson's Bay Company or the free traders. In order to oppose the free traders in the Victoria area, the Chief Factor at Fort Edmonton, William J. Christie, decided to establish a Hudson's Bay Company post at the mission site. In 1864, after first offering the position to John McDougall, the company sent one of its clerks, Mr. George Flett, to establish a post at Victoria (Losey et al. 1977:4).

Structural Evidence The earliest existing plan of the post was drawn in 1874 by Richard Hardisty, then Chief Factor of Fort Edmonton (Fig. 2). The fort contained seven buildings enclosed by a palisade measuring