EXCAVATIONS TO THE SOUTH OF THE BLAST-FURNACE
AT THE FORGES DU SAINT-MAURICE, QUEBEC, 1975:
VERTICAL AND HORIZONTAL DISPLACEMENTS

by
PIERRE BEAUDET

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Excavations to the South of the Blast-Furnace at the Forges du Saint-Maurice, Quebec, 1975: Vertical and Horizontal Displacements.

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A test trench dug to the south of the blast-furnace of the Forges du Saint-Maurice, an 18th and 19th century ironworks, uncovered small portions of two mortar and stone alignments. An excavation to verify the identity of these structural elements was conducted in 1975. The present report situates briefly the Forges both in terms of time and space, and details the resulting findings.

The excavation uncovered three overlapping structures of differing size and antiquity. The smallest and oldest was probably built by the French early in the 1730s, the second a dozen years later while the third and largest was constructed shortly after the English take over of the site in the early 1760s. The last structure was apparently dismantled before the end of the first quarter of the 19th century.

All three structures were found to have served industrially oriented functions such as storage, even though the oldest may originally have been a worker's temporary shelter. Artifacts were generally 18th and early 19th century and often related to the site's function, that of the transformation of iron ore into bars and finished products.
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Introduction

The Forges du Saint-Maurice, a Canadian National Historic Site, is an important archaeological source of Euro-American material culture history because of its dual domestic and industrial identity and relatively long active occupation span (1729-1883). Excavations by the Archaeology Section of Parks Canada have taken place there since 1973 and will probably extend until 1980 with interpretative research some years beyond that date. Some excavating by the Department of Cultural Affairs of the Province of Quebec did take place from 1965 to 1969; however, few research results transpired from these excavations save for a number of field notebooks and a large quantity of partially catalogued artifacts.

The head archaeologist of the present project is Pierre Nadon under whose overall authority worked approximately fifty archaeologists, assistants, and excavators during the past three field seasons. The site presently covers sixteen acres of fields, pastures, and sloping woodlands on the west bank of the Saint-Maurice river, just a few miles north of the city of Three-Rivers, Quebec.

The subject of this report is limited to the excavations conducted by the author to the south-west of the blast-furnace (Fig. 23) from late May to late August, 1975. This area is relatively small in size and simple in outlook if compared to the larger and more complex industrial and domestic structures to be found elsewhere on the site. No above ground structural remains were visible prior to a test trench excavation conducted in the latter part of the 1974
season. The area's lowest occupation level is possibly witness, however, to the site's earliest industrial settlement. Furthermore, tangible evidence of three overlapping structures of varying size and style and their associated artifacts and stratigraphy provide ample interesting material for this archaeological report.

The excavation and recording techniques utilized were those contained in the *Archaeology Excavation Manual* (Swannack 1973) of Parks Canada. The area excavated was divided horizontally by arbitrarily designated grid squares which did not, in this case, correspond to archaeologically meaningful divisions (Fig. 23).

I was assisted by a crew of from four to seven workmen most of whom were students. Aside from doing the actual excavating, some of these students assisted in the archaeological recording.

A brief historical outline of the Forges du Saint-Maurice and profile of its natural environment will facilitate the understanding of the report.
The Environment

Availability of natural resources plays an essential role in the establishment of an early industry such as metalurgy. It is therefore useful to identify and interpret the climate and flora of the Forges du Saint-Maurice as well as its surficial geological characteristics.

Physical Features
What shaped the present landscape? Physical features and related sediments suggest to the geologist the following sequence of events. The Central Saint-Lawrence Lowland was probably ice covered during most of the Wisconsin glaciation which lasted from about 65,000 to 12,000 B.P. The receding ice was then replaced by the Champlain Sea, a major body of salt water, from about 12,000 to 9,500 B.P. (Gadd 1973: 91, 92). This post-glacial inundation ceased with a rapid land mass uplift which has not yet ended.

The geological features found immediately under the cultural layers of the Forges du Saint-Maurice are part of the "Trois-Rivières Delta" formed by extensive alluvial deposits of sand, silt, and gravel which accumulated at the mouth of the Saint-Maurice River where it enters the Saint-Lawrence. "Sediments are spread over a nearly circular area about 6 miles in diameter centred on Les Vieilles Forges and bisected by St. Maurice River. The surface of the delta is irregular, but slopes generally toward St. Lawrence River in a series of terraces" (Gadd
The ironworks rest partly on one of these older delta terraces and partly on the more recent bank of the present Saint-Maurice. Finally, some of the structures stand along a ravine cut by the erosive effect of the Lavoir Creek which drains terrace waters down to the river (Fig. 23).

A series of borings were done in 1974 (Couillard 1974) on various parts of the site. The one conducted closest to the area excavated by the author provides a stratigraphic profile that indicates well the type of natural deposition to be found on the upper terrace (Fig. 28).

Starting from the surface elevation of 126.40 ft. above sea level, an average height for the terrace, the boring reveals first three feet of cinders and slag deposited as a result of industrial activity. The following three feet (123.40 ft. A.S.L. to 120.40 ft. A.S.L.) are composed of fine to medium size grain yellow sand (2,500 lbs per sq. ft. carrying capacity). The surface of this topmost natural deposit is extensively disturbed by human activity as indicated by artifactual evidence found wherever this stratum has been excavated. The next layer of soil, nearly four feet thick is composed of fine grain yellow gray sand with gravel (4,000 lbs per sq. ft. carrying capacity). This is most probably an undisturbed soil layer. The sand and gravel extends down to 83.40 ft. A.S.L. before the presence of silt is found. This allows for good drainage and a deep water table at 110.80 ft. A.S.L. However, elsewhere on the terrace, clayish and silty soils are found very close to the surface resulting in a high water table, poor drainage and problems in the archaeological excavation.

Limonite was found plentifully in several areas near the site of the future ironworks and generally near the surface of numerous other parts of the Three Rivers delta and Central Saint-Lawrence Lowland (Blanchard 1950: 18).
These ferruginous deposits were known to the earliest settlers of the region who encountered them when tilling their lands. Reports on the presence of these mineral deposits were made to the appropriate French authorities as early as the 1660's and through most of the following three quarter century (Suite 1920: 16, 17, 31; Tessier 1974: 41). However, it was not until the first quarter of the 18th century that any concrete steps were made towards the exploitation of these mineral resources.

Climate
Strong thermal amplitudes characterize the climate of the Saint-Lawrence River Lowland. This region is strongly affected by air masses moving from the west and mid-west and by nordic air flows especially during the winter months. Precipitation totaling 30 to 40 inches is abundant throughout the year. The top soil is frozen and snow covered during most of the winter months while occasional frosts are not infrequent during early spring and most of autumn. A real growth season of four to five months thus results (Hamelin 1969: 12, 13).

These weather patterns are probably quite similar to those of the last three centuries despite slight variations both in precipitation and thermal amplitudes.

One positive effect of the snow cover was certainly its use as a temporary road base for the sleigh transportation of trees felled in the forests during the summer months for use at the Forges du Saint-Maurice as fuel or lumber.

Vegetation
The vegetation cover of the present Central Saint-Lawrence Lowland bears little resemblance to the one that existed
prior to European settlement and exploitation. However, most of the native flora is still present today but much altered in geography and concentration.

In the middle Saint-Lawrence a mixed forest prevails. White spruce (Picea glauca), balsam fur (Abies balsamea), sugar maple (Acer saccharum), yellow birch (Betula alleghaniensis), eastern hemlock (Tsuga Canadensis), eastern white pine (Pinus strobus), red maple (Acer Rubrum), and gray birch (Betula populifolia) are all important forest types that could have been found on the site of the Forges du Saint-Maurice (Rowe 1972: 95). However, during its long occupation span most of the site has been cleared of trees for purposes of industry and agriculture. Trees grow to any great extent on the present park site only where necessary for land stabilization purposes or where agricultural yield is poor. It is difficult in such a case to ascertain the exact types of vegetation that have dominated the site in the past. One topographical description of the early 19th century (Bouchette 1815: 302, 307) describes briefly the vegetation covering the site at the time. "...in the low parts of the St.-Maurice seigniory there are a few swamps with a good deal of hemlock and cedar upon them; the acilities are mostly clothed with general mixture of timber trees, but the chief sort is pine of middling growth: avery small part only of this grant is cultivated" (Bouchette 1815: 305).

A complete and exhaustive microflora study has still to be undertaken in order to better understand the area's passed flora and fauna.

The Environment: Positive and Negative
Iron ore and trees for use as fuel and lumber were readily available. Lime-stone and other hard varieties of rock
could be quarried nearby. The swift moving Lavoir Creek provided an easily harnessed motor force for the mills' machinery. Access to markets was assured by shallow barge transportation on the Saint-Maurice and by ship on the nearby Saint-Lawrence to points east and west. The town of Three-Rivers was growing only a few road miles to the south of the site. These are some of the major environmental factors which may have prompted the selection of the Saint-Maurice Seigniory as the site of the first ironworks in New France. Drawbacks, however, did exist.

Not all was favorable to the establishment of the Forges. Sand proper for the casting of iron was not available on the territory of New-France nor, for that matter, was it in Lower and Upper Canada (Bouchette 1815: 205, 206). Qualified personnel capable of turning out a quality product were difficult to hire because of the remoteness of New-France and the Saint-Maurice region from the home country. Major buying markets were distant from the center of production.... In spite of these and other difficulties the Forges du Saint-Maurice were built and it is to their history that we now turn.
The furnace fires of the Forges du Saint-Maurice died out late in the 19th century but its history is still in the writing. In the past, no historians have paid serious attention to the technological aspects of its history. Monographs on the industrial evolution, production, and economics of the Forges have still to be published. However, research in these fields as well as into the life styles of the workers and inhabitants of the Forges village is now underway both by historians above ground and archaeologists under ground.

The major events surrounding the establishment and subsequent history of the Forges are fairly well known. These events constitute the subject of this report.

**Difficult Beginnings (1729-43)**

More than fifty years elapsed between the discovery of iron ore in the Forges area and a concrete attempt at its exploitation. The reasons behind this time lag are complex and their study beyond the scope of this report. Let it suffice to say that early settlers and local enterpreneurs possessed neither manpower, financial strength, technological knowhow nor political influence necessary to organize a viable large scale ironworks. Furthermore, the colonial administration made them extremely dependent on the French authorities who, despite their reliance on foreign suppliers of iron, did not see fit to take positive action.
In 1729, a Montréal merchant named Poulin de Francheville attempted to secure the legal and exclusive rights to the mining and working of iron ore on or near the Saint-Maurice Seigniory which his forefathers had owned since 1668. Early the following year, Louis XV acquiesced to the request of Francheville. Financing was to be assured through private funds in no way involving the Crown. By 1732 the Forges du Saint-Maurice had become a reality - but a very shaky one.

Faulty equipment, ill qualified labour, poor management and financial administration plagued the Forges through most of its formative years. From 1732 to 1742 the Forges passed from the single party ownership of Francheville to two consecutive company proprietorships.

The first company included Francheville, Bricault de Valmur, François-Etienne Cugnet, Pierre Poulin, and Ignace Gamelin all of whom were either merchants or administrators. Operations did not go smoothly when under its control. Money was in short supply. Loans from the Crown had to be secured, production was almost nil. By the fall of 1735 the company had to be dissolved.

Its replacement was not to fare much better. The second company, Cugnet et Cie, did not include Francheville but, among others, two master forgers, Olivier de Vezin and Jacques Simonet. One could have expected in this case a better outcome but here again, in spite of substantial Crown loans, and an important building program which included the construction of a blast furnace and two forges, the enterprise did not prosper. A low rate of production of a relatively poor quality product was insufficient to offset large and often unnecessary expenses. Infighting among the partners was also a major problem where the benefit and the viability of the company often seemed secondary to the persuasion of personal interests.
Bankruptcy and a company break up were the forlorn conclusions to such an ill managed industrial venture. This occurred in October of 1741. The ironworks somehow survived the following two years under tight governmental control but without any long term organizational planning.

The Crown Takes Control
The Crown took definitive control of the ironworks in May of 1743. The purpose of the take-over was, of course, to make good use of the existing industrial infrastructure as well as to ensure an increased productivity through tighter financial and managerial controls.

Production actually did increase somewhat from 1743 to 1747 through the efforts of some qualified specialized labour and a not too corrupt colonial administration under the direction of Hocquart. For instance, during 1744, 59 stoves were moulded as well as 4,624 cannon balls of various calibres (Tessier 1974: 113). In 1747, besides 800,000 lbs of stock iron, 10 anvils, 300 mortar bombs, 5,500 cannon balls, 4 very large cauldrons, 358 cooking pots, 13 hammers, 11 plates for brick ovens and 200 heating stoves were manufactured (Tessier 1974: 113, 114). With the threat of war in Europe, the production of the Forges du Saint-Maurice became more and more oriented towards the production of military hardware. The relative prosperity of the Forges lasted until 1752 (Ouellet 1966: 56).

The last years of the French Régime in Canada were not a period of great prosperity at the Forges du Saint-Maurice. The arrival of a replacement for Hocquart coincided with the progressive recession of the ironworks to a point of near stagnation. This slump was to end only after the take-over by the English military rule in 1760.
British Rule (1760-1767)
The ironworks were back into operation by the spring of 1761. From the low ebb of 1760 to 1767, the Forges du Saint-Maurice while under military or civilian colonial administration progressed relatively well. Production which was nearly nil at the end of the French Régime had picked up considerably. By 1766 up to 800,000 lbs of cast iron was being produced. Population at the Forges village had risen from 72 inhabitants in 1761 to 273 inhabitants two years later (Tessier 1974: 129). The summer of 1767 saw the return of the Forges to the private domain.

A Return to Private Enterprise (1767-1793)
In June of 1767, Christophe Pelissier, a Quebec City merchant, heading a well balanced and influential group of associates, secured a 16 year lease to the Forges and the rights to its exploitation. His associates included two members of the Executive Council, a lawyer, wholesalers, and merchants one of which was from London. Lumbering and mining rights to the neighbouring lands were included in the transaction with the British authorities. Little information is available on the quantity and quality of the ironworks' production. The most memorable incident of the period concerns the American invasion and subsequent retreat from Canada in the fall of 1775 and winter-spring of 1776. Pelissier, sympathetic to the Americans, supplied them with stock iron as well as cannon balls and other iron products (Tessier 1974: 133; Suite 1920: 149). As a result of this incident, Pelissier fled to the United States and subsequently to France.

Pierre de Sales Laterrière followed by Alexandre Dumas succeeded Pelissier at the head of the ironworks until the
end of the lease in 1783. That year, a new lease was secured by Conrad Gugy who was to die three years later. The lease was purchased in 1786 by Davidson and Lees and finally sold to George Davidson, David Munro, and Matthew Bell in 1793.

Matthew Bell (Ca. 1793-1843)
Matthew Bell appears to have been the most actively involved of the three partners that purchased the lease of the Forges du Saint-Maurice in 1793. He was in time to become its sole director.

Power playing and rivalries characterize the early years and later, long periods of Bell's control over the Forges. However, rivals such as Thomas Dunn and serious difficulties in securing long term leases did not discourage the enterprising young Bell in reviving the Forges and in so doing, making his fortune. The town of Three-Rivers also experienced growing pains and its inhabitants felt that the ironworks' land was a limiting factor in its growth. Others held that the Forges' large land concessions should be available for settlement. All these pressures were rebuked with energy and no major concessions resulted until Bell was well on in age in the 1830's and early 1840's.

The 1830's was a decade of crisis, both social and economic, in what was then called Lower Canada. Some French-Canadians, conscious of the injustices caused by an English minority rule over their lands, industry, commerce, and politics, voiced strongly their disapproval of such a situation. This popular unrest was certainly instrumental but practically ineffective in provoking an early change in colonial government policies towards the "Canadien." The only concrete result involving the Forges was its sale to private individuals early in the 1840s.
What of the ironworks' production during these years? Detailed statistics are unavailable for this time period. However, a traveller visiting the Forges in 1808 lists the following items as being produced at the Forges: 1000 stoves annually, ploughshare, cauldrons, mill and ship mechanisms and equipments, and so forth. Three hundred men were said to be employees of the firm including miners and lumbermen (Tessier 1974: 142). The latter years of Bell's industrial venture were not his most successful and it appears that he handed over an ironworks in dire need of repairs....

The Last Years
The ironworks and dependencies were purchased by the highest bidder, Henry Stuart, in August of 1846. Unable to secure sufficient funds to make essential repairs, Stuart was obliged to sell the Forges by 1851 to Andrew Stuart and John Porter, both of Quebec City. Here again, lack of money and conflicts of interest with land speculators and politicians made it impossible for Stuart and Porter to succeed in putting the ironworks back into full operation. By 1861, the Forges had once more to be sold. The new purchaser, Onésime Héroux, more interested in farm land than industrial ventures, sold the facilities that same year to John McDougall and Sons of Three-Rivers.

The McDougalls brought new life to the dormant Forges du Saint-Maurice which was to last twenty years. The ironworks and associated enterprises gave work to nearly 200 workers, fifty of whom laboured at the foundry. However, by 1872, an economic slowdown caused a slump in production. The Forges was never to recover and the definitive shut down of the ironworks occurred in 1883.
Period Documents and the Excavation

Archive material available for the study of the specific area excavated by the author during the last field season is very scarce. No iconographic sources illustrate clearly the structures whose foundations were unearthed to the south of the blast furnace. None could serve as a guide in the selection of an excavation layout. However, some manuscript and printed sources make mention of various structures which could be identified with those uncovered.

Parks Canada historians have gathered and stored on computer more than 3,000 complete or summarized documents enabling the scanning and retrieval of relevant information through a "key word" retrieval system. The outcome in this case was a thick stack of computer readout sheets which were read and from which pertinent information was extracted. Descriptions of the structures situated in the excavation area were scant but did provide a number of ground level building dimensions which could be compared to those actually found. Very little information pertaining to the area's utilization was retrieved. Structures being discussed in these documents were often difficult to situate geographically.

Written records, too often imprecise and thus possibly misleading, were in fact of little use during the excavation and only slightly more so during the analysis.
The Excavation

The foundations and imprints of three buildings were uncovered during the author's excavation this summer. All three structures were found to overlap much as would fallen dominoes of different sizes, the smallest (structure "A") being the oldest and the largest (structure "C") the most recent. The resulting vertical displacement is most important in such a case for it provides an excellent indicator of chronological change and facilitates greatly the interpretation of the archaeological remains. It will serve as the basis for the description and discussion of significant findings, which will proceed, not from the turf down but, in order of soil deposition. The oldest traces of occupation will, therefore, be the first to be examined.

Structure "A" (pre ca. 1740)
The oldest identifiable structure remains uncovered to the south of the blast furnace consist of the scant wall and fireplace foundations of a small rectangular building within which rested a number of uncut and unaligned stones under a thin bed of charcoal. Its presence was totally unexpected and apparently undocumented. An attempt was made to uncover its identity and dimensions in as complete a way as possible during the short excavating time available after its discovery.

Structure "A," like its later and stratigraphically higher neighbouring structures, rests at the south-eastern
edge of the plateau on which were built numerous industrial and domestic buildings throughout the site's history. It was, in fact, probably erected prior to most if not all of the nearby buildings and utilized both as shelter and/or a storage area during and immediately following the erection of the first blast furnace.

The small construction measures approximately 15.5 ft. east-west by 13.5 ft. north-south. Little of the south wall's foundations and only a third of the west wall's remains standing. This is the result of its resting along the edge of the original plateau. Natural land movement, frost and thaw, and the erosive effect of running water probably all contributed to the destruction of the south-east end of the building and its collapse onto the plateau's slope. The same phenomena occurred to structures "B" and "C" which in spite of heavier foundations also suffered the destruction of their south-eastern corners. At a later date, the plateau's edge served as a dumping area for industrial wastes such as slag, run-off, charcoal and sands. This fill also covered the south-eastern remains of all three structures up to a depth of more than 5 ft. in one of the excavation units (25G14J4).

The remaining wall foundations are constituted of a single row and layer of irregular shaped sandstones laid flat and bound together with mortar. Stones vary considerably in size and thickness and measure from less than 6 in. up to 1.6 ft. in width. These rows of stone, it appears, are less a "foundation wall" than an attempt at securing a more solid and stable base than the natural soil carrying capacity for the laying of horizontal sleepers or lumbers (Fig. 8).

The rear edge of a fireplace floor (Fig. 7) constitutes a segment of the structure's western limit. It extends 4 ft. along the west wall of the structure just 3.5 ft. to the
south of its exterior north-east corner. This stone hearth, in poor state of preservation with its fractured stones and collapsed edges, measures approximately 4 ft. square. It is made up of a single thickness of poorly-shaped sandstone slabs of various sizes and presents no evidence of bonding. Contrary to most of the structure's interior, no charcoal was found covering this feature.

Thin flat traces of lumber up to 2 in. thick and 6 in. wide were uncovered atop the total length of the north wall foundation and on a 3 ft. segment of the east wall stone base course. Paint and very poorly preserved traces of wood were also located along a 3.5 ft. length of the west wall. The stone courses appear generally wider than the lumber that rests upon them.

Three traces of flat lumber with a maximum width of 8 in. were unearthed inside the confines of the structure. Two of these rested along the north wall while the other laid nearly equidistant between the north and south extremities of the building.

None of these lumber pieces showed any signs of destruction through fire but all rested under the 2 in to 4 in. thick bed of pure charcoal which itself was confined entirely within the inside limits of the structure.

Under the bed of charcoal was a scattering of uncut sandstones which apparently were not deposited in any logical order and rested in a layer of mixed silt and sand. The natural soil horizon was immediately under this last soil layer.

Questions and Answers
Numerous questions arise from the information uncovered about structure "A." And, in spite of the incompleteness of the available data, it is possible to draw a number of
conclusions.

Most important is the establishment of the building's internal chronology and functional sequence. In light of the available structural, stratigraphic and artifactual information, it appears that structure "A" served first as a shelter and then as a storage area but over a relatively short period of time.

The presence of a stone fireplace hearth is the first major element that suggests the use of the building as a shelter of sorts, at least at some place in time. The area's long cold winter season made it a necessity to provide an effective heat source if the structure was to be used as a shelter. On the other hand, such an installation would have been superfluous if the building's sole purpose had been that of storage.

What do the artifacts suggest? Only a small quantity of artifacts were located under the charcoal bed that covered most of the structure's interior. This charcoal layer represents the storage phase of the building's occupation. Thus the artifacts discarded prior to its deposition may be quite revealing as to the building's first function.

Though not necessarily of French manufacture, all artifacts resting below the charcoal layer or on a similar plane immediately outside the north wall were found to be compatible with French occupation.

Three major ceramic ware types are represented: simply decorated faience both French and possibly Dutch; French or local coarse earthenwares of varying textures and glazes and one fragment of white salt glaze stoneware. This plate sherd, though of English manufacture, was probably exported to the Saint Lawrence Valley by a third party. A similar trade pattern was identified in material excavated at Fort Beauséjour, in New Brunswick (verbal communication with
ceramic analyst Gerard Gusset).

Save for the salt glaze stoneware fragment, all other sherds are of simple wares well in line with a workmen's or labourer's needs and means (Table 1; Fig. 29).

Glass fragments and objects are few. Aside from a thin walled, seed bubbled, blue-green bottle base and two other heavily patinated wine bottle base fragments none of the few remaining small clear or coloured glass sherds shed any new light on the structure's occupation.

What of pipes? Only one partial bowl and fourteen stem fragments were found under the charcoal layer. Here again, this suggests a very light occupation even for such a small building as structure "A." One stem fragment was identified as being of Dutch manufacture.

Metal artifacts include over fifty forged nails of varying sizes, the complete rectangular frame of a copper alloy shoe buckle, a possible stove plate fragment, one small needle and a few other unidentified iron objects. Most important, however, is the presence of a sprue left over from the moulding of iron, and a small moulded iron bar. Both these artifacts suggest that the moulding of iron was already under way before the abandonment of the structure. The evidence, however, is not totally convincing because of the small number of artifacts involved. Another slightly more convincing element is the presence of a fairly small quantity of slag and run-off in an excavation unit situated under the charcoal (25G14H17).

The artifacts, despite their small quantity, strongly suggest an undisturbed French occupation but of brief duration. The industrial wastes further suggest that at least small scale ironworking occurred near there prior to the charcoal's deposition and thus before the structure's destruction.

No artifact concentration was to be noticed anywhere
in particular under the charcoal's cover.

The excavation did not reveal the location of the structure's entrance. However, it was probably situated to the north-east of the building for the fireplace obstructed part of the west wall while the south wall faced the edge of the plateau.

The charcoal stored within structure "A" was evidently deposited there prior to the dismantlement of the chimney and fireplace because no carbonated ligneous material was found on the remaining stones. No artifacts were located within the charcoal which was probably used as a source of fuel in some stage of the ironworking process.

The layer of charcoal is a key element in the interpretation and understanding of structure "A"'s occupation sequence. Apart from being itself the tangible evidence of an occupation level and isolating its predecessor, it marks a clear break from the area's subsequent activity. This subsequent activity is not difficult to find for the southern edge of structure "B" rests only inches above the north-east corner of structure "A."

Structure "B" (Ca. 1740s to early 1760s)
Structure "B" is the second structure to have been erected in the area excavated to the south-west of the blast furnace. It lies in part over the north-east corner of structure "A" while more than half its surface is overlapped by structure "C" at a slightly higher elevation than itself. Built by the French, this construction was probably dismantled by the English shortly after their definitive takeover of the Forges du Saint-Maurice early in the 1760s.

Structure "B" was found to be stratigraphically and chronologically less well incapsulated than structure "A"
and its remains too scant to enable as definitive and complete an interpretation as would have been desired.

Structural Remains
The only major remains of structure "B" come in the shape of an "L." These are the structure's west and south foundation walls. What survives of the west wall measures 18 ft. from its exterior southern angle to its northern tip while the south wall extends 23.8 ft. from its exterior western angle to its collapsed eastern tip. Both foundation walls are incomplete. The west wall ends abruptly leaving no indication as to its total length, while the south wall shows all the indications of a collapse onto the plateau's slope much as already described for structure "A" (p. 20).

No traces of either east or north walls were discovered. This came as little surprise for numerous transformations occurred to the north-east of the excavated area such as major industrial construction in the second half of the 18th century and more recent bulldozing for the digging of an access route to the blast furnace.

The state of preservation of the foundation stonework varies greatly. However, enough remains to render a fairly accurate picture of the foundation's make-up.

Both foundation walls are generally 1 ft. high and 1 ft. wide. They are constituted of small poorly shaped sandstone slabs standing in pairs and back to back. Contrarily to the stone courses of structure "A" and to most other recorded French period foundation walls, these sandstone slabs rest not horizontally on their wide flat surfaces but vertically on their mostly uncut thin sides. Finally, they are bonded and capped together by small stones and pebbles inlaid in mortar.

Upon the stone courses were found numerous but faint
traces of lumber along both the southern and western edges of the structure. This indicates the possible base level of the structure's wall woodwork and suggests that wherever present, none of the stonework was removed during the building's dismantlement.

The result of this type of construction was a shaky and insecure stone foundation course ill conceived for the environment in which it was built. Lying above ground, this foundation wall would probably have been unable to resist the erosive effects of inclement weather for any length of time nor the multiple stresses resulting from the structure's weight, the yielding sand and sub-soils upon which it rested and the lack of any abutting support. That is why, from purely structural evidence, it is possible to conclude that the stone courses rested at least partly in a soil layer capable of providing a minimum amount of support. The floor level, therefore, must have been at an elevation somewhat higher than the base of the stone course.

Another structural element suggests that the foundation wall lay partially buried within a soil layer. This is the discovery on the west foundation wall of the possible emplacement of a narrow door. It consists of a flat depression situated about 6 in. below the adjoining levels of the top of the foundation wall. On this depression rest thin but substantial traces of lumber. The identity of the feature, however, is far from certain for it is rather narrow for a door (2.2 ft. wide) and especially so for a structure destined for industrial use. One cannot discount the simple partial destruction of a segment of the wall on which ligneous material would subsequently have come to rest.

The flat sandstone slabs would, in my view, have served better their purpose had they been laid and bonded together one upon the other instead of in the unconventional vertical
thin side to thin side.

The only remaining structural feature directly related to structure "B" consists of a very thin layer of extremely decomposed traces of wood. No grain direction is apparent and neither is it possible to perceive clearly from this sole evidence if it represents or not a wooden floor level. Nevertheless, this layer is found throughout most of the excavated interior of the structure.

Does the stratigraphy bear out the structural findings?

The stratigraphy related to structure "B" is relatively simple if one takes into account the intensive previous and subsequent use of the area on which it was built. Major soil disturbances would have been the expected result and in fact, true uniformity exists neither in soil type nor in strata level. It is nevertheless possible to suggest a plausible functional stratigraphy that takes into account the uncovered structural and artifactual information.

Stratigraphy

The thin lens of wood traces is the best link available between structure "B" and its stratum. The study of its relative location provides an indication as to the structure's vertical position and possible function via the artifacts contained therein.

The thin traces of wood rest on a layer of silt which itself contains lenses of both purer sands and clays. The mixed layer of artificially deposited alluvial material has a fairly horizontal surface and measures generally from 8 to 14 in. in thickness. The base of the west foundation wall lies within this layer which extends clearly beyond the structure's confines wherever excavated. Finally, it rests upon the sterile soil (sand).

A layer of sand 6 to 13 in. thick covers the wood
traces as well as the remainder of the west and south foundation walls of the structure. It too extends well beyond the building's confines.

These two soil layers comprise the essentials of structure "B"'s stratigraphy. Because of the extreme thinness of the probable floor level wood traces, they were not isolated into separate units of excavation but simply utilized as a border line between the two major soil layers.

What may be perceived from and about structure "B"'s stratigraphy?

Neither the silt nor the sand layers are solely related to structure "B." The silt (layer 4 in Fig. 30 and layer 3 in Fig. 31) appears to have been deposited prior to the structure's construction for, as already mentioned, it extends well beyond the building's confines. It is most likely, therefore, that the artifacts resting at the bottom of the layer are contemporaneous to structure "A"'s occupation period while on the other hand, artifacts found immediately below the thin wood traces probably relate to structure "B"'s occupation.

A similar situation exists for the sand layer (layer 1 in Fig. 31 and layer 3 in Fig. 30). Being found both inside and outside of the structure, it is possible to affirm that it was deposited following structure "B"'s demolition. In such a case, artifacts situated immediately above the wood traces are most probably contemporaneous to structure "B"'s occupation period while those within and at its surface have somewhat later dates of depositon.

The lens of clay (hardly visible in Fig. 30 and layer 2 in Fig. 31) was probably deposited simply as fill prior to the structure's construction. It has little significance save that it serves to isolate strucure "A"'s remains from those of structure "B."

The two sharpened post like depressions and another
less well defined one visible in Figure 31 have not been identified definitely as shadow remains of a functional part of structure "B" though they may have played a role in sustaining its superstructure. It is clear, however, that they were shaped prior to the construction of structure "C"'s south foundation wall which rests over them.

Artifacts
Artifacts excavated from levels related to structure "B" are somewhat different and more numerous than those of structure "A." An evolution from the French to the English context at the building's utilization level is quite evident but the sample is somewhat small to permit any unqualified affirmations. Pipe and glass fragments are few, ceramics are small in size but varied in ware type, while iron products are most often directly related to the ore's working.

Two recognizable table ware fragments are the only glass pieces of any significance beyond that of presence, colour and texture. All other glass pieces (see table 2) are either small seed bubbled, blue-green or heavily patinated bottle body, neck and shoulder fragments.

The two glass table ware pieces are fragments of a Continental broc or jug made of ribbed colourless lead glass. McNally in an unpublished report discusses a broc with a similar finish which was uncovered at Louisbourg in a latrine dating from 1750 to 1754. Too little of the object remains, however, to permit a more precise attribution. A similar vessel is also represented in La Verrerie en France (Barrelet 1953: Pl. LIA). One is tempted to wonder as to the reasons for its presence on the site of a small non-residential structure...but such a small sample cannot lead, in this case, to any constructive speculation.
None of the ceramic artifacts related to structure "B" are complete objects nor are they incompatible with a mid to third quarter 18th century date. However, some sherds have recognizable shapes. The ware types include various French, English or local coarse earthenwares, Continental faïences, mid 18th century Staffordshire slipware, creamware, white salt glaze stone ware, and oriental porcelain.

The artifact-object count (Table 2) reveals that the coarse French-context ceramic artifacts dominate their English counterparts. However, the strong presence of English or local coarse earthenwares and creamwares indicates a transition towards English-context wares. Staffordshire slipware and oriental hard-paste porcelain add weight to this pattern. A very light domestic activity is evident. Here again, however, the relatively small number of artifacts suggests caution in the drawing of any conclusions.

The few white clay pipe fragments add little information about structure "B" or the workers associated with its building and utilization. Aside from a shank on whose two sides are embossed the faint stylised designs of a heart, no pipe fragments bear any recognizable or dateable features. The only bowl fragments are heavily burnt within and without rendering their examination fruitless.

The metal artifacts are important contributors to the understanding of the activities occurring in and around structure "B." However, only a primary examination of the material was possible both because of the time available for its analysis and the inevitable lag in its cleaning and stabilizing.

What was found? The metal artifacts of structure "B" can be roughly divided into two groups: those associated with the activities of an ironworks and those which are not, or that one would expect to find wherever ironworking is not
a major activity. The first group in the case of structure "B" includes tools, products and wastes. The second lumps together all that remains.

Wastes in the form of run-off and slag were found in fair quantity within each excavation unit located in both the sand and the silt layers girdling the wood traces. Only a few samples of this type of waste were kept for further analysis. Sprues left over from the moulding of iron were also found in both soil layers but it is not possible to state that they relate directly to structure "B" since none were found resting on or immediately below the wood trace remains. The sprues thus neither confirm nor exclude the possibility of iron moulding at the time of occupation. Mould hooks, two complete moulded objects and other broken or partially completed moulded objects situated immediately under the wood traces do suggest, however, an iron working activity but not necessarily within the structure itself. One must not exclude the possibility that these objects were dumped with the fill that constitutes both the silt and the sand layers.

The hand forged nail is numerically the most important type of artifact not directly related to the working of iron. Over 150 such used nails of various shapes and sizes were found in the excavation units relating to structure "B." They come in various states of preservation and there is no way of knowing, for the moment, whether or not they were manufactured at the Forges du Saint-Maurice. Apart from a few spikes, half a horse shoe and some other unidentified fragments, only a large iron staple and a copper buckle fragment present recognizable shapes. These can lead, however, to no further conclusions as to the date of construction of the structure and to the type of activity that occurred there.
Questions and Answers
What may we conclude from the evidence uncovered about structure "B?"

Structure "B" was most probably not a dwelling. This may be surmised from the absence of a fireplace hearth and of domestic artifacts or utensils other than a relatively small number of crockery and glass fragments which, incidentally, one would expect to find wherever labourers found sustenance and relief in the mid 18th century. Furthermore, no cellar of any kind was found within the structure's confines.

On the other hand, ironworking was everywhere evident. Mould hooks, sprues, and iron ore wastes such as slag and run-off were uncovered in fairly important quantities in all layers contiguous to the wood trace possible floor level lentil. Moulded objects of possible local manufacture such as cauldron fragments, a stove plate (Fig. 12), and a large iron lid were also to be found. This is not to say, however, that these artifacts related to ironworking could not simply have been deposited when the sand and the silt layers were dumped there.

Storage or another light industrial activity both appear to be plausible uses for a building such as structure "B." The narrow precarious foundations coupled with the apparent absence of any heat source lead to this inference. One may lean towards the latter explication but additional information would have been desirable to be able to draw any definitive conclusions as to the structure's identity.

Little can be said about the building's superstructure save that it was light and most probably made of wood. It was apparently not destroyed but dismantled because no major traces of lumber and débris were strewn about at the structure's level of occupation.
Artifacts suggest a mixed occupation. Built and utilized by the French, the structure was most probably taken over by the English and dismantled in the 1760s to make way for structure "C."

The Drain (pre 1760)
A small wood drain parallel to the west foundation wall of structure "B" was found extending from the north to the south of the excavation along the 1985'E line of the site's grid plan (Fig. 23). It was made of pine wood planks 3 to 5 ft. long and 1 to 2 in. thick. These planks were originally nailed together to make a "U" shaped canal approximately 1 ft. wide and 1 ft. deep, but were found collapsed inwards during the excavation. The uncovered section of the drain measures a length of 25 ft.

The drain's bed rests immediately upon the natural soil horizon and even occasionally cuts through it. The sides of the poorly preserved wood construction are imbedded into sands of various textures and colours which were deposited during if not prior to structure "B"'s existence. As in the case for the west foundation wall of structure "B" the drain also underpasses the south wall of structure "C" and thus necessarily predates it.

Even though the drain's base is at a slightly lower elevation at the south of the excavation than to its north there is no positive proof of a southerly liquid flow. One must not discount land movements which may have altered the original inclination of the structure.

The raison d'être of the drain is difficult to establish. Of course, one can say that it was used to carry or evacuate water to or from the industrial complex situated to the north of the excavation. However, neither the source or mouth of the drain is uncovered nor is it tied into a
major water flow or contemporaneous industrial structure. Interpretation is complicated further by a large partially uncovered chimney base and construction trench built most probably as part of structure "C" and a possible cause for contamination of the drain's original context.

Artifacts are generally those indicative of a French occupation context. However, a few traces of other inclusions either through subsequent activity or excavating inaccuracy are evident. This is exemplified by the presence of creamware, rosso-antico and Staffordshire slip ware in excavation units dominated by French faience and coarse earthenwares. This supposed contamination could, of course, simply be material deposited in and around the drain when it was buried with sand fill.

Structure "C" (1760s to pre ca. 1840)
Structure "C" is the most complex of all three excavated buildings. It appears so because of its size, the subsequent use of some of the land on which it was built and the impossibility of excavating more than a fraction of its total surface. Much of the building still remains buried under its top soil and thick layer of soot and sand rendering all conclusions preliminary in nature. Further archaeological research and the ensuing uncovering of significant data would thus most probably alter somewhat the following sketch of structure "C."

Only a minimal number of structural elements are available to establish the identity of structure "C." Its south foundation wall, which bisects the excavation, is the sole of these elements that gives more than a glimpse as to the antiquity, size, orientation and general outlook of the structure. It serves thus as the best departure point for this study.
The extant length of the south foundation wall of structure "C" is 41 ft. It is generally 2 ft. thick while its height varies from 1 to 1.8 ft. depending on the state of conservation, save for its eastern end which thins out to nothing (Fig. 31).

The stone and mortar work appears sturdy and impressive compared to the foundations of structures "A" and "B." The stones (generally sandstone but some quartzite) vary largely in size and shape but are well bonded, forming by means of their double rows a sturdy support for a fairly large industrial construction. Patches of mortar and lime coating were found covering small surfaces of the wall's exterior (Figs. 16 and 17). However, too little remains to enable to distinguish between what may originally have laid above or underground.

The extant length of the south foundation of structure "C" constitutes a poor indicator of its actual width at the time of construction for both its extremities have been destroyed. The south-east corner of structure "C" collapsed onto the plateau's edge, a fate which befell both its predecessors. This is well illustrated in Figures 18 and 34 which clearly indicate the difference in levels between the stones resting atop the two foundation walls and those at the exterior angle of their original point of junction.

The destruction of the western extremity of the south foundation wall is both more complex and more revealing than its eastern counterpart. It is the result of a voluntary dismantling which made available space for the construction of very large casting moulds for the shaping of cauldrons destined for the potash industry. This area was partly excavated in 1974 and it was then ascertained that the latter industrial development occurred during the second quarter of the 19th century under Matthew Bell.
The south foundation wall of structure "C" rests upon the silty-sand layer (layer 1 of Fig. 31) that covers the remains of underpassing structure "B." This clearly indicates that structure "C"'s construction is posterior to structure "B"'s destruction and to the abandonment of the north-south drain. The possible remains of a chimney base constituting the present western extremity of the south wall foundation is not inconsistent with this hypothesis even though it rests in part upon the silt (layer 3 in Fig. 31) and in part directly over the drain (Fig. 30). This is because a chimney base would have to rest deeper underground in order to support the excess weight. However, some doubt remains as to the exact identity of this deeper outcropping part of the foundation wall.

The outside stratigraphy of structure "C"'s south wall is not very complex. There are essentially two layers hugging the wall under the surface turf. The first is a thick layer of debris (charcoal, slag, pebbles, sand, and clay) which was used as fill and deposited to the south-east of the structure at the edge of the plateau. This layer was deposited following the structure's destruction for it covers deeply its south-eastern corner.

The second layer is composed of sand and soot, the latter giving a very dark colour to the mixture. It covered prior to the excavation most of the surface situated along the outside of the south foundation wall. The deposition of such a layer appears to have been the result of gradual settling of chimney wastes during an intense period of industrial activity. Whether or not it was entirely deposited before the building was dismantled or destroyed is unclear. This, of course, is because of the lack of information concerning the internal stratigraphy of the structure. Nor is it possible, at this point, to speculate constructively upon the overall interior stratigraphy.
There is simply too little evidence available to so do.

A large sturdy chimney base (Figs. 19 and 20) was partially uncovered to the north-west of the excavation (1980'E x 1610' N of the grid plan). It is 2.6 x 3.0 ft. in width and 2.2 ft. in height. Even though this massive superimposed sandstone slab and mortar construction rests upon the natural soil horizon there is little doubt that it was a functional part of structure "C." However, it it somewhat difficult to tie in the chimney's surrounding stratigraphy with that of structure "C"'s south foundation wall for much of it was removed through fairly recent bulldozing. The construction trench (layer 4 in Fig. 32) may have provided a clue to the structure's identity through its artifact content but no artifacts were found therein. The construction style of the chimney base, in any case, bears no resemblance to that of structure "B."

The use to which the chimney was put is unclear. It appears to be somewhat too massive to have been simply a non-industrial heating source. However, the exact nature of the supposed industrial activity remains unknown.

No further conclusive statements may be drawn from the present available evidence without added input of further excavating, which unfortunately is not forthcoming.

What may have been the total dimensions of the structure "C?" No definitive answer may be given at this time for two little of its periphery has been uncovered and only one corner is definitely identified. This does not exclude a "possible" answer since some testing was done in 1974 and 1975 which revealed sections of its possible western and northern foundation walls. Figure 24 illustrates all possible information available upon which the following dimensions were drawn.

The north foundation of structure "C" may possibly be either one of two wall stumps uncovered between the 1995'E
and 2000'E lines of the site's grid plan. The lower one (Fig. 21), however, appears to be a continuation of the south foundation wall of the moulding room rather than the north wall of structure "C." The more northerly wall stump (Fig. 22) would in this case give a north-south dimension of 57 ft.

The eastern wall of structure "C" is known while the only clue to its western limit resides in a brief wall segment found at the junction of the 1965'E and 1625'N lines of the grid plan. This suggests a width of approximately 50 ft.

Thus, the approximate dimension of the structure would have been 57 ft. long by 50 ft. wide. Of a possible total surface of 2850 sq. ft. only 675 were excavated of which only a fraction were dug with the knowledge of structure "C"'s existence.

In conclusion, all that may be said about structure "C" is that it was a large non-domestic construction and that its identity still remains much of an enigma.
Conclusions

Three anonymous structures were uncovered to the south of the blast furnace all of which served industrially oriented purposes. None possessed unique features or contained artifacts of any great interest. However, their construction sequence and vertical displacement are worthy of comment.

Structure "A" was found to have been built early in the 1730s, structure "B" in the 1740s and structure "C" shortly after the English takeover of the site and New France. Ware types and archaeological context bear this out but what is most revealing is the vertical relationship and overlap of all three constructions. The smallest structure "A" rests in part under structure "B," which in its turn is buried almost entirely under largest structure "C." This implies a fairly intense use of a rather small land area through major land movement and the deliberate dismantlement of standing intact or damaged structures. This is most probably because of high structural density in the area and a desire to make full use of the land situated in proximity of the blast furnace.

The evolution in style and size of construction, though of interest, could be most misleading if considered superficially. What appears to have been a stylistic evolution through time or an indication of greater prosperity through size could in part simply have been the result of change in functional needs.
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Appendix A. Excavation Units Associated with Structure "A."

Under the charcoal: 25G14H17 layer 8 in fig. 33
25G14H21 layer 8 in fig. 33
25G13U26 layer 8 in fig. 33

Charcoal layer: 25G14H16 layer 7 in fig. 33
25G14H24 layer 7 in fig. 33
25G13U22 layer 7 in fig. 33

Above the charcoal: 25G13U20 layer 6 in fig. 33
25G13U21 layer 6 in fig. 33

Contemporaneous exterior: 25G14H13 layer 5 in fig. 33
25G14H18 layers 3 and 4 in fig. 31
25G14H23 layer 6 in fig. 33
25G13U16 layer 6 in fig. 33
25G13U17 layer 3 in fig. 31

Exploration in view of locating corners of structure "A": 25G14H19
25G14H20 arbitrary
25G14J5 units. 25G14422 excavation.
25G13U19
Appendix B. Excavation Units Associated with Structure "B."

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit Code</th>
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<tbody>
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<td>Contact of structures</td>
<td>25G14H9</td>
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<tr>
<td>&quot;A&quot; and &quot;B&quot;:</td>
<td>25G14H14</td>
<td>3</td>
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<tr>
<td>Contact with wood floor level:</td>
<td>25G13B22</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>25G13B24</td>
<td>7</td>
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<tr>
<td></td>
<td>25G13B25</td>
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<tr>
<td></td>
<td>25G13U9</td>
<td>1</td>
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<td>25G13U15</td>
<td>2</td>
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<td>Contemporaneous exterior:</td>
<td>25G13F4</td>
<td>8</td>
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<tr>
<td>Surface contact of structure &quot;B&quot;:</td>
<td>25G13B23</td>
<td>1, 6 and 7</td>
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<td></td>
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<td>6 and 7</td>
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<td>Contact of structures &quot;B&quot; and &quot;C&quot;:</td>
<td>25G14H8</td>
<td>1</td>
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<td></td>
<td>25G14H12</td>
<td>1</td>
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<td></td>
<td>25G14J6</td>
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<td>25G13U13</td>
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<td></td>
<td>25G13W23</td>
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<td>Drain:</td>
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<td>6 and 7</td>
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<td>25G13F3</td>
<td>4, 6 and 7</td>
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<td>4 and 6</td>
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<td></td>
<td>25G13W20</td>
<td>5 and 6</td>
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Drain cont.: 25G13W24 layer 3 of fig. 31
              25G13W25 layer 3 of fig. 31
              25G13W26 layer 3 of fig. 31

Exploration: 25G13F5 layers 1, 2, 3, 6, 7 of fig. 32
Appendix C. Excavation Units Associated with Structure "C."

25G14H6 layers 1, 2 and 3 of fig. 33
25G14H7 layers 4 and 5 of fig. 33
25G14H10 layers 1, 2 and 3 of fig. 33
25G14H11 layers 4 and 5 of fig. 33
25G14J4 layer 2 of fig. 33
25G13N2 arbitrary lot
25G13U12 layers 4 and 5 of fig. 33
25G13W22 layers 4 and 5 of fig. 33

Extremely disturbed excavation units.
25G13Y22 to 25G13Y27

Miscellaneous surface lots
25G13F1
25G13U11
25G13W21
25G13Y21
Appendix D. Excavation units used for Tables 1 and 2.

Excavation units used for Table 1:
25G14H13
25G14H16
25G14H17
25G14H18
25G14H21
25G14H23
25G13U16
25G13U17
25G13U22
25G13U26

Excavation units used for Table 2:
25G13F4
25G13B22
25G13B24
25G13B25
25G13U9
25G13U10
25G13U14
25G13U15
Table 1. Artifact and Object Count of Pure Context Levels of Structure "A."

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<th>White Clay Pipes</th>
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<td>Mouth piece</td>
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<td>Body and shank</td>
<td>05</td>
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<td>Bowl</td>
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<tr>
<td><strong>Total</strong></td>
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<tr>
<td>Mends</td>
<td>03</td>
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<tr>
<td><strong>Number of Objects:</strong> Minimum of 3; maximum of 15</td>
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<table>
<thead>
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<td>a) Bottle Glass</td>
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<td><strong>Fragments:</strong></td>
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</tr>
<tr>
<td>Shoulder</td>
<td>00</td>
</tr>
<tr>
<td>Body</td>
<td>18</td>
</tr>
<tr>
<td>Neck</td>
<td>01</td>
</tr>
<tr>
<td>Finish</td>
<td>00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>19</td>
</tr>
<tr>
<td>Mends</td>
<td>00</td>
</tr>
<tr>
<td><strong>Number of objects:</strong> Minimum of 19; maximum of 19</td>
<td></td>
</tr>
</tbody>
</table>

b) Table lead glass

<table>
<thead>
<tr>
<th>Fragments</th>
<th>Mends</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>02</td>
</tr>
<tr>
<td><strong>Number of objects:</strong> minimum of 2; maximum of 2</td>
<td></td>
</tr>
</tbody>
</table>
c) Unidentified colourless non-lead glass
   Fragments: 01
   Number of objects: 01

d) Miscellaneous small unidentified pieces
   Fragments: 03
   Number of objects: 03

Ceramics

a) Faience
   Fragments 31
   Number of objects possibly 13

b) Coarse earthenwares
   Fragments 48
   Number of objects possibly 13

c) White salt glaze stoneware
   Fragments 01
   Number of objects 01

d) Creamware
   Fragments 01
   Number of objects 01

Total number of ceramic artifacts: 81
Possible number of objects: 28

It is important to note that most ceramic fragments are small, often too small to be able to conclude with perfect precision the exact number of objects involved.
Table 2. Artifact and Object Count of Pure Context Levels of Structure "A"

<table>
<thead>
<tr>
<th>White Clay Pipes</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fragments:</td>
<td></td>
</tr>
<tr>
<td>Mouth piece</td>
<td>00</td>
</tr>
<tr>
<td>Body and shank</td>
<td>05</td>
</tr>
<tr>
<td>Bowl</td>
<td>03</td>
</tr>
<tr>
<td>Total</td>
<td>08</td>
</tr>
<tr>
<td>Mends</td>
<td>03</td>
</tr>
<tr>
<td>Number of Objects: Minimum of 3; maximum of 15</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glass Objects</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Bottle Glass</td>
<td></td>
</tr>
<tr>
<td>Fragments:</td>
<td></td>
</tr>
<tr>
<td>Base</td>
<td>00</td>
</tr>
<tr>
<td>Shoulder</td>
<td>00</td>
</tr>
<tr>
<td>Body</td>
<td>18</td>
</tr>
<tr>
<td>Neck</td>
<td>01</td>
</tr>
<tr>
<td>Finish</td>
<td>00</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
</tr>
<tr>
<td>Mends</td>
<td>00</td>
</tr>
<tr>
<td>Number of objects: Minimum of 19; maximum of 19</td>
<td></td>
</tr>
</tbody>
</table>

| b) Table lead glass               |     |
| Fragments:                        |     |
|                                   | 03  |
| Mends                             | 02  |
| Number of objects: minimum of 2; maximum of 2 |
c) Miscellaneous small unidentified pieces
   Fragments  02
   Number of objects: minimum of 2; maximum of 2

Ceramics

a) Faience
   Fragments  35
   Number of objects possibly 13

b) Coarse earthenwares
   Fragments  23
   Number of objects possibly 09

c) White salt glaze stoneware
   Fragments  16
   Number of objects possibly 03

d) Creamware
   Fragments  17
   Number of objects possibly 12

e) Mid 18th c. Staffordshire slipware
   Fragments  04
   Number of objects possibly 03

f) Oriental porcelain
   Fragments  01
   Number of objects possibly 01

Total number of ceramic artifacts: 96
Total number of possible objects: 40
Map of the Forges du Saint-Maurice area drawn in 1735. ("Plan de l'Etablissement des Forges des Trois-Rivières ou Saint-Maurice 1735" in the Dépot des Fortifications des Colonies, Carton no. 5, pièce 301: copy at the Public Archives of Canada.)
2 Map of the Three-Rivers and Forges du Saint-Maurice area in the early 19th century. (J. Bouchette's Topographical Map of the Province of Lower Canada, part 1: copy at the Public Archives of Canada.)
Map of the Forges du Saint-Maurice installations in 1845.
Notice that there are no standing buildings to the south of the blast-furnace (no. 5 on map; inverted L shape).
(Archives des Services d'arpentage, Ministère des Terres et Forêts, Québec.)
Photography of pre-excavation topography. Test trenches of 1974 reveal inside profile of structure "C"'s south foundation wall and a brief glimpse of structure "B"'s west foundation wall. Direction: north (75M1 no. 0).
5 Aerial photography of completed excavation. Overlap of structures "A," "B," and "C" is evident. Original plateau declination is visible to the south-east of the excavation. Direction: north (75M32 no. 7).
Plunging view of structure "A" near the completion of its excavation. Notice the vertical and horizontal relationships of all three structures. Direction: east (75M15 no. 3).
7 Stone hearth of structure "A." One layer thick and unbound. Constitutes part of the structure's west wall foundation. Direction: east (75M15 no. 22).
8 Detail of north-eastern angle of structure "A." Notice thin wood remains resting on the poorly cut and bound stone base. Direction: west (75M15 no. 21).
General view of uncovered structural features. At this point the excavation to the north of structure "C"'s south foundation is completed. The chimney base at the top left corner of the print is most probably related to structure "C." Structure "B"'s west and south foundation walls have been excavated. A partial structure "A" has emerged. Direction: north (75M18 no. 9).
Detail of vertical and horizontal relationship of all three structures. Structure "A" underpasses diagonally the south wall of structure "B" whose west wall underpasses in its turn structure "C"'s south wall. Direction: north (75M18 no. 12).
Emergence of north-east corner of structure "A" between the south foundation walls of both structures "B" (left) and "C" (right). Direction: west (75M5 no. 31).
Close up view of two in situ circular cast iron artifacts laying immediately below the possible floor level of structure "B." The smallest (.81 in. in diameter) is a flat stove lid plate while the largest (1.25 in. in diameter) is some sort of concave lid. The context suggests a mid or third quarter 18th century date. Vertical view (75M1 no. 11).
Detail of south-western section of excavation. The south foundation wall of structure "C" is visible at the top of the print. Notice the chimney base like construction which constitutes its present western limit. Underpassing west foundation wall and south-west corner of structure "C" are visible at the right of the print. The wood remains of the drain lie at the center of the print. The drain underpasses structure "C"'s foundation wall.
Direction: north (75M5 no. 28).
14 Detail of the drain's wood remains situated immediately to the south of structure "C"'s south foundation wall. The poorly preserved pine wood planks were part of the drain's collapsed sides. Vertical view (75M5 no. 31).
Profile of the north-west section of 25G13F which is situated at the north-west of the excavation. Notice the collapsed thin line remains of the drain. The eastern fringe of structure "C"'s probable chimney base is visible at the left of the print. Direction: north (75M5 no. 4).
Section of structure "C"'s exterior south foundation wall and its underlying stratigraphy. Notice fringe of underpassing western foundation wall of structure "B" at left edge of print. Direction: north (75M15 no. 8).
Collapsed south-east corner of structure "C." Notice curved outward slant of south foundation wall and stones fallen onto the plateau's slope. Nearly vertical view (75M1 no. 26).
19 Eastern profile of partially excavated chimney base belonging most probably to structure "C." Large sandstone slabs bound together by mortar. Direction: west (75M5 no. 7).
Southern profile of partially excavated chimney base belonging most probably to structure "C." Direction: north (75M5 no. 3)
21 Eastern stump of possible north foundation wall of structure "C." Previously excavated in 1974. An alternative identity for this construction is possible. Stonework in poor state of conservation and thus difficult to compare to that of structure "C"'s south foundation wall. Could possibly be a part of the moulding room's south wall. Direction: west (75M15 no. 9).
Eastern stump of possible north foundation wall of structure "C." Previously excavated in 1974. An alternative identity for this construction is possible. Stonework is in poor state of conservation and thus difficult to compare to that of structure "C"'s south foundation wall. Direction: west (75M18 no. 33).
Site plan of the Forges du Saint-Maurice. Uncovered features may be seen within their excavation operations. The excavation discussed in this report was undertaken in operations 25G13 and 25G14 which are situated to the center left of this plan.
Plan of the blast-furnace area excavations as of the fall of 1975. Excavations discussed in this report are situated at the bottom right hand corner of this plan. Notice grid squares which arbitrarily divide the excavating area. Large circle indicates the location of large protective dome.
Plan of the excavated area discussed in this report (25G13 and 25G14 as of the fall of 1975).
Plan of the excavated area discussed in this report. Dimensions and identification of features are included. Translation of notes: 1) stones and mortar; 2) cavity; 3) mortar and wood debris; 4) pile of stones; 5) stone and mortar wall covered with wood debris; 6) wood debris; 7) sand and charcoal ridge; 8) sand and charcoal ridge; 9) 10" wide trench; 11) this wall falls towards the south-east; 12) stone alignment; 13) wood drain; 14) excavated in 1974 and 15) slope of wall.
Plan of the excavated area discussed in this report. Included in this plan are the elevations of all excavated features. The underlined levels are those of the base of the walls.
NOTE
LES NIVEAUX 1540 N ET 1545 N SONT LES ELEVATIONS DE LA BASE DES-MURS.

FORGES DU
ST-MAURICE
TROIS-RIVIERES
QUEBEC

HAUT-FOURNEAU
25G13-14
PLAN NIVEAU
RELEVE 1972
28 Description of boring done near the excavated area.
<table>
<thead>
<tr>
<th>PROF.</th>
<th>ELE.</th>
<th>DESCRIPTION</th>
<th>ECHANTILLONS TYPE</th>
<th>ECHANTILLONS DE</th>
<th>A</th>
<th>ESSAIS</th>
<th>PENETRATION - COUPS/PIEDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>126.40</td>
<td>Cinders and slag</td>
<td>SS</td>
<td>5'</td>
<td>6'6&quot;</td>
<td>N=11</td>
<td></td>
</tr>
<tr>
<td>1'</td>
<td>123.4</td>
<td>Yellow sand fine to medium</td>
<td>SS</td>
<td>10'</td>
<td>10'4&quot;</td>
<td>Refus sur roches</td>
<td></td>
</tr>
<tr>
<td>6'</td>
<td>120.40</td>
<td>Granular sand fine yellow</td>
<td>SS</td>
<td>15'</td>
<td>16'6&quot;</td>
<td>N=30</td>
<td></td>
</tr>
<tr>
<td>10'4&quot;</td>
<td></td>
<td>8 in. rock</td>
<td>SS</td>
<td>20'</td>
<td>21'6&quot;</td>
<td>N=44</td>
<td></td>
</tr>
<tr>
<td>17'</td>
<td></td>
<td>Rocks and pebbles</td>
<td>SS</td>
<td>25'</td>
<td>26'6&quot;</td>
<td>N=57</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Very fine silty sand</td>
<td>SS</td>
<td>30'</td>
<td>31'6&quot;</td>
<td>N=36</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SS</td>
<td>35'</td>
<td>35'6&quot;</td>
<td>N=68</td>
<td></td>
</tr>
<tr>
<td>40'</td>
<td>86.40</td>
<td></td>
<td>SS</td>
<td>39'6&quot;</td>
<td>40'</td>
<td>Refus sur roches</td>
<td></td>
</tr>
</tbody>
</table>

ESSAIS: - N. PEN. STANDARD. C. CISAILLEMENT VANE. O. COMPRESSION SIMPLE
Profile of the interior of the south wall of structure "C" and of the soil that rests under it. The two parallel vertical stones resting immediately under the south wall of structure "C" represent the west wall of structure "B." 1) Silty sand of varying shades with traces of clay at the bottom of the layer; 2) Charcoal; 3) Sand; 4) Silt; 5) Various sands; 6) Protruding mass of sand sustaining the stones situated immediately above it; and 7) Thin wood traces of drain.
Profile of the exterior of the south wall of structure "C" and of the soil that rests under it. 1) Sand and silt of various shades and textures; 2) Clayish soil; 3) Silt with some sand inclusions; 4) Native sand; and 5) Profile cut of west wall of structure "B" where it is overlapped by the south wall of structure "C."
Profile of 25G14H, 25G13U, 25G13W and 25G13Y along the 1585'N line of the site grid plan. 1) Turf and topsoil; 2) Mixture of dark sand, soot and slag; 3) Granular sand; 4) Silt with inclusions of brick fragments, mortar and small stones; 5) Sandy clay; 6) Silt and sand; 7) Charcoal; 8) Sandy clay; 9) Fine texture sand; 10) Mixture of sand and charcoal; 11) Inside of drain: sand and clay mixture; and 12) Sand with a strong concentration of iron oxides.