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AN ARCHAEOLOGICAL PERSPECTIVE ON THE ORGANIZATION OF  
THE FUR TRADE IN EIGHTEENTH CENTURY NEW FRANCE

By

Judith Dunn Tordoff

A DISSERTATION

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## ABSTRACT

### AN ARCHAEOLOGICAL PERSPECTIVE ON THE ORGANIZATION OF THE FUR TRADE IN EIGHTEENTH CENTURY NEW FRANCE

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The goal of this dissertation is the explication of some aspects of the fur trade in eighteenth century New France. From an analysis of the written historical and documentary evidence a model representing the French colonial fur trade system of the eighteenth century as a network of hierarchically organized bases has been developed. These bases were posts within a military organization and their primary function was to facilitate the operation of the fur trade. The posts in the French fur trade network were characterized by differing levels of functional complexity. These differences evolved as the fur trade network expanded into the North American wilderness, away from French sources of supply and command, and closer to native American Indian tribes.

The thesis of the dissertation is that the differences described in the model should be discernible in the patterning of archaeological remains at French fur trade sites. It is tested through the examination of the differential distribution of artifacts at several archaeological sites. The data available and/or suitable for use in this study were not sufficient to allow the analysis of all levels within the hierarchy. Of the French fur trade sites that have been excavated only two, Fort Ouiatenon



and Fort Michilimackinac, could be compared. Because of the differences between the data sets from the two sites, the sensitivity with which statements about the fur trade system could be made was somewhat reduced.

Nonetheless, interesting similarities and differences between the two sites have been perceived. As a Regional Distribution Center, Fort Michilimackinac emerges as a more diversified post, occupied by more people of greater affluence/status than Fort Ouatatonon, and a more militarily important post. Ouatatonon, a Local Distribution Center, appears not only as a smaller and less affluent post, but one where more emphasis was necessarily placed on making do with local resources. Similarities between the two posts are more striking and may be related to the ultimate economic function of posts within the French fur trade system.

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" . . . in our search for it that may happen which has often happened in like circumstances, namely, that, in searching for what we are not destined to find, we may find what we were not looking for and what would be quite as advantageous to us as the object of our search"

Father Charlevoix

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## INTRODUCTION

The goal of this dissertation is the explication of some aspects of the fur trade in eighteenth century New France (Canada). From its beginnings in the sixteenth century, the French fur trade system grew in both geographical scope and internal complexity until its apex in the middle of the eighteenth century. Although the fur trade was beset by problems throughout its existence, by the middle of the eighteenth century the French had developed an organization capable of distributing goods to native populations over thousands of miles into the interior of North America and of funneling the products of exchange, furs, back to its main settlements along the St. Lawrence River and, ultimately, to France. The continuous expansion of the fur trade throughout the century and a half of its existence was the result of: 1) the desire on the part of the French to find a water route to the Pacific Ocean; 2) diminishing fur supplies where the trade had been active for a long time; 3) French efforts to avoid Indian middlemen in the trade; and 4) the necessity of offsetting competition from other European powers. I will examine this trade network as it existed in the eighteenth century at its greatest geographical extent: how it was organized and how this organization is reflected in the archaeological record.

I approach the subject from the theoretical orientation of historical archaeology as a field within the study of anthropology. Historical archaeology had its beginnings in the search for

antiquities; from those beginnings, it has moved through a purely descriptive phase to its current explanatory emphasis. Central to this emphasis is the investigation of the patterning of archaeological materials as reflections of patterned human behavior. The study of material culture is seen as a valuable and worthwhile aspect of this endeavor provided that it is not allowed to be totally descriptive, non-problem oriented, and non-contextual.

Model building within historical archaeology has proved useful in organizing and analyzing data. As a "simplified and idealized representation of a real situation" (Heidenreich and Ray 1976:34), a model may allow the identification of important information otherwise difficult to recognize in a body of data. It also may make it easier to understand the dynamics of a cultural system. Models that have been used by or have proved helpful to historical archaeologists include systems models (Brown 1973; Wishart 1977), frontier models (Lewis 1977), spatial models (Heidenreich and Ray 1976) and network and exchange models (Klein 1973; Adams 1976).

The most attractive of the models, to prehistoric archaeologists at least, have been those borrowed from the field of geography. This is not surprising, since the development of methods and theories on the location of things in space is a problem central to both geography and archaeology (Cleland 1981). Furthermore, some of the themes important to the social science of geography are equally important to archaeology: 1) the earth as the environment of man; 2) a concern with people's spatial organization and their ecological relationship to their environment; and 3) a sensitivity to the richness and variety of the earth (Haggett, Cliff and Frey 1977:3).

This borrowing and experimentation with geographical models has been ongoing for nearly twenty years with varying degrees of success. Several of the most commonly used models include Nearest Neighbor Analysis, Gravity Models, Industrial Location Theory and Central Place Theory. Nearest Neighbor Analysis provides a means of determining spatial relationships between points on a plane (Whallon 1974; Durkin 1981). For archaeologists this method has been used to determine the distribution of artifacts within a site as well as to describe patterns of site distribution (e.g., Peebles 1978). One requirement for the use of this method is extensive information on site population density, which would seem to make it potentially more appropriate for use by historical rather than prehistoric archaeologists (see Swedlund 1975).

Gravity Models were developed in order to explain the amount of interaction between two places. Basic assumptions underlying the use of this model are that a population must have equal access to all goods, and that the demand for goods must be uniform. As with nearest neighbor analysis, archaeologists have used these models for the study of both artifact and site distribution. A major problem with the use of gravity models is that in geography the measurement of distance from point to point is taken along a straight line. Obviously it is likely that this kind of measure will give an inaccurate picture of the effort actually required to reach one point from another. Cleland (1981) also points out that a people's concept of distance does not always or necessarily coincide with actual physical distance.

Alfred Weber developed a theory of industrial location, praised

by geographers as an important step toward later refinements in locational theory by others such as von Thunen and Losch. The central point of Weber's theory is that industrial sites will be selected "so as to minimize unnecessary movement" (Haggett, Cliff and Frey 1977:177). A major problem with Weber's approach is the large number of assumptions that must be dealt with and that tend to oversimplify or reduce a given situation to a point where it has little explanatory value.

A final geographical construct used by archaeologists, perhaps more frequently than any other, is Central Place Theory. Originally developed by W. Cristaller, central place theory attempts to explain the distribution of urban centers and the location of economic activities within a market society. Its use is limited not only by the assumptions that must be met, but by the fact that it deals primarily with the links between a settlement and its hinterland; it does not treat activities that serve national or regional markets (Durkin 1981:38).

To date archaeologists have not been consistently successful in the application of geographical models to archaeological problems, owing partly to the misuse of those models and partly to the fact that while the geographical models may help in understanding a distribution, they do not help to understand the processes leading to that distribution (Cleland 1981; see also Johnson 1977:501). As Zimmerman (1981:36) points out: "Locational archaeologists have come to realize that little consideration has been given to the general theoretical constructs underlying the geographical techniques. These constructs govern the efficacy of application of a particular

technique to a data set and the utility of inferences drawn from the results." Further difficulties in the uncritical archaeological application of geographical models are the lack of consideration by geographers of the myriad of factors that actually influence spatial organization, plus the general lack of attention by geographers to the behavioral component of spatial distribution (Zimmerman 1981:37). Thus, while the explanatory potential of geographical models for archaeologists may be high, that potential has not yet been achieved. Whether due to the misuse of those models, either through lack of adherence to their assumptions and constraints, or through their use with inappropriate data, many archaeologists, especially historic archaeologists, have not yet learned how to make most effectively the transfer from one discipline to the other. Only with the creation of archaeological models for archaeological situations with archaeological data will this situation be improved.

While several of the models discussed above appear attractive for the analysis of the fur trade in North America, the data available for this dissertation were neither qualitatively nor quantitatively sufficient to meet the necessary requirements demanded by the models. Ultimately, this study does not seek to test why a pattern exists, or even if one exists. The thrust of the dissertation, rather than attempting to apply the models discussed, is to propose a structural arrangement for the fur trade which can then be tested. To examine the French fur trade in this study, I have constructed a hierarchical model based on historical sources. From my analysis of the written historical and documentary evidence, I have developed a model representing the French colonial fur trade system of the



eighteenth century as a network of hierarchically organized bases. These bases were posts within a military organization and under a military government. Their primary function was to facilitate the operation of the fur trade. The posts in the French fur trade network were characterized by differing levels of functional complexity. These differences evolved as the trade network expanded into the North American wilderness, away from French sources of supply and command and closer to native American Indian tribes.

The operation of the fur trade system provided the mechanism through which material goods and other evidence of human activity came to be present on archaeological sites of the trade period. The thesis of this dissertation is that the differences described in the model should be discernible in the patterning of archaeological remains at French fur trade sites. It will be tested through an examination of the differential distribution of artifacts at several archaeological sites. This approach differs from that of some recent works (e.g., South 1977a) in that, rather than looking for similarities among sites, it addresses their differences. Instead of starting with the parts and searching for the whole, I am beginning with the whole--the French fur trade system--and attempting to more precisely define its parts.

The thesis examined here is a preliminary one and is bounded by the fact that the data used are limited to artifacts. In addition, the data available and/or suitable for use in this study were not sufficient to allow the analysis of all levels within the hierarchy. Of the French fur trade sites that have been excavated only two, Fort Ouiatenon and Fort Michilimackinac, could be compared. As

will be discussed more fully in Chapter III, sample sizes and excavation strategies at the two sites were very different. Because of these differences, and the resulting data sets, the sensitivity with which statements about the fur trade system can be made are correspondingly reduced.

Nonetheless, this study provides a view of the French fur trade organization that can be considered a first step toward the generation of more specific questions about its operation. By beginning to perceive and define the differences among the French fur trade sites we may be able to see the system as a whole more clearly.

Chapter I presents an overview, derived from written historical and documentary sources, of the development of the French colonial fur trade in New France. This is followed by a presentation of the model and descriptions of hierarchical levels in Chapter II. Chapter III contains the hypotheses through which the thesis will be addressed and discussions of the sites to be compared and the nature of the data base. The analysis is presented in Chapter IV and conclusions and suggestions for further research in Chapter V.

The original research for this dissertation was conducted at the site of Fort Ouiatenon, an eighteenth century French military-trading post near the present city of Lafayette, Indiana. In order to make available the data recovered from this site, Appendices A and B contain a brief history of the site and excavations as well as feature and artifact descriptions.

## CHAPTER I

### HISTORY

The history of the fur trade in the New World has been described many times (e.g., Innis 1956; Phillips 1961; Eccles 1969; Kellogg 1968). The purpose of this discussion is to trace the development of the French fur trade in North America from its beginnings in the sixteenth century to its fullest expression and ultimate demise in the eighteenth century. This is not an attempt to encompass the enormous scope and complexity of the subject; the panoply of intrigues, events and personalities that contributed to the evolution of the French fur trade is beyond the scope of any study. Furthermore, the complexities of the confrontation between two civilizations can only be hinted at here. Rather, it is a brief outline concentrating on the factors that were of primary influence in shaping the trade itself. Ultimately, of course, all factors blended together in the development of what is called the "fur trade," but it is possible to isolate important aspects of culture and geography that contributed significantly, sometimes fatally, to the destinies of the French in North America.

Francis Parkman said, "Spanish civilization crushed the Indian. English civilization scorned and neglected him. French civilization embraced and cherished him" (Devoto 1952:87). If this is an overly romanticized characterization of Europeans in the New World, it is because the sixteenth through the eighteenth centuries

were indeed, at least in retrospect, romantic. During these centuries the French became what DeVoto calls "our greatest wilderness people" (1952:84). They began by searching for a Northwest Passage, or at least a Western Sea, leading to the Pacific Ocean. They had to settle instead for the development of a commercial and military empire based on the acquisition of furs from Native Americans. At its greatest geographical extent, this empire stretched from the mouth of the St. Lawrence River west as far as Lake Winnipeg and the Saskatchewan River (Figure 1). North of the St. Lawrence and the Great Lakes, French territory or influence extended almost to Hudson Bay; to the south it reached along the Mississippi River to New Orleans and Mobile. Thus, of the four main entryways into the interior of Eastern North America, France controlled two: the St. Lawrence River and the Mississippi River. England controlled the other two, Hudson Bay and the Hudson River. This accident of history and geography affected and, to a certain extent, predetermined some of the lands available to both countries and the use each was to make of them (Eccles 1969). The French presence in Louisiana will not be discussed here; the fur trade was concentrated in more northern locations. Louisiana was settled much later than Canada and although it was at times heavily involved in the fur trade, mainly with deerskins, it had its own uniquely southern resources and problems.

Four factors were of primary significance in the development of the French fur trade: geography, economic competition, the French military tradition and North American Indians.

The St. Lawrence River was the French entrance to North America. As the search for the Western Sea continued and the demand

Figure 1. French Held Lands in Eighteenth Century New France

for furs increased, the rivers and lakes of the continent became the routes to the interior and the main means of communication throughout the French regime.

Commercial competition with Indian middlemen affected the early fur trade and the lands and tribes contacted by the French. Competition with other European powers was constant. The competition between the French and British for furs, for land, and for Indian allegiance became one of the most important factors in the determination of French policy in Canada. "The ever present character of this competition necessitated an ample military organization for the colony, and the development of institutions of militaristic importance" (Innis 1956:113). The entire administration of the colony was organized along military lines. The business of holding back the British ". . . had to be almost exclusively a military effort . . . . And it was the military talent shaped and perfected by the wilderness that enabled the French to postpone their certain doom. The military resource was paired with, in fact consisted of, the Indian trade. The West was the great market and its business was the first business of French America" (Devoto 1952:156).

The Indian trade began with the first European explorers to set foot in what was to become New France. As it gradually overshadowed fishing in scope and importance and as the financial gains to be had grew (in fact and fantasy), it was the Indians of New France who held the keys to the resources of the land. Of all the Europeans to occupy North America in the sixteenth, seventeenth and eighteenth centuries, the French may have understood most clearly the necessity of cooperation with Native Americans in the pursuit

of their commercial, religious and political ends (Eccles 1969). Their posts and settlements became islands in the sea of Indians who regarded the land as their own, and the French were basically content to keep it that way.

### The Sixteenth Century

The voyages of Jacques Cartier to the St. Lawrence in the 1530s started French involvement in the New World. His explorations were undertaken with the intent of finding a water route to the Orient; he explored the St. Lawrence River, established bases at Quebec and Montreal, and found Indians holding up skins to trade for iron and other French goods. Though the trade in furs was attractive, the search for a route to the Orient and the prospect of wealth in gold and silver mines were of the first importance. During this period of the sixteenth century in France, however, attention was directed to the wars of religion and little support for exploration was forthcoming from the French crown. As was to occur over and over again, explorations had to be financed by the explorers through profits acquired by colonization and commercial enterprises in New France. During the sixteenth century, Montreal was about as far up the St. Lawrence as any European reached.

The first truly commercial venture in New France was cod fishing along the North Atlantic coast. This industry continued to exist during the entire French regime and even beyond. By the end of the sixteenth century, however, it was being overshadowed rapidly by the trade in furs and the increasingly high profits to be derived from this activity. This economic partnership between Europeans and

Indians had certain undeniable advantages over the fishing industry. Furs available in North America no longer existed in France. They were relatively light weight, easily transported, and required lesser amounts of labor outlay than fishing. Most importantly, the potential profits to be gained from furs were enormous as beaver hats rose in popularity during the sixteenth century. Many fishermen switched to the fur trade as they realized the opportunities there.

Tadoussac, at the mouth of the Saguenay River, became the usual meeting place for Indians with furs and Europeans with goods to trade. During the sixteenth and much of the seventeenth centuries Indians brought their furs to the French or sent them through Indian middlemen inhabiting lands closer to the European settlements. The trade was free to all during most of the 1500s and, though limited in scope, developed rapidly during the 1580s.

The British at this time were not yet a threat to French interests in the New World. During most of the sixteenth century British attention was centered on other problems: domestic matters before the accession of Elizabeth I, then Phillip II and difficulties with Spain. In any case, England could import furs from Russia and its interest in North America was more toward replenishing its treasury with gold from the Orient obtained by taking a water route through America (Phillips 1961:26).

### The Seventeenth Century

The development of Canada as a French colony and of the fur trade as its primary means of support took place in the seventeenth century. Henry IV of France was finally able to devote some attention to North America and realized the potential gains from the fur trade.



He wanted to build an empire and saw that, in order to expand the fur trade and increase profits, a colony must be established. This project necessitated the grant of a monopoly on fur trading rights to those starting the settlement (Phillips 1961:28). Colonists could then be sent out and supported by the proceeds from the fur trade incurring little expense to the crown. In 1600 a small settlement was started at Tadoussac by Pierre Chauvin and the Sieur du Pont, known as Pontgrave.

Though the monopoly granted to Chauvin and Pontgrave gave them exclusive trading rights on the St. Lawrence, trade on the coast was still free. Among the free traders and merchants in France, there was much dissatisfaction with the monopoly. A commission appointed by Henry approved a modification allowing several of the French merchants to send ships to the St. Lawrence to trade. The rule resulted in many more ships trading on the St. Lawrence River than the number originally approved. This point is mentioned not because of its crucial importance to the course of history in New France but because it is the first example of the fraudulent use of fur trading privileges that plagued the French regime throughout its existence. Profits from the fur trade could be immense; whether it was an independent trader along the North Atlantic coast or the Intendant of New France, the lure of tremendous sums of money proved to be irresistible. The well documented corruption within the government of New France, for instance, was one of the primary factors leading to its downfall. This corruption apparently began with the fur trade itself.

Pontgrave was much more interested in trading than in colonization. On his expedition to the St. Lawrence in 1603, however, he

was accompanied by Samuel de Champlain, one of the greatest explorers ever. Champlain, until his death thirty-two years later, was to explore further than any Frenchman to date, found the city of Quebec, solidify trading relationships with new groups of Indians, and initiate one aspect of the longstanding ill-feeling toward the French by the Iroquois. It was Champlain who really started Canada as a colony and opened the way for the expansion into the interior that was to come.

On his first voyage to the St. Lawrence, Champlain landed at Tadoussac. While Pontgrave was trading there, Champlain explored the Saguenay River. Later he went up the St. Lawrence as far as Quebec and then Montreal. In 1604 he was among the founders of Port Royal on Nova Scotia. Other trips found him sailing along the New England coast but by 1608 he was back on the St. Lawrence.

The founding of Quebec by Champlain in 1608 can be considered the beginning of the fairly intimate relations between French and Indians that were to continue during the French regime. Champlain had recommended the establishment of a settlement upriver from Tadoussac as early as 1603 (Innis 1956:22). The original idea was for the settlement to be at Trois Rivières, the mouth of the St. Maurice River. But by 1608 Quebec (Stadacona from Cartier's explorations) seemed a more suitable location. Its climate was significantly milder than that of Tadoussac and fur bearing animals were plentiful. The location was also central to many Indian tribes and was within easy access of the interior of the country. The Algonquians who had lived there had been driven to the north by the Iroquois, who controlled lands south of the St. Lawrence and Lake

Ontario. Likewise, the Hurons had been forced to the west, so the land was currently unoccupied. Both tribes could be reached by the St. Lawrence and Ottawa Rivers. The Montagnais to the north and east, though disgruntled at losing their status as middlemen in the trade, were nonetheless easily accessible by the Saguenay and other river routes of the west. There were other results to this shift of the trade to the St. Lawrence, the most significant of which was, according to Innis,

. . . increasing overhead expense in the conduct of the trade. Vessels were sent to Tadoussac; the goods were unloaded and forwarded in small barques to Quebec and to such rendezvous as Three Rivers, the mouth of the Richelieu or the Lachine Rapids by Montreal. The vessels were sent out to an increasing extent to engage only in the fur trade so that the trading of large quantities of furs for a return cargo was essential (1956:29-30).

The next several decades saw many changes and developments. Monopolies and government controls came and went in rapid succession. These monopolies brought with them continual changes in control and reorganization of the colony. Increased expenditures also resulted from the lobbying necessary to maintain the interest of the French government, and from enforcing charter privileges and maintaining an open route on the St. Lawrence.

In 1615 Champlain visited the Huron, who thereafter became middlemen to tribes farther west. This created great tensions with the Iroquois, against whom Champlain had fought in 1609. The competition between Iroquois trading with the Dutch at Albany and the Huron trading with the French became stronger since both wanted the profitable position of middlemen to the western tribes. This competition ended only with the destruction of the Huron some thirty years later.

The early seventeenth century also brought missionaries to

Canada: Recollets first and, by 1625, the more field-worthy and successful Jesuits. Their religious fervor brought them to Canada but they occupied many positions other than those of priest and confessor as they played vital roles in the maintenance of satisfactory French and Indian relations. Though this study will not devote much time to discussing the activities of the Jesuits in New France, it must be understood that they occupied an important and continuing position in the colony. They were explorers, wilderness ambassadors, government officials, traders and observers, and they influenced the conduct of the fur trade throughout the French regime.

It was during these first few decades of the seventeenth century that the British began to threaten French sovereignty in eastern North America. As early as 1612 competition over the Indian trade began in Acadia (Nova Scotia to the British). British attitudes toward land utilization were basically different from those of the French. Though there were (at least in France) continuing dreams of colonization and religious conversion, the French presence in Canada was primarily a commercial one. As such, they viewed the Indians as partners in the fur trade enterprise. The prime purpose of the British in coming to North America, however, was for settlement. They certainly recognized the need for Indian cooperation but more often looked upon Indians as obstacles to progress. Many of the early British settlement companies, however, were to be financed by the fur trade like those of the French and there were certainly those whose primary interests lay in the profits to be made from the trade. The land occupied by the Iroquois was said to be rich in furs, as was the Great Lakes country, and as a result British land grants were made

extending into these areas. The Dutch and French were also exploiting Iroquois furs, and the ensuing conflicts led to skirmishes and hostile acts against fleets from all three sides. Eventually, in 1629, New France was conquered by the British. Port Royal fell first, then Quebec commanded by Champlain. One reason Quebec could not hold out against the British siege was that the post depended almost entirely on shipments from France for its livelihood. No crops had been grown and, since the British had intercepted the French supply fleet, the French settlers had no goods to trade to the Indians for food, let alone furs. This problem, dependence on the home country for supplies, was to plague the French in North America for many years.

With the fall of Quebec, many Frenchmen and Indians started trading with the British victors. Neither cared whether the purchasers of their furs were French or otherwise. Here was the beginning of another continuous problem for the French though, as will be seen below, the problem was not without its benefits.

In 1632, a treaty was reached between England and France in which both Quebec and Acadia were returned to France. The fur trade had been all but totally disrupted during the war. It became apparent that the struggling French colony needed some strong governmental support to survive. New companies were formed, and Cardinal Richelieu took over the planning for New France. This dynamic and influential minister authorized new settlements to be built at Trois Rivieres in 1634 and at Montreal in 1642.

Despite the emphasis on colonization and missionization, the fur trade remained the most important activity in New France as it was necessary to help support the colony. In addition, the Indians had

become more and more dependent upon European goods for their own livelihood and safety. Kettles and tools were important for farming and cooking, trinkets for decoration, and guns and ammunition for hunting and warfare. By the 1630s the beaver in the St. Lawrence valley were all but depleted and new sources of furs were necessary. This led to an expansion of the trade and "a remarkable period of intrigue and diplomacy among Indian tribes" (Innis 1956:21). The most notable of these intrigues was between the Huron and Iroquois who were allied with the French and British respectively.

With the necessity of finding furs from increasingly remote locations, the French began sending explorers such as Nicolet, Radisson, Grosellieus and Brule to the west. They reached the Great Lakes and there found new Indians and immense new fur sources. For the Huron, these explorations posed a direct threat to their status as middlemen to the French but the problems posed them by the Iroquois were even greater. Both tribes needed access to new fur resources. The Iroquois, however, were cut off from the western fur country by the Huron who traded with western tribes via the Ottawa River. The Iroquois, never on good terms with the French, were desperate enough to attempt the negotiation of a peace treaty with them, excluding the Huron. When this failed, they increased the intensity of their raids against Huron fur brigades coming down the Ottawa River. For several years, the trade was completely cut off. The response of the colony was finally to direct its energies toward the defense of the convoys and toward keeping the fur routes open. The French were able to reopen to trade only by providing a military escort for the Huron convoys (Heidenreich and Ray 1976:70) and by

further fortifying the settlements along the St. Lawrence. "To carry out these militaristic measures, the colony was subjected to a centralized policy in all its activities . . . . The dependence of the governing authorities on the fur trade for revenue gave the trade a crucial importance" (Innis 1956:38). Champlain put it another way: "All is well if only the fur trade is secure" (Innis 1956:35). The exigencies of the trade and defense of the colony meant that by the 1640s "the role of the mercantile company as a colonizing agent had shrunk almost to nothing. Power had been transferred, by default, to the religious and the military men in the colony" (Eccles 1969:42).

The matter of the Iroquois was temporarily settled by 1649, the year they succeeded in destroying the Huron nations. This put a halt to the fur trade again, as well as to Jesuit missionization in Huron lands north of the St. Lawrence. One Jesuit's reaction to the catastrophe was as follows: "Before the devastation . . . a hundred canoes used to come to trade, all laden with Beaver-skins; 2 to 300 thousand livres worth. That was fine revenue with which to satisfy all the people, and defray the heavy expenses of the country" (Innis 1956:36).

The Iroquois devastation of the Huron and the resulting destruction of the fur trade had several important consequences. Most notably the French empire pushed farther west. Both Jesuits and traders went to the west, encountering new tribes to convert, new lands and larger sources of furs. The Iroquois, who had planned on taking over as middlemen upon the fall of the Huron, were foiled as this position fell to the Ottawa, excellent canoepeople and business-wise traders. Though a trade monopoly under the crown existed, more and more

illegal traders, or coureurs de bois, began participating in the fur trade. Many came from the ranks of the colony's habitans, or farmers. The lands in the settlements along the St. Lawrence may have been the best the existing colony had to offer, but they were not particularly good for agriculture. Markets were unpredictable and life was difficult and tedious (Phillips 1961:91). The life of a trader was perceived as being very exciting, and the possibility of reaping high profits was a great inducement to leave off farming. The fact that licenses were granted to only a few or that even free trade meant suffering under heavy taxes and stifling regulations mattered little. Illegal traders were everywhere and what they could not sell to French merchants in the colony they sold to the Dutch or British.

Few people, including historians, have been able to resist the lure of the romance of the voyageurs and the coureurs de bois. They were true wilderness men. Their lives were appallingly difficult, uncomfortable and dangerous. Though some became wealthy they were, for the most part, underpaid, overworked and unknown. Yet thousands of Canadians chose this life. Many died by Indian hands or on the river and lake transportation routes. For much of the French regime they engaged in an illegal occupation, but they were ultimately indispensable to the French cause by maintaining contact with the western Indians and by helping keep them allied to the French. The government recognized their importance and though it sometimes attempted to lure them back into the French fold with offers of amnesties, it usually tacitly accepted their activities without doing much about them. In 1713, Intendant Begon wrote,

It seems necessary, in order to prevent the savages from going to trade with the English, where goods are cheaper than they



are at Montreal, that our goods should be carried to them. Therefore, though the coureurs de bois deserve punishment . . . the trade which they carry on with the nations is advantageous to the colony. This trade . . . has brought beaver and other furs to Montreal that would otherwise have gone to the English, had there been no French in the Upper Country . . . the French should carry all that the savages might need, lest they be attracted by the English, first by necessity, and afterward by the cheapness of their goods; and it being impossible to prevent their going, the fur trade in Canada, which is our principle dependence, would be ruined (Thwaites 1902:297-8).

With the British takeover of New France in 1760, many voyageurs continued their lives relatively unchanged, for it was absolutely necessary for the British to employ French in the operation of the fur trade. Not only could the voyageurs assure some safety to the British in dealing with the Indians, but no one knew how to handle the wilderness and river travel like the French did.

The following passage gives one man's reflection on his life as a voyageur.

I have now been forty-two years in this country. For twenty-four I was a light canoe man . . . . No portage was too long for me; all portages were alike. My end of the canoe never touched the ground till I saw the end of the portage. Fifty songs a day were nothing to me, I could carry, paddle, walk and sing with any man I ever saw . . . . No water, no weather, ever stopped the paddle or the song. I have had twelve wives in the country; and once possessed of fifty horses, and six running dogs, trimmed in the first style. I was then like a Bourgeois, rich and happy: no Bourgeois had better dressed wives than I; No Indian chief finer horses; no white man better harness or swifter dogs . . . . I wanted for nothing; and I spent all my earning in the enjoyment of pleasure; Five hundred pounds, twice told, have passed through my hands; although now I have not a spare shirt to my back, nor a penny to buy one. Yet, were I young again, I should glory in commencing the same career again. I would spend another half-century in the same fields of enjoyment. There is no life so happy as a voyageurs life; none so independent; no place where a man enjoys so much variety and freedom as in the Indian country (Eccles 1969:191).

The third quarter of the seventeenth century brought several important developments to New France. In 1663 Canada became a royal

colony; the country and the trade were now under the direction of the French crown. This act created the form of government that was to last until the downfall of the French regime. The new government was largely orchestrated by Jean-Baptiste Colbert, who intended to strengthen and expand the colony. He was at first not at all interested in the fur trade and westward expansion, but rather in making the colony self-supporting. He wanted settlers to cultivate their land and remain along the St. Lawrence. Colbert felt that westward expansion would take more people than France could afford to give and that it would spread them too thinly across the land, making defense difficult (Eccles 1969:105-6). To Colbert, the only legitimate reasons for moving westward were the search for a year-round ice free entry to New France and to control competition from other powers for land and the fur trade.

In the new government, the king was the supreme power with supervisory control over foreign affairs, while other authority was held by his ministers. The French Ministry of Marine consisted of the Minister of Marine, deputy ministers, the Governor-General of Canada, and other senior officials of the colony. The two highest colonial officials were the Governor-General and the Intendant. Military control and organization in the colony now expanded as the Governor-General was selected from military personnel. His responsibilities were in the realm of military matters and Indian relations. French troops were sent to Canada to keep the colony secure from the Iroquois and by 1669 Canadians were organized into militia companies as well.

The Intendant of New France, though nominally responsible to

the Governor-General, possessed great powers. His duties included the administration of justice, colonial finances and the general supervision of the colony. Since Canada was so far from France and the length of time required for communication was so long, both the Governor-General and the Intendant were directed to exercise their powers on their own in times of crisis. This freedom, of course, left the door wide open for abuses of power and position. Abuses did occur, and on a larger and larger scale. It is well known that many of the desperate problems, particularly financial, encountered by the French in the eighteenth century were the direct result of corruption within the French colonial government. DeVoto called the Intendancy "a device of absolutism to safeguard the power of the king by paralyzing local administration" (1952:7).

Beneath the two top officials was the sovereign council of the colony, made up of the Governor-General, the Intendant, the bishop and the attorney general, a recording clerk, and ultimately twelve counselors. This body had both legislative and judicial powers. Local officials such as deputy intendants and militia captains were placed in the colony's settlements. Thus the government of New France became a military government, a military bureaucracy.

The first Intendant of New France was Jean Talon, who was able to convince Colbert that the wealth of Canada lay in its furs. Talon, and later Governor-General Frontenac, convinced Colbert of the importance of exploring the Mississippi River and there followed a great expansion of lands known to and occupied by the French. This expansion resulted in increased competition with the British and Iroquois and increasing French involvement in the fur trade. As the

trade and traders moved to the west, the primary domestic market for furs in the colony became Montreal rather than Quebec. Montreal was located strategically for the fur trade. The Ottawa River emptied into the St. Lawrence River there, and the Lachine Rapids stopped canoes travelling down the St. Lawrence from the Great Lakes. It was the town closest to Indian country and the head of navigation for ships sailing to Europe from Canada. It was also convenient to the trails leading to Lake Champlain and Iroquois country. As such, it became "the outport for voyages to the west" (Eccles 1969:41).

French expansion had been hindered by the Iroquois, British and Dutch to the south and to the north by the British establishment of the Hudson Bay Company in 1670. With the opening of a Great Lakes route the "position of the French colony was strengthened and new possibilities for the fur trade realized" (Innis 1956:46). They built new posts at Frontenac on Lake Ontario (1673) and at Niagara (1679). They also established a number of posts around Lake Superior.

As exploration and trade expanded to the west, the military organization moved with them. During the last Iroquois wars in the 1680s, the French found themselves in a rather desperate situation. The Iroquois invaded the Illinois country in an attempt to win over the Illinois and Miami Indians as allies against the Ottawa. None of the posts in this area was fortified and the French hold in the interior was very tenuous indeed. Their posts were widely scattered and horribly undermanned for military purposes. Their hold depended almost entirely upon Indian alliance and "on the maintenance of communications along the rivers routes of Montreal" (Eccles 1969:116).

Governor-General LaBarre, replacing Frontenac in the middle of

this crisis, sent military commanders with troops to regarrison the posts. This military intervention not only helped quell the Iroquois threat but also allowed for greater control by the French over both Indians and traders. It also meant that French military personnel became more heavily involved in the fur trade. Even before the strengthening of the western posts,

Frontenac sent parties of some hundred and forty men to the western posts each year, ostensibly to convoy supplies to the garrisons and the Indian allies to aid them in prosecuting the war against the Iroquois . . . These military detachments were nothing more than trading ventures; the canoes were loaded not with military supplies but with trade goods, brandy being a major item. The capital for this expansion came from three sources: the king's stores in the guise of military supplies for the Indian allies; the Canadian merchants; and the . . . merchants of La Rochelle who came every summer with trade goods, hired coureurs de bois at Montreal to transport the goods to the west to trade, and returned to France in the autumn with the furs brought back by other coureurs de bois sent out the previous year (Eccles 1969:124).

Actually almost everyone was involved to one degree or another in the fur trade. For awhile the trade shifted largely into the hands of independent traders or at least "the local trader as independent from monopoly control in the interior trade" (Innis 1956:38). A thriving black market and smuggling operation had also developed, much of it through traders in Albany. The unfortunate fact was that the British, and before them the Dutch, usually had better goods than those of the French, and cheaper ones as well. They were not restricted and taxed in their trade as were the French, and many of their goods, cloth especially, were far superior and much preferred by the Indians. The Iroquois traded with both the Albany traders and with New France. Canadians often traded directly with Albany or through the Iroquois to avoid French regulations. The merchants and even the colonial government traded there just to be able to get

goods to send to the posts in order to keep the trade alive ( DeVoto 1952:147). There were never enough to fulfill the demand for both trade goods and Indian gifts.

By the late seventeenth century it became increasingly difficult to operate the fur trade in the interior. Not only were the French traders difficult to control, but their influence made the Indians hard to deal with. Missionaries felt their influence slipping, and in a letter to the Intendant complaining of the traders, Father de Carheil described his view of the situation. The traders were impossible, he wrote, and debauched the Indians by selling them alcohol and using their women, to the point that "all the villages of our savages are now only Taverns . . . and Sodoms . . . ." (Thwaites 1902:214-216).

In 1696 trading licenses were revoked in an attempt to control the situation and force the Indians to come to selected posts with their furs. The idea was to again control the trade from Montreal. This policy did not solve the problem of the coureurs de bois, nor of abuses at the selected posts, and it left the west virtually open to British incursions. The establishment of Detroit in 1701 did not alleviate the situation; it, in fact, brought the Indians closer to the British and the Iroquois.

### The Eighteenth Century

Queen Anne's War (1702-1713) produced some changes. The British had captured Port Royal, Acadia and Newfoundland and had made the Iroquois British subjects. Since the Iroquois at this time controlled the southern shore of Lake Ontario, the British now had access to interior French territory. Another result of the war was that the

French were forced to recognize British sovereignty over Hudson Bay. French response to this was the construction of the Fortress of Louisbourg on Cape Breton Island as guardian of the entrance to the St. Lawrence and an attempt to confine the British east of the Alleghenies. To do this they had to regarrison the west. French policy after 1713 was to maintain garrisoned posts in the west wherever there was the possibility of British traders getting through. Here lies the origin of the chain of forts strategy connecting the main colony at Montreal and Quebec with the western limits of French territory. Forts Niagara, Frontenac and Detroit were strengthened and Michilimackinac was built and garrisoned. Other posts were built or strengthened in areas susceptible to British influence: St. Joseph, Miamis, Ouiatenon, Vincennes, Sault Saint Marie, Green Bay (La Baye), Kaministiquia, Chequamegon, Nipigon, and others (see Figure 1). Since the French did not actually settle the areas they claimed, they maintained military garrisons in order to protect their interests (Eccles 1969:110).

As old posts were reoccupied and new ones opened, the commercial and military functions blended. The commandant, usually a veteran of the border war or the campaign in Europe or both, tended to get the license and become the resident trader; his garrison, always small . . . were also business hands (DeVoto 1952:169).

There were problems in the system.

Following the withdrawal of traders from the west in 1696 and attempts to concentrate trade at posts in charge of commandants, and the failure of those attempts because of Iroquois competition and wars, the colony returned to the old policy of issuing licenses. The licensing system established in 1715 and 1716 was revoked in 1719, and no further permits were issued after 1720. Licenses were restored after 1728 and a varied system grew up which included the license, the leasing of posts, and the handling of posts directly through the king's account (Innis 1956:106).

Indian preference for British goods was always strong and meant that smuggling continued on a large scale. At times, especially before 1720, most of the goods traded by the French came through Albany (Phillips 1961:393-4). Many Indians were in fact initially introduced to British goods by French contraband traders.

The British could not begin to match the French in wilderness skills or the skill of managing Indians but they could always outsell them. British woolens were better than any . . . that could be bought elsewhere in the world market. The manufacturing system of Great Britain had developed so far beyond that of France that other goods . . . could be delivered to the customer so cheaply as to force the French out of competition. A more modern credit system, more efficient government, far freer competition, price flexibility, commercial ethics sufficiently hair-raising but much less sodden with corruption - all these worked to the same end. Beaver would always buy twice as much at Albany as from any French trader, and frequently three or four times as much (DeVoto 1952:147).

The situation was sometimes quite serious: "It is certain that if M. la Motte [Cadillac] had not introduced the trade in brandy, [at Detroit] but very few of the traders would remain, and no more would go there. Brandy and ammunition are the only profitable articles of commerce to the French, the English furnishing all others" (Thwaites 1902:253).

The influence of British competition on French military involvement in Canada, and vice versa, cannot be expressed too strongly. The growth and expansion of both occurred at the same time and in response to one another until the situation exploded in the eighteenth century into the series of conflicts that brought the downfall of the French regime. With the expansion of French trade to the west, British competition became more serious. This competition was controlled most effectively by French military actions, but the policy created a sinister vicious circle (Innis 1956:83). More military



ventures created a need for more revenue and in turn for more revenue-producing furs. With more furs, fur prices declined and the cheaper British goods made competition more effective and more military ventures necessary.

During the eighteenth century, France became increasingly involved in wars, both on the continent and in New France. This created serious problems for the survival of its colonies. Though a new Canadian identity had developed in Canada during the previous century, the colony was still heavily dependent on France for its existence. Internal (Canadian) manufacture was rigidly controlled or prohibited altogether and, though a few posts were beginning to raise crops to help themselves become more self-sufficient, Canada still depended on goods from the outside. And the fur trade itself, as the central revenue-producing activity in Canada, presented a curious paradox. Though control of the trade encouraged the centralization of authority, the system itself necessitated individual initiative.

In order to travel the distances necessary to get to increasingly remote fur sources, traders had to go out one year and come back the next. With increasing distance to be travelled and heavy commodities to be transported, more voyageurs were required, necessitating bigger expenses in wages and supplies, more goods from France, and a slower turnover. The process eventually entailed having resident traders in the interior, communicating with merchants in Montreal and Quebec. This led to profit sharing and partnerships between the merchants in the colony and the traders in the interior. But as the eighteenth century wars took more and more French

attention and money, colonial development and supply received less and less.

Despite the problems--the chronic shortages of money and goods, British competition, the abuses of power and privileges, the wars--the operation of the fur trade managed to survive and even expand. The 1740s brought not only the next to the last war before British supremacy, but the last great expansion of the French fur trade. It began as a search for the Western Sea, of course, and the Sieur de la Verendrye stoutly maintained throughout that this was his sole interest. According to Innis, however,

By the end of the French regime, posts had been established in the Lake Winnepeg district to prevent the Indians from going to Hudson Bay. The Verendryes had systematically organized the fur trade of the Northwest . . . a chain of posts had been established across the difficult stretch between Lake Superior and Lake Winnepeg . . . and trade with the Crees and the Assiniboines of that locality had been established. The portages and trails had been improved; food supplies, fish, game, and wild rice, were organized to support these distant trading posts (Innis 1956:99).

This route "ensured for the French an established control over the rich fur-bearing territory of the northwest, and enabled them to compete with the English in Hudson Bay" (Innis 1956:99).

Whether or not La Verendrye's interests were solely in finding the Western Sea, he had no choice but to enter the fur trade as no monetary support for his ventures was forthcoming. To finance the exploration he, like others, was to have a monopoly on the fur trade in his area. "It was not possible, moreover, to undertake anything without granting to the Sieur de la Verendrye the trade of those settlements, the King not having thought proper to provide for the expenses which that officer has assumed" (Burpee 1927:84). This was the basic conflict between the fur trade and exploration. The

King wanted to find the Western Sea but was unable to pay for it. The most logical step therefore was to have explorers engage in the fur trade to support their exploration. The view from Europe was that great wealth came from furs and trading. But the fact was that "extension of the trade to the Northwest involved an increase in the cost of transportation and greater difficulty in competing with the English" (Innis 1956:96). The vast fur area that was being opened could not yet pay for these increasing costs. There was also the danger that the explorers might end up exploiting the fur trade instead of exploring, "a danger that has always been dreaded" (Burpee 1927:75). In the next sentence, though, Father Charlevoix allowed as how "a small number of trading permits, distributed judiciously" would give those officers sent to the northwest enough money to equip themselves, thus relieving the King of those charges. The conflict was never resolved.

La Verendrye opened the last of the great French fur trade routes: Grand Portage and Kaministiquia. The first route (see Figure 1), opened in the seventeenth century, was the Ottawa River to Lake Nipissing, Georgian Bay, the North Channel, and finally to Michilimackinac or Sault Ste. Marie (Morse 1969:7). From either of these two points one could enter Lake Huron, pass through the Straits of Mackinac, and travel Lake Michigan to Green Bay and the Wisconsin River to the Mississippi, or one could travel the length of Lake Michigan to Fort St. Joseph and the Wabash. It was also possible to go down Lake Michigan to the Chicago River and eventually enter the Mississippi by way of the Illinois River.

Michilimackinac was the gateway to all these places even before there was a fort there. In 1688 Lahontan wrote of Michilimackinac

that,

The Coureurs de Bois have but a very small settlement here; though at the same time 'tis not inconsiderable, as being the staple of all the goods that they trade with the South and the West Savages; for they cannot avoid passing this way, when they go to the Seats of the Illinese and the Oumanis, or to the Bay des Puants [Green Bay], and to the River of Missisipi. The skins which they import from these different places, must lye here some time before they are transported to the Colony (Innis 1956:61).

Cadillac called it " . . . the centre, as it were, for all the rest of the colony, whence everything is distributed" (Thwaites 1902:350). Michilimackinac did indeed become the base for the expanding fur trade operation, acting as a supply base and rest point for those arriving from Montreal and getting ready to push north and west into the interior.

The second route opened by the French in the seventeenth century was the St. Lawrence River - Lower Great Lakes passage. It followed the St. Lawrence upriver to Lakes Ontario and Erie, to the St. Clair River, the eventual site of Detroit, and Lake Huron. From there one could travel to Michilimackinac and beyond, northwest or south. Or one could travel by portage and river to the Wabash, the Ohio, and the Mississippi Rivers. This route to Detroit allowed for ship travel on the lakes, but there were difficulties. The Iroquois and British periodically controlled the shores of Lake Ontario and even Lake Erie, making passage hazardous. The Iroquois raided fur brigades on the Ottawa too, but there was another problem that caused the Ottawa River to be used often, even when the Lake route was open.

This passage [Ottawa River] is very tedious and difficult . . . and yet it is very frequently made use of by the Indians and Traders rather than the passage by the Lakes, because whenever there is a high wind if they go by the Lakes they are

obliged to lay by as long as it lasts, their tender canoes not being able to live amongst the large waves" (Thwaites 1908: 144-5).

Birchbark canoes remained the primary means of transport for the fur trade throughout the French regime. They were light and easily carried and could hold great amounts of cargo. For river and portage travel, they were the only choice.

Detroit became the second major center of the west. From both it and Michilimackinac the northwest could be reached, as well as the Mississippi River which was the crucial link between Canada and Louisiana.

The final French route to the interior, opened by La Verendrye, was the Grand Portage or Kaministiquia route to Lake Winnepeg and beyond. There were actually two different routes, one starting from the Pigeon River, the present boundary between Canada and the United States, the other starting from Kaministiquia. Both went west through rivers, lakes, and portages to Rainy Lake, Lake of the Woods, Lake Winnepeg, and the Assiniboine and Saskatchewan Rivers.

The French, then, by the 1740s had created a fur trading network that followed almost all the major waterways of eastern North America, stretching some 2000 miles into the interior. The main colony was along the St. Lawrence River, between Montreal and Quebec, where Champlain had explored 140 years earlier. The rest of the empire was largely left to the Indians except for the posts and missions that dotted the routes of travel. For the most part, the French did not so much settle the interior as occupy isolated areas, areas of strategic importance to the maintenance of the fur trade and containment of British competition. Only a few real

settlements had grown up in the interior, at Detroit and Michilimackinac (as well as the Illinois country and Louisiana). The rest were trading posts as self-sufficient as possible and fully aware of the necessity of disturbing Indian life as little as possible in order to keep the trade operating.

The commandants of the posts had a variety of duties including keeping peace among the Indians of the area, maintaining Indian allegiance to the French and order among the voyageurs, and looking for mineral deposits and for the Western Sea. Most, however, concentrated on the fur trade and making money. The fur trading privileges of most of the posts were leased to the commandants, who were responsible for much of the maintenance and supply of their posts and for providing such personnel as blacksmiths for the service of the Indians. They were to be reimbursed through the profits of the trade, which of course avoided expense on the part of the King. Several posts were retained as the King's posts--Detroit, Niagara, and Frontenac--to insure prices competitive with those at British posts. Many commandants seem to have ignored directions to keep prices low, or varied, in order to provide Indians with at least a few bargains in their trading activities. Other posts, such as Michilimackinac, were open to all licensed traders. A merchant would get a permit from the Governor-General to send a certain number of canoes to a particular post. Voyageurs would then sign contracts with that merchant noting the number of men, their positions in the canoes, and supplies taken. The quantity of goods to be traded by individual traders was stipulated in advance, though rarely strictly followed. A third method of participating in the trade was for

individuals to either outfit themselves or buy a permit from someone who had obtained one through connections within the government.

The important trade route that the French did not control was the Hudson River: the Hudson-Mohawk Valley and New York harbor. This route was the key to control of the Iroquois trade. The Mohawk Valley provided a route to the west and the southwest. New York harbor was a convenient and ice free outlet for commerce, and the Hudson Valley served to cut the British colonies in two. Had the French gained control of this region they would have had a short line of defense to maintain and obviated the problem of maintaining with inadequate forces a line of forts some 2000 miles long (Phillips 1961:249). The French never managed to control this land and "to the failure of this policy may be attributed the collapse of French efforts to dominate the fur trade of America" (Phillips 1961:250).

As it was, by the start of King George's War in 1743, British competition was threatening to destroy the French trade, pushing from Hudson Bay in the north and from the British colonies in the south and east, making steady inroads into French-held territory south of the Great Lakes. By the end of the war, in 1748, the French trade had been seriously disrupted. Goods stopped flowing to Canada and the western posts suffered from a dangerous lack of supplies and trade goods. "Not only were the supplies from France cut off but the Mohawk had effectively stopped the normal flow of contraband goods from Albany and Montreal" (Eccles 1969:153). Dissatisfied Indians (and Indians encouraged by the Iroquois) attacked the French

with increasing frequency. Trading licenses were hard to sell and sometimes were given away in an attempt to increase the number of beaver sent to France. Traders were often given licenses plus money and/or goods in return for carrying supplies to the posts.

The problems of competition from the British continued as they continued to push into the Ohio Valley region. The recently constructed French posts of Presque Isle, Le Boeuf, Venango and Duquesne reinforced the French position as did French military expeditions to the Ohio country, but Gernor-General Duquesne still had difficulty getting traders to go there. The threat of Indian attack was constant, and the traders would probably have happily left the area to the British. Furthermore, there were grave problems in keeping the Ohio posts supplied.

Everything had to be transported from Montreal by canoe to Fort Frontenac, . . . to Niagara by canoe or barque, portaged around the gorge, transshipped by barque to Fort Presque Isle, then carted to Fort Riviere aux Boeufs and reloaded on pirogues to navigate that shallow river to the Allegheny and on to Fort Duquesne. Maintaining an adequate supply of canoes, barques, horses, and pirogues was a difficult task. The horses in particular were a problem. They were quickly worn out, the fodder had to be transported from Detroit, or even Montreal. Supplies dictated the number of men that could be maintained at the Ohio forts, and before the onset of winter the majority had to return to Montreal. In February they were marched back . . . . In addition 400 voyageurs were kept busy during the summer transporting supplies to the posts, and they consumed goodly quantities of food. Spoilage and breakage sometimes amounted to more than 50 percent of a shipment. Barrels of wine and brandy were particularly vulnerable (Eccles 1969:106-7).

When the French and Indian War began in 1755, it initially went well for the French. Though they had less than half the population of the British, their wilderness and guerilla warfare experience served them well. The British, intent upon settlement, had little such experience. The appearance of Indians and Canadians



created panic in the British settlements and led to the tying down of large numbers of defensive forces. Furthermore, fear of a slave insurrection in the southern colonies made the authorities afraid of sending many men from there to fight (Eccles 1969:175). The French had other advantages in their communications system and in the routes open to them through which to attack the British and in their use of the birchbark canoe for which materials were not available around Hudson Bay or south of the St. Lawrence.

New France did fall, however, and the bulk of the trade was left to the British. When they took over the trade, the British found that French routes, voyageurs, and methods of dealing with the Indians were absolutely necessary for its success, let alone their own survival.

But the French colony had not been able to survive.

The vicious circle, in which cheaper English goods and more efficient English traders in the south necessitated greater expenditures on military measures to check competition, and the burden of increasing expenditures falling chiefly on the fur trade reduced the prices offered by the French to the Indians and encouraged further competition, has . . . been noted. Trade with France was interrupted and the Indians became more dependent on cheaper English goods. Increasing trade in furs on the part of the English seriously weakened the French position in the European market. The dependence of the colony of New France on Europe occasioned by the characteristics of the fur trade seriously weakened its position in time of war. The military organization which had grown up because of the exigencies of the fur trade, though long effective, eventually collapsed. The institutional organization of the colony adapted to the characteristics of the trade, failed to adjust itself with sufficient rapidity to the demands of a diversified economic growth essential to independent survival (Innis 1956:110-11).

## CHAPTER II

### THE MODEL

The available historical data on the French fur trade, as summarized in Chapter I, suggest that population centers comprising the French colonial fur trade network can be arranged hierarchically, in general decreasing in internal functional complexity from one end of the network to the other. There are five levels within this hierarchy.

- 1) Port of Entry
- 2) Government/Economic Centers
- 3) Regional Distribution Centers
- 4) Local Distribution Centers
- 5) Aboriginal Distribution Centers

This model of spatial organization, derived from historical data, encompasses several aspects of the French fur trade network in Canada. It is first a depiction of the geographical distribution of the French presence in eighteenth century New France. The five levels are the result of the branching out, in a westward direction, of French exploration, missionization and, ultimately and consequently, the fur trade. The French came to be where they were through the processes of expansion and the creation of political boundaries, through the limitations of transportation and technology, and through the necessity of maintaining the market economy of the fur trade. There was not a settlement frontier as described by Lewis (1977), but rather a series of "islands" or "trade zones" (Heidenreich and Ray 1976) within the wilderness. These islands, the centers of the

five hierarchical levels, are thus defined both functionally and geographically: geographically in that they represent points of French activity along transportation lines from east to west and functionally in that they were points of economic and military action designed to maintain the operation of the fur trade. The inclusion of Aboriginal Population Centers at the bottom of the hierarchy is not meant to imply that these settlements were any less complex than those of other societies. Rather, Indians were a part of the fur trade as the ultimate recipients of trade goods and principal suppliers of furs. Their participation in the European system was at a very basic level.

The objectives of the fur trade posts were straightforward: keep the Indians as content as possible and keep the trade open. The fluctuating fortunes of the French, in military and market matters, affected the preeminence of one objective over the other, especially in the eighteenth century, but rarely were other goals more important.

The fact that the trade network extended for several thousand miles into the wilderness had a crucial impact on the way it was operated. It was simply impossible to create French communities by hauling goods and supplies overland or by boat to the centers of French occupation west of the St. Lawrence. The visions of agricultural communities (e.g., Fort Repentigny) so often enjoyed by French officials were usually couched in terms of easing the problems of supply from the east coast to the interior. The hierarchical levels within the proposed model represent not only decreasing levels of necessary functional complexity but also the increasing

difficulty of supply and communication over vast distances.

The first level is the Port of Entry, as represented by the fortress and town of Louisbourg on Cape Breton Island. The characteristics of this level are as follows:

- 1) It was located near the entrance to French held lands in Canada.
- 2) It was the major port settlement guarding the transportation route to the interior, the St. Lawrence River.
- 3) It was to be characterized by substantial defensive fortifications.
- 4) Its population included a high density military occupation.
- 5) The town that grew up there created a high density civilian occupation.
- 6) It was the conservator of the Grand Banks fishing enterprises and the entrepot for the West Indies trade.
- 7) It was a symbolic European French, as opposed to Canadian, city.

The construction of Louisbourg did not begin until after the Treaty of Utrecht in 1713, when France lost its first Port of Entry, Placentia, on the island of Newfoundland. As a result of this treaty, only Prince Edward Island and Cape Breton Island remained in French control. Louisbourg was located on the northeastern side of Cape Breton Island, a favorable spot for guarding the entrance to the Gulf of St. Lawrence and the French holdings in the interior, as well as the Grand Banks fisheries. It also had the benefit of an ice free harbor, which gave protection from storms (Larrabee 1971:8). Finally, it was a "trans-shipment or redistribution center for commodities from New England, French Canada, the West Indies and Europe" (Stone 1974a:7). Louisbourg was a fortified naval base (Eccles 1969:151), not only to guard the routes to the interior but to act as a training place for the French navy.

The site was fortified over a period of twenty years by building masonry bastions and batteries and earthworks around the point of

land containing the garrison and the sixty acre town that was laid out (Larrabee 1971:9). The civilian population grew to as many as 2000 people and is known to have included a number of "merchants, professional personnel such as surgeons, surveyors, engineers, notarys, trade specialists such as gunsmiths, carpenters, fishermen, domestic laborers, and innkeepers" (Stone 1974a:8). In this way, and through the presence of a number of high-ranking military/government and business persons, Louisbourg became as much as possible a truly French city. By its location and the fact that the French had occupied the north Atlantic coast for over 100 years, Louisbourg was not a wilderness city in close contact with the Indians that came constantly to Montreal and other inland settlements. It was set apart from the rest of the colony and, though the climate was less than hospitable to both people and buildings, it was an impressive fortification and the first place ships from France stopped on their way to the St. Lawrence.

The military force at Louisbourg ranged between 1000 and 4000 men (Larrabee 1971:9) to garrison the fortress and patrol French waters. Ultimately, however, Louisbourg proved to be neither planned nor supplied well enough to withstand American and British sieges. The first takeover was in 1745, but the fortress was returned to France in 1748. It is a measure of the respect with which the British held Louisbourg that after the second takeover, in 1759, they destroyed Louisbourg's fortifications in case it was to be once again returned to the French.

The second level in the model hierarchy is the Government/Economic Center, represented by Montreal and Quebec. To a lesser

extent, and primarily during the sixteenth and seventeenth centuries, Trois Rivières could be included in this category. The characteristics of this level are as follows:

- 1) These cities represented the focus of French colonial settlement in New France.
- 2) They maintained a high density civilian population.
- 3) They were within the area of the earliest French settlements in North America and were located along the primary transportation route of the colony, the St. Lawrence River.
- 4) They represented the center of French colonial government: its offices, officials, and policy implementing bodies.
- 5) They provided central points for the embarkation of military forces and for the mustering of the Canadian militia.
- 6) They were the centers of the colonial trade system: the licensing centers and the primary distribution points for goods passing through the system.
- 7) They were the bases for a large merchant population and for warehouses of furs and trade goods.
- 8) They were the main gathering points for traders, other civilians, and Indians having business with the government.

By the eighteenth century, Quebec had become the true center of government and Montreal the center of trading activities for the colony, though each city participated in both kinds of activities. The area along the north side of the St. Lawrence, encompassing Quebec, Trois Rivières and Montreal, had always been the center of French settlement in North America. With Colbert's policies of the third quarter of the seventeenth century, however, the population grew tremendously. Colbert's expansionist goals included making the colony more productive and self-sufficient, and land grants and incentives to emigrate from France were increased. Between the years 1663 and 1668, the first years of Colbert's royal government, the population of the colony grew by 4000 individuals (Eccles 1969:69). The institutions of the new government have already been mentioned. Quebec continued to be the home of

the Governor-General, the Intendant and the rest of the Sovereign Council. Deputy Intendants were located at other cities, among them Montreal and Louisbourg.

To Montreal fell the position of trade center and military base. With the demise of the annual trade fairs in 1680, its position as gateway to and from the interior made it a gathering point for all those having to do with the trade: military forces, exploration parties, Indians on visits to the governor, missionaries, merchants outfitting trading parties, and traders buying licenses. It was also a locus for the great warehouses of furs awaiting shipment to Europe, as well as the often thriving contraband trade with the merchants of Albany.

Regional Distribution Centers came about with the branching out of the fur trade to the interior in the eighteenth century in response to increasing economic competition from other European powers and Indian middlemen. The principle Regional Distribution Centers in the Canadian fur trade network were Detroit, Michilimackinac, Frontenac and Niagara. Fort deChartres could be considered a Regional Distribution Center though it was not technically under Canadian jurisdiction. The characteristics of these centers are as follows:

- 1) They were located strategically along main transportation routes within primary Indian lands.
- 2) They represented a French presence in Indian lands as a deterrent to the influence of other European powers.
- 3) They contained a lower density civilian population than the government centers.
- 4) They were the main channeling points for goods on their way to the government centers.
- 5) They were the main distribution points for goods coming from the government centers on their way to local distribution centers and/or Indian settlements.
- 6) They grew out of the necessity for dealing with goods

at increasing distances from the government/economic centers; they served as bases for regional government and business representatives.

- 7) They served as provisions depots and agricultural support stations for local distribution centers.
- 8) They were military centers in that they were the central headquarters for the more distant, smaller posts.
- 9) They acted as local distribution centers for local Indian populations.
- 10) They were gathering points for traders.

All four posts noted above were located in extremely important positions in relation not only to transportation routes but to the British as well. Detroit was envisioned in 1701 as a "warehouse for all the goods; and the French who will be at the posts yet to be built will induce the Savages who do not come down to Montreal to carry their peltries to Detroit" (Thwaites 1902:208-10). Michilimackinac was " . . . the general meeting place for all the French who go to trade with strange tribes; it is the landing place and refuge of all the savages who trade their peltries . . ." (Innis 1956:60).

These two posts became the most important of the interior settlements.

The posts of Detroit and Michilimackinac are composed of people settled there and of voyageurs. The first is the rendezvous for the posts of the south, and the other for the posts of the north, and the peltries of the farmers [traders] of all the posts pass through these two places, as well as the canoes that they bring with them or that they send from Montreal (Burpee 1927:524-30).

Both posts acted as supply bases even in the early years of the eighteenth century. During the Fox Wars, for instance, DeLigny obtained supplies such as canoes, Indian corn, beads, and arms repairs from Michilimackinac (Thwaites 1906:34). It also acted as a supply base for expeditions heading into the northwest to trade with distant tribes and establish new posts. In the yearly report



of 1734, Beauharnois (the Governor-General) and Hocquart (the Intendant) mentioned that the commandant of the Miami post had gone to Detroit to get supplies (Thwaites 1906:211). Detroit, by the end of the French regime, was settled to the point where it was able to supply Michilimackinac and other posts with corn (Innis 1956:60; Thwaites 1902:308).

The forts at Frontenac and Niagara were important as trade centers especially because of their proximity to British posts and British-allied Indians. Though they never really achieved it, the French hoped that these posts could ease the burden of provisioning the interior posts by supplying agricultural products (Thwaites 1908:34,182).

Regional Distribution Centers were also important in the commercial organization of the fur trade. "At the end of the period [French regime] a stable organization had grown up in which traders in Quebec and Montreal were represented by correspondents at Detroit and other posts" (Innis 1956:112). The distances to be covered were too great to allow merchants and traders to control their operations from the cities of the east. It has already been mentioned that post commandants and other military personnel frequently took part in the fur trade, often almost to the exclusion of their military duties. To an extent, "the officers who obtained posts formed companies . . . mainly of relatives, to raise the capital and handle the trade. The lion's share of the western fur trade was controlled by a coterie of interrelated wealthy families forming a military and commercial colonial aristocracy" (Eccles 1969:147).

The position of the Regional Distribution Centers was

recognized as one of primary importance among the posts of the west early in the period of French expansion. In 1718 Cadillac described the commandant at Michilimackinac as "having under him sundry commandants in various posts" (Thwaites 1902:350). Later the idea was put forth to formalize this relationship at the two western posts, Michilimackinac and Detroit. In 1748 Governor-General Galissoniere wrote to the French minister,

If this idea were followed [having a stationary commandant at Detroit] it seems to me, that the Commandant of Detroit should have authority over all the posts called here the Southern posts, that is to say: Illinois, Miamis, la Riviere blanche [Vincennes], and Ouyatanons . . . It would seem natural to make Missilimakinak a stationary post also . . . all the posts called the Northern posts might be made subordinate to it, namely: la Baye des Puants, all lake superieur and the western sea. The River St. Joseph should also be under its orders for the routine of the service, but it should likewise obey those of the Commandant of Detroit on pressing occasions, St. Joseph being almost equally within reach of both . . . " (Thwaites 1906:500-1).

The majority of French posts were Local Distribution Centers: Ouiatenon, St. Joseph, Miamis, Chequamigon, Kaministiquia, Nipigon, Michipicoten, the posts of the Sea of the West (the collective name for all forts constructed north and west of Lake Superior). A number of posts (e.g., Sandusky, Duquesne, Presque Isle, Le Boeuf, etc.) were built during wartime or pre-war build up and were meant primarily as military outposts. These posts may not have participated directly in the trade but necessarily conducted relations with local Indians, at least through gift-giving involving many of the same kinds of goods popular as trade items. It is likely that the civilian occupations at such places was much lower than at other posts occupied for longer, more stable periods of time.

Local Distribution Centers show the following characteristics:

- 1) They were located in primary Indian lands and functioned as bases for local trading operations.
- 2) They were located as close as possible to transportation routes while still being responsive to the locations of important Indian populations. In general they were wilderness occupations, away from the Government/Economic Centers and primary transportation routes.
- 3) They were strategically located for the effect of a French presence and for their accessibility to Indians, often as a direct response to British competition.
- 4) Their primary responsibility was the fur trade through the maintenance of French presence and Indian allegiance.
- 5) They had low density civilian and military occupations.
- 6) They were smaller settlements than the Regional Distribution Centers.
- 7) In the trade network, they were the final distribution points for trade goods to Indians, with the exception of those traders travelling to more remote Indian settlements and carrying their goods with them.
- 8) They were collection points for furs to be sent back east.
- 9) They were way stations for traders and other wilderness travelers.

The French probably would have been content with fewer trading posts; however, the effects of increasing British competition and the costs of dealing with remote tribes through Indian middlemen created the need for a stronger French presence beyond the main colony. In the first decades of the eighteenth century, posts were erected throughout the midwest. As competition from Hudson Bay increased and the Verendryes explored the region northwest of Lake Superior, posts were erected in that area as well. These became the small wilderness fortified trading posts that formed the real web of French occupation in North America. Local Indians came to the posts to trade and even formed communities there. French settlements that grew up around them often consisted of little more than voyageurs and traders and sometimes their families. At many posts, a blacksmith and a Jesuit priest were sent to serve the Indians. Trading was the main activity carried on, but the need to keep Indians content and allied with the French made it necessary to engage in

frequent conferences and gift-giving sessions. Post blacksmiths spent much of their time repairing Indian weapons. Documents collections are full of vouchers for services rendered to Indians by various French personnel.

The military presence at these posts was largely for appearance; Local Distribution Centers were garrisoned in general by rather small numbers of troops. La Galissoniere, in 1748, wrote a letter to the French minister requesting more men and enclosed a list of the numbers of troops needed to garrison the posts in peace and war time. A portion of this list follows.

	<u>Peace</u>	<u>War</u>	
Quebec	400	1200	
Trois Rivieres	100	200	(Government/Economic)
Montreal	600	1000	Centers
Frontenac	30	60	
Niagara	50	100	
Detroit	100	200	(Regional Distribution)
Illinois	100	200	Centers
Michilimackinac	70	150	
Miami	20	40	
Ouiatenon	10	20	
St. Joseph	10	15	(Local Distribution)
La Baye	10	20	Centers
Chaquoamigon	6	10	
Michipicoten	6	10	

Aboriginal Population Centers were the Indian settlements involved in the fur trade. Some remained in their original locations and other moved closer to French posts to facilitate their participation in the trade. Examples of such settlements include those known in the archaeological literature as the Guebert Site (Good 1972), the Bell Site (Wittry 1963) and the Zimmerman Site (Brown 1975). Indians in Aboriginal Population Centers were:

- 1) The intended recipients of trade goods and gifts from

Europeans.

- 2) The primary providers of furs into the trade system.
- 3) Located on land historically settled by their forefathers. Many villages, however, moved nearer to posts in order to be closer to trading centers.

## CHAPTER III

### THE DATA BASE AND HYPOTHESES

#### The Data Base

In selecting the sites to be compared in this study, three criteria were employed: 1) the contemporaneity of the sites; 2) the availability of site data; and 3) the quality of the data available. Sites selected for comparison are listed below.

Aboriginal Population Center:	Guebert Site	1719-1833
	Kaskaskia Indian Village	
	Randolph County, Illinois	
	Bell Site	1680-1730
	Fox Village	
	Winnebago County, Wisconsin	
	Fletcher Site	1740-1770
	Chippewa and/or Ottawa Burial Site	
	Bay City, Michigan	
	Lasanen Site	1670-1715
	Ottawa or Huron Burial Site	
	St. Ignace, Michigan	
Local Distribution Center:	Fort Ouiatenon	1717-1791
	French and British Fort	
	Lafayette, Indiana	
	Fort St. Joseph	1691-1781
	French and British Fort	
	Berrien County, Michigan	
Regional Distribution Center:	Fort Michilimackinac	1715-1781
	French and British Fort	
	Mackinac City, Michigan	

Two of the Aboriginal Population Centers are not in fact habitation sites, but are cemeteries. The amount of usable

comparative data on historic Indian sites is very small and reports for several important sites (e.g., Rock Island) are not yet available. Others, such as the Waterman Site report, do not contain enough data to be useful for this study. The Lasanen and Fletcher Sites, as cemeteries, are special-use sites and, as such, their artifact inventories are probably more restricted than those found at historic habitation centers. Artifacts included in graves may have special meaning for the group as a whole or for the individual interred. They may also have special status or value in a burial context. With these restrictions in mind, however, the artifact inventories may prove useful for comparison with the Guebert Site, a long term habitation site, and with the assemblages from Local Distribution Centers in that it may be possible to make some preliminary observations on trade items of particular interest to Indian groups as well as comparisons of the types of artifacts most commonly found in burial as opposed to habitation contexts.

Forts Ouiatenon and St. Joseph are the best archaeologically documented Local Distribution Centers available for study. Many, (e.g., Fort Miamis) have been destroyed or heavily disturbed by nineteenth and twentieth century construction. The locations of others have been forgotten over the years. Several Canadian posts (Forts Dauphin and St. Charles) are being tested now and will provide new data for comparison in the near future.

Fort Michilimackinac is the only Regional Distribution Center site that has been intensely excavated and has data available for comparison. Limited excavations have been carried out under the present city of Detroit and occasional eighteenth century

finds have been made (C.S. Demeter personal communication). Most of the eighteenth century occupation, however, has been destroyed by subsequent construction.

Government/Economic Centers cannot be included in these comparisons. Extensive excavations are being carried on in the city and fort of Quebec and are being reported upon yearly (Dossier, Activities Archeologiques, Ministere des Affaires Culturelles). Artifact data, however, have not yet been published in a form comprehensive enough to be used for the purpose of this paper. Likewise, excavations have been underway at the Fortress of Louisbourg for years but published reports consist largely of descriptions of excavations of specific structures (Canadian Historic Sites Series) and studies of particular artifact classes (Hamilton and Fry 1975; Walker 1971). One paper by Stone (1974a), who visited the site and studied the artifacts collections, resulted in a very preliminary comparison of the artifacts at Michilimackinac and Louisbourg and their relative functional differences within the French colonial fur trade. Some of the general comparisons in Stone's paper have been noted here.

It is to be hoped that within the next few years more material culture data will become available from Louisbourg as well as from other French sites under excavation at the present time. Comprehensive lists of artifacts, identifications and descriptions, and context information are particularly needed. Too much description in the past consisted of simple presence/absence notation and incomplete description of artifacts, to the point where comparisons between site assemblages had to be based on speculation and



illustrations.

The research problem of this dissertation developed as a result of excavations at Fort Ouiatenon conducted by Michigan State University from 1974 through 1976 (see Appendix A). The sampling program followed was judgemental and in response to the expressed goals of the local funding organization, the Tippecanoe County Historical Association (TCHA), and demonstrates some of the problems encountered in reconciling anthropological research and contract archaeology.

The goals of the TCHA in initiating these excavations were to delineate the stockade walls of the fort and the arrangement of other structures within those walls with an eye toward reconstructing not only the fort as it stood in the eighteenth century but the way of life of its inhabitants as well. Little documentary evidence on the fort has been discovered despite many years of both professional and non-professional searching (Wetherhill n.d.; Krauskopf 1955; McGroaty n.d.). Only one eighteenth century description of Ouiatenon has been found (Krauskopf 1955:157). The discovery of the fort's shape, size, and internal arrangement therefore rested with archaeological investigations.

The excavation program was one of trenching manually and with limited use of a backhoe to remove the plow zone. It was hoped that deep wall trenches would be discovered in each of the test trenches, then projected beyond the limits of excavation to predict the size and shape of the fort.

Other excavations were carried out in two locations where strong anomalies were detected by a proton magnetometer survey.

These excavations revealed the presence of a forging area and a semi-subterranean storehouse within the fort's walls.

The excavations yielded over 36,000 artifacts and more than 96,000 fragments of animal bone. The majority of these artifacts was found in and around the forging area and the storehouse area. Only one structure, the storehouse, was completely excavated. The amount of work completed was largely a function of limitations of time and funds. However, the lack of specific research problem orientation in the preliminary stages of excavation meant that location of test trenches and excavation units was based solely on finding the stockade walls and experimenting with the proton magnetometer. Both of these goals were certainly desirable and, as preliminary data for the subsequent sampling program by Noble (1978; 1979; 1980), the testing proved useful. It became necessary in planning this dissertation, however, to deal with the problems of: 1) a data set consisting almost entirely of artifacts, and 2) the fact that the artifacts did not represent a systematically collected sample from the site. The same situation exists for two of the other sites being compared here; the Guebert and Fort St. Joseph site assemblages were gathered by surface collecting. In fact, none of the sites compared here was excavated under a planned sampling program; all collections represent different and unknown portions of each site's total assemblage.

Excavations at historic sites have not often included systematic sampling plans partly because so many projects have been "reconstructive in scope" (Dollar 1968). Historic sites often contain structures that can be excavated as discrete units and



those units have comprised the sample segments. In the past, too, a goal of total site excavation has been the ideal, whether or not it was ever accomplished. With changes in attitudes toward cultural resource preservation, however, the practice of totally excavating a site has become out of the question. It follows that in order to gain as much information as possible from a site, systematic sampling must take on a much greater role than it has heretofore occupied.

Other aspects of the sites themselves, as well as of the data, create problems for comparison in a static environment. All French sites used here were occupied by people of different nationalities at different times during their existence. Forts were commonly occupied by both French and British, and some forts were occupied by Spaniards and/or Americans also. Furthermore, the forts, being originally French, had substantial populations of French civilians who remained in their homes after British takeover. The sites are therefore extremely difficult to interpret archaeologically. Buildings of wood necessitated frequent repair or rebuilding so that superpositional disturbance and mixing of features and artifacts is common. As to the artifacts, it is still impossible to identify many items as originating in a particular country. Additionally, many kinds of artifacts were used by, for instance, both the French and British, and unless features can be definitely attributed to one nationality or another it is impossible to make that distinction.

Finally, in the fur trade an almost constant black market trade was carried on between the French and the Albany traders. This was done, either through the Iroquois or directly with Albany, by

French traders suffering under French regulations and by the merchants and even the French government in order to keep the trade going in the face of chronic shortages of goods (DeVoto 1952:147). This trade flourished especially in the early years of the eighteenth century when many western tribes had not long been accustomed to European goods. The preference for many British items such as cloth and kettles developed rapidly, and many Indians were first introduced to these goods through French contraband traders (Innis 1956:84).

To a certain extent it is possible to carefully put aside the question of national origins with regard to some artifact classes. Identifiable British military artifacts must be separated out. Likewise, certain ceramic types (e.g., creamware, pearlware) appeared too late to have been used by French inhabitants of the sites here, with the exception of those civilians who remained after the 1760s.

A final set of factors cannot be controlled for under any circumstances. There were a myriad of constantly changing and non-quantifiable factors operating during the period of the fur trade in the eighteenth century: the weather, moods of individuals, war, politics, personalities, and so forth. Any of these factors could, at any time, affect the flow of goods through the fur trade network--a route taken, money available, goods sent, plans made--and certainly did affect what was ultimately found at the sites through archaeological research.

### Hypotheses

A set of hypotheses has been formulated through which to address the thesis. The history of the French fur trade as seen through the written record suggests that Regional Distribution

Centers were of great importance to the French in their pursuit of the fur trade. As such, these posts were characterized by higher population than Local Distribution Centers and were composed of more high ranking military personnel. There was more functional diversity in Regional Distribution Centers and in general more individuals with greater personal wealth, be they civilian or military. As more "important" posts in the fur trade system and more easily accessible via the transportation routes, Regional Distribution Centers were more likely to have a surplus of supplies at any given time. It must be remembered that, in some cases, clear cut differences between Local and Regional Distribution Centers are not expected. Rather, to the extent that certain functions were performed at both levels of occupation, differences in degree and/or emphasis are more likely.

Hypothesis 1: There will be a greater variety within and between categories of European artifacts at Regional Distribution Centers than at Local Distribution Centers or Aboriginal Population Centers.

This hypothesis deals with absolute variety of artifacts. As a reflection of population density and diversity, and post accessibility, greater variety is expected at Regional Distribution Centers.

Hypothesis 2: Military issue artifacts will be found in greater variety at Regional Distribution Centers than at Local Distribution Centers; they will be incidental at Aboriginal Population Centers. There will be more evidence of high ranking military personnel at Regional Distribution Centers.

Because of the higher density military occupation at Regional Distribution Centers, greater variety of artifacts

associated with military activities is expected at these posts. In the archaeological record, this should be reflected in the presence of buttons, braid, epaulets and other military insignia, and military arms. As more easily accessible as well as strategically important posts, Regional Distribution Centers would have had more heavy artillery.

Hypothesis 3: Artifacts associated with subsistence and post maintenance activities will be found in greater proportion to the total artifact assemblage at Local Distribution Centers and Aboriginal Population Centers than at Regional Distribution Centers.

These categories include artifacts used for the acquisition of subsistence resources and for the maintenance and repair of post structures and equipment. Assuming a greater absolute variety of activities at Regional Distribution Centers, the expected proportion of subsistence and post maintenance activities would be smaller at these posts, though there should be a greater variety of artifacts within the category. Local Distribution Centers were more difficult to supply, and it is expected that the percentages of reused artifacts of all kinds would be higher at these posts (see Hypothesis 11 below).

Hypothesis 4: European artifacts associated with domestic activities will be found in greater variety at Regional Distribution Centers than at Local Distribution Centers. These artifacts will be incidental at Aboriginal Population Centers. The incidence of special function items and high status/cost wares will be more common at Regional Distribution Centers.

Again, higher population and more high status individuals combine to make a greater variety of domestic items (e.g., ceramics, glassware, tableware, food preparation equipment) expected at

Regional Distribution Centers. With the possible exception of specialized function items (which could perhaps be included under personal effects) functionally similar domestic artifacts are expected at all levels within the hierarchy. However, greater variety in vessel forms and patterns, largely related to status and/or wealth, is expected at Regional Distribution Centers.

Hypothesis 5: Personal items should be found in similar variety at Regional Distribution Centers and Local Distribution Centers. Artifacts associated with higher status/wealth should be more common at Regional Distribution Centers.

The assumption here is that individuals in a living situation far from home will nonetheless bring with them items of high personal importance whenever possible. Ease of access and number of high status persons at Regional Distribution Centers should affect the quality and quantity of goods of this sort at those posts. Smaller, more portable goods are expected at Local Distribution Centers.

Hypothesis 6: Trade goods will be found in similar variety at Regional Distribution Centers and Local Distribution Centers but will comprise a smaller proportion of the total artifact assemblage at Regional Distribution Centers. Regional Distribution Centers should exhibit more high status gift items than Local Distribution Centers, as well as more evidence of commercial activity. European trade goods should comprise the largest proportion of artifacts in eighteenth century Aboriginal Population Centers and should be found in similar variety as at European sites.

The desirability of most trade items is expected to remain the same everywhere, therefore the variety of trade goods found at Regional Distribution Centers, Local Distribution Centers and Aboriginal Population Centers is expected to be similar. Regional



Distribution Centers are expected to show a smaller proportion of trade goods to total assemblage than Local Distribution Centers because they were central points for the distribution and movement of goods through the system and because there was a greater range of activities at those posts.

Hypothesis 7: Artifacts associated with structures (e.g., nails, hardware, window glass, brick) will be found in greater proportion to total artifact assemblage at Regional Distribution Centers than at Local Distribution Centers. These artifacts should be incidental at Aboriginal Population Centers. The variety of artifacts in the furnishings category will be greater at Regional Distribution Centers than at Local Distribution Centers.

Occupational diversity and the need for storage facilities produced a proportionately greater number of structures at Regional Distribution Centers. Building materials present would be affected by locally available supplies and by ease of transport from the hinterlands or the central colony.

Hypothesis 8: Regional Distribution Centers will show a higher proportion of domestic to wild animals among food refuse. Aboriginal Population Centers should show only incidental use of domestic animals.

This question is beyond the scope of this dissertation. Cleland (1970) found that the French occupants of Fort Michilimackinac used a higher proportion of wild game to domestic animals than did their British counterparts and I suggest a similar proportional discrepancy might exist between Regional and Local Distribution Centers. Domestic animals were present during the French period at both levels of post and were given as gifts to local Indian groups. However, the cost in money, time and personnel, of transport over land as opposed to water must have had

a significant effect on the number of domestic animals to reach Local Distribution Centers.

Hypothesis 9: There will be a greater variety and proportion of artifacts associated with religious activities at Regional Distribution Centers than at Local Distribution Centers. Religious artifacts at Aboriginal Population Centers should consist largely of those items given as gifts or traded as rewards and/or inducements.

Over time Regional Distribution Centers developed more organized religious communities to serve their generally larger congregations and were more consistently served by members of the clergy. We would therefore expect at Regional Distribution Centers greater numbers, both absolutely and proportionately, of religious items as well as more variety within this category.

Hypothesis 10: Regional Distribution Centers will show more evidence of craft specialization than Local Distribution Centers.

More stable and substantial civilian communities tended to form around Regional Distribution Centers and this fact should be apparent in the evidence for craft specialization at Regional versus Local Distribution Centers. Civilian communities accounted in part for the occupational diversity found within Regional Distribution Centers and were responsive to the increased number of services provided for post personnel as well as for local Indians.

Hypothesis 11: The incidence of repaired and/or modified and reused items will be higher at Local Distribution Centers than at Regional Distribution Centers.

This question is also beyond the scope of this study, since data are unavailable in sufficient quantity and detail. The assumption underlying this hypothesis is that supplies were harder to get

at Local Distribution Centers due to their cost and the difficulty of getting them to the posts. Therefore equipment and other items had to be used for longer periods of time. One factor which would affect the proportion of reused and modified items at all posts is the presence of blacksmiths to serve local Indian populations and post personnel. With the fluctuating prices of furs and supplies, as well as the frequent lack of available goods, Indians had as much need as the French, if not more, for repairs to the European goods upon which they had come to depend so totally. At Fort Ouiatenon, for instance, many vouchers made out by the post blacksmith, Charles Bonneau, consist entirely of lists of weapons repairs effected solely for the tribes living near this fort. The presence of repaired and reused gun parts at Ouiatenon certainly reflects this service and makes it difficult if not impossible to determine the extent of artifact reuse by its European population.

## CHAPTER IV

### ANALYSIS

#### Methodology

Examining the thesis that the archaeological record reflects the hierarchical organization of the French fur trade required comparisons between fur trade posts of several hierarchical levels. These comparisons necessitated reconciling the data problems noted in Chapter III: diverse sample sizes, varied excavation/collection strategies, and comparative data limited to artifacts. These problems limited the ways in which the sites could be compared with meaningful results.

I found that the use of percentage frequencies for artifacts and groups of artifacts within site specific assemblages was the best way to minimize sample discrepancies. This technique at least minimized the great differences in sample sizes, and focused more clearly on proportional differences within and between assemblages. By comparing different levels of inclusion within assemblages, it was possible to detect different functional emphases at the various posts.

The first step toward calculating final percentage frequency tabulations was the compilation of lists of artifacts found and their frequencies at the sites. Next, it was necessary to remove from final tabulations those artifact classes which could not be used for comparison. There were several classes in this group.

Unidentified artifacts could not be used since it would be impossible to correctly place these items in the proper functional division (see functional divisions/categories below). Scrap metal was often not included in site artifact inventories or was inconsistently described from site to site; sometimes it was noted by actual counts and sometimes by weight. Other artifact counts, such as those for stone tools, were not available for all sites. Finally a number of important artifact counts were either unavailable for all sites, were described differently for each site, or were incompletely notated in artifact inventories. These classes included nails, window glass, seed and necklace beads, and lead shot. In the cases of seed beads and nails from Fort Michilimackinac, for example, the number of recovered items was so large that a sample was formally classified and actual counts were not included. Unfortunately, for this study more specific quantitative measures are required. Artifact classes which were not comparable were removed from final tabulations for all sites.

One way of comparing artifact percentage frequencies between sites is to derive a percentage figure for each artifact class (buttons, gunflints, hawk bells, etc.) in relation to the total site assemblage. Another way of comparing percentage frequencies, on a higher level of inclusion, is to arrange artifact categories into functional groupings (Stone 1974b). This method places artifacts into the Context of Utilization "in which a particular artifact category would have been most commonly used" (Stone 1974b:22). As Stone points out, there are problems with this method of ordering artifacts in that many items were regularly used in more than one

functional context (see also South 1977a:92-96). It is a convenient organizational tool, however, and it can point to variations in functional emphasis. I have generally followed Stone's organization in this regard, the major exception being the creation of a functional division (category) within the Craft/Activity Context of Utilization, consisting primarily of European trade goods. The archaeological evaluation of the functional position of trade at sites requires a method of isolating its material manifestations. The Commercial/Trade category used here is made up of goods known from supply lists and written descriptions to have been frequently used in the Indian trade. Several important exceptions to this category are gun parts, gunflints, and musket balls and shot, which have been included in the Arms category. Not enough is known about many eighteenth century arms to make it possible to divide a collection of gun parts into those from trade guns and those from military guns. Likewise, trade guns were used by Indians and civilians alike, as were military arms on occasion. Internal mechanism parts were often identical and/or interchangeable in arms of several kinds, as were gunflints. It seems most logical, therefore, to include these artifacts within the Arms category.

There are many ways of organizing material culture data (South 1977a), and each method has its own advantages and disadvantages. The divisions employed here are reasonably convenient and, as reflections of functional performance, can be expected to point toward the presence of functional differences and similarities within and between sites.

In outline form, this organizational framework is as

follows (after Stone 1974b):

- I. Personal Context of Utilization
  - A. Clothing
  - B. Adornment
  - C. Grooming
  - D. Activities
  - E. Writing
- II. Household Context of Utilization
  - A. Maintenance and Repair
  - B. Preparation and Consumption of Food
  - C. Furnishings
  - D. Storage
- III. Structural Context of Utilization
  - A. Components
  - B. Hardware
- IV. Craft/Activity Context of Utilization
  - A. Arms
  - B. Subsistence
  - C. Commercial/Trade
  - D. Transportation
  - E. Special Skills and Crafts
  - F. Measuring

The use of this format makes possible several other ways of figuring percentage frequencies: Context of Utilization as a whole in relation to the total assemblage (e.g., Structural Context/Total Assemblage), Functional Divisions or Categories within Contexts in relation to the total assemblage (e.g., Hardware/Total Assemblage), artifact classes in relation to their Category (e.g., hinges/Hardware), and within-class variation. Each percentage comparison has possibilities for demonstrating functional differentiation and all will be used to examine the hypotheses and, ultimately, the general thesis of this study.

### Discussion

Because of the data limitations, as discussed previously, this comparison focuses on two sites: Fort Michilimackinac as a Regional Distribution Center and Fort Ouiatenon as a Local Distribution Center. Fort St. Joseph has been removed from consideration in the comparisons made here. The many artifacts from this site were largely surface collected. As Table 1 illustrates, there is an overwhelming preponderance of artifacts in the Craft/Activity Context at Fort St. Joseph, mostly from the Arms and Commercial Categories. Furthermore, important artifact classes such as ceramics and kaolin pipes (Food and Activities Categories) are not well represented at this site. Kaolin pipes in particular are practically ubiquitous on eighteenth century sites and their absence at St. Joseph is at least suspicious. I would suggest that there was a substantial collecting bias toward recognizable and "interesting" artifacts, and that collectors were not picking up such items as small ceramic sherds or pipe fragments. In most instances data from St. Joseph will not be presented here. Certain presence/absence comparisons will be noted where they appear relevant.

Data from Aboriginal Population Centers is presented and, where appropriate, will be discussed. The comments on artifacts from the Fortress of Louisbourg, presented in the tables that follow, were taken from Stone (1974a) and are included as general observations.

#### Context of Utilization/Total Assemblage

Contexts of Utilization as percentages of the total site assemblage are found in Table 1. While the Structural Context at



Table 1. Total Assemblage Artifact Percentage Frequencies

	<u>Ouiatenon</u>		<u>Michilimackinac</u>		<u>St. Joseph</u>	
Craft/Activity Context:	N	%	N	%	N	%
Subsistence	15	.32	236	.72	25	.58
Arms	1125	23.94	4609	14.00	835	19.45
Commercial	448	9.53	3961	12.03	2560	59.63
Skills/Crafts	38	.81	116	.35	9	.21
Measuring	1	.02	18	.05	--	--
Transportation	7	.15	10	.03	9	.21
Total	1634	34.77	8950	27.18	3438	80.08
Household Context:						
Maintenance/Repair	622	13.24	898	2.73	66	1.54
Food	555	11.81	12257	37.24	147	3.42
Furnishings	21	.45	186	.57	50	1.16
Storage	--	--	462	1.40	--	--
Total	1198	25.50	13803	41.94	263	6.13
Structural Context:						
Hardware	107	2.28	466	1.42	61	1.42
Components	--	--	246	.75	--	--
Total	107	2.28	712	2.17	61	1.42
Personal Context:						
Activities	1554	33.07	6706	20.37	230	5.36
Writing	3	.06	26	.08	--	--
Clothing	84	1.79	1500	4.56	84	1.96
Grooming	2	.04	53	.16	1	.02
Adornment	117	2.49	1167	3.55	216	5.03
Total	1760	37.45	9452	28.72	531	12.37

Michilimackinac and Ouatatonon are virtually identical, the Craft/Activity and Personal Contexts show some differentiation. Both the Arms and Activities Categories at Ouatatonon show higher percentages than those at Michilimackinac. The most obvious and extreme difference between the two posts, at this level, is the dominance of the Household Context at Michilimackinac. On closer inspection it is apparent that this dominance is due largely to the artifacts in the Food Category at that post. It is necessary to look at these differences on a more refined level of comparison in order to begin to understand them.

#### Artifact Categories/Total Assemblage

More substantive differences among sites become apparent when artifact Categories within Context of Utilization are compared as percentages of a total assemblage (Table 1). In the Craft/Activity Context the most obvious differences between Michilimackinac and Ouatatonon are in the Arms and Commercial (trade) Categories. Ouatatonon has a very strong emphasis on arms, as opposed to other Categories in the Context, while the emphases on arms and trade at Michilimackinac are nearly identical. Since arms were an important trade item, however, it might be reasonable to combine the two Categories. If this is done, 33.47 percent of the Ouatatonon artifacts and 26.03 percent of the Michilimackinac artifacts are included in the combined Categories.

It would be desirable to separate military from trade arms to get an accurate picture of the kind of military presence at both posts, but unfortunately this cannot be done with assurance for either post. At Ouatatonon, for example, only five of 240 gun parts

have been definitely identified as being from French military weapons (Hamilton 1978). By far the majority of gun parts that are ascribable as being from either military or trade guns (primarily lock plates, side plates and butt plates) are from trade guns.

No systematic classification of the gun parts from Michilimackinac is yet available. Stone (1974b) did not treat this subject. John Mathay (n.d.) worked with the gun parts recovered between 1959 and 1964. T. M. Hamilton has worked with the gun parts as they have been recovered but has as yet published no systematic, quantified account of his findings. Hamilton (1978) also states that there are certain problems with Mathay's manuscript that make it sometimes unreliable. Nevertheless, since Mathay did record all gun parts for the 1959-1964 seasons, I used his introductory frequency figures for gun parts and musket balls. A review of the Michilimackinac catalog records for the 1965-1966 seasons provided the additional data needed to make the arms data from that post correspond with Stone's years of excavation. To distinguish between French and British gun parts from Michilimackinac, Mathay relied heavily on archaeological context for his assignment of national origin, something that was largely impossible at Ouatonenon; nor did he distinguish regularly between French trade and military weapons. Of the hundreds of gun parts recovered at Michilimackinac between 1959 and 1972, Hamilton (1976) identified approximately twenty-six as definitely being from French military muskets. This would seem to follow the pattern at Ouatonenon, where only a small percentage of the gun parts were found to be from military weapons.

Of the musket balls found at Ouatonenon 2.39 percent are within

the size range for French military muskets (Hamilton 1976:33-4).

At Michilimackinac, 6.11 percent (N-46) are within this range.

Other Categories within the Craft/Activity Context (subsistence, special skills and crafts, measuring and transportation) comprise a very small percentage of both assemblages. These Categories will be discussed below.

In the Household Context Michilimackinac demonstrates a strong emphasis on artifacts, primarily ceramics, within the food-related Category. Ouiatenon shows a greater emphasis on artifacts associated with domestic maintenance and repair (e.g., pins, needles, thimbles, scissors) than on food preparation and consumption. At Ouiatenon, however, over 400 straight pins were recovered from a single feature (F68). When these pins are removed from the calculations percentage frequencies appear as follows:

	Ouiatenon	Michilimackinac
Maintenance/Repair	4.09%	2.73%
Food Preparation and Consumption	13.06%	37.24%
Furnishings	.49%	.57%
Storage	--	1.40%

While the figures are closer, there is still a substantial gap between the two posts in the Food Category. The heavy emphasis on domestic maintenance artifacts at Ouiatenon may be the result of the use of some of these items as trade goods. Feature 68 contained not only 400+ straight pins, but a great many gun parts and other trade goods as well.

In the Storage Category, the lack of barrel hoops at Ouiatenon is noteworthy. There were undoubtedly some barrels there; a small number of strap iron pieces from that site are probably from barrel hoops. Stone states, however, that even at Michilimackinac barrel

hoops were in use primarily during the British period (1974b:203). The Furnishings Category is negligible at both sites.

The small percentage of structural components at both posts stands out. No bricks were recovered at Ouiatenon, nor were many found at Michilimackinac. This testifies to the preponderance of wooden buildings at both posts. Stone believes that brick at Michilimackinac was used by both French and British, starting around 1735 (1974b:207). It must also be remembered that another structural component, window glass, could not be used in these calculations. Building Hardware percentages are similar at the two posts.

The Personal Contexts are again rather similar at the two posts with the exception of the strong Activities Category emphasis at Ouiatenon. This Category includes pipes and artifacts associated with religious activities. The next greatest difference is in the slightly higher percentage of artifacts associated with clothing at Michilimackinac.

#### Artifact Class/Functional Category

A potentially more revealing picture of life at Ouiatenon and Michilimackinac emerges through comparisons of artifact classes within functional categories. Of the artifacts present within the Subsistence Category fish hooks predominate at both posts (Table 2). In this instance, a look at the actual frequencies of fish hooks may prove useful. While 210 fish hooks were found at Michilimackinac, only twelve were recovered from Ouiatenon. Subsequent excavations at Ouiatenon yielded even fewer fish hooks (V.E. Noble personal communication). The dependence on resources other than riverine or lacustrine ones at Ouiatenon is supported by the amount of mammal

Table 2. Craft/Activity Context--Subsistence

	Ouatatonon		Michilimackinac		Fletcher		Guebert		Lasanen		Bell		Louisbourg	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
fish hooks	12	80.00	219	92.80	2	25.00	0	-	0	-	0	-	0	abundant
hoes	1	6.67	0	-	1	12.50	0	-	0	-	2	20.00	2	common
harpoons	1	6.67	10	4.24	3	37.50	0	-	2	28.57	6	60.00	6	no listing
scythes	1	6.67	4	1.69	0	-	0	-	0	-	0	-	0	common
traps	0	-	3	1.27	1	12.50	0	-	0	-	0	-	0	none
powder horn/ powder measure	(1)	poss.	0	-	(1)	poss.	0	-	0	-	0	-	0	common
shell fish lure	0	-	0	-	0	-	0	-	0	-	1	10.00	1	no listing
stone knife	0	-	0	-	0	-	2	66.67	0	-	1	10.00	1	no listing
birdstone	0	-	0	-	1	12.50	0	-	0	-	0	-	0	no listing
bannerstone	0	-	0	-	0	-	1	-	0	-	0	-	0	no listing
Total	15	-	236	-	8	-	33.33	-	7	-	10	-	10	-

bone recovered at that post. Over 90 percent of the animal bone analysed to date from the 1974-1976 seasons is from mammals (Martin 1981). Michilimackinac, located in an area where large amounts of fish resources were available seasonally, could be expected to rely more heavily on fishing for its food. Ouatennon, on the other hand, was in an area where many travelers commented on the number of bison and other game animals (Krauskopf 1955:162).

Table 2 indicates that neither post appears to have depended on extensive crop cultivation. Small garden plots were cultivated at Michilimackinac and probably at Ouatennon as well. Large scale farming was not undertaken at either post. Michilimackinac was certainly not in an area environmentally suited to the growing of important grain crops, as demonstrated by the failure of the Fort Repentigny agricultural community at Sault Ste. Marie sixty miles to the north. With the apparent abundance of wild game at Ouatennon, it may have been that such subsistence support was not considered necessary. Furthermore, it has been mentioned that, by the mid-eighteenth century, Detroit had become important as an agricultural support station for the surrounding posts. The general picture of subsistence activities at these posts is one of limited cultivation with heavy dependence upon wild game and/or fish, whichever was most easily acquired.

The most noticeable differences between Michilimackinac and Ouatennon in the Arms Category are in the proportions of gunflints and musket balls and in the presence of more kinds of arms at Michilimackinac (Table 3). Taking several additional sets of figures for musket balls and gunflints from Michilimackinac

Table 3. Craft/Activity Context--Arms

		Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
gunflints	N %	235 29.78	2536 55.02	45 32.37	232 36.54	8 26.67	8 9.41	no listing
musket balls	N %	544 48.36	753 16.34	0 -	104 16.38	0 -	0 -	no listing
gun parts	N %	240 21.33	1218 26.43	est. 62 44.60	0 -	0 -	4 4.71	no listing
metal projectile points	N %	4 .36	48 1.04	8 5.76	5 .79	4 13.33	6 7.06	no listing
shot	N	(5258)	--	(0)	(0)	(0)	(0)	no listing
sword blade	N %	2 .18	5 .12	1 .72	0 -	0 -	0 -	no listing
spontoon	N %	0 -	0 -	1 .72	0 -	0 -	0 -	no listing
sword pommel	N %	0 -	3 .07	0 -	0 -	1 3.33	0 -	no listing
bayonet	N %	0 -	4 .09	0 -	0 -	0 -	0 -	no listing
bayonet scabbard	N %	0 -	9 .20	0 -	0 -	0 -	0 -	no listing
sling swivel	N %	0 -	3 .07	0 -	0 -	0 -	0 -	no listing



Table 3 (cont'd.).

	Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
grenades	N %	22 .43	0 -	0 -	0 -	3 3.53	no listing
scabbard clips	N %	6 .13	0 -	0 -	0 -	0 -	no listing
flint patch	N %	2 .04	0 -	0 -	0 -	1 1.18	no listing
projectile point	N %	--	17 12.23	294 46.30	17 56.67	63 74.12	no listing
pike	N %	0 -	5 3.60	0 -	0 -	0 -	no listing
Total		4609	139	635	30	85	

(Maxwell and Binford 1961; Heldman 1977), the inverse proportion still holds. Ouiatenon maintains a smaller proportion of gunflints and a higher proportion of musket balls than Michilimackinac. The reason for this discrepancy is hard to pinpoint, especially since the proportions for gun parts are similar at both posts. Michilimackinac may have been stockpiling flints; these items could be used repeatedly, whereas balls, once spent, and if they were recovered, had to be remelted and formed into balls again. The smaller percentage of flints at Ouiatenon may reflect their use in trade and gift-giving; those that arrived at the post were distributed quickly, as opposed to Michilimackinac, where flints arrived and may have been stored for eventual distribution. From the presence of lead sprue at Ouiatenon and Michilimackinac it is apparent that lead was being shipped in and that balls were being made at both posts.

Of the musket balls recovered from Michilimackinac 448 were measured; of those from Ouiatenon 413 were measured. Hamilton (1976:33) states that balls with diameters of between .54" and .58" were standard for both French and British trade guns. It is interesting to note that of the musket balls that were measured from both the Michilimackinac and Ouiatenon samples 64 percent fall within this range. Of the musket balls from Fort St. Joseph 56 percent are within the same range (Table 4).

Arms were recovered in much greater variety from Michilimackinac than from Ouiatenon, and the kinds of arms at Michilimackinac indicate the presence of more heavy artillery and military personnel than Ouiatenon. This is evidenced largely by the presence of sword parts and grenades at Michilimackinac (Table 3). Bayonets are also

Table 4. Musket Ball Diameters (after Hamilton 1976)

Diameter in Inches	St. Joseph	Michilimackinac	Ouatenon	Comments
.48	1	2	0	
.49	0	0	2	
.50	8	3	1	
.51	10	6	11	
.52	12	11	30	
.53	7	9	24	
.54	20	21	28	32 to the <u>livre</u>
.55	23	47	30	
.56	26	64%	62	28 to the <u>livre</u>
.57	10	84	90	"calibre 32" bore
.58	8	65	55	25 to the <u>livre</u>
.59	12	44	37	"calibre 28" bore
.60	8	14	16	
.61	5	15	10	
.62	0	9	4	
.63	1	2	4	20 to the <u>livre</u> (French
.64	0	1	2	Musketoon <u>ball</u> ?)
.65	0	2	2	18 to the <u>livre</u> (French
.66	1	2	2	Infantry <u>ball</u> )
.67	0	1	2	French Musketoon bore, 16.7 mm
.68	0	13	0	French Dragoon bore, 17.1 mm
.69	2	25	0	French Infantry bore, 17.5 mm
.70	0	0	1	English Infantry ball
.71	0	0	0	
.72	0	0	0	
.73	0	1	0	
.74	0	0	0	
.75	0	0	0	English Infantry bore

present at Michilimackinac through there is some doubt in Mathay's report as to whether these were from only British arms or from French arms as well. The presence of cannon is indicated by the recovery of iron shot and grape shot (Mathay n.d.). Neither of these kinds of artifacts was recovered from Ouiatenon.

Michilimackinac and Ouiatenon display essentially the same kinds of artifacts in the Commercial Category (Table 5). The most substantial differences between the two posts are in the percentages of necklace beads and knives. The frequency of necklace beads affects the remaining percentages to such an extent that it is interesting to calculate percentages of trade items excluding necklace beads. Table 6 presents the changes if the calculations exclude necklace beads. Many percentages (firesteels, rings, wampum, hawk bells, axes) remain almost equal between the two posts, but percentages for knives become much closer together. Percentages for lead seals, awls, and rivets from Michilimackinac become higher than those from Ouiatenon.

The presence of coins at Michilimackinac is indicative of commercial activity. Heldman (1980) discusses the coins from Michilimackinac and the general scarcity of coins in eighteenth century New France. In this light, it is hardly surprising that none were found at Ouiatenon.

In the Special Skills and Crafts Category, there are few differences between Michilimackinac and Ouiatenon (Table 7). Both posts have tools used in building and blacksmithing. Probably the most notable difference is in the presence of spuds at Ouiatenon. These items have been identified as hide scrapers (Mainfort 1979:375)

Table 5. Craft/Activity Context--Commercial

		Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
lead seals	N %	28 6.25	198 5.00	0 -	1 .69	0 -	0 -	rare
coins	N %	0 -	28 .71	0 -	1 .69	0 -	0 -	common
rope pulleys	N N	- -	- -	- -	- -	- -	- -	abundant common
firesteels	N %	6 1.34	40 1.01	50 3.20	0 -	2 .01	1 .53	rare
rings	N %	29 6.47	121 3.05	59 3.78	1 .69	28 .18	8 4.23	rare
awls	N %	24 5.36	327 8.26	16 1.02	0 -	4 .03	11 5.82	none
necklace beads	N %	29 6.47	2019 50.97	14 .90	(2480) -	1587 9.98	123 65.08	rare
seed beads	N	(11108)	(4711) (sample)	(54000+)	(see above)	(5626)	0	rare
wampum	N %	19 4.24	87 2.20	1033 66.18	6 4.14	14251 89.58	0 -	no listing
metal beads	N %	26 5.80	0 -	(present) -	0 -	(present) -	9 4.76	no listing

Table 5 (cont'd.).

		Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
Y beads	N %	10 2.23	0 -	81 5.19	0 -	0 -	0 -	no listing
misc. European beads	N %	0 -	0 -	0 -	6 4.14	2 .01	0 -	no listing
brooches	N %	24 5.36	39 .98	46 2.95	0 -	0 -	0 -	no listing
ear bobs	N %	11 2.46	5 .13	17 1.09	0 -	0 -	0 -	no listing
hawk bells	N %	27 6.03	117 2.95	46 2.95	2 1.38	8 .05	3 1.59	no listing
kettle parts	N %	11 2.46	81 2.04	37 2.37	90 62.07	1 .01	6 3.17	no listing
rivets	N %	40 8.93	310 7.83	0 -	5 3.45	0 -	0 -	none
trade axes	N %	12 2.68	23 .58	8 .51	2 1.38	0 -	4 2.11	rare
mirrors	N %	19 4.24	47 1.19	7 .45	9 6.21	0 -	7 3.70	no listing
knives	N %	130 29.02	512 12.93	74 4.74	17 11.72	24 .15	16 8.47	common

Table 5 (cont'd.).

		Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
glass sets	N	3	0	16	3	0	0	no listing
	%	.67	-	1.02	2.07	-	-	
pipe tomahawk	N	0	0	1	0	0	0	no listing
	%	-	-	.06	-	-	-	
bracelets	N	0	7	48	2	2	1	no listing
	%	-	.18	3.07	1.38	.01	.53	
metal hair pipes	N	0	0	2	0	0	0	no listing
	%	-	-	.13	-	-	-	
bells	N	0	0	6	0	0	0	no listing
	%	-	-	.38	-	-	-	
Total		448	3961	1561	145	15909	189	

Table 6. Commercial Category--Necklace Beads Removed

	<u>Ouiatenon</u>	<u>Michilimackinac</u>
N:	419	1942
lead seals	%: 6.68	10.20
coins	--	1.44
firesteels	1.43	1.44
rings	6.92	6.23
awls	5.73	16.84
wampum	4.53	4.48
metal beads	6.21	--
Y beads	2.39	--
brooches	5.73	2.01
ear bobs	2.63	.26
hawk bells	6.44	6.02
kettles	2.63	4.17
rivets	9.55	15.96
trade axes	2.86	1.18
mirrors	4.53	2.42
knives	31.03	26.36
glass sets	.72	--
bracelets	--	.36
	<u>100.01</u>	<u>100.37</u>



Table 7. Craft/Activity Context--Special Skills and Crafts

	Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
chisel	N 5 13.16	15 12.93	0 -	0 -	0 -	0 -	common
drill bit	N 1 2.63	10 8.62	0 -	0 -	0 -	0 -	rare
file	N 8 21.05	37 31.90	4 16.67	0 -	0 -	0 -	common
gimlet	N 2 5.26	4 3.45	0 -	0 -	0 -	0 -	rare
gouge	N 0 -	7 6.03	6 25.00	0 -	0 -	0 -	common
hammer	N 1 2.63	5 4.31	0 -	0 -	0 -	0 -	common
plane	N 1 2.63	2 1.72	0 -	0 -	0 -	0 -	rare
punch	N 3 7.89	9 7.76	0 -	0 -	0 -	0 -	rare
saw blade	N 2 5.26	12 10.34	0 -	0 -	1 .72	0 -	common
wedge	N 6 15.79	6 5.17	0 -	0 -	0 -	0 -	common

Table 7 (cont'd.).

	Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
woodworking tool	N 1 2.63	0 -	2 8.33	0 -	0 -	0 -	no listing
spud	N 6 15.79	0 -	2 8.33	0 -	0 -	0 -	no listing
anvil hardy (?)	N 1 2.63	0 -	0 -	0 -	0 -	0 -	no listing
netting needles	N 1 2.63	7 6.03	1 4.17	0 -	0 -	25 43.10	no listing
ice chopper	N 0 -	1 .86	0 -	0 -	0 -	0 -	none
vice	N 0 -	1 .86	0 -	0 -	0 -	0 -	none
adze	N 0 -	0 -	0 -	1 7.69	0 -	0 -	no listing
crucifix/shot mold	N 0 -	0 -	0 -	2 15.38	0 -	0 -	no listing
rubbing stone	N 0 -	0 -	0 -	0 -	2 1.44	0 -	no listing
stone adze	N 0 -	0 -	0 -	0 -	0 -	1 1.72	no listing

Table 7 (cont'd.).

	Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
stone ax/celt	N %	0 -	0 -	1 4.17	2 15.38	0 -	0 no listing -
stone/shell scraper	N %	(2) -	0 -	0 15.38	2 15.38	5 3.60	3 no listing 5.17
stone drill	N %	(3) -	0 -	0 -	3 23.08	0 -	1 no listing 1.72
stone graver	N	(1)	0	0	0	0	0 no listing
arrowshaft smoother	N %	0 -	0 -	0 -	2 15.38	0 -	1 no listing 1.72
arrowshaft wrench	N %	0 -	0 -	0 -	0 -	0 -	3 no listing 5.17
antler drill	N %	0 -	0 -	0 -	0 -	0 -	5 no listing 8.62
fiber shredder	N %	0 -	0 -	0 -	0 -	0 -	5 no listing 8.62
antler flaking implement	N %	0 -	0 -	4 16.67	1 7.69	3 2.16	7 no listing 12.07
bone/wood/antler handles	N %	0 -	0 -	0 -	0 -	7 5.04	5 no listing 8.62

Table 7 (cont'd.).

	Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
hammerstone	N 0	0	1	0	0	2	no listing
	% -	-	4.17	-	-	3.45	
whetstone	N 0	0	3	0	0	0	no listing
	% -	-	12.50	-	-	-	
bone woodworking tool	N 0	0	0	0	1	0	no listing
	% -	-	-	-	.72	-	
chert flakes/cores	N (7)	-	0	0	120	0	no listing
	% -	-	-	-	86.33	-	
Total	38	116	24	13	139	58	

and their presence at Ouiatenon may be related to the post's relatively high use of deer. Likewise, netting needles at Michilimackinac may be indicative of that post's dependence on fishing. The high percentage of files at both posts probably reflects their use as trade items.

Measuring instruments are rare at both posts (Table 8), but occur in greater variety at Michilimackianc. Likewise, few artifacts associated with land transportation were found at either post (Table 9). Of those that were recovered harness buckles were the most common, and it is interesting to note that in absolute numbers only one more harness buckle was found at Michilimackinac than at Ouiatenon. There appears to have been little emphasis on land transport at either post.

In the Household Context of Utilization, the Maintenance and Repair Category (Table 10) shows little internal variety, all artifacts occurring at both posts. The problem of straight pins at Ouiatenon has already been discussed, though it is interesting that when percentages are figured within the Maintenance/Repair Category they are virtually identical at both Ouiatenon and Michilimackinac.

The Food Preparation and Consumption Category shows more differentiation (Table 11). On the surface, there appears to be little variety in the kinds of artifacts found at Michilimackinac and Ouiatenon with the exception of a few special pieces at Michilimackinac (pewter plate, porringer, trivet). The striking fact is that the percentage frequencies of European ceramics found at the posts are practically the same. It is necessary to look

Table 8. Craft/Activity Context--Measuring

		Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
dividers	N	1	3	0	0	0	0	none
	%	100.00	16.67	-	-	-	-	-
compass	N	0	5	0	0	0	0	rare
	%	-	27.78	-	-	-	-	-
telescope	N	0	1	0	0	0	0	none
	%	-	5.56	-	-	-	-	-
weights	N	0	9	0	0	0	0	rare
	%	-	50.00	-	-	-	-	-
Total		1	18	0	0	0	0	0

Table 9. Craft/Activity Context--Transportation

		Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
bridle parts	N	2	0	0	0	0	0	rare
	%	28.57	-	-	-	-	-	-
harness buckles	N	4	10	0	0	0	0	no listing
	%	57.14	100.00	-	-	-	-	-
wagon parts	N	1	0	0	0	0	0	no listing
	%	14.29	-	-	-	-	-	-
Total		7	10	0	0	0	0	0

Table 10. Household Context--Maintenance and Repair

		Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
straight pins	N	535	781	0	0	0	0	common
	%	86.01	86.97	-	-	-	-	-
iron needles	N	74	49	0	0	0	3	none
	%	11.90	5.46	-	-	-	75.00	-
thimbles	N	10	41	17	1	0	1	common
	%	1.61	4.57	73.91	100.00	-	25.00	-
scissors	N	3	27	6	0	1	0	common
	%	.48	3.01	26.09	-	100.00	-	-
Total		622	898	23	1	1	4	





Table 11 (cont'd.).

		Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
trivet	N	0	1	0	0	0	0	rare
	%	-	.01	-	-	-	-	
ceramics (European)	N	537	12062	0	54	0	0	abundant
	%	96.76	98.41	-	62.07	-	-	
(The figures for ceramics at the various sites are derived from sherd counts for all ceramics minus pearlware and creamware.)								
bottle glass		(see separate sheet)		(4)	(76)	(0)	(0)	
turtleshell bowl	N	0	0	0	0	0	7	no listing
	%	-	-	-	-	-	.53	
aboriginal ceramics	N	(36)	-	0	15	0	1313	no listing
	%	-	-	-	17.24	-	99.47	
antler cup	N	0	0	1	0	1	0	no listing
	%	-	-	4.35	-	16.67	-	
milling stone	N	0	0	0	2	2	0	no listing
	%	-	-	-	2.30	33.33	-	
wood vessel	N	0	0	0	0	1	0	no listing
	%	-	-	-	-	16.67	-	
bark lid	N	0	0	0	0	1	0	no listing
	%	-	-	-	-	16.67	-	

Table 11 (cont'd.).

	Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
spatula	N	0	0	0	1	0	no listing
	%	-	-	-	16.67	-	
Total		555	12257	23	87	6	1320

for within-class artifact variation to find between-post differences.

This is not easily done since it is so difficult to separate many ceramics into those used during the French period and those used during the British period. Percentage frequencies for ceramics have been calculated to include coarse earthenwares, tin-glazed earthenwares, white salt-glazed stonewares, brown, red and Rhenish stonewares, and porcelain. All of these ceramic types were being manufactured before 1760, although some were not French in origin. So, while it is possible that some of the French at Michilimackinac and Ouatatonon acquired and used non-French ceramics, ceramics from the British period are undoubtedly included in these figures. White salt-glazed stoneware and porcelain especially, were probably much more common during the British period at both posts.

If only tin-glazed earthenwares and coarse earthenwares are included in the calculations, Michilimackinac still shows a much higher ceramics percentage than does Ouatatonon, but there is still the problem of separating French from British tin-glazed earthenware. While some decorative elements may be indicative of one national origin or another, many sherds cannot be identified with certainty.

Miller and Stone (1970:99) believe that the French at Michilimackinac used few ceramics of any kind, the result of their economic status and the transportation methods of the period. Furthermore, the British occupied Michilimackinac for a much longer period of time (1761-1781) than they occupied Ouatatonon (1761-1763). This fact also must be reflected in the high percentages of ceramics at Michilimackinac.

Individual ceramic classes as percentages of each site's total ceramic assemblage are listed in Table 12. When ceramic classes are viewed as percentages of the total ceramic assemblages, Michilimackinac and Ouiatenon are very close in the percentages of tin-glazed earthenware. Ouiatenon has a substantially higher percentage of coarse earthenware, however, and Michilimackinac shows much higher percentages of white salt-glazed stoneware and porcelain. In an attempt to alleviate some of the problem of French versus British period ceramics, I took Stone's figures for French faience and compared them with the tin-glazed earthenware from Ouiatenon found in what were interpreted as French contexts. (These figures included features only as the basis for determining French context.) After removing other ceramic wares not of French manufacture the following percentage frequencies were obtained:

	Ouiatenon		Michilimackinac	
	N	%	N	%
coarse earthenware	244	85.31	775	52.90
tin-glazed earthenware	39	13.64	461	31.47
brown stoneware	3	1.05	229	15.63
Total	286	100.00	1465	100.00

These figures, as approximate as they are, appear to lend some support to the idea that coarse earthenware predominates among French ceramic classes at Ouiatenon. None of these three classes can be considered a particularly high status ware group, but the higher percentages of tin-glazed earthenware at Michilimackinac may indicate the presence of more serving pieces as opposed to kitchen/utilitarian forms.

Table 13 shows the within-class distribution of ceramic types at Michilimackinac and Ouiatenon. Tin-glazed earthenware types are

Table 12. Ceramic Types as Percentages of Total Ceramic Assemblage

	<u>Ouiatenon</u>		<u>Michilimackinac</u>	
	N	%	N	%
<u>Tin-Glazed Earthenware</u>				
Blue and White	206	38.36	4061	33.67
Polychrome	3	.56	187	1.55
Brown and White	7	1.30	168	1.39
Powdered Blue/Purple	-	--	161	1.33
Total	216	40.22	4577	37.94
<u>Coarse Earthenware</u>				
Unglazed Redware	-	--	9	.07
Brown-Glazed Redware	58	10.80	227	1.88
Green and Purple Redware	-	--	4	.03
Green-Glazed Earthenware	93	17.32	319	2.64
Brown and Green Redware	4	.74	33	.27
Yellow-Glazed Earthenware	76	14.15	44	.36
Caramel-Glazed Earthenware	-	--	38	.32
Slip Decorated Earthenware	11	2.05	101	.84
Yellow, Green, Blue Redware	2	.37	-	--
Total	244	45.43	775	6.43
<u>White Salt-Glazed Stoneware</u>				
Plain	14	2.61	1796	14.89
Relief Decorated	-	--	560	4.64
Scratch Blue	17	3.17	235	2.11
Polychrome	7	1.30	166	1.38
Total	38	7.08	2777	23.02
<u>Red Stoneware</u>	1	.19	17	.14
<u>Rhenish Stoneware</u>	4	.74	86	.71
<u>Brown Stoneware</u>	3	.56	229	1.90
<u>Porcelain</u>				
Plain	14	2.61	-	--
Blue and White	15	2.79	3095	25.66
Polychrome	2	.37	460	3.81
Brown	-	--	46	.38
Total	31	5.77	3601	29.85

Table 13. Within-Class Ceramic Percentage Frequencies

	Ouiatenon		Michilimackinac	
	N	%	N	%
<u>Tin-Glazed Earthenware</u>				
Blue and White	206	95.37	4061	88.73
Polychrome	3	1.39	187	4.09
Brown and White	7	3.24	168	3.67
Powdered Blue/Purple	-	--	161	3.52
Total	216	100.00	4577	100.01
<u>Coarse Earthenware</u>				
Unglazed Redware	-	--	9	1.16
Brown-Glazed Redware	58	23.77	277	29.29
Purple and Green Redware	-	--	4	.52
Green-Glazed Earthenware	93	38.11	319	41.16
Brown and Green Redware	4	1.64	33	4.26
Yellow-Glazed Earthenware	76	31.15	44	5.68
Caramel-Glazed Earthenware	-	--	38	4.90
Slip Decorated Earthenware	11	4.51	101	13.03
Yellow, Green, Blue Redware	2	.82	-	--
Total	244	100.00	775	100.00
<u>White Salt-Glazed Stoneware</u>				
Plain	14	36.84	1796	64.67
Relief Decorated	-	--	560	20.17
Scratch Blue	17	44.74	255	9.18
Polychrome	7	18.42	166	5.98
Total	38	100.00	2777	100.00
<u>Red Stoneware</u>	1	100.00	17	100.00
<u>Rhenish Stoneware</u>	4	100.00	86	100.00
<u>Brown Stoneware</u>	3	100.00	229	100.00
<u>Porcelain</u>				
Blue and White/Plain	29	93.55	3095	85.95
Polychrome	2	6.45	460	12.77
Brown	-	--	46	1.28
Total	31	100.00	3601	100.00

again found in similar proportions at the two posts, with the exception of the British powdered blue and purple which is absent at Ouiatenon. Michilimackinac shows more formal variety: plates, platters chamber pots, mugs, pitchers, pill pots and jars. Plates predominate at Ouiatenon with a few other forms such as bowls, saucers, jars and possibly chamber pots appearing also.

Ouiatenon has a much higher percentage of coarse earthenware than Michilimackinac regardless of which ceramic types are included in the calculations. Green-Glazed earthenware is most common at both posts, and brown-glazed redware is also found in large proportions. Yellow-glazed earthenware is the second most common coarse earthenware at Ouiatenon and one of the few artifact classes of which fewer absolute numbers of sherds were found at Michilimackinac. Slip decorated earthenware is found in a higher proportion at Michilimackinac, probably the result of use during the British period.

All the coarse earthenwares are "kitchen ceramics" as described by Miller and Stone (1970:50). There seems to be a slightly wider range of forms at Michilimackinac since forms like pipkins and covered jars are present in addition to bowls and plates. Bowls predominate at Ouiatenon. Other forms may be present at that post but the size of recovered sherds precludes their identification.

Only a small percentage of white salt-glazed stoneware is present at Ouiatenon, while 23 percent of the Michilimackinac ceramics are of this class. The discrepancy must reflect the more than twenty years of British occupation of Michilimackinac as opposed to one and one-half years at Ouiatenon. Miller and Stone (1970:68-72) date white salt-glazed stoneware to between 1730 and 1770 and further

state that "the presence of substantial quantities of fine English salt-glaze at Louisbourg reinforces the suggestion that, in addition to the wares brought in during the two English invasions, established trade connections between the French fortress and the colonies existed prior to (and during?) the French and Indian War." If this is true, we cannot dismiss the possibility that connections existed, black market or otherwise, between the British colonies and other points in the French trade network, or that some of the ceramics reaching Louisbourg found their way westward. The white salt-glazed stoneware from Michilimackinac consists primarily of pieces from dinner and tea services. At Ouiatenon small bowls or cups, and saucers possibly from tea services are present.

Thousands more porcelain sherds have been found at Michilimackinac than at Ouiatenon. Both sites show a preponderance of plain or blue and white decorated porcelain. Miller and Stone state that at least some of the porcelain from Michilimackinac was present during the French period, possibly as early as 1740 (1970:81). Ninety percent of the sherds were from tea services and this is probably true for Ouiatenon as well. But the quantity of porcelain found there is so limited, and the sherds so small, that forms are difficult to distinguish. Small bowls or cups are definitely recognizable. Brown stoneware, red stoneware and Rhenish stoneware are found in very limited quantities at both posts.

It appears that tin-glazed earthenwares and coarse earthenwares were the primary ceramic classes found at both Michilimackinac and Ouiatenon during the French period. While the French at both posts probably used some foreign manufactured wares such as white



salt-glazed stoneware, porcelain and Rhenish stoneware, these were used more frequently by personnel at Michilimackinac. In general Michilimackinac ceramics indicate greater variety of ceramic type and vessel form than do those from Ouatatenon.

Bottle and vessel glass could not be included in percentage frequency calculations because no sherd counts were available for Michilimackinac. There are, however, minimum number of vessel counts for that post (Table 14). Storage containers predominate at both posts but the proportion is much greater at Ouatatenon. Tableware, especially stemware, is found in extremely high percentage at Michilimackinac though much of it was probably used by the British.

Table 14. Glass from Michilimackinac and Ouatatenon

Michilimackinac N - 612 Minimum Number of Vessels			
Storage Containers	N - 279	45.59%	
Stemware	N - 235	38.40%	
Tumblers	N - 90	14.71%	
Serving Vessels	N - 8	1.31%	
Ouatatenon N - 47 Minimum Number of Vessels			
Storage Containers	N - 33	70.21%	
Stemware	N - 6	12.77%	
Tumblers	N - 8	17.02%	
Serving Vessels	N - 0	--	

In the Furnishings Category (Table 15), Michilimackinac shows higher percentages of all artifact classes except brass tacks. It also has a much wider variety of furnishings artifacts, items that reflect more affluent or genteel owners: candle holders, candle snuffers, fire tongs, and fireplace furniture.

Table 15. Household Context--Furnishings

	Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
furniture hinges	N 2 9.52	30 16.13	2 50.00	2 100.00	0 -	0 -	common
hasp lock	N 6 28.57	72 38.71	1 25.00	0 -	0 -	0 -	common
drawer handle	N 1 4.76	16 8.60	1 25.00	0 -	0 -	0 -	common
brass tacks	N 12 57.14	59 31.72	0 -	0 -	0 -	0 -	rare
candle holder	N 0 -	7 3.76	0 -	0 -	0 -	0 -	rare
candle snuffer	N 0 -	1 .54	0 -	0 -	0 -	0 -	rare
fire tongs	N 0 -	1 .54	0 -	0 -	0 -	0 -	none
fireplace furniture	N 0	(rare)	0	0	0	0	abundant
oil lamps	N 0	0	0	0	0	0	common
furniture castore	N 0	0	0	0	0	0	rare

Table 15 (cont'd.).

	Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
stoves	0	0	0	0	0	0	common
Total	21	186	4	2	1	0	

Table 16. Household Context--Storage

	Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
barrel hoops	0	462	0	0	0	0	common
%	-	100.00	-	-	-	-	-

That there were probably some barrel hoops within the strap iron at Ouiatenon has been mentioned. The frequency of barrel hoops at Michilimackinac indicates the presence of a number of large storage containers (Table 16).

Substantial differences between Michilimackinac and Ouiatenon are evident in the Building Hardware and Components Categories of the Structural Context of Utilization (Tables 17 and 18). The percentages of hinges and pintles from Michilimackinac suggest the presence of more buildings at that post and/or substantial construction techniques. Nails could not be included in these calculations since no count of the Michilimackinac nails was made. Artifacts associated with building security (door locks, keys, keyhole escutcheons, padlocks) comprise 2 percent of the Michilimackinac Hardware Category and only 7 percent of the same Category from Ouiatenon.

The presence of bricks at Michilimackinac has already been mentioned. Window glass is present at both posts but has not been quantified for Michilimackinac. Daub is also present at both posts.

There are no great differences between Michilimackinac and Ouiatenon in the Activities Category of the Personal Context with the exception of the pipe artifact class (Table 19). Stone and kaolin pipes combined comprise a similar percentage of each site's Activities Category (Ouiatenon - 96.46%; Michilimackinac - 94.24%). Michilimackinac has a much higher percentage of stone pipes to kaolin pipes than does Ouiatenon, however. Stone pipes were being made at both posts, but it is possible that a higher population, of traders especially, contributed to the higher proportion of stone

Table 17. Structural Context--Hardware

	Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
door lock	N 1 %	49 10.52	0 -	0 -	0 -	0 -	common
hinge/pintle	N 31 %	219 47.00	0 -	4 50.00	0 -	0 -	abundant
keys	N 6 %	42 9.01	0 -	0 -	0 -	1 100.00	abundant
keyhole escutcheon	N 0 %	25 5.36	0 -	0 -	0 -	0 -	common
nails	N (4407)	(50-60000)	(14)	(67)	(2)	0	abundant
bolt,nut,washer	N 3 %	12 2.58	0 -	0 -	0 -	0 -	common
door,gate shutter hook	N 2 %	14 3.00	0 -	0 -	0 -	0 -	common
door latch hardware	N 7 %	30 6.44	0 -	4 50.00	0 -	0 -	abundant
screws	N 29 %	19 4.08	0 -	0 -	0 -	0 -	rare
staples	N 15 %	52 11.16	0 -	0 -	0 -	0 -	no listing

Table 17 (cont'd.).

	Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
cotter pins	N 4 3.74	0 -	0 -	0 -	0 -	0 -	no listing -
iron hooks	N 2 1.87	0 -	0 -	0 -	0 -	0 -	no listing -
chain links	N 7 6.54	0 -	0 -	0 -	0 -	0 -	no listing -
padlock	N 0 -	4 .86	0 -	0 -	0 -	0 -	rare -
masonry anchors	N 0	0	0	0	0	0	common
locking bolts	N 0	(common)	0	0	0	0	common
cut stone anchors	N 0	0	0	0	0	0	common
beam stirrups	N 0	0	0	0	0	0	rare
Total	107	466	0	8	0	0	1

Table 18. Structural Context--Components

	Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
bricks	N %	0 - 246 100.00	0 -	0 -	0 -	0 -	abundant
window glass	(2205)	not given	0	0	0	0	no listing
daub	present	present	0	0	0	0	no listing
slate roof tile	N	0	0	0	0	0	abundant
cut stone and tile	N	0	0	0	0	0	abundant
shingles	N	0	0	0	0	0	common

Table 19. Personal Context--Activities

		Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
jews harps	N %	16 1.03	122 1.82	0 -	7 4.55	0 -	1 2.13	1 rare
kaolin pipes	N %	1421 91.44	5328 79.45	1 2.17	18 11.69	1 .55	3 6.38	abundant
stone pipes	N %	78 5.02	992 14.79	16 34.78	61 39.61	1 .55	8 17.02	none
pottery pipes	N %	0 -	0 -	0 -	0 -	0 -	27 57.45	no listing
pewter pipes	N %	0 -	0 -	0 -	0 -	1 .55	0 -	no listing
cup and pin	N %	1 .06	8 .12	0 -	0 -	0 -	7 14.89	none
whizzer	N %	5 .32	12 .18	0 -	27 17.53	0 -	0 -	rare
musical instrument	N %	1 .06	0 -	0 -	0 -	0 -	0 -	no listing
figurines	N %	10 .64	0 -	0 -	0 -	0 -	0 -	no listing
jetons	N %	1 .06	0 -	0 -	0 -	0 -	0 -	no listing



Table 19 (cont'd.)

	Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
stamped disc	N %	1 .06	0 -	0 -	0 -	0 -	0 no listing
crucifix	N %	7 .45	20 .30	6 54.35	1 .55	0 rare	0 rare
rosary beads	N %	13 .84	179 2.67	6 3.90	158 87.29	0 no listing	0 no listing
religious medallion	N %	0 -	7 .10	6 3.90	3 1.66	0 rare	0 rare
dice	N %	0 -	3 .04	0 -	0 -	1 rare	2.13
gaming pieces	N %	0 -	14 .21	23 14.94	2 1.10	0 none	0 none
marbles	N %	0 -	20 .30	0 -	0 -	0 rare	0 rare
chess pieces	N %	0 -	1 .01	0 -	0 -	0 none	0 none
iron box	N %	0 -	0 -	0 -	1 .55	0 no listing	0 no listing
stone effigies	N %	0 -	1 2.17	0 -	13 7.18	0 no listing	0 no listing

Table 19 (cont'd.).

		Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
charmstones	N	0	0	2	0	0	0	no listing
	%	-	-	4.35	-	-	-	-
antler disc	N	0	0	1	0	0	0	no listing
	%	-	-	2.17	-	-	-	-
Total		1554	6706	46	154	181	47	

pipes at Michilimackinac.

Michilimackinac has a higher proportion of artifacts associated with organized games (dice, chess, gaming pieces) while Ouatatonon has more miscellaneous items. The exact purpose of the jeton and stamped discs is uncertain though it is possible that these items might more properly be included with the Commercial Category. The pipeclay figurines are the only example of purely decorative objects from Ouatatonon though it is possible that they may have been toys or chess pieces (Noel-Hume 1977). The slightly higher percentage of artifacts associated with religion at Michilimackinac does not seem to be significant.

Neither the Writing nor the Grooming Categories demonstrate substantial differences between Michilimackinac and Ouatatonon (Tables 20 and 21). The high percentage of lead pencils at Michilimackinac may indicate greater involvement in business and recording activities, but the identification of lead objects as pencils is often questionable. Combs were not found in great abundance at either post, and only one hair brush and six razors were recovered at Michilimackinac. It is likely that all of these items were personal possessions and as such were highly curated.

In the Clothing Category (Table 22) differences are smaller than would have been expected, especially given the differences in actual numbers of items recovered at the two posts. The presence of ice creepers and ice skates at Michilimackinac is probably the result of environmental factors. Shoe heel plates may be related to higher status. The higher percentage of cufflinks at Ouatatonon is puzzling at first, but it must be remembered that the lack of

Table 20. Personal Context--Writing

		Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
lead pencils	N	2	25	0	2	0	0	rare
	%	66.67	96.15	-	100.00	-	-	-
ink well	N	1	0	0	0	0	0	no listing
	%	33.33	-	-	-	-	-	-
letter seal	N	0	1	0	0	0	0	none
	%	-	3.85	-	-	-	-	-
Total		3	26	0	2	0	0	0

Table 21. Personal Context--Grooming

		Ouiatenon	Michilimackinac	Fletcher	Guebert.	Lasanen	Bell	Louisbourg
combs	N	2	46	3	0	1	0	common
	%	100.00	86.79	18.75	-	100.00	-	-
hair brushes	N	0	1	0	0	0	0	none
	%	-	1.89	-	-	-	-	-
razors	N	0	6	3	0	0	0	rare
	%	-	11.32	18.75	-	-	-	-
hair curler	N	0	0	0	0	0	0	rare
wig curler	N	0	0	0	0	0	0	common
hair puller	N	0	0	10	0	0	0	no listing
	%	-	-	62.50	-	-	-	-
Total		2	53	16	0	1	0	0

Table 22. Personal Context--Clothing

		Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
buttons	N	45	771	6	13	47	1	abundant
	%	53.57	51.40	85.71	68.42	100.00	100.00	
buckles	N	20	426	0	2	0	0	abundant
	%	23.81	28.40	-	10.53	-	-	
cufflinks	N	13	112	0	4	0	0	rare
	%	15.48	7.47	-	21.05	-	-	
hooks and eyes	N	6	152	0	0	0	0	none
	%	7.14	10.13	-	-	-	-	
ice creepers	N	0	5	1	0	0	0	common
	%	-	.33	14.29	-	-	-	
ice skates	N	0	1	0	0	0	0	rare
	%	-	.07	-	-	-	-	
shoe heel plate	N	0	33	0	0	0	0	none
	%	-	2.20	-	-	-	-	
Total		84	1500	7	19	47	1	

other artifacts in this category serves only to increase the cuff-link percentage.

The percentage of Michilimackinac tinkling cones in the Adornment Category (Table 23) is rather astounding. Stone (1974b:134) states that tinkling cones were made and worn by Indians and Europeans alike. The number is so large, however, it suggests that these popular items may have been produced for the trade as well.

Another difference between the two posts in the Adornment Category is the apparent dependence of Ouatatonon inhabitants on what appear to be home made items of adornment: perforated triangles, pendants, bone and shell beads, etc. Perforated triangles were not found at Michilimackinac, unless they were not included in Stone's analysis. If these items are removed from the Ouatatonon calculations the tinkling cone percentage goes up to 85 percent of the Adornment Category .

#### Artifact Category and Class/Total Assemblage

Another way of looking at the assemblages as a whole is to examine the order of percentages of artifact Categories. Figure 2 shows a profile of Michilimackinac and Ouatatonon based on these figures. The most striking fact about this graph is the similarity of the two profiles. The several exceptions--Food Preparation and Consumption, Arms, Activities and Home Maintenance and Repair--have been discussed above. It seems likely that were it possible to definitely identify ceramics as having been used by the French or British, and were the Feature 68 straight pins removed from the Ouatatonon assemblage, the profiles would be even more alike in terms

Table 23. Personal Context--Adornment

		Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
tinkling cones	N %	73 62.39	1125 96.40	304 86.36	59 60.20	21 10.00	13 32.50	none
jewelry chain	N %	1 .85	17 1.46	0 -	0 -	0 -	0 -	rare
perforated triangle	N %	31 26.50	0 -	0 -	16 16.33	0 -	0 -	no listing
medallion (secular)	N %	1 .85	0 -	0 -	0 -	0 -	0 -	no listing
misc. pendants	N %	6 5.12	11 .94	19 5.40	17 17.35	27 12.86	4 10.00	none
brass wire ring	N %	1 .85	0 -	0 -	0 -	0 -	0 -	no listing
lead/pewter ornaments	N %	1 .85	0 -	0 -	0 -	0 -	0 -	no listing
earrings	N %	0 -	13 1.11	0 -	0 -	0 -	0 -	none
hat pins	N %	0 -	1 .09	0 -	0 -	0 -	0 -	none
bone bracelet	N %	0 -	0 -	0 -	0 -	0 -	3 7.50	no listing

Table 23 (cont'd.).

	Ouiatenon	Michilimackinac	Fletcher	Guebert	Lasanen	Bell	Louisbourg
hair pipes	N %	0 -	0 -	1 .28	0 -	13 32.50	no listing
shell gorget	N %	0 -	0 -	3 .85	0 -	0 .48	no listing
catlinite beads	N %	0 -	0 -	1 .28	82 39.05	0 -	no listing
decorated bone tube	N %	0 -	0 -	0 -	0 -	7 17.50	no listing
catlinite ornaments	N %	0 -	0 -	0 -	42 20.00	0 -	no listing
shell ornaments	N %	0 -	0 -	1 1.02	10 4.76	0 -	no listing
bone beads	N %	2 1.71	0 -	11 3.13	0 -	0 -	no listing
shell beads	N %	1 .85	0 -	13 3.69	5 5.10	27 12.86	no listing
Total		117	1167	352	98	210	40



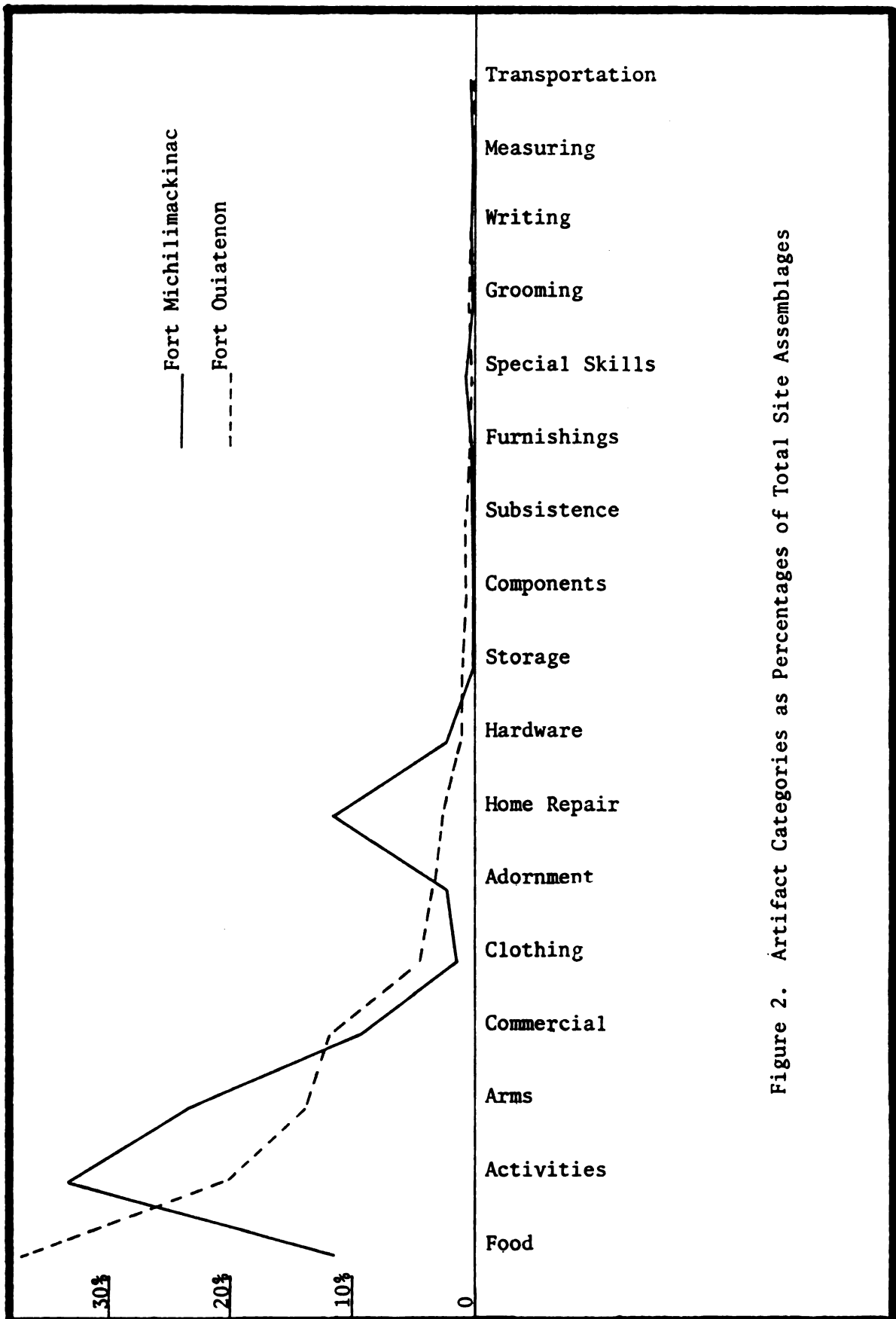


Figure 2. Artifact Categories as Percentages of Total Site Assemblages

of functional categories.

On a different level of comparison individual artifact classes can be arranged in order of the percentage of each assemblage they represent. By taking those artifact classes representing over one percent of a site's assemblage some indication of the degree of emphasis placed on certain activities may be illustrated (Figure 3).

All of the levels of comparison described above must be considered in addressing the thesis and evaluating the fit of these data with the stated hypotheses. Hypothesis One states that there will be a greater variety within and between categories of European artifacts at Regional Distribution Centers than at Local Distribution Centers and Aboriginal Population Centers. Table 24 lists the total numbers of European artifact classes found within categories for the sites being compared and bears out this hypothesis as stated. Twenty artifact classes separate Ouatennon and Michilimackinac; not surprisingly the frequencies of European artifact classes decrease among aboriginal sites with increasing site age. These artifacts are largely within the Commercial Category.

Hypothesis Two states that military issue artifacts will be found in greater variety at Regional Distribution Centers than at Local Distribution Centers; they will be incidental at Aboriginal Population Centers. There will be more evidence of high ranking military personnel at Regional Distribution Centers.

The difficulties of identifying French military arms have been discussed above, but this hypothesis does receive some support. At Ouatennon five French military buttons were recovered. Seventy-eight of these buttons were recovered from Michilimackinac with an

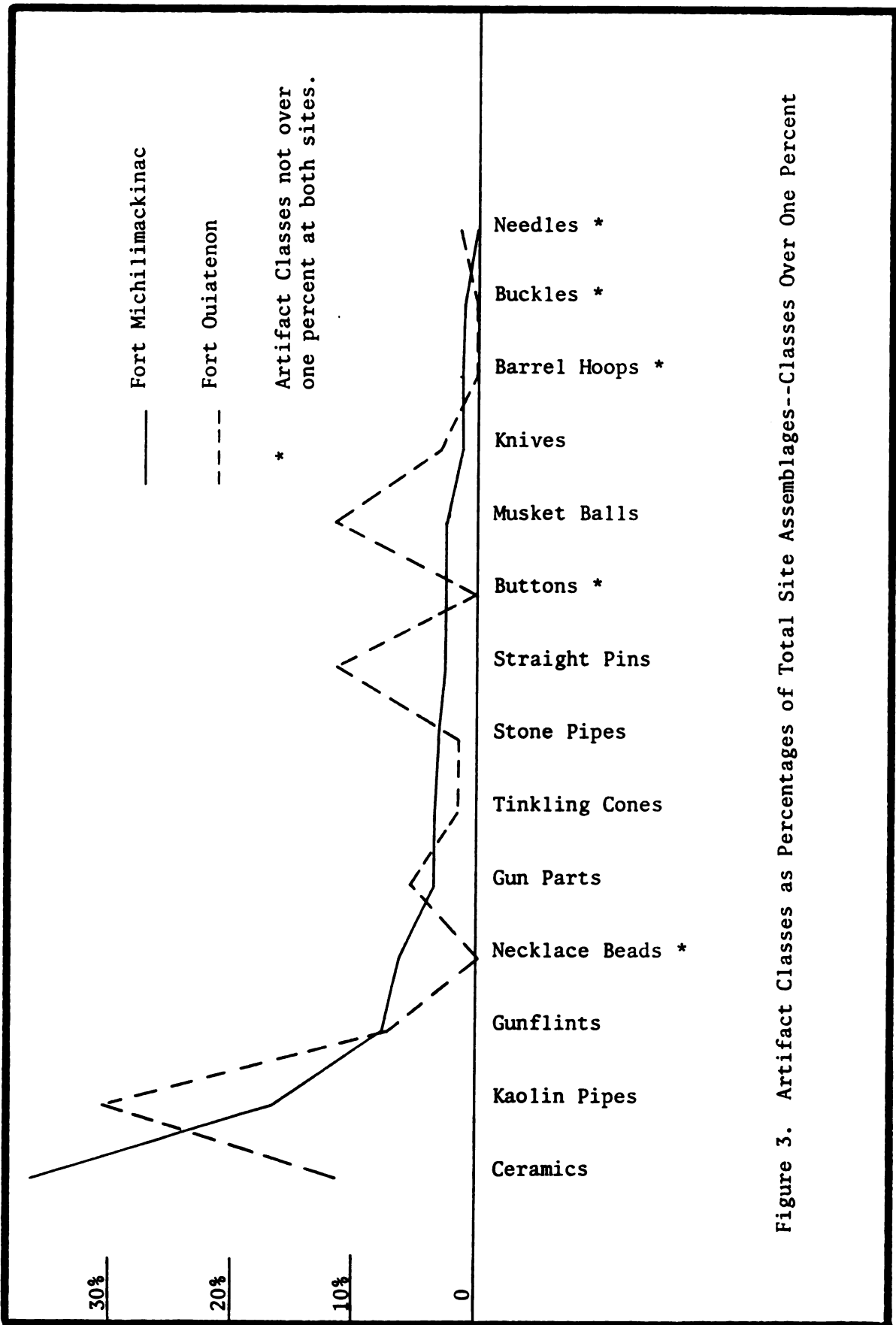


Figure 3. Artifact Classes as Percentages of Total Site Assemblages--Classes Over One Percent

Table 24. Numbers of European Artifact Classes within Categories

	Ouiatenon	Michilimackinac	St. Joseph	Fletcher	Guebert	Lasanen	Bell
Structural Hardware	12	12	8	1	3	1	1
Components	1	2	0	0	0	0	0
Writing	2	2	0	0	1	0	0
Activities	11	12	9	3	8	8	6
Clothing	4	7	4	2	3	1	1
Grooming	1	3	1	3	0	1	0
Adornment	7	5	3	2	3	2	1
Food	9	11	5	4	4	0	0
Furnishings	4	8	3	3	1	1	0
Maintenance/Repair	4	4	4	2	1	1	2
Storage	0	1	0	0	0	0	0
Arms	6	14	8	5	3	3	5
Subsistence	4	4	3	4	0	1	2
Measuring	1	4	0	0	0	0	0
Transportation	3	1	3	0	0	0	0
Special Skills	13	13	4	5	2	1	1

Table 24 (cont'd.).

	Ouiatenon	Michilimackinac	St. Joseph	Fletcher	Guebert	Lasanen	Bell
Commercial	18	17	19	19	14	12	11
Total	100	120	74	53	43	32	30

additional forty-eight that Calver and Bolton (1950:230) believe may have been used by the French military. A higher percentage of musket balls from Michilimackinac than from Ouatatonon were within the size range for French military arms (6.11% and 2.39% respectively). Two musket lockplates, and other gun furniture from a fusil fin were recovered from Ouatatonon while a minimum of twenty-six lockplates and other gun furniture were from French military arms at Michilimackinac. All of this information points to a denser military occupation at Michilimackinac; nothing can strongly support the idea of more high ranking military personnel. Metal wrapped fabric was found at both posts but Stone attributes it to the British period of occupation at Michilimackinac (1974b:81). The suggestion that more heavy artillery would be found at Michilimackinac can, however, be supported. Grenades, a sling swivel and wall gun sideplate were all found in French contexts at that fort. None of these items has been recovered at Ouatatonon.

The third hypothesis is that artifacts associated with subsistence and post maintenance activities will be found in greater proportion to the total artifact assemblage at Local Distribution Centers and Aboriginal Population Centers than at Regional Distribution Centers. Post maintenance activities should not be confused with Stone's Domestic Maintenance and Repair Category. I refer here to those items, largely under the Special Skills and Crafts Category, that would have been used for building repair and the upkeep of the posts.

This hypothesis cannot be supported by the artifacts from Michilimackinac and Ouatatonon. Subsistence and Skills/Crafts

Categories comprise less than one percent of total assemblages from both posts and the variety of artifacts within the Categories is also similar. With the exception of the Skills/Crafts Category at the Fletcher Site these two Categories comprise an even smaller percentage of the assemblages from Aboriginal sites. Arms and ammunition obviously held an important place in the acquisition of subsistence resources but the extent of that cannot be determined here. In any case it appears that not only are subsistence and post maintenance related artifacts found in low percentages at all sites but that they are found in similarly low percentages.

Hypothesis Four states that European artifacts associated with domestic activity will be found in greater variety at Regional Distribution Centers than at Local Distribution Centers. These artifacts will be incidental at Aboriginal Population Centers. The incidence of special function items and high status/cost wares will be more common at Regional Distribution Centers.

This hypothesis can be supported to a large extent with the data from Michilimackinac and Ouatatonon. Not only is there greater variety among artifact classes associated with domestic activities (Food Preparation and Consumption) at Michilimackinac but there is greater variety within artifact classes as well. The variety of types and forms of ceramics and glassware at Michilimackinac has been noted. The items at Michilimackinac but not present at Ouatatonon (trivet, pewter plate, etc.) are all items probably related to higher status though it must be pointed out that these artifacts were found in extremely low quantities at Michilimackinac. At Aboriginal Population Centers few, if any, European domestic artifacts

were found. At the Guebert Site, European ceramics comprise over 31 percent of the Food Preparation and Consumption Category but this is because there are so few artifacts of any kind in this Category.

Hypothesis Five states that personal items should be found in similar variety at Regional Distribution Centers and Local Distribution Centers. Artifacts associated with higher status/affluence should be more common at Regional Distribution Centers.

This hypothesis can be supported to some extent with available data. Jewelry is found in similar and limited variety at both sites. Artifacts associated with recreation (Activities Category) are found in similar proportions at both posts although Michilimackinac shows a much heavier emphasis on artifacts used for organized games. The use of the jeton and stamped discs at Ouatennon is unclear. Few artifacts at either post clearly indicate higher status in these Categories; perhaps a hat pin or letter seal from Michilimackinac, or the pipeclay figurines from Ouatennon.

In the Clothing Category similar artifact classes are present, but in greater variety at Michilimackinac than at Ouatennon. The higher status/more affluent persons at Michilimackinac might be expected to use things on their clothing that would be visible in the archaeological record as opposed to, for example, leather fastening devices. The slightly higher emphasis on artifacts associated with adornment at Michilimackinac might be a reflection of the same phenomenon.

Hypothesis Six states that trade goods will be found in similar variety at Regional Distribution Centers and Local Distribution Centers but will comprise a smaller proportion of the total artifact



assemblage at Regional Distribution Centers. Regional Distribution Centers should exhibit more high status gift items than Local Distribution Centers, as well as more evidence of commercial activity. European trade goods should comprise the largest proportion of artifacts at eighteenth century Aboriginal Population Centers and should be found in similar variety as at European sites.

Hypothesis Six is supported to the extent that similar trade goods are found at all sites. As much as it is possible to tell without including arms, the Commercial Category comprises a slightly larger proportion of artifacts to total assemblage at Michilimackinac than at Ouatatenon. Little evidence of high status gift items is found at either post, however. Many of these items would have been clothing, therefore perishable. At the Lasanen Site, for example, forty-seven buttons that could have been from presentation coats or shirts were recovered. Muskets were important as gifts also, and some of the fusil fins found at both posts may have been used for that purpose. They were often ordered specifically for presentation, however, and may have been distributed immediately upon receipt.

European trade goods do indeed comprise the major proportion of artifacts found at three of the four Aboriginal Population Centers. The Bell Site is one of the earlier sites in this comparison and has a large assemblage of Indian made ceramics, thus the percentage of European trade goods was lowered. Of course European artifacts not within this specific trade Category were obtained through the fur trade. Tables 25 and 26 show the distribution of artifact Categories at Aboriginal Population Centers and the percentage of aboriginal artifacts at those sites.

Table 25. Artifact Totals from Aboriginal Population Centers  
(Includes both Aboriginal and European Artifacts)

	<u>Fletcher</u>	<u>Guebert</u>	<u>Lasanen</u>	<u>Bell</u>
Subsistence	8	3	7	10
Arms	77	635	30	85
Commercial	55608	2625	21535	189
Special Skills	24	13	139	58
Measuring	0	0	0	0
Transportation	0	0	0	0
Building Hardware	14	75	2	1
Components	0	0	0	0
Food	27	163	6	1320
Furnishings	4	2	1	0
Storage	0	0	0	0
Maintenance/Repair	23	1	1	4
Activities	46	154	181	47
Grooming	16	0	1	0
Writing	0	2	0	0
Clothing	7	19	47	1
Adornment	<u>352</u>	<u>98</u>	<u>210</u>	<u>40</u>
Total	56206	3790	22160	1755
Aboriginal Artifacts:	97 .17%	431 11.37%	370 1.67%	1512 86.15%

Table 26. Aboriginal Artifacts at Aboriginal Population Centers

		<u>Fletcher</u>	<u>Guebert</u>	<u>Lasanen</u>	<u>Bell</u>
Activities:	stone pipes	16	61	1	8
	pottery pipes	0	0	0	27
	cup and pin game	0	0	0	7
	gaming pieces	0	23	2	0
	stone effigies	1	0	13	0
	charmstones	2	0	0	0
	antler discs	1	0	0	0
Adornment:	pendants	19	17	27	4
	bone bracelets	0	0	0	3
	hair pipes	1	0	0	13
	shell gorgets	3	0	1	0
	catlinite beads	1	0	82	0
	decorated bone tubes	0	0	0	7
	catlinite ornaments	0	0	42	0
	shell ornaments	0	1	10	0
	bone beads	11	0	0	0
	shell beads	13	5	27	0
Subsistence:	shell fish lures	0	0	0	1
	stone knives	0	2	5	1
	birdstones	1	0	0	0
	bannerstones	0	1	0	0
Arms:	projectile points	17	294	17	65
Special	stone tools	9	10	138	33
Skills:	mat needles	1	0	0	25
Food:	turtles shell bowls	0	0	0	7
	aboriginal ceramics	0	15	0	1313
	antler containers	1	0	1	0
	milling stones	0	2	2	0
	bark lids	0	0	1	0
	spatulas	0	0	1	0
	wooden vessels	0	0	1	0
Total:		97	431	370	1512
Total Artifacts Present:		56206	3790	22160	1755

Hypothesis Seven states that artifacts associated with structures will be found in greater proportion to total artifact assemblage at Regional Distribution Centers than at Local Distribution Centers. These artifacts should be incidental at Aboriginal Population Centers. The variety of artifacts in the Furnishings Category will be greater at Regional Distribution Centers than at Local Distribution Centers.

Since counts of the nails and window glass from Michilimackinac are not available, these items have not been included in the calculations. Without them, percentages from Michilimackinac and Ouatatonon for artifacts from the Structural Context are almost identical (2.17% and 2.28% respectively). If a low estimate of the Michilimackinac nails (50,000) and the figure for Ouatatonon nails (4407) are included in the figures the percentages change drastically. Hardware and Components then comprise 49.5% of the total Ouatatonon assemblage and 61.16% of the total Michilimackinac assemblage. Building Hardware alone still comprises similar proportions at the two posts. It has been pointed out that the kinds and proportions of artifacts used for storage and security at Michilimackinac are significantly higher than those from Ouatatonon. Michilimackinac would have housed not only more people, but more people with merchandise and/or possessions to protect. More affluent individuals would have been more likely to secure their homes and businesses.

Michilimackinac has a slight edge over Ouatatonon in the variety of artifacts within the Furnishings Category. As was the case with domestic artifacts, however, these furnishings artifacts occur in very limited quantities.

Hypothesis Nine deals with the variety of artifacts associated with religious activities and assumes that these artifacts will be found in greater variety at Regional Distribution Centers than at Local Distribution Centers. This test is not strongly supported by the data. Religious artifacts at Ouiatenon comprise 1.29% of the Activities Category and .43% of the total assemblage. At Michilimackinac these items comprise 3.0% of the Activities Category and .63% of the total assemblage. If Jesuit rings are added to this group the percentages become .79% of total assemblage for Ouiatenon and .84% for Michilimackinac.

Hypothesis Ten states that there will be more evidence of craft specialization at Regional Distribution Centers than at Local Distribution Centers. Both forts had blacksmiths and evidence of smithing has been recovered through the presence of tools, repaired artifacts and smithing areas. There is, however, little other evidence for craft specialization. A few woodworking tools have been found at both posts, as has evidence of stone pipe and musket ball manufacture. No evidence for the local manufacture of bricks at Michilimackinac has been found. The only other evidence of specialization at Michilimackinac is the presence of artifacts associated with commercial activity. Other craft specializations, if they existed, may have taken place outside the fort's stockade in areas that have not yet been excavated.

Hypothesis Eleven addresses the question of repaired and/or modified artifacts and assumes that the percentage of these artifacts will be higher at Ouiatenon than Michilimackinac. This question cannot be dealt with here since quantitative information from

Michilimackinac has not been published with the exception of Hamilton's discussion of repaired gun parts (1976).

The repaired or modified artifacts from Ouatatonon include the following:

- 1) a knife modified to make a punch
- 2) three buckles repaired by inserting brass straight pins
- 3) a reworked clasp knife
- 4) a knife repaired by brazing
- 5) two stone pipes repaired by plugging holes or cracks with lead
- 6) a spigot with a cracked neck crimped to make it functional again
- 7) a sieve made from a piece of sheet brass
- 8) thimbles with holes punched in the tops
- 9) four lockplates used on at least two separate guns each; other lockplates are on the whole without internal mechanism parts, which may have been used elsewhere.
- 10) a buttplate made from sheet brass
- 11) a sideplate modified to fit a smaller gun
- 12) a sideplate possibly made at the fort
- 13) seven musket barrels, crimped at one or both ends, modified to be hafted or used as other tools
- 14) a breech plug tang with an attempt at repair by brazing
- 15) an awl made from a file
- 16) two chisels or drill bits made from files
- 17) a chisel made from a file
- 18) two chisels made from gun barrels
- 19) a reworked ax blade

Whether or not these artifacts represent a greater or lesser proportion than those from Michilimackinac, it is clear that certain items, especially firearms and tools, had extended use-lives at Ouatatonon. Both cost and availability undoubtedly influenced the amount of artifact reuse.

From the foregoing analysis it is evident that some, though by no means all, of the hypotheses are supported by archaeological data from sites compared here. Lack of support for some hypotheses can be attributed in part to the difficulties of working with the data, as discussed in Chapter III. A surprisingly large number of

similarities between Michilimackinac and Ouiatenon are indicated, however.

## CHAPTER V

### CONCLUSIONS

The thesis of this dissertation is that the hierarchical organization of the French fur trade that is apparent in the written historical record will be reflected in the archaeological record. Chapter I presented a summary of the historical data on the development of the French fur trade in Canada. The hierarchical model of the organization of the fur trade posts that is derived from this data was described in Chapter II.

Chapter III contained a discussion of the sites to be compared in this study and the problems involved in working with currently available data. This chapter also presented a set of hypotheses through which to address the thesis.

The thesis has been examined (Chapter IV) by comparing the artifacts from Fort Michilimackinac and Fort Ouaténon. These posts represent two of the five hierarchical levels in the French trade system. Data from other French posts and from Aboriginal Population Centers have been presented where possible, but primary attention has been directed to the two sites with the most complete data sets.

The analysis in Chapter IV indicates that four of the hypotheses may be supported by the data from Michilimackinac and Ouaténon, two can be partially supported, three cannot be supported and two cannot be addressed in this study.

Hypothesis 1: General Artifact Variety	Support
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Hypothesis 2: Military Presence	Support
3: Subsistence/Maintenance	No Support
4: Domestic/Kitchen	Support
5: Personal	Support
6: Trade	Partial Support
7: Structures	Partial Support
8: Animal Remains	Cannot Address
9: Religion	No Support
10: Craft Specialization	No Support
11: Modified/Repaired Artifacts	Cannot Address

The four hypotheses that are supported by the archaeological data from Michilimackinac and Ouatonenon concern: 1) the general variety of artifact classes; 2) military artifacts; 3) domestic and kitchen artifacts; and 4) personal artifacts. In these comparisons Michilimackinac shows a greater variety of artifact classes, a greater variety of military artifacts and some evidence of higher ranking personnel, and a higher proportion and variety of domestic artifacts. Personal artifacts, as anticipated, are found in similar variety at both posts, and a greater percentage of artifacts associated with higher status are found at Michilimackinac.

The hypotheses concerning trade goods and structures are only partially supported. Trade goods are found in similar variety at both posts but little evidence of high status gift items is present at either. Michilimackinac has a greater proportion of structural components in the form of brick and nails, thus supporting Hypothesis Seven, but similar kinds of building hardware are found at the two posts.

The hypotheses concerning subsistence and post maintenance, religion and craft specialization could not be supported as formulated. Post maintenance activities are represented by similar artifact assemblages at both posts, and differences in food procurement artifacts appear to be related in part to environmental factors. There is no evidence of substantial differences between Michilimackinac and Ouatatonon in the religious artifact category, nor is there evidence of differences in craft specialization.

The picture of Michilimackinac as a Regional Distribution Center that emerges from the comparison with Ouatatonon is one of a more diversified post. The population contained people who occupied positions of higher affluence/status than those at Ouatatonon. Michilimackinac's position as an important military post is supported by the presence of heavy artillery and by military artifacts that were possibly used by higher ranking officials. Theoretically all military personnel were issued swords, but often only higher ranking personnel actually received them. Thus the swords at Michilimackinac may or may not reflect the presence of high ranking military personnel.

The higher population at Michilimackinac necessitated more buildings and more building hardware. Greater affluence and more business activities resulted in more attention to building security. While evidence of wide ranging craft specialization was not found, a higher level of involvement in commercial and/or professional activities was indicated. The complex of artifacts comprising this evidence includes coins, compass, telescope, weights, pencils, letter seals, and lead seals. With the exception of lead seals,

these artifacts are not present in great quantities but they may indicate greater attention to detail and record keeping and, in general, the personnel with the capabilities of performing business functions at Michilimackinac.

Ouiatenon, as a Local Distribution Center, appears to be a smaller and less affluent version of the Regional Distribution Center. Most of the same artifact classes are found at both posts, but in less variety at Ouiatenon. Those artifact classes that are not found at Ouiatenon (Table 27) reflect its position as a Local Distribution Center with less emphasis on defense, gracious living, storage and building security.

The artifacts found at Ouiatenon but not at Michilimackinac do not, for the most part, fall into such convenient categories; they include bone flutes, pipeclay figurines, cotter pins, chain links, sieves, perforated triangles, etc. These artifacts tend to emphasize the necessity of making do with what was available at that post. The presence of a number of repaired and recycled tools, gun parts, and other items lends support to this conclusion.

The recovery of spuds at Ouiatenon can be logically related to the emphasis on deer as a food item and as a source of hide for clothing and other articles. The hoe found there points to the presence of gardening as an additional source of foodstuffs. The most significant appearing difference in Table 27 is the presence at Ouiatenon of both bridle parts and wagon parts. Though much of the transportation to and from the fort was by river and portage, these routes were difficult and a certain amount of land travel was necessary. Michilimackinac could be reached by water from almost anywhere.

Table 27. Artifact Classes Not Common to Michilimackinac and Ouatatonon

	<u>Michilimackinac</u>	<u>Ouatatonon</u>
Subsistence:	trap	hoe
Arms:	sword pommel bayonet bayonet scabbard sling swivel grenade scabbard clip flint patch	
Commercial:	coin bracelet	metal beads Y beads
Special Skills/Crafts:	gouge ice chopper vice	woodworking tool spud anvil hardy (?)
Measuring:	compass telescope weights	
Transportation:		bridle parts wagon parts
Food:	pan handle pewter plate porringer trivet	metal cup sieve
Furnishings:	candle holder candle snuffer fire tongs fireplace furniture	
Storage:	barrel hoops	
Building Hardware:	keyhole escutcheon padlock locking bolt	cotter pin iron hook chain link
Building Components:	brick	
Activities:	religious medal dice gaming pieces marbles chess pieces	bone flute pipeclay figurine <u>jeton</u> stamped disc

Table 27 (cont'd.).

	<u>Michilimackinac</u>	<u>Ouiatenon</u>
Grooming:	hair brush razor	
Writing:	letter seal	ink well
Clothing:	ice creepers ice skates shoe heel plates	
Adornment:	hat pin	perforated triangle secular medallion brass wire ring lead/pewter ornament

It should be pointed out, however, that harness buckles were present at both posts.

A re-examination of Figure 3, which illustrates the percentages of the total assemblages of major artifact classes (i.e., those that are over 1 percent of a given assemblage), shows four major differences between Michilimackinac and Ouatatenon. The differences between proportions of ceramics and proportions of straight pins have been discussed previously. There is no apparent explanation for the higher proportions of kaolin pipes and musket balls. The latter is particularly puzzling in light of the fact that the percentages of gun flints and gun parts are almost equal.

The data from posts representing other levels in the fur trade organizational hierarchy are not appropriate for inclusion in the comparisons of this study for reasons noted previously, but they do allow some general conclusions.

Stone's (1974a) paper comparing the artifacts from Louisbourg, a Port of Entry level post, and Michilimackinac provides some indication of the kinds of differences between those two settlements. The presence ("common" to "abundant") of a number of artifact classes at Louisbourg and not at Michilimackinac is ample testimony not only to its accessibility but to the quality of life that was at least attempted there. These include such items as fireplace furniture, pulleys, rope, specialized tools, horse shoes and spurs, oil lamps, stoves, masonry anchors, cut stone and tile, slate roof tile, shingles, wig curlers, and ceramics with elaborate designs and armorial crests.

Other classes found in what appear to be decreasing frequency

from Louisbourg to Michilimackinac to Ouiatenon include buttons, buckles, combs, door lock hardware, and furniture hardware. Although some artifact classes (e.g., arms) are not discussed by Stone, trade goods are noticeably absent from the Louisbourg collections.

The four Aboriginal Population Centers show varying percentages of stone tools and aboriginal ceramics, increasing with age of occupation. Emphases at these sites are on artifacts in the Subsistence and Arms Categories, trade goods, Activities (especially religion and smoking) and Adornment. Few articles associated with European clothing are present, but articles such as coats were distributed sparingly as gifts to high status individuals. As expected, these sites lack artifacts relating to European commercial activities (lead seals), measuring, land transportation, writing, furnishings and building hardware, and European domestic items.

Though the data from Aboriginal Population Centers are not comparable for the reasons discussed in Chapter III, they present the picture of a difference in kind between European and Native American sites. The dependence of Native Americans on European goods, especially weapons, is clear, and the development of this dependence over time can be seen in the assemblages recorded here.

An interplay of geographical, historical, social, technological, political and economic factors led to the ultimate structure of the French fur trade as it existed in the eighteenth century. No one factor can be isolated from the others as the single most important variable in the development of this trade. The influence of all factors affected the locations of the posts, their responsibilities, and the flow of goods through the trade network.

Michilimackinac was constructed at the Straits of Mackinac because of Mackinac's history of Indian and mission settlement, its strategic location along the primary transportation route of the northwest (the Great Lakes), and its position as gateway to the far west and new sources of furs. Detroit was established for many of the same reasons, and both developed into Regional Distribution Centers as a result.

Local Distribution Centers, established to keep the trade operating and in French control, were affected by the same set of factors. The necessity of moving farther away from the main colony and Regional Distribution Centers and into the wilderness limited not only their accessibility but their functional place in the network hierarchy. While it was a long and arduous journey from Montreal to Detroit and Michilimackinac, the difficulties in reaching such posts as Ouatennon, the posts of the Sea of the West, and of inland Wisconsin were even greater. The necessity of reliance upon local resources, both natural and personal, was manifest everywhere in the northwest, and this necessity was greatest at the Local Distribution Centers. The amount of time necessary to send a letter of request to Montreal or Quebec, let alone receive a shipment of supplies in return, testifies to the importance of utilizing available resources just to maintain the status quo.

It is easy to assume that posts like Michilimackinac received shipments of articles such as bricks, delicate glass and ceramics, and heavy artillery because it was easier to transport these items through the Great Lakes to the Straits of Mackinac than over lakes, land, and rivers to Ouatennon. I would suggest, however, that the



same combination of factors, including geographic position, that led to the development of Michilimackinac as a Regional Distribution Center, led to that post being the recipient of the artifacts mentioned above. Not only was this post in a position to be more easily reached by current transportation methods, but it was occupied by enough persons with enough money, political or military rank, privileges and influence to demand the receipt of certain items. Michilimackinac had heavy artillery because of its important strategic and economic position in the fur trade. It had some fancy ceramics and delicate glassware and other niceties because some of the people who lived there cared enough for these things to want them and could afford to have them sent. It had bricks because someone was in a position to demand more structurally sound buildings.

French glassware and ceramics are found at Ouatennon, not in great quantity, but in sufficient amounts to show that some of the individuals stationed there were using these items, and either brought or had them shipped in. In fact, many items, not only fragile ones, are common to Ouatennon and Michilimackinac: small furniture hinges and drawer handles, cutlery, jewelry and toys. All point to the basic similarity of some aspects of daily life at those posts, albeit on a smaller scale at Ouatennon.

Heavy artillery and bricks are not found at Ouatennon. The former might have been desirable at the post if only to impress local Indian populations. Of course supply and transportation would have been difficult, and it is likely that this kind of equipment was not deemed to be crucial to the survival of the post, at least in the hierarchy of importance attached to the posts comprising the

French trade network. This hierarchy is demonstrated in the 1748 listing of numbers of soldiers needed to garrison French posts quoted in Chapter I (Michilimackinac 70-150; Ouatatonon 10-20), by other sources within the documentary record, and to some extent by the analysis of the artifacts recovered from these posts.

While differences between the Michilimackinac and Ouatatonon artifact assemblages have been pointed out, it is the similarities that are more striking. The documentary record indicates that qualitative differences did exist among posts within the French fur trade system. It is evident that Michilimackinac was "more important" strategically than Ouatatonon and was more central to western exploration and transportation, government control, and the fur trade. And yet when the archaeological record is reviewed the differences between this post and Ouatatonon are sometimes minimal.

The reasons for the similarities may lie in the structure of French society and in the attitudes of the French toward their North American colonies. It has been pointed out many times that the French government was interested not so much in colonization as in the accumulation of wealth, world power, and prestige. The colonial government was organized along military lines but, as Stone points out,

. . . the French military component at Michilimackinac served a largely economic purpose . . . . The early French military garrison was small and structurally simple, reflecting a major site emphasis on trading with a secondary emphasis on military support for this activity. As the duration of the French occupation increased, the military organization became more formalized, although its purpose remained secondary to trading interests (1974b:354).

Certainly this statement could be applied to Ouatatonon as well.

And as the primary function of both Michilimackinac, as a Regional Distribution Center and Ouiatenon, as a Local Distribution Center, was essentially the same, i.e., economic, the differences between them become less pronounced and more inclined to be the result of environmental factors and population density and composition.

We have now a suggestion of the kinds of differences, qualitative and quantitative, to be expected between at least two levels of the hierarchy of posts in the French fur trade. The thesis that evidence of this hierarchy will be archaeologically visible cannot be strongly supported, nor can it be rejected absolutely. It should be remembered that though some of the differences described here are based on small actual artifact counts, one of anything implies not only more of the same but usually other associated artifacts and activities. Definite differences have been discovered to exist between these posts, as do revealing similarities. As a next step in these comparisons artifacts from the three subsequent excavation seasons at Ouiatenon should be integrated with existing figures from that site. This addition of data would make comparisons with Michilimackinac more consistent in terms of both excavation time and area covered. Structural remains from the posts should also be compared. But the crucial tests of this thesis will be possible only with the acquisition of systematically collected samples from French fur trade sites and with the availability of data from sites representing all levels within the hierarchy.

## APPENDIX A

### FEATURE DESCRIPTIONS

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### FEATURE DESCRIPTIONS

The archaeological investigations of Fort Ouiatenon which generated this dissertation were conducted by Michigan State University during the summers of 1974, 1975 and 1976. The project was sponsored by the Tippecanoe County Historical Association (TCHA), located in Lafayette, Indiana. Funds were provided through a grant from the TCHA, with matching funds from the Office of Historic Preservation. The project was directed by Charles E. Cleland, Curator of Anthropology at the Museum, Michigan State University. Judy D. Tordoff served as field director during summer excavations and research assistant during the academic year.

Fort Ouiatenon was established by the French in approximately 1717 on the west bank of the Wabash River, as a military trading post serving the Ouiatenon or Wea Indians living in the area. This area is now about four miles outside the present city of Lafayette, Indiana. Along with posts at Vincennes and Miamis (present day Fort Wayne, Indiana) the French hoped to check British expansion into the Wabash valley region. For the next thirty years the French endeavored to keep the Weas, and later the Kickapoos and Mascoutens living near the post, from buying their goods from and otherwise associating with the British who, with their free enterprise trading system often provided higher quality goods at cheaper prices. The post was garrisoned initially by a small force of twelve men and, at

the request of the Indians, a priest and blacksmith were brought in from the settlement at Detroit.

In 1760, with the fall of Quebec, control of Ouiatenon was transferred to the British who arrived late in 1761. In 1763 Ouiatenon was captured by the Weas during Pontiac's Rebellion, and the British garrison removed. The French inhabitants of the fort continued to live there, however, and the site was used sporadically for meetings such as that between George Croghan and Pontiac negotiating a settlement to the conflict. One of the only descriptions of Ouiatenon located so far has come from Henry Hamilton, Lieutenant Governor of the Indiana Territory, who passed through the area in 1778. He described the fort as a "miserable stockade surrounding a dozen miserable cabins" and as a "fort, which is formed of a double range of houses, enclosed with a stockade 10 feet high . . ." (Krauskopf 1955:157).

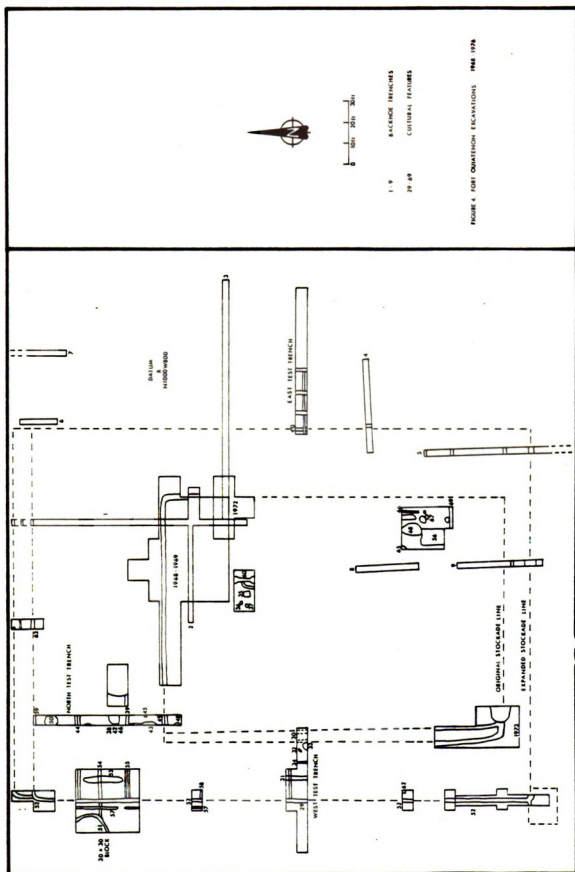
By 1786 Indian unrest in the area made living at the post dangerous for Europeans. Many of these people moved south, to the settlement of Vincennes.

Late in the eighteenth century Ouiatenon was used as a staging ground for Indian raids into the Ohio country. This prompted President Washington to send General Charles Scott to burn the fort and surrounding villages in 1791. The location of the fort was gradually forgotten thereafter and the area came into agricultural use. In 1928 a blockhouse and tourist park were established approximately one mile upriver from the site, in an area believed by some to be the original location of the fort. In 1967, however, local amateur archaeologists collected a number of eighteenth century artifacts

from the surface of the present archaeological site and reported their findings to the TCHA. In 1968 and 1969 Dr. James Kellar of Indiana University conducted preliminary excavations at the site (see Figure 4), confirming it to be the location of an eighteenth century occupation, most probably that of Fort Ouiatenon. These excavations yielded a number of cultural features in the northern area of the site, including several hearths, pits, wall trenches and a basement. Most significant was a deep wall trench running east and west, and cornering to the south at its east end. This trench was excavated for a distance of ninety feet. Though the site had been plowed for over a century, and flooded regularly, the sub-plow zone features of the fort were virtually intact. Due to the anonymity of its location, no damage had been done by relic hunters.

In 1971 and 1972 short field seasons were held and excavation was confined to the plow zone area only. The 1971 season was directed by Larry Chowning, a student in anthropology at Purdue University, and the 1972 season was directed by Claude White, an archaeologist formerly with Purdue University. The TCHA obtained the title to the land containing the site in 1972. In 1973 Mr. Chowning again directed a short field season, this time going beneath the plow zone in the southwest area of the site. Another wall trench was located, running north and south, and cornering to the east at its south end. Several other features, including two aboriginal pit features, were located in this area. In 1975 the TCHA received a grant from the Merrill Foundation, providing funds for a research historian for one year.

Michigan State University's excavations began in 1974 and were





carried out by field crews consisting of students from Michigan State University and other universities. Further assistance was provided by volunteers from the Lafayette area.

A secondary project was carried on concurrently with Michigan State University's summer excavations. The Geoscience Department at Purdue University was interested in testing the archaeological applicability of the use of the proton magnetometer and other remote sensing devices. Before and during the 1974 season a site survey of Ouiatenon was conducted with the proton magnetometer, a device that senses variations in the earth's magnetic field caused by the presence of ferrous compounds. In 1975 undergraduate students in the Geoscience Department were granted funds by the National Science Foundation to further test these methods. Two members of Michigan State University's archaeology crew were funded by this project. They worked directly with project members and tested areas of the site where strong anomalies were indicated by the remote sensing equipment.

Excavation strategy for both the 1974 and 1975 field seasons was based on the results of previous excavations, and on the desire of the TCHA to find the exact location of the fort's stockade walls. By locating stockade wall trenches on several sides of the fort it was hoped to follow the trenches to corners and to determine the size and shape of Fort Ouiatenon. Plans were made also to dig several transects through the site area, thereby obtaining some idea of where internal structures were located. This aspect of the 1974-1975 excavation plan was abandoned in favor of investigating several anomalies located by the proton magnetometer survey. The

1976 excavation strategy had three goals: 1) to locate more sections of the stockade walls; 2) to excavate the remainder of a structure partially excavated in 1975; and 3) to find the exact location of the original 1968 and 1969 Ouiatenon excavations. Efforts to find the boundaries of this block excavation had been unsuccessful during the previous season and interpretation of the fort's location and internal structural arrangement was difficult without this information.

The three seasons at Ouiatenon yielded over 36,000 artifacts and over 96,000 fragments of animal bone (see Appendix B). Forty features were excavated and descriptions and interpretations of those features follow. While unable to confirm the internal structural arrangements of the fort, the excavations did reveal the presence of two separate stockade walls as well as a number of other features contributing to the post's configuration.

The original stockade wall (see Figure 4) was a rectangle measuring 120 feet east-west by 160 feet north-south. The stockade was built of upright posts; at least part of the wall may have been double, or braced, as evidenced by the dual trench lines on the western side of the fort. A second stockade wall, also rectangular, measured 175 feet east-west by 240 feet north-south. This enclosure followed the same construction techniques as the original stockade and it may have had several bastions. The military garrison at Ouiatenon was augmented in the 1730's or 1740's (Krauskopf 1955), at which time the stockade was likely to have been expanded. However, since neither documentary evidence nor artifact analysis has confirmed that the fort's walls were expanded at this time, the date must remain speculative.

Other wall trenches were discovered in many excavation units and undoubtedly represent portions of the post's internal structures. Further interpretation of the arrangement and functions of those structures has, for the most part, been impossible since only portions of the wall lines have been excavated, not yet enough to project into complete building outlines. The locations of several structures within the fort's walls can be demonstrated, however. A semi-subterranean storehouse was located in the southeastern corner of the post. This structure was probably built after the fort's expansion in the 1730's or 1740's and at some point burned down. At least one structure was located in the northwestern portion of the fort, again probably built after the post's expansion. This structure or structures is represented by the two basements in N1015W950 and Feature 46. Whether the basements represent two separate structures or a section of a row house has not been determined. Artifactual material in the N1015W950 basement indicates that that structure or portion of the structure may have been used by a trader or for the storage of trade goods.

Other significant features discovered include a well associated with the expanded post, and the location of a forging area probably used throughout much of the post's occupation. Wall trenches immediately adjacent to this area may represent the remains of a blacksmith shop structure.

Finally, refuse pits of varying shapes and sizes were found across the site area, both inside and outside the fort's walls, and representing disposal by both French and British inhabitants. Subsequent excavations at Ouiatenon, directed by Vergil E. Noble of

Michigan State University in 1977, 1978 and 1979, have confirmed the location of the two stockades and uncovered a second well and a post cemetery (Noble 1978,1979,1980).

The feature descriptions which follow provide a basic description of each feature, its artifactual contents and location within the site grid system, and interpretation. Figure 4 presents a map of the site area and excavated portions. This figure should be consulted for feature locations.

**Feature 29      North-South Wall Trench    N930W990 and N935W990**

In N930W990 this north-south trench became apparent by .9 feet (') BD (below datum). In N935W990 the feature was evident by .6' BD and well defined by 1.2' BD. At 1.2' BD Feature 29 was at its widest, 2.2'. At 3.0' BD post molds appeared and the feature was 1.3' wide. Post molds were generally circular to oblong in shape, and unevenly spaced.

The general soil matrix of the trench was a mixture of dark sand and organic soil with varying amounts of clay. At the deeper levels of the feature more and more gold-brown sand mottling was present. Post molds were dark organic soil with charcoal. In N930W990 traces of light gray sandy clay were found around the post molds, and also at the very bottom of one post mold. No wood was present. Within the feature, the longest post mold was rectangular, .9' by 1.2'. The smallest was oblong, .35' by .4'. Post molds were sectioned; the deepest ended at 3.4' BD. In profile the east wall of Feature 29 was straight. The west wall, however, demonstrated a gradual slope inward.

**Artifact Associations:** nails, animal bone, slag, iron scrap, one green-glazed earthenware sherd, one case knife blade with no mark and standard blade shape

**Interpretation:** Post 1735-1740; probably French, associated with late stockade.

**Feature 30      North-South Wall Trenches    N930W980 and N930W970**

Feature 30 appeared by .3' BD and was apparent as a unique area by .6' BD. At this point the feature was a general area covering most of N930W970, and the eastern one-third of N930W980. It consisted of very dark organic soil with large amounts of red-orange burned clay and sand, charcoal, ash and brown sand. In general, Feature 30 was made up of two north-south areas in N930W970 and

N930W980, and a connecting east-west area between them. Feature 33 filled the area south of this east-west oriented portion of Feature 30. By 1.2' BD the feature was in two parts, separated by Feature 33 and lightly mottled gold-brown sand. The half in N930W980 began at this point to look like a north-south trench and was two feet wide. This half continued to narrow and become uniformly dark organic soil with charcoal. By 2.75' BD the feature consisted of nine post molds, seven circular and two squared. The deepest of these post molds ended at 3.18' BD. The largest circular post mold was .5' in diameter; the squared one was .4' by .5'. This part of Feature 30 is difficult to distinguish in profile due to extensive leaching. In general the sides appear to slant only slightly toward the rounded bottom of the feature.

In N930W970 Feature 30 did not become well defined as a trench until 2.7' BD. At this point the rest of the excavation unit was generally gold-brown sterile soil. At 3.6' BD what appeared to be post molds were present, though not well defined. At this level, the feature consisted of dark organic soil with gold-brown sand mottling. Around some of the possible post molds were thin strips of gray clay. At 3.9' BD the outline of the trench was still clear, though the post molds were very indistinct. All traces of the feature were gone by 4.2' BD. In profile the trench of Feature 30 in N930W970 was rounded at the bottom with slightly slanting sides.

**Artifact Associations:** animal bone and fish scales, tinkling cones, straight pins, whizzers, musket balls and shot, gun parts, possible bone flute, iron and brass scrap, kaolin pipe fragments, two cream-ware sherds, three yellow-glazed earthenware, olive green glass, window glass, spall gunflints, slag, one tin-glazed earthenware sherd

**Interpretation:** Probably French trenches with subsequent disturbance by British or Americans.

There are very few artifacts within the trenches themselves that indicate national origin or time period. They are, however, in line with what may be the early stockade. Almost 30 feet to the north are several graves believed to be French and which overlie the probably extension of at least one of the Feature 30 trenches. Though these graves could easily be those of civilians under British occupation, or even later, it is assumed that the earliest stockade is French. Later disturbance was caused by the stockade expansion and by Feature 33. The presence of one cream-ware sherd at the very top of Feature 30 in N930W970 may indicate the disturbance was later than the British period at Ouiatenon, perhaps as late as the Revolutionary War.

Feature 31      North-South Wall Trench; East-West Wall Trench  
N935W1000 and N935W990

In excavation unit N935W990 Feature 31 appeared at .6' BD and was well defined by 1.2' BD. In N935W1000 the feature was not easily distinguishable from the rest of the floor until 1.2' BD. It became

well defined by 1.8' BD. Feature 31 runs into the north-south portion of the same feature at its western end. To the east, the feature overlays Feature 29 and continues on into the east wall of N935W990.

The soil matrix of this feature was dark organic soil with charcoal, gold-brown sand mottling, and varying degrees of gray sandy clay. At its widest and most well defined extent, the trench was approximately one foot wide. At 2.1' BD the trench had narrowed to .8' wide. By 2.4' BD Feature 31 in N935W990 had disappeared with no trace of post molds. In N935W1000 six post molds were present, all oblong or circular. The largest of these had a diameter of .6', the smallest, .3'. These post molds were not sectioned. They were gone within less than one level. In profile, the walls of the feature were fairly straight, with the north wall showing a slightly more gradual slope inward.

Artifact Associations: animal bone, slag, nails, scrap iron, trade silver, one blue and white tin-glazed earthenware sherd

Interpretation: Late stockade wall trench, possibly built in the 1740's when the garrison at Ouiatenon was most likely expanded; French; the east-west trench may have been a small enclosure or building built as part of the stockade.

Feature 32      Burned clay area within Feature 30 trench  
N930W980

Feature 32 appeared at .6' BD as a square area 1.1' on a side, consisting of burned clay and fire-cracked rocks. By .98' BD it was more of an elongated circle of burned clay and charcoal, with small areas of dark organic soil. At 1.5' BD the feature was approximately the same size, 1.4' north-south by 1.0' east-west, and consisted of flesh and salmon colored ashy burned clay and charcoal. Half surrounding this soil, on its southern edge, was an area of yellowish mottled sand with charcoal. At 2.2' BD, the bottom of the feature, soil was dark organic with yellowy sand and flecks of charcoal. In profile Feature 32 was bowl-shaped until 1.5' BD, when its long axis measured .7'. From this point until the feature ended, its sides were straight and slanted to the north a total of .3".

Artifact Associations: animal bone, window glass, nails, slag

Interpretation: This feature is probably a mass of material dumped into the Feature 30 trench when it was filled in, or perhaps at an even later date.

Feature 33      Pit N930W970

Feature 33 appeared by .6' BD and was well defined as half of a circular pit by .9' BD. In its entirety the pit would be

approximately 4 feet in diameter. It consisted of very dark, greasy organic soil with a large amount of charcoal and ash. This soil was rather crumbly and balled easily. The soil remained the same in color and texture until the feature disappeared, by 3.0' BD. The side of the feature sloped gradually to the center on both sides visible in the south profiles of N930W980 and N930W970.

Artifact Associations: animal bone, nails, brass wire, buckle fragments, tinkling cones, split hinge clasp knife fragment, iron kettle lug, spigot key, hinge, rivet, bone awl, kaolin pipe fragments, tin-glazed earthenware, one faience sherd, ten creamware sherds, window glass, catlinite pipe fragments, brass and iron buttons, bone button back

Interpretation: British refuse pit; post-1760.

#### Feature 34 Wall Trench N930W980

Feature 34 was visible by .6' BD and well defined by 1.2' BD. At its widest the feature was less than one foot wide. Its fill consisted of dark organic soil with charcoal flecks, and varying amounts of burned clay in its upper levels. Also apparent in the upper levels were areas of sand and ashy discoloration. By 1.8' BD the feature was becoming indistinct. At 1.91' BD the feature was almost gone; four possible post molds were evident in the north half of the excavation unit. These stains were of dark organic soil mottled with gold-brown sand and some burned clay. Also present were small amounts of charcoal. Three of the possible post molds were circular, about .4' in diameter. The other was rectangular, .4' by .7'. The stains disappeared before 2.2' BD. In profile the sides of Feature 34 were straight.

Artifact Associations: one window glass, animal bone

Interpretation: Period undetermined.

#### Feature 35 Pit N955W905

Feature 35 was definable as a feature by the datum point. By .3' BD it was well defined as a circular pit. At Datum the feature was a squared area of mottled gray clay and sand with charcoal. Around this central portion was a ring of iron oxide staining, then a ring of ashy burned clay, charcoal, organic soil and sand. By .3' BD the feature was a circle 2.5' in diameter consisting of dark organic soil, clay, charcoal and ash, and some sand. Also present were iron oxide stains and a large quantity of iron and slag. From this point the feature became smaller in diameter until 1.5' BD when it disappeared. The slag was present for only two levels. After that, the feature continued to be a mixture of mottled organic soil and sand, with varying amounts of clay, ash and charcoal.

Artifact Associations: animal bone, slag, scrap iron, bone knife handle fragment, straight pins, French lockplate, gun parts, pot hook, iron button, spud, gimlet, ax fragment, chain link, sprue, brass scrap, spall gunflints, window glass, brass rod

Interpretation: Forging area refuse pit; French.

Feature 36 Pit N955W905

Feature 36 was a small circular pit 1.5' in diameter that was apparent at .3' BD. At this level the feature consisted of hard-packed sandy clay with charcoal and fire-cracked rocks. By 1.2' BD the feature was a mixture of mottled organic soil and sand packed with charred corn cobs, some slag and large chunks of charcoal. Beneath this mixture was a base of reddish-brown compacted sand above a layer of gray sand and flecks of charcoal.

Artifact Associations: animal bone, burned corn cobs, antler, rocks, slag, iron scrap, brass scrap, spall gunflints, window glass, bone knife handle, three lockplates (one French, one British early eighteenth century, one probably French), gun parts, punch, axes

Interpretation: Refuse pit in forging area; French. The presence of burned corn cobs toward the bottom of the feature suggests initial use as a smudge pit, possibly for tanning hides. Smudge pits are also sometimes used in tempering wrought iron (V.E. Noble personal communication). Most of the artifactual material from this feature is from levels above the corn cobs.

Feature 37 Pit N955W905

Feature 37 was well defined by the datum point. It was at this point a circle one foot in diameter, the central portion made up of sand, clay and charcoal surrounded by a dense ring of charcoal. Its primary component from this level on was charred corn cobs. At .9' BD a reddish sand ring surrounded the feature. This staining lined the feature. It was gone by 1.4' BD.

Artifact Associations: animal bone, antler, slag, burned corn cobs, scrap iron, brass wire, one catlinite pipe fragment

Interpretation: Refuse pit in forging area, similar to Feature 35; also probably used as a smudge pit; French.

Feature 39 East-West Wall Trench N1010W964 and N1015W950

In N1010W964 Feature 39 was apparent by 1.66' BD, the bottom of the north test trench dozer cut. In N1015W950 it appeared at 1.23' BD, the bottom of the plow zone. Soil in the feature consisted of dark organic soil, burned sand, clay and ash, and charcoal. Daub



was present in small quantities in the upper levels of the feature in N1015W950. In N1010W964 Feature 39 was always well defined as a trench. In N1015W950 it was never as well defined. Its eastern end was obscured by the area of N1015W950 related to the possible basement in that square.

At 2.1' BD Feature 39 was approximately 1.5' wide in N1015W964, and 2.0' wide in N1015W950. By 2.4' BD the feature had taken on the longitudinal division found in some other trenches on the site (F49, F44). An overlying trench (Area A) was also apparent at this level. This trench was oriented in a north-south direction, running from Feature 39 south into Feature 43 in N1000W964. At 2.4' BD Feature 39 was 2.8' wide in N1010W964. Its fill was the same as in previous levels, the southern half of its longitudinal division generally darker than the northern half. In N1015W950 the feature was approximately 1.5' wide and no longer connected to the basement area.

At 2.7' BD the feature still consisted of two halves. Area A was at this point more well defined as a trench overlying the southern half of Feature 39. Post molds were beginning to show in this half also. In N1015W950 the feature was more of an amorphous stain in the floor, still covering the same area as in the previous level. No post molds were apparent. At 3.0' BD nine post molds were evident in the south half of Feature 39 in N1010W964. These post molds were sectioned, the deepest one going to 3.26' BD. The north half of the feature was gone by 3.3' BD. In N1015W950 various stains, possibly part of Feature 39, continued until 4.4' BD. At 4.1' BD the stain consisted of a small circle 1.0' in diameter, of soft and dark organic soil. At the bottom of this circle was a rust colored stain.

Artifact Associations: animal bone, nails, brass rod, tinkling cones, mic-mac pipes, bone needle, thimbles, lead seal, main and frizzen springs, iron awl, musket ball, shot, necklace beads (one definitely French), kaolin pipe fragments, tin-glazed earthenware, one brown-glazed redware, yellow-glazed earthenware, glass tumbler fragments, blade gunflints, window glass

Interpretation: Post 1735-1740; may be associated with either or both basements in F46 and N1015W950. The artifact associations appear French.

#### Feature 40      North-South Trench   N930W820

Feature 40 was apparent at .3' BD and well defined by .9' BD. It consisted of organic soil with charcoal, and some sand and clay. This feature ran north and south and was crossed by two narrow, shallow trenches running east and west, one at Feature 40's north end in the excavation unit, and one at its south end.

At .9' BD the feature was 1.7' wide. By the next level circular areas appeared in two rows as possible post molds. These areas were dark organic stains with charcoal and some clay. By 1.5' BD no definite circular areas were visible, but the feature was divided

longitudinally into two parts. Only minor color and texture differences separated the two sections. Feature 40 was gone by 1.95' BD.

In profile, Feature 40 appeared in the north wall as a trench with straight walls and a rounded base. In the south wall, its base was more squared and its east wall was more gradually slanted inward.

Artifact Associations: animal bone, brass rod, clasp knife, gun worm, possible key, nails, chisel, aboriginal ceramics, musket balls, sprue, kaolin pipe fragments, one white salt-glazed stoneware, window glass, brass scrap

Interpretation: Possibly part of a double-walled late, east stockade line, with trench ten feet away in N930W810 which lines up with trenches excavated to the north in 1977. Its general artifact configuration appears British, though there is very little to go on. Assuming that the late stockade was built by the French in the 1740's, this may have been a section repaired by the British upon taking over the fort. If there were in fact two expansions this feature would be between the middle and late lines along the east side of the fort, and could be associated with a British structure inside the final fort wall.

Features 38, 42, 46      Possible Basement    N1010W964 and N1020W964

During excavations Features 38, 42 and 46 were assigned to what is now believed to be one feature only. The feature appeared at 1.6' BD, the bottom of the dozer cut in N1010W964 and N1020W964. At this point the feature was made up of areas of dark organic soil and charcoal, interspersed with very powdery, ashy orange-pink clay. The general shape of the feature was circular, only part of which was visible in these two excavation units. The extent of what was labelled Feature 38 was about three-fifths of the way into N1020W964 and abutted the northern edge of Feature 39 in N1010W964. By 2.1' BD most of the ashy, brightly colored areas were gone and the area consisted of dark organic soil with flecks of charcoal. Feature 42 was identified at this level. It consisted of a circular patch of gray ashy clay next to the northern border of the feature area. This feature should probably be more correctly identified as a remnant of Feature 38.

By 2.7' BD Feature 46 was a uniform area of dark organic soil with a high clay content and flecks of charcoal. It was now separated from Feature 39 by 1.5' and took up slightly less than half of N1020W964. The feature continued essentially unchanged until 4.5' BD. At this point there was less charcoal and more grayish clay. Also present in greater quantities was gold-brown sand, an indication that the bottom of the feature was getting closer. By 5.1' BD the feature was breaking up into areas of dark organic soil, gray sandy soil, orange clay and gray clay. Less charcoal was present. At the next level corners of the feature were quite square. There was still a variety of soil colors and textures. At 5.7' BD Feature 46

was gone except for a trench-shaped area running along the west side of the feature. The area was about .6' wide and consisted of light yellowy clay and sand with some charcoal. At the north end of the area were two possible post molds consisting of dark organic soil with clay. This feature continued into the next level and was gone by 6.3' BD.

Artifact Associations--Feature 38: brass wire, perforated triangle, split hinge clasp knife, case knife, stone pipe, jews harp, hawk bell, nails, animal bone, daub, kaolin pipe fragments, one tin-glazed earthenware, one salt-glazed stoneware, small green glass bottle sherds, soda glass tumbler fragments, spall gunflint, window glass, musket ball, seed bead

Interpretation: There are no good indicators of national origin, though the assemblage looks French; a post 1735-1740 date may be indicated since the feature is outside the early stockade.

Artifact Associations--Feature 42: one tin-glazed earthenware sherd, animal bone, glass slag, charcoal

Interpretation: Fill material over Feature 46.

Artifact Associations--Feature 46: nails, animal bone, brass and iron wire, case knife, hinge, hawk bell, aboriginal ceramics, window glass, shot, kaolin pipe fragments, one tin-glazed earthenware, one yellow-glazed earthenware, French blue-green glass, small green bottle base (fits with sherds from Feature 38), daub, slag

Interpretation: Possible basement, French, post 1735-1740. This interpretation is on the basis of being outside the early stockade wall. Fill contains several artifacts identifiable as French. There are several possibilities about this feature, none of which can be well backed up without further excavation. Feature 46 might be part of a row house with the basement in N1015W950. It may also be associated with Feature 39 wall trench. The square appearance and depth of Feature 46 were maintained in the 1978 excavations in which the northeast quarter of the feature was excavated revealing that the basement measured approximately 5' by 7'. There are several possible post molds at the bottom of Feature 46 but no other good structural indications in the area excavated around it, with the exception of Feature 39.

Feature 43, 43A, 45      Pit N1000W964

Feature 43 was apparent at 1.5' BD, the base of the north test trench dozer cut. By 1.8' BD the feature was well defined as a circular area, about half of which was present in N1000W964. The feature consisted of a mixture of soil types: gold-brown sand, pinkish sand and ash, ashy clay and darker burned sand, and charcoal. No distinct pattern was apparent. At the next level the feature was essentially unchanged, with the intrusion of an area of

dark organic soil and charcoal coming from N1010W964 (Area A). Also at this level was the appearance of Feature 45, a rectangular area .9' by 1.3' against the east wall of N1000W964. This feature consisted of dark organic soil, gold-brown sand, pink ashy clay, and charcoal. At 2.4' BD Feature 43 began to draw closer to the west wall of N1000W964. It measured 6.5' north-south and in the center was about 3.0' east-west. By 2.7' BD the feature had diminished considerably, now measuring 4.5' north-south by 1.3' east-west.

Artifact Associations: iron wire, perforated triangles, clasp knife (standard blade shape), case knife fragments, hinge, mic-mac pipe, hook, nails, kaolin pipe fragments, tin-glazed earthenware, blade gunflint, spall gunflint, animal bone

Interpretation: Refuse pit, probably French, possibly post 1735-1740. This pit is immediately outside what is considered to be the early stockade wall and could represent out-fort disposal of primarily food refuse and hearth ashes. Feature 45 seems to be associated with Feature 43, though it appears in the east profile of N1000W964. It may be much more than a small ashy square.

#### Feature 44      East-West Wall Trench    N1030W964

Feature 44 was evident by 1.8' BD, at the bottom of the bulldozer cut. At this point the feature consisted of dark organic soil with gold-brown sand mottling. At 2.1' BD it was much more well defined, 2.4' wide, and consisted of dark organic soil with gold-brown sand mottling, some charcoal and ashy clay. By 2.7' BD Feature 44 had divided longitudinally into two halves. Both halves consisted of dark organic soil with charcoal. The north half was slightly over one foot wide; the south half was slightly less than one foot wide. At the next level the south half of the feature was essentially gone. In the north half two rows of possible post molds appeared. At 3.3' BD seven post molds were visible, still in two rows. They were all circular and, in section, the deepest went to 3.67' BD. Also evident at this level was Feature 43A, another rectangular area at the northeast corner of Feature 43, and connected by a thin organic stain to Feature 45. Feature 43 continued for four more levels, getting smaller and smaller until it ended at 4.35' BD. Feature 45 was gone by 3.0' BD. Feature 43A was gone by 3.3' BD.

In profile Feature 43 appeared as a fairly straight-sided, bowl-shaped pit. The northern border of this feature was obscured by the intrusion of Area A coming from N1010W964. The area ran from Feature 39 in N1010W964 into Feature 43 in N1000W964.

Artifact Associations: two nails, one window glass, animal bone

Interpretation: Period undertermined. This trench is immediately south of the well (F50) and about 20 feet north of the basement (F46); possibly associated with one or the other.

## Feature 48      Pit   N990W964

Feature 48 became apparent at 1.2' BD, the bottom of the north test trench bulldozer cut. At 2.1' BD it was defined as a circular area measuring approximately 1.4' in diameter. It consisted of dark organic soil, burned sand, and charcoal. Clay was present in the upper levels of the feature. At 2.4' BD the feature was 1.1' in diameter. It disappeared by 2.4' BD.

Artifact Associations: animal bone, charcoal, one nail, flint chip

Interpretation: Small refuse pit or hearth, possibly outside the stockade walls. Period undetermined.

## Feature 49      East-West Wall Trench   N990W964

This feature was in evidence by 1.5' BD and well defined as a trench by 1.8' BD. At 1.5' BD the feature was a conglomeration of soils: dark organic soil, red-brown burned sand, charcoal, brown sand, orange-pink-white clay and gold-brown sand set off from the rest of the excavation unit which consisted of gold-brown sand with some organic mottling. By 1.8' BD the feature was divided longitudinally, the north half 1.2' wide and the south half 1.5' wide. Soils were the same as the previous level, though the south half of the feature was generally darker. At 2.4' BD five very poorly defined circular stains were apparent in the southern half of the feature. As the feature continued downward more possible post molds appeared. They were never well defined and never in the same locations. At 3.3' BD two sections were made, one of the north half of Feature 49 and one of the south half. No post molds were definable in the organic staining. At the bottom of the stain was a .1' layer of very hard rust colored soil. The deepest point of the section was 4.09' BD.

Artifact Associations: animal bone, rocks, charcoal, mic-mac pipe, stone pipe, lead brooch, lead disc, screw, nails, musket balls, kaolin pipe fragments, tin-glazed earthenware, spall gunflint, window glass, brass dividers, scratch blue stoneware, lead glass, stemware

Interpretation: This trench is on line with what is considered to be the early stockade; however, the presence of the scratch blue stoneware and the lead glass sherds creates some question as to this interpretation. Certainly these artifacts cannot be used to confirm the feature as British. Likewise both kinds of artifacts were in use during the French period of occupation, albeit somewhat later than the period of the earliest stockade. There are several possibilities: the material was mixed during excavation (though some scratch blue was found in the continuation of Feature 49 in the 1977 excavations), the material was deposited during a later expansion of the stockade, the material was deposited during a repair of this section of the stockade. It will be recalled that

some creamware sherds were recovered close to the top of Feature 30, another section of the possible early stockade, far away from Feature 49. The possibility exists that these trenches are part of one or more later structures at the fort.

Feature 50      Well   N1040W964 and N1050W964

Feature 50 was evident immediately beneath the plow zone in N1040W964 and N1050W964, though within the two excavation units it was not recognized as a distinct feature. At 3.4' BD the feature was a fairly undifferentiated area of dark organic soil flecked with charcoal and clay. To the south this area was bounded by a strip of yellow sand and gravel. To the north there was no soil change, though the northern two feet of the feature contained a high concentration of gravel. By 2.7' BD the yellow sand was almost gone and had been replaced by rusty colored sandy soil. To the north the central portion of the feature was bounded by tan sand. By 3.3' BD Feature 50 began to be distinguished as a long circular area about ten feet in diameter and continued essentially unchanged until 4.2' BD. The south edge of the dark organic soil area was bounded by smaller areas of yellow sand and gravel while the north edge continued to contain gravel. These materials had been brought up during construction of the well. Within the central organic portion of the feature fill was noticeably darker than that surrounding it.

Between 4.2' BD and 6.9' BD the feature gradually became squarer. The central portion became smaller and more differentiated in color and texture, the result of dumping trash and fill into the well. In addition to dark organic soil with charcoal flecks, patches of clay, ashy clay and sand appeared. The feature continued to be bounded by tan and yellow sand and gravel in some areas. At 6.9' BD Feature 50 was about seven feet in diameter.

By 7.2' BD the corners of the central portion of the feature were definitely squared. Outside of this area was yellow and brown sand, and finally very hard sandy clay into which the well had been dug. Well fill still consisted of a mixture of dark organic soil, charcoal, rocks, clay and sand. At 8.6' BD in N1040W964 all that was left was yellow sand. In the profile of the well, this was later discovered to be the result of a slump in the sides of the well, perhaps the reason it was abandoned. At this level, a distinct shovel cut was visible on the edge of the yellow sand.

By 10.1' BD Feature 50 was well defined as a squared area about five feet north and south. (The western edge of the feature ran into the west wall of the excavation units.) Along its northern edge was a thin organic stain with decayed wood on the inside of this stain. The decayed wood may have been bark lining the well cribbing of wooden boards. No wood was yet evident on the southern or eastern walls of the feature. At 10.4' BD wood was apparent along the east wall of the well, as was another board in the northeast corner of the well. The grain in this board ran vertically. Fill was the same as in previous levels, though beginning to become wetter.

At 11.7' BD almost the entire cribbing was defined by wood or

wood stains. On the outside of the wood was a thin lining of gray clay. By 14.1' BD no wood was visible, though definite stains remained. Water level was reached at 16.9' BD. At this point the well was lined with logs, possibly split. These logs were present on both northern and eastern walls and have been identified as hickory.

Well fill became wetter as water level approached. In the deeper levels of the well dark organic soil was gradually replaced by alternating layers of fine gritty sand, burned material and pure clay.

Several large slumps occurred before the well was completely excavated. The profile of Feature 50 included here (Figure 5) was drawn as a composite map from square level sheets.

Artifact Associations: copper triangle, cufflink, animal bone, tinkling cones, clasp knives, case knives, knife handle parts, pintle, hinge, stone pipe fragments, iron fork, needles, jews harps, gun parts of which two are definitely French, rivet, drilled antler tine, staple, screws, nails, musket balls, sprue, kaolin pipe fragments of which one is Dutch, tin-glazed earthenware, green-glazed earthenware, yellow-glazed earthenware, scratch blue stoneware, porcelain, two French bottles, glass tumbler fragments, blade gunflint, spall gunflints, window glass

Interpretation: French well, probably filled after 1735-1740. Few diagnostic artifacts were found in this well. There are a number of characteristically French artifacts found at all levels in the well. It was certainly built during the French occupation, possibly outside the walls of the early stockade, and filled in sometime after 1740. If it was filled in during or after the British occupation the French artifacts could be explained by the fact that French families continued to live at the fort until well into the 1780's.

Feature 51      Charcoal Ring    N1020W1010, N1030W1010, N1020W1000,  
N1030W1000

This strange feature appeared to be a circle twenty feet in diameter filled up with charcoal in a matrix of brown sand. It appeared at the bottom of the bulldozer cut, in the block excavation area, at 2.4' BD. Surrounding the feature was sterile gold-brown sand. Only two segments of Feature 51 were excavated to completion, those in N1020W1000 and N1030W1000. In these units the feature was gone by 3.3' BD. The feature contained practically no artifacts whatsoever, and few fragments of animal bone were recovered.

It is not known what this feature represents. It overlays Feature 54, a trench running east-west in N1020W1000. It is possible that the feature was created after the occupation of Ouatatenon.

Artifact Associations: charcoal, animal bone (burned and unburned), fire-cracked rock, two pieces of glass, one piece brass, one nail, one shell

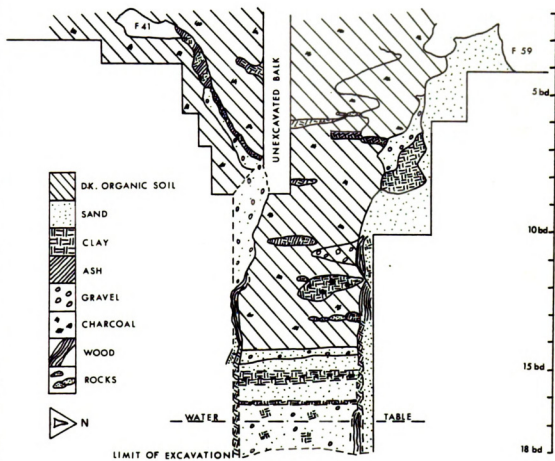


Figure 5. Feature 50 -- Well Profile



Interpretation: The function or temporal placement of this feature is undetermined.

Feature 52      North-South Stockade Trench (includes Feature 31)

Feature 52 fill was uniformly dark organic soil with charcoal. To this were added varying amounts of sand and clay. The trenches were usually from one to two feet wide at their most well defined extent. From this point feature width lessened until only post molds were visible. Post molds consisted of dark organic staining and were circular. They varied in diameter from approximately .4' to .8'. Distances between post molds varied considerably. In profile the Feature 52 trenches appeared essentially alike in shape except for minor variations in the slant of the side of the feature. Sometimes sides slanted in an easterly or westerly direction. The most frequently encountered profile was one in which both sides of the feature slanted gradually outward from the bottom, to blend in eventually with sub-plow zone leaching. The bases of the feature were rounded, sometimes with a pad of gray or light colored clay at the bottom. Feature 52 was usually visible within several levels of the bottom of the plow zone. For more convenient reading, pertinent information has been presented in Table 28.

Artifact Associations: case knives, straight pins, firesteel, jews harp, French lead seal, main spring, nails, aboriginal ceramics, musket balls, kaolin pipe fragments, tin-glazed earthenware, one creamware, green-glazed earthenware, spall gunflints, window glass, tin-plated iron, animal bone

Interpretation: Stockade trench for stockade built in the 1740's; French with British repairs. Excavations in 1977, 1978 and 1979 indicate possible extensive repairs on at least the north and east curtains by building a new wall ten to fifteen feet outside the old wall on those two sides.

Feature 53      North-South Trench    N1010W990, N1020W990, N1030W990

Feature 53 appeared at 2.4' BD in three squares of the large block excavation bulldozed area. At this point it was two to three feet wide and consisted of dark organic soil, charcoal, and large amounts of clay and ash. It could be seen to pass over Feature 54, and did not run into Feature 52 to the north or Feature 55 to the south. As deeper levels were reached the amount of ash diminished. By 3.3' BD the feature was about 1.5' wide and the amount of brown sand within the feature matrix had increased. By 4.2' BD the feature was essentially gone.

In profile Feature 53 appeared as a trench with sides slanting gently outward to blend in with the plow zone. Both sides slanted equally. The base of the feature, though rounded at the edges, was fairly flat.

Table 28. Feature 52 Excavation Data

Excavation Unit	F52 in	well defined	PM's	Base
N825W1003.5	1.5' BD	2.1' BD	X	2.91' BD
N835W1000	1.0' BD	no	poss.	2.64' BD
S $\frac{1}{2}$ N860W1003.5	.9' BD	.9' BD	no	1.5' BD
N $\frac{1}{2}$ N860W1003.5	.6' BD	.6' BD	X	1.96' BD
N860W1000	.3' BD	.6' BD	X	1.5' BD
N880W1000	.3' AD	Datum	X	1.95' BD
N930W1000	.6' BD	1.8' BD	X	3.47' BD
N935W1000	1.2' BD	1.8' BD	X	4.09' BD
N980W1000	2.1' BD	3.3' BD	X	4.57' BD
N1010W1000	2.4' BD	2.4' BD	X	5.6' BD
N1020W1000	2.1' BD	3.0' BD	X	5.81' BD
N1030W1000	2.7' BD	2.7' BD	X	5.93' BD
N1050W1000	2.7' BD	3.6' BD	X	5.85' BD
N1060W1000	3.0' BD	3.3' BD	X	5.36' BD

Artifact Associations: perforated triangle, stone pipe fragment, straight pin, lead brooch, thimble, nails, kaolin pipe fragments, tin-glazed earthenware, yellow-glazed earthenware, olive green bottle glass, tumbler fragments, blade gunflint, spall gunflints, window glass, daub, over 2000 fragments of animal bone

Interpretation: Nationality or temporal placement undetermined.

#### Feature 54      East-West Wall Trench   N1020W990 and N1020W1000

Feature 54 appeared at 2.4' BD in N1020W990 and at 3.0' BD in N1020W1000. This feature passed beneath both Features 52 and 53 running north and south. It consisted of a mixture of organic soil and brown sand, with some charcoal and varying amounts of clay. By 3.3' BD the feature was about one foot wide in N1020W990 and narrowed gradually to .6' wide at the western side of N1020W1000. Its texture was rather crumbly. By the next level possible post molds had appeared in N1020W1000. These were all circular and .5' to .6' in diameter. Possible post molds were visible in N1020W990 at 3.9' BD and appeared the same as those to the west. All traces of the feature were gone by 4.5' BD.

Feature 54 appeared in profile as a narrow trench with straight sides and rounded base. Very few artifacts were recovered.

Artifact Associations: animal bone, charcoal, daub, one window glass, one shell

Interpretation: Since Feature 54 underlies Features 52 and 53 it must be pre-1735 or 1740, therefore French; perhaps a pen or other enclosure outside the walls of the early stockade.

#### Feature 55      East-West Trenches   N1010W1000 and N1010W990

Feature 55 consisted of two parallel trenches that ran into Feature 52 at their west ends. The trenches were both narrow and shallow with Feature 55A averaging less than one foot in width and Feature 55B about one half of a foot wide. Feature 55A, the northernmost of the two trenches, appeared at 2.1' BD in N1010W990 and at 2.7' BD in N1010W1000. It consisted of dark organic soil with some clay, daub and charcoal. It continued essentially unchanged until 3.3' BD when it began to fade from its eastern end. It was gone by 3.6' BD in N1010W990 and by 3.9' BD in N1010W1000. No post molds were evident. In profile it appeared as a shallow straight-sided trench with a flat base.

Slightly over one foot south of Feature 55A was Feature 55B, which was little more than a stain. It appeared at 2.4' BD and was gone by 2.7' BD. In profile it appeared as a dip in leaching from the plow zone.

Artifact Associations: animal bone, three window glass, one tinkling cone, two nails, one piece faience

Interpretation: French, post 1735-1740.

Feature 56      Semi-Subterranean Storehouse    N861W875, N865W865,  
N875W875, N861W865, N865W865, N875W865 (Figure 6)

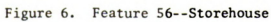
Feature 56 appeared at .9' AD as a fairly ill defined area of organic soil, sand, daub, charcoal and rocks. A southwest corner was apparent in N861W875 as was a concentration of charcoal following the lines of the corner. By the next level this corner was very well defined and the tops of standing posts were visible within a matrix of burned sand, daub and charcoal. Also along the southern edge of the feature was an area of bright orange burned sand, and slabs of sandstone. The northern portion of the feature was still ill defined and consisted of a mixture of organic soil and sand, chunks of daub and charcoal, and apparently randomly distributed rocks, some of which were fire-cracked.

At .3' AD the entire southwest corner of the structure was visible by post remains. The walls of the building were defined by standing posts; gray and maroon stains outlined the central area of the feature. This central area consisted of a mixture of organic soil, sand, clay and great quantities of daub. A concentration of large rocks was present in the center of the feature.

At approximately Datum vertical posts were visible along the walls of most of the structure. These posts were surrounded by daub and ash. Most of the floor of the feature consisted of chunks of daub of varying sizes.

By .3' BD the feature looked essentially the same. Posts and daub were evident inside a one foot wide footing trench of gray sand. The central area of the feature was entirely covered with daub, charcoal, clay, ash and rocks. Along the southern wall of the feature and in line with the vertical posts was a thin line of small reed-like sticks, protruding vertically from the floor. In the south central portion of the feature was a rectangular pad of gray clay. By approximately 1.2' BD vertical posts were visible along all walls of the feature. Most of these were circular and ranged in diameter from .1' to .9'. Posts around the northern one-third of the building had been burned out to the extent that they were semi-circular in shape. Several others looked like they had been split logs to begin with.

By .6' BD the daub concentration was receding toward the central part of the feature and small bits of charred wood were beginning to appear. Many rocks were still present in the center of the building. Some daub still remained around wall posts but was in many instances being replaced by charcoal and ash. The greatest wall concentration of daub was along the southern portion of the east wall where a suspected doorway was located. The fill continued in this manner until by approximately 1.5' BD charred wooden planks became visible. A five foot square area in the south half of the feature was still covered with daub at 1.5' BD but this area became set off from the rest of the feature by the presence of several long pieces of charred wood which defined it. As the layers of daub, ash and wood were revealed, this area was consistently lower than the



rest of the feature by about .2' to .3'.

Immediately below the daub concentration was a layer of ash and charcoal. Beneath this layer was a concentrated layer of charred wooden planks. This wood had apparently collapsed into the feature resulting in the random grain direction encountered. The only pieces of wood with consistently oriented grain were the beams outlining the lower, five foot square area. In the northern portion of the feature most planks and logs became visible by 1.8' BD. It became apparent that most planks ran in a general north-south direction while several logs ran in an east-west direction, possibly indicating that the logs served as bracing for a plank floor.

Under the layer of charred wood and ash, stains intruded into sterile gold-brown sand. Posts were gone by 1.8' BD and the footing trench was gone by 3.0' BD.

Artifact Associations: brass wire, perforated triangle, brass tacks, cufflinks, tinkling cone, clasp knives, case knives, pintles, hinges, buttons, kettle lug, straight pins, brass drawer pull, iron needle, jews harps, hook and eye, hawk bells, comb, files, staples, key, hasp lock, door hardware, 1042 nails, cotter pin, aboriginal ceramics, musket balls, sprue, shot, kaolin pipe fragments, tin-glazed earthenware, creamware, green- and yellow-glazed earthenware, glass bottle fragments, stemware, bevelled glass, blade gunflints, spall gunflints, brass spigot, window glass, harness buckles, animal bone, daub, wood

Interpretation: French construction, probably post 1735-1740; subsequent British use. Feature 56 has been interpreted as a semi-subterranean poteaux en terre storehouse. The storehouse measured 12' north-south by 9' east-west and was built of upright posts set into a footing ditch. The space between posts was filled with daub, a mixture of clay, sand, pebbles and grass. There is some evidence along the south wall of the storehouse that brush was pushed into the spaces between posts for added insulation. At some point, the building caught or was set on fire and it collapsed. It appears that the wind may have been blowing from the north at this time as charred post remains along the north wall and around the corners to the east and west had been hollowed out by fire, making them crescent shaped. Along the south wall and the southern halves of the east and west walls, the posts were more complete. The fact that the building burned has made interpretation difficult due to the charred and fragmentary nature of the building remains. The roof of the structure must remain conjectural; it probably was made of bark or thatch. No evidence for a fireplace was discovered, adding to the theory that the building was not a domestic dwelling. A doorway was located in the southern half of the east wall. Evidence for this feature consisted of fill 1½' wide projecting outward from the wall posts for a distance of about one foot. The fill was present to a depth of 1.5' BD, the point at which most floor boards appeared. Depending on where the eighteenth century ground surface was, the base of the door and the floor of the storehouse would have been 2' to 3' below the surface. The approach to the door could have consisted of a simple depression in the ground, a small ladder or even several

steps, though no evidence of the latter was found. The building may have had a window, but glass was expensive and a storehouse would not have needed one.

Internally the storehouse probably consisted of a central area 5' east-west, possibly longer north-south, which was not floored. Around at least two sides of the building's walls were raised storage platforms, perhaps even shelving. At the north end of the building, there was evidence for a wooden floor consisting of cross-bracing covered with planking. (This could also be the remains of a storage shelf.) The central earthen area was slightly lower than the rest of the interior due to the fact that people stood and walked there.

It must be mentioned that there is still the possibility that this semi-subterranean area was covered completely by a floor with a trap door in it for access to the lower storage area. It is impossible, however, to gain evidence to support this theory from the remains in the ground. Though in a limited search for comparable semi-subterranean buildings at other sites none was found, the interpretation offered here is not illogical. A building partially underground would be more strongly supported, and better insulated from the elements. The storehouse was likely associated with a dwelling nearby that has yet to be discovered. Several small wall trenches (F66, F 69) were found to the east and south of the storehouse. These may represent fences and/or property lines.

Feature 57	North-South Wall Trench	N980W1000, N1010W1000, N1020W1000, N1030W1000
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Feature 57 was a narrow trench about one foot wide that ran parallel to and west of Feature 52. It appeared at 2.4' BD in all units except N1020W1000 where it was visible at 3.0' BD. It consisted of a mixture of dark organic soil and brown sand with charcoal flecks.

In N980W1000 circular post molds appeared at 2.7' BD and were gone by 3.3' BD. At least one of these post molds had a clay pad at its base.

By 3.0' BD in the block excavation area Feature 57 was no longer continuous from north to south and had started to fade. It crossed beneath Feature 54, which crossed beneath Feature 52. At 3.3' BD circular post molds appeared in N1010W1000 and were gone by 3.6' BD. In N1020W1000 post molds never appeared and the feature was gone by 3.6' BD. Post molds appeared in N1030W1000 at 3.6' BD. One of these had a clay pad at its base. The feature was gone by 3.9' BD and did not appear in N1050W1000, the next excavation unit.

In profile Feature 57 was ill defined, sometimes with a rounded base and slanting sides, sometimes with a flat base and straight sides.

**Artifact Associations:** animal bone, silver hawk bell, nails, kaolin pipe fragments, glass tumbler fragment

**Interpretation:** Post 1735-1740, possibly associated with late

stockade.

Feature 58      Possible East-West Trench    N980W1000

Feature 58 appeared in the southeast corner of N980W1000 at 2.4' BD. At its western edge it ran into Feature 52 running north and south. At this point the feature was approximately .5' wide and consisted of dark organic soil mottled with gold-brown sand and clay, plus charcoal flecks. By 3.0' BD the feature's edge had straightened but no post molds were evident. At the next level it consisted of little more than organic soil leaching into gold-brown sand, and by 3.6' BD it was gone. In profile the feature had straight sides and a flat base.

Artifact Associations:    twenty animal bone, one window glass

Interpretation:    Possible wall trench, post 1735-1740; may be associated with the late stockade.

Feature 59      Possible East-West Wall Trench    N1050W964

Feature 59 was located just a few feet north of the well in N1050W964. The entire width of the feature was not visible in the excavated area. However, what was visible along the north wall of the excavation unit was 1.8' wide at its widest extent. The feature appeared at 2.7' BD as a trench-like area of dark sandy organic soil with patches of pink ashy clay and charcoal. Due to the excavation of the well, Feature 59 was excavated only to a depth of 4.2' BD. From that point the north area of N1050W964 was needed as a step to and from the well area. Between 2.7' BD and 4.2' BD the feature was always well defined, with a very straight southern edge. Its upper levels consisted of ashy clay and gravel gradually replaced by brown sandy clay. At 4.2' BD Feature 59 was 1.3' wide.

Artifact Associations:    case knife, animal bone, two nails, one window glass

Interpretation:    Probable wall trench, post 1735-1740. This trench lines up with not only those in N1050W1000 and N1055W918, but also with several squares excavated in 1978 and 1979. It may represent the late stockade line, or possibly a middle period stockade line for the north wall.

Feature 60      Possible Building Trenches    N955W895

Feature 60 was ill defined but set off from the rest of N955W895 at .3' BD. By .6' BD the basic shape of the feature was evident. It consisted of a north-south trench running through the middle of the excavation unit with a narrower trench coming off to the west and cornering to the south. The north-south trench was referred to as



Feature 60. Feature 60A was the inverted L-section to the west. Features 60B and 60C refer to two circular pits at the southern and northern ends of Feature 60.

At .6' BD Feature 60 consisted of mottled gold-brown sand with daub. By the next level it was dark organic soil with sand, daub and charcoal. Feature 60A consisted of mottled gold-brown sand with charcoal and yellow clay at .6' BD. By .9' BD it consisted of dark organic soil with ash, flecks of charcoal and gold-brown sand mottling. These soil characteristics continued until the base of the feature.

By 1.5' BD the trenches had begun to narrow and the pits were beginning to be visible. Feature 60 was approximately one foot wide, while Feature 60A was .6' to .8' wide.

At the next level Feature 60 had turned into post molds, dark organic stains, and Features 60B and 60C were apparent running into the walls at the north and south ends of Feature 60. These features were squared areas of dark organic soil with flecks of ash, charcoal and daub. Feature 60A retained its trench appearance at this level, running into and between the post molds of Feature 60.

Post molds were gone by 2.1' BD. Features 60B and 60C were circular at this point. Feature 60A still appeared as a trench. In the next level three possible post molds appeared in Feature 60A. Features 60B and 60C remained unchanged though slightly smaller. The east-west diameter of Feature 60B was 2.5'; that of 60C was 2.1'. At 2.6' BD only the north-south portion of Feature 60A remained. No post molds were apparent. This feature was gone by 2.65' BD. Feature 60C ended at 2.95' BD. Feature 60B ended at 3.17' BD. At the very bottom of this feature were two pieces of burned wood.

In the south profile of this excavation unit Feature 60A appeared as a straight sided trench with a squared base, rather than bowl-shaped. Both Features 60B and 60C appeared as squared features with straight sides.

Artifact Associations: whizzer, nails, musket balls, sprue, clay pipe fragments, one creamware, spall gunflint, window glass, animal bone, antler, lead, iron and brass scrap

Interpretation: Possible structure associated with the forge, perhaps a lean-to. The time of construction of this feature is unknown but it was in use late in the site's occupation.

#### Feature 62      Pit N880W1000

Feature 62 appeared at .3' AD as a squared area of dark organic soil with charcoal in the northeast corner of N880W1000. By .3' BD the feature consisted of a central area of gray clay surrounded by dark organic soil. This area diminished in size until it disappeared by 1.8' BD. In profile the feature appeared as a straight sided pit with a fairly flat base.

Artifact Associations: animal bone, bone button backs, nails, one creamware, three pearlware, brown-glazed redware

Interpretation: Refuse pit late in the site's occupation, probably as late as the 1780's, as indicated by the presence of pearlware well into the pit; possibly civilian French.

Feature 63      Possible East-West Stockade Trench   N1055W918

Feature 63 appeared at 2.1' BD as a wide, vaguely trench-shaped feature varying from 2.5' wide at its eastern edge to 3.8' wide at its western edge. It consisted of dark organic ashy soil with charcoal flecks, and some clay. By 3.3' BD the sides of the feature had still not straightened and a circular area against the west wall was apparent. The sides had become fairly straight by 3.9' BD, however the wider circular area in the western portion of the feature was still present. At 4.8' BD the feature was 1.7' wide at its east end and 3.0' wide at its west end. It consisted of a central area running longitudinally, of crumbly, dark organic soil with charcoal flecks and clay. Surrounding the area was gold-brown sand with clay mottling and a high content of rusty colored staining. By the next level the central portion of the feature plus the edge of the circular area at its western edge were bounded by a .1' wide strip of bright rust colored stain. Surrounding this was an area of dark organic soil heavily mottled with light colored sand. By 5.4' BD only two circular areas were left, one at each end of the feature.

Artifact Associations: animal bone, lead seal, screw, nails, shot, yellow/green/blue-glazed earthenware, one white salt-glazed stoneware, window glass

Interpretation: This trench was originally thought to be a section of the late stockade line; it lines up with the Feature 52 corner in N1050W1000, Feature 59 in N1050W964 and several features from the 1978 and 1979 excavations. There is another long trench line approximately ten feet north of this series, however, raising the possibility of a second stockade expansion. This further outside line continues down the east side of the fort but is not clearly in evidence along the west wall. The south wall has not been sufficiently investigated. Whether or not the Feature 63 line represents the latest, or next to latest stockade expansion, it is certainly post 1735-1740 and probably French.

Feature 65      Pit   N875W875

Feature 65 was apparent at .9' AD in the northwestern corner of N875W875. At this time it was a square area against the west wall of the square consisting of gray clay, ash, charcoal and sand. By .3' AD its edges had rounded off and the feature extended 2.5' in either direction from the corner of the square at N885W885. It still consisted of ashy clay, charcoal and sand with a great deal of burned bone. By the next level it was beginning to disappear and the ashy clay was gone, leaving brown sand and charcoal. By .3' BD the feature was essentially gone. In profile it appeared as a fairly

flat based pit with gently sloping sides.

Artifact Associations: brass wire, iron wire, copper triangle, buttons, elbow pipe, band ring, jews harp, silver dangle, gun worm, nails, iron kettle fragment, musket balls, one kaolin pipe fragment, one tin-glazed earthenware, one brown-glazed redware, stoneware, animal bone

Interpretation: Refuse pit, probably French.

#### Feature 66 North-South Trench N875W865

Feature 66 appeared as a fairly distinct trench at .6' BD. It consisted of mottled organic soil with charcoal flecks, sand and clay. At this point it was about one foot wide at its greatest width and extended less than one foot into N865W865 where it ended abruptly. By the datum point a number of small post molds had appeared along most of its length. None of these organic discolorations was over .5' in diameter. Trench sides were still visible and some of the fill seemed to contain wood fibers. At .3' BD trench sides were no longer visible and by .6' BD all that remained were some organic stains in the gold-brown sterile sand. It appears from the size of the posts in this trench that it may represent a fence line associated with the storehouse. It is definitely contemporary with Feature 68; one fragment of pipeclay figurine was found in the fill from Feature 66.

Artifact Associations: animal bone, lead and brass scrap, two nails, spall gunflints, pipeclay figurine fragment, earring, file with mark

Interpretation: French, contemporary with Feature 68; probably post 1735-1740.

#### Feature 67 Refuse Pits N861W865, N865W865, N875W865

In the upper levels of excavation it appeared that Feature 67 might represent a trench of some sort. From a generalized midden-like area throughout the three excavation units several large amorphous areas became apparent by .3' AD. These areas were in a general north to south alignment and consisted of brown sand with clay and charcoal flecks. At Datum several of these areas were more circular in appearance and were set off more from the sterile gold-brown sand underlying the midden. Fill consisted of dark organic soil mottled with gray clay, charcoal flecks and sand. At .3' BD it was apparent that there were actually five pits represented, in a north to south line through N861, N865 and N875W865. Feature 67-1 was located in N861W865 immediately north of Feature 69, an east-west trench along the south edge of the excavation unit. Features 67-2, 3 and 4 were in a cluster at the N875 line. Feature 67-5 was rather oval in shape and was against the north wall of N875W865. At .6' BD the pits were cross-sectioned; numbers one through five

bottomed out at 1.48' BD, 1.61' BD, 1.73' BD, 1.01' BD and 1.70' BD respectively. All were bowl shaped. Artifact density was not great in any of the pits and their assemblages were similar in content and diversity.

Artifact Associations: brass wire, marked brass circle, iron buckle, tinkling cone, case knives, French button, mic-mac pipe, straight pins, ring band, lead seals, possible French sideplate, gun barrel section, gun worm, sear spring, nails, musket balls, sprue, shot, tin-glazed earthenware, spall gunflints, window glass, animal bone, scrap lead, brass and iron, corn cobs

Interpretation: French refuse pits associated with Feature 56.

Feature 68      Pit   N875W865, N875W875

Feature 68 became apparent at .3' AD as an area of dark organic soil and dark brown sand in N875W865 and N875W875. It was generally oval in shape but with a very irregular outline. Its southern boundary ran into Feature 56 and the feature ran into the north wall of N875W865 and N875W875. At Datum the feature was easier to see since the surrounding soil was gold-brown sand. Feature 68 still ran into Feature 56 and could be seen to cut into what was now recognizable as the footing trench for the storehouse. For the next three levels (to .9' BD) the feature remained essentially the same size; it pulled away from Feature 56 slightly and its outline became more irregular. It rather abruptly became much smaller between .9' BD and 1.2' BD, when it appeared as a small amorphous area approximately 2' by 4' at the W875 line. At this point it consisted of mottled gold-brown sand and charcoal with four round areas of dark organic stains containing a great deal of charcoal. By 1.35' BD the feature outline was gone but the charcoal concentrations remained. They had faded somewhat by 1.7' BD and were gone by 1.8' BD. At its greatest extent this pit is estimated to have been approximately 9' north-south by 6' east-west.

Artifact Associations: 34,000 animal bone fragments (very little burned bone), brass buckles, tinkling cones, case knives, 447 straight pins, pipeclay figurines, iron key, eighty-two nails, ninety-eight musket balls, sprue, 1417.2 grams shot, purple wampum, rosary beads, copper beads, Y beads, necklace beads, 9243 seed beads (material from this feature was fine screened), bevelled glass, forty-three gunflints, window glass, brass medallion, hook and eye, triggers, trigger plate, awls, brass wire, Jesuit rings, iron needles, thimble, gun worm, sword blade fragments, French ax, brass tacks, clasp knife, French uniform buttons, stone pipe, French lead seals, trade silver, glass tumbler fragments, iron buckle, cufflinks, hawk bell, breech plug, screw, bone beads, one kaolin pipe fragment, one tin-glazed earthenware fragment, gun cock, two unidentified lead seals

Interpretation: There are a great number of contradictory aspects to this feature's configuration and to its contents. As to the

former, its outlines appear too irregular to be those of a pit that was dug. Its fill in the upper levels abuts the north wall of the storehouse, and the charcoal concentrations at the bottom of the pit seem to represent closely spaced posts or trees. When they burned cannot be determined.

The artifact content of the pit is also puzzling. There are virtually no domestic artifacts with the exception of the few ceramic sherds. Likewise there are very few nails and no other hardware. Most all artifacts in the pit are trade-related except for the thousands of animal bone fragments. Many species are represented, from small songbirds, ducks and passenger pigeons, to fish and beavers and large mammals such as black bear, deer, pigs and cows or bison (Terrance Martin personal communication). Practically none of the material has been burned. Finally, though many of the artifacts appear unusable, a great number of musket balls, shot, beads, straight pins and gunflints appear in perfectly fine shape. Others, such as iron knives and buckles could have been in usable condition when they were deposited.

With this information in mind it is very difficult to interpret Feature 68. It appears to be a refuse pit associated with the storehouse. Most of the artifacts contained in the fill are identifiable as French-made, or associated with French trading activities. The presence of so many unused items is unexplained, unless the pit was a cache pit.

The shape of the feature may indicate that it was a natural depression just outside the storehouse. Another possibility is that the charcoal concentrations represent the remains of trees that were cut down and burned out during storehouse construction. It is difficult to imagine the material in this feature not burning during the burning of the storehouse. However, there is no evidence of scorched earth around the storehouse or the pit and if the building burned gently or smoldered for a long time it could have burned essentially in place. The shape of the burned posts at the northern end of the storehouse indicates that there may have been some wind coming from the north or northwest and this may have been enough to keep most of the flames or at least heat from affecting the contents of Feature 68.

#### Feature 69      East-West Trench   N861W865

Feature 69 began to appear by .6' AD at which point it was difficult to distinguish from pit number one of Feature 67. By .3' AD it was visible as a trench-shaped feature; fill was dark brown organic soil, clay, sand and charcoal. Post molds began to appear by .3' BD; one was square. They ranged in size from .3' to .9' in diameter. The square post appeared to be about .9' square. All post molds disappeared between .72' BD and .90' BD.

Artifact Associations: clasp knife blade, animal bone, screw, nails, musket balls, sprue, spall gunflints, window glass, bottle glass

Interpretation: Wall trench, possibly French, associated with the storehouse; possibly a fence line.

## N1015W950      Possible Basement

As a general area, distinct from the rest of the excavation unit, this feature was evident at 1.23' BD just below the plow zone. However, the area was not uniform in soil make-up or obvious as anything other than a general area, hence no feature number was assigned. Until 3.0' BD the feature area was generally the eastern half of the excavation unit. This half contained dark organic soil mottled with light sand, concentrations of daub, burned sand and charcoal. In the southeast corner of the square was a high concentration of burned sand, daub and rocks. At 1.8' BD the area of the feature was generally the same. The northern two-thirds of the area consisted of organic soil, sand, some areas of pink clay, charcoal, ashy clay and daub. The southern one-third of the area was the same but with a lower density of daub. The feature continued to consist of the same soil types and colors, but varying in the areas and quantities in which they occurred.

At 3.0' BD the feature was visible as a squared area running into the east wall of N1015W950. It consisted of dark organic soil with a large amount of charcoal. Also present was a strip, coming from the north and cornering to the east within the feature, of organic soil with charcoal, daub and a high clay content.

The feature continued as a squared area consisting of organic soil, charcoal, clay, daub and increasing amounts of sand until 4.4' BD when only small patches were left.

Artifact Associations: blade gunflints, spall gunflints, tin-glazed earthenware, yellow-glazed earthenware, bottle glass, bevelled glass, Dutch pipe fragments, necklace beads, wampum, shot, sprue, muskte balls (trade gun and French military), nails, hasp lock, screw, staple, awls, rivets, animal bone, gun parts, French lead seal, trade silver, hawk bells, seed beads, thimble, hook and eye, needles, wedding band type ring, Jesuit rings, straight pins, stone pipes, kettle lugs, buttons, pintles, hinges, clasp knives, case knives, tinkling cones, buckles, scrap iron, scrap brass, brass wire

Interpretation: Basement, probably around 6' by 8'; French; possibly post 1735-1740, based on the fact that this feature is outside the early stockade. There is every reason to believe, however, that the building could have been outside the stockade walls before the larger stockade was built. This appears to be storage space for trade goods. There is no good evidence of/for structural remains. Subsequent deposits left both creamware and pearlware in the uppermost levels of N1015W950, indicating later use of the area. It is unknown whether or not Feature 39 is contemporaneous with this structure.

**APPENDIX B**

**ARTIFACT DESCRIPTIONS**

## APPENDIX B

### ARTIFACT DESCRIPTIONS

The following artifact descriptions are arranged essentially according to Stone's (1974b) artifact groupings. This is a convenient way to organize a large number of artifacts and fits the purpose of the current study by placing artifacts into functional groups. The principle exception to Stone's arrangement has been in the addition of many commonly known trade goods to the Commercial Category of the Craft/Activity Context.

The descriptive format used has also followed Stone's formal classification of the artifacts from Fort Michilimackinac. I have adhered to Stone's classification by adding new types and varieties where appropriate and in some instances have treated formally artifacts that Stone did not. I have also taken into account new types and varieties introduced by Mainfort (1979). In other cases artifacts have not been formally classified. This is because of the fragmentary nature of the artifacts within the sample, or the small sample size itself. In most cases physical descriptions are included as well as metric and locational data. Where useful, photographs and/or drawings are included, though these were felt to be unnecessary for commonly known artifacts such as musket balls, gunflints, tinkling cones and the like.

An important part of the descriptions is the inclusion of provenience data for the artifacts described. Figure 4 should be



consulted for excavation unit locations.

A number of abbreviations are used throughout the descriptive text. They are as follows:

NMP	no measurements possible
mm	millimeters
cm	centimeters
D	diameter
L	length
W	width
H	height
prov.	provenience
F	feature
-	letter/symbol indecipherable
N	number
est.	estimated
max.	maximum
min.	minimum

Personal Context of Utilization

Clothing

Buttons    N - 46 buttons and button parts

Class I   Single Element Buttons

Series B   Cast buttons; eye element cast with rest of button;  
drilled eye

Type 2   Brass

Variety c   (new variety)   Flat face with bevelled  
edge and flat rim; flat back within  
rim; plain

N - 1  
N930W780            D - 14.8 mm

Type 3   Brass and Iron

Variety k   (new variety)   Flat crown with raised  
brass and iron decoration in a geometric  
design; three segments of zig-zags around  
the edge with two wavy lines in the middle;  
all raised above a beaded brass background

N - 1   (Figure 7o)  
F33            D - 19.0 mm

Stone assigns T3 buttons tentatively to  
the British occupation at Fort Michili-  
mackinac, between 1762 and 1781 (1974b:47).

Type 5   Soft White Metal

Variety c   (new variety)   Convex face, flat back,  
mold seam with five lines parallel;  
decoration molded, consisting of lines,  
circles and dots

N - 1   (Figure 7m)  
Plow Zone            D - 16.0 mm

Variety d   (new variety)   Convex face, flat back, mold  
seam, indistinguishable decoration of  
raised dots

N - 1  
N930W970            D - 17.0 mm

This button is identical in construction but not in design to South's Type 11 button from Brunswick Town (South 1964).

Series C Cast; face and back one piece; eye element separate

Type 1 Brass with Brass Wire Eye

Variety a Plain, convex face with concave back; flattened lip edge; U-shaped eye joined by brazing or copper solder

N - 4 (Figure 71)

N930W970 D - 17.25 mm

Plow Zone D - 18.95 mm (has vent hole)

F56 balks D - 18.75 mm

F68 D - 17.50 mm

Campbell (1959) identifies these buttons as French uniform buttons of c. 1750. Stone dates them to between 1730 and 1760.

Type 2 (new type) Tin with Tin Strap Eye

Variety a (new variety) Plain; convex face and convex back; strap eye joined by soldering

N - 1

N955W905 D - NMP

Series D Cast; face and back one piece; back cast around eye

Type 1 Pewter with Iron Eye

Variety k (new variety) Convex face and slightly convex back; poor condition prevents further description; indistinguishable decoration

N - 1

N955W905 D - 13.9 mm

Type 4 Brass with Silver Plating; Brass Wire Eye

Variety b Plain; slightly convex face and concave back; casting spur present around eye; concentric circles from smoothing tool on back

N - 1

N1015W950 D - 17.4 mm

Stone (1974b:53) interprets these buttons as being civilian buttons dating to

between 1750 and 1780. South (1964) classifies them as Type 7, 1726-1776.

**Type 5 (new type) White Metal with Iron Eye**

**Variety a (new variety) Plain; convex crown and back**

N - 1

F56 D - 13.7 mm

**Series E (new series) Face and back single element; eye element separate; eye plug cast with body**

**Type 1 (new type) Faceted Glass; Brass Wire Eye; Brass or Iron Plug**

**Variety a (new variety) Faceted; domed glass face**

N - 2

No prov. D - 15.5 mm

N1015W950 D - 15.5 mm

South Type 13, mid-eighteenth century, 1726-1776 context (1964). No buttons of this type were found at either Fort Michilimackinac or Fort St. Joseph.

**Class II Two Element Buttons**

**Series B Cast crown and back joined by brazing or soldering; eye brazed or soldered to back**

**Type 1 Brass with Silver Plated Back; Brazed Strap Eye**

**Variety a Convex face and back; cut mark longitudinally on strap eye; strap eye joined by brazing**

N - 3

F68 D - 18.1 mm

F67 D - 10.25 mm

Backhoe Trench #1 D - 18.65 mm (Figure 7h)

Stone dates these buttons to 1740-1760 (1974b:53). They are also found at Fort St. Joseph.

**Series C Cast; face and back separate elements; eye element cast with back; flux joined**

**Type 1 Brass with Drilled Eye**

**Variety b (new variety) Raised floral design; convex face and slightly convex back;**

concentric rings on back from smoothing tool

N - 1 (Figure 7k)  
N1015W950 D - 19.9 mm

This button is identical to South's Type 1 button, dated to between 1726 and 1776 (South 1964).

## Class II Category 1 Iron Buttons

N - 2  
N1015W950  
F35

## Class III Three Element Buttons

Series A Face, back and filler separate elements

Type 5 Gilt Brass with Bone or Wood Back; Clay Filler

Variety d Plain; convex face with edge rim; five hole wood or bone back

N - 3  
N955W895 D - 22.5 mm  
N930W970 D - NMP  
N875W875 D - NMP

Stone assigns these buttons a tentative date range of 1760-1781 (1974b:55), civilian use, no national origin determined. The buttons of this type from Fort Michilimackinac have four holes in the back instead of five.

## Class III Series A Type 5 Category 1 Elements from Series A Type 5 Buttons

N - 7		
N1030W1000	face (Figure 7n)	D - 16.2 mm
N875W865	face and partial bone back	D - 16.3 mm
N875W875	face	D - NMP
N955W895	bone back and filler; five holes in back	D - 15.25 mm
N1015W950	wood back and filler; five holes in back	D - NMP
N1015W950	bone back with five holes	D - 22.3 mm
F56	convex face with partial wood back	D - 21.8 mm

## Class III Category 1 Backs from Class III Buttons

N - 2		
N930W990	Slightly convex brass back with two vent holes; brass wire eye cast with back	D - 16.2 mm
N955W905	Pewter convex back	D - NMP

## Buttons Category 1 Button Backs

## Type 1 Bone; One Hole

N - 5	
F33	D - 21.2 mm
F62	D - 14.8 mm
F33	D - 14.2 mm
F62	D - 15.4 mm
F62	D - 13.8 mm

## Category 2 Button Faces

## Type 1 Brass; Crimped

## Variety a Stamped geometric design; gilt

N - 2	
N930W770	D - NMP
N955W905	D - NMP

## Variety b Plain

N - 2	
N955W905	D - NMP
F56	D - NMP

## Variety c Stamped geometric design; gilt

N - 1	
N955W895	D - NMP

## Variety d Stamped geometric design; gilt

N - 1	
N861W875	D - NMP

## Type 2 Copper; Crimped

## Variety a Stamped geometric design

N - 1 (Figure 7i)	
N955W895	D - NMP

Variety b Stamped geometric design

N - 1 (Figure 7j)

Backhoe Trench #1 D - 18.0 mm

Category 3 Eyes

Type 1 Iron

N - 1

N930W970 D - NMP

Table 29. Button Feature Associations

<u>Classification</u>	<u>N</u>	<u>Feature</u>	<u>Comments</u>
CISBT3Vk	1	33	tentatively British, 1761-1781
CISCT1Va	1	68	French military, 1730-1781
CISDT5Va	1	56	
CIISBT1Va	1	68	tentatively French, 1740-1760
CII Cat. 1	1	35	
CIISAT5 Cat.1	1	56	
Cat. 1 T1	2	33	
	3	62	
Cat. 2 T1Vb	1	56	

Cufflinks N - 13 4 complete sets; 9 different buttons

Class III Eye plus Single Element Crown and Back

Series B Crown and back cast together; wire eye brazed to back

Type 3 Square Face and Back with Angular Corners; White Brass or Silver

Variety a Plain; slightly bevelled crown edges; flat back and crown

N - 1

F68

Class IV Back and Eye One Element; Glass Crown Set

Series A Cast back with drilled eye; inset glass crown

Type 9 Round; Pewter; Glass Inset

Variety a Flat back; raised diamond design in metal under a clear faceted glass

N - 1

N955W895

## Type 10 (new type) Round; Brass; Glass Inset

Variety a (new variety) Line and bead border; back with slightly raised border line and convex center under cast eye; blue faceted glass inset

N - 1  
N955W895

## Class VI Single Element Crown, Back and Eye

## Series A Face, back and eye cast; drilled eye

## Type 1 Round; Brass

Variety s (new variety) Beaded border; raised design on face; lettering, if present, not decipherable; flat crown and back

N - 1 (Figure 7d)  
F50

Variety t (new variety) Raised snowflake design; flat crown and back; crown with lip

N - 1 (Figure 7b)  
F56

Variety u (new variety) Convex crown; concave back; scalloped edges; center of crown has beaded circle containing geometric design

N - 1 (Figure 7f)  
N955W895

## Type 2 Octagonal; Brass

Variety b Flat crown with lip; flat back; raised geometric design on crown

N - 1  
F33

## Type 4 (new type) Oval; Brass

Variety a (new variety) Beaded border; central impressed floral design; flat crown and back

N - 1 (Figure 7g)  
N930W980



Variety b (new variety) Flat crown and back; double beaded border; plain center

N - 1 (Figure 7c)  
Backhoe Trench #1

Table 30. Cufflinks--Comparative Site Information

<u>Ouiatenon Specimen</u>	<u>Classification</u>	<u>Comparative Site</u>	<u>Date</u>
F33	CVISAT2Vb	Michilimackinac (Stone 1974b)	1750+
		St. Joseph Specimen #1 (Hulse 1977)	
Backhoe Trench #1	CVISAT4Va	(Noel-Hume 1972)	1770's
N930W980	CVISAT4Va	(Noel-Hume 1972)	1770's

Button and Cufflink Discussion. For the most part, buttons and cufflinks from Fort Ouiatenon resemble forms and styles found at other historic site locations. The small sample allows little comment on national origins or dates of use of the buttons. Over 50 percent of the buttons and cufflinks however, were found in the forging area or the storehouse area. This points to at least use by the French inhabitants of Ouiatenon.

Buckles N - 20

Class I Hook Attachment

Series B Double pronged hook; double pronged tongue

Type 1 Rectangular Brass Frame; Iron Hinge Bar, Hook and Tongue

Variety b (new variety) Decorated

N - 1 (Figure 8m)  
F33 L - 64.0 mm; W - 43.0 mm;  
Hook W - approx. 41.0 mm

Figure 7

## Buttons and Cufflinks

- |                   |                                   |
|-------------------|-----------------------------------|
| Row 1 - Cufflinks | a. F68<br>CIVSAT9Va               |
|                   | b. F56<br>CVISAT1Vt               |
|                   | c. Backhoe Trench #1<br>CVISAT4Vb |
| Row 2 - Cufflinks | d. F50<br>CVISAT1Vs               |
|                   | e. F33<br>CVISAT2Vb               |
|                   | f. N955W895<br>CVISAT1Va          |
|                   | g. N930W980<br>CVISAT4Va          |
| Row 3 - Buttons   | h. Backhoe Trench #2<br>CIISBT1Va |
|                   | i. N955W895<br>Cat.2T2Va          |
|                   | j. Backhoe Trench #1<br>Cat.2T2Vb |
|                   | k. N1015W950<br>CIISCT1Vb         |
| Row 4 - Buttons   | l. Plow Zone<br>CISCT1Va          |
|                   | m. Plow Zone<br>CISBT5Vc          |
|                   | n. N1030W1000<br>CIIISAT5Cat.1    |
|                   | o. F33<br>CISBT3Vk                |

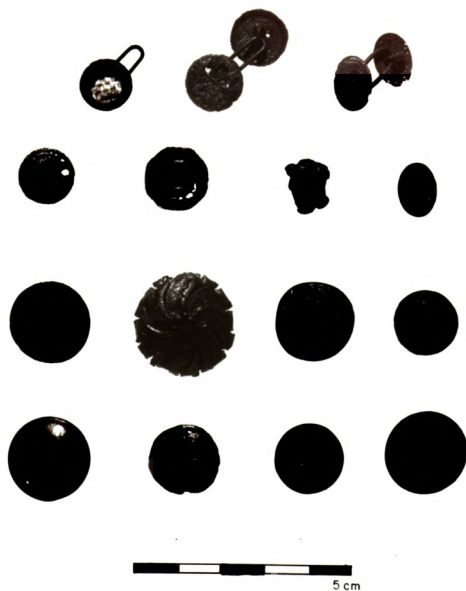


Figure 7. Buttons and Cufflinks

Series C Flanged or winged hook; single pronged tongue

Type 1 Rectangular Iron Frame with Rounded Corners;  
Iron Hook, Tongue and Hinge Bar

Variety d (new variety) Decorated

N - 1 (Figure 8p)

Plow Zone L - 28.95 mm; W - 19.7 mm;  
Hook W - NMP

Variety e (new variety) Undecorated

N - 1 (Figure 8l)

N955W905 L - 25.3 mm; W - 21.1 mm;  
Hook W - NMP

Stone attributes CISC buckles from Fort  
Michilimackinac to the French period of  
occupation, 1715 to 1740-1750 (1974b:33).

Type 11 Rectangular Brass Frame with Rounded corners;  
Iron Hinge Bar and Tongue; Brass Hook

Variety a (new variety) Undecorated

N - 1 (Figure 8g)

F68 L - 24.05 mm; W - NMP  
Max. Hook W - 13.7 mm

Specimen has a touchmark on the hook.

Class I Series C Category 1 Hook elements used with CISC buckles;  
varieties based on materials

Variety g (new variety) Iron hook; brass wire tongue and  
hinge bar

N - 1 (Figure 8a)

N875W875 Max. corroded Hook W - 14.7 mm

This specimen appears to have been repaired by inserting  
a brass wire or straight pin for the tongue and hinge  
bar. Lead was then either wrapped around the bar to  
position the hook or to repair the entire frame. The  
original tongue and hinge bar may have been iron.

Variety h (new variety) Iron hook, tongue and hinge bar

N - 1

N955W895 NMP

Series D Flanged or winged hook; double pronged tongue

Category 1 Hook and tongue fragments for CISC buckles

Variety e Iron hook, hinge bar and tongue

N - 1

N1015W950 NMP

Class I Category 1 Buckle elements not assignable to specific series

Type 1 Frames with Fragmentary Hook Elements

Variety d Decorated brass; rectangular frame with rounded corners; iron flanged hook element

N - 1 (Figure 8o)

N875W875 L - 28.4 mm; W - 23.7 mm

Specimen has a cast geometric design.

Type 2 Hook Elements

Variety a Iron

N - 1

N1015W950 NMP

Specimen has a heart shaped hole in the center of the hook, which could be either pronged or flanged.

Buckle Category 1 Frames

Series A Rectangular frame

Type 1 Iron

Variety a Undecorated

N - 2 (Figure 8i)

N930W790 NMP

F68 L - approx. 44.15 mm;  
W - approx. 30.95 mm

The specimen from F68 has an iron hinge bar.

Variety b Open geometric pattern

N - 1 (Figure 8b)

N930W970 NMP

## Type 2 Brass

Variety a Frame with inset clear glass facets

N - 2 (Figure 8f)

N990W964 NMP

N875W875 NMP

## Series B Rectangular frame with rounded corners

## Type 1 Brass

Variety a Undecorated

N - 1 (Figure 8h)

F68 W - 22.0 mm

This specimen probably had an iron hook and tongue. The hinge bar appears to have been repaired by inserting a brass straight pin. The head catches on one side and the pointed end has been bent to catch at the other side.

Variety b Decorated

N - 1 (Figure 8e)

N955W895 NMP

Cast brass with small (2.3 mm) glass faceted insets.

Variety c Decorated

N - 1 (Figure 8c)

N955W895 NMP

Variety d Decorated

N - 1 (Figure 8d)

F68 NMP

Specimen is silver plated.

## Series C Elongate-rectangular with rounded corners

## Type 1 Brass

Variety a Undecorated

N - 1 (Figure 8n)

F33 L - 29.7 mm; W - 30.55 mm

Buckle Discussion. The small buckle sample from Fort Ouiatenon does not permit extensive comment on national origins or dates of use. In general they are very similar in material and form to those found at Fort Michilimackinac and Fort St. Joseph. Most are small to medium in size. Date ranges from Stone's analysis are wide; many could date from between 1715 and 1781. Only one group, CISCT1 (small iron buckles), can definitely be attributed to the French period of occupation, based on Stone's evidence. One of these buckles at Ouiatenon is from the forging area.

Of the twenty buckles present, eight, or 40 percent, come from in or around F68 (pit north of the storehouse) and four, or 20 percent, come from the forging area.

#### Hooks and Eyes

Hooks	N - 2	
	F56	Brass; L - 15.7 mm; W - 10.9 mm
	F68	Iron; NMP
Eyes	N - 4	
	N955W895	Brass; L - 11.6 mm; W - 10.8 mm
	N955W905	Brass; L - 11.7 mm; W - 9.9 mm
	N1015W950	Iron; NMP
	F68	Iron; L - 11.6 mm; W - NMP

Hook and Eye Discussion. Of the small number of hooks and eyes recovered, 50 percent were from the storehouse area (F56 and F68), 33 percent were from the forging area, and 17 percent were from the basement area in N1015W950. Stone states that hooks and eyes were in use during the entire occupation of Fort Michilimackinac (1974b:83).

Figure 8

## Buckles

Row 1	a.	N875W875 CISCCat.1Vg
	b.	N930W970 Cat.1SAT1Va
Row 2	c.	N955W895 Cat.1SBT1Vc
	d.	F68 Cat.1SBT1Vd
	e.	N955W895 Cat.1SBT1Vb
	f.	N990W964 Cat.1SAT2Va
	g.	F68 CISCT11Va
	h.	F68 Cat.1SBT1Va
	i.	F68 Cat,1SAT1Va
	j.	N955W895 harness buckle
Row 3	k.	N990W964 harness buckle
	l.	N955W905 CISCT1Ve
	m.	F33 CISBT1Vb
	n.	F33 Cat.1SCT1Va
Row 4	o.	N875W875 CICat.1T1Vd
	p.	Plow Zone CISCT1Vd



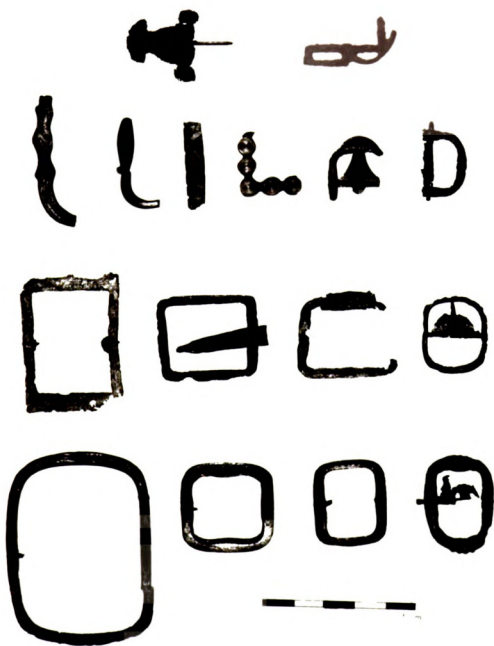


Figure 8. Buckles

## Adornment

Tinkling Cones N - 73

Of the tinkling cones recovered at Fort Ouiatenon, fifty were brass, fourteen were copper, six were iron and three were silver or silver plated brass. While hundreds more tinkling cones were recovered at Fort Michilimackinac and at Fort St. Joseph, it can be seen in Table 31 that the size ranges are very similar at all three sites.

Tinkling Cone distribution: N930W1020, N930W1000, N930W980, N930W970, N930W760, N1030W964, N1010W1000, N1020W1000, N980W1000, N1065W918, N815W1003.5, N865W865, N875W865-2, F56 Balks-3, Backhoe Trenches-4, N875W875-5, N955W905-6, Plow Zone-6, N955W895-10, N1015W950-12, F30-3, F33, F50, F55, F56, F65, F67, F68-3, F39.

Lead Ornaments N - 5

## Series A Cast

## Type 1 Heart Shaped Brooches

Variety a Raised bead design on front of brooch

N - 2

F49

F53

W range - 16.9 - 21.5 mm

Tongue runs vertically to the point of the heart and is immovable on both specimens.

## Type 2 Cross

Lead cross with expanding arms; broken at the top.

N - 1

N955W895 W at arms - 21.5 mm

## Type 3 Inverted Cross

Cross shaped pendant with a hole at the bottom so the piece hangs upside down.

N - 1

N955W905 L - 24.3 mm; W - 14.5 mm

Table 31. Tinkling Cones--Comparative Site Information

Site	Location	Site Dates	Frequency	Length Average	Length Range	Source
Ouiatenon	Lafayette, Indiana	1717-1791	73	24.53 mm (67 spec.)	11.9-74.9 mm	
Michilimackinac	Mackinac City, Michigan	1715-1781	1125	25.53 mm (146 spec.)	11.6-42.8 mm	Stone 1974b:135
St. Joseph	Niles, Mi.	1691-1781	373	31.0 mm	11.2-55.0 mm	Hulse 1977:441
Fletcher	Bay City, Mi.	1740-1770	304	(not given)	8.1-50.1 mm	Mainfort 1979:363
Lasanen	St. Ignace, Michigan	1670-1715	21	20.0 mm	12.0-28.0 mm	Cleland 1971:27
Bell	Winnebago Cty., Wisc.	1680-1730	43	20.0-30.0 mm	(not given)	Stone 1974b:135
Gilbert	Texas	1750-1775	46	20.0-40.0 mm	16.0-66.0 mm	Stone 1974b:135
Guebert	Randolph Cty., Illinois	1719-1833	59	(not given)	(not given)	Good 1972:87

## Series B Hammered

## Type 1 Diamond

N - 1

N955W905 L - 22.8 mm(est.); W - 7.5 mm; Thickness -  
.55 mm

Medallion N - 1

A silver or tin plated, eight sided medallion with incised line decoration. The decoration does not appear to have a religious motif. No attachment mechanism is visible.

F68 (see Figure 16g)

Brass Chain N - 1

Five wire sections with hooked ends connected by S-shaped wire links; each wire section is covered with a brass coil.

N875W875

Brass Wire Ring N - 1

A thin brass wire in a circle, with its ends coiled around and back over a loop to close the opening. Coiled around the wire of the loop is another very thin brass wire. There are two red seed beads on the wire. This specimen measures approximately 15.0 mm in diameter and a similar specimen from Fort Michilimackinac (Stone 1974b:126) has been identified as a ring.

Glass Dangle N - 1

Ice blue, translucent, molded and faceted teardrop shaped glass dangle, used as a decoration or possibly as a button. There appears to be more wear on one side than the other, leading to the suspicion that one side rubbed against something regularly as would happen if this item was used as a button. A faint seam line appears around the edges of the glass. In most places, however, the edges have been flattened slightly, obscuring the seam.

No Provenience; from backfill around the forging area  
L - 23.9 mm; W - 18.0 mm; Bore - .9 mm

Bone Pendant N - 1

Perforated triangle of cancellous bone; the remains of red pigment are present on one side of the pendant.

N955W895 H - 54.0 mm; Base W - 54.7 mm; Thickness - 9.9 mm

Earrings N - 2

The first specimen, from F66, is a silver earring with clear glass facet. The ear attachment is hinged and made for a pierced ear. There are two extra loops for other possible attachments. Similar specimens were found at Fort Michilimackinac and were dated by Stone (1974b:135) to between 1735 and 1760, and tentatively attributed to the French period of occupation of that fort. The second specimen is a fragment from an earring of the style described above. It is from N1050W964 and consists of the facet backing and part of the hinge element.

Cut Geometric Shapes of Brass and Copper N - 22

## Type 1 Triangles

## Variety a Perforated brass

N - 11

N935W1000-2, N955W905, N955W895, N1015W950,  
N1030W1000, N861W865, F38, F43, F56, F53

L Range - 18.4-27.7 mm (9 specimens);

W Range - 15.0-21.9 mm (8 specimens)

## Variety b Perforated and unperforated copper

N - 9

N930W1020, N930W1000, N930W990, N930W980,  
N955W905, N1015W950, N875W865, F50, F65 (no  
perforation)

L Range - 14.8-19.7 mm (5 specimens);

W Range - 12.0-18.8 mm (8 specimens)

## Type 2 Diamond

This piece of unperforated copper may be a rivet blank (see Stone 1974b:189).

N - 1

N875W865 24.5 mm by 12.5 mm

## Type 3 Five Sided

## Perforated Brass

N - 1

N930W1000 30.3 mm by 15.1 mm

Cut Geometric Shapes Discussion. All of the cut geometric shapes were made of sheet brass and copper. Some have bevelled edges. They were probably used as dangles and trinkets, with the exception of the possible rivet blank. One may have been used as a patch as it has a nail through it.

Adornment Discussion. As with other artifact categories, many of these articles of adornment were found in the forging area or the storehouse area. They comprise but a small part of the Fort Ouiatenon assemblage, though a number of articles of adornment (e.g. brooch assemblies) have been described under trade goods since they are frequently mentioned in trade goods lists.

Most artifacts described here are rather plain, with the exception of the medallion and earrings, and many could have been made at the fort. The tinkling cones and cut geometric shapes especially could have been manufactured there for French people and Indians alike.

## Activities

Jews Harps N - 16

Series B Diamond shaped cross section; tapered shank

## Type 1 Brass

## Variety a Rounded head

N - 13

N930W1000

L - NMP; W - 25.6 mm

Plow Zone (f)	L - 56.5 mm;	W - 25.8 mm
N930W790	L - NMP;	W - NMP
N1010W964 (f)	L - 62.4 mm;	W - 27.0 mm
N875W875	L - 54.6 mm;	W - 25.5 mm
N861W865 (f)	L - 56.0 mm;	W - 26.0 mm
	(specimen has flared shank ends)	
F38 (f)	L - NMP;	W - 26.6 mm
F50 (f)	L - NMP;	W - 23.5 mm
F50	L - NMP;	W - 26.6 mm
F56	L - 48.8 mm;	W - 24.2 mm
F56 (f)	L - 70.5 mm;	W - 32.9 mm
F56	L - 50.1 mm;	W - 23.7 mm
F65 (f)	L - 56.5 mm;	W - 25.3 mm

f = visible file marks

#### Variety b Triangular head

N - 1		
N955W905	L - 53.1 mm;	W - 29.9 mm

#### Type 2 Iron

##### Variety a Rounded head

N - 2		
F50	L - NMP;	W - 32.8 mm
F52	L - NMP;	W - 28.7 mm

Both of these specimens have flattened center ridges on the shank.

#### Brass Circle N - 1

A thin disc of brass, estimated to be about 25.0 mm in diameter, with a small design stamped in the center. This design is impressed on one side and in relief on the other. It consists of four wedges of varying sizes forming a disconnected circle.

F67 (see Figure 16e)

#### Kaolin Pipes

##### Class I Marked or Decorated

##### Series A Molded mark or decoration

##### Type 7 Scroll, Branch or Floral Design Elements

Variety f (new variety) Floral design on bowl front and radiating to sides; prominent mold seam

N - 2

Backhoe Trench #1 - 2 (Figure 9h)

Stone dates pipes from Fort Michilimackinac with floral design elements to after 1770 "on the basis of comparative evidence" (1974b:147).

Type 8 (new type) Molded RT within Molded Heart

N - 8

N930W970 N955W895 - 3 (Figure 9b)

N955W905 N865W875

N1015W950 F39

Decoration is located on the side of the bowl. These appear to be heeless pipes, similar to those in T1 but without the star motif.

Type 9 (new type) RT within Beaded Circle; Four Raised Dots above and below RT

N - 5

N955W895 - 2 N1010W990 (Figure 9c)

N1000W964 F39

Decoration is located on the side of the bowl.

Type 10 (new type) R inside a Beaded Circle  
TIP  
PET

N - 1

N865W865 (Figure 9f)

Heeless pipe with decoration located on the side of the bowl. Stone (1974b:149) dates R. Tippet pipes to between 1740 and 1780 and attributes them to both French and British use. Walker (1971:79) dates their period of manufacture to between 1678 and 1720+ and attributes them to the Tippet family of Bristol.

Type 11 (new type) Cartouche, probably Dutch, on bottom front of bowl

N - 1

N930W990

The cartouche on this pipe is indecipherable.



## Type 12 (new type) Double Line Molded around Rim

N - 1

F39 (Figure 9j)

This pipe does not conform in shape to any of the others from Fort Ouiatenon. It has an urn shaped bowl, everted rim, elongated and constricted neck, and a bulbous base.

## Class I Series A Category 1 Bowl fragments with partial molded decoration but not enough to tell the full decoration

N - 5

N955W905 Possible RI inside heart

N955W895 Possible RI inside heart

N1015W950 Possible RT inside beaded circle

F50 Possible RI within heart

F53 Unidentifiable

## Series B Stamped decoration

Note: The kaolin pipes from Fort Ouiatenon were in much more fragmentary condition than those from Fort Michilimackinac. Under Stone's classification, most of the CISB pipe fragments from Ouiatenon would have to be included within the Pipe Bowl Category 1 (see Stone 1974b:150) which does not treat the design elements present. For this reason, I have departed here from Stone's system and created two sub-series. These sub-series allow me to point out the various design elements present on Ouiatenon pipe fragments.

## Sub-series A Bowl fragments; no heels present

## Type 1 TD Stamped Decoration on Bowl

Variety a Small TD over fleur-de-lis, and inside heart

N - 2

N955W895

N930W990 (Figure 9d)

Variety b TD letters inside circle; winged or curled leaf design above letters, curlique under letters

N - 6

N930W1000

N955W905 - 2

N875W865

N875W875

Plow Zone (Figure 9g)

Variety c TD letters inside circle;  
winged or curled leaf design  
below letters and what appears  
to be a J above the TD

N - 1  
N930W980

Type 1 Category 1 TD stamped design; entire  
design not visible

N - 9  
Plow Zone - 2 N875W865  
N955W895 N875W875  
N1015W950 N865W875  
N861W875 F56 Balks

Type 2 WG Stamped Decoration on Bowl

Variety a WG inside circle with winged or  
curled leaf design above and  
below letters

N - 4  
N1015W950 N1050W964  
N861W875 N861W865 (Figure 9a)

Type 3 -OD inside Heart with Winged or Curled  
Leaf Design below Letters

N - 1  
F33 (Figure 9e)

Type 4 Rouletted Bowl Rim Decoration; Bur-  
nished Bowl

N - 2  
N1015W950 (Figure 9i)

Kaolin pipes with burnished surfaces  
and rouletted rim decorations are  
generally considered to be of Dutch  
manufacture. Stone states that Dutch  
pipes at Fort Michilimackinac were  
in use more frequently during the  
French period of occupation (1974b:151).

Sub-series A Category 1 Stamped design; undecipherable

N - 5  
N930W1020 N930W980 - 2  
N955W895 - 2

Figure 9

## Kaolin Pipe Bowls

Row 1	a.	N861W865 CISBSsAT2
	b.	N955W895 CISAT8
	c.	N1010W990 CISAT9
Row 2	d.	N930W990 CISBSsAT1Va
	e.	F33 CISBSsAT3
	f.	N865W865 CISAT10
Row 3	g.	Plow Zone CISBSsAT1Vb
	h.	Backhoe Trench #1 CISAT7Vf
Row 4	i.	N1015W950 CISBSsAT4
	j.	F39 CISAT12

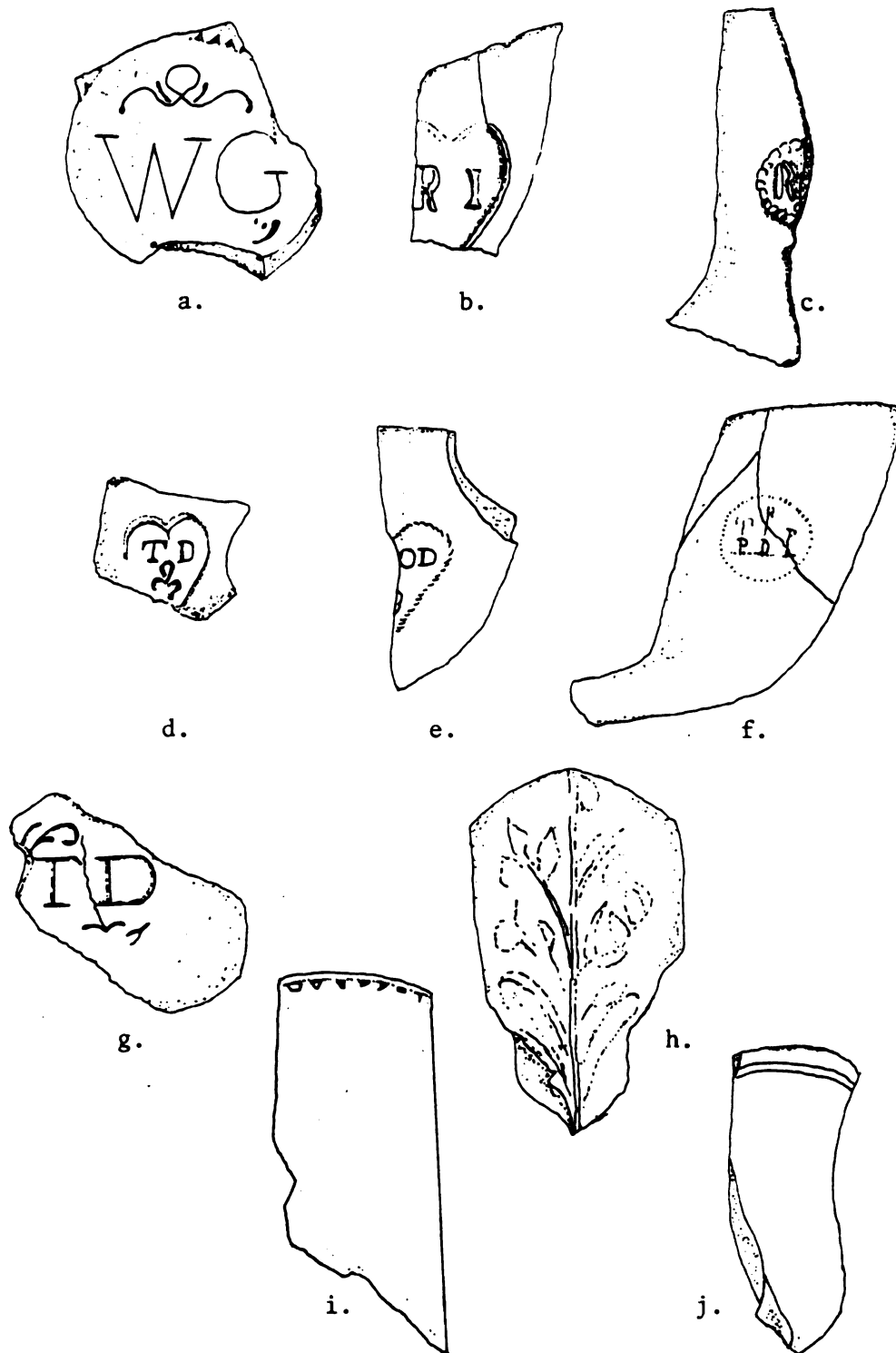


Figure 9. Kaolin Pipe Bowls

## Sub-series B Heel fragments without bowls

## Type 1 Small Crowned 16 Mark on Bowl Base

N - 1

F50 (Figure 10a)

Dutch manufacture (see Stone 1974b:149).

## Type 2 Small Crowned 10 on Bowl Base

N - 1

Plow Zone (Figure 10b)

Walker identifies the crowned 10 as a Gouda mark (1971:79).

## Series C Molded and stamped decoration

## Type 2 TD Inside Rouletted Circle; Winged Dot Design below Letters on Bowl Back; TD Molded on Heel

N - 2

N875W875

N955W905

On this specimen, the section above the letters is missing.

## Type 5 (new type) TD over Fleur-de-lis inside Small Heart on Bowl Back; Molded Heart on Heel

N - 1

N1040W964

## Type 6 (new type) WG in Stamped Circle on Bowl Back; WG Molded on Heel

N - 1

N955W895

## Type 7 (new type) Large Stamped WG on Bowl Back with Molded WG on Heel

N - 1

F33

## Type 8 (new type) Rouletted Beaded Border around Bowl Rim; Molded Beaded Circle on Bowl Body

N - 1

Backhoe Trench #1

## Class II Plain Bowls

This class includes bowl fragments with no decoration, some of which probably came from decorated bowls.

N - 305	
No Prov.	N1055W918
Surface - 3	N1065W918
Plow Zone - 28	N1050W1000
N930W1010 - 4	N1015W940 - 6
N930W1020 - 4	N865W865 - 2
N930W1000 - 13	N875W865 - 9
N930W990	N875W875 - 7
N930W980 - 4	N865W875
N930W970 - 4	F56 Balks - 4
N935W1000 - 7	F30 - 2
N935W990	F33 - 3
N955W905 - 23	F35
N955W895 - 65	F38 - 2
N930W770	F39
N930W780	F40 - 2
N930W790	F43
N930W820	F46 - 3
N1040W964 - 2	F49
N1015W950 - 19	F50 - 4
N1010W990 - 6	F52 - 3
N1020W990 - 8	F53 - 4
N1030W990 - 2	F56 - 9
N1030W1000	F60
N861W875 - 18	F65
N980W1000 - 5	F68
N1050W964 - 3	Backhoe Trenches - 8

## Pipe Bowls Category 1

## Type 1 Bases with Short, Flattened Heels

## Variety a Plain

N - 12	
No Prov.	N1015W950
N930W1000	N861W865
N955W905 - 2	Backhoe Trench #3
N955W895 - 2	F56
N930W790 - 2	

## Variety b TD; one letter on each side of heel

N - 10	
N930W970	N955W905 - 3
N935W1000	N955W895
N861W875	N875W875
F30	F56

## Variety c WG

N - 5  
 N955W905 F33  
 N955W895 F56  
 N861W875

## Variety d WM

N - 1  
 F60

## Variety e M or WT on each side of heel

N - 3  
 N1015W940  
 N865W875  
 F56

## Variety f Heart on each side of heel

N - 7  
 Plow Zone N1015W950 (Figure 10e)  
 N930W1020 N1000W964  
 N1040W964 N880W1000  
 F56 Balks

## Variety g Double heart on each side of heel

N - 1  
 N935W1000

## Type 1 Category 1 Indecipherable decoration on sides of heel

N - 1  
 N875W865

## Type 3 No Heel

N - 25  
 No Prov. F56 - 4  
 Plow Zone - 2 F35 - 2  
 N935W1000 F46  
 N955W905 F50  
 N955W895 - 4 F52 - 2  
 N1015W950 - 2 F57  
 N865W865  
 N875W865  
 N875W875

## Kaolin Pipes Stems

## Type 1 Decorated

Variety a (new variety) Rouletted design  
around circumference of stem

N1010W1000 (Figure 10d)

F56 - 2 (Figure 10c)

Stone interprets these pipes as being  
of Dutch manufacture and French use  
between 1715 and 1735 (1974b:150).

## Type 2 Undecorated

N - 986

The plain pipe stem fragments from Fort Ouiatenon  
were found over the entire site area; many of  
them bear paring and shaping marks.

Kaolin Pipe Discussion. Of the seventy-four pipe bowls whose  
shape was identifiable, forty-three conformed to Noel-Hume's Types  
15 and 16 (1974:303). Type 15 is dated to between 1700 and 1770  
while Type 16 is dated to between 1730 and 1790. Thirty bowls con-  
formed to Type 18, 1720-1820. The final bowl (CISAT12) is anomalous  
when compared to other kaolin pipe bowls.

Of the entire pipe stem sample (N - 989), 981 were measured  
for bore diameters and calculation of the mean site date using  
Binford's formula (Maxwell and Binford 1961:108). Bore diameters  
are as follows:

3/64	18
4/64	744
5/64	209
6/64	10

The mean site date calculated from these figures was 1771.55. Though  
this date is rather late it becomes somewhat more reasonable when one



Figure 10

## Kaolin Pipe Bases and Stems

- |       |    |                             |
|-------|----|-----------------------------|
| Row 1 | a. | F50<br>CISBSsBT1            |
|       | b. | Plow Zone<br>CISBSsBT2      |
| Row 2 | c. | F56<br>Stem T1Va            |
| Row 3 | d. | N1010W1000<br>Stem T1Va     |
| Row 4 | e. | N1015W950<br>Bowl Cat.1T1Vf |

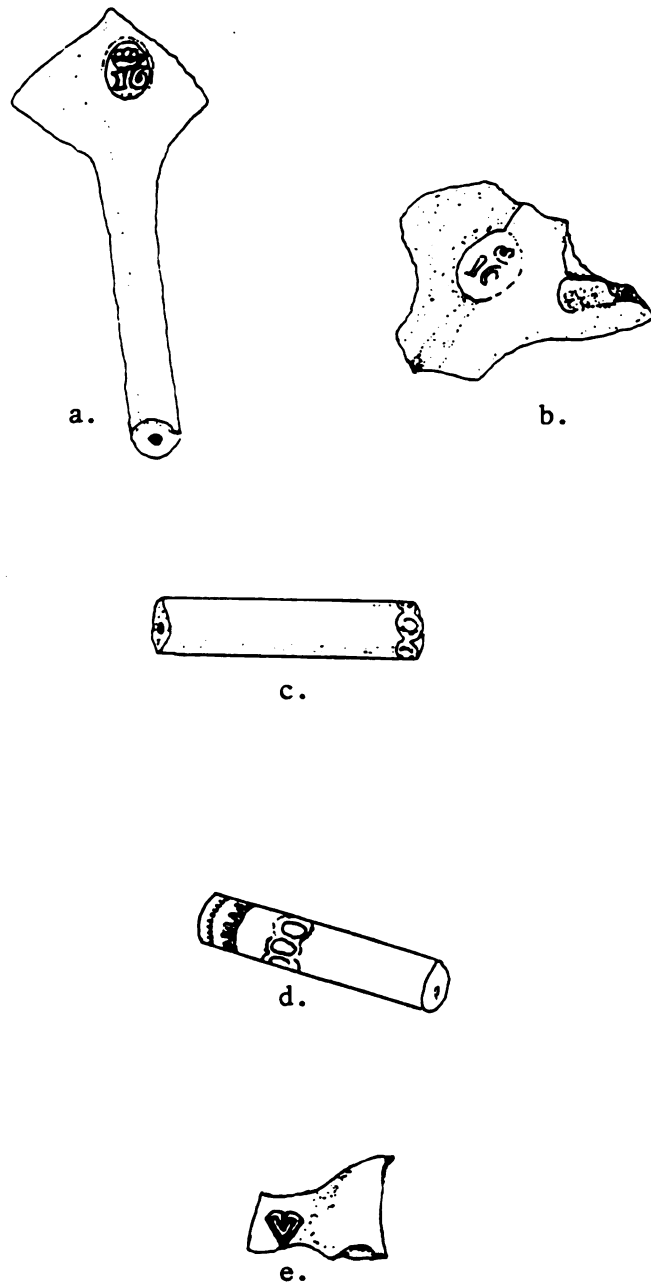


Figure 10. Kaolin Pipe Bases and Stems

considers that after the fort was no longer garrisoned it was still used frequently by Americans, British and French until well into the 1780's.

Most kaolin pipes were of either English or Dutch manufacture. Stone attributes the TD pipes at Fort Michilimackinac to French and British use after 1750 (1974b:149). Walker attributes the TD pipes at the Fortress of Louisbourg to use in the mid-1750's (1971:86).

### Stone Pipes

#### Group I Bases

Type 1 Elbow Pipes; Bowl Rises at a Right Angle to and at the Extreme End of Base N - 4

##### Variety a Plain

N - 1

F65 L - 3.27 cm (broken); H - 1.78 cm;  
Base W - 1.64 cm  
(Figure 11c)

Mudstone; square in longitudinal cross section of shaft; bowl end rounded; base appears to be getting larger toward smoking end

##### Variety b Relief decorated

N - 3

N861W875 Shaft D - 1.6 cm; Shaft L - 3.2 cm  
from mouthpiece to juncture of shaft  
and raised bowl  
(Figure 11d)

Mudstone; straight, round shaft with collar with two ribs at either end and perforated tab projecting downward from collar. That the bowl rises at a right angle from the shaft can be seen from the drilled hole. The shaft is in lower relief than both the collar and the bowl.

F50 L - 7.1 cm; Shaft D - 1.44 cm x 1.32 cm  
(oval)  
(Figure 11e)

Mudstone with limonite; rounded plain shaft in

cross section; the shaft curves upward slightly toward the bowl end, making the pipe resemble some of the Iroquois trumpet shaped pipes. However, from the mark left from drilling the bowl, it appears to have risen straight from the base of the shaft, though it is possible that it was at an angle. The mouthpiece consists of a collar with a single incised line which ends on both sides at the beginning of a perforated tab projecting downward.

N955W905      L - 3.49 cm (broken); base D -  
1.27 cm  
(Figure 11h)

Catlinite; rounded shaft and part of bowl, both of which are carved into raised geometric figures.

## Type 2 Offset T-Shaped Pipes (calumets?) N - 2

### Variety a Incised and relief decorated

N - 2

F50      Shaft L - 10.0 cm; W at bowl - 1.63 cm;  
W at mouthpiece - 1.83 cm  
(Figure 11L)

Mudstone; shaft is squared in cross section, tapering toward the bowl and beyond to the end of the shaft. The shaft is broken at the tip but appears to taper to an upraised point at the end. It is outlined on the sides by one incised line along the bottom of the shaft and two lines running up and down by the mouthpiece. Running the length of the shaft is a keel. It has a pointed, wavy edge which is outlined with an incised line. Each point has a side to side groove incised into it. Each point in the keel has a small, shallow hole above the incised line. There is a small perforation in the keel, beneath the mouthpiece. The bowl is broken off.

N1015W950      L - 4.88 cm; shaft H - 1.92 cm;  
shaft W - 1.62 cm  
(Figure 11g)

Mudstone with limonite; rectangular shaft with carved, rounded mouthpiece set off from the shaft. Corners of the rectangular shaft are slightly bevelled. The shaft is decorated with incised lines, compass-incised circles, and shallow cone shaped holes. At the mouthpiece

end are zig-zags in relief carved into the shaft and setting off the round mouthpiece. Crudely made.

### Type 3 Mic-mac Pipes N - 10

These pipes consist of variations on the basic mic-mac base, which is shaped like an inverted, truncated triangle. The base is separated from the bowl, which is directly above it, by a short neck.

#### Variety a Plain, regular shape

N - 3

N955W905      Base H - 2.1 cm; shoulder L -  
2.1 cm; greatest shoulder W -  
1.76 cm  
(Figure 12c)

Mudstone; plain base, bevelled at an angle out toward the mouthpiece starting about half way along the base from front to back.

N955W905      L at shoulder - 2.58 cm; W - NMP;  
base H - 2.5 cm  
(Figure 12d)

Limestone; pipe in preparation; bowl and base holes have been partially drilled but do not connect; piece probably broken at that time. No decoration as yet.

F53      Base H - 2.42 cm; max. shoulder W -  
2.41 cm

Mudstone; plain base with no perforation; possibly in the process of manufacture, this specimen was found in two pieces and it is hard to tell whether it was the result of a shovel or whether it was broken during manufacture.

#### Variety b Incised decoration, regular shape

N - 4

N955W895      Shoulder L - 2.19 cm (mouthpiece  
to front); bottom L - 1.33 cm;  
shoulder W - 1.73 cm; base W -  
.82 cm  
(Figure 12f)

Mudstone; perforated at base; two small and shallow drilled holes on outside shoulders closest to mouthpiece.

N955W895      Base H - 2.0 cm; shoulder L -  
2.44 cm; shoulder W - 1.52 cm  
(Figure 12g)

Mudstone; perforated base with five small drilled holes on each side of base along shoulder from front to back.

N955W905      Shoulder L - 2.37 cm; base H -  
2.28 cm; shoulder W - NMP  
(Figure 12h)

Catlinite; plain base with perforation at base bottom. Base mouthpiece has been repaired with lead by inserting a plug of lead all the way into the hole and shaping it to conform to the contours of the base. Also, two small holes have been filled with lead, one on each side of the base but not representing a single hole through the base.

N1015W950      NMP  
(Figure 12a)

Limestone; base has incised line and compass incised circle decoration on sides and at least one end.

Variety c    Incised decoration; rectangular shape

N - 2  
N1015W950      Base L at shoulder - 2.2 cm;  
base H - 1.5 cm; base W at  
shoulder - NMP  
(Figure 12b)

Limestone; plain base on ends, incised line decoration on sides.

N1020W990      NMP

Mudstone; there appear to be several crudely incised lines on the sides of the base.

Variety d    Relief decorated; square shape

N - 1  
N1010W990      W and L - NMP; base H - 1.96 cm  
(Figure 12e)

Catlinite (possibly Wisconsin catlinite due to the stone's brownish color); plain base except for a deep groove, .4 cm wide, running from the shoulder at the front of the base

under the bottom, and presumably to the stem hole on the mouthpiece. The remaining raised portions are highly polished.

Group I Category 1 Unidentifiable pipe fragments

Variety a Incised decoration

N - 2

Plow Zone L - 2.69 cm (broken); D - 1.23 cm  
(Figure 11f)

Mudstone with limonite; transverse cross section is round; bit has a shallow incised line around it. There is also a more deeply incised band 2.0 cm forward of the bit. It circles only the left side of the shaft. A perforated tab is located below the bit. This is likely an elbow pipe shaft; it resembles in material and appearance pipe #2 of GIT1Vb.

N955W905 L - 3.76 cm; side H - 1.4 cm

Catlinite; square to rectangular in transverse cross section; neither bit nor bowl indication present. The design consists of incised lines: side 1 is a fish with scales and fins, side 2 is a straight line above a zig-zag line. Below this is part of what appears to be a sun, plus some other lines and figures. The fish is similar to a serpent carved in a calumet pipe from the Fletcher Site (Mainfort 1979:365). From what is present of the Fort Ouiatenon specimen it could be an L-shaped pipe, an elbow pipe or a calumet pipe.

Variety b Relief decorated

N - 2

N930W980 L - 4.4 cm (broken); H at bit -  
1.89 cm; W at bit - 1.66 cm  
(Figure 11k)

Catlinite; square in transverse cross section, tapering slightly away from the mouthpiece end. Specimen has a keel either on top or below. The shaft has a perforation just above the mouthpiece. The bottom of the keel is carved into a curvilinear geometric design. This specimen could be an elbow, calumet or L-shaped pipe.

N1065W918 L - 1.96 cm (broken)  
(Figure 11i)

Figure 11

## Stone Pipe Bases

Row 1	a.	N955W905 Cat. 1 Mudstone
Row 2	b.	Plow Zone Cat. 1 Mudstone
	c.	F65 GIT1Va Mudstone
	d.	N861W875 GIT1Vb Mudstone
Row 3	e.	F50 GIT1Vb Mudstone with limonite
	f.	Plow Zone GICat. 1Va Mudstone with limonite
	g.	N1015W950 GIT2Va Mudstone with limonite
Row 4	h.	N955W905 GIT1Vb Catlinite
	i.	N1065W918 GICat. 1Vb Catlinite
	j.	N955W905 GICat. 1Va Catlinite
	k.	N930W980 GICat. 1Vb Catlinite
Row 5	l.	F50 GIT2Va Mudstone





Figure 11. Stone Pipe Bases

Figure 12

## Stone Pipe Bases

Row 1	a.	N1015W950 GIT3Vb Limestone
	b.	N1015W950 GIT3Va Limestone
Row 2	c.	N955W905 GIT3Va Mudstone
	d.	N955W905 GIT3Va Limestone
	e.	N1010W990 GIT3Vd Catlinite
Row 3	f.	N955W895 GIT3Vb Mudstone
	g.	N955W895 GIT3Vb Mudstone
	h.	N955W905 GIT3Vb Catlinite



Figure 12. Stone Pipe Bases

Catlinite; base triangular in transverse cross section; catlinite is carved forming a groove and ridge from the bit around the front and back of the bit. The perforation is below this ridge. The end point of the bowl hole drilling is at the front of the base. Possibly a mic-mac or a re-worked elbow pipe.

Variety c Incised and relief decorated

N - 1  
N875W865 NMP

Limestone; bit has raised collar in four parts, each set off by an incised line; probably an elbow or L-shaped pipe.

Group II Bowls

Type 1 Mic-mac Pipes N - 7

Acorn shaped bowls, smaller in diameter at the bowl lip; largest diameter at the shoulder or just below it; constricted neck directly over base.

Variety a Plain

N - 3  
F39 Lip D - 2.07 cm; shoulder D - 2.71 cm;  
body D - 2.15 cm; bowl H - 2.13 cm  
(Figure 13k)

Mudstone; plain round bowl.

F67 Lip D - 2.13 cm; shoulder D - 2.65 cm;  
body D - 2.81 cm; H - 2.38 cm

Mudstone; possibly in process of manufacture.

N875W875 Lip D - 2.22 cm; shoulder D -  
2.82 cm; body D - 2.85 cm  
(Figure 13d)

Mudstone.

Variety b Relief decorated

N - 2  
N1015W950 Lip D - 2.07 cm; shoulder D -  
2.98 cm; body D - 3.0 cm; bowl  
H - 2.68 cm  
(Figure 13h)

Mudstone; incised line decoration around bowl lip and shoulder; octagonally faceted neck.

N955W895      Lip D - 2.24 cm; shoulder D -  
2.19 cm; body D - 2.61 cm; bowl  
H - 2.09 cm  
(Figure 13i)

Mudstone; raised lip rim and shoulder/neck  
junction.

Variety c    Incised decorated

N - 1  
N875W875      Lip D - 1.72 cm; shoulder D -  
2.14 cm; body D - 2.29 cm; bowl  
H - 2.12 cm  
(Figure 13j)

Mudstone, polished; decoration consists of a  
raised lip rim and an incised chevron pattern  
around the bowl. The neck has been pared,  
creating uneven facets.

Variety d    Inlaid

N - 1  
N930W970      Lip D - 2.15 cm; shoulder D -  
2.47 cm; body D - 2.53 cm; bowl  
H - 2.34 cm  
(Figure 13e)

Limestone; decoration consists of an inlaid  
lead band around the bowl, possibly a repair.  
The neck has been pared.

Type 1    Category 1    Mic-mac bowl fragments

Variety a    Plain, round bowl

N - 3  
N935W1000      Bowl H - 2.53 cm

Limestone.

F43      Bowl H - 2.43 cm

Mudstone; pipe is in preparation; the hole has  
not been completely drilled.

N955W905      Bowl H - 2.24 cm

Catlinite.

## Variety b Round bowl with raised decoration

N - 2

N955W905 Bowl H - 2.22 cm  
(Figure 13c)Limestone; raised lip rim and shoulder/neck  
juncture.N955W895 NMP  
(Figure 13b)Mudstone; raised lip rim and shoulder/neck  
juncture.

## Variety c Round bowl with incised decoration

N - 4

F49 Bowl H - 2.44 cm  
(Figure 13g)Catlinite, polished; incised line around  
shoulder.

N955W895 NMP

Limestone, polished; incised line around  
shoulder; lip rim not visible.

N1040W964 NMP

Limestone; shallow drilled holes and geo-  
metric incised line decoration.Backhoe Trench #1 NMP  
(Figure 13a)

Limestone; incised zone geometric decoration.

## Variety d Faceted bowl with incised decoration

N - 2

F68 NMP  
(Figure 13f)Limestone; octagonal bowl with incised geo-  
metric repeating decoration on each facet.

N930W780 Bowl H - 2.41 cm

Limestone; pipe appears to be the same as  
that from F68 described above.

## Type 2 Elongated Pipe Bowls

Figure 13

## Stone Pipe Bowls

- |       |    |  |
|-------|----|--|
| Row 1 | a. | Backhoe Trench<br>GIIT1Cat. 1Vc<br>Limestone |
|       | b. | N955W895<br>GIIT1Cat. 1Vb<br>Mudstone        |
|       | c. | N955W905<br>GIIT1Cat. 1Vb<br>Limestone       |
| Row 2 | d. | N875W875<br>GIIT1Va<br>Mudstone              |
|       | e. | N930W970<br>GIIT1Vd<br>Limestone             |
|       | f. | F68<br>GIIT1Cat. 1Vd<br>Limestone            |
|       | g. | F49<br>GIIT1Cat. 1Vc                         |
| Row 3 | h. | N1015W950<br>GIIT1Vb<br>Mudstone             |
|       | i. | N955W895<br>GIIT1Vb<br>Mudstone              |
|       | j. | N875W875<br>GIIT1Vc<br>Mudstone              |
|       | k. | F39<br>GIIT1Va<br>Mudstone                   |



Figure 13. Stone Pipe Bowls



## Category 1 Elongated pipe bowl fragments

## Variety a Plain

N - 4

N955W905      L lip to bend -  
                          3.9 cm  
                          (Figure 14a)

Mudstone; possibly an imitation of a kaolin pipe, the bowl has a slightly everted rim, a bulbous body, and what appears to be a bend in the bottom of the bowl.

F38      L - 3.0 cm; rim D - 1.9 cm  
                          (Figure 14b)

Mudstone; another possible kaolin pipe imitation, this pipe has a vase shaped bowl angling outward toward the rim. There is a slight bulge toward the bowl bottom.

N955W895      H - 3.19 cm

Mudstone; the bowl appears to have slightly convex sides.

N955W905      NMP  
                          (Figure 14c)

Limestone; the sides of the bowl are slightly convex and the rim is flat. If the rim is on the same plane as a flat surface, the bowl slants outward from the stem or neck.

## Variety b Bowls with incised decoration

N - 1

Plow Zone      NMP  
                          (Figure 14d)

Mudstone; a very crude pipe with two sets of incised lines running around the bowl, possibly meant to be grooves. The stone between the incised lines of each set is chiselled out.

## Variety c Bowls with incised and relief decoration

N - 1

F49 L - 4.30 cm (taken from tip to what appears to be the shoulder or the beginning of the stem shaft)  
(Figure 14e)

Mudstone; decoration consists of a raised triangle with the base at the lip of the bowl and the apex toward the bottom of the bowl. There are one or two incised lines outlining the two sides of the triangle.

Pipes Category 1 Fragments from all pipe types too small or fragmentary to assign to a particular type. Of particular interest are two pipes in the process of being carved.

N955W905 - 2

Mudstone; both have been partially drilled and shaped and have fractured, preventing further work. One appears to be a mic-mac pipe base. The other may be seen in Figure 11a.

Other fragments: N955W905 - 4 catlinite  
1 stone  
N955W895 - 1 catlinite  
2 stone  
N935W1000 - 1 stone  
N930W1020 - 1 stone  
Plow Zone - 1 stone (Figure 11b)  
N1030W990 - 1 stone  
N861W875 - 2 stone  
F33 - 1 catlinite  
F37 - 1 catlinite  
F53 - 1 stone

There are in addition a number of pieces of raw catlinite in various stages of shaping, probably to be used for pipes. All fourteen fragments are from the forging area and weigh a total of 36.7 grams.

Stone Pipe Discussion. By far the majority of stone pipe fragments, including several in the process of manufacture, were found in the forging area, suggesting that these items were being manufactured on the site, perhaps at that location (see Tables 32, 33 and 34).

Stone contends that at Fort Michilimackinac stone pipes were used

Figure 14  
Stone Pipe Bowls

- |       |    |  |
|-------|----|--|
| Row 1 | a. | N955W905<br>GIIT2Cat. 1Va<br>Mudstone  |
|       | b. | F38<br>GIIT2Cat. 1Va<br>Mudstone       |
| Row 2 | c. | N955W905<br>GIIT2Cat. 1Va<br>Limestone |
|       | d. | Plow Zone<br>GIIT2Cat. 1Vb<br>Mudstone |
|       | e. | F49<br>GIIT2Cat. 1Vc<br>Mudstone       |



Figure 14. Stone Pipe Bowls

predominantly as trade goods (1974b:19). Their occurrence in the forging and storage areas at Fort Ouiatenon could partially support this contention. However, stone pipe fragments are in fact found over much of the site, including the well, trash pits and building trenches. This fact would seem to favor their use by the French as well as by Native Americans.

Table 32. Stone Pipe Totals

Bases	21
Bowls	24
Unidentified	
Fragments	19
Total	64

Table 33. Identifiable Stone Pipe Types

Mic-mac	27 fragments - 82%
Elbow	4 fragments - 12%
Calumet	2 fragments - 6%

Table 34. Stone Pipe Distribution

Forging Area	26 - 41%
Storehouse	9 - 14%
N1015W950	4 - 6%
W. Test Trench	6 - 9%
Other	19 - 30%

### Pipeclay Figurines

The remains of these interesting pieces consist of ten fragments of crudely made pipeclay figurines from two separate features just outside the storehouse (F66 and F68). It appears that at least three separate figurines are represented here. The figures were made in ill-fitting two piece molds. Most pieces, especially the two bases, have not only seam lines but the halves are poorly joined. The pieces present consist of two bases (17.2 mm x 30.6 mm and 18.0 mm x 29.0 mm), two human torsos with heads, one horse head, one human

knee and three decorative elements (Figures 15 and 16). The pieces are three dimensional, though flattish in cross section. Both the torso sections and horse's head have red pigment remaining on parts: the mouth of the horse and sashes and decoration of the torsos. There also appears to be some bluish pigment in the horse's eyes, ears and nostrils.

Noel-Hume (1977) says that most pipeclay figurines are generally considered to be of German manufacture, though he does not really know why. Figurines that he is familiar with date from the late seventeenth to early eighteenth centuries. He considers them to be toys most likely, but feels that there is a possibility they may be chess pieces.

#### Whizzers N - 5

##### Type 1 Whizzers with Smooth Edges

N - 3	
N875W875	D - 40.9 mm
N955W905	D - 31.4 mm
F29	D - 36.6 mm

##### Type 2 Whizzers with Toothed Edges

N - 2	
Plow Zone	D - NMP
F60	D - 30.1 mm

Whizzer Discussion. Stone dates the whizzers from Fort Michilimackinac to between 1715 and 1760 and attributes them to French manufacture (1974b:154).

#### Perforated Lead Discs N - 5

Lead circles with a perforation in the center.

N1015W950	Approx. D - 33.9 mm; hole D - 2.8 mm; Thickness - 1.1-1.3 mm
-----------	---

**Figure 15**  
**Pipeclay Figurines**

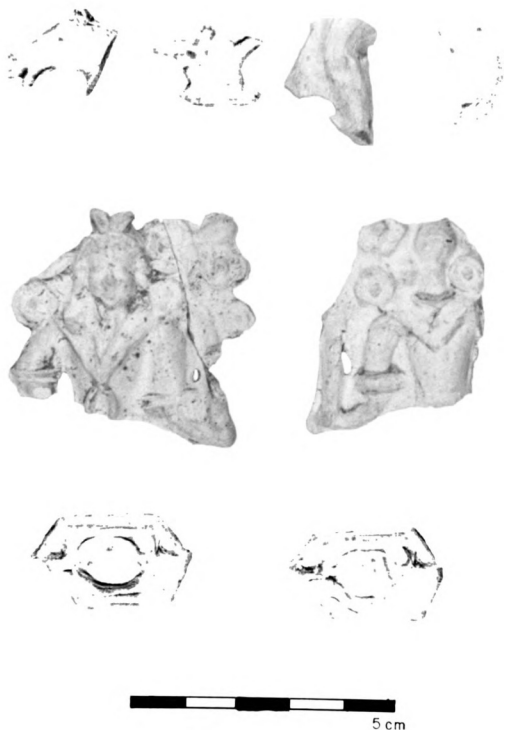


Figure 15. Pipeclay Figurines





Figure 16

## Miscellaneous Artifacts

- |       |    |  |
|-------|----|--|
| Row 1 | a. | Pipeclay Figurine - Detail<br>F66, F68   |
| Row 2 | b. | <u>Jeton</u> - obverse<br>N955W895       |
|       | c. | <u>Jeton</u> - reverse<br>N955W895       |
| Row 3 | d. | Unidentified Copper<br>Backhoe Trench #1 |
|       | e. | Unidentified Copper<br>F67               |
|       | f. | Unidentified Copper<br>N955W895          |
|       | g. | Brass Medallion<br>F68                   |

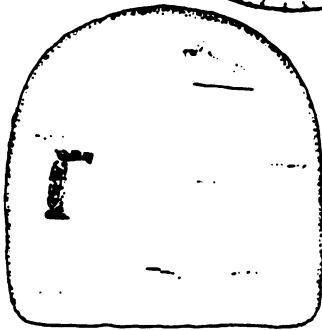
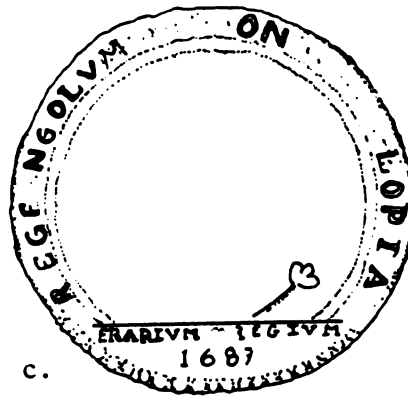


Figure 16. Miscellaneous Artifacts

N875W865	D - 21.9 mm; hole D - 2.4 mm; Thickness - 2.3-2.8 mm
Backhoe Trench #3	D - 37.2 mm; hole D - 5.3 mm; Thickness - 1.3-1.7 mm
F49	D - 31.6 mm; hole D - NMP; Thickness - 1.2-1.5 mm
F68	D - 20.0 mm; hole D - 4.1 mm; Thickness - 2.7 mm

### Jeton

Jetons, or counters, were originally used for making calculations (Taylor and James 1958:22-23). Varieties were made of copper, silver and bronze. The specimen from Fort Ouiatenon (Figure 17b,c) has a date of 1687 and is made of copper.

### Crosses N - 3

#### Series A Single unit

##### Type 1 Cross Only

##### Variety a Plain

N - 1

F56 Thickness - 2.0 mm

Cast; made of silver or silver plated brass.

##### Variety c (new variety) Plain

N - 2

N1015W950 L - 20.5 mm; est. W - 18.0 mm

N955W895 NMP

Sheet silver cross and cross fragment.

Cross Discussion. Neither of the sheet silver crosses appears to be particularly well made. It is possible that they were made from larger pieces of trade silver, which would likely indicate a later period of use than the French military occupation of Fort Ouiatenon, since trade silver is not often found in the Great Lakes in contexts pre-dating 1760 (Quimby 1966:91).

Rosary Beads N - 13

## Series A Single hole structure

## Type 2 Round, Undecorated

N - 10

N955W895\* L - 4.2 mm; W - 5.9 mm; bore - 2.3 mm

N875W875 L - 5.9 mm; W - 6.8 mm; bore - 2.3 mm

F68\* L - NMP; W - 5.7 mm; bore - NMP

F68 L - NMP; W - 5.9 mm; bore - 2.0 mm

F68\* L - NMP; W - 5.0 mm; bore - NMP

F68\* L - 5.6 mm; W 0 5.1 mm; bore - 2.1 mm

F68 L - NMP; W - 5.5 mm; bore - 2.1 mm

F68 L - NMP; W - 5.2 mm; bore - NMP

F68\* L - NMP; W - 5.9 mm; bore - NMP

F68\* L - NMP; W - 5.3 mm; bore - NMP

## Type 5 (new type) Round, Decorated

Variety a (new variety) Single circumferential groove  
at one end

N - 2

F68\* L - 5.4 mm; W - 7.5 mm; bore - 2.7 mm

F68\* L - 5.8 mm; W - 6.9 mm; bore - 2.8 mm

Variety b (new variety) Central circumferential groove  
with ridges on each side

N - 1

F68 L - NMP; W - 5.9 mm; bore - NMP

\* = one or two flattened areas on side of bead.

Rosary Bead Discussion. All rosary beads were made of bone or ivory. Since all but two of these beads were found in a single feature, it is possible that they were part of a single rosary. This would be in keeping with the general absence of artifacts identifiably associated with religious activities at Fort Ouiatenon.

## Grooming

Combs N - 2

N1015W950

F56

Comb Discussion. These comb fragments were made of bone or

ivory and are fine toothed. Stone interprets the combs from Fort Michilimackinac as being both French and British and as dating to between 1740 and 1781 (1974b:141).

### Writing

#### Lead Pencils N - 2

N861W865 L - 16.5 mm (broken at one end)

Shaped by knife trimming to a point at one end; eleven facets in all.

N1015W950 L - 32.5 mm

Appears to have been rough shaped into a cylindrical form by hand work and knife trimming.

#### Ink Well N - 1

N865W865 H - 34.4 mm; base D - 27.4 mm; shoulder  
D - 22.2 mm

Ink Well Discussion. This bottle consists of a small phial of what appears to be green or olive-green glass fitted into a brass container. The brass consists of a threaded lip (no top was found) and a base fitted in under lipped sides. On the base are two concentric incised circles and letters spelling W HIDE in the middle. Between the glass and the brass sleeve is some fabric packing. This material is also found between the brass base and the base of the phial and appears to be very thin leather. The ink well may date to the British occupation of Fort Ouiatenon and be associated with continuing use of the storehouse.

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THESIS

p. 2.





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## Household Context of Utilization

### Maintenance and Repair

#### Straight Pins N - 535

Silver plated brass wire with spiral, coiled wire head soldered to shaft.

Distribution:	Plow Zone - 2	N875W865 - 4	
	N930W1020	N875W875 - 3	
	N930W990	F56 Balks	
	N955W905 - 6	F56 -	23
	N955W895 - 30	F68 -	447
	N930W760	F30	
	N1030W964	F35	
	N1015W950 - 8	F52	
	N1015W940	F53	
	N865W865	F67	

Straight Pin Discussion. The length range for the straight pins from Fort Ouiatenon is 16.7 mm to 37.0 mm. There was only one pin at 16.7; the next size is 25.8 mm. R.F. Tylecote states that many eighteenth and nineteenth century brass pins were coated with tin, not with silver (1972:183).

#### Needles N - 113 needles and fragments

##### Class I Metal

##### Series A Common pointed needle

##### Type 1 Steel/Iron; Diamond Shaped Point

N - 1

F56 Balks L - 16.7 cm; Max. shaft D - 6.4 mm

A large needle, one-half of the shaft length is diamond shaped in cross section, the other half is round; rectangular eye hole in flattened end.

##### Type 2 Steel/Iron; Triangular Point

N - 2

N875W875 L - 16.4 mm; Max. shaft W - 5.5 mm  
N875W865 NMP

Category 1 Large needle, same as T1 and T2 above, but with end point not visible.

N - 1

N955W895

This needle may be entirely round, since the shaft length from the eye is longer than that of either of the above types. Otherwise, it is an extra long needle.

Type 3 Steel/Iron; Round Point

Variety a Slit eye hole

N - 3

F68 - 3

The dimensions of these needles are within Stone's most common range, 38.3 - 44.9 mm (1974b:159).

Needle Category 1 Needles without visible eye holes

N - 67

N955W905

N861W865

N955W895 - 5

F50 - 2

N1040W964 - 2

F56

N1015W950 - 3

F68 - 51

N875W865

In this category there are also thirty-seven shaft segments which could be from needles but could also be from fish hooks. Counting these shaft segments as needles, there is a total of 107 T3 needles.

Class II Bone

Series B Single ended, end eye mat or netting needle

N - 1

N930W970

L - 15.3 cm; W - .83 cm by drilled hole

Category 1 Unidentifiable bone needles

N - 1

F39

This specimen appears to be a Series B needle. It is a blunt ended, highly polished rib fragment broken through a drilled hole. Near the blunt end are three small partially drilled holes in an arc.

Distance from the blunt end to the drilled hole is 6.58 cm; thickness ranges from 3.1 mm to 3.2 mm.

Needle Discussion. In his discussion of the needles from Fort Michilimackinac Stone (1974b:161) came to three conclusions about their use: 1) they were most commonly used by the French inhabitants of Michilimackinac; 2) the large needles, net or sailmaking needles, were more likely to have been used by the fort's French rather than British inhabitants; and 3) needles at Michilimackinac were probably imported for local use rather than for trade goods. From eighteenth century trade goods lists, needles appear infrequently before the late eighteenth and early nineteenth century. The small needles at Fort Ouiatenon may indeed follow this pattern. Eighty-four percent were found in and around the semi-subterranean storehouse (78 percent in F69). Three of the four large iron needles were found in the same vicinity.

Thimbles N - 10

Class I Two Piece Construction; Top Brazed to Sides

Series A Hand tooled

Type 1 Round Holed Top and Sides

Variety a Silver

N - 1

F68 D - 16.75 mm; H - 16.4 mm

Series B Machine tooled

Type 1 Round Holed Sides; Round Holed Top

Variety a Brass

N - 1

F39 D - 16.05 mm; H - 17.2 mm

## Type 2 Round Holed Sides; Square Holed Top

## Variety a Brass

N - 7

N1015W940 D - 21.1 mm; H - 21.95 mm

This specimen has a hole drilled in the top.

N930W980 D - 18.95 mm; H - 19.15 mm

N955W895 D - NMP; H - 17.8 mm

The specimen has round tool marks on the side running at more of an angle and in the opposite direction from those on the rest of the thimbles.

N875W875 D - 15.05 mm; H - 17.75 mm

This specimen has a square perforation on top. The thimble appears to have been cut off and smoothed as there is no bottom lip.

F53 D - 19.75 mm; H - 20.2 mm

F56 Balks D - 19.45 mm; H - 19.0 mm

Backhoe

Trench #1 D - 19.1 mm; H - 19.55 mm

## Type 3 Round Holed Sides; Diamond Holed Top

## Variety a Brass

N - 1

N1015W950 D - 15.5 mm; H - 19.7 mm

Thimble Discussion. Stone interprets the thimbles from Fort Michilimackinac as being British and dating between 1760 and 1780. It is difficult to support or not support this interpretation from the distribution of thimbles at Fort Ouiatenon since so many were found in the plow zone or in general levels of excavation. Two of the thimbles were found in features interpreted as French in origin (F68, F39). Stone makes no mention of perforated thimbles from Michilimackinac though one is pictured (1974b:162). They would seem to be logical

items to be hung like tinkling cones, and perhaps used as trade goods. One perforated thimble was found at the Bell Site (Wittry 1963).

Scissors N - 3

N935W1000  
N955W905  
Plow Zone

All scissors are fragmentary in nature and appear to be plain. The one fragment with a complete eye has a round one. All are made of steel.

Food Preparation and Consumption

Forks and Spoons N - 8 fragments

Class I Forks Handle Added

Category 1 Incomplete specimens

N - 1  
N1015W950 Tine L - 5.88 cm

Iron two tined fork with no handle present.

Class II Forks Handle as Extension of Shaft

Series A Four Tines

Type 1 Iron

N - 1  
N875W875 L - 1.90 cm

Series B Three Tines

Type 1 Iron

N - 1  
N875W875 NMP

Also present are five specimens, unidentifiable as forks or spoons.

- 1) N1015W950  
spatulate shaped fragment; lead alloy, possible pewter;

crudely molded, with an offset handle

- 2) F50  
iron handle fragment, possibly from a spoon
- 3-5) N955W895 - 2  
Backhoe Trench #1  
handle tips; the two from N955W895 are made of brass, and  
the third is made of iron

Spigots N - 3

Backhoe Trench #2      L - 10.68 cm  
(Figure 17 Row 2)

This spigot is a round tube spigot with a cock retainer knob. The cock and retainer knob are both in place; it has a flared, decorative cock end. The spigot has been cracked and broken at the neck end and squeezed together in order to make it usable. It is made of brass and appears similar to spigots pictured in Stone (1974b:178, Figure 97).

N865W865      L - 13.48 cm  
(Figure 17 Row 3)

This spigot appears to be exactly the same as the specimen above, though it has not been broken and repaired. It is also made of brass.

F56      L - 11.66 cm  
(Figure 17 Row 1)

A brass spigot with key guide; heavy cast brass, well made with a knob just above the end of the spout, trailed lines lengthwise on the rear half of the spigot. An identical spigot, except for the shape of the key and key guide, was found at Fort Charlotte, a Northwest Company fur trade depot at Pigeon River along the Grand Portage (Wheeler et. al. 1975:87).

Spigot Keys N - 2

N880W1000  
F33

Spigot Discussion. Stone states that no spigots were found in French contexts at Fort Michilimackinac (1974b:179). Two spigots at Fort Ouiatenon were found in or around the storehouse, which has been interpreted as being French in origin with subsequent British



use. One of the spigot keys was found in F33, a British refuse pit, and the other two pieces were from general excavation levels.

Cast Iron Pot/Kettle N - 1

F65

Two fragments that fit together, one with a raised design, probably a fleur-de-lis.

Tin Cup N - 1

Plow Zone      Top rim D - 7.87 cm; H - 6.12 cm

Tin plated iron; the top edge of the cup is rolled over against the sides; strap handle; bottom edge everted to form base ring.

Iron Hooks N - 3

N1015W950

Iron wire hooked at both ends as if to hang over something leaving the bottom hook to hang something on. Both ends are flattened. The bottom (larger hook) end has a perforated hole in it; the top end may be broken.

Backhoe Trench #1  
F35

Slender hook  
Pot hook

Sieve N - 1

N1050W964

One fragment of sheet brass with holes punched randomly over the surface.

Ceramics N - 857 sherds

A wide variety of ceramic types is represented by the Fort Ouiatenon sample, though the majority of sherds fall into two types: tin-glazed earthenwares and coarse earthenwares. The following classification follows that of Miller and Stone (1970) and Stone (1974b).

**Figure 17**

**Spigots**

**Row 1 F56**

**Row 2 Backhoe Trench #2**

**Row 3 N865W865**

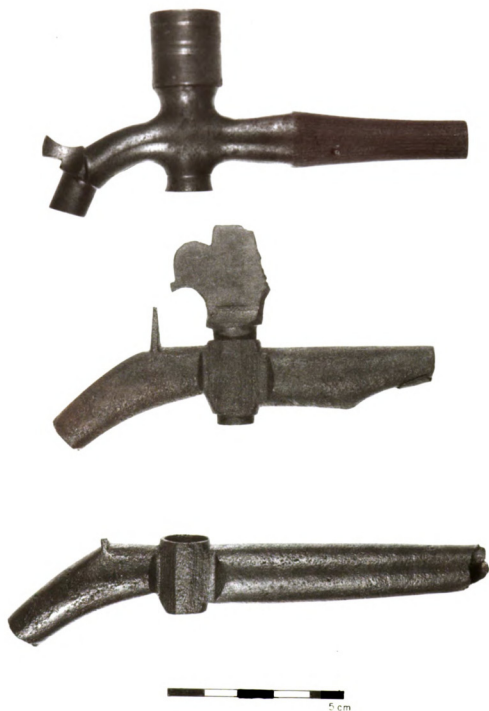


Figure 17. Spigots

## Class A Earthenware

## Group I Tin-Glazed Earthenware

## Type A 'Blue and White' (and plain white)

N - 206 (142 white; 64 blue and white)	
Plow Zone - 13	N1030W990 - 2
N930W1020	N861W875 - 3
N930W990	N980W1000 - 2
N930W980	(Figure 18e)
N930W970	N1050W964
N935W990 - 2	30 x 30
N955W905 - 30	• Balks - 2
N955W895 - 51	N1055W918
(Figure 18g,h,l,m)	N1015W940 - 4
N930W770	Backhoe
N930W780	Trenches 2
N1000W964	N1015W950 - 16
N1010W964	N865W865 - 2
N1040W964 - 9	N861W865
(Figure 18j)	N875W865 - 4
N1020W990 - 2	N875W875 - 5
F56 Balks - 3	(Figure 18f)
(Figure 18d)	F49 - 2
F30	F50 - 11
F31	(Figure 18j)
F33	F52 - 2
F38	F53 - 10
F39 - 3	(Figure 18i)
F42	F56 - 4
(Figure 18k)	F65
F43 - 2	F67
F46	F68

Body Sherds - 142 white; 44 blue and white

Rim Sherds - 17 blue and white

Base Sherds - 3 blue and white

Paste Color - Salmon, pink, buff, tan, gray, tan-gray,  
creamy white

Glaze Color - White, grayish, pinkish, blue, bluish,  
bluish-green, greenish-blue

Forms Represented - Plates (predominant form represented),  
bowls, possible chamber pot, saucers  
and jars. The sherds present in this  
sample are on the whole too small to  
make meaningful statements about  
vessel forms or minimum vessel count.

Design Elements Present - Foliate patterns, many with overglaze gilding; geometric border designs, geometric body designs, chinoiserie

Type A Tin-Glazed Earthenware Discussion. Type A tin-glazed earthenwares were produced in both England and France during the eighteenth century (Stone 1974b:165). Stone interprets the sample from Fort Michilimackinac as having been used by both French and British during the site's occupation, with greater frequency after 1750. On the basis of physical attributes, only 5 percent of the Michilimackinac tin-glazed earthenwares of this type were classified as French.

At Fort Ouiatenon the small tin-glazed earthenware sample was distributed equally within and without the early stockade walls. The heaviest concentration was in the forging area, however, an area that appears to have had heavy use throughout the site's occupation. Stone's dates therefore are supported only generally for this ware. It is likely, too, that a similar small percentage of the blue and white tin-glazed earthenwares at Ouiatenon was of French manufacture.

#### Type B Polychrome

N - 3

N955W895 (Figure 18a)

Rim; buff-pink body; bowl

Bluish glaze turning pink around the edge; external surface has a strong blue line border design with an overglaze red wavy line.

N1015W950 (Figure 18b)

Rim; buff body; plate

White glaze with light blue and overglaze orange border design.

F56

Base; buff body; vessel form unidentified

Bluish glaze with light blue line outlined by a very thin purple line.

Type C Brown and White (Blue)

N - 5  
N875W875

Body; red body; vessel form unidentified  
Blue glaze on one side and brown glaze with a cloudy whitish area on the other.

F33

Body; red body; vessel form unidentified  
Blue glaze on one side and brown glaze on the other.

N1010W990  
N930W790  
F55

The above three sherds are only possibly Type C. They all have red bodies with a blue to white glaze on one side. Glaze on the other side has chipped off.

Type C Variant

N875W875 - 2 (Figure 18c)  
Rim and body; gritty red bodies; small bowl or saucer  
Marbled brown, light brown, mocha and light blue glaze, speckled/sponged in places around the rim and interior and exterior bottom. These sherds are unidentified. The similarities of the paste and of glaze colors to Type C above may indicate that they are, at least, French.

Types B and C Tin-Glazed Earthenware Discussion. Polychrome tin-glazed earthenware was made in England and France during the eighteenth century (Stone 1974b:165). All three sherds recovered at Fort Ouiatenon, on the basis of both physical attributes and provenience, are interpreted as being of French origin.

Brown and white tin-glazed earthenware was manufactured only in France (Stone 1974b:166). The sherds from Ouiatenon have a distinctively blue tint to the non-brown portion of the glaze.

Figure 18

## Tin-Glazed Earthenware

Row 1	a.	N955W895 CAGroupITB
	b.	N1015W950 CAGroupITB
	c.	N875W875 CAGroupITCvariant
	d.	F56 area balks CAGroupITA
Row 2	e.	N980W1000 CAGroupITA
	f.	N875W875 CAGroupITA
	g.	N955W895 CAGroupITA
	h.	N955W895 CAGroupITA
Row 3	i.	F53 CAGroupITA
Row 4	j.	F50,N1040W964 CAGroupITA
	k.	F42 CAGroupITA
	l.	N955W895 CAGroupITA
	m.	N955W895 CAGroupITA

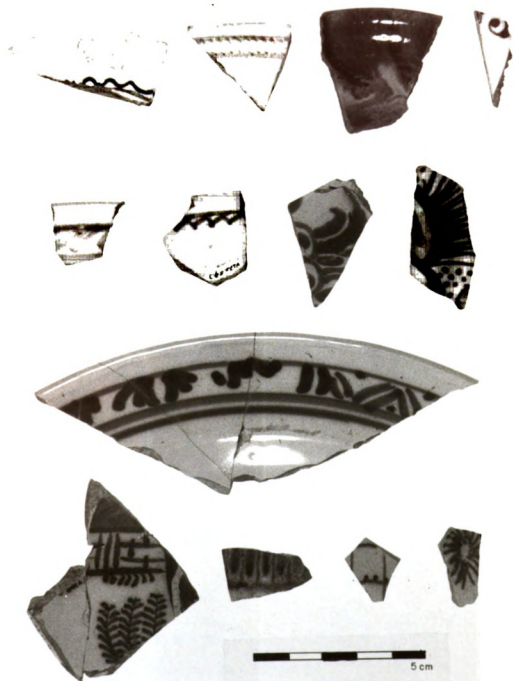


Figure 18. Tin-Glazed Earthenware



## Group II English Cream Colored Earthenware

## Type A Plain

N - 216		
Plow Zone - 16	N1020W990	
N930W1010	N1030W1000 -	4
N930W1020 - 2	N980W1000 -	2
N930W1000 - 6	N1055W918 -	2
N930W990 - 4	N1015W940 -	6
N930W980 - 7	N1050W964 -	6
N930W970 - 5	Backhoe Trench -	5
N935W1000 - 2	N861W875 -	8
N935W990 - 5	N865W865 -	3
N955W905 - 31	N861W865 -	2
N955W895 - 43	N875W865 -	13
N930W760	N875W875 -	6
N930W770 - 3	F56 Balks -	5
N930W780 - 2	F30 -	2
N930W790 - 5	F33 -	10
N990W964	F52	
N1015W950 - 3	F60	
N1010W1000	F62	

Body Sherds - 183

Rim Sherds - 23

Base Sherds - 10

## Type B Relief Molded

N - 30	
N861W875 - 5	N955W895 - 4 (Figure 19d)
N865W875	N930W1020
N930W790	F56 - 3 (Figure 19g)
N1015W950	
N880W1000	
N1050W964 - 13	(Figure 19a,b,c,e,f)

Body Sherds - 20

Rim Sherds - 5

Lid Sherds - 3

Handle Sherds - 2

## Type C Polychrome

N - 1  
N875W875

Body sherd; overglaze red decoration.

Figure 19  
English Cream Colored Earthenware  
CA Group II Type B

Row 1	a.	N1050W964
	b.	N1050W964
	c.	N1050W964
Row 2	d.	N955W895
	e.	N1050W964
Row 3	f.	N1050W964
	g.	F56



Figure 19. English Cream Colored Earthenware

## Type E Transfer Printed

N - 1  
Plow Zone

Body sherd; possible transfer print. There is a very small area of charcoal gray color along one side. No pattern type distinguishable.

Creamware Design Elements - beaded border (three sizes), Royal pattern edge, fluted body (two kinds), feather edge pattern

Note on Creamware Design Elements. The feather edge pattern is found on a mug with applied reeded, twisted handle and foliate handle terminal. Stone attributes this pattern to the Leeds pottery (1974b:50).

Vessel Forms Represented - mug, plates, sugarbowl or teapot lid, small bowls and/or cups

Creamware Discussion. English cream colored earthenwares were being produced in England by the 1760's (Miller and Stone 1970:42), and reached North America rapidly. The presence of creamware at Fort Ouiatenon reflects the continuing occupation of that site as much as the British presence there, though it is certainly possible that the British garrison possessed pieces of the ware. For the most part sherds were found in the upper levels of excavation, often in the plow zone. Furthermore, the number of sherds found (N - 238) is misleading since most sherds were extremely small. The actual number of vessels represented is undoubtedly small. It is interesting, however, that most of the larger sherds are decorated with relief borders and represent fairly fancy vessel decorations.

## Group III Coarse Earthenware

## Type B Brown-Glazed Redware

N - 58

Plow Zone -	5	N930W780	
N930W1020 -	2	N930W790 -	2
N930W1000		N930W810	
N930W990		N1015W950 -	3
N930W980		N1055W918	
N930W970		Backhoe Trench #1 -	4
N935W990 -	3	N865W865	
N955W905 -	4	N875W865 -	5
N955W895 -	13	N875W875 -	3(Figure 20e)
N930W770 -	3	F56 Balks	

Body Sherds - 46

Rim Sherds - 12

Paste Color - Red, gritty

Glaze Color - Brown lead glaze on one or both sides,  
splashed with areas of deep brown.  
On plates the bottom surface has been  
painted with a brown slip and not glazed.

Forms Represented - Plates and probably bowls and jars; one  
sherd is from a lid for a covered  
dish, bowl or jar (see Barton  
1977:63).

A number of sherds, presumably from plates, exhibit  
wheel turning marks on the bottom.

Type B Coarse Earthenware Discussion. Brown-glazed redware,  
according to Miller and Stone (1970:51), was manufactured in  
England, France and North America in the eighteenth century. A  
number of the Fort Michilimackinac sherds, of the type found at  
Fort Ouiatenon, were interpreted as French based on their similarity  
to forms and ware types from the Fortress of Louisbourg. In a later  
work Stone interprets the brown-glazed redware as having been used  
by the British at Michilimackinac between 1760 and 1781 (1974b:167).  
The Ouiatenon sample closely resembles a ware found at both Michili-  
mackinac and Louisbourg, and tentatively resembles the brown-glazed  
red earthenware with black trailed slip decoration found on the  
Machault (Barton 1977:64). Barton attributes this ware to French  
manufacture. There is still confusion as to the place of origin of

many coarse earthenwares, however, and the Ouiatenon sample is no exception. Two sherds were recovered from features that have been interpreted as French. The rest of the sample is from general excavation levels.

#### Type D Green-Glazed Earthenware

N - 93		
Plow Zone -	3	N1015W950 - 6
N930W1010 -	5	N1010W1000
N930W1000		N861W875 - 2 (Figure 20c)
N930W990		N1055W918
N930W980		N1065W918
N930W970 -	2	N875W865
N935W1000 -	19	N865W875
N935W990 -	9	Backhoe
N955W905 -	9	Trench #1-3
N955W895 -	9	F29
N930W760		F39 - 5
N930W780 -	2	F50 - 4
N930W800		F52
N1000W964		F56
N1010W964		

Body Sherds - 80

Rim Sherds - 12

Base Sherds - 1

Paste Color - Red, gray, buff-gray, light pink

Glaze Color - Yellowish green, strong dark green, strong green, green with orange splotches (probably impurities within the paste)

Forms Represented - Plates, bowls

Glaze may be on one or both sides, usually only on the interior of the vessel; wheel marks often visible

Type D Coarse Earthenware Discussion. Green-glazed earthenwares were manufactured during the eighteenth century in England and France and possibly in North America. The sample from Fort Michilimackinac, on the basis of vessel form and context, was interpreted as being of either French manufacture or use (Stone 1974b:167). The sample from Fort Ouiatenon is largely from general excavation levels, though all

sherds from features were in French contexts. They are found primarily around the late stockade walls and the forging area.

#### Type E Brown and Green-Glazed Earthenware

N - 4  
Plow Zone - 3  
F62

Body Sherds - 4

Paste Color - Red

Glaze Color - Mottled yellowy green and brown glaze; impurities in the paste add dark specks under the glaze.

Vessels glazed on one or both sides, usually interior only; wheel marks visible.

#### Type F Yellow-Glazed Earthenware

N - 76		
N930W1010	N1050W1000	
N930W990 - 2	N820W1003.5	
N930W980	N875W875	
N935W1000 - 2	Plow Zone - 9	(Figure 20d)
N935W990 - 5	F30 - 3	(Figure 20g)
N955W905 - 4	F46	(Figure 20b)
N930W810	F50 - 4	
N1000W964	F53	
N1015W950 - 7	F56	
N861W875 - 5	F39 - 22	(Figure 20a,f)
N1065W918		
Backhoe		
Trench #1 -1		

Body Sherds - 55

Rim Sherds - 19

Base Sherds - 2

Paste Color - Buff to red

Glaze Color - Mustard-yellow to yellowy-brown lead glaze, depending on the paste color; some have dark green blotches. Glazed on one or both sides. One sherd has an exterior glaze and a red slip on the interior.

Forms Represented - Bowl and plates; possibly others.

Wheel marks visible on most specimens.

Figure 20

## Coarse Earthenware

Row 1	a.	F39 CAGroupIIITF
	b.	F46 CAGroupIIITF
Row 2	c.	N861W875 CAGroupIIITD
	d.	Plow Zone CAGroupIIITF
	e.	N875W875 CAGroupIIITB
Row 3	f.	F39 CAGroupIIITF
	g.	F30 CAGroupIIITF



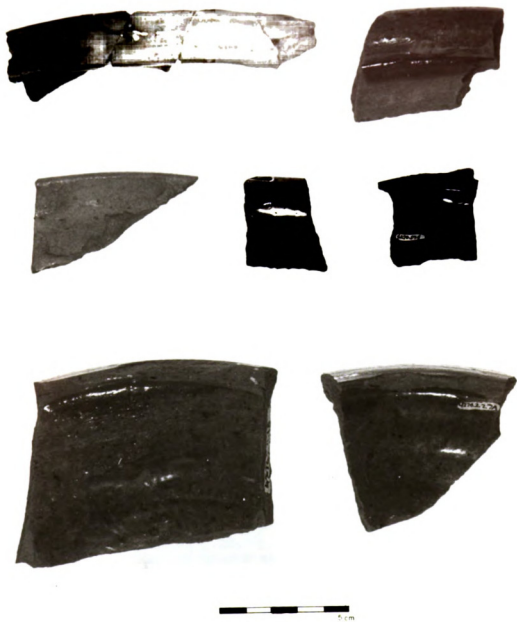


Figure 20. Coarse Earthenware

## Type H Slip Decorated Earthenware

Variety a Buff body with cream/yellow slip and a clear lead glaze. This may well be a sherd of brown slip dot decorated earthenware, in which case its country of origin would be England (Miller and Stone 1970:59).

N - 1  
N1015W950

Variety b Rims from the same vessel; pink body with a white slip and a yellowish-green lead glaze, pooled in places. On one sherd a line has been trailed through the slip, leaving the pink body showing through. It appears rust colored under the lead glaze.

N - 2  
F68 - 2

## Type I Yellow-Green-Blue Glazed Earthenware

N - 2  
F39  
F63

Body Sherds - 1  
Base Sherds - 1

Paste Color - Light red, coarse  
Glaze Color - Mottled yellow and green glaze with small dark blue blotches.

Forms Represented - Heavy bowl

Interior glazed only; could be a variant of yellow-glazed earthenware.

Types E, F and I Coarse Earthenware Discussion. Yellow, Brown and Green, and Yellow-Green-Blue glazed earthenwares were probably manufactured in France or French Canada and are attributed by Miller and Stone to the first half of the eighteenth century (1970:58). At Fort Ouiatenon these wares were found primarily in French features, in general excavation units on the west side of the fort, and in the

forging area.

Type J Slip Covered Redware

Variety a Undecorated

N - 7  
 Plow Zone  
 N930W980 - 3  
 N935W990 - 3

Variety b Decorated; incised bands run around the  
 body of the vessel

N - 1  
 N930W790

Body Sherds - 7  
 Rim Sherds - 1

Paste Color - Red  
 Glaze Color - Red iron oxide glaze, coated in spots with  
 a clear lead glaze. Some of these sherds  
 may be from yellow-glazed earthenware  
 vessels; the sample consists of small and  
 incomplete sherds, one side only.

Group V Pearlware

Type A Blue and White (and plain white)

N - 31 (16 plain; 15 blue and white)  
 Plow Zone - 3 N865W875  
 N930W1000 N1015W950 - 3  
 N930W970 N1015W940  
 N861W875 - 3 N955W905 - 3  
 N865W865 - 3 N955W895 - 4  
 N875W865 F62 - 3  
 N875W875 - 4

Body Sherds - 26  
 Rim Sherds - 2  
 Base Sherds - 3

Paste Color - White  
 Glaze Color - White to bluish white

Forms Represented - Small bowls; sherds present are too  
 small to make further interpretation.

Design Elements Present - Geometric; one sherd appears to  
 have a Chinese motif

Pearlware Discussion. Pearlware undoubtedly post-dates the military occupation of Fort Ouiatenon, as it was not produced in England until the 1770's and 1780's (Noel-Hume 1972:128; Miller 1980:2). It could have been used by French people continuing to live at Ouiatenon, or even by Americans when using the fort as a stopping place. The sherds at Ouiatenon were found primarily in the upper levels of excavation in the vicinity of the storehouse. Three sherds were found in a refuse pit near the late stockade wall.

#### Class B Stoneware

##### Group I White Salt-Glazed Stoneware

###### Type A Plain White

N - 14	
Plow Zone - 2	N1020W990
N930W1010	N861W875 - 2
N935W1000	N1050W964
N955W905 - 2	F40
N955W895 - 2	F63

Body Sherds - 13

Base Sherds - 1

Forms Represented - Bowls, saucers, cups

Some of the sherds in this sample may originate from undecorated areas of Scratch Blue vessels (Type C).

###### Type C Scratch Blue

N - 17	
Plow Zone - 5	N955W895 (Figure 21h)
N930W970 - 2	N1020W1000
N935W1000	N861W875
N935W990	F49 - 2 (Figure 21g)
N930W1000	F50
N990W964	

Rim Sherds - 1

Base Sherds - 8

Body Sherds - 8

Forms Represented - Small bowls, cups; possibly saucers and/or small plates

Design Elements Present - Chevron pattern, geometric design; others not complete enough for accurate description.

Type D Polychrome

N - 7	
Plow Zone	N955W895 - 2 (Figure 21f)
N955W905	N1020W1000
N1015W950	F38

Body Sherds - 4  
Rim Sherds - 2  
Base Sherds - 1

Forms Represented - Small cups and/or bowls

Design Elements Present - Red, black, yellow and brown overglaze foliate designs; some line borders

White Salt Glazed Stoneware Discussion. White salt-glazed stonewares were manufactured in England from approximately 1740 to 1770 (Stone 1974b:169). They were used during the latter years of French occupation at Fort Michilimackinac but primarily during the British period. The small number of white salt glazed stoneware sherds at Fort Ouiatenon undoubtedly reflects the short length of time the British garrisoned the post.

Group II Miscellaneous Stoneware

Type A Rhenish Stoneware

N - 4	
N930W970	N955W895 (Figure 21i)
M875W865	N865W875

Rim Sherds - 2  
Body Sherds - 2

Forms Represented - Mugs

Design Elements Present - Scratch and relief design elements, blue coloring, geometric and floral designs

Rhenish Stoneware Discussion. Rhenish stoneware was manufactured in Germany during the eighteenth century and dates to the third and fourth quarters of that century at Fort Michilimackinac (Stone 1974b:170).

Type B Brown Stoneware

N - 3  
Plow Zone  
N835W1000  
N815W1003.5

Body Sherds - 2  
Base Sherds - 1

Forms Represented - Heavy bowls or crocks

Brown Stoneware Discussion. Stone very tentatively concludes that brown stoneware was probably French, dating to between 1730 and 1760 at Fort Michilimackinac (1974b:170).

Type C Red Stoneware

N - 1  
N930W970 (Figure 21j)

Base Sherd - 1

Form Represented - Cup; base appears too thin to be from a teapot

Design Element Present - Molded border design around the base, Greek Key pattern. A sherd of the same design was found at Fort St. Joseph (Hulse 1977:160).

Red Stoneware Discussion. Red stoneware was produced in mid-eighteenth century England. The presence of at least one vessel at Fort Ouiatenon points to the transport of some high quality wares to the fort, probably by the British.

Group II Category 1 Unidentified Stoneware

N - 5

N875W875 - 4  
F65

Five sherds with gray bodies and turning marks on the inside. They are covered with a clear (yellowish) lead glaze. Small inclusions in the paste create small rusty colored spots under the glaze.

### Class C Porcelain

Note on Porcelain. The porcelain from Fort Ouiatenon was not identified as Chinese or British in origin.

#### Type A Plain White

N - 14	
N875W875 - 3	N955W905 - 2
N865W875	N955W895
N875W865 - 3	N930W980
N1040W964 - 2	N980W1000

Body Sherds - 11  
Rim Sherds - 1  
Base Sherds - 2

#### Type B Polychrome

N - 2  
N875W875  
N865W875

Body Sherds - 2

#### Type C Blue and White

N - 15	
N865W865	N875W865 - 4 (Figure 21a)
N875W875	N955W895 (Figure 21c)
F56 Balks	N1015W950 (Figure 21b)
F50 - 3	N1040W964 - 3 (Figure 21d,e)

Body Sherds - 6  
Rim Sherds - 9

Vessel Forms Represented - Small bowls and/or cups

Design Elements Present - Geometric border designs (interior), chinoiserie, foliate designs, spaces filled with blue

Figure 21

## Stoneware and Porcelain

Row 1	a.	N875W865 CCTC
	b.	N1015W950 CCTC
	c.	N955W895 CCTC
	d.	N1040W964 CCTC
	e.	N1040W964 CCTC
Row 2	f.	N955W895 CBGITD
	g.	F49 CBGITC
	h.	N955W895 CBGITC
Row 3	i.	N955W895 CBGIITA
	j.	N930W970 CBGIITC



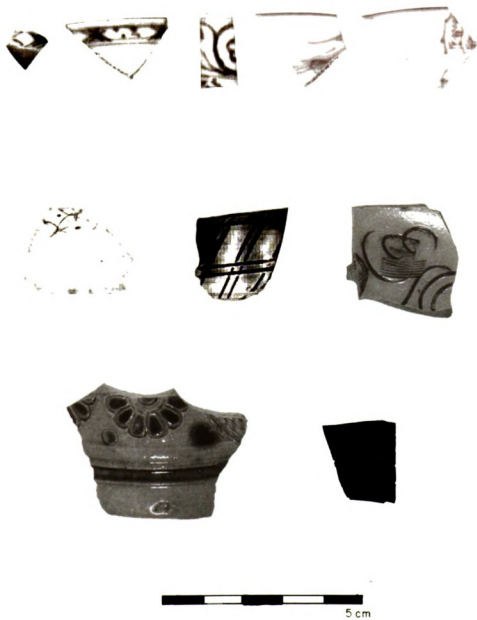


Figure 21. Stoneware and Porcelain

Porcelain Discussion. The small porcelain sample from Fort Ouiatenon appears to be Chinese in origin. Over half of the sherds were found in the vicinity of the storehouse, while others were found in or around the well, and near the west late stockade wall. On this basis it is impossible to attribute the Ouiatenon porcelain to use by one nationality or another.

Other Ceramics. Thirty-six unidentifiable sherds were recovered. These sherds, mostly earthenware, either have no glaze or are burned.

#### Aboriginal Ceramics

Analysis of the aboriginal ceramics from Fort Ouiatenon was done by Margaret B. Holman. The descriptions of this sample are by sherd and not by minimal vessel since the sample size is too small for a minimal vessel count. Some of the sherds could be from the same vessel as both temper size and surface treatment may vary on a single pot.

The ceramics in this sample are probably Late Woodland, dating to approximately A.D. 800 to A.D. 1000. It is more likely closer to A.D. 1000. Shell tempering is associated with Upper Mississippian after A.D. 1000. Individual sherds are described in Table 35.

#### Glass

Glass from Fort Ouiatenon consisted of three complete bottles plus 1755 other storage container sherds and 444 sherds from tableware vessels. Glass containers of both French and British manufacture were recovered.

The sample consisted of a minimum of thirty-three storage containers, eight tumblers and six stemware vessels distributed throughout

Table 35. Aboriginal Ceramics

		Provenience	Surface	Temper	0-1.0 mm	fine
					1.1-2.0 mm	medium
					2.1+ mm	coarse
Body Sherds	N930W1010		plain	grit	-	coarse
	N930W1000		plain	grit	-	fine
	N930W1000		plain	grit	-	coarse
	N930W1000		cord	grit	-	coarse
	N930W1000		smoothed over cord	grit	-	coarse
	N930W1000		fabric	sand		
	N930W990		smoothed over cord	grit	-	fine
	N930W990		smoothed over cord	grit	-	medium
	N930W990		smoothed over cord	grit	-	coarse
	N930W990		cord	grit	-	fine
	N930W990		cord	grit	-	coarse
	N935W1000		cord	grit	-	medium
	N935W990		unidentifiable	grit	-	fine
	N935W990		unidentifiable	grit	-	coarse
	N955W895		cord	grit	-	fine
	N930W1030		unidentifiable	grit	-	fine
	N930W1030		cord	grit	-	coarse
	N930W1030		smoothed over cord	grit	-	medium
	N1010W990		cord	grit	-	medium
	N1010W990		cord	grit	-	coarse
	N1010W990		cord	grit	-	fine
	N1010W990		cord	grit	-	coarse
	F55		cord	grit	-	medium
	F40		cord	grit	-	medium (varies)
	F40		cord	grit	-	fine
	F52		plain	shell	-	fine
	F52		cord	grit	-	medium
	F56		cord	shell	-	fine
			(Specimen has food residue inside)			
	No Prov.		plain	shell	-	fine
	N930W990		cord	grit	-	fine
	N930W990		cord	grit	-	fine
Base Sherd	F46		plain	grit	-	fine
			(Grass and leaf impressions indicate that this pot rested on the ground before firing. The base of the vessel was rounded.)			
Rim Sherds	N935W1000		fine cord	grit	-	fine
			(An incipient collar below the lip of this vessel is decorated with closely spaced (1.5 mm apart) vertical plain tool punctations. The lip is squared, flat and smoothed; no lip decoration.)			
	F56		plain	shell(?)	-	fine
	F55		cord	grit	-	fine
			(Beaded rim 1 cm below lip; interior has probable fingernail impressions at the lip.)			

the excavated areas of the site.

Both French and British containers were recovered; the assignment of national origin in the following classification is based on criteria described by Brown (1971), Jones (1971) and Harris (1974). The classification itself follows that of Brown (1971) to the extent that the Ouiatenon material fits into that system. Supplementary information is provided for individual specimens and in Tables 36, 37 and 38.

All glass was green, blue green, olive green or clear. Munsell color designations (1940) for these colors do not, however, follow Brown's system. While I realize the possible confusion in creating a whole new set of Munsell color designations for glass I found that in attempting to fit the Ouiatenon glass sample into systems devised by others I encountered many problems. Specifically, I found Brown's criteria (1971) to be too narrow and Harris' criteria (1974) to be too broad. In light of the myriad of problems encountered in gauging glass color, I decided that a broad interpretation of colors was more useful. The following color designations were used for the Ouiatenon glass:

Blue Green	2.5 BG, 5.0 BG, 7.5 G, 10.0 G, 5.0 G, 2.5 G 6/4
Green	2.5 G 5/8 and 5/4, 7.5 GY, 10.0 GY
Olive Green	2.5 Y, 5.0 Y, 7.5 Y, 10.0 Y, 2.5 GY, 5.0 GY

The difficulties in "accurately" judging a color are well known. The kind of light used, each individual's eyes and how that individual is feeling that day, different glass thicknesses, patina, glass decomposition, and how the light is set up all influence what a person perceives a color to be. I used both reflected and

transmitted light and have noted which was used next to color designations.

The greatest difficulty in separating colors from one another was encountered in the Green to Olive Green range. The area of contention centers around the 5.0 GY 6/4 and 7/4 chips. These have more blue in them than others and thus tend to make the glass difficult to assign to Green or Olive Green. In general, Olive Green has more yellow than does Green. Green is more that which one usually perceives to be green, i.e. more blue. The Olive Green range includes a rather wide variety of colors, from a very dark amber glass to a very pale olive glass.

#### Storage Containers

#### Blue Green

#### Class I Bottles

#### Series B Round sectioned

#### Type 2 String Rim

#### Sub-type 1.2 (new sub-type) 10 ounce capacity

Variety a (new variety) Slightly  
expanding sides; sloping  
shoulders

N - 1

F50 (Figure 22)

Munsell - 2.5 BG 6/6-5/6

(reflected light)

H - 18.5 cm; rim D - 21.0 mm  
outside; base D - 7.3 cm; base  
ring - 5.88 cm; shoulder D -  
8.16 cm; distance rim to string -  
1.28 cm; pontil H - 2.27 cm;  
Thickness - rim 3.3 mm; body  
less than 2.0 mm

**Figure 22**  
**French Blue Green Bottle**



Figure 22. French Blue Green Bottle

This bottle is very delicate in shape and color. The glass is riddled with small air bubbles, elongated up the neck. It has a straight rim with a round string, and a glass gather pontil mark. The neck to the shoulder expands very gradually and then contracts only slightly to the base. The bottle was broken by a small object, possibly a pebble, hitting it just above the shoulder and leaving a hole 1.84 cm in diameter.

Interpretation - French

Olive Green

Class I Bottles

Series A Square sectioned

Type 1 String Rim/Collared

Sub-type 1.2 (new sub-type) 70 ounce capacity

Variety a (new variety) Round collar

N - 1

30 by 30 block barks

Munsell - 2.5 GY 5/6

(transmitted light)

H - 28.1 cm; base ring - 11.38 cm;

shoulders 11.7 cm by 11.2 cm;

pontil H - 8.0 mm; Thickness -

average 2.0 mm; orifice D -

20.3 mm

This bottle has flat, square sides and rests on the four corner points of its base. It has a glass rod pontil mark. Its shoulders are rounded and the string rim is rounded and blended into the neck opening. The neck was pushed back toward the bottle very slightly, making two shoulder corners higher than the other two, and a slight depression just under the shoulder on all sides. Crossed lines were molded into the base over which the glass rod pontil was attached.

Interpretation - British



## Series B Round sectioned

## Type 1 String Rim/Collared

Sub-type 1.3 (new sub-type) 35 ounce capacity

Variety a (new variety) V-sectioned  
string rim

N - 1

F50

Munsell - 10.0 Y 7/8  
(transmitted light)H - 26.0 cm; rim D - 28.9 mm  
outside; base D - 10.78 cm;  
base ring - 9.12 cm; shoulder  
D - 11.48 cm; pontil H - 36.1 mm;  
Thickness - rim 5.5 mm; body  
2.0-4.0+ mm

This bottle is flowerpot shaped with a glass  
gather pontil mark. Neck striations from  
shaping the neck are well defined. The  
glass is heavily patinated and decomposing.  
The bottle has a conical kick.

Interpretation - Probably French (Jones 1979)

## Storage Containers - Fragmentary Items

## Category I Blue Green

## Series A Rims

None of the rims in this sample was complete with  
the exception of one that was burned, therefore  
no diameter measurements were possible.

## Type 1 Straight Rim

N - 7 small mouthed bottle fragments  
N930W980 no color designation possible  
N955W895 7.5 G 7/6 (reflected light)  
N955W895 7.5 G 8/4 (reflected light)  
N875W875 5.0 BG 5/6 (reflected light)  
F50 burned  
F56 2.5 BG 6/6 (reflected light)  
F56 10.0 G 6/6 (reflected light)

Thickness range - 1.9 mm to 4.5 mm

Interpretation - French

N - 1 large mouthed jar fragment  
 N930W980 7.5 G 6/4 (reflected light)

Thickness at rim - 3.6 mm

Type 2 String Rim/Collared

N - 1 round string rim  
 N955W895 2.5 BG 6/6 (reflected light)

Thickness at mouth - 4.0 mm; distance lip to  
 string rim - 17.7 mm

Interpretation - French

N - 1 V shaped collar  
 Plow Zone 10.0 G 5/6 (reflected light)

NMP

Interpretation - French

N - 1 round collar  
 N861W875 5.0 G 6/4 (reflected light)

Collar blended into rim and tooled down from  
 lip.

Interpretation - French

Type 3 (new type) Flaring Rim

N - 1 large mouthed jar fragment  
 F46 2.5 G 6/4 (reflected light)

Thickness at rim - 2.0 mm; rim tooled over to  
 form a ninety degree angle with neck/body.

Interpretation - French

Series B Bases

Type 2 Round

N - 2  
 N1050W1000 7.5 G 5/6 (reflected light)

Projected base D - 26.0 to 30.0 mm; Thickness  
 at base - 4.5 mm

Specimen has a flat base and straight sides;  
 no bubbles in glass.

## Interpretation - French

F46 7.5 G 6/6 (reflected light)

Thickness at sides - 1.4 mm

Though no base ring diameter measurement was possible, this specimen appears to be exactly the same size and color as the complete bottle from F50.

## Interpretation - French

Other storage container fragments of Blue Green glass include 574 body sherds from both square and round containers, and range in appearance from very blue and thick sherds from square sided case bottles to very bubbly and delicate green blue round bottles. Thickness ranges from .5 mm (green blue bubbly glass) to 6.0 mm (blue case bottle sides) and 10.6 mm (blue case bottle base).

A minimum vessel count of sixteen was determined for Blue Green bottle glass. This figure was based on the following counts:

- 1) complete bottle from F50
- 2) bottle base for same type bottle as above, F46
- 3) nine narrow mouthed bottle rims
- 4) two wide mouthed jar rims
- 5) two green blue green bases
- 6) nine fragments of a molded and expanded spiral twist pattern bottle

## Category II Olive Green

## Series A Rims

## Type 2 String Rim/Collared

Sub-type 1.1 14-19 mm orifice diameter, square bottles, (neck length 20-40 mm)

Variety d Round string rim

N - 1

Backhoe Trench #3

7.5 Y 7/6 (transmitted  
light)

String rim is even with but  
not blended into lip; specimen  
has a short neck with stria-  
tions running to the right,  
up the neck.

The rest of the rim fragments in this category do not fit into  
Brown's classification.

#### Round String Rim

N - 3

N1000W964 no color designation possible

String rim 5.7 mm from bottle lip.

Surface no color designation possible

String rim 7.4 mm from bottle lip; neck is  
tooled from rim to lip.

No Prov. no color designation possible

String rim located immediately below the down-  
ward tooled lip.

#### V Shaped String Rim

N - 5

N955W905 no color designation possible

Rim is applied 6.0 mm below the lip and has been  
tooled down on the underside to meet the neck;  
lip slightly flared.

N955W905 no color designation possible

Rim is 6.0 mm below the lip; lip slightly flared.

N875W865 2.5 GY 7/6 (transmitted light)

Rim applied 4.5 mm to 5.5 mm below lip; rim  
grades into roundness on this fragment.

Plow Zone 5.0 GY 6/6 (transmitted light)

Rim applied 5.1 mm below lip

F53 10.0 Y 7/8 (transmitted light)

String rim applied 7.0 mm below lip. A glob of glass has been applied just at the lip and tapers off one-third of the way around the rim just above the string rim. A few striations are visible in the neck.

Round Collar

N - 1

N861W875 and F56 Balks no color designation possible

Round collar blended into lip and tooled down to meet neck.

V Shaped Collar

N - 1

N1015W950 5.0 Y 6/8 (transmitted light)

Rim applied and blended into lip and tooled down to meet it.

## Series B Bases

### Type 1 Square

Variety a 89-110 mm base ring

N - 1

F30 7.5 Y 7/8 (transmitted light)

Kick H - 1.5 cm; Thickness at sides - 2.9 mm; glass rod pontil with molded K in base outside pontil ring.

Variety e (new variety) 124 mm base ring

N - 1

F50 5.0 GY 5/6 (transmitted light)

Kick H - 16.0 mm; Thickness at sides - 2.5-3.0 mm; glass rod pontil.

### Type 2 Round

N - 1

F53 7.5 Y 6/8 (transmitted light)

Kick H - 40.0 mm; Thickness at sides - 3.8 mm; glass gather pontil.

Also present are twelve incomplete round base fragments, several of which belong to the same bottle.

### Type 3 Octagonal

N - 1

F56 5.0 Y 6/8 (transmitted light)

This specimen is a small fragment of what may be an octagonal bottle. It does not include enough of the base to see a kick, and only two sides are present. It is obviously a faceted glass vessel and appears to be too large to be anything other than a bottle or decanter. It appears similar to a bottle illustrated in Brown (1971:161, Figure 9f).

Also present in the Olive Green bottle glass sample are one domed pontil fragment with sand pontil marks, and one iron rod pontil fragment. The minimum number of vessels count of twelve was arrived at from the following figures:

- 1) eleven rims
- 2) one base fragment from a very pale green and thin walled vessel

Also represented are fragments of small bottles or phials as thin as .4 mm thick. They are 10.0 Y 8/4 and 5.0 GY 7/4 and 8/4 in color (transmitted light). No complete bases or rims are present. Most of these fragments came from in and around the storehouse.

### Category III Clear

#### Series A Rims

##### Type 1 String Rim

N - 1

N861W875

Lip Thickness - 2.2 mm; neck Thickness - 1.3 mm

This fragment is part of the rim of a molded and expanded bottle of very thin glass. Molded twists spiral to the right. A small

round string rim is applied 3.0-4.4 mm below the lip. The fragment appears to be from a bottle like one described by Brown (1971:175, Figure 16e).

#### Series B Bases

N - 3  
N875W865 - 2  
N865W865

No complete bases are present. All fragments recovered are from pontils. The kicks were formed before glass rods were attached. One specimen appears to have a conical kick while the others appear domed. The most complete specimen indicated a very high, narrow kick. All of these specimens have a brownish tint to them and are not crizzled.

Other fragments of clear glass recovered include thirty-eight fragments ranging up to 5.5 mm in thickness. No minimum number of vessels count was made.

#### Category IV Green

##### Series B Bases

##### Type 1 Square

N - 2  
Plow Zone 10.0 GY 6/10 (transmitted light)

Thickness - 3.9-8.4 mm; glass rod pontil.

Backhoe Trench #1 7.5 GY 6/10  
(transmitted light)

Thickness - 7.9 mm at base; glass rod pontil with four crossed lines molded into base, inside pontil ring.

##### Type 2 Round

Variety a 12-16 mm base ring

N - 1  
N980W1000 7.5 GY 6/10  
(transmitted light)

Thickness of base - 2.0 mm; flat base and straight sides; very small phial.

## Variety b 20-34 mm base ring

N - 1

F38 and F46 2.5 G 5/8  
(transmitted light)

Thickness at sides - 1.5 mm; Kick H - 24.0 mm; bottle has a pointed, conical kick with no detectable pontil mark; sides appear to rise straight from the base.

The minimum vessel count of four for Green glass was determined from the following figures:

- 1) two bases representing two separate square case bottles
- 2) two small bottles or phials, one with a conical kick and one with a flat base

The rest of the Green glass is represented by twenty-three sherds, many less than any of the other colors of glass. The number may be smaller owing to the nature of the assigned color divisions.

## Tableware - Fragmentary Items

## Category I Decorated

## Series A Clear

## Type I Molded Design

## Variety a Tumbler

N - 10

N1030W1000 and F39 lead glass

Base ring - 33.0 mm; molded base; glass rod pontil; no sides present.

Interpretation - British

F39 lead glass

Molded base; glass rod pontil; sides molded in diamond pattern. Similar tumblers have been found at Fort Michilimackinac (Brown 1971: 169, Figure 13g,h).



## Interpretation - British

F50 - 3      soda glass

Base ring - 49.0 mm; plain base with molded sides, fluted base 12.4 mm above bottom, then enlarging circle pattern toward the rim; slight kick.

## Interpretation - French

F38      soda glass  
 N935W990      soda glass  
 F50      soda glass

Vertically striped molded pattern. Tumblers of this pattern have been found at Fort Michilimackinac (Brown 1971:122).

## Interpretation - French

N930W980      soda glass

Base fragment, crizzled and pink, which appears to have been mold-faceted.

## Category VII (new category) Undecorated

## Series A (new series) Clear

## Type 1 (new type) Tumbler

N - 8  
 N865W865 and N861W865      lead glass

Base ring - 45.6 mm

Thick, plain base with minimal kick; glass gather pontil mark; no sides present.

## Interpretation - British

Plow Zone      lead glass

Base ring - 38.5 mm; thick, plain base with minimal kick; glass gather pontil mark; no sides present.

## Interpretation - British

F53      lead glass

Base ring - 37.8 mm; plain base; glass gather pontil mark, plain sides.

Interpretation - British

F50      lead glass

F57      lead glass

Plain base and sides.

Interpretation - British

N955W905      soda glass

N1015W940      soda glass

Two fragments of plain tumbler bases and sides, both crizzled and pink or brownish in color.

#### Category IV   Stemware Feet

##### Series A   Clear

##### Type 1   Plain

Variety a   2-5 mm thick

N - 4

No Prov.      lead glass

N955W895      lead glass

N875W875 - 2 lead glass

Variety b   6-10 mm thick (firing glasses)

N - 4

No Prov.      lead glass

N930W990      lead glass

F56      lead glass

F49      lead glass

Interpretation - British

##### Type 2   Folded Rim

N - 3

Backhoe Trench #1      lead glass

Thickness at rim - 3.2 mm; foot W - 6.9 mm

Harris (1974:139) considers this type of base most common before 1745 and after 1780.

## Interpretation - British

Plow Zone        soda glass

Foot W - 6.4 mm

## Interpretation - French

F33        soda glass

## Interpretation - French

Also present within the tableware glass categories are over 480 body and rim sherds of lead and soda glass, unidentifiable as to form and function.

Table 36. Bottle Glass Weights

Olive Green flowerpot bottle	718.9 g
Olive Green case bottle	896.9 g
All Olive Green glass minus complete bottles	4197.3 g
(5.8 flowerpot bottles)	
(4.7 case bottles)	
All Green glass	265.2 g
Blue Green bottle	204.5 g
All Blue Green glass minus complete bottle	872.0 g
(4.3 complete bottles)	

Glass Discussion. Most of the Fort Ouiatenon storage containers are for various kinds of liquor, both effervescent and non-effervescent. Only two wide mouth jars and fragments from several small phials are present. While glass fragments were found throughout the site, concentration areas include, as usual, the well, forging area and storehouse. Both French and British storage containers were found in these locations.

Table 37. Glass Distribution based on Complete Vessels, Rims and Bases

<u>Blue Green</u>		<u>Olive Green</u>	
Whole	F50	Whole	30 by 30 Balks
Rims	N875W875		F50
	N861W875	Rims	Backhoe Trench #1 round string rim
	N955W895 - 3		N1000W964 round string rim
	N930W980 - 2		No Prov. round string rim - 2
	F50		N861W875 round string rim
	F56 - 2		F56 Balks round collar
	F46		N955W905 V string rim - 2
	Plow Zone		N875W865 V string rim
Bases	N1050W1000		Plow Zone V string rim
	F46		N1015W950 V collar
		Bases	F30 square
			F50 square
			F53 round
			F56 octagonal

Green

Bases Plow Zone  
Backhoe #1  
N980W1000  
F38

Clear

Bases N875W865 - 2  
N865W865  
Rim N861W875

Lead Glass Tumblers

N1030W1000 F39  
N865W865 F53  
N861W865 F50  
Plow Zone F57

Soda Glass Tumblers

N935W990  
F50 - 2  
F38

Lead Glass Stemware

Surface  
N930W990  
Backhoe Trench #1  
F49  
F56

Soda Glass Stemware

Plow Zone

Table 38. Glass Excavation Unit and Feature Associations

British

30 by 30 Balks	olive green case bottle
N1030W1000	tumbler
N865W865	tumbler
N861W865	tumbler
Plow Zone	tumbler
N930W990	stemware
Backhoe Trench #1	stemware
F39	tumbler
F53	tumbler
F50	tumbler
F57	tumbler
F56	stemware
F49	stemware
N955W905	bottle, tentative
N861W875	bottle, tentative
F56	bottle, tentative
F56	octagonal bottle, tentative
F53	bottle, tentative
F50	case bottle, tentative
F30	case bottle, tentative

French

N875W875	blue green bottle
N955W895	three bottles, blue green
N930W980	blue green bottle
Plow Zone	blue green bottle
Plow Zone	stemware
N861W875	blue green bottle
N1050W1000	blue green bottle
N935W990	soda glass tumbler
F50	blue green bottle
F50	olive green bottle
F50	blue green bottle
F50	soda glass tumbler
F50	soda glass tumbler
F56	blue green bottle
F56	blue green bottle
F56	stemware
F46	two blue green bottles
F38	soda glass tumbler
F33	blue green tableware
N1000W964	olive green bottle, tentative
F53	olive green bottle, tentative

The French material is dominated by storage containers for liquor; the British sample consists primarily of tableware, tumblers and stemware, found in the same areas. Even though the presence of British glass reflects occupation of the fort by a British garrison, it probably also reflects the use of British goods by the French, both military and civilian.

The general scarcity of storage containers and tableware at the site points to the use of other methods of storage, such as wooden barrels, and the difficulty of transporting glass containers over the distances necessary to reach the post.

### Furnishings

#### Hasp Locks

Lock Form Hasp Mechanism

Lock Elements N - 1

Type 1 Flat Main Plate

Variety a Separate spring mounted above bolt

N - 1

N955W895

W - est. 6.7 cm;

H - est. 4.7 cm

Hasp Elements N - 5

Series A Permanently joined hasp parts

Type 2 Round or Flared Section at Distal End of Strap

N - 1

N1015W950

Movable strap L - 4.7 cm

Type 3 Tapered Strap

N - 3

N861W875

NMP

N955W895

NMP

N1015W950

NMP

Hasp Element Category 1 Hasp Element fragments unidentifiable as to Series

N - 1  
N930W780

Drawer Pull N - 1

F56 (Figure 23)

This drawer pull is made of cast brass with file marks on the inside and outside ridges. No measurements were possible as the artifact has been bent out of shape and is missing one end.

Brass Tacks N - 12

Type 1 Round Head with Square Shank

N - 10  
N955W905 - 3      N861W875  
N955W895      N875W865 - 2  
N930W760      F56  
N930W790

L range - 9.4-13.1 mm

Type 2 Bi-convex Head with Square Shank

N - 1  
N955W895      L - 26.4 mm

Type 3 Round Head with Beaded Border; Square Shank

N - 1  
F68      NMP

Brass Tack Discussion. Stone interprets the brass tacks from Fort Michilimackinac as being primarily of French use and dating to between 1740 and 1770 (1974b:203).

Furniture Hinges N - 2

Class I Brass

Type 1 Square

N - 1

Figure 23  
Drawer Handle and Dividers

Row 1 Dividers  
F49

Row 2 Drawer Handle  
F56





Figure 23. Drawer Handle and Dividers

N955W895      L - 24.2 mm; W - 13.8 mm

Two small, square brass plates, 1.6 mm thick, joined by an iron pin; each plate has three attachment holes.

Type 2   Flared, Ornamental

N - 1

F50      L - 26.0 mm; W at pin - 19.9 mm

Thin (.2 mm) sheet brass cut into an ornamental shape similar to that pictured in Stone (1974b:194, Figure 111i). Each plate is folded over an iron pin and has three attachment holes.

Structural Context of Utilization

Building Hardware

Pintles and Hinges N - 33

Self-Contained Hinges

Type 1 Tapered, Iron

N - 2

F43 L - 6.07 cm; W - 1.62 cm

F46 L - NMP; W - 1.98 cm

Type 2 Rectangular, Iron

N - 1

N861W875 L - NMP; W - 1.47 cm

Hinges of both T1 and T2 have one strap rectangular or tapered, and the other either flared or tapered.

Type 3 Flared

N - 1

F33 L (flared strap) - 8.5 cm; W at flare - 5.36 cm

Pintle Hinges - Strap Elements

Type 2 Rectangular

Variety a Flared distal end

N - 1

N1015W950 L - NMP; W at proximal end - 1.28 cm

Category 1 Strap element that is either rectangular or square

N - 1

F56 W - 4.2 cm

Pintle Hinges - Pintle Elements

Series B Secured by driving or imbedding shank into wood

Type 1 Shank and Hinge Pin are Separate Elements

Variety a Rectangular, non-tapered shank

N - 1

N1015W940 L - NMP; shank W - 1.33 cm;  
pin L - 5.29 cm

## Variety b Rectangular shank, notched and tapered

N - 1

No Prov. L - 4.1 cm; max. shank W - 1.61 cm;  
pin L - 4.97 cm

## Type 2 Shank and Hinge Pin Single Element

N - 10

Plow Zone - 3 F56 - 2

N1015W950 F36

N875W865 F50

N875W875

Pintle L range (5 specimens) - 7.5-15.9 cm

Pin diameter range (5 specimens) - 1.0-1.33 cm

Max. shank W range (9 specimens) - .99-1.43 cm

Max. shank Thickness range (7 specimens) - .82-1.14 cm

Two pintles from F56 have notches cut in the upper shank surface close to the hinge pin juncture to receive the rolled shaft of the strap element. One specimen from F56 also has a number of shallow cuts in all four shank edges in order for it to stay lodged more securely in the wood.

## Hinges Category 1 Fragments of hinge straps and ends not identifiable as pintle or self-contained hinges.

N - 12

N935W1000

N955W905 - 7

N955W895 - 3

F46

All fragments are iron with two exceptions: from N955W905 a distal end with a copper rivet through it, and from F46 a distal end of copper.

Door Lock N - 1

F56 Pin L - 8.42 cm; hasp L - 16.0 cm

A large, heavy movable hasp element consisting of a pin bent around a hole in one end of the hasp. This pin was nailed into a door jamb. At the other end of the hasp is an oblong slot through which another loop could be passed, to be secured with a padlock or other mechanism.

Nut N - 1

Backhoe Trench #1 D - 30.1 mm

Octagonally faceted nut; expands toward the bottom.

Washers N - 2

N935W990	NMP
N955W905	NMP

Nails N - 4407

In the Fort Ouiatenon nail sample most measurements are approximate since almost all nails with the exception of burned ones are heavily corroded and their heads obscured. On many the tips are broken off and corrosion is heavy around the necks making shank width impossible to measure. Since many of the F56 nails were burned, thus reducing corrosion, this feature was selected for a sample of measurements (see Tables 39 and 40). Most nails were measured with sliding calipers. When nails were bent, however, their lengths were taken with string, then the string was laid against a ruler and the length measurement taken from there.

Type 1 Rosehead Nails N - 1431 (87.9%)

The typical eighteenth century wrought iron nail head, hammered by hand, with three or more facets on the head.

Type 2 L Head Nails N - 94 (5.8%)

A nail head hammered almost completely to one side. Three sides are more or less flush with the nail shaft. Some stick out slightly opposite the head direction. It should be noted that there are many rosehead nails that have had one side hammered down against the nail shaft, giving somewhat the appearance of an L Head nail. These have been included with the rosehead nails.

Type 3 T Head Nails N - 32 (2.0%)

A nail having the head flush with two sides and extending past the shaft on the other two sides, making a T with the shaft.

Type 6 Offset Head Nails N - 18 (1.1%)

Typically, a head without facets visible, fairly flat on the

top surface, and not centered on the shaft.

Type 7 Large Round Head, Small Shaft N - 3 (.2%)

A nail with a large round head and a small shaft.

Type 8 (new type) Rectangular Head Nail N - 6 (.4%)

A nail with a rectangular head, rather thick, with fairly squared corners ; similar to the T Head nail.

Type 9 (new type) Headless Nails N - 6 (.4%)

A headless nail that has been observed to have been hammered or used; the shaft has been hammered so that the upper edges are flattened out slightly.

Type 10 (new type) Flat Head Nails N - 11 (.7%)

A round headed nail with a flat head, centered on the shaft.

Type 11 (new type) Tacks N - 28 (1.7%)

Small nails with small shafts and flat or faceted heads.

#### Nail Category 1 Unidentified and Corroded Nails

N - 2778			
Plow Zone	246	N1010W990	4
N930W1010	37	N1010W1000	10
N930W1020	17	N1010W1010	6
N930W1000	43	N1020W990	9
N930W990	52	N1020W1000	10
N930W980	49	N1020W1010	1
N930W970	87	N1030W990	20
N935W1000	73	N1030W1000	8
N935W990	75	N1030W1010	3
N955W905	155	N861W875	211
N955W895	260	N1080W830	5
N930W1030	5	N980W1000	35
N930W760	12	N1050W964	13
N930W770	13	30 by 30 barks	6
N930W780	14	N1055W918	9
N930W790	13	N1065W918	13
N930W800	2	N880W1000	14
N930W810	2	N1050W1000	10
N930W820	5	N835W1000	2
N1000W964	13	N1015W940	55
N1010W964	6	N820W1003.5	6
N1020W964	2	N1060W1000	4
N1030W964	6	N815W1003.5	2
N1040W964	46	N860W1000	1
N990W964	5	N865W865	88
N1015W950	295	N861W865	43

N875W865	172	F46	14
N875W875	209	F48	1
N865W875	32	F49	17
F56 Balks	75	F50	124
Backhoe #1	106	F51	1
Backhoe #2	1	F52	56
Backhoe #3	13	F53	19
No Prov.	44	F55	2
F29	6	F56	1042
F30	28	F57	12
F31	4	F59	2
F32	3	F60	9
F33	28	F62	16
F35	39	F63	2
F36	1	F65	4
F38	16	F66	2
F39	32	F67	37
F40	12	F68	82
F41	1	F69	5
F43	15		
F44	2		

Nail Discussion. The distribution of nails at Fort Ouiatenon, as expected, is heavily skewed toward the location of structures, or suspected structures. Fully 42 percent of all nails recovered were in or around the storehouse area. The forging area yielded 10.5 percent and the basement in N1015W950 yielded 6.7 percent.

As at other eighteenth century sites, hand wrought rosehead nails are the most common nail type recovered. In the sample from F56, nails that had been clinched in some fashion outnumbered straight nails, indicating use in construction or at least use in wood that was too thin to hold the entire shaft, such as interior or exterior siding.

It is likely that some nails were manufactured at the fort, since a blacksmith was often present. All references to the blacksmith, however, mention him in regard to his capacity as weapons repair person at the fort as a result of the specific request of local Indian tribes. However nails arrived at the fort, as a

Table 39. Feature 56 Nails

T1 Rosehead N - 423		
Average Max. Shank Thickness	5.16 mm	(240 specimens)
Average Min. Shank Thickness	3.89 mm	(240 specimens)
Average Length	6.57 mm	(263 specimens)
Pointed End	N - 262	
Spatulate Shank End	N - 3	
T2 L Head N - 29		
Average Max. Shank Thickness	5.21 mm	(15 specimens)
Average Min. Shank Thickness	3.67 mm	(15 specimens)
Average Length	6.23 mm	(17 specimens)
Pointed Shank End	N - 18	
T3 T Head N - 9		
Average Max. Shank Thickness	6.8 mm	(2 specimens)
Average Min. Shank Thickness	5.35 mm	(2 specimens)
Average Length	11.93 mm	(4 specimens)
Pointed Shank End	N - 3	
T6 Offset Head N - 5		
Average Max. Shank Thickness	4.2 mm	(4 specimens)
Average Min. Shank Thickness	3.5 mm	(4 specimens)
Average Length	3.79 mm	(4 specimens)
Pointed Shank End	N - 4	
T8 Rectangular Head N - 2		
No Measurements Possible		
Spatulate Shank End	N - 1	
T9 Headless N - 2		
Average Max. Shank Thickness	5.33 mm	(3 specimens)
Average Min. Shank Thickness	6.9 mm	(3 specimens)
Average Length	6.3 mm	(2 specimens)
T10 Flat Head N - 8		
Average Max. Shank Thickness	4.15 mm	(4 specimens)
Average Min. Shank Thickness	3.4 mm	(4 specimens)
Average Length	3.77 mm	(5 specimens)
Pointed Shank End	N - 4	
Spatulate Shank End	N - 1	
Corroded and Fragmentary Nails	N - 564	
Total F56 Nails	N - 1042	



finished product, or as iron to be made into nails and other items, the weight of transporting such a burden would have been tremendous.

Table 40. Feature 56 Nail Shaft Shape

	<u>Straight</u>	<u>Clinch</u>	<u>J</u>	<u>Curl</u>	<u>Bend</u>	<u>Combination</u>
	I	JJ	J	JJ	J	
Rosehead						
N - 278	86	23	15	22	125	7
L Head						
N - 19	9	1	0	0	9	0
T Head						
N - 4	0	0	0	0	2	2
Offset Head						
N - 4	3	0	0	0	1	0
Flat Head						
N - 8	6	0	0	0	2	0
Rectangular Head						
N - 2	0	0	0	2	0	0
Headless						
N - 2	0	1	0	0	1	0

Keys N - 6 All Iron

Series A Hollow Shank

Type 1 Key Shank Terminates at Distal Edge of Key Blade

Variety c (new variety) No notches in key blade

N - 2

N930W970

F68

L - 5.52 cm (bow heart shape)

NMP

Type 2 (new type) Key Shank Extends beyond Distal Edge of Key Blade

Variety a (new variety) Two notches, one each in distal and proximal blade edges

N - 1

F56

L - 6.69 cm

## Series B Solid Shank

## Type 1 Key Shank Extends beyond Distal Edge of Key Blade

Variety c One notch in distal edge of key blade

N - 1  
 N1010W1000 L - 10.43 cm

Variety d One notch in proximal edge of key blade

N - 1  
 N955W895 L - 10.07 cm

## Key Category 1

N - 1  
 F40

An iron key with round, flattened bow, rectangular shaft with no blade present; possibly a spigot key.

Cotter Pins N - 4 All Iron

N875W865 Plow Zone  
 N930W980 F56

Screws N - 29

## Class I Iron

## Series A Grooved Head

## Type 1 Flat Head

Variety a Five threads in 10.0 mm

N - 4  
 N865 W865 NMP  
 N875W865 NMP  
 N930W780 NMP  
 F69 NMP

## Type 2 Rounded Head

Variety a Ten threads in 10.0 mm

N - 2  
 N955W905 L - 2.43 cm  
 F35 L - 2.82 cm

## Series B No Groove on Head

## Type 1 Tapered Head

Variety a Six threads in 10.0 mm

N - 1  
 N980W1000 L - 3.96 cm

## Type 2 Rectangular Head

Variety a Ten threads in 10.0 mm

N - 1  
 N955W905 NMP

## Class I Series A Category 1 Incomplete Screws

## Type 1 Flat Headed Screws

N - 6  
 Plow Zone N1030W1010  
 N955W905 F50  
 N1015W950 F63

## Type 2 Round Headed Screws

N - 8  
 N955W895 F56 Balks  
 N990W964 F50 - 2  
 N875W875 - 2 F33

## Class I Category 1 Iron Screws

N - 4  
 N955W895  
 F49 - 2  
 F68

## Class II Brass

## Category 1 Incomplete Brass Screws

N - 3  
 N955W905 - 2  
 N955W895

Staples N - 15

## Type 1 Iron; Square Ended

N - 9  
 Plow Zone N875W875 - 2  
 N955W905 F56 - 2  
 N955W895 F50  
 N930W750

L Range - 1.79-8.1 cm (4 specimens)  
 W Range - 1.33-8.8 cm (7 specimens)

Type 2 Iron; Round Ended

N - 6  
 N955W895 N1030W990  
 N990W964 F56 - 2  
 N1015W950

L Range - 1.95-2.98 cm (2 specimens)  
 W Range - .91-3.12 cm (4 specimens)

Door Latch Hardware

Latch Bar Catch N - 2

N935W990 Iron  
 N955W905 Iron

Door Handle

Door Handle and Thumb Lift with Decorative Plate

Thumb Lift

N - 1  
 F56 (Figure 24)

Latch Bar Catch Fragment (may belong with above assembly) N - 1

F56 Iron

Thumb Lift N - 1

Backhoe Trench #1 Iron

Door, Gate or Shutter Hook N - 2

N865W875 Iron  
 F43 Iron

Door Latch Hardware Discussion. The door handle assembly from F56 seems out of place amidst the apparently rude surroundings of Fort Ouiatenon. This rather delicate assembly is fancier than any of the specimens recovered at Fort Michilimackinac. It may or

**Figure 24**  
**Door Handle**

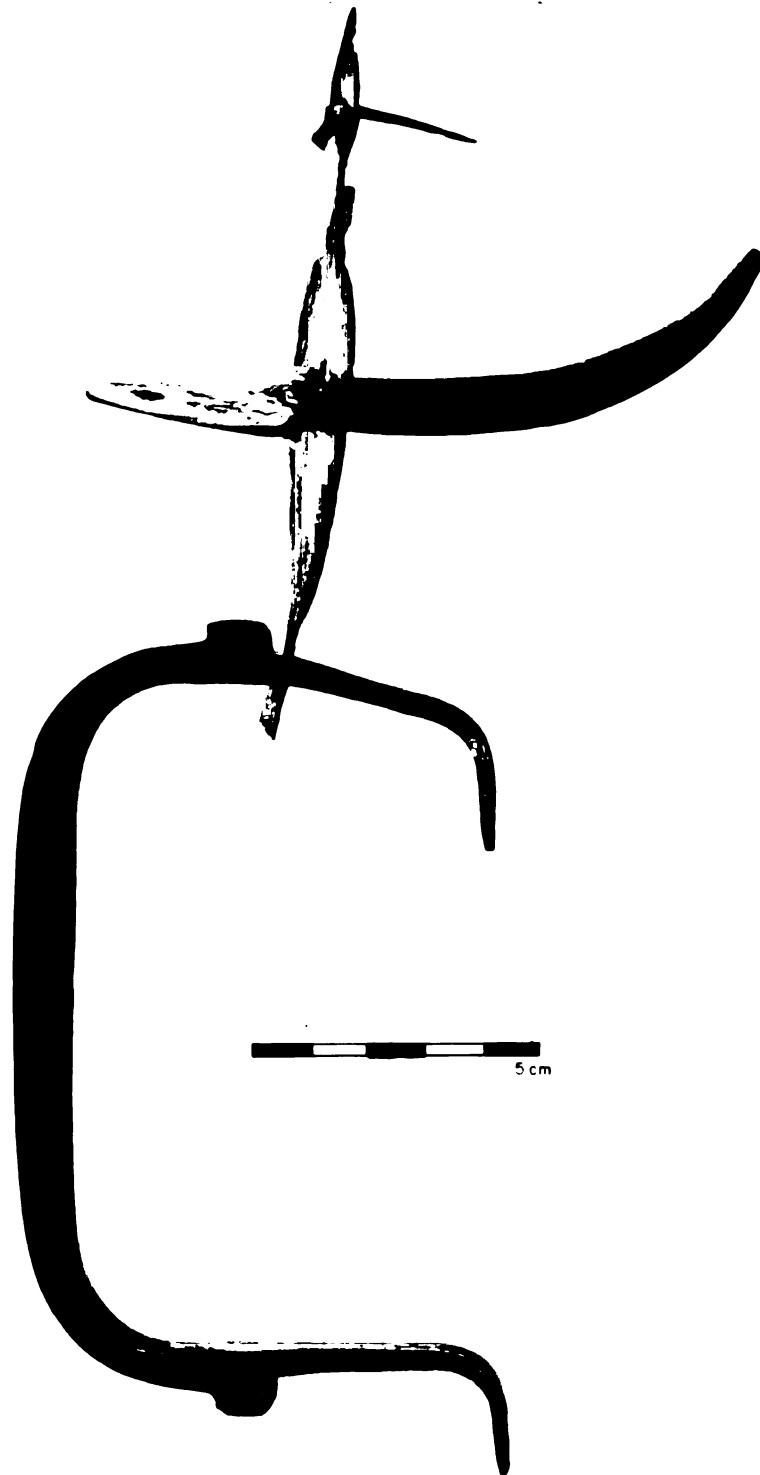


Figure 24. Door Handle

may not belong to the storehouse itself, as the assembly was not recovered near what has been interpreted as the doorway to that structure.

Chain Links N - 7 All Iron

N930W970	N955W895 - 3
N955W905 - 2	F35

Iron Rings N - 3

N980W1000	D - 19.3 mm
Plow Zone	D - 45.9 mm (possibly a harness ring)
F68	corroded NMP

Components

Window Glass N - 2205

Plow Zone	242	F30	7
N930W1010	9	F32	2
N930W1020	9	F33	27
N930W1000	19	F34	1
N930W990	18	F35	9
N930W980	22	F36	1
N930W970	63	F38	23
N935W1000	30	F39	41
N935W990	29	F40	7
N955W905 and		F41	1
N955W895	362	F44	1
N930W1030	1	F46	9
N930W750	3	F49	9
N930W760	7	F50	135
N930W770	7	F52	18
N930W780	9	F53	17
N930W790	7	F54	1
N1015W950	254	F55	3
N861W875	88	F56	153
N865W865	38	F58	1
N861W865	16	F59	1
N875W865	65	F60	2
N875W875	90	F63	4
N865W875	6	F66	1
F56 Balks	36	F67	14
Backhoe Trenches	75	F68	2
Other Units	204	F69	6

Thickness Range - .3-2.7 mm  
(54% between 1.2 mm and 1.6 mm)

Window Glass Discussion. Though the .3 mm to 1.0 mm glass would seem to be rather thin for window glass, Olive Jones (1979) feels that it should be considered as such. She checked the thicknesses of a number of sherds of window glass from the Fortress of Louisbourg and found many of them to be less than 1.0 mm thick. Flat sided square bottles with glass much the color of window glass measured about 2.0 mm in thickness.

It has not been determined whether the window glass from Fort Ouiatenon is crown glass, broad glass or cast glass. For the most part, sherds were too small to allow definitive identification, however the range of thickness variation points to the presence of crown glass more than either of the other types. Brown (1971) found this to be the case at Fort Michilimackinac and also stated that the likelihood of there being window panes of cast glass at that post was very low since the method of manufacture was so expensive. She also mentions the fact that many sherds showed scoring and breaking along scored lines (1971:128), indicating that glass may have been sent to the fort and cut to size there. Several sherds from Ouiatenon exhibit the same kind of scoring marks. No complete panes were recovered.



Craft/Activity Context of Utilization

## Subsistence

Fish Hooks N - 12

## Type 1 Flattened Shank End

## Variety a Barbed

N - 1

No Prov. L - 40.4 mm; W - 15.2 mm

## Type 1 Category 1 Shanks without Hooks

N - 2

N861W875 L - 39.0 mm; W - NMP

F56 NMP

## Type 1 Category 2 Hooks without Complete Shank

N - 9

Plow Zone N875W875

N955W905 F56 - 3

N955W895 - 3

Fish Hook Discussion. Stone states that the fish hooks from Fort Michilimackinac were used with more frequency during the period from 1735 to 1760 (1974b:245).

Scythe Blade N - 1

N955W895 NMP; iron

Hoe N - 1

N955W895 Blade L - 7.0 cm; W across blade - 7.47 cm

An iron hoe blade that has been cut or broken just below the eye. It may have had originally a square or round blade. One side appears fairly straight, but the rest of the blade, though rounded now, is very worn and before conservation measures were taken was heavily corroded. No definite original shape is discernible.

Hoe Discussion. No hoes were recovered from Fort Michilimackinac while four were in the collections from Fort St. Joseph.

Harpoon N - 1

N861W875 L - 4.54 cm (broken)

Antler tine harpoon tip with one barb present.

## Arms

Gunflints N - 335

Those gunflints that were considered to be usable, that is, those with reasonably straight edges, were measured. Flints that were not measured were either broken or, more probably, battered and heavily used. A number of flints in the sample appear to have been used as either scrapers or firesteel flints. Others are characterized by off-center bulbs of percussion, jagged side edges and, in general, rather crude workmanship.

In this classification I have not recognized the existence of the "blade-spall" gunflint (Stone 1974b:255). In my opinion blade-spalls are more likely nothing more than spall flints with extra large striking platforms.

Length and width measurements follow Stone (1974b) and currently accepted gunflint specifications, as opposed to standard eighteenth century systems. Length refers to the measurement parallel to the gun when the flint is mounted in the lock.

## Series A Blade Gunflints

## Type 1 Bevelled Edge and Back, Flat Face, Rounded Back Heel

N - 6	Color - Honey, Tan, Gray
F56 Balks	L - 21.7 mm; W - 26.9 mm; Thickness (T) - 5.25 mm
F56	L - 20.5 mm; W - 24.0 mm; T - 6.2 mm
F56	L - 23.7 mm; W - NMP; T - NMP
F68	L - 27.0 mm; W - 32.4 mm; T - 7.9 mm
F68	L - 24.6 mm; W - 27.7 mm; T - 8.7 mm
F53	NMP

**Type 2 Bevelled Edge, Flat Face, Rounded Back Heel, No Back Flake**

N - 18	Color - Honey, Tan, Gray, Black
Plow Zone	NMP
N1055W918	NMP
N1065W918	NMP
N955W905	NMP
N955W895	NMP
N955W895	NMP (possible firesteel use)
N955W895	L - 21.9 mm; W - 25.5 mm; T - 6.6 mm (chalk heel)
N1015W950	NMP
N1015W950	L - 25.5 mm; W - 27.8 mm; T - 4.7 mm
N1015W950	NMP
F39	L - 29.0 mm; W - 33.9 mm; T - 11.8 mm
F56	L - 28.0 mm; W - 30.7 mm; T - 6.1 mm
F68	NMP (chalk heel; possible firesteel or scraper use)
F68	L - 24.4 mm; W - 26.6 mm; T - 5.2 mm
F68	L - 22.2 mm; W - 26.4 mm; T - 4.6 mm
F68	L - 16.9 mm; W - 22.4 mm; T - 5.1 mm (chalk heel)
F68	L - 21.7 mm; W - 25.8 mm; T - 4.4 mm
N865W865	L - 23.1 mm; W - 22.9 mm; T - 6.7 mm (black)

**Type 3 Bevelled Edge and Back, No Face Flake, Triangular in Cross Section**

N - 6	Color - Honey, Tan, Gray
N955W895	L - 21.1 mm; W - 27.7 mm; T - 8.1 mm
N955W895	L - 17.3 mm; W - 19.3 mm; T - 4.3 mm
N865W865	L - 22.1 mm; W - 28.1 mm; T - 6.5 mm
F56	L - 22.3 mm; W - 25.6 mm; T - 6.7 mm
F56	NMP
F56	L - 19.5 mm; W - 25.1 mm; T - 7.5 mm

**Type 4 Long Flat Face, Rounded Back**

N - 2	Color - Honey
N955W895	NMP
F43	NMP

**Series A Category 1 Blade Gunflints unidentifiable as to Type**

N - 10	Color - Honey, Tan, Gray, Gray Chert
N1015W950 - 2	F56 Balks
N875W865 (gray chert)	F39
N955W905 (burned)	F50
N875W875	F56 - 2 (burned)

The Fort Michilimackinac Series C gunflints were divided into varieties based on color. The flints from Fort Ouiatenon, however, did not fit well into the varieties described by Stone (1974b:257-258). Therefore, I have not attempted to fit the Ouiatenon flints into Stone's varieties but rather have provided a numerical key to the colors present.

All measurements are in millimeters.

No Prov.	C - 2; L - 26.8; W - 31.5; T - 6.2
No Prov.	C - 1; L - 22.9; W - 26.1; T - 5.6
No Prov.	C - 1; NMP
No Prov.	C - 2; NMP (possible firesteel use)
No Prov.	C - 3; L - 24.0; W - 33.8; T - 8.1
Plow Zone	C - 1; L - 25.6; W - 25.6; T - 8.3
Plow Zone	C - 1; NMP
Plow Zone	C - 2; L - 20.4; W - 22.3; T - 6.9
Plow Zone	C - 2; L - 26.3; W - 27.0; T - 6.8
Plow Zone	C - 5; NMP
Plow Zone	C - 2; NMP (firesteel use)
Plow Zone	C - 1; NMP
Plow Zone	C - 1; L - 24.5; W - 31.2; T - 6.1
Plow Zone	C - 1; NMP (firesteel use)
Plow Zone	C - 2; NMP (firesteel use)
Plow Zone	C - 5; NMP (firesteel use)
Plow Zone	C - 2; NMP
Plow Zone	C - 2; NMP
Plow Zone	C - 2; NMP (possible firesteel use)
Plow Zone	C - 4; NMP
Plow Zone	C - 1; NMP (possible firesteel use)
N930W980	C - 1; NMP
N930W980	C - 5; NMP
N930W980	C - 2; NMP
N930W980	C - 1; NMP
N930W980	C - 2; NMP
N930W970	C - 2; NMP
N930W970	C - 2; NMP
N935W1000	C - 1; NMP
N935W1000	C - 2; L - 25.5; W - 27.1; T - 9.0
N935W990	C - 5; NMP
N935W990	C - 1; NMP (firesteel use)
N935W990	C - 2; NMP

N930W760	C - 2; L - 19.8; W - 18.9; T - 5.2
N930W770	C - 2; NMP
N930W810	C - 2; L - 19.2; W - 22.2; T - 5.8
N1030W964	C - 5; NMP
N1030W964	C - 1; NMP
N1040W964	C - 2; L - 19.9; W - 25.4; T - 5.3
N1040W964	C - 2; L - 21.7; W - 26.9; T - 9.4
N990W964	C - 1; NMP
N990W964	C - 2; NMP
N1015W950	C - 1; NMP
N1015W950	C - 2; L - 28.4; W - 28.3; T - 7.4
N1015W950	C - 5; NMP
N1015W950	C - 1; NMP
N1015W950	C - 2; NMP
N1015W950	C - 2; L - 26.5; W - 25.1; T - 7.9
N1015W950	C - 1; NMP (firesteel use)
N1015W950	C - 1; L - 23.7; W - 30.2; T - 6.1
N1015W950	C - 2; L - 28.4; W - 30.0; T - 5.6
N1015W950	C - 1; NMP (possible firesteel use)
N1015W950	C - 1; L - 19.2; W - 22.8; T - 5.0
N1015W950	C - 2; NMP (firesteel use)
N1015W950	C - 2; L - 24.2; W - 33.0; T - 8.4
N1015W950	C - 2; L - 22.6; W - 29.3; T - 6.1
N1015W950	C - 1; L - 20.9; W - 26.1; T - 6.7
N1015W950	C - 2; NMP
N1015W950	C - 2; NMP (firesteel use)
N1015W950	C - 2; NMP (firesteel use)
N1015W950	C - 2; L - 26.9; W - 31.6; T - 8.5
N1015W950	C - 1; L - 19.5; W - 21.5; T - 4.5
N1015W950	C - 2; NMP
N1015W950	C - 1; NMP
N1015W950	C - 2; L - 27.5; W - 31.9; T - 10.5
N1015W950	C - 1; L - 22.8; W - 26.3; T - 3.4
N1015W950	C - 2; NMP
N1015W950	C - 1; L - 22.0; W - 23.0; T - 5.7
N1015W950	C - 1; L - 20.1; W - 23.3; T - 5.1
N1015W950	C - 2; NMP
N1015W950	C - 1; NMP
N861W875	C - 2; L - 22.6; W - 26.2; T - 6.9
N861W875	C - 1; L - 29.1; W - 35.0; T - 9.8
N861W875	C - 2; NMP (firesteel use)
N861W875	C - 2; NMP (possible firesteel use)
N1010W990	C - 5; L - 28.0; W - 32.8; T - 10.1
N1020W1000	C - 1; NMP
N1030W990	C - 5; L - 21.1; W - 24.7; T - 8.4
N1030W990	C - 5; NMP (firesteel use)
N980W1000	C - 1; L - 19.9; W - 26.0; T - 4.2
N1055W918	C - 1; NMP (possible scraper)
N1065W918	C - 2; NMP (possible firesteel use)
N880W1000	C - 5; NMP (possible firesteel use)
N1015W940	C - 5; NMP (possible scraper)
N1015W940	C - 2; NMP
Backhoe	
Trench #1	C - 1; L - 26.9; W - 32.9; T - 6.8

Backhoe		
Trench #1	C - 1; L - 26.6; W - 33.4; T - 7.4	
Backhoe		
Trench #1	C - 2; NMP	
Backhoe		
Trench #1	C - 2; NMP (firesteel use)	
Backhoe		
Trench #1	C - 2; NMP (scraper; broken with retouched edge)	
N955W905	C - 5; NMP	
N955W905	C - 5; NMP	
N955W905	C - 2; NMP	
N955W905	C - 1; NMP	
N955W905	C - 1; L - 21.9; W - 26.2; T - 6.6	
N955W905	C - 2; NMP (chalk heel)	
N955W905	C - 1; NMP	
N955W905	C - 1; NMP (firesteel use)	
N955W905	C - 1; NMP (firesteel use)	
N955W905	C - 1; NMP (possible scraper)	
N955W905	C - 1; NMP	
N955W905	C - 2; L - 20.7; W - 26.5; T - 7.6	
N955W905	C - 1; NMP (possible scraper)	
N955W905	C - 1; L - 20.8; W - 27.9; T - 8.2	
N955W905	C - 1; L - 20.4; W - 25.1; T - 7.1	
N955W905	C - 1; NMP	
N955W905	C - 3; NMP	
N955W905	C - 5; L - 21.0; W - 30.5; T - 8.3	
N955W905	C - 1; L - 24.1; W - 29.1; T - 6.5	
N955W905	C - 1; NMP (firesteel use)	
N955W905	C - 1; L - 22.7; W - 22.0; T - 5.3	
N955W905	C - 1; NMP (firesteel use)	
N955W905	C - 2; NMP	
N955W905	C - 2; NMP	
N955W905	C - 1; L - 22.4; W - 30.2; T - 6.7	
N955W905	C - 2; NMP	
N955W905	C - 2; NMP (firesteel use)	
N955W895	C - 2; NMP	
N955W895	C - 1; L - 33.8; W - 39.4; T - 10.2	
N955W895	C - 2; L - 23.4; W - 24.4; T - 6.5	
N955W895	C - 2; L - 21.9; W - 22.3; T - 7.3	
	(chalk heel)	
N955W895	C - 2; NMP (possible firesteel use)	
N955W895	C - 2; NMP	
N955W895	C - 2; NMP	
N955W895	C - 1; NMP	
N955W895	C - 2; NMP	
N955W895	C - 2; NMP	
N955W895	C - 2; L - 26.4; W - 28.2; T - 7.6	
N955W895	C - 1; L - 22.3; W - 24.2; T - 5.3	
N955W895	C - 4; L - 27.7; W - 31.8; T - 7.7	
N955W895	C - 5; NMP	
N955W895	C - 1; NMP	

N955W895	C - 5; NMP
N955W895	C - 1; NMP (possible firesteel use)
N955W895	C - 1; L - 25.0; W - 28.9; T - 6.0
N955W895	C - 5; NMP
N955W895	C - 2; NMP
N955W895	C - 2; L - 25.6; W - 32.5; T - 9.3
N955W895	C - 1; NMP (possible firesteel use)
N955W895	C - 1; NMP (possible firesteel use)
N955W895	C - 1; NMP (chalk heel)
N955W895	C - 2; NMP
N955W895	C - 1; NMP
N955W895	C - 1; NMP
N955W895	C - 1; NMP
N865W865	C - 1; NMP
N865W865	C - 5; L - 24.1; W - 26.6; T - 8.1
N865W865	C - 1; L - 32.0; W - 27.4; T - 7.4
N865W865	C - 1; NMP
N861W865	C - 2; NMP
N861W865	C - 2; NMP
N861W865	C - 1; L - 18.8; W - 22.9; T - NMP
N875W865	C - 1; L - 19.9; W - 24.7; T - 6.1
N875W865	C - 2; L - 20.4; W - 29.2; T - 4.1
N875W865	C - 1; NMP
N875W865	C - 5; L - 21.9; W - 23.9; T - 7.2
N875W865	C - 1; L - 23.2; W - 26.8; T - 6.2
N875W865	C - 2; NMP (possible firesteel use)
N875W865	C - 1; NMP
N875W865	C - 2; NMP (possible firesteel use)
N875W865	C - 2/3; L - 23.1; W - 33.5; T - 8.3
N875W865	C - 2; NMP (possible firesteel use)
N875W865	C - 2; NMP
N875W865	C - 2; L - 27.0; W - 30.8; T - 5.2
N875W865	C - 2; NMP
N875W865	C - 2; L - 24.8; W - 29.4; T - 6.3
N875W865	C - 2; NMP
N875W865	C - 1; NMP
N875W865	C - 1; NMP
N875W875	C - 5; NMP
N875W875	C - 2; NMP (possible firesteel use)
N875W875	C - 1; NMP
N875W875	C - 1; NMP (possible firesteel use)
N875W875	C - 1; L - 21.0; W - 25.0; T - 6.1
N875W875	C - 2; L - 20.5; W - 26.2; T - 6.6
N875W875	C - 2; NMP
N875W875	C - 1; NMP (chalk heel)
N875W875	C - 2; NMP
N875W875	C - 2; NMP
N875W875	C - 2; NMP
N875W875	C - 2; NMP
N875W875	C - 2; NMP (firesteel use)
N875W875	C - 2; NMP
N875W875	C - 2; L - 25.3; W - 29.2; T - 10.0
N875W875	C - 2; NMP (scraper)

N875W875	C - 2; NMP
N875W875	C - 2; L - 21.4; W - 23.4; T - 5.2
N875W875	C - 29.0; W - 33.4; T - 9.2
N875W875	C - 1; L - 22.0; W - 27.7; T - 6.6
N875W875	C - 2; L - 24.4; W - 28.2; T - 7.0
N875W875	C - 2; NMP
N875W875	C - 3; NMP
F56 Balks	C - 1; L - NMP; W - 30.8; T - 7.0
F56 Balks	C - 1; NMP (possible firesteel use)
F56 Balks	C - 1; L - 24.0; W - 25.2; T - 6.3
F56 Balks	C - 2; L - 23.4; W - 26.7; T - 5.4
F56 Balks	C - 2; L - 23.6; W - 26.9; T - 7.7
F56 Balks	C - 1; NMP
F56 Balks	C - 1; L - 21.1; W - 24.0; T - 5.3
F56 Balks	C - 1; NMP (firesteel use)
F56 Balks	C - 1; NMP
F56 Balks	C - 2; NMP
F56 Balks	C - 2; NMP
F30	C - 1; L - 23.3; W - 22.9; T - 7.2
F35	C - 1; NMP
F35	C - 2; NMP
F35	C - 1; NMP
F35	C - 2; NMP
F36	C - 2; L - 19.8; W - 30.0; T - 6.1
F38	C - 2; NMP
F43	C - 1; NMP
F43	C - 5; NMP (firesteel use)
F49	C - 4; L - 23.2; W - 31.4; T - 6.8
F50	C - 1; L - 27.4; W - 33.2; T - 11.0
F50	C - 5; NMP
F50	C - 5; NMP (firesteel use)
F50	C - 1; NMP (possible firesteel use)
F50	C - 2; NMP (possible scraper)
F52	C - 1; NMP (possible scraper)
F52	C - 2; NMP (firesteel use)
F53	C - 1; NMP (chalk heel; firesteel use)
F53	C - 1; NMP (possible scraper)
F53	C - 1; NMP
F60	C - 2; L - 31.8; W - 37.5; T - 9.1
F66	C - 1; L - 23.4; W - 30.5; T - 9.1
F66	C - 1; NMP (firesteel use)
F67	C - 1; L - 28.5; W - 27.8; T - 6.0
F67	C - 2; NMP (possible scraper)
F67	C - 2; L - 20.9; W - 23.8; T - 6.6
F67	C - 1; L - 19.8; W - 28.0; T - 4.8
F69	C - 1; NMP
F69	C - 1; L - 23.8; W - 33.4; T - 6.5
F69	C - 1; NMP
F69	C - 2; L - 24.7' W - 27.4; T - 4.4
F56	C - 2; NMP (possible firesteel use)
F56	C - 2; NMP (possible firesteel use)
F56	C - 5; L - 28.9; W - 30.3; T - 6.8
F56	C - 5; NMP



F56	C - 2; NMP
F56	C - 1; L - 21.2; W - 24.9; T - 4.3
F56	C - 1; NMP
F56	C - 2; NMP
F56	C - 2; L - 26.3; W - 29.2; T - 8.3
F56	C - 2; NMP
F56	C - 2; L - 25.6; W - 28.6; T - 7.6
F56	C - 1; L - 21.1; W - 26.0; T - 6.4
F56	C - 2; L - 23.9; W - 24.3; T - 8.0
F56	C - 1; L - 20.9; W - 21.3; T - 5.8
F56	C - 1; NMP
F56	C - 2; NMP (possible firesteel use)
F56	C - 1; L - 21.8; W - 28.4; T - 6.3
F56	C - 3; L - 22.9; W - NMP; T - 5.0
F56	C - 1; NMP (possible firesteel or scraper use)
F56	C - 5; NMP
F56	C - 5; NMP
F56	C - 2; NMP
F56	C - 2; NMP (chalk heel)
F68	C - 1; NMP
F68	C - 1; NMP
F68	C - 1; L - 24.9; W - 28.4; T - 6.4
F68	C - 2; L - 27.0; W - 31.3; T - 6.9
F68	C - 1; L - 17.9; W - 23.4; T - 5.2
F68	C - 1; L - 17.2; W - 19.8; T - 3.3
F68	C - 2; L - 19.7; W - 23.1; T - 5.9
F68	C - 2; NMP
F68	C - 1; NMP
F68	C - 2; L - 26.2; W - 30.4; T - 6.6
F68	C - 1; L - 28.1; W - 36.8; T - 9.3
F68	C - 2; L - 24.2; W - 24.2; T - 5.7
F68	C - 1; L - 23.5; W - 28.4; T - 6.0
F68	C - 2; NMP
F68	C - 2; NMP (firesteel use)
F68	C - 1; L - 22.5; W - 26.9; T - 7.3
F68	C - 2; L - 25.6; W - 21.5; T - 6.3
F68	C - 1; NMP
F68	C - 1; L - 16.7; W - 23.6; T - 4.3
F68	C - 1; NMP (firesteel use)
F68	C - 2; L - 21.8; W - 27.6; T - 4.7
F68	C - 2; L - 30.2; W - 34.0; T - 9.2
F68	C - 2; L - 23.7; W - 28.9; T - 5.8
F68	C - 1; L - 22.1; W - 24.2; T - 6.9
F68	C - 2; NMP
F68	C - 1; NMP
F68	C - 1; NMP
F68	C - 2; NMP
F68	C - 2; NMP
F68	C - 2; NMP
F68	C - 3; NMP
F68	C - 1; L - 21.2; W - 24.1; T - NMP

F68	C - 1; NMP
F68	C - 2; L - 27.6; W - 31.0; T - 7.0
F68	C - 2; NMP
F68	C - 1; L - 25.6; W - 28.1; T - 10.7

Gunflint Discussion. Spall gunflints at Fort Ouiatenon, as at Fort Michilimackinac, were found in much greater frequency than blade gunflints. The ratio of blade to spall flints at Ouiatenon is 1:6.98; at Michilimackinac it is 1:6.25 (Stone 1974b:263). Size ranges for blade and spall flints are also very similar (see Table 41). It is likely that many of the flints sent to Ouiatenon came through Michilimackinac as part of major supply shipments.

Both blade and spall flints are found in three principal locations at Ouiatenon: in and around F56, the forging area, and the basement of N1015W950. The distribution of flints in these areas is as follows:

	Blades	Spalls
F56 area	47.6%	43.3%
Forge area	16.7%	20.8%
N1015W950	11.9%	9.9%
	<u>76.2%</u>	<u>74.0%</u>

It cannot be determined whether or not spalls were used at Ouiatenon for a longer period of time than blade flints, though as part of the same trade network as Michilimackinac this may be the case (see Stone 1974b:263). Significant use of gunflints after their use-life as flints was up is demonstrated by the presence of fifty-seven spall flints with evidence of use with firesteels, or as scrapers.

#### Musket Balls N - 544

Of the musket balls recovered at Fort Ouiatenon, 413 were measureable and 131 were not measureable. Of the measureable balls 61 percent (N - 253) had sprue attached, 5.3 percent (N - 22) had

Table 41. Gunflint Size Ranges

Blade Flints		Length	Width	Thickness
SA T1	Ouiatenon	25.0 - 27.0	24.0 - 32.0	5.25 - 8.7
	Average 4/5 specimens	23.5 mm	27.8 mm	7.0 mm
	Michilimackinac	18.3 - 26.1	18.6 - 32.0	3.9 - 8.8
	Average 18 specimens	22.9 mm	27.2 mm	not given
SA T2	Ouiatenon	16.9 - 29.0	22.4 - 33.9	4.4 - 11.8
	Average 9 specimens	23.6 mm	26.9 mm	6.13 mm
	Michilimackinac	16.4 - 31.8	16.0 - 36.3	3.9 - 11.8
	Average 31 specimens	23.5 mm	27.0 mm	not given
SA T3	Ouiatenon	17.3 - 22.3	19.3 - 28.1	4.3 - 8.1
	Average 5 specimens	20.5 mm	25.2 mm	6.6 mm
	Michilimackinac	18.0 - 27.1	21.3 - 32.8	5.0 - 11.1
	Average 24 specimens	22.0 mm	27.6 mm	not given
SA T4	Ouiatenon	NMP		
	Michilimackinac	23.4 - 24.1	25.3 - 30.4	6.2 - 6.4
	Average 2 specimens	23.8 mm	27.9 mm	6.3 mm
Spall Flints				
T1	Ouiatenon	16.7 - 32.0	18.9 - 39.4	3.4 - 11.0
	Average 110 specimens	23.7 mm	27.7 mm	6.8 mm
	Michilimackinac			
	Variety a	15.9 - 38.3	18.3 - 36.4	4.0 - 10.4
	Average 3 specimens	25.1 mm	27.9 mm	not given
	Variety b	21.2 - 32.5	24.5 - 36.2	5.0 - 11.9
	Average 29 specimens	27.7 mm	29.3 mm	not given
	Variety c	19.8 - 24.3	20.3 - 31.2	5.5 - 8.3
	Average 177 specimens	22.6 mm	26.5 mm	not given

offset halves and 59.3 percent (N - 245) exhibited a seam line. Others, not counted, had various flaws in their surfaces, e.g., gouges, lumps and flat spots where the sprue had been cut off.

Trade gun musket balls accounted for 97 percent of the balls recovered from Ouiatenon (see Table 42). Two percent were of a size to fit French military muskets (see Hamilton 1976) and less than one percent (N - 1) could be from British military arms. The distribution of balls over the site is heavily skewed toward the storehouse and surrounding area; 57.2 percent (N - 311) of all musket balls were recovered in that location (Tables 43 and 44). Twenty-one percent (N - 116) were found in the basement area of N1015W950 and 10 percent (N - 55) were found in the forging area. The highest percentage of military sized balls (46%; N - 6) was also found in the vicinity of the storehouse.

The heavy use of trade guns at Ouiatenon is amply demonstrated by these figures. Likewise, similar profiles are present at other eighteenth century French posts and Native American sites, as seen in Figure 25. The cumulative percentages of musket ball sizes at Ouiatenon, Michilimackinac, Fort St. Joseph and the Kaskaskia Indian village (Guebert Site) are almost identical. Conversely, Fort Stanwix, a British stronghold dating to the third quarter of the eighteenth century (Hanson and Ping Hsu 1975) shows a completely different profile and one that reflects the presence of British military arms in abundance.

Shot N - 5258 Total Grams - 2335.7 g

The shot from Fort Ouiatenon was not systematically collected.

Table 42. Size Range of Measureable Musket Balls

Size Range	N	%	Identification (from Hamilton 1976)
.48 - .53	68	16.5%	
.54 - .58	265	64.2%	Includes both French and British trade guns
.59 - .62	67	16.2%	Includes the "calibre 28" bore trade gun at .59 diameter
.63 - .68	12	3.0%	Includes French Musketoons and Infantry balls and French Musketoons and Dragoon bores
.69 - .73	1	.2%	Includes the French Infantry bore at .69 and the British Infantry ball at .70
.73+	0	0.0%	Includes the British Infantry bore at .75

Hamilton assumes that .53 balls are undersized 32 to the livre balls from French trade guns. In that instance, 70 percent of the Ouatatenon balls would be in the range of the French and British trade guns as described by Hamilton.

Table 43. Distribution of All Ouatatenon Musket Balls

	N	%
F68	98	18%
F56	56	10%
F65	2	1%
F67	19	3%
F69	3	1%
N861W875	19	3%
N865W865	4	1%
N875W865	32	6%
N875W875	53	10%
F56 Balks	25	5%
N1015W950	116	21%
N955W905/N955W895	55	10%
Other	62	11%
Total	544	100%

Table 44. Distribution of Measureable Musket Balls

Storehouse Area		N	%
F68	.48 - .53	19	24.4%
	.54 - .58	38	48.7%
	.59 - .62	18	23.1%
	.63 - .68	3	3.8%
		78	100.0%
F56	.48 - .53	5	11.4%
	.54 - .58	31	70.5%
	.59 - .62	8	18.2%
	.63 - .68	-	-
		44	100.1%
F65	.48 - .63	-	-
	.54 - .58	1	100.0%
	.59 - .62	-	-
	.63 - .68	-	-
		1	100.0%
F67	.48 - .63	-	-
	.54 - .58	5	41.7%
	.59 - .62	6	50.0%
	.63 - .68	1	8.3%
		12	100.0%
F66	No musket balls recovered from this feature.		
F69	.48 - .53	-	-
	.54 - .58	1	100.0%
	.59 - .62	-	-
	.63 - .68	-	-
		1	100.0%
N861W875	.48 - .53	4	30.8%
	.54 - .58	7	53.8%
	.59 - .62	2	15.4%
	.63 - .68	-	-
		13	100.0%
N865W875	No musket balls recovered from this unit.		
N865W865	.48 - .53	-	-
	.54 - .58	2	50.0%
	.59 - .62	2	50.0%
	.63 - .68	-	-
		4	100.0%

Table 44 (cont'd)

N861W865	No musket balls recovered from this unit.		
N875W865	.48 - .53	10	33.3%
	.54 - .58	15	50.0%
	.59 - .62	5	16.7%
	.63 - .68	-	-
		30	100.0%
N875W875	.48 - .53	10	21.7%
	.54 - .58	24	52.2%
	.59 - .62	10	21.7%
	.63 - .68	2	4.3%
		46	99.9%
F56 Balks	.48 - .53	3	13.6%
	.54 - .58	19	86.4%
	.59 - .62	-	-
	.63 - .68	-	-
		22	100.0%
East Trench			
F40	.48 - .53	1	100.0%
North Trench			
F39	.54 - .58	1	100.0%
F49	.48 - .53	1	100.0%
F50	.54 - .58	2	66.7%
	.59 - .62	1	33.3%
		3	100.0%
N1015W950	.48 - .53	2	2.0%
	.54 - .58	91	89.2%
	.59 - .62	8	7.8%
	.63 - .68	1	1.0%
		102	100.0%
West Trench			
F30	.48 - .53	1	33.3%
	.54 - .58	1	33.3%
	.59 - .62	1	33.3%
	.63 - .68	-	-
		3	99.9%

Table 44 (cont'd)

N930W970	.54 - .58	1	100.0%
N935W990	.54 - .58	1	100.0%
N930W1000	.54 - .58	3	100.0%
N930W990	.48 - .53	1	100.0%

## Forging Area

F60	.48 - .53	2	100.0%
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F35

F36

F37

No musket balls recovered  
from these features.

N955W905	.48 - .53	2	18.2%
	.54 - .58	6	54.5%
	.59 - .62	2	18.2%
	.63 - .68	1	9.1%
		11	100.0%

N955W895	.48 - .53	4	20.0%
	.54 - .58	9	45.0%
	.59 - .62	3	15.0%
	.63 - .68	3	15.0%
	.69 - .73	1	5.0%
		20	100.0%

## Stockade Trench

F52	.48 - .53	1	50.0%
	.54 - .58	1	50.0%
	.59 - .62	-	-
	.63 - .68	-	-
		2	100.0%

## Miscellaneous

No Prov.	.48 - .53	2
Plow Zone	.54 - .58	1
	.63 - .68	1
N1015W940	.54 - .58	1
Backhoe		
Trenches	.54 - .58	2
N1060W1000	.59 - .62	1
F62	.54 - .58	1
Surface	.54 - .58	1



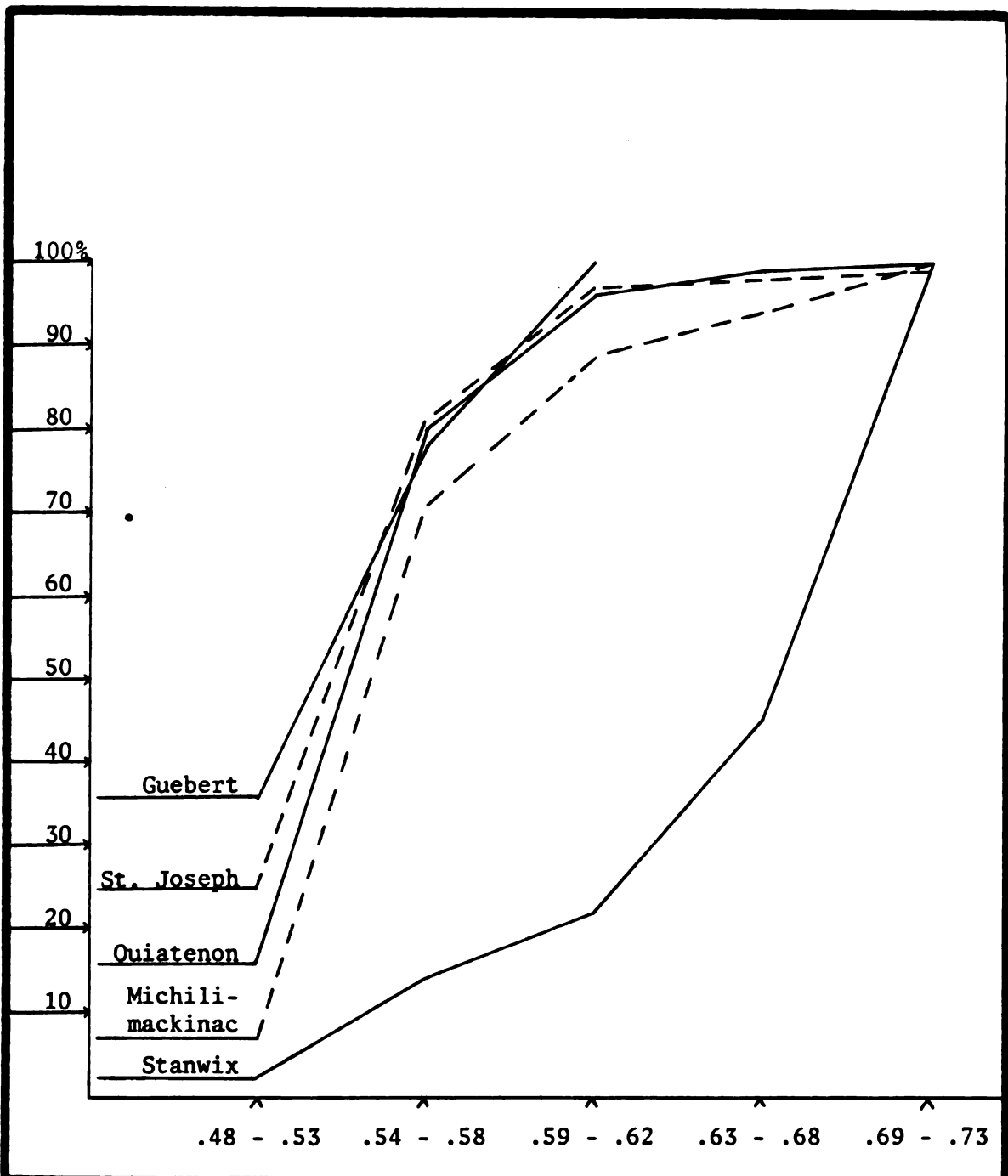


Figure 25. Cumulative Percentages - Musket Ball Size

There is a large sample from fine screened units, and very little from others. However, fine screening was often done when shot was spotted in the fill so, in a very general way, the proportions of shot indicated may be fairly representative of the proportions to be found at the site.

N930W1000	3.8 g	N980W1000	.7 g
N930W980	2.4 g	N875W875	21.9 g
N930W990	1.0 g	N875W865	265.7 g
N935W1000	4.8 g	F56 Balks	173.3 g
N935W990	5.6 g	Backhoe Trenches	.7 g
N955W905	37.4 g	N1065W918	5.9 g
N955W895	32.3 g	F30	1.2 g
N930W760	.8 g	F39	3.6 g
N1040W964	.4 g	F46	28.9 g
N1015W950	143.6 g	F56	156.2 g
N1010W1000	3.1 g	F63	.2 g
N1030W990	1.4 g	F67	1.8 g
N861W875	21.8 g	F68	1417.2 g

Size Range - .061"-.403"

A sample of shot from F68 was measured and sizes ranged from .061" to .388". Most of the small shot was in the .084" to .128" range. Shot .291" and above was cast buck or swan shot while that below is Rupert shot and possibly some drop shot (see Hamilton 1976:35).

#### Gun Parts

Gun parts from Fort Ouiatenon consisted of 240 pieces, almost half of which were recovered from the forging area. Others were distributed between the storehouse (19%), the basement in N1015W950 (7%), the well (6%), and other features and general excavation units.

Most of the gun furniture is discussed individually in non-formal descriptive format. This allows somewhat more latitude in discussing the details, both formal and decorative, that

contribute to the identification of use and national origin of many gun parts. Lock mechanism parts, barrel fragments, and other more strictly functional gun parts are presented formally.

#### Lockplates N - 12

Specimen #1 - F35 (Figure 26 Row 3)  
L - 144.78 mm; H at cock - 25.4 mm

Detachable pan (missing), bevelled edges, flat surface, slightly concave lower edge, counter sunk frizzen spring hole, substantial rear tit, no other parts still attached to lockplate.

Decoration: Engraved line outline, engraved anchor in front of cock (mostly obscured by pitting in the metal), rear end set off from rest of lockplate by vertical bands, stylized engraved decoration at rear of plate. Hamilton (1978) identified this decoration as representing a stand of flags.

Interpretation: Hamilton (1978) has identified this lockplate as dating to the early eighteenth century, from a standard trade gun, probably French. He feels that this lockplate was used on three different guns, due to the presence of three holes above the tumbler screw hole. The rear holes are too large to have been used for a bridle. However, the front hole appears to me to be in a position of pan plate screw. This would indicate that the lockplate was used on no more than two different guns.

Specimen #2 - N955W895 (Figure 26 Row 2)  
L - 142.24 mm; H at cock - 26.3 mm

Detachable pan, faceted, 5.9 mm fence, bevelled edges, flat surface very slightly concave lower edge, counter sunk frizzen spring hole, no other parts still attached to lockplate.

Decoration: Engraved stab-drag outline, and an engraved anchor in front of the cock. Hamilton (1978) feels that this particular anchor is "quite distinct." He was not able to discern any letters on either side of the anchor, though I feel that a slight remnant of an engraved letter is present to the left of the anchor shaft. The rear portion of the lockplate is set off from the rest by vertical lines and a vertical dished out area. The rear decoration consists of a bow, arrow and quiver motif.

Interpretation: Hamilton identifies this lockplate as dating to a slightly later period than the early eighteenth century, though it is still probably French. There are again three holes above the tumbler screw-hole, but since the rear hole is smaller it probably held a bridle screw. The gun was therefore of higher quality than those without bridles. The lockplate was used on at least two different guns. Though the anchor is usually considered to be associated with Marine guns (Hamilton 1977), Hamilton considers this lock to be rather too light to be from a Marine musket.

Specimen #3 - N955W905 (Figure 26 Row 1)  
L - 144.78 mm; H at cock - 25.4 mm

Detachable pan, faceted, 5.7 mm fence, bevelled edges, flat surface, slightly concave lower edge, substantial rear tit, counter sunk frizzen spring hole, frizzen spring still attached to lockplate.

Decoration: Engraved line outline, rear portion separated from rest of lockplate by vertical engraved lines and dished out vertical area, rear decoration of floral design stemming from rear tit; rest of decoration, if any, obscured by pitting in the metal.

Interpretation: This lockplate conforms in shape to the two previously described specimens. It is also probably French. There are three screwholes above the tumbler screwhole. The rear hole, however, is small enough to have been used with a bridle. This lockplate was therefore originally from a better quality lock, and was used on at least two different guns.

Specimen #4 - F36  
L - 144.78 mm; H at cock - 25.0 mm

Detachable pan, faceted, 5.3 mm fence, bevelled edges, flat surface, slightly concave lower edge, substantial rear tit, counter sunk frizzen spring, frizzen spring still attached to lockplate.

Decoration: Obscured by pitting in the metal; all that is visible is the vertical dished out area separating the rear portion of the lockplate. The edges do not appear to be outlined by an engraved line.

Interpretation: This lockplate conforms in shape to those previously described. There are four holes above the tumbler screwhole, two of which have been filled in while one has not been drilled all the way through the plate. The two rear holes appear to be smaller

than the others so this lockplate may have been used on two different guns, both of which had bridled tumblers.

Specimen #5 - N935W1000 (Figure 27 Row 5; see also Hamilton 1980:62)  
L - NMP (lockplate broken through tumbler screw hole);  
H at cock - 25.7 mm

Detachable pan, faceted, 5.9 mm fence, bevelled edges, flat surface, very slightly concave lower edge, counter sunk frizzen spring hole, no other parts still attached to lockplate.

Decoration: Engraved stab-drag lower border outline and an anchor in front of the cock. Hamilton (1978) has never seen an anchor like this one. There are possibly letters on either side of the anchor shaft.

Interpretation: There are at least two holes above the tumbler screwhole. Hamilton feels that this lock had a bridled tumbler.

Specimen #6 - F50

L - NMP (lockplate deteriorated at rear end; it measures 146.05 mm in its present condition); H at cock - 27.5 mm

Detachable pan, possibly faceted, 5.2 mm fence, bevelled edges, flat surface, very slightly concave lower edge, frizzen spring hole not counter sunk.

Decoration: No decoration visible. This lockplate is in very deteriorated condition.

Interpretation: The tumbler screwhole has been enlarged and is worn all the way around. The lockplate was used on one gun, without a bridled tumbler. No further interpretation can be made.

Specimen #7 - N955W905

L - 144.78 mm; H at cock - 24.4 mm

Detachable pan, faceted, 3.6 mm fence, bevelled flat surface, very slightly concave lower edge, substantial rear tit, counter sunk frizzen spring hole, no other parts still attached to lockplate.

Decoration: The only decoration visible is the dished out vertical area separating rear portion from the rest of the lockplate. The specimen may have a scalloped border. There is too much pitting and surface destruction to see anything further.

Interpretation: This lockplate was used on one gun, without a bridled tumbler; No further interpretation made.

Specimen #8 - N955W895

L - 147.32 mm; H at cock - 25.3 mm

Detachable pan, faceted, 6.3 mm fence, edges do not appear bevelled but the surface is too pitted to tell; flat surface, flat lower edge, frizzen spring hole not counter sunk, frizzen spring still attached to lockplate.

Decoration: Impossible to discern; edge of lockplate may be outlined by an engraved straight line.

Interpretation: Lockplate did not have a bridled tumbler; no further interpretation made.

Specimen #9 - F36 (Figure 26 Row 4)

L - 142.24 mm; H at cock - 26.2 mm

Detachable pan, faceted, 5.6 mm fence, bevelled edges, flat surface, very slightly concave lower edge, counter sunk frizzen spring hole; sear, sear spring, tumbler, tumbler bridle, frizzen screw still attached to lockplate.

Decoration: Straight line engraved lower edge outline, and bow, arrow, quiver engraved design behind dished out vertical area at rear of lockplate. Pitting too extensive in front of cock to discern decoration there.

Interpretation: Lockplate of better quality owing to the presence of bridled tumbler.

Specimen #10 - F36 (Figure 26 Row 5)

L - NMP (lockplate broken through rear tit; as is, the specimen measures 121.92 mm); H at cock - 23.4 mm

Detachable pan, rounded, no fence, no bevelled edges, plano-convex surface, frizzen spring hole not counter sunk; sear and frizzen spring still attached to lockplate, concave lower edge. Lockplate has rear side screw hole.

Decoration: The only visible decoration consists of "I. Johnson" stamped in front of the cock.

Interpretation: Hamilton (1977) considers this lock plate to date from the early eighteenth century. He further notes the presence of an I. Johnson listed in Gardner's Small Arms Makers, as working in Birmingham between 1750 and 1763. This person could

conceivably be related to the I. Johnson marked on the Ouiatenon lockplate.

Specimen #11 - Plow Zone (Figure 27 Row 3)  
L - NMP; H at cock - NMP

Fragment of a lockplate broken through tumbler screw hole. This piece has a rear side screw hole, is plano-convex in cross section; an engraved line outline and floral/feather motif engraved in the rear section of the lockplate. The rear section is not set off from the rest of the piece.

Interpretation: No interpretation made.

Specimen #12 - F56 (Figure 27 Row 4b)  
L - NMP; H at cock - NMP

Fragment of a lockplate broken behind the sear and sear spring screw holes. The piece is plano-convex in cross section.

Decoration: Engraved line outline and a floral/feather engraved decoration similar to Specimen #11 above.

Interpretation: No interpretation made.

Lockplate Discussion. In shape and size all but one of the Fort Ouiatenon lockplates are remarkably similar and date to the early to middle part of the eighteenth century. On the basis of their general appearance and design elements, most are of French origin. The three lockplates with an engraved anchor may be from French military muskets, though it has not yet been determined whether or not the anchor is definitely indicative of French Marine affiliation (Hamilton 1977).

Several additional observations are worthy of note. At least four of these lockplates have been used on more than one gun. Most all of the lockplates are completely or almost completely devoid of lock mechanism parts, indicating their probable removal for use elsewhere. At least five lockplates had bridled tumblers, an

Figure 26  
Gun Lockplates

Row 1	N955W905
Row 2	N955W895
Row 3	F35
Row 4	F36
Row 5	F36



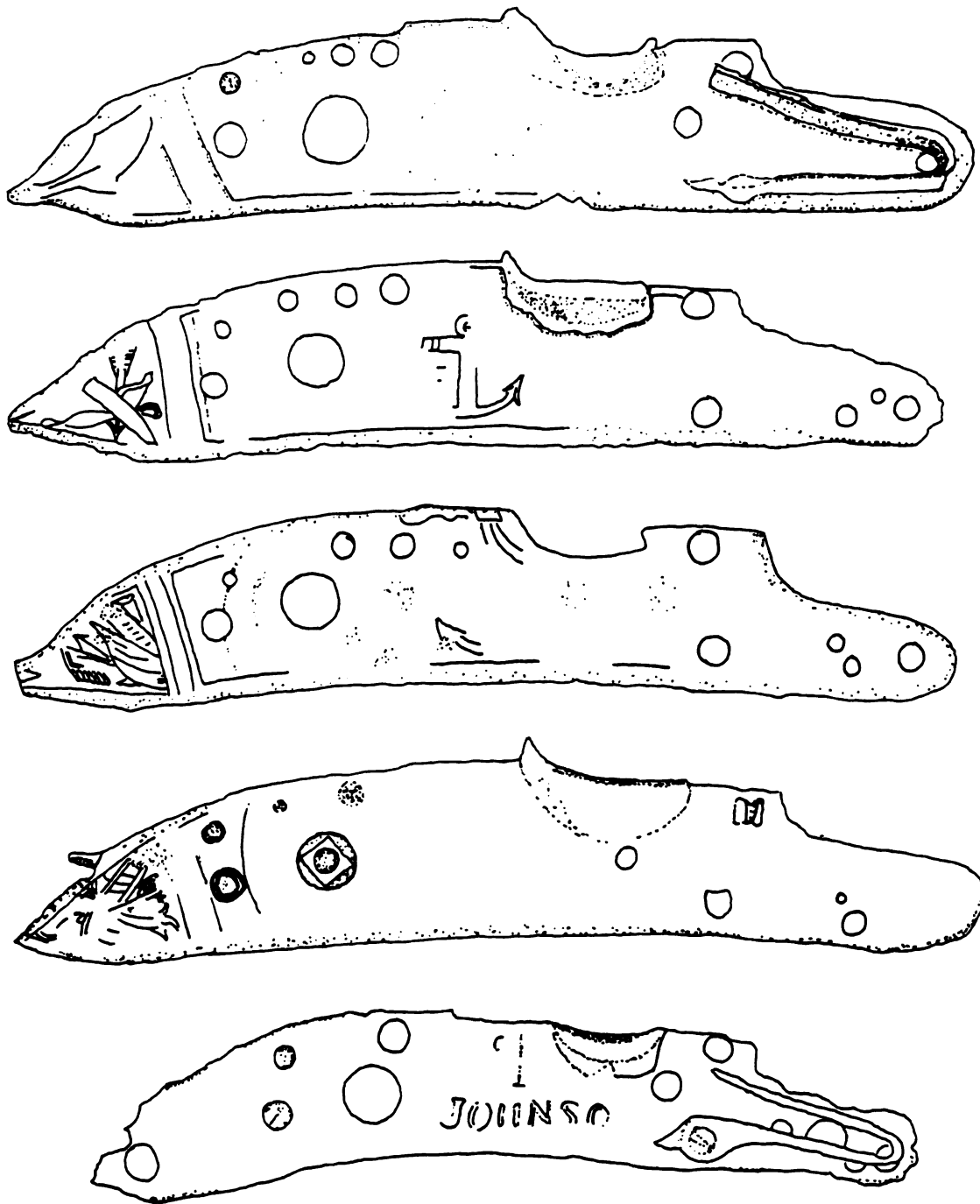


Figure 26. Gun Lockplates

Figure 27

## Gun Furniture

Row 1	N955W905	sideplate
Row 2	F50	sideplate
Row 3	Plow Zone	lockplate
Row 4	a. N875W865	triggerguard finial
	b. F56	lockplate
Row 5	N935W1000	lockplate

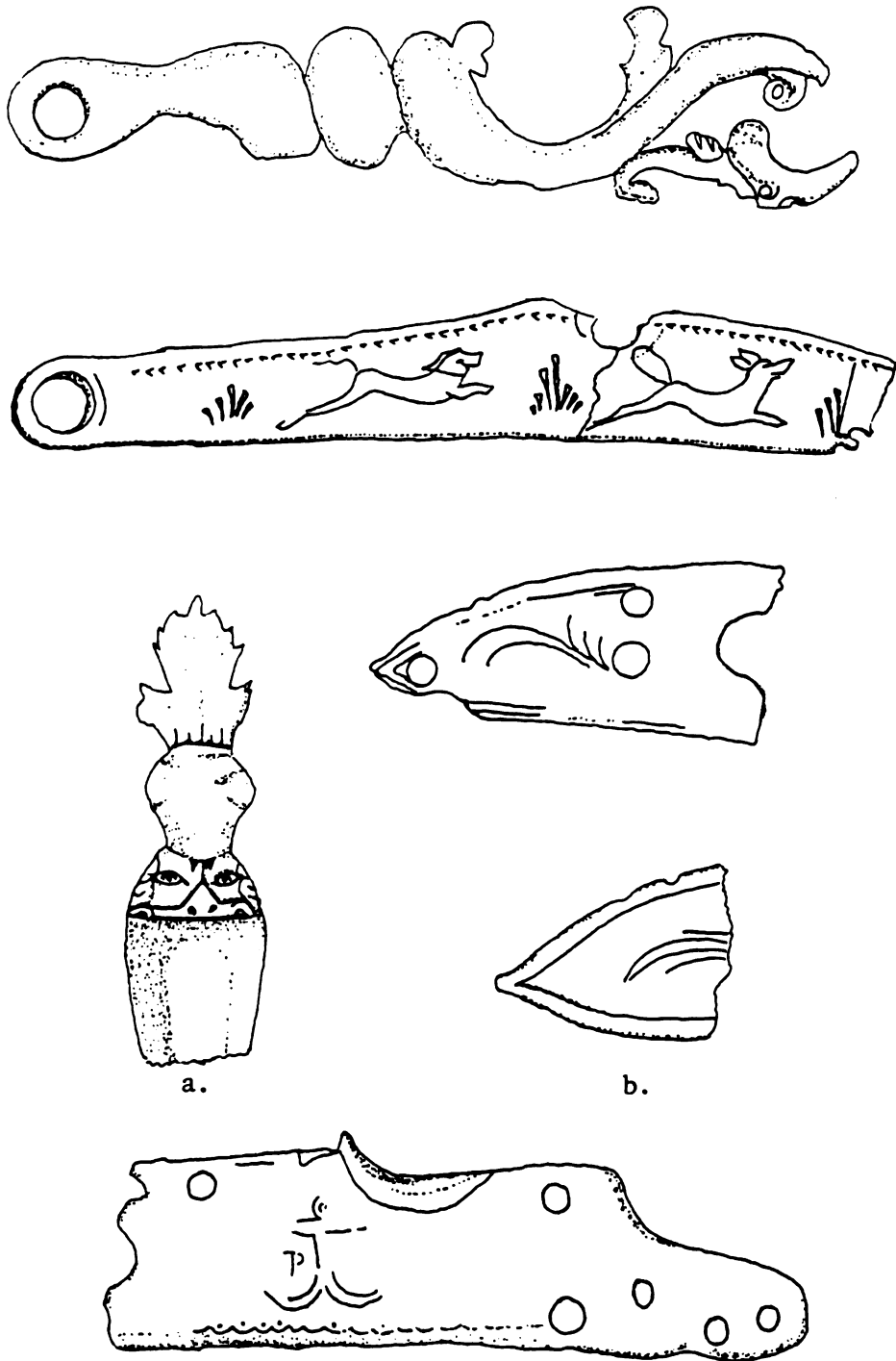


Figure 27. Gun Furniture

indication of a higher quality gun, at least initially, than a standard trade musket. Finally, seven lockplates have counter sunk frizzen spring holes, considered by some to be a French characteristic (Hamilton 1960:6).

#### Sideplates N - 8

Specimen #1 - N955W905 (Figure 27 Row 1)  
NMP

Iron, small section of the rear portion of the sideplate has been broken off.

Decoration: Foliated body with plain medallion in the middle; no serpent-like head.

Interpretation: Hamilton (1977) identified this as French, though it does not fit into usual types. It may be related to his Type C sideplate which is French and dates to between 1685 and 1730. Descriptions of all Hamilton's gun types may be found in his Early Indian Trade Guns (1968).

Specimen #2 - F50 (Figure 27 Row 2)  
Thickness - 1.2-2.0 mm

Decoration: Engraved stab-drag border outline, engraved design of hound chasing fox(?) among grass clumps; brass.

Interpretation: Hamilton (1978) identified this sideplate as a typical Type D trade gun sideplate (French 1730-1760). Two other sideplates with the same design as this one have been found: one from the Gilbert Site in Texas (Jelks 1966) and the other from the Tunica Site (Hamilton 1978). Hamilton has examined all three of these sideplates and has determined that though they are, with very minor variations, exactly alike, they were not reproduced by mechanical means.

Specimen #3 - No Provenience  
Thickness - 1.0-1.6 mm

This sideplate has been shortened to fit a smaller firearm. It was accomplished by cutting off the rear section and increasing the downward slant of the upper border of the sideplate. Both the upper border and the squared off rear end have been bevelled to produce a finished effect, and a line has been stamped across the

rear of the sideplate to complete the line border of the original. The engraved design from the original has been cut as a result of the modification process.

Interpretation: The design elements and apparent original shape of this sideplate indicate Hamilton's Type D (French 1730-1760).

Specimen #4 - Plow Zone

Thickness - 1.7-2.2 mm; H at center screwhole - 22.3 mm

Sideplate totally plain; brass

Interpretation: In shape this piece appears to have been modelled after the basic Type D sideplate. It is, however, totally devoid of decoration and may have been made at the fort or elsewhere as a replacement sideplate. It is well made and has seen some use as evidenced by the screw marks around the center screw-hole. It either has three screwholes or was used with a left-handed lock.

Specimen #5 - F67

L - 148.9 mm; H through center (rear) screwhole - 25.6 mm

Thickness - 1.7-2.2 mm

Iron, complete except for some disintegration around edges.

Decoration: Engraved line decoration present, though only slightly visible in places due to deteriorated condition of the iron.

Interpretation: This sideplate is shaped like several of Hamilton's Type D sideplates (1968,1976,1980), both brass and iron. It appears also to be engraved in a Type D style.

Specimen #6 - No Provenience

Thickness - 1.0 mm

Brass; small (2.0 cm) segment of sideplate.

Interpretation: This fragment is most likely from the front section of the sideplate and resembles in form and engraved line decoration (on this piece only a line outline) Hamilton's Type D (French 1730-1760).

Specimen #7 - N935W990

Thickness - .7 mm

Brass; small segment of sideplate, 1.9 cm long. Segment is probably from the front section of the

sideplate. Part of the front screwhole is present, with screw use lines outlining it.

Decoration: Engraved border line with a leaf and/or flower motif within it.

Interpretation: The design on this piece resembles very closely those on several Type D sideplates illustrated by Hamilton (1968,1976, 1980).

Specimen #8 - N955W905  
Thickness - 1.5 mm

Brass; very small segment of a sideplate.

Interpretation: This fragment is much too small to make any positive identification. It is part of a foliate motif sideplate and from its orientation and configuration, appears to be from a Type C sideplate (French 1685-1730).

Buttplates N - 6

Specimen #1 - N1030W1010  
Internal D of screwhole - 11.3 mm; L from tang juncture to bottom of screwhole - 53.2 mm; W at shoulder - 37.8 mm  
Thickness - 2.5 mm

Decoration: The upper surface of the buttplate has an engraved line outline following the outer edge of the buttplate, terminating in small scrolls at the tang juncture. Starting at the screwhole is a feathery scroll design with a flower coming out of it toward the tang and finial; brass, very strongly rounded to the sides at the screwhole.

Interpretation: The design elements on this piece are similar to those on buttplates illustrated in Hamilton (1976:10, Figure 5A; 1980:89, Figure 49C). He states that buttplates of this design come from French trade gums dating to the first half of the eighteenth century (1976:8).

Specimen #2 - N955W895  
Thickness - 2.0-2.4 mm

Brass buttplate tang with mounting lug.

Decoration: Line and dot outline of tang and visible portion of upper surface of buttplate, again terminating in small scrolls at the tang juncture. Between the small scrolls is a fancy, elongated triangle extending

into the tang. Immediately above this figure is a curlique, part of additional tang design.

Interpretation: This piece has some similarities in design elements to Hamilton's Type E guns. However, it appears to resemble more closely the tang from a Type J gun. The tang is much longer than any of those pictured as Type E, and the elongated triangle figure is present on two Type J buttplates (Hamilton 1968:20). The snowflake design is not present, however. Type J guns are identified as British, 1730-1760.

Specimen #3 - N930W990

Thickness - 1.8 mm

Brass, short section of upper surface of buttplate, broken at second shoulder point and at tang juncture.

Decoration: Engraved line outline and floral design.

Interpretation: The floral design matches exactly the design found on Type D buttplates, French 1730-1760. It is pictured in Hamilton (1968:11, Figure 7D).

Specimen #4 - F50

L from tang juncture to shoulder - 31.1 mm; W at shoulder - 35.1 mm; Thickness - 1.4-2.0 mm

Brass; upper surface of buttplate broken at tang juncture and just below shoulder.

Decoration: Engraved line and dot outline with floral design at tang juncture. Bow, arrow and quiver design on upper surface of buttplate below tang juncture.

Interpretation: The bow, arrow and quiver motif is found on both Hamilton's Type D and Type E guns. This piece appears to be Type D, French 1730-1760, on the basis of its thickness and the quality of the engraving.

Specimen #5 - N1040W964

Thickness - 2.0 mm

Brass buttplate finial in a flamelike shape.

Interpretation: Hamilton (1977) has identified this finial as British.

Specimen #6 - Backhoe Trench #1

W at break - 42.4 mm; Thickness - .8-1.3 mm; internal D of screw hole - 7.2 mm

Brass buttplate broken close to heel. This may not be a buttplate at all, though it is in general the right size and shape. If it is, it is obviously home made and very crude. The toe is nowhere nearly rounded. It has had some use, as indicated by the screw marks around the screw hole.

Interpretation: If this buttplate was made at Fort Ouiatenon it was probably made by the French, who had a blacksmith posted there at most times.

#### Triggerguards N - 14

##### Specimen #1 - N1015W950

Brass front triggerguard finial; finial is surface mounted.

Interpretation: Front finial from a Type G gun, British, 1725-1770 (Hamilton 1977). Hamilton considers the Type G gun to be the British competitor to the French Type D gun (1968:15).

##### Specimen #2 - N1015W950

Brass front triggerguard finial.

Interpretation: Front finial from a Type D gun, French 1730-1760 (Hamilton 1977). Finial is in the form of a stylized torch. It could be from the triggerguard of a musket, but also compares favorably in size with that from a pistol located at the Fletcher Site. That item is in the collections of the Museum, Michigan State University, Anthropology Division.

##### Specimen #3 - N875W875

Brass front triggerguard finial; mounting lug present.

Interpretation: Front finial from a Type C gun, French 1685-1730 (Hamilton 1977). Finial is cast with a potted plant design.

##### Specimen #4 - N875W865 (Figure 27 Row 4a) Thickness - 2.6 mm

Brass front triggerguard finial.

Interpretation: Front finial from a Type C gun, French 1685-1730 (Hamilton 1977). Beneath the flower pot finial is a stylized lion-like mask. Hamilton has seen this feature before and considers it very unusual.



## Specimen #5 - N955W905

Thickness - 2.2 mm

Brass front triggerguard finial segment; mounting lug present. Hole through the lug is off-center and is open on one side.

Interpretation: This finial is probably from a Type C or Type D triggerguard. No finial end is present, so identification must be tentative.

## Specimen #6 - N930W970

Iron; triggerguard is missing rear tang and finial. Front end lug mounted, rear end surface mounted.

Interpretation: Standard Type D iron triggerguard, French 1730-1760 (Hamilton 1977).

## Specimen #7 - N875W875

Thickness 1.5 mm

Iron triggerguard finial, probably rear. No lugs or holes for surface mounting are present.

Interpretation: This triggerguard cannot be positively identified. It resembles most closely Hamilton's Type C or Type I guns. Both are French guns, from the late seventeenth and early eighteenth century. Features that seem to resemble those of the Type I gun include the elongated rear finial and the thinness of the iron.

## Specimen #8 - N935W990

Brass; small section of a triggerguard bow.

Interpretation: May be from a Type C or Type D gun. There appears to be part of what may be a chevrolet design on this bow section (see Hamilton 1980:38, Figure 14G).

## Specimen #9 - Plow Zone

Brass triggerguard bow.

Interpretation: The bow is completely plain; no national origin can be determined.

## Specimen #10 - N955W905

Iron triggerguard finial

Interpretation: Unknown; probably French, as the finial bears some resemblance to several pictured in Hamilton (1968:12, Figure 9; 1980:83, Figure 44D,E,F).

Specimen #11 - N955W905

Iron; possible triggerguard finial.

Interpretation: Unknown; this finial is not as complete but appears to be exactly the same as Specimen #10 above, except that it is on a slightly larger scale. It is possible that it is a buttplate finial from the same gun.

Specimen #12 - N930W1000

Brass; probably a front triggerguard finial section.

Interpretation: This finial section is completely plain and without bevelling. It is most likely a section of a front finial for a Type D triggerguard.

Specimen #13 - Plow Zone

Brass rear triggerguard finial.

Interpretation: Hamilton (1977) has tentatively identified this piece as a rear finial from a French triggerguard.

Specimen #14 N875W865

Iron; probably a rear triggerguard section.

Interpretation: Unknown. This piece is devoid of decoration and on one end is broken through a screw-hole. It appears that it could be from either a French or British gun.

Escutcheon N - 1

N875W875

L - 54.0 mm; max. W - 20.5 mm; Thickness - .8-1.1 mm

Brass; complete specimen.

This is a standard Hamilton Type G escutcheon, British 1725-1770 (see Hamilton 1980:72, Figure 39M). This specimen appears to have a touchmark on the reverse side; it is indecipherable.

## Unidentifiable Gun Furniture N - 2

N1050W1000	Brass
F56	Iron

## Gun Barrels N - 14

## Category 1 Round Barrel Fragments

N - 13

N955W905 - 5

N1030W990

Crimped and/or clipped at one end and flattened along the entire length of the barrel fragment; no measurements possible.

N955W905

Barrel section flattened along entire length; no measurements possible.

N955W905

Barrel section crimped at one end and retaining its round shape throughout the rest of its length; no measurements possible.

N861W865

F50

Barrel sections crimped or clipped at one end, round in the middle and flattened at the other end. The specimen from N861W865 has a flat seam running the length of the barrel section; outside diameter is 2.0 cm. The specimen from F50 has two chiselled flaps on the top side to receive a sight; outside diameter is 1.83 cm.

## Backhoe Trench #1

Round barrel section broken at both ends but otherwise unmodified; outside diameter 1.96 cm.

F67

Round barrel section, burned, with bevelled edges on one end and irregular breaks on the other end, probably as a result of heat breakage; outside diameter 1.99 cm.

N955W905

Round barrel section, one end of this piece is crimped

and the other has been crimped into a square tang. On the bottom of the barrel is a flattened seam area; on the top, toward the crimped end, is a sight guide consisting of two flaps of iron chiselled out of the barrel in order to receive an inserted sight. An open gash is present on one side of the barrel, possibly indicating that the barrel exploded and was rendered useless. It appears to have been modified into a hafted chisel. Outside diameter is 2.3 cm.

## Category 2 Octagonal Barrel Fragment

N - 1

F68

Octagonal breech section split longitudinally; at approximately 11.9 cm the barrel becomes round. No diameter measurements are possible. Most of the breech plug screw threads are still present; the barrel may have been rethreaded. Also present is a vent hole consisting of a drilled screw threaded into the side of the barrel; this may have been repaired. There is a substantial amount of corrosion around the vent. The metal of this barrel is very thick and heavy; at the breech end it measures 6.9 mm; along the side it measures 5.7 mm in thickness.

Ramrod Guides N - 11

## Class I Iron

### Series A Intermediate Guide

#### Type 1 Double Loop Attachment

##### Variety a Plain

N - 1

N865W865 L - 3.43 cm; D - 1.21 cm

#### Type 2 Single Hole through Crimped Edge Attachment

##### Variety a Plain

N - 1

N875W875 L - 3.10 cm; D - 1.15 cm

#### Type 2 Category 1 Intermediate guides unidentifiable as to Variety

N - 2

N1040W964

F56

## Series B Terminal Guide

## Type 1 Double Loop Attachment

Variety a Octagonally faceted with raised decoration

N - 1

N1000W964 L - NMP; D - 1.09 cm

This guide has ridges at the front, and at the rear at the beginning of the tail; also a raised triangular area on the tail itself. The edges have been brazed together.

Variety b Plain

N - 1

N955W895 NMP

This may not be a ramrod guide. It has the general shape of a terminal guide, but is of very heavy metal, and is too distorted to make a definite identification.

## Class II Brass

## Series A Intermediate Guide

## Type 1 Single Hole through Crimped Edge Attachment

Variety a Ridged ends; plain body

N - 4

N955W905 L - 2.23 cm

N1015W950 L - 2.58 cm

N875W875 L - 2.79 cm

N875W875 L - 2.12 cm

Variety b Ridged ends; octagonally faceted body

N - 1

N930W980 L - 2.65 cm

## Frizzens N - 6

Plow Zone L - 4.05 cm (measured from pan cover to tip of striking face); W - 2.28 cm (measured across striking face)

Slight forward curve to striking face.

N875W875 L - 3.8 cm; W - 2.54 cm

The striking face has a forward curve. This frizzen is a blank, no hole having been put in the base. Similar specimens have been found at Fort Michilimackinac (Hamilton 1976:29).

N1015W964 L - 4.24 cm; W - 2.4 cm

There is a slight forward curve to the striking face.

N1015W950 L - 4.41 cm; W - NMP

The striking face on this frizzen is essentially straight.

F36 L - 4.23 cm; W - NMP

The striking face has a forward curve with a reverse curve at its tip. A cast design decorates the back of the striking face, and the juncture of the striking face and the pan cover is constricted. The frizzen resembles in general that of a French military musket, Model 1717.

F56 L - NMP; W - 2.34 cm

The striking face on this frizzen has a forward curve with a possible reverse curve at its tip. An engraved outline decorates the back of the striking face.

#### Breech Plugs N - 25

All breech plugs have tapered bodies; all but five are broken through the tang screw hole.

#### Type 1 Plain Body

N - 3  
Plow Zone  
N955W905  
N955W895

Screw D - 1.7-1.72 cm (2 specimens)

#### Type 2 Bolt Hole in Body

N - 4  
 N955W905      N980W1000  
 N955W895      F50

Screw D - 1.64-1.65 cm (2 specimens)

### Type 3 Notch in Body

Variety a Shallow rounded notch

N - 2  
 N955W905 - 2

Screw D - 1.56-1.62 cm (2 specimens)

Variety b Deep V notch

N - 1  
 N955W895

Screw D - 1.73 cm

Variety c Squared notch

N - 3  
 N930W970  
 N955W905  
 N955W895

Screw D - 1.63-1.64 cm (2 specimens)

### Category 1 Tang Fragments

N - 12  
 N935W1000      Plow Zone  
 N955W905 - 5      F30  
 N955W895 - 3      F56

On one fragment, from F56, an attempt has been made to repair this breech plug, as evidenced by the remnant of brazing on the tang. Similar evidence has been found at Fort Michilimackinac (Hamilton 1976:29).

Triggers N - 9 All Iron

### Type 1 Pronounced Rearward Curve to Tang

Variety a Trapezoidal body shape

N - 2  
 F68

Variety b Triangular body shape

N - 1  
F50

Type 2 Slight Rearward Curve to Tang

Variety a Trapezoidal body shape

N - 1  
F68

Type 3 Straight Tang

Variety a Trapezoidal body shape

N - 1  
Backhoe Trench #1

Category 1 Tang Shape Unknown

N - 1  
N955W895

This piece may be home made; it consists of thin iron with a tiny drilled hole for attachment.

Type 4 Forward Curve to Tang

Variety a Trapezoidal body shape

N - 1  
N955W905

Variety b Duck bill body shape

N - 1  
N875W875

Trigger Plates N - 8 All Iron

Type 1 Rounded Forward Edge; Pointed Rear Edge

N - 3  
N1015W950  
Backhoe Trench #1  
F50

L Range - 5.49-6.83 cm (3 specimens)

Type 2 Rounded Forward Edge; Rounded Rear Edge

N - 1  
N1015W950



L - 5.63 cm

Type 3 Squared Forward Edge; Squared Rear Edge

N - 2  
N955W905 - 2

L Range - 5.42-6.58 cm •

Category 1 Corroded Specimens

N - 2  
F50  
F68

Sights N - 12

Type 1 Teardrop Shape

Variety a Brass

N - 1  
F56

The entire sight consists of a small plate upon which rests the sight marker, shaped somewhat like a drawn out teardrop.

Type 2 Pinched Shape

Variety a Iron

N - 11  
N955W905 - 6      N875W865  
N955W895 - 3      F35

These sights are small, pinched pieces of iron meant to fit into sight notches on gun barrels. They have either holes drilled through the pinched, raised portion, or cut notches to make the sight guide.

Gun Worms N - 16

Coiled lengths of iron wire, all fragmentary.

N955W905	F40
N1040W964	F50
N1015W950 - 2	F56 - 3
N861W875	F65
N1015W940	F67
N875W875	F68
F56 Balks	

## Main Springs N - 17

F39 (only complete specimen)

N955W905 - 7      N875W875

N935W990      F35

Plow Zone - 3      F52

N1015W950      N955W895

L Range - 7.48-8.90 cm (3 specimens)

Five main springs have a stepped articulation; five have an unstepped articulation.

## Cocks N - 12

## Group 1 Top Jaws

N - 4

N955W905 - 2

N875W875

F68

## Group 2 Bases

N - 3

Plow Zone

N930W980

F35

No decoration is visible on any of these bases; all are flat with bevelled edges and appear to be from non-reinforced cocks.

## Group 3 Base with Lower Jaw and Part of Comb

N - 1

N1015W950

This specimen has a base plano-convex in cross section, with an engraved line outline and further engraved decoration around the screw hole. It has a gooseneck which is not reinforced, and a narrow solid comb. It appears to be similar to British cocks from the early eighteenth century (see Hamilton 1960:165).

## Group 4 Lower Jaws with Partial Combs

N - 3

N955W895

N875W875

F35

None of these specimens has a reinforced neck; all have flat combs with a vertical groove up the face and a

horizontal groove across the top. Hamilton (1960:166) identifies this type of comb as being most common in the mid-eighteenth century. It could be Dutch, British or French.

Group 5 Cock Comb

N - 1  
N930W990

This specimen is a wide, saddle shaped comb with a deep vertical groove up the face and another deep groove horizontally across the top, setting off a small knob at the top. It has more of a curve up the back than the combs of the previously described three specimens.

Frizzen Springs N - 16

Type 1 Capped Screw Hole

N - 8  
N955W905 - 4 F36  
N1015W950 F39  
N1065W918

L Range - 3.61-4.17 cm (7 specimens)

Type 2 Open Screw Hole

N - 6  
N955W905 Plow Zone  
N875W865 F36  
N875W875 - 2

L Range - 3.34-4.48 cm (6 specimens)

Category 1 Incomplete Specimens

N - 2  
Surface  
N935W990

Frizzen Spring Discussion. The frizzen springs in this sample appear to fall into three size groupings:

- 1) 3.34-3.75 cm
- 2) 3.84-4.17 cm
- 3) 4.48 cm

The specimens in the first group are generally more gracile than others. No specimens have a notch for a frizzen spring bridle link.

## Sears N - 13

N935W1000 - 2      Backhoe Trench #1  
 N955W905 - 5      F67  
 N1040W964      F36 - 2  
 N1015W950

L Range - 2.50-3.33 cm (8 specimens)

## Top Jaw Screws N - 1

N865W865

L - 3.83 cm

## Tumbler Bridles N - 3

N955W905 - 2  
 F36

## Tumblers N - 7

## Type 1 Bridled

Variety a Two notches

N - 2  
 N955W905 (very gracile)  
 F36

Category 1 Bridled tumbler too corroded to see notches

N - 1  
 F68

## Type 2 Unbridled

Variety a Two notches

N - 2  
 N1015W950  
 N875W875

Variety b Three notches

N - 2  
 N955W905 - 2

## Sear Springs N - 15

N935W1000

N935W990	N1015W950 - 2
N955W905 - 3	N865W865
N955W895 - 4	F36 - 3

Pans N - 11

Type 1 Faceted

N - 8	
Plow Zone	N955W895
N935W1000	F36 - 2
N955W905 - 2	F50

L Range - 21.7-25.5 mm (6 specimens)  
Fence Range - 3.6-6.3 mm (8 specimens)

On two specimens the pan is worn through the bottom.

Type 2 Round

N - 3  
N955W905  
N955W895  
F36

L Range - 21.9-29.0 mm (2 specimens)  
Fence Range - 9.5 mm (1 specimen; other specimens may or may not have a fence; corrosion present)

Gun Parts Discussion. It is apparent from the foregoing descriptions that the majority of gun parts from Fort Ouiatenon are French and are from eighteenth century trade guns. The uniformity of lock plate size and shape suggests that while all cannot be identified positively as French, most are in fact of that national origin. Furthermore, the presence of bridles and bridled tumblers points to the possession by some individuals at the fort of the higher quality arms signalled by those pieces.

Figure 28 shows triggerguards, buttplates, sideplates and escutcheons classified within Hamilton's (1968) types. The vast majority of these pieces conform to early to mid-eighteenth century French trade gun specifications.

A	B	C	D	E	F	G	H	I	J	Other
1680-1730	1680-1730	1685-1730	1730-1760	1735-1760	1735-1760	1725-1770	1720-1740	1680-1700	1730-1760	

Triggerguard 1

X

2

X

3

X

4

X

5

X-or-X

6

X

7

X-or-X

8

X-or-X

9

X

10

X

11

X

12

X

13

X

14

X(?)

Unknown  
Unknown  
Unknown

French(Hamilton 1977)  
Unknown

Buttplate 1

2

X

3

X

4

X-or-X

5

X

6

French-first half  
eighteenth century  
(Hamilton 1976:8)

British (Hamilton  
1977)  
Unknown

or

X

Sideplate 1

2

X

3

X

Figure 28. Ouiatenon Gun Furniture within Hamilton's Classification

	A	B	C	D	E	F	G	H	I	J	Other
	1680- 1730	1680- 1730	1685- 1730	1730- 1760	1735- 1760	1735- 1760	1725- 1770	1720- 1740	1680- 1700	1730- 1760	
Sideplate 4				X							
5				X							
6				X							
7				X							
8			X								
Escutcheon 1							X				

Figure 28 (Cont'd.).

The presence of many lock mechanism parts separate from locks, and occasionally in small caches, provides evidence for the repair and reuse of arms at Ouiatenon. The use of several lockplates on more than one gun supports this conclusion, as does the recovery of several pieces with evidence of attempted repairs.

#### Metal Projectile Points N - 4

Type 1 Triangular, Iron, slightly Concave Base

N - 1  
N955W905 (Figure 29b) L - 17.3 mm; W - 11.4 mm

Type 2 Stemmed Triangular, Iron

N - 1  
N955W905 (Figure 29a) L - 25.6 mm; Stem L - 5.2 mm;  
W - 14.7 mm

Type 3 Leaf Shaped, Tanged, Iron

N - 1  
N955W895 (Figure 29d) L - 80.7 mm; W - 12.6 mm

Type 4 Spear Point, Lanceolate Blade with Bolster, Flat Shaft with Two Holes for Hafting Pins, Iron

N - 1 (Figure 29c) Blade L - 93.0 mm; Shaft L - 35.0 mm;  
Blade W - 30.6 mm; Shaft W - 24.0 mm

#### Possible Powder Measure N - 1

N1015W950 L - 13.5 cm; Max D - 5.3 cm;  
Min. D - 11.7 mm

Iron, open-ended cone with brazed seam.

#### Sword Blade Fragment N - 1

F56 Balks/F68

Iron or steel, diamond shaped in cross section.

Special Skills and Crafts

#### Wedges N - 2



Figure 29  
Metal Projectile Points

- |       |    |                    |
|-------|----|--------------------|
| Row 1 | a. | N955W905<br>Type 2 |
|       | b. | N955W905<br>Type 1 |
| Row 2 | c. | N875W875<br>Type 4 |
|       | d. | N955W895<br>Type 3 |



Figure 29. Metal Projectile Points

## N955W905 - 2 (Figure 30)

Both wedges are broader across the blade and have more outward flaring of the top edge than axes. They are identified as wedges on the basis of the wear at the pole end. One specimen appears to have been especially made as a wedge. It has been used a considerable amount and is very heavy. It has essentially equal outflaring of both top and bottom edges. The other specimen flares much more on what is assumed to be the bottom edge and may have been an ax originally.

Chisel or Drill Bit N - 2

N955W905

N955W895

Both specimens are modified files. The one from N955W895 is probably a chisel. Its handle tang is still intact and the blade thins out toward the end. Only a few of the cross-hatched file marks remain. The specimen from N955W905 was crimped on the blade end and its handle is broken. It may be a drill bit, or a very narrow chisel. File marks on both sides are visible. Also, the original maker's mark, unreadable, is still present.

Chisel N - 3

Backhoe Trench #1      L - 88.1 mm; W - 26.4 mm

This chisel has been manufactured from a file. The file handle tang remains and the blade has been ground down to form the chisel edge.

N955W905      Barrel element L - 61.6 mm

This chisel may have been manufactured from a gun barrel. It has had a piece of iron crimped and stuck into the open end of the barrel, possibly to serve as a handle or hafting element.

F40      L - 71.9 mm

This is another chisel possibly made from a gun barrel. The specimen has had the barrel itself crimped to form a handle or hafting element.

Figure 30  
Wedge and Trade Ax



Figure 30. Wedge and Trade Ax

Files N - 8

All files are iron and double-cut.

## Type 1 Rectangular Cross Section

N - 3

N935W1000 (Figure 31f)      Max. W at shoulder - 23.4 mm;  
tang L - 27.0 mm; Thickness -  
5.9 mm

This is a fragment of a rectangular cross section file on a much larger scale than either of the two other files within Type 1. It has a centered tang with a mark on the tang/shoulder juncture.

N935W990      Thickness - 2.5 mm

This is a fragment of a rectangular cross section file.

F66 (Figure 31e)      Tang L - 37.5 mm; Max. blade W -  
10.3 mm; Thickness - 2.6 mm

A rectangular cross section file tapering from the tang to the tip. This specimen may taper to a point; it has been broken close to the tip. There is a mark on the handle tang, which is centered.

## Type 2 Triangular Cross Section

N - 2

N925W1000      Side W - .93 mm

Backhoe Trench #1      Side W - 6.5 mm

Fragment of a file that tapers toward a point at the tip.

## Type 3 Round Cross Section

N - 1

N955W905      Max. D - 6.2 mm

## Type 4 Plano-Convex Cross Section

N - 1

N875W865      Max. W - 17.2 mm; Max. Thickness -  
6.4 mm



Fragment of a file that tapers in one direction.

## Category 1 File fragments unidentifiable as to Type

N - 1

F56

## Knife Marks

- a) Backhoe Trench #1 
- b) N930W990 - IN  EIEVN-
- c) F40 - E ^
- d) F68 - - B GER  
          ^ r |

## File Marks

- e) F66 -REB-S
- f) N935W1000 BP-W-

Figure 31. Knife and File Touchmarks

A possible file with an offset tang; this specimen has been broken or clipped behind any teeth. A hole between the teeth and handle tang has been partially drilled.

Possible Anvil Hardy Attachment N - 1

N - 1  
F56 L - 62.9 mm

Iron or steel piece with two very sharp pointed tips extending from a rectangular block in between them. Both tips taper to a point. The smaller of the two is 13.0 mm long and is square in cross section. Its diameter is 6.1 mm. The longer point is 35.2 mm long and is rectangular in cross section. It measures 5.9 mm by 12.0 mm.

Plane N - 1 Iron

N955W905 Blade W - 6.57 mm; neck W above shoulder - 2.16 mm;  
Thickness at shoulder - 1.76 mm

Punches N - 3 Iron or steel

N955W905  
N865W875  
F36

Gimlet N - 2 Iron or steel

N935W990  
F35

Small gouge-like tools with a small spiral on one end for wood boring. One specimen may, in fact, be a small, narrow gouge; its tip is missing. Otherwise its proportions match the other gimlet.

Drill Bit N - 1 Iron or steel

N875W875

This piece, though broken, appears similar to one from Fort Michilimackinac pictured in Stone (1974b:303, Figure 184L).

Small Wedges N - 4

N955W895 L - 46.0 mm; W - 11.0 mm; Max. Thickness - 10.9 mm



Made of iron, this wedge has been through electrolysis and can be seen to have been hammered out of more than one piece of iron. It has been used, as evidenced by the battering on the head.

N955W895 - 2  
F33

L Range - 37.4-45.2 mm; W range - 12.2-16.1 mm

These pieces have not been through electrolysis but have the same general shape and dimensions as specimen #1 above. They could possibly be something other than wedges, such as spikes or pins. Among the scrap iron from Fort Ouiatenon may be more of these pieces that are too corroded to identify.

Saw Blades N - 2 Iron or steel

N955W905 - 2 Blade H - 7.0 mm

Blade fragments from small cross-cut or bow saws. The teeth are even and point straight out from the body of the blade.

Claw Hammer N - 1

N955W905 L - 95.0 mm; head D - 20.2 mm; W across claws - 27.4 mm

Iron claw hammer with two handle wedges still present; no wood remains.

Reamer or Woodworking Tool N - 1

Iron knife with rat-tail handle tang. This specimen has a flat back and tapering edge, and an angling shoulder. The blade is curved longitudinally. It measures 151.8 mm in length but would probably have been somewhat longer since the tip does not appear to be complete. The handle tang extends straight out from the knife blade. The tool may be an unfinished file. If it is a woodworking tool, it is for a left-handed person from the tang position and the shape of the blade.

Spuds N - 6

Type 1 Single Ended

N - 1  
N955W905 L - 18.7 cm; blade W - 6.72 cm

## Type 2 Double Ended

N955W905 L - 18.9 cm; blade W - 5.85 cm

## Category 1 Broken or badly worn specimens

N - 4

N955W905 - 3

F35

Spud Discussion. These tools consist of handles with expanded spoon-shaped forms on one or both ends. They resemble debarking spuds but are smaller than those described elsewhere. Mainfort (1979:375) interprets the spuds from the Fletcher Site as being hide scrapers. No spuds were recovered from Fort Michilimackinac.

Chipped Stone

The lithic assemblage from Fort Ouiatenon was analyzed by Margaret B. Holman. Information on that assemblage is presented in Table 45.

## Commercial - Trade

Rings N - 29

## Class I Rings with Glass Insets

## Series A Ring cast with insets added

## Type 2 One Center Set with Two Small Sets on Either Side

Variety b (new variety) Blue center and side glass sets

N - 1

N865W865 Inside D - 15.9 mm

## Type 3 One Center Set with One Small Set on Either Side

Variety c (new variety) Green center glass with probable green sets flanking glass

N - 1

N861W875 Inside D - 14.4 mm

Table 45. Chipped Stone

	Provenience	Max. L	Base L	Tip W	Base W	Max. Thickness	Chert
Drills	N930W1000	3.0 cm	1.0 cm	.2 cm	2.2 cm	.43 cm	medium gray, dull
	N1020W990	2.7 cm	.8 cm	.2 cm	1.5 cm	.31 cm	light gray, glossy
	N935W990	2.2+ cm	--	--	1.1 cm	.60 cm	light gray, medium glossy
Projectile Point Tips	N930W980	1.4 cm	--	.8 cm	--	.3 cm	tan banded, medium glossy
	N935W990	2.1 cm	--	1.2 cm	--	.3 cm	light tan, mottled, dull
	N930W1000	1.7 cm	--	1.0 cm	--	.3 cm	light gray, glossy
	N955W895	.9 cm	--	1.7 cm	--	.5 cm	blue-gray, mottled, dull
Projectile Point Bases	N930W1000	1.2 cm	--	--	2.1 cm	.3 cm	light gray, mottled, glossy; base shape - straight
	N861W865	1.5 cm	--	--	1.8 cm	.5 cm	tan banded, medium glossy; base shape - slightly concave
30 x 30 Balks		1.8 cm	--	--	1.5 cm	.3 cm	very light gray, mottled, glossy; base shape - angled and slightly concave
	N930W1020	1.6 cm	--	--	1.9 cm	.45 cm	light pink, fossil or crystal inclusions, dull; base shape - concave
Triangle Projectile Points	N955W895	4.0 cm	--	--	1.8 cm	.3 cm	mottled pink, gray, tan, dull; base shape - concave
	N930W1010	2.8 cm	--	--	1.5 cm	.2 cm	gray, possibly banded, dull; base shape - straight
	N955W905	2.0 cm	--	--	1.0 cm	.2 cm	gray, glossy; base shape - slightly concave
	N875W875	2.8 cm	--	--	broken	.25 cm	mottled gray, glossy; base shape - probably straight

Table 45 (cont'd.).

Provenience	Max. L	Base L	Tip W	Base W	Max. Thickness	Chert
N1010W964	2.6 cm	--	--	1.5 cm	.3 cm	gray, dull, base shape - straight
N1030W964	3.5 cm	--	--	1.3 cm	.15 cm	gray, dull, heated(?), base shape - straight
N955W895	2.2 cm	--	--	1.8 cm	.5 cm	tan, dull, iron encrusted; base shape - slightly concave

Triangular projectile points are common in Late Woodland sites, particularly after A.D.1000. They are generally thin and flat in cross section.

Provenience	Max. L	Haft L	Max. W	Haft W	Max. Thickness	Chert
Stemmed Projectile Points						
F68	3.3+ cm	.7 cm	2.2 cm	1.4 cm	.6 cm	gray/tan, dull
F50	3.5 cm	.8 cm	2.2 cm	1.4 cm	.6 cm	pink, red cortex, gray circular streak, glossy

Both stemmed points have triangular blades and are plano-convex in cross section. The specimen from F68 has a straight base; the specimen from F50 has a base that is broken toward one side with an angular break. These points are probably Late Woodland, and date to between A.D. 600 and A.D. 1000 (Early Late Woodland).

Broken Projectile Points						
Plow Zone	1.65+ cm	--	1.2 cm	--	.4 cm	gray with white banding, glossy; broken near base
N875W875	2.3+ cm	--	1.0 cm	--	.4 cm	tan, mottled, dull; tip broken with angular break at base

Both of these broken points are flat in cross section. The specimen from N875W875 is corner notched and may be from the Middle Woodland period (300 B.C - A.D. 300)

Table 45 (cont'd.).

	Provenience	Max. L	Haft L	Max. W	Haft W	Max. Thickness	Chert
Graver	N1080W830	3.0 cm	--	3.2 cm	--	.7 cm	tan/white banded
	This graver is made on a tabular flake, on the end opposite the bulb of percussion.						
Biface	N955W895	3.2 cm	--	2.3 cm	--	.8 cm	glossy, white
	This biface has been shaped and thinned on the distal end, one lateral edge and about one-half of the other lateral edge. The base has not been thinned or worked at all.						
	Provenience	Max. L	Max. W	Max. Thickness	Chert	Description	
Scrapers	N930W1010	2.0 cm	1.2 cm	.65 cm	gray with tan cortex	side scraper made on a small decortification flake	
	N930W1000	2.2 cm	1.7 cm	.35 cm	white, dull	end scraper made on a small tabular flake	
	Provenience	Measurements			Chert	Description	
Utilized Flakes	F52	3.3 cm x 1.7 cm	x .65 cm		mottled tan, glossy	use retouch on one lateral edge of blade	
	N955W895	3.5 cm x 3.5 cm	x .85 cm		mottled rust and yellow; medium glossy	use retouch on portions of all edges except bulbar end of expanding flake	
	N955W895	2.9 cm x .9 cm	x .2 cm		gray, dull	use retouch on both lateral edges of lamellar flake	
	F52	1.5 cm x .8 cm	x .1 cm		light tan, dull	use retouch on converging lateral edges of triangular shaped flake, probably broken by use	

Table 45 (cont'd.).

	Provenience	Measurements	Chert	Description
Retouched Flakes	N861W875	1.8 cm x 1.9 cm x .6 cm	tan, dull	steep retouch on lateral edge of expanding flake, possibly used or intended to be a scraper; use retouch on other lateral edge
	F52	2.0 cm x 1.4 cm x .3 cm	gray, glossy	retouch on two lateral edges of an expanding flake
Core Fragment	N955W905	3.5 cm x 3.2 cm x 1.3 cm	gray, mottled, glossy	apparently a remnant of an amorphous core; exhibits battering characteristic of striking platforms on three edges which means that flakes were removed from all directions; cortex on one end
Angular Waste	N955W895	2.4 cm x 1.7 cm x .7 cm	gray, mottled, glossy	

Type 4 One Center Set with Three Small Sets on Either Side; Triangular Arrangement

Variety b Green center with blue side glass

N - 1  
N930W970      Inside D - NMP

Type 5 One Center Set

Variety f (new variety) Green, multifaceted glass

N - 1  
N935W1000      Inside D - 11.6 mm

Class II Rings without Insets

Series A Ring band and face cast as one unit; engraved face design

Type 1 Octagonal Shaped Face

Variety a Letter N

N - 3  
N980W1000      NMP  
F68      Inside D - 19.2 mm  
F68      NMP

Variety c Letters IB

N - 1  
N1015W950      Inside D - 19.2 mm

Variety f Letters PI

N - 1  
N1015W950      Inside D - 19.5 mm

Variety l Letters IN

N - 1  
N1015W950      Inside D - 16.6 mm

Variety s Letters FI

N - 3  
Plow Zone      NMP  
N935W990      Inside D - 16.2 mm  
N955W895      Inside D - 19.1 mm

Variety u (new variety) Letter M

N - 2

373

N1015W950      Inside D - 17.1 mm  
F68              NMP

Variety v   (new variety)   Letters DI

N - 1  
N955W895      NMP

Variety w   (new variety)   Letters IV

N - 1  
F68              Inside D - 16.8 mm

Variety x   (new variety)   Letters BK

N - 1  
F68              NMP

Variety y   (new variety)   Geometric (bowtie) design

N - 1  
F68              NMP

This design may be found in Cleland's  
Double-M series, X-Ring progression  
(1972:205).

Variety z   (new variety)   Letters VI

N - 1  
N875W875      NMP

### Type 3   Heart Shaped Face

Variety u   (new variety)   Cast face with engraved  
hand on each side

N - 1  
N955W895      Inside D - 16.4 mm

This specimen is badly corroded and  
may have a spot for a small glass  
setting on the face, though it appears  
to be corrosive pitting. Similar  
specimens have been found at the Fletcher  
Site (Mainfort 1979:363, Figure 30d),  
and at Fort St. Joseph (Hulse 1977:  
394, CII,SA,T1,Vc).

### Series C   Band ring without face

#### Type 1   Convex Outer Surface with Flat Inner Surface

Variety a   No design



N - 3

N1015W950      Inside D - 14.9 mm

N955W895      Inside D - 17.3 mm

F67              NMP

## Type 2   Convex Outer and Inner Face (round cross section)

Variety a   No design

N - 1

F65              Inside D - 17.0 mm

Variety aa (new variety)   Curvilinear design

N - 1

F68              NMP

This design may be a derivative of  
Cleland's X-Ring progression (1972).

## Series C   Category 1   Band Fragments

N - 3

Table 46.   Ring Distribution

Forge Area	2 bands	14%
	2 Jesuit	
N1015W950	1 band	17%
	4 Jesuit	
Storehouse Area	2 glass inset	48%
	8 Jesuit	
	4 bands	
North Test Trench	1 band	7%
	1 Jesuit	
Other	1 Jesuit	3%

Ring Discussion.   No glass inset rings were found in contexts pre-dating 1750 at Fort Michilimackinac (Stone 1974b:131). Jesuit rings from that site are dated between 1720 and 1750, and received wide use as trade items (Stone 1974b:131). Cleland dates Jesuit rings with octagonal bezels and engraved designs to between 1700 and 1760 (1972:208) and agrees that they could have been used

in a trade as well as a religious context. Rings similar to those at Fort Ouiatenon have been dated to between 1670 and 1770 at the Rock Island Site in Wisconsin (Mason 1976). Using Mason's data, the Ouiatenon rings would date generally to the latter part of that range, after 1730, on the basis of the relative frequency of design elements.

### Lead Seals N - 28

#### Series A Knob method of attachment

##### Type 1 Single Knob Attachment

Variety c Side 1: Indistinguishable; probably two large letters surrounded by a scalloped circle.  
Side 2: Incised letters and numbers; Top - indistinguishable letters and/or numbers, Middle - horizontal line, Bottom - three Z's or 7's.

N - 1

N875W875 (Figure 33c) Max. D - 24.9 mm

Stone (1974b:281,296) attributes seals with large, paired letters to British use.

Variety dd Side 1: Partially indistinguishable; at least one large letter, M or W, with a loop design beneath (or above) letter(s); all enclosed within a raised circle.  
Side 2: Top - 219, Bottom - possibly 29.

N - 1

F39 (Figure 34c) NMP

A seal with the letters W A, a loop design exactly like the one described above, and a number 1 attached to the loop design and extending between the letters, was found at Horsetail Rapids, Granite River, attached to a bundle of files dating to between 1774 and 1802 (Wheeler et.al. 1975:62).

Variety ee (new variety) Side 1: Crossed keys with three fleur-de-lis in three of the wedges, all within a closed circle. There appear to be two letters or shapes at the juncture of

side one and the strap.

Side 2: Blank.

N - 1

N875W875 (Figure 34e)      Max. D - 21.3 mm

This seal is interpreted as French on the basis of design elements.

Series A Type 1 Category 1 Discs with a hole or knob

N - 8

F63 (Figure 34k)      Max. D - 24.0 mm; no inside D possible

Side 1: Stamped design; remains of one large letter are present, a D, B, R or P inside a circle.

Side 2: Blank.

N874W875

Est. D - 24.5 mm; inside D - 16.3 mm

Side 1: No design elements present.

Side 2: Blank.

N875W875 (Figure 34a)      Est. D - 25.3 mm; inside D - 13.1 mm

Side 1: Remains of one large letter, either an N or a V.

Side 2: Blank.

N955W905

NMP

Side 1: Remnants of several indistinguishable raised figures.

Side 2: Blank.

N955W905

NMP

Side 1: Remnants of a raised circle.

Side 2: Blank.

This disc may have a square hole.

F68

NMP

Sides are difficult to distinguish owing to the mangled condition of this seal. There appear to be at least three raised dots on one side.

N865W875 (Figure 34g)      NMP

Side 1: The remains of a design with two concentric circles around the

circumference; internal circle appears beaded. Inside the circle are some unidentifiable letters and/or design elements.

Side 2: Blank

F56 Balks (Figure 34j) NMP

Side 1: 7/- visible; rest unidentifiable.

Side 2: Blank.

Series A Type 1 Category 2 Discs with knobs

N - 8

F68 (Figure 34i)

Max. D - 14.7 mm

Side 1: Indistinguishable raised figures.

Side 2: A circle surrounding unidentifiable raised figures; at least two dots and two other raised figures.

No Prov. (Figure 32d) NMP

Side 1: Large raised letter A, plus more design which cannot be identified.

Side 2: Indistinguishable incised numbers and/or letters.

F56 (Figure 33d)

Max. D - 24.1 mm

Side 1: Double bar I's; nothing else visible.

Side 2: Top - incised letters and/or numbers, Middle - horizontal line, Bottom - incised 241.

A lead seal apparently similar to this one was found at Fort Michilimackinac and has been interpreted as British (Stone 1974b:281, 296).

N955W895 (Figure 34f)

Max. D - 20.9 mm

Side 1: Raised circle enclosing three fleur-de-lis. There is an indistinguishable design present outside the circle.

Side 2: Indistinguishable. The remnants of at least two raised letters are present.

N875W875

NMP

Side 1: Three fleur-de-lis in a horizontally lined circle; indistinguishable design outside circle, possibly a crow-like figure plus a leafy border.  
 Side 2: Three fleur-de-lis above a cock within a circle. Outside the circle are the letters I·BRIL

F P E

Letters in the bottom line are not positively identified.

This lead seal is very similar to Stone's SAT1VkJNo.1 (1974b:284), which has been identified as French.

F67 (Figure 34b)

Max. D - 22.9 mm

Side 1: Indistinguishable.  
 Side 2: Incised horizontal line with 9999 underneath it.

N875W875

L - 30.7 mm; W - 25.3 mm (oblong disc)

Side 1: Indistinguishable; there appear to be two lines of design with letters and/or numbers on the knob.  
 Side 2: Indistinguishable, possibly blank.

N875W865 (Figure 34h)

Max. D - 29.2 mm

Side 1: Fleur-de-lis on knob; letters -ANO- may be underneath.  
 Side 2: Indistinguishable.

On the basis of design elements, this seal is interpreted as French. There is no clear cut indication of a strap along the rim of this disc, therefore it may not be a lead seal. There is a seam across the diameter of the disc on either side of the knob on Side 1.

## Type 2 Double Knob Attachment

Variety b Side 1: Shield design  
 Side 2: CALMA(NU)  
 CONM(UNE)  
 ON(ZE)  
 TAI(LLE)

N - 1

F52 (Figure 33b)

Max. D - 22.0 mm

This seal is interpreted as French on the basis of design elements. Letters in parentheses represent letters on the seal that are barely visible. From the appearance of other seals (see Stone 1974b:290, Figure 177u) these are the letters represented. It should be noted that Stone's Variety b seal does not have the shield design on the obverse face.

Variety d (new variety) Side 1: Letters R and B over a fleur-de-lis; the letters (DE-)LIL-(E)-N are present over all of this.

Side 2: G(R)IS--

COMMUNE

II

TAILLES

N - 1

N1015W950 (Figure 33b) Max. D - 27.8 mm

This seal is interpreted as French on the basis of design elements.

#### Series A Type 2 Category 1 Discs with knobs

N - 2

N1015W950 Max. D - 23.0 mm

Side 1: Remnants of two letters, -O, with two stars above or beneath them.

Side 2: Blank.

F67 (Figure 34d) Max. D - 22.1 mm

Side 1: Beaded circle enclosing the holes and the letters --NLOP (may be --NIOP)

17

9

Other design elements indistinguishable.

Side 2: Raised lip with other elements indistinguishable.

#### Series B Disc-Band method of attachment

Type differences not distinguishable within this Series.

Variety h Side 1: LARGVI(ER) \* (PIERRE) surrounding one fleur-de-lis.

Side 2: Palm symbol with NE to right of the tree trunk; COI or at least OI to the left.

N - 1

N876W865 (Figure 32a) Max. D - 16.2 mm

(see Stone 1974b:292, Figure 178)

Side 1: ---E NEGRE ----- surrounding A·2  
FILS

Side 2: Palm symbol with COI on left side of trunk and NE on the right side.

N - 1

F68 (Figure 32c)      Max. D - 15.8 mm

This seal is interpreted as French.

#### Series C Wire method of attachment

##### Type 2 Double Wire

Variety a Side 1: Crossed wreath around the letters  
C·D·I

⤵ c

Side 2: Crown symbol

N - 2

N875W875      Max. D - 18.1 mm

F68 (Figure 32b)      Max. D - 17.7 mm

Two specimens of this lead seal were found at Fort Michilimackinac (Stone 1974b:294); three were found at Fort St. Joseph (Hulse 1977: 57). They are identified by Stone as French.

Lead Seal Discussion. French lead seals comprise 36 percent (N - 10) of the sample from Fort Ouiatenon; British seals make up 14 percent (N - 4) of the sample. Fifty percent of the seals are not identifiable as to national origin. The presence of nineteen seals (67.9%) in and around the storehouse area (see Table 47) lends support to the interpretation of that area as the location of a commercial storage facility. The British seals found in the area could support the contention that the building was used by the British after 1760, though they could also represent the presence of British goods obtained through the black market.

#### Firesteels N - 6

All of the Fort Ouiatenon firesteels (strike-a-lites) are

Table 47. Lead Seal Distribution

Storehouse Area	N - 19	67.9%
N875W865	2	French
N875W875	7	3 French, 1 tentatively British*, 3 unidentified
N865W875	1	unidentified
F56 Balks	1	unidentified
F56	1	British
F68	4	2 French, 2 unidentified
F67	3	unidentified
Forging Area	N - 3	11.0%
N955W905	1	unidentified
N955W895	2	1 French, 1 unidentified
N1015W950	N - 3	10.7%
N1015W950	2	1 French, 1 unidentified
F39	1	unidentified
Stockade	N - 1	3.60%
F52	1	French
Other	N - 2	7.10%
Surface	1	Tentatively British
F63	1	Tentatively British*

\* Both of these seals have one large letter on one side of the seal. Stone's seals of this type (1974b:281) are classified as British



Figure 32

## Lead Seals

Row 1	a.	N875W865 SBVh
Row 2	b.	F68 SCT2Va
Row 3	c.	F68 SBVh
Row 4	d.	Surface SAT1Cat. 2

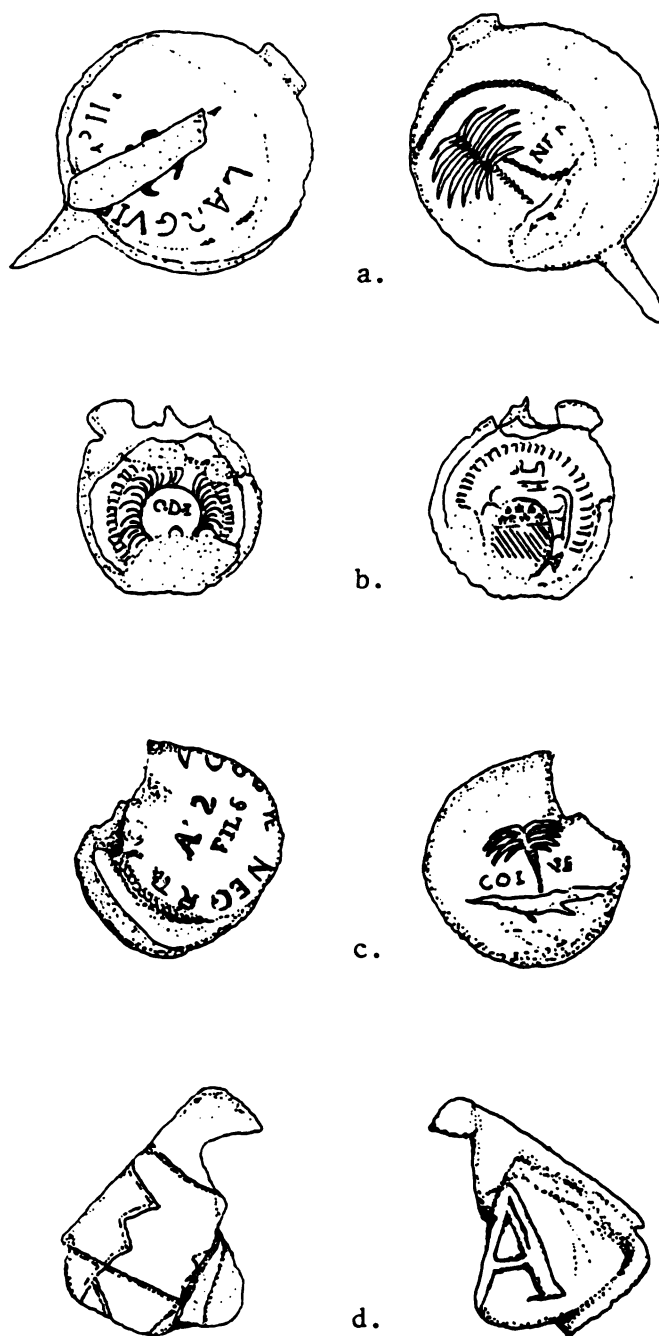


Figure 32. Lead Seals

## Figure 33

## Lead Seals

Row 1	a.	F52 SAT2Vb
Row 2	b.	N1015W950 SAT2Vd
Row 3	c.	N875W875 SAT1Vc
Row 4	d.	F56 SAT1Cat. 2



Figure 33. Lead Seals

Figure 34

## Lead Seals

Row 1	a.	N875W875 SAT1Cat. 1
	b.	F67 SAT1Cat. 2
	c.	F39 SAT1Vdd
Row 2	d.	F67 SAT2Cat. 1
	e.	N875W875 SAT1Vee
	f.	N955W895 SAT1Cat. 2
Row 3	g.	N865W875 SAT1Cat. 1
	h.	N875W865 SAT1Cat. 2
	i.	F68 SAT1Cat. 2
Row 4	j.	F56 Balks SAT1Cat. 1
	k.	F63 SAT1Cat. 1

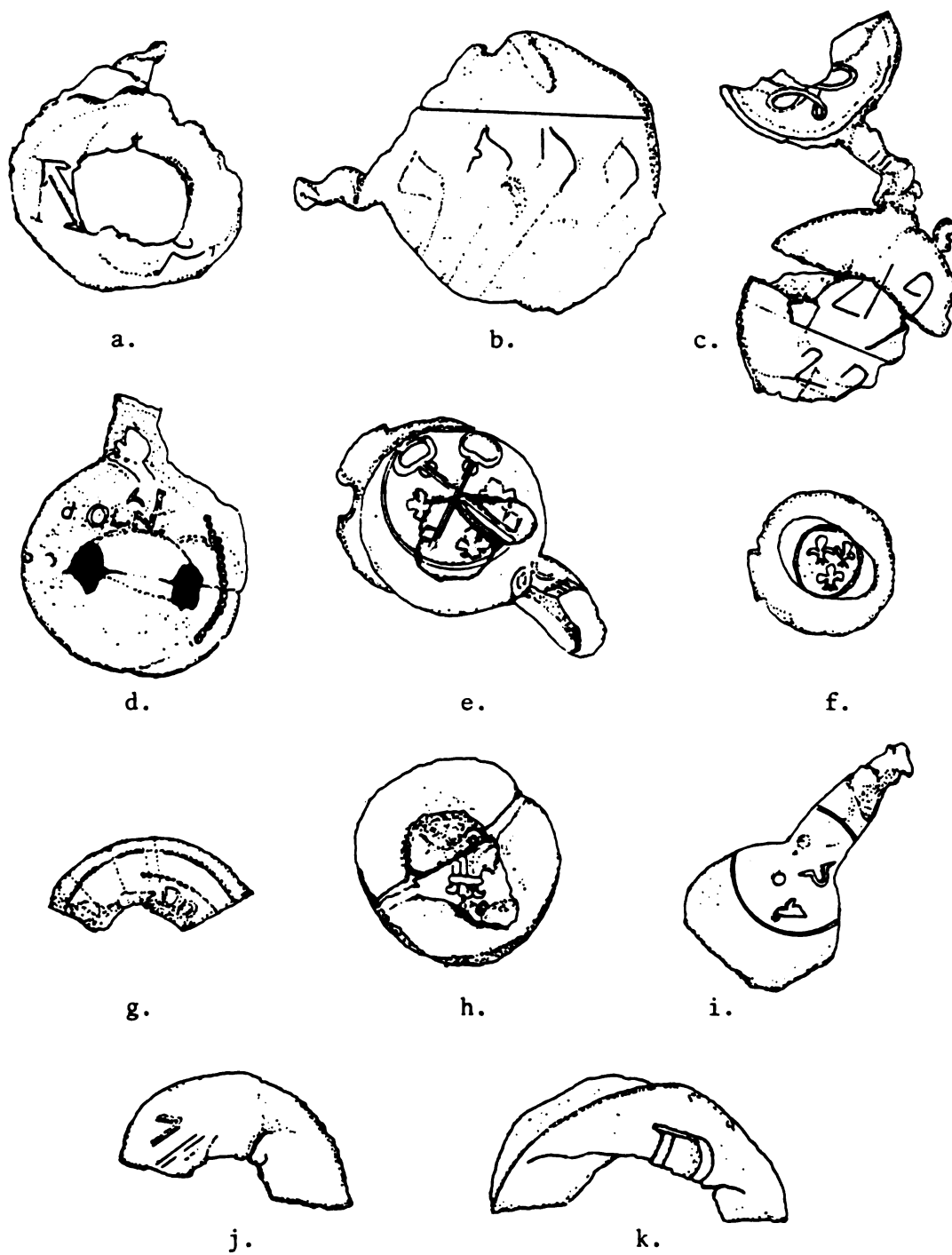


Figure 34. Lead Seals

of the single-part form and appear to be of the elongated oval to semi-rectangular shape (Stone 1974b:187). There are no complete specimens. Firesteels at Ouiatenon were recovered from N955W905, N1030W964, N865W875, N1050W1000, F52 and the Plow Zone.

Awls N - 25

Type 1 Iron

Variety a Offset attachment; in cross section, all are half square and half diamond shaped.

N - 10

N875W865	L - 13.38 cm
N875W865	L - 10.86 cm
N875W865	L - 12.39 cm
N875W865	L - NMP
F56 Balks	L - NMP
Backhoe Trench #1	L - 8.96 cm
N1015W950	L - est. 11.80 cm
F68	L - 10.85 cm
F68	L - est. 10.96 cm
F68	L - est. 13.13 cm

Variety c Notch attachment; all square/diamond shaped in cross section.

N - 2

N1013W1000	L - 13.22 cm
F68	L - NMP

The notches on these awls are on one side only, but they appear to be purposeful and intended for attachment.

Variety d Shaft center attachment; all square/diamond shaped in cross section.

N - 9

N930W1000	L - 8.38 cm
N865W865	L - 9.13 cm
F56 Balks	L - NMP
F56 Balks	L - NMP
F68	L - NMP
F68	L - NMP
F68	L - 9.90 cm
F68	L - 10.23 cm
F39	L - 7.75 cm

## Variety g (new variety) Shoulder attachment

N - 1

F56

L - 11.83 cm

This specimen has a shoulder between the awl blade element and the hafting element. The blade expands toward the shoulder; the hafting element, smaller in cross section than the blade, tapers to a point. The specimen was made from a file; a few hatch marks are still visible near the shoulder where the file was cut and crimped.

## Type 1 Category 1 Awls unidentifiable as to Variety

N - 2

N875W865

N1015W950

Both awls are probably either Variety a or Variety b.

## Type 2 Bone

N - 1

F33

L - 11.70 cm

This awl was made from a medium sized mammal rib.

Awl Discussion. Stone states that awls were used at Fort Michilimackinac by both civilian and military personnel as well as being an important trade item (1974b:155-159). The most common awls found at Michilimackinac were those with the shaft center method of attachment, used throughout the site's occupation. Offset attachment awls were found in contexts dating to between 1735-40 and 1781.

Seed Beads N - 11,108

Seed beads, like lead shot, were not collected systematically at Fort Ouiatenon. When concentrations were noticed, as in F68, the basement in N1015W950, and occasionally in F56, material was fine-screened. Undoubtedly many beads were not recovered in other units, though the areas of greatest concentration are certainly



reflected in the figures presented here.

When beads were compared with those of other sites color designations based on the Munsell Book of Color (1940) were sometimes several numbers apart in value or chroma. These differences were considered to be the result of different lighting conditions and personal perception and have been considered here to be the same color.

Color designations for both seed and necklace beads were determined using both artificial and transmitted light. With artificial (reflected) light, the bead was held under a strong microscope light against the Munsell gray card. With transmitted light, the bead was held under a microscope with backlighting, or held under the scope light without the neutral gray card. Data on seed and necklace beads from other eighteenth, and nineteenth century sites is presented in Tables 48 and 49.

#### Class I Hollow Cane

##### Series A Simple construction

##### Type 1 Doughnut

##### Variety c Royal blue, translucent

N - 464

N1020W990

F56 Balks - 5

N865W865

F56 - 457

artificial light - Purple-Blue 5.0 PB 4/10

transmitted light - bluish Purple-Blue  
2.5 PB 6/8

L Range - 1.2-3.1 mm (463 specimens)

W Range - 2.1-3.9 mm (463 specimens)

Semi-glossy surface, bubbly; doughnut:  
round to barrel shaped.

##### Variety e Light blue, translucent

N - 1  
F56

art. light - Blue Purple-Blue 10.0 B 6.6  
trans. light - bluish Purple-Blue  
2.5 PB 8/2

L - 1.7 mm; W - 2.5 mm

Very clear and glossy; smooth glossy  
surface; doughnut shaped.

Variety g Clear, translucent

N - 42  
F68

L Range - 1.0-2.2 mm (42 specimens)  
W - Range - 2.0-3.1 mm (42 specimens)

Clear, not cloudy; some pitting, some-  
what bubbly, semi-glossy surface;  
doughnut, round, semi-barrel, barrel  
shaped.

Variety i Bright green, translucent

N - 157  
F56 Balks - 3  
F56 - 3  
F68 151

art. light - Yellowish Green 2.5 G 6/8  
trans. light - same

L Range - .8-1.7 mm (157 specimens)  
W Range - 1.6-2.8 mm (157 specimens)

Very bubbly with visible longitudinal  
striations; semi-glossy surface; dough-  
nut to barrel shaped.

Variety n Wedgewood blue, opaque

N - 45  
F68

art. light - Purple-Blue 5.0 PB 7/4

L Range - 1.1-2.0 mm (45 specimens)  
W Range - 2.0-2.7 mm (45 specimens)

Generally smooth, dull surface, some  
bubbles; doughnut, round, barrel shaped.

## Variety u Ruby red, translucent

N - 2602

N1015W950 - 2 F56 - 11

F56 Balks - 27 F68 - 2562

art. light - black

trans. light - Yellowish-Red 7.5 R 4/12

L Range - 1.2-3.6 mm (sample of small and

W Range - 2.1-3.9 mm large beads)

## Variety w Turquoise, semi-translucent

N - 517

N1015W95 - 476 F67 - 4

N875W865 - 1 F63 - 1

F56 Balks - 15 F68 - 20

art. light - Greenish-Blue 2.5 b 7/6

trans. light - same

L Range - 1.4-2.7 mm (sample of small and

W Range - 2.4-3.0 mm large beads)

Dull surface, often badly pitted and  
fibrous; grooved striations visible;  
doughnut, round and semi-barrel shaped.

## Variety y White, opaque

N - 7

Plow Zone - 1 F56 Balks - 2

N955W905 - 1 F68 - 3

L Range - 1.0-1.2 mm (3 specimens)

W Range - 1.9-2.3 mm

Very pitted, dull surface; all beads  
in this variety rather badly decomposed,  
some fibrous; doughnut and barrel shaped.

## Variety z (new variety) Lemon yellow, translucent

N - 3

N875W875

F68

F56 Balks

art. light - Yellow 5.0 Y 8/8

trans. light - Yellow 5.0 Y 7/10

L Range - 1.5-2.2 mm (3 specimens)

W Range - 2.4-2.6 mm (3 specimens)

Glossy, striated surface, somewhat bubbly;  
semi-barrel shaped.

Variety aa (new variety) Gold-yellow, translucent

N - 128  
N1015W950 - 1  
F68 - 127

art. light - Yellow 5.0 Y 8/10  
trans. light - Yellow-Red Yellow  
10.0 YR 6.5/10

L Range - 1.2-2.2 mm (128 specimens)  
W Range - 2.4-3.2 mm (128 specimens)

Semi-glossy surface, large amount of  
patina; on many beads the entire outer  
layer is decomposing, leaving bead  
opaque and ivory colored; bubbly glass,  
striations visible; doughnut and barrel  
shaped.

Variety bb (new variety) Medium blue, translucent

N - 16  
N1015W950 - 1  
F68 - 15

art. light - bluish Purple-Blue 2.5 PB 5/8  
trans. light - no color designation  
possible

L Range - .9-1.6 mm (16 specimens)  
W Range - 2.4-4.0 mm (16 specimens)

Very smooth, clear surface, slightly  
bubbly glass; very similar to Variety g  
but with more blue color; doughnut  
shape only.

Variety cc (new variety) Light Wedgewood blue, opaque

N - 7  
F68

art. light - bluish Purple-Blue 2.5 PB 7/2

L Range - 1.4-1.9 mm (7 specimens)  
W Range - 2.7-3.0 mm (7 specimens)

Fairly chalky, dull, pitted surface; gen-  
erally larger than Variety i beads; dough-  
nut and barrel shaped.

Variety dd (new variety) Sky blue, semi-translucent

N - 19  
F63 - 1  
F68 - 18

art. light - purplish Purple-Blue  
2.5 PB 6/4

L Range - 1.2-2.4 mm (19 specimens)  
W Range - 1.1-2.6 mm (19 specimens)

Pitted, glossy surface; doughnut, round  
and semi-barrel shaped.

Variety ee (new variety) Yellow-green, semi-translucent

N - 71  
F56 Balks - 1  
F68 - 70

art. light - Green-Yellow Green  
10.0 GY 6/4

L Range - 1.0-2.1 mm (71 specimens)  
W Range - 1.9-2.7 mm (71 specimens)

Dull surface; glass fibrous and bubbly,  
beads in a state of decomposition, some  
with chalky build-up; doughnut and  
barrel shaped.

## Type 2 Tubular

Variety d (new variety) White, opaque

N - 1  
F56 Balks

L - 3.1 mm; W - 2.8 mm

Untumbled, semi-glossy white bead; few  
bubbles and slight longitudinal striations.

Variety e (new variety) Red-orange, translucent

N - 119  
N955W895 F56 - 105  
N861W875 F68 - 8  
F56 Balks - 4

art. light - black  
trans. light - Yellowish Red 7.5 R 4/12

L Range - 2.4-4.8 mm (117 specimens)  
W Range - 1.6-3.8 mm (117 specimens)

Some beads tumbled, some untumbled;  
beads usually have patina on at least  
part of their surface; some longitudinal  
striations visible.

Variety f (new variety) Blue, translucent

N - 57  
F56 Balks - 2  
F56 - 55

art. light - Purple-Blue 5.0 PB 4/10  
trans. light - Blue Purple-Blue  
2.5 PB 6/8

L Range - 3.4-5.3 mm (59 specimens)  
W Range - 2.3-4.2 mm (59 specimens)

Some beads tumbled, some untumbled;  
some with patina; few visible striations  
through elongated air bubbles often  
present.

Variety g (new variety) Light green, translucent

N - 15  
F56

art. light - Yellowish Green 2.5 G 5/8  
trans. light - Yellowish Green 2.5 G 6/8

L Range - 3.6-4.2 mm (15 specimens)  
W Range - 2.0-2.7 mm (15 specimens)

All of these beads are tumbled; very  
bubbly and unstable, probably at a  
stage less decomposed than the beads of  
Type 3 Variety a (olive green); many  
bubbles elongated, running the length  
of the bead.

### Type 3 Tubular, Fibrous Surface

Variety a Olive green, opaque

N - 17  
F56

art. light - Green-Yellow Green  
10.0 GY 5/8

trans. light - Greenish-Green Yellow  
7.5 GY 7/10

L Range - 2.4-3.8 mm (17 specimens)  
W Range - 2.2-2.7 mm (17 specimens)

Some beads have chalky exterior; some tumbled and some untumbled; ragged ends; dull, eroded, visible longitudinal striations. It appears likely that these beads are nothing more than Type 2 Variety g beads which are more decomposed.

#### Type 4 Tubular, Shell (Wampum)

##### Variety a Purple

N - 19

N955W905 - 1	N875W875 - 1
N955W895 - 2	N865W875 - 1
N1015W950 - 4	F56 Balks - 5
N1010W990 - 1	F68 - 3
No Prov. - 1	

L Range - 3.7-6.4 mm; Average - 5.2 mm  
(18 specimens)

W Range - 2.8-4.2 mm; Average - 3.3 mm  
(19 specimens)

Bore Range - .5-1.3 mm; Average - .9 mm  
(19 specimens)

Color ranges from almost pure white with a few lines of purple running through the bead, to a dark, rich purple. Wampum, both purple and white, has been found at Fort Michilimackinac (N - 87), Fort St. Joseph (N - 396), the Lasanen Site (N - 14,000+), the Fletcher Site (N - 1033) and the Guebert Site (N - 6).

#### Type 5 (new type) Metal Beads

##### Variety a Small beads of rolled copper

N - 26

F68

L Range - 2.0-2.7 mm (26 specimens)

W Range - 1.9-3.4 mm (26 specimens)

Bore Range - 1.0-2.6 mm (26 specimens)

Beads of this type have also been found at the Guebert and Fletcher Sites.

## Series B Compound Construction

## Type 1 Doughnut, Two Layers

## Variety a White, opaque

N - 6780		
Backhoe Trench #1 -	3	N875W865 - 2
No Prov. -	1	N875W875 - 70
N955W905 -	2	F56 Balks-138
N955W895 -	3	F38 - 1
N1015W950 -	291	F50 - 1
N861W875 -	15	F56 - 456
N980W1000 -	1	F65 - 1
N1065W918 -	1	F68 - 5794

L Range - 1.1-3.5 mm (6780 specimens)

W Range - 1.6-4.3 mm (6780 specimens)

Inner layer of opaque white glass, outer layer of a clear glass veneer; beads tumbled, surface smooth to pitted, dull to glossy; doughnut and barrel shaped.

## Type 2 Doughnut, Three Layers

## Variety a Red, opaque

N - 1  
F68

art. light - Yellowish Red 7.5 R 4/6

L - 1.6 mm; W - 2.7 mm

Clear center, opaque red middle layer with clear glass veneer; doughnut shaped; tumbled; Cornaline d'Aleppo style bead.

## Type 3 Tubular, Two Layers

## Variety a White, opaque

N - 38		
N1050W964 -	1	N861W875 - 1
N955W895 -	2	F56 Balks - 6
N1015W950 -	3	F56 - 25

L Range - 2.4-5.7 mm (38 specimens)

W Range - 2.0-3.8 mm (38 specimens)

Beads tumbled and untumbled; inner layer is opaque and bubbly, outer layer is clear glass. Some visible striations and elongated air bubbles.



## Series D (new series) Composite Construction

## Type 1 Tubular, Two Layers, Striped Glass Insets

Variety a White, opaque, four blue glass insets

N - 1  
N955W895

L - 4.9 mm; W - 4.4 mm

Inner layer is white and opaque, outer layer is clear glass with four blue glass insets. There are a number of irregular, deep grooves in the outer layer.

Necklace Beads N - 29

## Class I Drawn Beads (Hollow Cane)

## Series A Simple Construction

## Type 3 Round

Variety b Turquoise

N - 1  
F68

art. light - Greenish Blue 2.5 B 6/4  
trans. light - Greenish Blue 2.5 B 6/6

L - 4.4 mm; W - 5.5 mm; Bore 1.5 mm

Pitted surface with patina and some longitudinal striations; semi-barrel shape with rounded ends; tumbled.

## Type 5 Tubular

Variety i (new variety) Blue

N - 1  
N1015W950

art. light - bluish Purple Blue  
2.5 PB 4/6  
trans. light - bluish Purple Blue  
2.5 PB 5/10

L - 12.2 mm; W - 4.1 mm; Bore - 1.9 mm

Table 48. Seed Bead Comparative Site Information

Ouiatenon Classification	Comparative Site and Classification	N	Reference	Comments
CISAT1Vc N-463 Royal Blue	Lasanen	1804	Cleland 1971:78	Lasanen beads are strictly doughnut shaped; generally somewhat larger than Ouiatenon beads, though ranges overlap.
	Michilimackinac St. Joseph	7 226	Stone 1974b:111 Hulse 1977:100	St. Joseph seed bead frequencies based on a 10% sample of that group, sample N - 6089.
CISAT1Vg N-42 Clear	Michilimackinac Fletcher	1	Stone 1974b:111	Size ranges overlap though Lasanen beads average larger.
	St. Joseph	21	Mainfort 1979:381	
	Lasanen	3	Hulse 1977:100	
		143	Cleland 1971:78	
CISAT1Vi N-157 Bright Green	Michilimackinac Fletcher	20	Stone 1974b:111	
	St. Joseph	1173	Mainfort 1979:381	
		118	Hulse 1977:103	
CISAT1Vn N-45 Wedgewood Blue	Michilimackinac Fletcher	53 604	Stone 1974b:111 Mainfort 1979:381	

Table 48 (cont'd.).

Ouiatenon Classification	Comparative Site and Classification	N	Reference	Comments
CISAT1Vu N-2602 Ruby Red	Michilimackinac Guebert	252 3	Stone 1974b:111 Good 1972:117	Possible; color designation in- definite
	Lasanen	3037	Cleland et.al. 1971:78	See comments un- der Ouiatenon CISAT1Vc
	Fort Brady (French 1755, American 1822-1893)	7	William Minnerly personal communication	
CISAT1Vw N-517 Turquoise	Michilimackinac St. Joseph Fort Brady	1 2 5	Stone 1974b:111 Hulse 1977:103 William Minnerly personal communication	Possible
	Gros Cap (Ottawa, Huron or Chippewa; last quarter seventeenth century)	484	Nern and Cleland 1974:34	Possible; no Mun- sell designation
CISAT1Vy N-7 White	Michilimackinac Fletcher St. Joseph Fort Brady	19 1 13 15	Stone 1974b:111 Mainfort 1979:381 Hulse 1977:100 William Minnerly personal communication	
CISAT1Vaa N-128 Gold-Yellow	St. Joseph	3	Hulse 1977:100	

Table 48 (cont'd.).

Ouiatenon Classification	Comparative Site and Classification	N	Reference	Comments
CISAT1Vbb N-16 Medium Blue	Fort Brady  CISAT1Vcc	1	William Minnerly personal communication	
CISAT1Vee N-71 Yellow-Green	Guebert  #33	3	Good 1972:110	Possible; color and size are the same but Good compares it to Variety <u>b</u> from Michilimackinac
CISAT2Vd N-1 White	St. Joseph  CISAT2Ve	2	Hulse 1977:105	
CISAT3Va N-17 Olive Green	Michilimackinac Fletcher St. Joseph  CISAT3Va CISAT3Va CISAT2Vb	2 174 5	Stone 1974b:109 Mainfort 1979:384 Hulse 1977:104	
CISAT4Va N-19	Michilimackinac St. Joseph  Lasanen  Fletcher  Guebert  CISAT4Va Misc. Beads SBT1Va SubT1 no formal classification no formal classification #134	77 396 14,000+ 1033 6	Stone 1974b:111 Hulse 1977:115 Cleland 1971:139 Mainfort 1979:404 Good 1972:123	
CISAT5Va N-26	Guebert Fletcher  no formal classification no formal classification	-- --	Good 1972:97 Mainfort 1979:353	No count given No count given

Table 48 (cont'd.).

Ouiatenon Classification	Comparative site and Classification	N	Reference	Comments
CISBT1Va N-6780 White	Michilimackinac	3365	Stone 1974b:113	
	Fletcher	44,300	Mainfort 1979:384	
	Guebert	50	Good 1972:119	
		918	Good 1972:119	
	St. Joseph	4868	Hulse 1977:106	
	Fort Brady	281	William Minnerly	
			personal communication	
	Gros Cap	12	Nern and Cleland 1974:34	
CISBT3Va N-38 White	Michilimackinac	142	Stone 1974b:113	
	Fletcher	15	Mainfort 1979:384	
	Guebert	12	Good 1972:120	
	St. Joseph	28	Hulse 1977:106	
	Fort Brady	27	William Minnerly	
			personal communication	

Glossy surface with numerous air bubbles  
and elongated surface striations;  
untumbled.

Series B Compound construction

Type 1 Tubular, Three Layers

Variety a Red

N - 1  
N1030W1000

art. light - Yellowish Red 7.5 R 3/10

L - 13.6 mm; W - 4.6 mm; Bore - 1.5 mm

Inner layer of bright green translucent glass (trans. light - greenish Green-Yellow 7.5 GY 7/10), middle layer of opaque red glass, and outer layer of clear glass veneer; surface is glossy and pitted with some longitudinal surface striations; ends tumbled, minimally irregular. This is a Cornaline d'Aleppo bead. Stone does not date this bead, but his complex-compound construction Cornaline d'Aleppo bead is interpreted as French, 1650-1750 (1974b:100).

Type 2 Tubular, Two Layers

Variety b White, opaque

N - 1  
F39

L - 11.4 mm; W - 4.2 mm; Bore - 1.6 mm

Inner layer of white, opaque glass and an outer layer of clear glass; some longitudinal striations barely visible; untumbled.

Series C Complex Structure

Type 4 Barrel Shaped

Variety e (new variety) Black with eight white stripe insets, opaque

N - 1  
F68

trans. light - white stripe opaque;  
black section is actually deep red -  
Yellowish Red 7.5 R 4.5/2

L - 8.5 mm; W - 6.0 mm; Bore - 1.3 mm

Dull, pitted surface. These beads are  
interpreted by Stone as French, 1700-  
1760 (1974b:99).

#### Series D Composite Construction (Compound and Complex)

##### Type 4 (new type) Round

Variety a Clear, translucent with nine white,  
opaque stripe insets

N - 1  
F68

L - 3.5 mm; W - 5.1 mm; Bore - 1.3 mm

Some pitting on surface; longitudinal  
striations visible. A clear bead with  
white stripe insets, covered with a  
second layer of clear glass. This is  
a gooseberry bead (Grand Rapids Public  
Museum 1977:52) possibly older than many  
owing to the second layer of glass  
(Tyra Lewis personal communication).  
Varieties of gooseberry beads have been  
found at the Gros Cap, Guebert and Fort  
St. Joseph Sites.

#### Class II Mandrel Wound Beads

##### Series A Simple Construction

##### Type 3 Faceted, Five-Sided

Variety c Amber, translucent

N - 1  
F39

art. light - Yellow Red-Yellow 10.0 YR 6/8  
trans. light - Yellow Red-Yellow  
10.0 YR 7/10

L - 16.1 mm; W - 9.7 mm; Bore 2.4-2.9 mm

Visible circumferential striations on  
surface, not pronounced due to press-  
faceting; pitted.

## Type 8 Round

Variety a Cloudy, semi-translucent

N - 2

F68

F39

Under overhead lighting these beads have a very slight bluish cast; under a higher intensity artificial light there is a slight yellowish cast.

L - 7.8-9.9 mm; W - 9.9-10.8 mm;

Bore - 2.6-2.7 mm

Visible circumferential striations on surface; slight patina. Stone interprets Type 8 beads from Fort Michilimackinac as French, 1700-1760 (1974b: 103).

Variety c (new variety) Rose, translucent

N - 1

N955W905

art. light - Red-Purple 5.0 RP 4/4

trans. light - Purplish Red 2.5 R 5/10

L - 6.0 mm; W - 6.1 mm; Bore - 1.8 mm

This bead has very well defined and deep circumferential striations. Three distinct layers are visible, created during the winding process. Two deep grooves, located opposite each other and running lengthwise are present on the outside of the bead. Two grooves run parallel to these on the inside (bore) of the bead. The glass is of low quality, unstable, and is decomposing, leaving white chalky material in many places. This bead may have been loosely wrapped as a button or decoration, thus leaving the inside grooves (Tyra Lewis personal communication).

## Type 16 (new type) Funnel/Conical Shaped

Variety a Dark blue, translucent

N - 1

N1015W950



art. light - Purplish Blue 7.5 B 2/2  
trans. light - Purple Blue 5.0 PB 5/10

L - 8.0 mm; max. W - 9.0 mm; Bore - 3.4 mm

Fine circumferential striations visible, width smaller at one end than at the other, the result of the winding process.

Type 17 (new type) Irregular Press Faceted, Three to Eight Sided

Variety a Deep rose, translucent

N - 17

F56 Balks - 3

F68 - 14

art. light - heavy patination; when the bead was held up to the light it appeared to be Purplish Red 2.5 R 7/8  
trans. light - small decomposing bead was Yellowish Red 7.5 R 7/8; larger, more intact bead was Red 5.0 R 4/14

L Range - 1) 2.8-3.9 mm (7 specimens)

2) 4.1-5.1 mm (7 specimens)

Max. W Range - 1) 3.1-4.3 mm (6 specimens)

2) 4.7-5.4 mm (6 specimens)

Pitted surface, usually with a fairly large amount of patination; visible circumferential striations; beads are in the process of decomposition, especially the smaller ones. All are the same color; the smaller group appears lighter under intense transmitted light. Differences are apparent in the number of facets pressed into the originally round beads. In cross section some are triangular, square or five-sided, diamond shaped or trapezoidal. Some have more pronounced central circumferential ridges, creating six to eight sided beads. These beads are closest to Stone's CIISAT1 beads, which he interprets as French, 1730-1760, up to 1780 in French contexts (1974b:101).

Class III Hollow Blown Beads (new class)

Series A Simple Construction

Type 1 Round

Variety a White, opaque

N - 1  
F68

L - 3.6 mm; W - NMP; Bore - NMP

This bead has one slightly elongated and lipped end and one slightly lipped end. It may be a mold blown bead since it is so small and thin and does not have the cut marks of hollow blown beads (Tyra Lewis personal communication).

#### Class IV Carved Beads (new class)

##### Series A Simple Construction

##### Type 1 Y Beads

Variety a Bone

N - 10  
N875W875 - 3  
F68 - 7

L Range - 8.7-14.2 mm; Average - 11.2 mm  
(10 specimens)

W Range - 1.0-15.2 mm; Average - 10.2 mm  
(9 specimens)

Bore Range - .9-1.5 mm; Average - 1.2 mm  
(9 specimens)

Lengthwise, these beads are square or rectangular in cross section (stem of Y). The stem flares at one end, forming the arms of the Y. The sides are slightly concave. The arms of the Y are flattened toward the ends. Beads of this shape have been found at Fort St. Joseph, and at the Fletcher Site, where they were made of shell.

#### Silver N - 40

##### Type 1 Triangular Dangles

Small triangles of sheet silver, perforated at the apex of the triangle, and sometimes along the base for additional triangle attachment.

Variety a Ribbed sheet silver

Table 49. Necklace Bead Comparative Site Information

Ojibwa Classification	Comparative Site and Classification	N	Reference	Comments
CISAT3Vb N-1 Turquoise	Michilimackinac	1	Stone 1974b:90	
	Gros Cap	1		
	CISAT3Vb or CISAT1Ve	1	Nern and Cleland 1974:32	Possible, no Munsell color designation
	Fort Brady	1	William Minnerly personal communication	
CISAT5Vi N-1 Blue	St. Joseph	1	Hulse 1977:71	
CISBT1Va N-1 Red	Michilimackinac	22	Stone 1974b:97	
	Fish Hatchery	148	Stone 1974b:108	
	(early eighteenth century)			
	Presidio San Augustin	169	Stone 1974b:108	
	(1756-1771)	10	Cleland 1971:80	
	Lasanen	1	Good 1972:121	
CISBT3Va Variant 1	Guebert	66	Hulse 1977:74	
	St. Joseph			
	Pearson	2	Duffield and Jelks 1961:49	
	(Wichita 1775-1830)	1	William Minnerly personal communication	
CISBT2Vb N-1 White	Fort Brady			
	Michilimackinac	7	Stone 1974b:97	
	St. Joseph	112	Hulse 1977:75	

Table 49 (cont'd.).

Ouatatonon Classification	Comparative Site and Classification	N	Reference	Comments
CISCT4Ve N-1 Black (red) with white stripe	St. Joseph  Lasanen  not described	11  --	Hulse 1977:75	Possible; no color designa- tion Beads present in collections
CISDT4Va N-1 Clear with white stripes	Guebert  #154 or #157	6 or 2	Good 1972:126	Gooseberry bead
CIISAT3Vc N-1 Amber	Michilimackinac Guebert  CIISAT3Vc #3	1 2	Stone 1974b:102 Good 1972:112	
CIISAT8Va N-2 Cloudy	Michilimackinac Fish Hatchery Gros Cap  Guebert Fort Brady  CIISAT8Va #7 CIISAT1Vb or CIISAT1Vc #49 CIISAT8Va	87 34 1 or 9 4 4	Stone 1974b:103 Stone 1974b:103  Nern and Cleland 1974:33 Good 1972:112 William Minnerly personal communication	Possible  Possible
CIISAT16Va N-1 Dark Blue	St. Joseph  CIISAT1Vb	1	Hulse 1977:88	

Table 49 (cont'd.).

Ouiatenon Classification	Comparative Site and Classification	N	Reference	Comments
CIISAT17Va N-17 Deep Rose	Guebert  #24 or #95	2 or 1	Good 1972:108.117	Possible
CIVSAT1Va N-10 Bone	St. Joseph  Fletcher no formal classification	Misc. Beads SAT3Va 1 81	Hulse 1977:115 Mainfort 1979:405	

N - 1  
N935W990      L - 14.5 mm; W - 13.2 mm

Variety b   Flat sheet silver

N - 4  
N930W760      F56  
N1015W950      F65

L Range - 6.3-17.2 mm; W Range - 9.3-24.5 mm

In this group there are two single triangles, and two sets of two connected triangles.

## Type 2   Brooch and Dangle Assembly

N - 7  
Plow Zone      Brooch D Range - 11.5-13.0 mm (7 specimens)  
                  Ball D Range - 4.5-7.4 mm (7 specimens)  
                  Assembly L Range - 36.5-42.7 mm (5 specimens)

Round silver brooch and tongue, to which is attached a wire loop and hollow ball. Hung from the ball is a conical or three-sided dangle, either hollow or solid.

## Type 2   Category 1   Brooches and Brooch Tongues

N - 13  
Plow Zone - 6      N861W875  
N930W790      N880W1000  
N1015W950      F56 - 3

Brooch D Range - 12.2-23.2 mm (9 specimens)

Some of these brooches were undoubtedly worn by themselves as decorative items. A picture of a Miami woman's shawl dating from 1825-1875 is present in Frederick Dockstader's Indian Art in America (n.d.:plate 236). The shawl is decorated with silk ribbonwork and embellished with hundreds of silver brooches of several sizes. Dockstader says of the piece that this kind of decoration was adapted from eighteenth century white women's fashions.

## Category 2   Wire Loop and Ball

N - 3  
N955W905  
Backhoe Trench #1  
F56

## Category 3   Dangles

Variety a   Three-sided solid dangle

412

N - 1

Plow Zone L - 14.5 mm

Variety b Conical solid dangle

N - 1

N1015W950 L - 12.0 mm

### Silver Category 1

#### Group 1 Scrap

N - 7

N1015W950 F68

N865W875 F31

N955W895 - 2 F56 Balks

#### Group 2 Unidentified Silver

N - 3

N1015W950 Silver fragment with incised line design  
F56 Balks Heart with three perforations for dangle  
attachment; convex in cross section

N861W875 Cast silver rectangle, rounded but with  
no visible means of attachment; possibly  
modern

### Hawk Bells N - 27

#### Type 1 Brass with Iron Clanker

N - 11

N955W895 - 2 N861W875

N1015W950 - 2 F46

N1055W918 F56 - 2

N875W875 F68

D Range - 11.8-16.6 mm (2 specimens)

### Hawk Bell Category 1 Hawk Bell Elements

#### Group 1 Crowns

N - 4

N935W1000 N1030W990

N1015W950 N1050W964

#### Group 2 Backs with Eyes

Variety a Brass

N - 7

Plow Zone F50

N955W895 F57

N1015W950 - 3

## Variety b Silver

N - 2  
F38  
F57

## Group 3 Fragments

N - 3  
Plow Zone  
N955W895  
N1015W950

Hawk Bell Discussion. Of the twenty-seven hawk bells recovered at Fort Ouiatenon, only two were not distorted, thus prohibiting measurement. Most exhibit some degree of corrosion from the iron clankers. Stone considers these items to have been in use primarily during the French period of occupation at Fort Michilimackinac, but dates them to between 1730 and 1770 (1974b:135).

Copper Disc N - 1

N1015W950 Max. D - 22.3 cm; Thickness - .4 mm

Possibly a kettle lid, this disc has three rivet holes in a line across the center of the piece, with one rivet still in place. The disc is flat all the way across, through there is a slight indentation running around the edge. It is off center and outlines a circle about 19.0-19.5 cm in diameter.

Kettle Lugs N - 10

## Type 1 Kettle Rim Lug

N - 6		
N955W905	Brass	NMP
N955W905	Brass	L - 9.32 cm; W - 11.99 cm
N955W895	Brass	NMP
N955W895	Brass	L - 5.56 cm; W - 4.05 cm
N955W895	Brass	L - 5.59 cm; W - 4.04 cm
N1015W950	Brass	NMP

## Type 2 Kettle Side Lug

Variety a Iron; rectangular to elongate



N - 2  
 N1015W950 NMP  
 F56 L - 3.26 cm; W - 4.32 cm

Variety b Iron; "earred" or "winged" shape

N - 2  
 Plow Zone L - 6.71 cm; W - NMP  
 F33 L - 5.63 c;; W - 2.40 cm

Kettle Lug Discussion. Stone assigned to specific dates to the kettle lugs found at Fort Michilimackinac (1974b:173-175). The most common at that site, Type 1, were in use throughout the site's occupation. Both lug types were found at the Fletcher Site (1740-1770) while only Type 1 lugs were recovered at the Bell Site (1680-1730). At Michilimackinac 28 percent of the kettle lugs were found around the blacksmith's shop. At Fort Ouiatenon 60 percent of the kettle lugs, all Type 1, were found in the forging area.

#### Rivets N - 40

##### Type 1 Regular Rivets

Made from sheet metal blanks, rolled into a tapering tube, and hammered to produce a flattened head.

##### Variety a Copper

N - 31  
 Plow Zone - 1 N875W875 - 2  
 N955W905 - 20 F35 - 1  
 N955W895 - 4 F50 - 1  
 N1015W950 - 2

L Range - 12.1-25.1 mm (7 specimens)

##### Variety b Brass

N - 3  
 N955W905 - 2  
 N865W865 - 1

L Range - 16.1-25.0 mm (2 specimens)

## Type 2 Round Head Rivets

These may not be rivets but rather some sort of tack. Their shanks are solid and the heads appear to have been cut into the rounded shape. They appear to be one piece and altogether neater than regular rivets.

## Variety a Copper

N - 5  
N955W905 - 4  
F33 - 1

## Variety b Brass

N - 1  
N935W1000

Axes N - 13

The axes from Fort Ouiatenon all appear to conform to the general trade ax pattern (Russell 1967; Mercer 1975). They are of several sizes but basically the same form: flat to very slightly convex tops, slight downward slope on the bottom edge of the blade.

## Type 1 Iron with Round Eye

N - 1  
F36 Weight - 651.0 g/1.424 lb.; L - 14.55 cm; eye D - outside 4.58 cm, inside 3.64 cm

Steel bit insert almost worn away; 4.0 mm are still visible along the blade edge.

## Type 2 Iron with Oval Eye

N - 1  
F68 (Figure 32b) Weight - 800.0 g/1.751 lb.; L - approx. 16.0 cm; eye D (slightly flattened across the back) - outside 4.12 x 5.24 cm, inside 2.81 x 3.97 cm

The bit on this specimen is dulled with use and appears not to have a steel insert. The blade has, close to the eye, the mark of the Trois Rivières forges (Stone 1974b: 297, 301 Figure 182A). This mark consists of two daisy-like stamped figures on each side of the blade.

## Ax Category 1 Incomplete Specimens

N - 11  
 N955W905 Corroded  
 N955W905 Corroded  
 N955W905 Half ax; not folded; broken through eye  
 N955W905 Insert present  
 N955W905 Insert present  
 N955W905 Insert present  
 N955W895 Insert present  
 No Prov. Insert present  
 F35 Insert present  
 F36 Insert present  
 No Prov. Blade broken just in front of eye; this blade has been completely reworked. Welding lines are visible and it features a steel or iron tip welded over the blade. A very large and heavy specimen; blade L - approx. 15.0 cm.

Bevelled Glass N - 19 fragments

Group 1 Bifacially bevelled edges making an edge point

All fragments from round glass plates. Several of these fragments fit together, forming part of a circle, probably from a small mirror with the diameter of 6.3 cm.

N - 15  
 N1020W1010 - 1 Backhoe Trench #1 - 1  
 N875W865 - 5 F68 - 7  
 N1000W964 - 1

Thickness Range - .9-2.2 mm

Group 2 Bifacially bevelled edges making a blunt edge

N - 3  
 N955W895 This fragment has a feather design etched into it perpendicular to the edges.  
 N955W895 Appears to be from a square glass.  
 N1015W950

Thickness Range - 2.9-3.2 mm

Group 3 Unifacially bevelled

N - 1  
 F56

Thickness - 1.4 mm

Bevelled Glass Discussion. These fragments are probably all from mirrors, though the possibility exists that some of them are from compass plates, etc.

Knives N - 130 knives and fragments

## Class I Hinge present between blade and handle (Clasp Knives)

## Group 1 Blades

## Type 1 Knob or Flanged Hinge Element

## Variety a "Standard" blade shape

N - 7

Backhoe Trench #1 (Figure 31a)

Max. W - 2.08 cm

N930W990 (Figure 31b)

NMP

N955W895

L - 11.8 cm; W - NMP

N1015W950

L - NMP; W - 2.13 cm

N1015W950

Max. W - 2.23 cm

F43

Max. W - 1.99 cm

F43

L - 12.2 cm; max. W -  
2.0 cm

Variety a specimens not measured were incomplete in length. They are classified as "standard" blade shape rather than the kitchen knife blade shape because of the tapering of the blade toward the tip, though there is the slight possibility that one or more of them might indeed be more correctly Variety b.

## Variety b Kitchen knife blade shape

N - 3

N875W875

L - 12.32 cm; max. W -  
2.12 cm; mark unreadable

N875W875

NMP

F50

NMP

## Variety c Hawk Bill blade shape

N - 2

Plow Zone

Max. W - 2.29 cm

F50

NMP

Type 1 Category 1 Type 1 specimens not classifiable at the variety level.

N - 18

N955W895

Max. W - 2.22 cm; corroded

N1015W950

Max. W - 1.92 cm; corroded

Backhoe Trench #1

NMP; corroded

N955W905

W - 1.83 cm (taken from in  
front of hinge)

N955W905

NMP

N955W905	NMP
N930W980	NMP
N930W980	NMP
N1080W830	W - 2.56 cm (taken from in front of hinge)
N875W875	NMP
N875W865	NMP; mark unreadable
F40	NMP; marked (Figure 31c)
F50	Max. W - 1.8 cm; corroded
F50	NMP
F50	W - 1.88 cm (taken from in front of hinge); corroded
F50	NMP
F56	NMP; mark unreadable
F68	Max. W - 1.8 cm

Type 5 Split Hinge (after Maxwell and Binford 1961:106)  
(new type)

Variety a (new variety) Convex blade shape

N - 1

F38 L - 8.75 cm; max. W - 1.73 cm  
mark unreadable; specimen is  
part of a complete clasp knife.

Variety b (new variety) Kitchen knife blade shape

N - 1

F33 L - 9.4 cm; max. W - 2.24 cm

Class I Group I Category 1 Clasp Knife Blades

N - 2

N955W905	hawk bill shape	NMP
F69	convex blade shape	NMP

These two specimens, probably from clasp knives, are broken  
in front of the hinge.

Group II Handles

Series B Handle composed of spring, handle plates, and  
bolster linings

Type 3 Upturned, Pointed Handle

N - 1

F38 Handle L - 9.11 cm; bolster L -  
3.52 cm; total knife L - 16.5 cm

This specimen consists of a con-  
vex blade with split hinge, han-  
dle with bolster, bolster lining,

spring and bone handle plates. The pin for the split hinge is just barely visible. It has been flattened and probably ground so as to hide it in the bolster. There are two lines on the bolster, running up and down, which serve as decoration. At least one letter is on the blade but pitting and corrosion make the mark unreadable.

#### Type 4 Curved Handle

N - 1  
No Prov. NMP

This specimen consists of partial bolster linings with raised areas approximately 2.93 cm long at the end of the handle. Three pins for bone or wood handle attachment are still present. The spring (tang) sticks out from the eroded bolster linings. Knives of this type have also been found at Forts Ligonier and Ticonderoga (see Stone 1974b:273, Table 51). This particular specimen may have been modified to make a punch.

#### Series B Category 1 Handles

N - 2  
F33 Bolsters and part of spring present.  
Bolster L - 3.94 cm; max. W - 1.86 cm  
F56 Bolster from CIGIISB knife  
L - 5.09 cm; max. W - 2.04 cm

#### Class I Category 1 Knife unidentifiable as to Group or Series

N - 1  
F56

This knife appears to be a reworked clasp knife. It consists of a convex blade clasp knife blade that apparently lost its sheath, or broke its hinge. Two bolsters and bolster linings have been riveted to the blade and form a new makeshift sheath. They fit poorly and are broken or rotted near the heel of the blade. It is also a possible alternative that just the bolsters were attached in order to make a small handle grip. This grip, however, would be very insubstantial. At least, a blade from a clasp knife has had two bolsters and part of one bolster lining riveted to the heel of the blade. This, of course, has reduced the length of the original blade by almost half. At present

the knife measures approximately 9.8 cm. The blade is somewhat deteriorated.

Class II No hinge between handle and blade (Case Knife)

Series A Pointed handle shaft (rat tail)

Type 5 (new type) Hawk Bill shape; centered, rectangular cross section handle shaft same thickness as blade; no bolster

N - 1

F52 L - 10.12 cm; max. W - 1.44 cm

Specimen has wood handle fragment adhering to handle shaft.

Series B Flat handled shaft

Type 1 "Standard" Blade Shape; No Bolster

Variety a Curved heel; slight angle toward blade

N - 6

N935W1000 fragment

Backhoe Trench #1 fragment

F50 fragment

F67 fragment

F68 (Figure 31d) L - NMP; max. W - 2.37 cm

F29 L - NMP; max. W - 2.32 cm

Variety b Curved heel; large angle toward blade

N - 3

No Prov. fragment

N1015W950 fragment

F67 L - NMP; max. W - 2.29 cm

Type 1 Category 1 Type 1 Handles

N - 5

N955W895

N1055W918 corroded

N1060W1000 corroded

F50 corroded

F68 mark unreadable

Type 2 "Standard" Blade Shape; No Bolster; Very Thick Blade and Shaft

N - 2

F56 fragment  
N1015W950 fragment

Type 10 (new Type) Flat Edge; Convex Back; Heel Present;  
Rectangular Bolster

N - 1  
N1015W950 L - approx. 20.3 cm

Specimen has bone, three pinned,  
handle pieces.

Type 11 (new type) Convex Back and Edge; No Heel  
Present; Rectangular Bolster

N - 1  
F56 NMP

Specimen has wooden, three pinned,  
handle pieces; mark unreadable.

Series B Category 1 Series B handles unidentifiable as to Type

N - 2  
N861W875 Rectangular bolster and angling heel present;  
bone handle pieces with three attachment pins;  
no blade shape visible.  
F38 Probable "standard" blade with rounded heel;  
bolster eroded. Knife is either repaired by  
brazing or has some brass fittings around the  
handle and bolster.

Class II Category 1 Blade fragments and handle fragments from  
Class I knives

N - 27  
Blades:  
Plow Zone Backhoe Trench #5  
N1015W950 F56 - 3  
N875W875 F68  
Backhoe Trench #1 F50 - 3

Handles:  
N1040W964 N875W875  
N935W1000 F46  
N955W895 - 3 F52  
N1000W964 F59  
N1015W950 F50  
N875W865 F56  
Backhoe Trench #1

Knives Category 1 Blade fragments unassignable to a particular class



N - 30  
 Plow Zone N861W865  
 N930W970 N875W865  
 N935W990 - 2 F43 - 2  
 N955W905 - 3 F50 - 2  
 N955W895 - 6 F52  
 N1015W950 - 2 F56 - 2  
 N1010W1010 F67  
 N1015W940 - 3 F68

Knives Category 2 Bone, shell and wood handle plate fragments

N - 13  
 N930W990 bone (antler), highly polished  
 N955W905 bone  
 N955W905 bone, cross-hatch design  
 N955W895 bone, cross-hatch design  
 N955W895 bone, incised straight lines along side border  
 N1015W950 bone  
 N1050W964 shell  
 F56 Balks shell  
 Plow Zone handle plate (rib fragment)  
 F35 bone, incised straight line along side border  
 F36 bone  
 F38 antler, highly polished  
 F50 bone, Class I handle plate

Table 50. Knives from Fort Michilimackinac and Fort Ouatonenon

	<u>Michilimackinac</u>	<u>Ouatonenon</u>
Clasp Knives	244 - 48.90%	39 - 44.83%
Case Knives	255 - 51.10%	48 - 55.17%
Total	499 100.0%	87 100.0%

Glass Facets N - 3

N955W905 D - 9.7 mm

Turquoise blue and translucent, this facet has four wide notches with three smaller notches cut between them around the edge, leaving a flat, plain surface in the middle.

N955W905 Side L - 6.2 mm

This square, faceted glass is very pale green-blue, almost clear.

F68 D - 7.5 mm

This facet is of clear, round faceted glass.

#### Transportation

#### Harness Buckles N - 4

Squared or rounded iron frames with movable tongues attached.

F56 L - 2.65 cm; long W - 3.27 cm; short W - NMP

Expanded rectangular frame with sheet iron sleeve on one side.

N955W895 L - 2.83 cm; long W - 3.28 cm; short W - 3.18 cm

Rectangular frame.

N935W1000 Side 1 - 3.47 cm; side 2 - 4.52 cm; side 3 - 4.26 cm; side 4 - 3.64 cm; Thickness - 5.5 mm

Irregular square frame with rounded corners; no tongue present.

N875W875 NMP

Rectangular frame with rounded corners.

#### Snaffle Bits N - 2

F33 Shank L - 14.42 cm; bit L - 8.73 cm

One-half of a snaffle bit with a straight shank. The bit piece attaches to the other bit piece with a stirrup shaped ring attachment.

F33 Shank L - 9.52 cm; bit L - 12.15 cm

One-half of a snaffle bit with straight shank attached through a hole in the bit piece. The shank at this point has a ring for rein or chain attachment.

#### Wagon Part N - 1

N865W865 D - 45.8 mm x 50.6 mm; W - 16.5 mm

Oval iron cylinder; width expands to 31.5 mm on one side to form a crown-like shape.

## Measuring

Dividers N - 1

F49 (Figure 24a) L - 86.9 mm

Well made and functional, both ends of this pair of brass dividers are notched. Three pairs of dividers were found at Fort Michilimackinac, all of steel (Stone 1974b:298).

Miscellaneous and Unidentified Materials

Brass and Copper    N - 22

Brass and Copper Rods

N - 5	
N955W895	Brass rod, cut at one end and broken at the other. Thickness - 6.1 x 6.9 mm
N955W895	Copper bar, square in cross section, cut at one end and broken at the other. Thickness - 9.9 x 9.5 mm
N861W875	Brass rod, flattened rectangle in cross section, cut and broken. Thickness - 2.9 x 5.5 mm
F35	Brass rod, cut and broken. In cross section it is rectangular with rounded corners. It has been pared on two opposite sides to make them flat. Thickness - 7.8 x 7.2 mm
F39	Brass rod, round. This rod has been pointed at one end by filing five facets. The other end is very flat and has a notch cut across it. Along the shaft are two notches. D - 5.1 mm; L - 22.2 mm

Unidentified Brass Rods

N - 3	
N930W990	Square in cross section; all sides have been filed. The large end is broken. This object could be a nail.
F56 Balks	
N875W875	Brass rods (?) with flattened ends. The sides have been filed and small, lengthwise facets are apparent. One has a notch cut transversely in the middle. These specimens weight 18.0 g and 13.0 g respectively, which would seem to overrule the possibility of their being weights. L - 16.8 mm and 13.9 mm; max. D - 4.7 mm and 4.8 mm

Brass Knob

N - 1	
N861W875	White metal dipped in brass; a small, knoblike object, possibly a weight (it weighs 32.0 g) or a decorative knob.

## Brass Disc

N - 1  
N1030W990

Cut sheet brass disc, very roughly oval, with five holes in it. The holes are not centered. The four outer holes range in size from 3.3 mm to 4.0 mm. They are very round and appear to have been punched initially, with the excess metal in the back cut off and then tooled around the inside to round them out and incidentally create a small rim on the face. No file marks on the inside surface are visible. These four holes form a rough parallelogram. In the middle is another hole with unfinished edges. It is rectangular. This central hole looks like it could be for, or as a result of, a nail. Thickness - .45 mm

## Cut Sheet Brass

N - 3  
N1015W950  
N955W895  
N955W905

19.0 mm x 24.5 mm x .3 mm  
14.5 mm x 23.0 mm x .6 mm  
May be part of a cross; L - 16.7 mm;  
Thickness .3 mm

## Brass Strap

N - 1  
Backhoe Trench #1

Cut brass strap with hole for nails or rivets; broken at one end, bent in the middle; file marks visible in places on the flat side of the strap. Possibly from a small, fancy hinge. L - est. 75.0 mm; W at break - 12.2 mm; Thickness - .75 mm

## Copper Plate

N - 1  
Backhoe Trench #1 (Figure 17d)

Copper plate shaped like a shoe heel plate, with a reverse L stamped on both sides. 43.2 mm x 43.2 mm x 1.1 mm

## Copper Disc

N - 1  
N955W895 (Figure 17f)

Copper disc with the same reverse L mark as the copper plate described above, on one side only. Approx. D - 19.6 mm; Thickness - .3 mm

## Copper Binding

N - 1  
N955W895

Copper binding made of sheet copper crimped over, forming a groove on the inner side which is 1.1 mm wide. Binding W - 3.9 mm

## Perforated Copper and Brass Discs

N - 3  
N955W905  
F68

Cut brass or copper discs with central holes. In one case the hole was punched, probably by a nail. In the other two, the holes are rounder. One of these has had the extra metal cut off. All are crudely made. They could be washers, patches or lugs.

## Unidentified Cast Brass and Copper Items

N - 2  
N935W990  
N955W905

Scrap Brass and Copper

Between the 1974 and 1976 field seasons at Fort Ouiatenon, 2783.1 g of scrap brass and copper were recovered. These are uneven remnants of brass and copper; many are perforated, some with rivets in the perforations. A number of these pieces were probably used as patches.

Wire

## Type 1 Brass

## Variety a Twisted

N - 7	
Backhoe Trench #1	N935W1000
N935W1000	F68 - 2
N930W970	F46

## Variety b Coiled

N - 2  
N955W905  
F50

## Variety c Regular wire (D - .7-1.9 mm)

N - 96

Plow Zone	F56 Balks -	1
N955W905 - 10	F33 -	1
N955W895 - 5	F37 -	1
N1030W964 - 5	F38 -	1
N1015W950 - 15	F56 -	2
N1010W1010 - 1	F57 -	1
N1030W990 - 2	F65 -	1
N875W865 - 1	F67 -	2
N875W875 - 2	F68 -	44

## Variety d Rod (D - 3.0-5.1 mm)

N - 9

No Prov. - 1	N875W865 -	1
N935W990 - 1	F40 -	1
N955W905 - 1	F56 -	2
N955W895 - 1	F68 -	1
N1050W1000 - 1		

## Type 2 Iron

## Variety a Regular wire (D - 3.0-7.0 mm)

N - 17

N930W980*	N1020W990*
N930W770*	F36
N955W905 - 6	F43
N1015W950	F46 - 2
N1010W990*	F65 - 2

Specimens with an asterisk (\*) next to them may be coat hangers. The specimen from N1015W950 measures 7.0 mm in diameter and is probably a kettle bale.

Lead Waste

A total of 725 pieces, or 3812.81 g of lead waste was recovered from Fort Ouiatenon. The material includes lead splatter, sheet lead and lead bars, clipped pieces of lead, flat strips possibly from sprue, irregular discs, several possible pencils and other pieces that could be from something other than waste material but are totally unidentifiable. Of these pieces, 76 percent were recovered from the storehouse area, the forging area

and the basement area of N1015W950. Forty-eight percent came from the storehouse area, 20 percent came from the forging area, and 10 percent came from the basement area.

Lead Sprue 1450.37 g

No Prov. - 1 piece	N865W865 -	1 + 2.1 g
N930W1010 - 3	N875W865 -	24
N930W1000 - 1	N875W875 -	7
N930W980 - 1	F56 Balks -	16 + 7.5 g
N930W970 - 7	Backhoe Trenches -	2
N935W1000 - 1	F30 -	1
N935W990 - 2	F35 -	1
N955W905 - 8	F40 -	2
N955W895 - 29	F50 -	1
N930W770 - 1	F56 -	9 + 3.0 g
N930W790 - 1	F60 -	3
N1000W964 - 2	F67 -	6
N1040W964 - 1	F68 -	84 + 134.1 g
N1015W950 -25	F69 -	2
N861W875 - 9		

Unidentified Iron Tools and Fragments N - 63

This group consists of possible lock parts, gun furniture, hinge parts, tools, knives, patches, etc. that cannot be identified. Most are parts of complete mechanisms and/or tools, as opposed to complete items in themselves, and were found in the vicinity of the forging area.

Iron Cones N - 3

N875W875	H - 62.9 mm; top D - 7.8 mm; bottom D - 17.0 mm
N1010W964	NMP
F68	NMP

This sheets of iron rolled into open-ended cones. These artifacts look like large iron tinkling cones. One cone is stuck into a heavier iron cone that has a closed end.

Scrap Iron

The scrap iron from Fort Quiatenon consists of cut or sheared



scrap, strap iron both large and small, thin and heavy sheets, square, rectangular and round cross section bar iron, and thin tin-plated iron. Very little of the scrap iron was put through electrolysis so weights of the amount of scrap present would not reflect true figures since most of the scrap was heavily corroded. Some of the material grouped under scrap iron undoubtedly belongs in other categories, such as lockplates and mainsprings, but their degenerated condition precluded their identification. A sample of ninety-six pieces of bar iron was listed as to distribution and it was found that 76 percent of this iron came from the forging area.

Modified Bone and Shell N - 12

F30	Possible attempt at making a flute; shaft of a turkey tibio-tarsus with two rectangular holes cut into it.
F68 - 2	Bone discs, possibly meant to be drilled to form beads; smoothed on surface. D - 9.6 mm; Thickness - 5.6 mm and 6.0 mm
Plow Zone	Perforated deer metatarsal.
N875W865	
N861W875	Unmodified antler tines.
N865W865	Hollowed out antler tine with no point; Possibly part of a cup and pin game.
F50	Drilled antler tine segment.
Backhoe Trench #1	Smoothed and rounded rib fragment. L - 21.3 cm (broken)
N955W895	Perforated fresh water mussel shell.
N1010W964	Perforated marine shell.
N1050W964	Possible shell bead; burned shell, drilled longitudinally and broken in half.

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