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Canadian Historic Sites

A History of Rocky Mountain House, by Hugh A. Dempsey

The Excavation and Historical Identification of Rocky Mountain House, by William C. Noble

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Cover: "Rocky Mountain Fort With Assiniboine Camp in Foreground," by Paul Kane, 1848 (Royal Ontario Museum).

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Illustrations

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A History of Rocky Mountain House

by Hugh A. Dempsey

Abstract

The history of Rocky Mountain House, a fur-trading post on the North Saskatchewan River in Alberta, is given by the author, along with contemporary accounts of the fort's appearance. An attempt is made to identify by historical evidence the sites of the three forts called "Rocky Mountain House." Seven lists from 19th-century invoices and inventories show the kinds of goods shipped to the West for the Indian trade and other uses.

Introduction

Rocky Mountain House, on the upper waters of the North Saskatchewan River, had a varied and colourful history. Located approximately 50 miles west of the modern city of Red Deer, Alberta, and about 3 miles from the town of Rocky Mountain House, it served the fur trade in several ways. While primarily a fur-trading post, it was not just a local establishment to serve the Indians in the area; rather it was a link with the unknown lands to the west and with the unwelcome prairies to the south.

Rocky Mountain House and its neighbor, Acton House, were built originally to reap the hoped for harvest of furs from the great unexplored lands across the mountains. Rather than trying to penetrate the Rockies, the traders hoped to persuade the Indians to come to them. It was a sensible plan, but it failed. Although the name "Rocky Mountain House" implies a close association with the mountains, the fort was actually located in a desolate muskeg area about 50 miles from the Rockies. Any mountain Indians who came to trade had to pass through the country of jealous Peigan and Assiniboine warriors.

When the plan failed, Rocky Mountain House was closed. This, however, was not the end; it was only the beginning. For the next 75 years the fort was opened when it had another role to play in western history, and was abandoned whenever it had served its immediate purpose.

In all likelihood, the great trading companies never really wanted Rocky Mountain House. It was in an uninviting location, food was scarce, famine was common, and the heavily fortified structure was expensive to maintain. Yet maintain it they did, for the Blackfoot tribes *wanted* Rocky Mountain House and they often got what they wanted.

In a way, the Blackfoot discovered the fort before it was actually built. A band of Peigans (part of the Blackfoot nation) met a combined party of Hudson's Bay Company and North West Company men who were on their way to build the posts in 1799 and accompanied them to the site. The Indians immediately liked the post, for it was close to their hunting grounds and far from the troublesome enemies that frequented the posts farther downstream.

When the mountain Indians failed to arrive, Rocky Mountain House was abandoned in 1802, but was opened four years later when David Thompson needed it as a depot while establishing posts across the mountains. Again the Blackfoot tribes came to trade, but again it was abandoned about 1807, after Thompson's work was done.

Then, with a regularity which became almost a trademark, it was reopened in 1810 when the Peigans threatened to stop the transmountain trade which was placing guns in the hands of their enemies. As an excuse for taking their boats to the upper waters of the Saskatchewan, and to appease the unruly Peigans, the traders gave back to them their favorite post. But not for long.

By 1813, the Peigans were back to normal and a more northerly route over the mountains had been found, so Rocky Mountain House again said farewell to its isolated traders and its wild customers. Again, however, the closure was not permanent, for the traders soon learned

that by sending the Blackfoot tribes farther east, they drove them into the hands of their mortal enemies, the Assiniboines. The whole prairie region was rocked by the strife until finally the Blackfoot refused to go in to trade. While their dried meat might not be valuable, it was needed to provision the more northerly posts, so in 1818, Rocky Mountain House was back in business.

During all these turbulent years, the Hudson's Bay Company's Acton House and the North West Company's Rocky Mountain House were opening and closing their posts together. Not until 1821, when the two great companies amalgamated, did Rocky Mountain House become a solitary structure in the wilderness. But now the Hudson's Bay Company had no competition and, with the Assiniboine Indians moving eastward into Saskatchewan, the trader decided to economize and closed the fort again in 1823.

Then a new situation arose — a problem which was to plague the British company for the rest of its years of association with the Blackfoot. A few Americans were moving in from the south and, while they found the Blackfoot tribes to be hostile, their furs and robes were good. In 1827, these men began to trade with the Blackfoot in the Snake River Country of Idaho, so the Hudson's Bay Company was forced to reopen Rocky Mountain House to keep their customers. From that time on, the Blackfoot Indians constantly pitted British against American for their business and never again could the Hudson's Bay Company be assured of their trade.

The Americans also were the cause of Rocky Mountain House's next closure in 1832, but this time the purpose was to get closer to the Blackfoot, not to drive them away. In the previous year the American Fur Company had built a fort in Peigan territory on the upper Missouri River. In an attempt to compete, the Hudson's Bay Company made its first incursion into the forbidding plains of southern Alberta. Rocky Mountain House was closed and Peagan Post, or Old Bow Fort, was built on the Bow River, west of Calgary.

The Blackfoot soon made it clear that they wanted the white man's trade goods but they did not particularly want him. Peagan Post survived a couple of hectic years, but by January, 1834, it was evident that the traders were not welcome, so they retreated to the muskegs of Rocky Mountain House. There they built an entirely new fort a short distance from the old one and began the longest period of regular residence in their checkered history. Except for the winter of 1847-48, the fort was occupied every trading season until 1861. When it closed at the end of that year, it did so because of the hostility of the Blackfoot, many of whom were well armed with American weapons.

The fortunes of the Blackfoot soon changed, however, for the gold rush in Montana drove them north and in 1864, Rocky Mountain House was again opened to accommodate them. By then the fort was in such dilapidated condition, it could not provide adequate protection from the increasingly hostile tribes. As a result, a new structure was built in 1866.

But the day of glory was almost at an end. The buffalo were becoming scarce, free traders and whiskey pedlars were pouring into Blackfoot country and the Hudson's Bay Company lost its exclusive trading rights when Canada took over the territory in 1870. Finally, in 1874, the Hudson's Bay Company moved back to the Bow River and, in the following year, Rocky Mountain House was abandoned for the last time.

Situated as it was on the edge of the plains, the fort served a vast area that extended well into Montana. Although it was usually kept open only in the winter months as an outpost of Edmonton House, its importance cannot be underrated. Its role in opening up the transmountain trade may have been brief, but it was important. It was the Blackfoot trade which gave the fort its lasting place in history, however. As a link in the network of posts that established British domination over the western territory, it served as a block against American penetration. From the days of the Snake River trappers in the 1820s, the fort provided keen competition and kept many of the Blackfoot under British influence. Had there been no Rocky Mountain House, most of the trade would have gone to the Americans instead of to the British posts downstream in enemy-infested territories.

Rocky Mountain House was ideally situated on the edge of the Blackfoot hunting grounds, but away from the open prairie where it would have been exposed to the turbulence of the warlike tribes. Peagan Post failed because it was too close to the Blackfoot; Rocky Mountain House succeeded because it was close, but not too close. Seldom, if ever, was it subjected to an open mass attack and never was it destroyed while abandoned

1 Peigan Indians at Rocky Mountain House, 1 November 1871 *(Public Archives of Canada).*

in the summer. Tucked away in its relatively uninviting location, it was provided with natural defences which enabled it to survive three-quarters of a century of trade with one of the most warlike tribes on the northern plains.

When Rocky Mountain House and Acton House were built in 1799, they marked the climax of two decades of frantic fort building and competition by the North West and Hudson's Bay companies along the North Saskatchewan River. When the North West Company ventured onto the river with Cedar Lake Post, Cumberland House and Isaac's House in the early 1770s, the Hudson's Bay Company was not far behind. The race up the river reached Alberta in 1792 with the building of Fort George (North West Company) and Buckingham House (Hudson's Bay Company) by the two companies near the present town of Elk Point. Three years later, Fort Augustus (North West Company) and Edmonton House (Hudson's Bay Company) were built by the two companies near the mouth of the Sturgeon River, east of the present city of Edmonton.

The Edmonton posts marked the most westerly point of penetration during the mid-1790s, but the traders knew of the great Rocky Mountain barrier which stood in their path. As early as 1790, North West Company trader Peter Pangman had explored the North Saskatchewan River to a point five miles above the mouth of the Clearwater and had carved his initials in a tree at that point.

The transmountain Indians also knew of the traders, for they had met Hudson's Bay Company explorer Peter Fidler with a party of Peigans near Crowsnest Pass in 1792.[1] But the Blackfoot tribes, who were selling European goods to the Kootenays for huge profits, would not permit those Indians to visit the forts. In 1795, Duncan McGillivray observed at Fort George that the Kootenays "are determined to force their way this year to the Fort or perish in the attempt . . . .The Coutonées have already made several attempts to visit us, but they have been always obstructed by their enemies and forced to relinquish their design with loss."[2]

The 1795 attempt was not successful, but in the spring of 1798, two Kootenays managed to visit Edmonton House with some friendly Peigans. "These have not brought any furs of any kind," reported the factor, "but by their account their Country abounds with all kinds, but far off."[3] During this period the North West Company was also aware of the potential Kootenay trade for, as a Hudson's Bay Company trader noted wryly, "Beaver are said to be numerous in the Country of the Cotta na ha's & nothing will prevent the Canadians [North West Company] getting part of them."[4]

After the visit of the Kootenays, the Nor'Westers decided to build a fort near the mountains so the transmountain tribes would not have far to travel through enemy lands. Early in June, 1799, a canoe with six Nor'Westers left Fort Augustus and went upstream to build the fort, but were turned back by a band of "Southerd" (Cree) Indians who were opposed to the venture.[5] A second attempt in early summer was also unsuccessful but in September, 1799, after the annual supply of trade goods had arrived, John McDonald of Garth sent a larger North West Company party upstream from Augustus to build the fort.[6] As soon as the Hudson's Bay Company was

assured that a site had been chosen, its men were sent out to build an opposition post nearby.

The Hudson's Bay Company and North West Company men travelled together to the site. The Hudson's Bay Company party of nine men and supplies left Edmonton House in a boat and joined the Nor'Wester flotilla, while Hudson's Bay Company chief factor James Bird, with six men, started overland with a group of Nor'Westers on the following day. Bird had already learned that the country was a poor source of food, a problem which was to plague the traders for years to come. "The Indians give us. . .alarming accounts," he wrote, "telling us that it will be impossible for us to subsist."[7]

On their way to the site, the party met some Peigan Indians who were coming to trade at Edmonton House. When they learned of the proposed fort, they decided to accompany the traders overland to the new location. On 24 September, Bird reported that he "arrived at the side of the Saskatchewan river, rode across and encamped near the place where we intend building."[8]

When completed a few weeks later, the Hudson's Bay Company post was named Acton House, in honour of James Bird's English home of Acton, in Middlesex County, while the North West Company post was called Rocky Mountain House.[9] Both were located in the same general area, on the north side of the North Saskatchewan, a short distance above the mouth of the Clearwater River. Although no precise location or physical description of Acton House has survived, Alexander Henry the Younger provided considerable information about the location of the Nor'Wester post.

While the two forts were under construction, messages were sent to the Kootenays by some friendly Peigans, but not until the autumn of 1800 did the first party of 27 men and 7 women arrive. During the trip they had been harrassed by Peigans who stole their horses and threatened to kill them. David Thompson went to meet them and only with great difficulty did he get them to the forts unharmed where all but one of the Indians went to his more energetic North West Company post.[10]

Two Nor'Westers were sent back across the mountains to encourage more Kootenays to trade but the experiment was a failure. The only way the Kootenay trade could be had was by building posts on the west side of the mountains. The Hudson's Bay Company was not equipped to do this, so they were content to maintain Acton House for the Peigan trade. The Nor'Westers, on the other hand, began to plan and search for a practical route across the mountains.

In 1800, Duncan McGillivray explored the region to the northwest, reaching Brazeau Lake and the Sunwapta River,[11] while later in the same year, Thompson and McGillivray explored the foothills region south to the Highwood River. In June of 1801, Thompson made his first attempt to cross the mountains but his guide led him to an impassable barrier.

In the meantime, trading continued at Rocky Mountain House, with the Peigans and Swampy Ground Stonies being the most frequent customers. In 1801, a party of 26 Kootenays arrived, most of their furs going to the Nor'Westers, but in the same year a young Kootenay was killed by Peigans while en route to the fort.

The years at the turn of the century were ones of keen competition for not only did the two great companies have each other to oppose, but another firm, the XY Company, appeared on the scene. In order to drive the competitor out of business, the two companies built numerous tiny posts "with a view of Distressing the new Companies who are very ill off for able Traders."[12] Although a number of references were made in Hudson's Bay Company journals to XY posts above Edmonton House, none appear to have been built as far upstream as Rocky Mountain House.

The Nor'Westers absorbed the XY Company in 1804, but the need for extra posts had diminished long before that date. Acton House and Rocky Mountain House were abandoned in 1802 and were replaced with smaller posts downstream to serve the Stonies.

In 1806, after the costly fight with the XY Company had been won, Thompson received orders to return to the Saskatchewan River and to establish a post on the west side of the Rocky Mountains. When he reached Rocky Mountain House in October, the fort had already been reopened for his benefit. Nearby, Acton House was also open, with John Peter Pruden in charge.

Upon their arrival, Thompson's men were put to work "repairing the House," until the canoes with supplies arrived. When Jacco Finlay, who had gone over the mountains to contact the Kootenays, reported that the trade prospects were poor, Thompson decided to stay at

Rocky Mountain House for the winter. While there, his men built a half-bastion over the gate and generally put the post in order.[13]

During the winter, Acton House also was maintained, although fears were expressed for the safety of the men. In the summer of 1806, a battle had taken place between the Blackfoot and Cree tribes, with the latter "flying in all Quarters to conceal themselves in the woods," and the Blackfoot threatening vengeance.[14] A few weeks later, the traders at Edmonton House had the "mortification to hear of fresh massacres among the Indians and even that an attack on Acton House is threatened."[15] But no attack came, and by spring, 1807, most of the Peigans had taken their trade to Acton and Rocky Mountain House. They were often in an ugly mood and at Acton House, "Mr. Pruden was under the necessity of Trading articles from them of little value and paying them better than he would have done under other circumstances."[16]

After Thompson set out to build Kootenae House across the mountains in 1807, Rocky Mountain House again was abandoned. It had served its purpose as a base for exploration but with the traders successfully established across the mountains, it was no longer needed. Acton House was closed at the same time and the traders moved downstream to build small posts for the Stonies. Not until 1810, when it was again needed to help retain the transmountain trade, was Rocky Mountain House reopened.

The posts in Kootenay country proved to be good sources of revenue for the North West Company, but they also placed guns in the hands of the plateau tribes. These Indians, once at the mercy of the Blackfoot, now offered resistance and, in one battle alone, 16 Peigans were killed.[17] In anger, the Peigans told the traders not to supply their enemies with any more arms or ammunition.

As the only known route across the mountains was up the North Saskatchewan through Peigan territory and over Howse Pass, Rocky Mountain House suddenly became a vital spot on the river. In desperation, the Nor'Westers reopened it in 1810, ostensibly to mollify the Peigans, but actually to provide an excuse for taking supplies so far upstream. However, when the first canoes tried to pass above the forts, they were stopped by Indians. Alexander Henry took charge of Rocky Mountain House and, after a number of ruses and crises, he finally saw Thompson off across the mountains on a more northerly route that skirted Peigan territory. Thompson discovered the Athabasca Pass and from that time the upper Saskatchewan was avoided on the transmountain route. Any significance which Rocky Mountain House had held as a link in the route to the Pacific Ocean was gone. Henceforth its history was confined to the Indian trade of the plains and foothills.

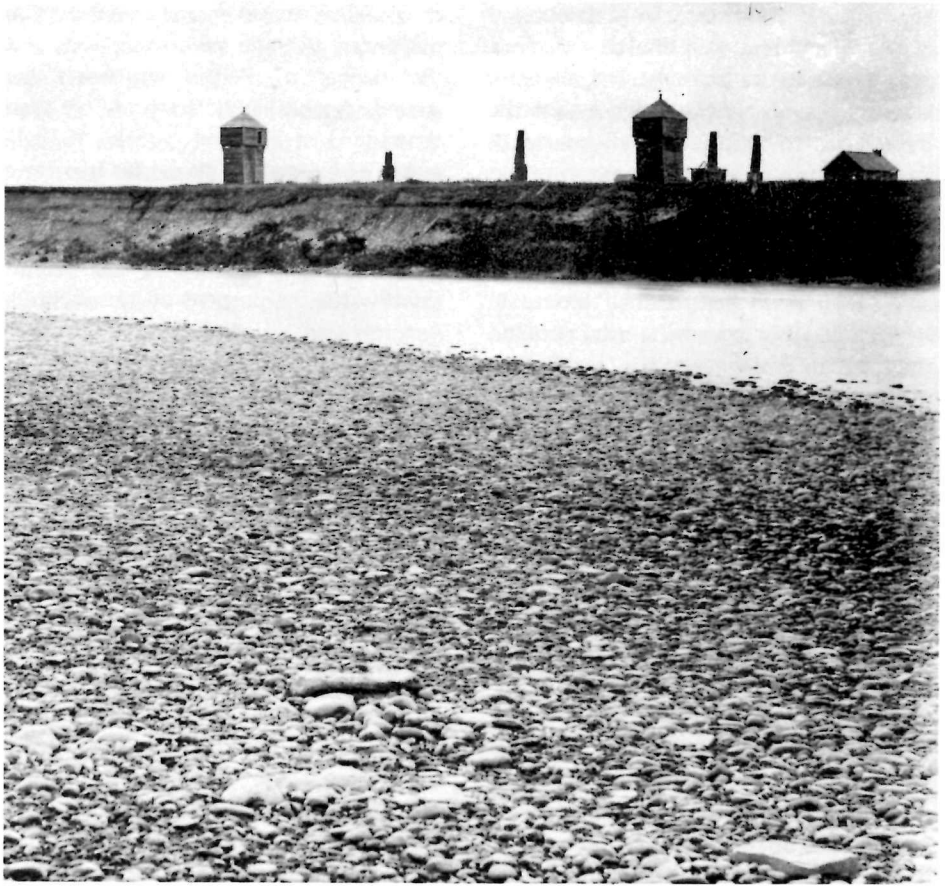
Henry remained at the fort during the winter of 1810-11, while Acton House was reopened by William Flett. The two forts probably remained in use until the autumn of 1813 so the North West Company could maintain friendly relations with the Peigans. These Indians had shown a preference for Acton and Rocky Mountain House so the traders kept them open, even though they were expensive to maintain.

By 1813, however, the transmountain trade had become well established and the danger of Peigan aggression had abated. Accordingly, the buildings were abandoned at the end of the 1812-13 season and remained closed for five years. Then in October, 1818, the factor of Edmonton House stated that "Part of the people [are] preparing to set out to morrow for the purpose of reestablishing Acton House, usually called the Mountain House, which was abandoned in 1813 on account of it being found that the Muddy River [Peigan] Indian trade could be much cheaper procured at this place. . . .I am now obliged to establish it in consequence of the NWCo so doing."[18] The move was prompted by the failure of Dog Rump Creek House, located downstream from Edmonton, to attract the Peigan trade. That post had been built in 1817, but hostilities between the Assiniboines and Peigans had driven the latter tribe westward. Edmonton House was too far inside Cree territory, so the traders had to give the Peigans their favourite posts near the mouth of the Clearwater.[19]

For the next three years the forts were maintained throughout the year and when an attempt was made by the Hudson's Bay Company to close their post in the spring of 1820, the Peigans threatened to take their furs across the mountains to the Nor'Westers.[20]

In 1821, the North West Company and Hudson's Bay Company amalgamated under the name of the latter firm. When the news reached Edmonton House in October, John Rowand, a former Nor' Wester, was placed in charge of Rocky Mountain House. His crew, 11 Hudson's Bay Company men and 27 former North

2 View of Rocky Mountain House from the south side of the Saskatchewan River, September, 1886 *(Geological Survey of Canada).*



West Company employees, was probably the largest ever seen at the fort, as the new company had a temporary surplus of men. The amalgamation also meant that wherever two forts existed, one now could be abandoned. In such areas as the Peace and Athabasca rivers, the Nor' Westers had dominated and their larger posts were retained. Along the Saskatchewan River, however, Edmonton House was kept and the Nor'Westers' Fort Augustus was closed, while downstream the Hudson's Bay Company's Carleton House was retained and the opposition, La Montée, was closed.[21]

No record was kept to indicate whether Acton or Rocky Mountain House was retained, but evidence would tend to support the latter post. John Rowand, who was put in charge of the fort, was a Nor'Wester and would probably have chosen his own post. Also, the Nor'Westers had dominated the region, both in exploration and trade, and probably had a better fort. And finally, the name Rocky Mountain House was retained, and never again does Acton House appear on the records. While it is true that Hudson's Bay Company traders used the terms "Acton House" and "Rocky Mountain House" for their fort before 1821, some of the traditionalists would surely have used the name "Acton House" after 1821 if that structure had been retained.

Immediately after the amalgamation, Rocky Mountain House was kept open to serve the Peigan Indians, but because the new company no longer had any competition, it soon began to abandom its expensive outposts. In the spring of 1823, the traders decided to close Rocky Mountain House and the Peigans were told to go to Edmonton House. The closure angered the Peigans and John Rowand wrote that they "regret exceedingly that the Mountain House is abandoned, as the distance from their general hunting grounds is too great to come this length [to Edmonton House], as well as being afraid to fall in with the Stone Indians on their way hither."[22]

Within a short time, however, the situation again had changed. Americans were trading in the Snake River region of Idaho and a number of Peigans began taking their furs south. Alarmed, the British traders took quick action. "We have this season," reported Rowand in July, 1827, "permanently established the Rocky Mountain House for the accommodation of the Peigan, which will have the effect of drawing them during the winter from the Flathead lands and thereby keep them out of the way of the American Trappers."[23]

The post was partially successful in bringing the Peigans back to the British,

so it was kept up for several years. By this time, trading began to follow a regular pattern, with the Peigans visiting the fort only during the winter, when the furs and robes were prime. There was no need to keep the fort open during the summer, so it was generally opened in September and closed in May. For this reason it was seldom in good condition and was constantly being repaired. For example, when Henry Fisher and his men wintered there in 1828-29 and 1829-30, their main activities were food gathering, trading, and repairing the fort. During the two seasons they installed new palisades, put new floors in the houses, repaired the bastions, mudded the houses, repaired the roofs and chimneys, and made a new gate and doors.[24]

As long as the Hudson's Bay Company retained the Peigan trade, the future of Rocky Mountain House seemed secure. However, events along the Missouri River soon created a new crisis for the British traders. The Americans had made several unsuccessful attempts to invade the valuable beaver country in Montana, but the killing of a Peigan Indian by the Lewis and Clark expedition in 1806 had made enemies of any visitors from the south. By 1830, the American Fur Company had penetrated as far as the edge of Peigan territory where it built Fort Union and tried again to get the Peigan trade. The company engaged an ex-Hudson's Bay Company employee named Jacques Berger who finally brought some friendly Peigans to Fort Union on the Upper Missouri River. In the following year, the Americans were able to build Fort Peigan further upstream within the heart of Peigan territory.

The effect of this move upon the Hudson's Bay Company was immediate and disastrous, for the Peigans were known as "the beaver hunters of their nation [Blackfoot]."[25] A British expedition was sent out in June, 1832, to persuade the Peigans to come back to the Hudson's Bay Company and at the same time, plans were made to build a fort for them further south. In that year the Council of the Northern Department of Rupert's Land ordered the traders "to abandon that Post [Rocky Mountain House] and to establish a new Post to be called the Peigan Post on the borders of the 49th Parallel of Latitude."[26]

A site was chosen on the Bow River, west of the present village of Morley, and the fort was built in the summer of 1832. There it enjoyed a brief but precarious existence until January, 1834, when it was abandoned by J.E. Harriott in favour of Rocky Mountain House. Its failure had been due partly to its exposed position on the prairies, and to the jealousy of the Blood Indians who, although a part of the Blackfoot nation, were obliged to trade at Edmonton House. The tribe prevented the Peigans from visiting the fort and several times threatened to destroy it.[27]

When Harriott and his men reached Rocky Mountain House on 20 January, 1834, the structure was "in a very shattered condition,"[1] having been abandoned for almost two years. On the following day, the men began "putting in windows and hanging the Doors"[2] to make the place habitable, and probably remained there until spring. There was no doubt, however, that a new fort was needed as "the old one is entirely in ruins."[3] When the post was reopened in the autumn of 1834, plans for a new structure had been approved and "having been fortunate in getting our stock of fresh meat in Jan'y [1835]," reported Harriott, "enabled us to get a good strong Fort erected at a short distance from the old one."[4] The work was not completely finished by spring, as the men had to leave the area a month earlier than usual when they were needed at Edmonton House. "We are not allowed any Summer Men," complained Harriott, "tho' two or three would have been highly necessary this Summer to prepare the Fort for next Fall."[5]

No record was made of the precise location of the new fort, except for Harriott's casual statement that it was a short distance from the abandoned one.

When the new Rocky Mountain House was opened, it began a long period of regular habitation as a winter post. Except for the winter of 1847-48, the fort was occupied each trading season until the spring of 1861. These were not always peaceful years, for the Peigans were troublesome customers. To add to the unrest, the Crees and Stonies began to invade the area in increasing numbers as the Peigans withdrew to the southern part

of their hunting grounds. In the autumn of 1835, war parties of Crees and Stonies guarded the trails to Rocky Mountain House and laid in wait for unwary enemies. They attacked a party of Blood horse raiders, robbed a family of freemen, and killed eight Peigans within a short distance of the post. Such activities discouraged the Peigans from trading at the fort, except when they came in large numbers.

When the Peigans did come to trade, they expected special treatment because of the risks, and because they had not gone to the Americans. "One Rascal," commented trader Fisher, "the chief of the band, had the impudence to ask [for] a Chief cloathing for himself and a suit of each for his children, seven in number... and was very much displeased on being refused."[6]

The 1840s marked a new change in the history of Rocky Mountain House when it began to receive outside visitors and travellers. Until that time, only traders, employees and Indians went to the fort and any written accounts were usually limited to post journals and routine letters.

The first visitor was the Reverend Robert T. Rundle, a Methodist missionary, who first saw the fort in February, 1841. He had travelled overland from Edmonton House and on 22 February, he commented, "I reached Rocky Mountain House and was very kindly received by J. E. Harriott, Esq., the gentleman in charge. I found several Indians at the Fort, and, shortly after my arrival, another party arrived from the plains.... Their dresses were profusely adorned with beads and gay embroidery, with porcupine quills, and other ornaments."[7]

Two days later, Rundle saw a large number of Blackfoot and Peigan Indians coming to trade, and observed the ritual they performed. He commented:
The first that came were the Piegans. Before they started from their camp, which was near the Fort, they sang and then sedately marched in order to the Fort; the Chief leading the van, bringing with him a white horse, the head of which was striped with red ochre, as a present to Mr. Harriott. On his appearance. Mr. Harriott went forward to meet him; and when they met a salute was fired by men stationed there for that purpose. The Blackfeet entered much in the same manner, except that there was no singing. At last they all sat doen together in the Indian House.[8]

Rundle was concerned with the spiritual welfare of the people, so his journals made only limited reference to the fort and its activities. He did indicate the flurry of activity accompanying the few days of Blackfoot trade, but at other times the fort was relatively quiet.

Four years later, Father Pierre-Jean De Smet, a Jesuit priest, arrived at the fort while searching for the Blackfoot. He reached "Fort des Montagnes"[9] on 4 October 1845, and there met the Reverend Mr. Rundle who was making a regular visit to the fort. In spite of their doctrinal differences the two men got along well, although Rundle observed in wonderment, "To think that I should be in company with a Jesuit Priest near the R. Mtns. in N. America."[10] After meeting the Blackfoot, De Smet went on to Edmonton House where he remained for the winter.

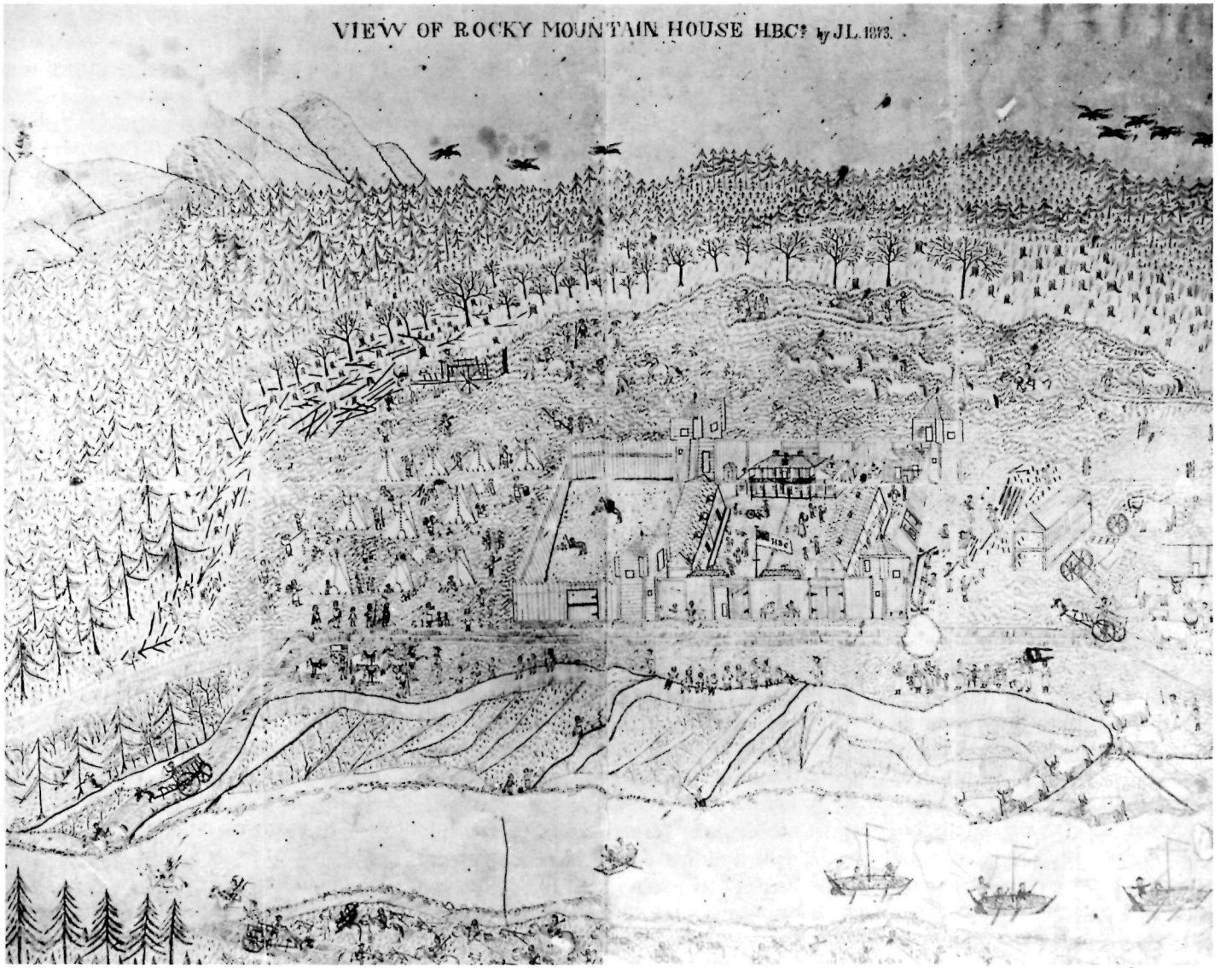
The third visitor to the fort during the 1840s was Paul Kane, a travelling artist. He reached the post in April, 1848, and noted that is was "beautifully situated on the banks of the Saskatchewan, in a small prairie, backed by the Rocky Mountains."[11] He made only passing reference to the structure, observing that "It is built like most of the other forts, of wood, but with more than ordinary regard to strength."[12] His gifted brush produced the only known 19th-century illustration of this fort. Although it occupied only a background place in his painting, Kane showed clearly a well-fortified structure with high palisades and bastions.

James Bird, Junior, or "Jimmy Jock," a son of the founder of Acton House, was in charge at the time of Kane's visit. The artist learned much about the Indians from him and painted portraits of two Stony Indians, but a shortage of food forced him to return to Edmonton House before the big Blackfoot trading parties arrived.

One of the few Hudson's Bay Company employees to write his reminiscences about life at the fort was William S. Gladstone, who was at Rocky Mountain House intermittently between 1848 and 1861. Through his notes and the reports of other visitors, a fairly complete picture of life at the fort for that period can be gained.

Engaged in Montreal as a carpenter, the fifteen-year-old Gladstone reached the fort after travelling overland from Edmonton House on a thin horse "that

3 View of Rocky Mountain House, Hudson's Bay Company, sketched by Jean l'Heureux, 1873 *(Photo in Glenbow-Alberta Institute).*



looked like a box of cutlery."[13] When the party arrived at Rocky Mountain House, the young carpenter found it to be "a most forlorn place."[14] It was occupied only during the winter months, and when the party arrived, wild grass was growing three feet high all around it.

In what was probably a routine procedure, the grass was cut and the fort put in order in preparation for the supply boats which were expected in about ten days. A party of Blackfoot Indians got there before the boats, but patiently awaited their arrival. The day after the boats were unloaded, the trading season began.

Gladstone was put to work in the boat yard, helping to build York boats to carry the furs and robes to Edmonton House in the spring. Because of the availability of good timber, the men built more boats than they needed; the remainder was floated down to Edmonton House with the loaded boats and used in the flotilla bound for York Factory.

"It was a monotonous life," Gladstone recalled, "nothing but work, dried meat and sleep. The evenings were very long and I had nothing to read. That was the worst part of life."[15]

In the late autumn, large bands of Blackfoot began to arrive from the plains. They camped along the Clearwater River or on the flat near the fort, and remained only long enough to make their trade. The main items brought in by these tribes were dried and pounded meat, grease, buffalo robes, leather, wolf skins and horses.[16] In turn, they received an assortment of goods ranging from weapons to rings and ornaments.

During this period, goods were valued on the basis of a large, prime beaver skin, or "Made Beaver." By the early 1850s, some of the typical prices paid at Rocky Mountain House were as follows: a horse for 20 Made Beaver (or MB); a good buffalo robe for 2 MB; a dressed hide for 1 MB; a 40-pound *parflêche* bag of dried meat for 1 MB; a wolf skin for 1/2 MB; a red fox for 1 MB; a cross fox for 2 MB; a silver or black fox for 5 MB; 100 pounds of grease for 1 MB; fresh meat from half a buffalo cow for 1/2 MB; and eight buffalo tongues for 1 MB.

At the same time some of the prices charged for trade goods were as follows: 1-1/2 feet of roll tobacco for 1 MB; one-fifth of a pound of vermilion paint for 6 MB; a bunch of seed beads or a scalping knife for 1 MB; a small axe for 2 MB; a large axe for 4 MB; ten balls or a quarter pound of gunpowder for 1 MB.[17]

During this period, rum was still being sold to the Indians. A mixture made of three gallons of rum and forty gallons of water was prepared and a length of black tobacco was added to satisfy "the Indian's love for something that would bite and scratch."[18] Gladstone had many opportunities to see the Blackfoot Indians after trading for liquor. "I saw 300 Indians drunk on rum at the same time," he recalled. "It was a wild and woolly sight and made the hair rise on my head."[19] During times like these, no employees were allowed to drink and all business was transacted through portholes in the gate.

There is no doubt that the liquor caused many tragedies among the Indians that visited the fort. On one occasion in the winter of 1859-60, the Many Fat Horses band of Bloods with their brother chiefs, Hind Bull and Fish Child, was camped across the river from the fort. After finishing their trade, Hind Bull became involved in a drunken argument with his son-in-law and when Fish Child tried to intervene he was shot by his fellow chief. But Fish Child in turn shot and killed Hind Bull before he, too, fell dead.[20]

Gladstone observed at least one battle at the fort. This happened when a band of Blackfoot arrived to trade and found a camp of Stonies about a mile from the post. When the Stonies saw their old enemies from the plains, they prepared to attack. "From the gallery of the fort we could see the battle," said Gladstone, "but it was no bloodier than a French duel. Both sides fought with bows and arrows and guns, and though the fight lasted from noon till dark, not a single warrior was hurt. The guns were harmless old flintlocks that could not send a ball over 75 yards and as the Indians stood about a half a mile from each other, it is no wonder that no one was hurt."[21]

Usually, the Blackfoot sent messengers ahead for tobacco and to tell the traders that the main party was coming. This was a signal way for any Cree or Stony Indians in the vicinity to leave and as a result, incidents between enemy tribes seldom occurred around the fort.

A change in the daily routine at Rocky Mountain House took place on New Year's Day, when the men were each given a quart of rum and were allowed to hold a dance. For the rest of the time they traded and worked. And, if game was scarce, they starved. When the buffalo herds were near, large hunting parties were sent out; at other times the post hunter constantly searched for smaller

game. Usually, though, the fort relied upon the Blackfoot tribes to supply provisions as items of trade.

Sometimes the men were reduced to eating horses, dogs, or any other available food in order to survive. During one such period, Gladstone observed that the men "had killed and eaten 25 dogs for want of other food."[22] Later they killed a few of the Company's horses but were reprimanded by the factor who said it was "easier to replace a few men than five dead horses."[23]

Gladstone's main duty was to help build boats. The ribs were made of roots obtained from a pinery a day's journey downstream, while lumber was probably from timber in the neighbourhood of the fort. In the spring, the six or seven boats commissioned for the season were loaded with furs, robes and dried meat. They were launched at the end of April and the fort was closed for the summer.

"Two of us were sent to dig a hole in which to cache all the articles we intended to leave behind us," said Gladstone. "In this hiding place we stored our cooking utensils, working tools, tobacco and such goods as remained over after the winter's trade."[24] The cache was well hidden and sometimes could not be found in the spring. In fact, one year Gladstone accidentally discovered a cache which had been lost some 20 years earlier.

After the fort was closed, the goods destined for Edmonton House were loaded, usually in the form of 100-pound packs. The furs and robes in particular were prepared in this fashion by use of a fur press. (Because of their bulk, furs were placed in a box-like frame, pressed tightly together with weights and lever, and bound into compact, easily portable packs.) During his first season, Gladstone noted that 100 packs of goods were taken from the fort. In the spring of 1855, the trade consisted of 2,500 buffalo robes, several tons of dried meat and grease, more than 300 buffalo tongues, 600 wolf skins, and other furs. About 200 horses taken in trade were sent overland to Edmonton.[25]

Gladstone's trip down the river to Edmonton House took about six days, with the men spending considerable time in the icy water pushing the boats away from sand bars. From Edmonton the boats continued down the river, picking up returns and boats from other forts until a large flotilla of Saskatchewan River boats was assembled to carry the goods on the first lap of the journey to Britain or other points of destination.

In 1854, Henry Moberly was placed in charge of Rocky Mountain House for one season and he, too, recorded his experiences. Although his descriptions of the fort tend to be inaccurate when compared with later observations by Dr. James Hector, his memory of daily activities was good. He left vivid descriptions of trading expeditions to the Blackfoot camps, and of near starvations when travelling to Edmonton House. On one occasion when returning to Rocky Mountain House, he met "a mob of Blood and Peigan Indians in the midst of a big spree and all the gates locked. It taxed our whole force, when the gates were opened for us, to keep the Indians out, and before I succeeded in getting into the fort my face and hands were plentifully smeared with grease and vermilion acquired through the handshaking I had had to endure from the drunken rascals."[26]

Three years later, in the autumn of 1857, the Reverend Thomas Woolsey, a Methodist missionary, paid his first visit to the fort. He commented that "judging from present appearances, half-a-dozen able-bodied men might uproot the entire building in a very short time."[27] He visited the nearby fur traders' cemetery, which was not enclosed, and said it was the biggest one he had ever seen. The graves were scattered over a considerable area and only a few were fenced or marked.

Just as Paul Kane had found the inhabitants to be starving in 1848, so did Woolsey encounter the same situation. Two French Canadians ate two dogs while he was there, and when the post hunters came home with almost nothing, the missionary decided to return to Edmonton. During his ten days at the post he had conducted daily services, baptized nine children, and burned a deck of playing cards.

Later in the 1850s, Rocky Mountain House was visited by members of the Palliser expedition, which was exploring the western prairies on behalf of the British government. Dr. James Hector went there once during the trading season in January, 1858, and again while it was deserted in autumn of the same year, while Captain John Palliser stayed there for part of the winter of 1858-59.

Hector's first visit to the fort enabled him to meet the Blackfoot chiefs on friendly territory so he could tell them about the proposed explorations. He was successful in his mission and as a result, members of the expedition were able to

travel safely through Blackfoot territory during their explorations.

In autumn, 1858, Hector again visited the fort while on his way from the mountains to Edmonton House. When he reached the post on 31 September, he discovered that the traders had not yet arrived. "We found it looking very desolate," he commented, "with the courtyards choked with weeds, and all the windows and doors were standing open. We took possession of it for the two nights we were at this place, but did not find it so comfortable as our camp fire."[28] By this time, the fort was showing the results of its summer abandonments and was apparently falling to pieces.

Captain Palliser went to the fort in the winter of 1858-59 after making two hunting trips south of Edmonton. "I made an extensive acquaintance among the principal chiefs and leading men of the Blackfeet and Peigans," he stated, "and also hunting with them, sleeping in their tents."[29] Unfortunately, he did not publish any notes or observations about the fort itself.

By this time the days of Rocky Mountain House were numbered. Palliser spoke of the terror the halfbreeds had of the Blackfoot and said that the "Hudson's Bay Company have long given up the posts they once held in [Blackfoot Country] as too dangerous to maintain."[30] In addition, the Blackfoot trade was being effectively drawn off by Americans on the Missouri River. Gladstone noted that in the winter of 1859-60 the Blackfoot supplied the fort with only enough meat to last until the new year. "After that we got no more for the rest of the winter," he commented, "since the Indians who were camped on the Belly River found it much nearer to go to Fort Benton to trade."[31] He also said that regulations prohibiting the sale of liquor had been introduced by the Hudson's Bay Company and "I expect that had something to do with the loss of their custom."[32]

By the spring of 1861, the situation had become intolerable. The failure of large trading parties to come to the fort meant starvation, while the Blackfoot who did visit were exceedingly hostile. In addition, the fort was no longer in any condition to provide adequate defence. Finally, in March, 1861, the fort was abandoned, the party reaching Edmonton House on the twenty-eighth. "Two men arrived this afternoon," observed the Edmonton House clerk, "coming ahead of Mr. Brazeau and Party from the Rocky Mountain House who have from starvation been compelled to abandon that establishment. Mr. Brazeau reports the Blackfeet who have always come in large numbers to the Fort armed, brought no provisions or anything else, came apparently only to beg Rum and threatening to kill the people . . . 4 men voluntarily remained at the Rocky Mountain Ho. on this side of it a few miles, to take care of a Cache of 72 pieces, Returns, etc."[33]

One of the men who stayed behind was William Gladstone; the others were his two assistant boat builders and an American, Thomas Clover. When Brazeau decided to abandon the post, the men built a blockhouse about four miles downstream and cached all the trade goods and supplies in it. When the others left, Gladstone and the trio stayed behind to finish five York boats which were to be used to transport the goods to Edmonton after the spring breakup. The men were on short rations and were limited to one meal a day, but they stayed with the job and on 4 May, the boats were taken downstream to Edmonton.

"The Blackfeet have been un-bearable for the last 3 years or more," concluded the Edmonton House clerk, "always getting worse and worse, destroying our crops, stealing our Horses & doing everything they could to annoy us, in order to provide a quarrel so as to kill us."[34]

By the summer of 1861, the traders had decided not to reopen Rocky Mountain House in the fall. Most of the Stony Indians were told to trade at Lac Ste. Anne and Fort Assiniboine, while Chief Factor W. J. Christie also proposed "sending a Boat up the River to about 1/2 way to the Rocky Mountain House and to appoint a rendevous for the Stonies, equip them & the Boat return to Edmonton."[35]

Thomas Clover, the American who had helped close Rocky Mountain House, was one of the first gold prospectors in the area. In the fall of 1860, a small party of miners on their way to British Columbia had prospected the area and had found signs of gold in paying quantities at Rocky Mountain House.[36] As a result, a number of prospectors worked through the area during the next few years until they finally concluded that there was no mother lode, only deposits of minute flakes of gold mixed with coarse gravel.

In November, 1862, a prospector, John Atkinson, passed the deserted Rocky Mountain House and found more signs of gold, but he had no quicksilver to

separate it from the sand, so he continued on to Edmonton.[37] Other men such as Timoleon Love, George Gunn and George Flett also worked the upper waters of the Saskatchewan during the next few years and were probably the only visitors to the fort while it was abandoned.

The gold rush in the west soon affected the Blackfoot Indians, for down on the Missouri River, hundreds of gold seekers began pouring into Montana. As a result, a number of skirmishes took place and game was sometimes hard to find. Also, many of the traders began to ignore their Indian customers and turn to the more profitable gold mining camps with their goods.

As "the Indians find their treatment altered," commented Christie late in 1863, "they will in all probability be driven up this way and trade with us. In this case and for other reasons, it will be absolutely necessary for us to re-establish the Rocky Mountain House .... I shall not require any addition to our present complement of men in the District to do so. All that will be required will be a Commissioned Officer, experienced in the Trade, to take charge of the Post."[38] But instead of renovating the old post, Christie received instructions to build a new fort and in September, 1864, he reported that "arrangements have been made for the re-establishment of Rocky Mountain House & our trade at that place with the Slave [Blackfoot] Indian tribes ... owing to the number of men required to build a New Fort, it may well be attended by some considerable expense the first year, but in a year or two it will clear all these expenses."[39]

Richard Hardisty was put in charge of the fort for the winter of 1864-65, although no construction work was started. Instead, the old buildings were probably repaired and reopened. Father Albert Lacombe visited the fort late in 1864,[40] and while he was there, a starving party of American prospectors from across the mountains arrived. The men, James Gibbons, Sam Livingstone, Tom Smith and "Big Tex," had lost their horses to Blackfoot raiders and were obliged to spend the winter at the fort.[41]

Father Lacombe paid a return visit to the fort in late February, 1865, and found the Indians to be suffering from a measles epidemic. This was confirmed by Hardisty, who sent a report to Edmonton telling of the great mortality caused by the disease and found "the Indians to be very hard to deal with & threatening the whites very much," blaming them for the disease and threatening to kill the whites.[42]

By this time there was an urgent need for a stronger fort, so in February, Christie took steps to get the buildings erected. Two carpenters, Paquet and McCleod, were sent to Rocky Mountain House and after the spring breakup a crew of workmen went from Edmonton to provide extra help.

According to the Reverend John McDougall, "a temporary fort was built in the woods near by,"[43] while the men prepared timbers for the new post. His comments, though, that the "temporary fort was built on a low flat near the river [while] the permanent new fort was to be placed on a higher bench"[44] suggests that the old fort may merely have been renovated for the occasion. In any case, during his visit to the fort in January, 1866, McDougall observed that Hardisty and his men "were now taking out timber and sawing lumber preparatory to the erection of permanent buildings during the next season."[45]

The actual work of constructing the new Rocky Mountain House took place during the summer of 1866, with Paquet and McCleod in charge of the crews. The palisades and gates were in place by May; the factor's house was roofed by June, and work was continued on the men's houses, the Indian house and the interpreter's house throughout July. In August, a shortage of food forced a curtailment of building operations while everyone searched for food. The entry for 24 August, "hard work to keep ourselves alive,"[1] was typical of the month. In the autumn, supplies were received from Edmonton, and the building work was resumed. By November, much of the fort was erected and the men were engaged in gathering stones for the chimneys.

The new Rocky Mountain House was an imposing structure with high palisades and bastions at each corner. The front gates faced upon the river while the two-storey factor's house was located against the back wall. Flanking the square on both sides were long structures housing the men's quarters, trading room and storage rooms. Scattered through the compound were the blacksmith's shop and other small buildings, while adjoining it to the southwest was an enclosure for the garden.

This fort was located "about fifty chains [1,100 yards] downstream from the old one"[2] and was about a mile above the mouth of the Clearwater.

This was the Rocky Mountain House which became famous in the 20th century when the chimneys from the chief factor's house were preserved as a historic landmark. Over the years a romantic aura developed around this site and many local people believed it to be the only fort site in the area. The tradition was accepted that this was the fort used by David Thompson during his explorations, and was visited by Paul Kane and Captain Palliser. Even the cairn and plaque placed at the site in 1927 by the federal government implied that this was the "original" Rocky Mountain House. The plaque stated that "David Thompson wintered here in 1800-01, 1801-02, 1806-07, and from here he set out in 1807 for the discovery of the Columbia River." A plaque giving more accurate information replaced the old one in 1967. In actual fact, this particular fort was in active use for less than a decade during the dying years of the fur trade.

These years were colourful ones, though, for the turbulent Blackfoot still brought some of their robes and meat to the fort. During this period, the population of Indians trading at Rocky Mountain House was estimated to be 300 lodges of Blackfoot, 300 of Bloods, 40 of Peigans, 30 of Sarcees, and 109 of Stonies.[3]

Campbell Munroe, who lived at Rocky Mountain House during this period, described a typical trading scene.

The Blackfeet came to the Fort twice a year. They sent two men ahead to let the people at the Fort know that they were coming. On this particular occasion, a Blackfoot named Hind Bull and a Blood named Medicine Owl were the messengers who came a day early to tell the traders that the Bloods, Blackfoot and Peigans were coming. Their chiefs were Rainy Chief of the Bloods, Crowfoot of the Blackfoot, and Morning Plume of the Peigans.

There were four or five families of the Stony Indians camped near the Fort. John Munroe and the others hid [them] *in the basement of the Fort. On the next day the Blackfeet came, the three chiefs rode ahead; there were thousands of them.*

John Bunn and John Munroe met the chiefs. The first thing that was asked of the chiefs is to provide four mad-dogs. The mad-dogs were Indians sworn to protect the Fort. Four were picked out by Crowfoot. They had war-clubs and circled the outside of the Fort night and day. The other Indians were asked to camp away from the walls of the Fort, about fifty yards away. . . .

The chiefs were taken inside and treated with tobacco and other presents. All the gates were shut and locked, only one narrow door was used to let the traders go in and out. The door was so narrow that only one person could pass side ways. . . . The Hudson Bay men would present the chiefs with rope tobacco and carrot tobacco; it was considered a great honor for any Blackfoot to receive this carrot tobacco. The chiefs would also receive hats with two plumes each, one at the back and one in the front.

Trading was carried on for three days; when it was over the mad-dogs escorted the Indians across the River. Then the chiefs departed from the Fort, leaving behind their best horses as presents to the Hudson Bay men.[4]

At other times small groups of Blackfoot came to trade and were allowed inside the fort. Some were also permitted to stay overnight in the Indian hall.

Details of trading activities inside the

fort also were provided by William Butler, who visited Rocky Mountain House in 1870.

Within the fort all the preparations have been completed, communications cut off between the Indian room and the rest of the buildings, guns placed up in the loft overhead, and men all get ready for any thing that might turn up; then the outer gate is thrown open, and a large throng enters the Indian room.

Three or four of the first-comers are now admitted through a narrow passage into the trading-shop, from the shelves of which most of the blankets, red cloth, and beads have been removed. . . . The first Indians admitted hand in their peltries through a wooden grating, and receive in exchange so many blankets, beads, or strouds. Out they go to the large hall where their comrades are anxiously awaiting their turn, and in rush another batch, and the doors are locked again. . . . So the trade progresses, until at last all the peltries and provisions have changed hands, and there is nothing more to be traded.[5]

The first person to record visiting the new fort after its completion was the Reverend John McDougall. He arrived there in February, 1869, and found Chief Trader James Hackland in charge. He observed that the fort "had been thoroughly rebuilt, and was now a large place in regular fort style, with stockade, bastions and citadel."[6]

At this time the trade was brisk, largely because of the number of skirmishes between the Blackfoot and Americans in Montana. As a result, the factor at Edmonton House was able to report on 5 December 1869 that "A great many Indians had been in on a Trade at the R[ocky] Mo[untain] House. Most of the American Indians being at war on the other side, come to this side to trade. Trade pretty good, but very expensive, Indians troublesome & great beggars."[7]

But even the trade on the North Saskatchewan was no longer exclusively that of the Hudson's Bay Company, for free traders were beginning to come in from Red River. It was common knowledge that negotiations were under way for the transfer of the western territories from the jurisdiction of the Hudson's Bay Company to that of the Canadian government. This left the Hudson's Bay Company without its legal powers to control the trade, and freemen from Red River colony were quick to take advantage of the situation.

In the fall of 1869, a small trading party led by two Red River men settled near Edmonton House with a supply of goods. In February, 1870, Thomas Bird and James Gibbons bought them out and took three dog teams of goods to Rocky Mountain House. "My goods were rum, powder, shot, and some dry goods and trinkets," recalled Gibbons.[8] When they arrived at the Hudson's Bay Company fort they were refused admittance, but the rum provided them with a means of approaching a smallpox-ridden Blackfoot camp in the area. By the time they finished trading, they had obtained 108 buffalo robes and 9 horses for one keg of rum.

This was a prelude to the kind of trading tactics which the Blackfoot could expect, for Americans were also beginning to take advantage of the weak legal position of the Hudson's Bay Company. In December, 1869, a small party of Montana traders led by Alfred Hamilton and John Healy penetrated the heart of the Blackfoot hunting grounds in southern Alberta and built Fort Whoop-Up near the present city of Lethbridge. As whiskey was an important item of trade, they soon cut into the volume of rum-free trade carried on at Rocky Mountain House.

In February, 1870, Father Lacombe paid a return visit to Rocky Mountain House and then came again in November to spend the winter. On the latter trip he was accompanied by Father Constantine Scollen, and the two men spent fruitful weeks collecting and revising notes for a Cree grammar and dictionary.[9] While the priests were there, Captain William Butler arrived for a brief visit. Butler noted that the fort "is perhaps the most singular specimen of an Indian trading post to be found in the wide territory of the Hudson's Bay Company. Every precaution known to the traders has been put in force to prevent the possibility of surprise during 'a trade'. Bars and bolts and places to fire down at the Indians who are trading abound in every direction; so dreaded is the name borne by the Blackfeet, that it is thus their trading post has been constructed."[10]

The warlike reputation of the Blackfoot figured prominently in a number of deputations given in Montana in 1870 during an investigation of horse-stealing activities. According to a prospector, John Newbert, he was at Rocky Mountain House in 1869 when a party of Blackfoot brought in horses bearing Montana and United States military

brands. "I also saw an Indian, a Blackfoot," he swore, "who bragged that he had killed twelve white men. . . .The Indians invariably stated and bragged to me that they had stolen [horses] from U.S. citizens."[11]

The statement of Newbert, as well as those of other miners who had visited Rocky Mountain House, soon created an international issue that was the subject of correspondence between the United States, Great Britain and Canada. The Americans claimed that Rocky Mountain House was a source of ammunition for the Blackfoot tribes and was a centre for trading off horses stolen in the United States. The Hudson's By Company, on the other hand, claimed that American weapons had turned the Blackfoot into dangerous customers. "Every other Blackfoot who trades at the Rocky Mountain House now has a revolver in his belt," stated Christie, "and in our trade with them our lives are often in great danger. They generally visit our Fort in large bands, and are very troublesome."[12] He also added that Hackland, the clerk, "would not encourage or ask these Indians to bring American horses to him, or trade them knowing them to be the property of the American Government or American Citizens."[13] Then he concluded with the innocent comment that "Rocky Mountain House was established for the benefit of the Assiniboine or Stone Indians, peaceable and harmless Indians, who hunt along the mountains, also with the view to keep the Blackfeet away from Edmonton House (the Head Quarters of the Saskatchewan District)."[14]

By early in 1872, John Bunn was in charge of Rocky Mountain House and although some Blackfoot parties came in, the trade was not brisk. His returns for the 1871-72 season included only 437 buffalo robes, 490 beaver, 95 marten, 70 bear, and lesser numbers of other skins.[15] Much of this trade had come from the local Stony Indians while the Americans, who were operating illicit forts on the Belly, Highwood and Bow rivers, were cornering most of the Blackfoot trade.

In an effort to get more business, the Company kept Rocky Mountain House open throughout 1872, but by August, Bunn reported that "no Indians have been in worth talking about all Summer, so that the folks up here have had nothing to do but to eat up the fruits of last year's trade."[16]

By this time, the lawlessness accompanying the illicit trade in southern Alberta had reached government circles in Ottawa. Accordingly, Colonel P. Robertson-Ross, Adjutant-General of the Militia of Canada, was sent out to study the need for military protection. He arrived at Rocky Mountain House in September, 1872, just as a few Blackfoot parties were beginning to arrive. A French Canadian named Jean l'Heureux who lived with these Indians had prepared a map and census of the tribes and this was shown to the government official.[17] This l'Heureux was the same man who, a year later, made a remarkable drawing of Rocky Mountain House. Authenticated by the results of the 1966 archaeological excavation, the sketch shows the precise location of buildings, as well as activities around the fort. L'Heureux gave the drawing to Sir Sanford Fleming, a Canadian Pacific Railway surveyor, in 1874, and it eventually was deposited in a library in Pittsburg.[18]

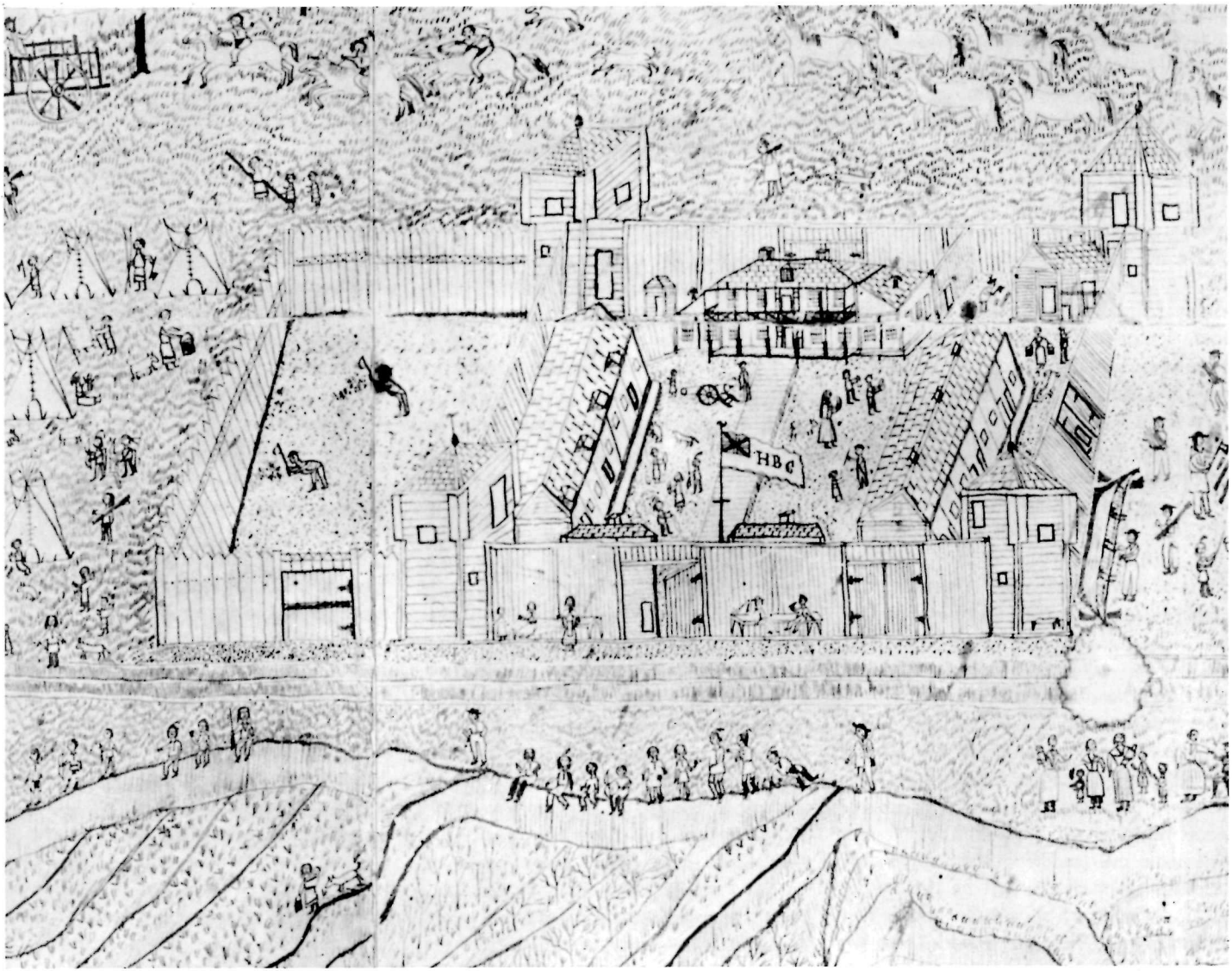
Robertson-Ross obtained some useful information at the fort, including the location of American whiskey forts on Canadian soil. Largely on the basis of the colonels findings, the North-West Mounted Police was formed a year later.

Rocky Mountain House was open during the winter of 1872-73, but the new clerk in charge, John Sinclair, felt it was a losing business. He became exasperated with the local Stony tribes and thought they were "the damest of Indians ever I came across. The Mountain Fort is just kept up to feed the Stonies with."[19] He observed that there were "Americans within two days Ride from this place with Licquor, so I think their will be no trade at all at this place."[20] He concluded his report with an appeal for books "to pass away dull times, for this place was not meant for me, its only fit for an Animal. It appears that the Indians wants this place to be shifted to the Porcupine Tail[21] or some place at the Red Deers River."[22]

As the winter progressed, his predictions were confirmed and by the end of 1872, only 242 buffalo robes had been traded from the Blackfoot; of these, 52 had to be given away to destitute Stony Indians. The remainder of the half-yearly trade was equally as bad, with only 382 beaver, 72 bear and 26 marten being obtained.[23]

The west had been changing rapidly since it had been taken over by the Canadian government in 1870. Under a provision of the transfer agreement, even the Hudson's Bay Company's legal claims to its trading posts had to be established.

4 Detail of fort from sketch by Jean l'Heureux, 1873 *(Photo in Glenbow-Alberta Institute).*



Accordingly, in January, 1873, a surveyor named W.S. Gore arrived to measure the Rocky Mountain House claims. His survey included "500 acres fronting on the North bank of the Saskatchewan River, valueless for farming purposes, being a mossy swamp covered with Spruce and Tamarac. However...a few acres surrounding the Fort are good."[24]

He did not show the fort in detail in his plans, but merely indicated a structure about 175 feet square with bastions on each corner and a garden on the southwest side. He commented that the fort "is new and substantially built but there is very little trading done there now, the 'Blackfeet' finding a market nearer their hunting grounds."[25]

During the remainder of the winter of 1872-73, the trade continued to deteriorate, with even the faithful Stony Indians going to the Americans.[26] However, the post was kept open for another summer, with Angus Fraser being left in charge. By fall, he had taken in 248 buffalo robes, 136 beaver, and a few other pelts.[27]

In September, 1873, Alfred R.C. Selwyn of the Geological Survey of Canada visited the fort and noted that "barley, potatoes, turnips, and onions were being grown successfully."[28] He had come overland from Edmonton and in order to reach the fort he had to go about a quarter of a mile above the mouth of the Clearwater River. There he probably used the old crossing which had been associated with the earlier forts.

The trade did not improve during the winter of 1873-74 so, in desperation, John Sinclair led an expedition out to the plains in March, 1874, in search of food and to trade with the Indians. He came back with only 40 buffalo robes and commented that there were "too many free Traders out amongst them and all well supplied with goods & Liquor."[29] He also had visited Dave McDougall, brother of the Methodist missionary, who was trading on the Bow River, and noted that he had "no person to oppose him; they have all the trade to themselves."[30] Not far away, he met a whiskey trader who had taken 6,000 buffalo robes during the winter.

The diminishing returns, combined with McDougall's proof that the plains were no longer a dangerous territory, sealed the fate of Rocky Mountain House. At a meeting of the Northern Council of the Hudson's Bay Company in July, 1874, a resolution was approved "that in consequence of the Indians having ceased to frequent the country in the vicinity of the Rocky Mountain House, the establishment at that post be reduced to 2 men, for the purpose of looking after it, and that a small supply of goods be furnished them for Trade, in the event of any Indians visiting the fort."[31] Angus Fraser was sent back to the fort in the fall while plans were made to re-enter the Bow River country for the first time since the abandonment of Peagan Post in 1834. Early in October, John Bunn was transferred from his post near Victoria Mission and set out for the new Methodist mission station of the Reverend John McDougall near the confluence of the Bow and Ghost rivers. As soon as he had set up a temporary trading camp there, he reported that "A few Blackfeet have been in who report that most of them have gone to Belly river to trade but that a good many intend coming in here."[32]

At the time Bunn was writing his report, the North-West Mounted Police had marched across the western plains and were building Fort Macleod on the Oldman River. Within a matter of weeks most of the illicit whiskey trade was stopped and any danger of Blackfoot aggression was past.

In the meantime, Fraser continued to maintain Rocky Mountain House during the winter of 1874-75. Shortly after his small supply of trade goods was received in October, 1874, a party of Sarcees arrived with 2,500 pounds of dried meat, 200 pounds of pounded meat, and 78 buffalo robes. He also had promises from the Stony Indians that they would trade with him,[33] but by spring, he needed only a small *bateau* to bring the returns downstream to Edmonton.

By this time, plans for the abandonment of Rocky Mountain House had been completed. During the winter, Hudson's Bay Company Commissioner J.A. Grahame observed that "the Post at the Rocky Mountain House has been a grevous expense to us & as you acknowledge, its Returns are of no importance. If no improvement is exhibited this winter you will at once close it up, endeavouring to find some one you can depend upon to take charge of it. . . . The question of the removal of the Rocky Mountain House Buildings to Fort Pitt has been discussed but I have not yet had your final opinion upon the expense thereby likely to be incurred and have to request you to furnish it by first opportunity."[34]

In accordance with the commissioner's instructions to find someone to look after the buildings, Hardisty offered to advance food and trade goods to Angus Fraser in the spring of 1875 if he would stay at the fort at his own expense. Fraser accepted and the arrangements were approved by the commissioner "provided you are certain of recovering the advances you have made [and] I presume your agreement with him gives you the control of any Furs he may collect."[35]

Although Fraser was now a free trader, he reported to Hardisty on the situation there in November, 1875. "Some of the Stonees Broke open one of the Store Windows this summer and stold grease, Robes and leather," he stated. "And they left the window open and the dogs got In and eate up all the grease, Robes, leather and old Harness about the place."[36] By this time, the fort was only a pitiful reminder of its glorious past and Fraser sadly observed that "I have three of the old dogs Here, all the rest are stolen or dead."[37]

A few Stony Indians came to the fort and Fraser succeeded in getting 78 beaver skins, 46 marten, one fisher, 3 lynx, one mink, 8 muskrats, 142 antelope skins, 15 buffalo robes, 26 buffalo skins, 28 moose skins, and 7 bear skins.[38]

Fraser may have stayed at the fort during the next winter of 1875-76, to act as caretaker while the dismantling of the buildings was being considered; however, by the fall of 1876 he was in charge of a small post on the Ghost River for the Hudson's Bay Company.

The fate of the buildings at Rocky Mountain House cannot be determined from available records. In January, 1876, Hardisty was told that "If the cost of taking down to Fort Pitt one of the Buildings at the Rocky Mountain House would not exceed $200.00, I think it would be advisable to make the attempt, leaving the others for the present."[39]

Although there is no evidence that any action was taken, the fact that these instructions came from the commissioner makes it seem likely that the building was moved. The only other official mention of the buildings came in June, 1877, when Lawrence Clarke wrote to Hardisty, saying "I am instructed by the Chief Commissioner to ask you to be prepared at the meeting of ensuing Council at Carlton to lay before him an estimate of cost of removing store at Rocky Mountain House and rafting same to Carlton."[40] Again, there is no direct evidence to indicate whether the move was ever made.

In the summer of 1882, A.D. Patton and J. Murphy visited Rocky Mountain House and said it was "still in a good state of preservation."[41] They also observed that "A large amount of lumber is piled on the bank as if intended for transportation down the river,"[42] but did not say that the lumber was actually from the fort itself.

In 1886, J.B. Tyrrell of the Geological Survey of Canada took a photograph of the site; it showed only two bastions, a small cabin and four chimneys still standing. In his report, Tyrrell noted simply that "Rocky Mountain House, the ruins of an old fort of the Hudson's Bay Company, is situated in an alluvial grassy flat bounded on the south and east by the river and on the north and west by dense forests and swamps."[43]

And so ended Rocky Mountain House. Built when the transmountain country was still unkown and closed during the dying years of the fur trade, it had 76 precarious years of existence. As a Kootenay post it was a failure; as a Blackfoot post it was a success; and as a historic site it figured prominently in many events relating to the development of western Canada.

Scattered throughout the journals, reminiscences and letters of visitors and employees are many comments about the physical appearance of Rocky Mountain House. Some of these are detailed, but even a casual reference often indicated the existence of a certain building within the fort structure. Such information is useful and has been drawn together to give some indication of the appearance of the various forts.

Of Acton House, no description exists. Bird, who was at the site when it was established, commented only that "Three men employed sawing & the rest falling wood for building."[1] On the other hand, Thompson and Henry both made a number of references to the first Rocky Mountain House. Thompson arrived at the fort on 11 October 1806, after having been away for four years, and "From this till the arrival of the Canoes the 24th, [the men were] employed repairing the House, white washing, etc."[2] On 27 October, he "arranged the Men per houses" and on the following day he "Cleared the Shop, Garret, &c."

After the cleaning work was done, the men began repairing and rebuilding the fort. On 5 November they were "arranging the warehouse, making a stair" and on 21 November they "Arranged the South Bastion." On 26 January 1807, Thompson "Set the Men to work on an elevated half Bastion above the Gate. hauled the 4 Posts across." Construction continued until 3 March, when they "put it up to the proposed height" and two days later they "finished the half Bastion, roofed it." On 16 March they dug an ice house or *glacière* in which they placed 90 quarters of meat" or 17 days' Provisions" and on 5 April Thompson noted the existence of another structure when he commented that his horse was "in the Stable."

When Rocky Mountain House was reopened in 1810, Henry provided detailed information about its location and use.

Our establishment at this place stands upon a high Bank on the North Side of the River; the situation is well adapted for defence in case of an attack from the Slave [Blackfoot] Indians, as our block Houses have a full command around the Fort for some distance. This spot was formerly covered with Aspen and Pine, which has been cut down for the use of the Place and now presents an open space for some considerable distance around. The frequent fires have aided much in clearing away the wood and Willows, so that we now have an extensive and grand view of the Range of the Rocky Mountains to the Southward of us, lying nearly about South West and apparently running about from West North West to South South East, directly opposite the Fort.[3]

Henry described the river as being 180 yards wide and "interupted by a strong Rapid, where the water rushes among some large stones, forming a cascade, the perpetual roaring of which is but a dismal neighbourhood in this solitary part of the World."[4] He indicated the presence of coal about 300 yards below the fort, at a large bend, and "About one mile and a half (or as I measured it, 23 Minutes' walk upon the Ice) below the Fort, on the south side, is the entrance of Clear water River."[5]

Henry also kept a detailed account of his winter activities, including comments about repairs and renovations to the post. When he arrived on 7 October 1810, he "set a party of men at work taking off the old covering of the houses which was entirely rotten."[6] During the first few weeks, the men lived in tents inside the fort until the buildings were habitable. He observed on 20 October that "Our repairs go on but very slow; the Old Buildings are rotten and falling to pieces, and the men are lazy in the extreme." The factor's house was finished by 26 October and Henry commented, "my room being finished, I removed from my Leather Tent, happy to get clear from that smoky dwelling, which I now gave up to the men for their residence."

As the repairs continued, Henry implied that the fort had more than one gate when he noted on 2 November that "the Rocky Mountains. . .we have fully in sight from the West Gate, laying to the East and West." Four days later he said, "My people finished the necessary repairs for the Winter, of the old Buildings, and a length of 20 feet for a Hen Yard." While he offered no explanation of the latter feature, Henry did have a flock of chickens at Terre Blanche post a few months earlier and probably brought them along.

Finally, on 7 November, Henry noted, "We now got our property into the Shop and Store House, and everything in good order." Now that the trading buildings were finished "The men began to work at the repairing of their own Houses, which are in a wretched state, and require to be almost renewed entirely." He noted that the fort contained three men's houses and on 15 November, "Dumont & co.

finished their House." Two days later "Le Blanc, Doyen & co. finished their houses" and on the following day "The third and last of our men's Houses were finished this day and entered; all hands are now under cover this Winter." Henry was able to note with some satisfaction that "We now for the first time got the Fort cleared out. Chips, Wood, dirt, and Snow there had accumulated a great quantity since our arrival here."

During the months of November and December, Henry also recorded the existence of other sections of the fort. On 10 November he allowed some Indians "to remain in the Indian Hall" and five days later, "Battoche making his Bed in the Indian Hall." On 23 November, "Two men sawing Plank for Gates" and three days later they "began to make our Fort Gates. Took down the Flag Staff to arrange the haulyard." On 1 December, "Pichette finished the Fort Gates, and the Bastions were put a little in order; they are most wretched buildings for defence." The dwellings, too, were less than ideal for on 5 December, he observed "A strong wind all day and night which causes every chimney in the Fort to smoke, and renders our house very disagreeable."

Early in 1811, Henry was warned that the Gros Ventre or Fall Indians intended to attack Rocky Mountain House, so he began to reinforce the structure. "I repaired the bastions," he noted, "and made a number of loopholes in the shop and garret to provide protection for the Indian hall." If there was going to be trouble with the Indians, he expected it to start there. "We might have it in our power to destroy a good number of them before they could get out of the house," he wrote, "and then again the people who were to keep watch in the Bastions would receive them in the Fort while retreating towards the Gates. There again the Bastions bear full upon them, and as they were crowding through." Henry felt that many Indians could be killed while trying to get out of the fort and "the loop holes in the Bastions bear full upon them until they had retreated beyond the reach of our Guns."

Fortunately the Gros Ventre attack never came, for in spite of the defenses Henry "doubted much the courage of my men."

As the spring of 1811 approached, the Gros Ventre Indians began to cause trouble again, so on 4 March, the men were employed "making loop holes in the Hall" and on the following day they were "working at the Bastions to receive the Fall Indians."[7]

When the Peigans and Gros Ventres arrived, the traders' worst fears were realized for on 15 March, they were "obliged to shut our Gates before Sun Set, to keep the Peagans off. Harranguer, a most terrible scoundrel. . .frequently attempted climbing over the Fort." On 2 April, "the Fall Indians set fire to our Stockades while the Flesh Eater [a Fall Indian] was sleeping in my Room but it was extinguished before any serious damage was caused."

By this time the fort was prepared for an attack and Henry placed his men in strategic positions. On 3 April he wrote: *Four men with Guns in their hands in the Garret, which looked into the Indian Hall, where through loop holes the Indians could see men were stationed with Arms. In the shop were Six men well armed, to command respect while Trading, and at the same time could fire into the Indian Hall if necessary through loop holes I had made for that purpose. In the Hall were Six men armed with Clubs, knives, Pokers, &c.; to them I gave no guns, as I well knew they were ignorant how to handle them. . .. In each Bastion which commanded arround the Fort were placed two men. In the Block House over the Gate I placed four of the most resolute men I had who would have it in their power to do great execution from the commanding situation over the Gate. At the Gate were Two men armed with Guns, &c. whose business it was to attend in letting in the Indians to Trade.*
Probably because of these elaborate precautions, the Indians traded peacefully and decided not to attack.

After the Gros Ventres had gone, the men continued to work on the fort. On 17 April, they "began to square timber for two Small Houses" and on 24 April, men were "squaring timber for Block House." On 1 May, "Men squaring Posts for the Indian house;" two days later "Men took down the South East Bastion and Pichette and Dumont began to make a new one on Posts;" and on the following day "Bastion, digging holes." Judging from Henry's earlier comments about the condition of the fort, the various buildings were all probably rebuilt or repaired before spring. The work may have continued through 1811, as Henry promised the Gros Ventres that "I would leave people here to pass the Summer."[8]

Noting more was said about the buildings at Rocky Mountain House for several years. In 1813 they were abandoned but

5 Chimneys of Hudson's Bay Company fort at Rocky Mountain House, about 1920 *(Glenbow-Alberta Institute).*

were reopened in 1818. Although the original structures must have been in bad condition after such a long abandonment, there is no evidence to indicate that new forts were built by either company. In fact, in the following spring the Hudson's Bay Company factor at Edmonton House was referring to his outpost as "old Acton House."[9]

After the amalgamation of 1821, the Hudson's Bay Company was alone at Rocky Mountain House and the post was maintained only during the winter months. There is no direct information to indicate whether the Hudson's Bay Company's Acton House or the North West Company's Rocky Mountain House was retained, although evidence would seem to support the latter post.

The earliest extant post journals for Rocky Mountain House are for the seasons of 1828-29, 1829-30, and 1830-31. They indicate that the ruinous condition of the fort kept the men busy repairing or reconstructing the buildings. As soon as they arrived at the fort on 16 October 1828, all men were put to work "repairing Fort, say putting some of the pickets, others making the Flooring in the houses."[10] On 20 October, they were "puting up a Bastion" and the next day "puting up another Bastion." On 3 November, three men were "moding the houses" while on 17 November, two men were "Prepairing covering stick for Houses." Although there is no indication

of major construction work, on 11 December, the men were "couvering the New House" before starting work on 15 December "cuting Fort Pickets."

Work continued into the new year, with "two men sawing and three choping logs for the Indian House" on 15 January 1829. On 5 February, "two men began to saw Pickets for a New Fort." It soon becomes apparent that the term "new" was used in an off-hand manner, for seldom did it indicate anything more than the repairing or replacing of part of the old structure.

On 9 March "two men sawing wood for flooring;" on the following day "one making Pegs for Fort Pickets;" and on the fourteenth "two arrenging the Fort Pickets." On 10 April, two men were "prepairing roof sticks," on 14 April the men were "puting up the Indian house" and covering it the following day. By 17 April they "got the Building [the Indian house] covered, a Part of the Garret made, and half of the chimney maid also." While this was being finished there were "two men making a Fort gate, one making doors for the Indian House" on 20 April.

By this time spring was almost upon them, so on 29 April they "Put the Iron work en cache" and on 4 May they "Got all the doors carried in the woods that the Indians myght not take the nail out of them." On the following day the post was closed for the summer.

When the men came back in October, 1829, they "Got the Indians house repaired" on 19 October, even though they had just built it during the previous winter. On 29 October, "the men Employed repairing the Blacksmith shop" while the rest of the month was spent trading and mudding the houses. As the spring of 1830 approached, two men were sent out on 13 March "choping logs for a Bastion" and work on the structure continued until the post was closed on 11 April.

At the beginning of the 1830-31 season, the men "imediately began to repairer our Fort" on 30 September and work apparently started on a new or renewed structure. On 1 October, "three men working at the New House;" on 7 October, "two men Choping logs for the new House, five covering it with Hay or Earth, two plaining Boards;" and on 12 October, "six men making two chimneys in the new House and four at the flooring." Although the building was not identified, it was not another new Indian house for on 15 October there were "six Men covering the Indian house, four working at the new House."

On 24 October, "sent two men for white mod, four men moding the Men's Houses" and two days later two men were "making the Flooring in the hall, six others moding the Houses."

A new phase of the work was started on 15 November when two men were put to work "choping Logs to make a bastion" and on 20 January 1831, there were "three men working at the Bastion." On 2 April, two men were "working, build a wach [watch] house" while on 14 April there were "three at the Bastion" and on 18 April "all Hand working at the Bastion."

In 1832, Rocky Mountain House was abandoned for two years and when it was reopened in 1834 it was in such bad condition that work was started on a new fort "a short distance form the old one"[11] in January, 1835. The existence of a new structure is evident in the post journals of 1836-37 for there is practically no mention of repair or construction work taking place. When the winter party arrived on 1 October, they met "Louis Leblanc, who had been sent with two men in August to get the Fort put in order. all well."[12]

As the visitors began to arrive at Rocky Mountain House in the 1840s, they made a few comments about the post. The Reverend Mr. Rundle first visited the fort in 1841 but his only observation about individual buildings was a reference on 22 February to the Indian house.[13] When he returned in 1845, he met Father De Smet and observed that the priest "would hold his [services] in a house." A number of other services were held in the "Hall" and "in Back Room" and on 23 October, Rundle had "Prayers in morning in Cree & Assiniboine in Big House (67 present)." For his part, Father De Smet had nothing to say about the fort.

Rundle was back at Rocky Mountain House in 1846 and on 30 October he held "Prayers at night in Louis' House." Some time later, on 22 April 1848, he was "Quartered in Louis' old house."

Artist Paul Kane's comments about the fort, which he visited in 1848, also were brief. He noted that it was "abandoned and left empty every summer"[14] and was made of wood. Kane did, however, execute the only known painting of this fort. While it is only in the background of an Indian camp scene, the high palisades and bastions on at least two corners are visible.

Gladstone, who worked at the post intermittently between 1848 and 1861, made only passing reference to the structure. He recalled that he "worked in the boat yard"[15] in the winter of 1849-50 and watched an Indian battle from "a gallery of the fort" in 1850-51. Another Hudson's Bay Company employee, however, was more detailed in his descriptions of Rocky Mountain House. Henry Moberly, who was in charge during the winter of 1854-55, stated that:

Mountain House was surrounded by the usual 28-foot pickets, with a block bastion at each corner and a gallery running all round inside about four and a half feet from the top, each bastion containing a supply of flintlocks and ammunition. Within was a square formed by the officers' houses, men's houses, stores and general trading-shops, a square between this and the pickets for boat-building, with forges and carpenter-shops, another square for horses and a fourth for general purposes.

There were two gates, the main gate on the north and a smaller one on the south side leading through a narrow passage the height of the stockade into a long hall. In this hall, amid much speech-making, the Indians were received, the calumet passed and two glasses of rum of medium strength were given to each Indian. They were then turned out and the gates closed against them, the only means of communication being through two port-holes some twenty inches square opening through the stockade into a small blockhouse through which the trade in rum was conducted.[16]

Moberly's description of four squares within the single palisade is somewhat confusing, but he may have been trying to indicate the existence of small areas off the main square. These areas for a boat yard, horse yard and general yard would probably have opened onto the square. His description is supported by Gladstone's reference to a boat yard but is questionable in other points. The fact that Moberly was 91 years old when he collaborated with a writer to prepare his reminiscences might also account for some discrepancies.

When the Reverend Mr. Woolsey visited Rocky Mountain House in 1857, he noted that "The Fort is situated on an eminence, and though irregularly formed, is somewhat quadrangular.... It is only a winter post."[17]

In the following year, Dr. Hector of the Palliser expedition visited the fort on three occasions. During the first visit on 14 January, he noted the fort to be "in a very ruinous condition, owing to its being abandoned every summer when it is generally adopted as a residence by several families of Indians, who prove anything but improving tenants."[18] He said the fort was "a roughly constructed group of log huts, consisting of a dwelling house, stores, and workshops, and all surrounded by a palisade. The woodwork is very old and rotten, and the whole place is tumbling to pieces."[19]

His location of the fort was precise when he observed that:

The terrace level on which the fort stands is 20 feet above the river, and in proceeding back a slight descent is made in the "muskegs", which lie along the base of a second terrace like the first, composed of shingle.... On reaching the hill [about two miles west of the fort] *I found it to rise about 80 feet above the second terrace level, and nearly 150 feet above the river.*

Three hundred yards below the fort there is a rapid in the river channel, and fall of three feet caused by ledges of greenish sandstone that cross the stream. A few hundred yards below this the river receives a large tributary, called Clear-water River.[20]

When Hector approached the area, he travelled on the river "upon beautiful clear ice, but which is full of open holes from the rapidity of the current, at one of which, caused by a rapid, we had to leave the river and pass through the woods, when we emerged in a large plain on which stood the fort."[21] He noted that the river opposite the fort was 130 yards wide, and when at its lowest was from 2 to 3 feet deep.

Because of the condition of the fort and the hostility of the Blackfoot, the place was closed in the spring of 1861. Before they left, the men built a block-house about four miles downstream to use as a cache. When the post was reopened in 1864, plans were approved for the erection of a new fort. Work on the structure probably started in 1866, although the men were cutting timber and squaring logs for the fort during the previous winter. John B. Tyrrell, who visited the site in 1886, commented that the distance from the new fort to the old one was "about 50 chains farther up the river in the southern portion of the N.E. 1/4 of the S.W. 1/4 of Sect. 17, Tp. 39, Range 7, West of the 5th Meridian."[22]

The post journals for 1866-68 began in May, with "Paquet and McCleod working at the new fort"[23] and on the

following day they were "working at the gates for new fort." They put up a gate on 26 May, "the last gate" on 28 May, and started to build the bastions on 1 June. On 14 June they "covered Mr. Hardisty's house" while two days later men were "putting up beams in the store." On 20 June they were "working at beams in Indian house and Interpreter house" and two days later they "put up the remainder of the beams to day into the Mens houses and Indian houses." On 25 June they were "working at the platings of dwelling houses;" on 9 July "Paquet and McCleod putting up couples in the wings of dwelling house;" and on the thirteenth they "commenced of the infilling of Bourgois house."

In the fall, after a summer of near starvation, a man was put to work "white washing Mr. Hardisty room" on 28 September and on 22 November, "Borwick and 2 men gathering stones for chimneys."

After the fort was finished, a number of persons visited the area. Father Lacombe made no comment about the appearance of the post, but the Reverend John McDougall noted in 1869 that it was "a large place in regular fort style, with stockades, bastions and citadel."[24]

Captain Munroe, whose reminiscences deal with the fort in the early 1870s, noted that when "all the gates were shut and locked, only one narrow door was used to let the traders go in and out."[25] He also referred to a "trap door through which a buffalo robe was placed" and that "good were pulled back and forth on the buffalo robe," likely in the trading room. He said there was "a building inside where [the Indians] stayed" and during a troublesome period some Indians were hidden "in the basement of the Fort."[26]

When William Butler visited the fort late in 1870, he noted that it "stands in a level meadow which is clear of trees, although dense forest lies around it at some little distance."[27] He was impressed with its defences and observed that "Bars and bolts and places to fire down at the Indians who are trading abound in every direction."[28] Before the trading began, Butler said that all communication was cut off between the Indian room and the rest of the fort and the Indians were admitted through "a narrow passage into the trading-shop" where their pelts were handed through a wooden grating to the trader. When they had finished "out they go to the large hall" where others were waiting to trade.[29]

Another visitor to the fort during this period was Charles Horetsky, a Canadian Pacific Railway surveyor, who left no writings but photographed a group of Peigan Indians there in November, 1871. This was the earliest known photograph of the area and was probably taken inside the compound. Immediately behind the group is a sidewalk while behind that is a wall of squared timbers containing a shuttered window.

In January, 1873, W.S. Gore surveyed the Hudson's Bay Company land claim and established the precise location of Rocky Mountain House. Gore did not make a detailed drawing of the fort, but he did show a structure about 175 feet square with bastions on four corners and a garden on the southwest side.

Later in the same year, Jean l'Heureux, a French Canadian who lived with the Blackfoot Indians, made a detailed primitive sketch of the post. This drawing contains a wealth of information about the buildings and activities around the fort. His sketch, combined with Gore's survey and the archaeological excavation of 1966, provide valuable information about the last of the Rocky Mountain House forts.

On the basis of existing historical information, there were four trading posts in the Rocky Mountain House area. These included Hudson's Bay Company's Acton House, 1799-1821; North West Company's and later Hudson's Bay Company's Rocky Mountain House No. 1, 1799-1834; Hudson's Bay Company's Rocky Mountain House No. 2, 1835-61, and Hudson's Bay Company's Rocky Mountain House No. 3, 1866-75. This is based upon the premise, although not conclusively proven, that Acton House and not the Nor'Wester post was abandoned in 1821.

At this writing two sites have been excavated and one site tentatively located.

Site No. 1 is on the NE.1/4 of 17-39-7-W5, on the west side of the North Saskatchewan River about three-quarters of a mile above its confluence with the Clearwater. The site is positively identified as Rocky Mountain House No. 3 through the survey of W.S. Gore, the sketch of Jean l'Heureux, and the archaeological investigation of 1966. This site is preserved by the National and Historic Parks Branch of the Department of Indian Affairs and Northern Development and contains the famous chimneys of the fort.

Site No. 2 is on the SW. 1/4 of 17-39-7-W5, on the west side of the North Saskatchewan River about one and one-half miles above its confluence with the Clearwater. It is in a cultivated field in a flat below the Brierley farmstead, and was excavated by the Glenbow Foundation in 1962-63.

There are conflicting opinions among those involved with the dig as to whether it is the site of Rocky Mountain House No. 1 or Rocky Mountain House No. 2. Unfortunately, there is not yet sufficient historical evidence to make a positive identification, nor is there specific data to rule out either fort. For the purpose of assessment, some of the historical facts relating to both forts are presented.

There are several facts whcih favour fort No. 1 (1799-1834) as being at the site of the Glenbow excavation. First, Thompson and Henry indicated the existence of an overhead bastion, similar to the one found at that site.

Thompson's calculations of a trip to Fort Augustus in 1801 indicate the route N.1W. 1/2 mile, N.41E. 1/3 mile, N.81E. 1/4 mile, N.86E. 1/4 mile, and N.61E. 1/8 mile from the fort to the mouth of the Clearwater River.[1] When this route is followed back, it begins on the river about 300 yards northeast of the archaeological site, on the same flat.

Henry mentioned that the fort was one and one-half miles above the mouth of the Clearwater, which is very close to the distance from the archaeological site to that river.

When Henry was trying to smuggle his canoes up-river on 11 October 1810, they passed his fort and had "scarcely got round the Point"[2] when some Indians arrived unexpectedly. The canoes put up about a mile up-river from the fort and at 1:00 A.M. his men walked back to pick up the goods. This "Point" mentioned by Henry must be the one at the extreme corner of the NW.1/4 of 7-39-7-W5, as it is the only one in the area. As the archaeological site is about three-quarters of a mile below the "Point," it could conveniently fit Henry's description.

On the other hand, Henry mentioned on 1 May 1811 that his men were taking down the southeast bastion of the fort and were building a new one on posts. The Glenbow site has no southeast bastion. The argument, however, does not end there, for Thompson, who was at the same fort, told of "arranging" the south bastion. If one of these men was wrong in his direction, it was probably Henry, as Thompson was a surveyor who was concerned with such details.

The matter of building the new bastion on posts is another point for consideration, as only the north bastion at the archaeological site appeared to have been built in that fashion. The south bastion appears to have been made of horizontal logs with vertical corner posts.

On another matter, Henry said that "our establishment . . .stands upon a high Bank on the North Side of the River." This would seem to rule out fort No. 1, as the archaeological site is located on a flat where the river has relatively low banks. But, as if to confuse any seemingly concrete evidence, Woolsey visited fort No. 2 in 1858 and described it as being "situated on an emimence." So we have both forts being described in a similar manner as occupying high pieces of land. While no significant topographical changes could have occurred in the last century, the present forest growth and cultivation may give the modern highway traveller a different view of the archaeological site than that gained by travellers who first saw the fort from across the river.

There are also a number of facts which support the claim that the archaeological site marks fort No. 2 (1835-61). First, Tyrrell stated that Rocky Mountain House No. 3 was located 66 chains

downstream from fort No. 2, and a survey has shown this to be the distance between the two excavated sites.

Then, in 1858, Hector described fort No. 2 as being located on a terrace 20 feet above the river, which descended slightly to some muskeg at the base of a second terrace. This is a perfect description of the Glenbow site, with the muskegs still in existence, and definitely places the fort in the immediate vicinity of, if not at, the site of the excavation.

On the other hand, Paul Kane's painting of fort No. 2 made in 1848 shows a structure which is quite different from the archaeological site. While Kane's fort has two bastions on adjacent corners and none on a third corner, the excavated fort had two bastions on opposite corners and a half-bastion over one gate.

Moberly's description of a fort in 1854-55 with four bastions and several compounds does not fit any of the available data and is therefore not being considered in this study.

From the above information, one may form opinions, but there is no basis for a positive identification. The fact that Thompson and Henry mention an overhead bastion on fort No. 1 while none is mentioned on fort No. 2 is significant, but not conclusive. Kane's painting is relevant, but it was done after he returned east and was based upon his field sketches. As the fort occupies only a background place in the painting, the possibility of error cannot be ignored. Unless new evidence is forthcoming, the identification of the archaeological site is a matter of opinion, not conclusive fact. Regardless of which fort is involved, I believe that the companion fort must be extremely close, possibly on the same flat, and was just as Harriott said in 1835, "a short distance" from the other one.

Site No. 3 is located midway between excavated sites 1 and 2, in the Brierley farmyard. Gish felt that this might have been the site of Acton House and said that "a depression containing stones and decayed logs used to be visible."[3] Today there are no obvious surface signs at the site as the area has been much disturbed and is among the farm buildings.

It is possible that Acton and Rocky Mountain House originally were built side by side within a single palisade at this site. A number of such posts were built downstream for mutual protection and were usually the result of prior planning. In this instance, the Nor'Westers and Hudson's Bay Company people did come to the site together both in their overland and their river parties; however, there is nothing in the papers of Thompson or Henry or in the Hudson's Bay Company records which throws any light upon this possibility. In 1806, Thompson commented, "find that the English are watching us, think'g that we have built above at the Mountains;" he also knew how many Indians went to the Hudson's Bay Company fort. In 1810, Henry noted the arrival of a Hudson's Bay Company party coming to "winter along side of me at this place," but his detailed description of his own fort includes no reference to his competitors.

On the basis of scanty historical information and no archaeological data, site No. 3 must be considered to be an unidentified one.

As trade goods have been found in the archaeological excavations at Rocky Mountain House, a few appropriate lists are presented here. The first, prepared by David Thompson shortly after arriving at Rocky Mountain House No. 1 on 31 October 1806, is an inventory of goods on hand. The second list, dated 5 January 1807, indicates the items traded to the Peigan Indians. The third list, prepared during the same year, is a request for goods for the Columbia Department, and is included in Thompson's "Journal of the Rocky Mountain House, Occurrences, 1806 & 7." The list was probably a standard one used by all North West Company posts, as there are a number of items which were not ordered. Although the goods were destined to cross the mountains, they must have been shipped via Rocky Mountain House and probably reflect the type of goods handled in the area at the time. The fourth list was prepared by Alexander Henry and shows the goods handled for the Gros Ventre trade, both at Rocky Mountain House and Fort Vermilion. Besides this list, Henry prepared others for the Blood, Peigan and Sarcee Indians, listing the same items but showing Fort Vermilion as the only outlet.

Among the interesting features of the four early lists is the lack of any mention of clay pipes, and the limiting of beads to blue, white and green colours. Also surprising is the presence of such luxury items as chocolate, coffee, nutmeg and peppermint, probably for the personal use of the officers.

The fifth list is an invoice of supplies taken to Rocky Mountain House in 1851 by James Sinclair. This is probably not a

complete inventory of goods handled at that time, but is merely a good sampling. The sixth list is an inventory of articles left at Rocky Mountain House after it was closed in 1875. At that time the fort was being kept open by Angus Fraser, acting as a free trader. The list probably represents a few basic articles which had been left behind in the event that the fort should be reopened.

The seventh and final list is part of an inventory of merchandise at the Hudson's Bay Company's two Bow River posts on 1 May 1878. Although this is three years after Rocky Mountain House had closed, these two posts had taken over much of the fort's trade with the Blackfoot and Stony tribes. Many of the items are undoubtedly the same as those handled by the earlier post, while some of the luxury items, particularly at Elbow River post, were later additions for the Mounted Police trade.

The original list contains several hundred items and includes inventories of Lesser Slave Lake, Victoria Post, Lac La Biche, Lac Ste. Anne and Edmonton, as well as the Bow and Elbow river posts. However, only the items actually stocked on the Bow River at the time of the inventory are listed, and data from the other posts have been omitted.

List No. 1

[Inventory of goods on hand at Rocky Mountain House, October 31, 1806.][1]

1	piece of HB blue Strouds
14	Yds do. do.
3	" Com. do.
3-3/4	Yds HB green do.
16	" Aurora do.
3-1/3	" Scarlet do.
1-1/2	Yds. blue Molton
2	Blankets 3 pt.
9	do. 2-1/2 pt.
5	Capots of 3 Ells
35	do. 1-1/2 "
43	" 1 "
4	Chiefs Coats
7	Yds. Cotten
1	Belt
8	Yds. com. Calicoe
1	Calicoe Shirt
1	Linnen do.
2	Small Calicoe
1	do. Cotten
11	Cotten hand'k
5	Silk do.
6	Calicoe Mantlets
3	Beaupines
6	pr. Sleeves large
7	" " med.
6	" " Small
1	piece silver lace
80	Pigiene Eggs
3	steel Tob. Boxes
2	Jap'd do.
6	Eyed Dags
3	Gimblets
1-1/4	Doz. 10 In. Niles
5/6	" 8 "
3	Indian Flags
22	Yds. Gartering
3	laced Hatts
2	bound do.
6	lbs. Vermillion
4	pr. oxhide shoes
2	pr. portage slings
1	Cod line
2	Sponges
12	doz. large Knives
16	" Small do.
7	" Fire Steels
10	gross Rings
2	" Gun Worms
1/4	W Thread
2-1/2	Gross Awls
2	pr. Scissors
153	Gun Flints
9-1/2	doz. hawks Bells
10	looking Glasses
6	Bunches of blue Beads
4	Masses China do.
7	" Barley Corn do.
1/3	lbs. of Glaubers Salts
9	horn Combs
11	Ivory do.
19	Yds. Ribben
1/4	lb. of snaring wire
19	new NW Guns
5-1/2	Kegs Gun powder
7	Bags Ball
3/4	nest Kettles
1	Bag of 55 lb. of Shot
6	Rolls of Tobacco
10	Carrotts do.
25	half axes
9	small do.
15-1/2	prs. of Trenches
10	Kegs of H Wines, less 11 qts.

List No. 2

[List of goods traded to the Peigan Indians at Rocky Mountain House, January 5, 1807, for which the North West Company received 236 wolf skins, 30 beaver, 6 bear, 5 badger, 730 lbs. of side fat, 180 lbs. of dried meat, 120 lbs. of grease, 124 tongues, almost 2 animals in fresh meat, 40 lines for horse bags, 3 buffalo robes, 15 sides of dressed leather, 70 lbs of pounded meat, 3 dressed elk skins and 1 elk parchment skin.][2]

1	piece of Tobacco
1,800	Balls
2/5	Kegs Powder
1 or 2	Kegs H Wines

14 large Knives	14 Steels
15 small do.	27 Gun Flints
1 Bunch of Blue Beads	49 Awls
1 Gross of Rings	15 Gun Worms
7 looking Glasses	75 papers of Paint

List No. 3

Order for the Columbia Department, 1807-08[3]

		1807	*1808*
Awls, Indian	Doz.	–	24
, Canoe		4	–
Axes, Canada large	No.	–	4
half	)		
small	)	2 Cases	60
square headed for Canoes		2	4
Adzes		–	1
Allum	lb.	1/16	1/4
Augers of 1-1/2 inches	no.	–	1
1 do.	"	–	1
3/4	"	–	–
1/2	"	–	1
Blanket, Striped, 2-1/2 pt.	"	1	2
plain, 3 point	"	12	10
2-1/2	"	12	10
2	"	2	4
1-1/2	"	2	4
1	"	2	6
Belts, small worsted	"	20	50
Beads, com White	lbs.	4	6
Blue	"	–	–
Green	"	–	–
China	masses	–	–
Boxes, Tobacco, steel	No.	4	6
Japan'd with B G	"	2	6
Bells, hawk	Gross	–	6
Buttons, Coat	"	–	1
Waistcoat	"	–	1
Brandy, french	Kegs	1	1
Balls	Bags	1	1

List No. 3 (Continued)		*1807*	*1808*
Coats, Chiefs, blue laced	No.	–	2
gartered	"	2	4
Red laced	"	–	–
gartered	"	–	4
Capot, Illinois	"	6	12
Books, Blank of 1 Quire	"	2	4
Seeds, Garden, a Quantity			
Capots, Molten of 4 Ells	No.	4	10
3-1/2	"	15	20
3	"	12	12
2-1/2	"	4	6
2	"	2	6
1-1/2	"	–	6
1	"	–	6
" , Swanskin of 4 Ells	"	–	–
3-1/2	"	–	–
3	"	–	–
2-1/2	"	–	–
2	"	–	–
1-1/2	"	–	–
1	"	–	–
Caps, grey milled	No.	–	4
Combs, Ivory	Doz.	–	1
Horn	"	–	6
Cards, Playing	Packs	2	6
Cocks, brass	No.	–	–
Calicoe	fms.	6	15
Candlesticks, brass Camp	prs.	1	1
Candles, wax	lbs.	2	3
Chocolate) 1 Partner, 2 Clerks			
Coffee)			
Cinnamon	lbs.	1	2
Cloves	"	1	1
Campher	"	2	4
Darts, fish	No.	12	24
Dags, hand, small	"	30	66
eyed	"	–	–
Dishes, tin, large	"	–	2
Eau de Luce	Bott.	1	1
Files of 7 Inches	Doz.	2	6
9 Inches	"	4	6

List No. 3 (Continued)		*1807*	*1808*
handsaw	No.	2	1/3
X cut saw	"	1	1/6
Whip-pit saw	"	1	1/6
File, half round 10 In.	"	1	1/6
do. 8	"	1	1/6
Rat tail	"	1	1/6
Feathers, cock	Doz.	–	–
Flags, Indian	No.	–	1
Flour	Bags	2	2
Funnels, tin	No.	–	1
Flints, Gun	[?]	8	15
Glasses, papered looking	Doz.	–	6
Guns, NW	No.	10	20
Gun worms	Doz.	–	6
Gun Powder	Kegs	2	5
Gouges of 1/2 In.	No.	–	1
3/4	"	–	1
Gimblets, spike	"	1	1
small	"	12	24
Gartering, assorted	Pieces	4	12
Hankerchiefs, silk	No.	–	18
cotton	"	–	18
Hatts, velvet bound	"	–	4
Horns, powder	"	12	as many as possible
Hoes	if any	1	1
Hooks, Kirby	No.	–	50
mid size	"	50	100
Cod	"	–	50
Hammers	"	1	1
Hinges, large	pr.	–	–
small	"	–	–
Hartshorn Spirits	Bott.	1	1
Ink Powder, black	Papers	2	4
Red	"	–	1/2
Kettles, Copper, camp	Bale	–	–
Kettles, copper, common	Bale	1/2	1
Knives, scalping	Doz.	6	14
Locks, stock	No.	–	–
Pad	"	–	2
Lines, Cod	"	4	6

List No. 3 (Continued)		*1807*	*1808*
small fishing	"	–	12
Lancets in Can of 2 each	Can	1	1
Lemon Essence	Bott.	1	1
Laxitive Electuary	oz.	–	2
Mantlets, calicoe	No.	2	6
Maitres of 3, lbs.	Bunches	4	6
Magnesia	oz.	2	2
Mace	"	1/2	1
Needles, large	No.	100	100
common small	"	–	100
Nutmegs	Doz.	1	2
Pots, Japan'd of 1 pint	No.	1	2
1/2	"	1	2
1/4	"	1	2
1/8	"	1	4
Paper, fools cap	Quire	4	6
fish, Quarto	"	4	6
Plates, tin	No.	–	–
Pischens	"	–	–
Pencils, black lead	"	6	12
Pepper	lbs.	4	4
Peppermint	Botts.	24	24
Purges	Doz.	2	2
Plaister Blistering	oz.	2	4
Quills	[?]	1/2	–
Razors	No.	4	4
Rings	Gross	–	–
Rhubarb	oz.	2	2
Strouds HB blue	Pieces	1/2	1
Red	"	1/2	1
White	"	1/2	1
Common	"	1/2	1
Slings, portage	No.	4	6
Steels, fire	Doz.	12	24
Shirts, cotton	No.	24	30
flannel	"	10	15
Scissors, small	prs.	–	12
Sponges	lbs.	2	4
Saws, hand	No.	1	1
Sheeting, Russia	Yds.	2	4
Shot, Beaver	Bags	1	3

List No. 3 (Continued)		*1807*	*1808*
Moulds for Ball, 26 or 28 to the lb.	prs.	1	2
Salt	Keg	–	1/2
Soap, marbled	lbs.	20	30
Salves, drawing	Boxes	–	2
Saga	Keg	1/2	–
Sulphur	oz.	1	2
Steel yards, 130 lb.	prs.	1	1
Trowsers, R. Sheeting	prs.	6	12
Thread, Nett	lbs.	13	18
Coloured	"	1	3
Twine, Sturgeon	"	4	12
Holland	Skeins	24	36
Trencher, broad	No.	–	30
narrow	"	–	30
Tap, Brass	"	–	1
Tunlingten	Bott.	24	24
Tea, Aysen,	lbs.	1 partner,	2 clerks
Tobacco, Albany	Rob.	2	6
Vermillion	lbs.	–	4
Vinegar	Gall.	–	2
Vitriol, blue	oz.	–	1
Vices, small key	No.	—	1
Vomits	Doz.	24	2
Winbrage for Ear	lbs.	–	1/2
Trading	"	–	2
Wick, Cotton	Balls	10	12
Wax, sealing	Sticks	4	6
Wossen [?], coloured	Bun.	–	–
Wines, high		–	–
Wine, Madeira	Keg	–	1

List No. 4

[List of the Gros Ventre Indian trade, 1808 and 1809. "The Indians Trade at the Rocky Mountain House and Fort Vermillion."][4]

121	lbs.	New Twist Tobacco	@	3 : 1	18 : 13 : 1
22	"	Balls		1 : 10	2 : – : 4
16	"	Powder		4 : –	3 : 4 : 4
46		Gunflints per 25/–		: 10	1 : 8
1	7/12	Doz. Scalpers		9 : 1	14 : 4
22		Gun Worms per 25/–		1 : –	1 : –
1	9/12	doz. Folders		3 : 5	6 : –
1	7/12	doz. Camwood		7 : 6	11 : 11-1/2
1		" Blue Beads		3 : 4	3 : 4
5		Half Axes	each	5 : 4	1 : 6 : 8
6		P.C. Glasses		: 9	4 : 6
	1/4	" Vermillion		8 : 3	2 : 1
8	1/8	Gallons High Wines		19 : 8	7 : 19 : 1

List No. 5

[List of goods supplied to James Sinclair for Rocky Mountain House, dated May 21, 1851, from Edmonton House.][5]

1851, Oct. 6 –	6 lb.	Tobacco	2 : –	£- : 12 : –
	3 "	Gunpowder	1 : 4	4 : –
	5 "	Ball Shot	: 8	3 : 4
	10	Gunflints		: 3
	2	Scalping Knives	1 : –	2 : –
	2	Plain Blankets 2-1/2 pts.		19 : 6
	10 pr.	Indn. Shoes	1 : –	10 : –
	89 lb.	Dried Meat	: 3	1 : 2 : 3
	1	Pack Saddle		5 : –
	1	Appectumen		2 : 8
	2	Half Beef Skins		5 : –
Nov. 17 –	1	Com. Indn. Gun)		2 : 6 : 6
	1	" Capot 1-1/2 Ell)		8 : –

* To Cadien for note 15 MB

List No. 6

[List of articles left at Rocky Mountain House, November, 1875.][6]

2 Packs prime Buffalo Robes
1 Do. Do. Skins
182 lb. Hard grease
3 Hand Saws
1 Pit Do.
1 Drawing Knife
3 Hand Plains
4 Tin Pans
1 Do. lantern
1 Candle mould
1 Squaring axe
3 Cast Steel Do.
3 quarts of English salt
1/2 Keg of nails
4 trading guns
4 Rolls of narrow gartering
1 Broad awl
2 Fish nets
8 Kettles
1 Old cooking stove
1 large stove Eq't.
12 Rolls tobacco

List No. 7

"Inventory of Sundry Merchandise, the property of the Hudson's Bay Coy. remaining on hand in Edmonton District, the first day of May, 1878, on account Outfit 1877."[7]

Elbow	Bow River		
17	15	lb.	Beads, white Enamel
18	15	Bunches	do. various col'd seed
41	–	"	do. white do.
5	–	Ea.	Belts, mens worsted scarlet 2 in.
6	–	"	do. " " " 4 "
–	4	"	do. " " Magenta 6 "
5	3	"	do. " " Striped 2 "
–	3	"	do. " " " 4 "
2	4	pair	Blankets, dark blue 3 pts.
1-1/2	–	"	do. " " 2-1/2 "
4-1/2	1/2	"	Green " 4 "
3	–	"	do. " " 3-1/2 "
1-1/2	13	"	do. Scarlet 3 "
4	3	"	do. " 2-1/2 "
4-1/2	1/2	"	do. white 4 "
3	–	"	do. " 3-1/2 "
9-1/2	28	"	do. " 3 "
7	–	"	do. " 2-1/2 "
6	–	"	do. " 1-1/2 "
24	–	"	do. " 1 "
–	2	"	do. fancy striped 3-1/2 pts.
3/4	–	Gro.	Braid, narrow worsted
1-1/3	1/3	doz.	Bridles, short single reins
–	1/6	Gro.	Brooches, med. #2
1	–	Set	Brushes, roach shoe
5	–	Gro.	Buttons, gilt ball vest

List No. 7 (Continued)

Elbow	Bow River		
7	–	Ea.	Capots, blue blanketing 3-1/2 ells
9	1	"	do. " " 4 "
7	–	"	do. white " 4 "
–	2	"	do. mixed grey cloth 3 "
–	5	"	do. " " " 3-1/2"
24	10	"	do. " " " 4 "
31	16	"	do. Indian white " 1 "
49	20	"	do. " " 1-1/2"
61	12	"	do. " " 2 "
34	10	"	do. " " 2-1/2"
19	5	"	do. " " 3-1/2"
33	18	"	do. " " 4 "
4	–	Yds.	Cloth, S'fine navy blue
154	–	"	do. second dark "
45	–	"	do. " light "
9	40	"	do. " scarlet
31	–	"	Coating, Grey bath
5	6	Ea.	Coats, Indian laced blue
6	–	"	do. " " scarlet
3	–	"	do. lustre brown sac
5	–	"	do. " black "
5	–	"	do. fine tweed
2	2/3	doz.	Combs, fine horn dressing
2	1/2	"	do. large horn
1/4	–	"	do. small "
1-11/12	5/12	"	do. small ivory
642	322	yds	Cotton, 7/8 light printed
48	–	"	do. 36 in. S'fine twilled white
70	–	"	do. 6/4 blue striped
55	–	"	do. 6/4 red "
1/2	–	lbs.	do. Ball Wick
2	–	doz.	Dags, hand 7 in.
4	–	"	do. " 9 "
33	130	Yds.	Druggets, 45 in. plain blue
1441	130	"	do. " " striped blue
40-1/2	40	"	Duffle, 6/4 white
2	–	Doz.	Files, flat bastard 6 ins.
3	–	"	do. " " 8 "
7/12	–	"	do. Pit saw
1/12	–	"	do. Tenon

List No. 7 (Continued)

Elbow	Bow River		
–	55	Yds.	Flannel, fine dark blue
10	–	"	do. " light "
–	10	"	do. " scarlet
60	18	"	do. " white
4	–	Ea.	Frocks, stout duck
5	–	"	white guernsey
7	–	"	do " lambswool
–	1/4	Gro.	Garters, light blue
–	1/4	"	do. green
1/4	–	"	do. scarlet
1/6	–	Doz.	Glasses, wound peuter frame
7	10	Ea.	Guns, com. Indian flint, 3 ft.
2	–	Cwt.	Gunflints, mixed
150	675	lbs.	Gunpowder TPF
1-1/2	–	Gro.	Gunworms
57	12	Doz.	Handkerchiefs, 4/4 f'cy Corah cotton
1-1/2	–	"	do. 5/4 " Mistin
1-1/7	–	Prs.	do. Corah silk
5/6	3/4	doz.	do. Black, 36 in. silk
1/3	–	"	Hats, mens thresher felt black
13	–	Yds.	Hollands, brown
1-2/3	–	Gro.	Hooks & Eyes, black
1-5/6	–	"	do. & do., white
21	6	Ea.	Horns, powder
7/12	–	Pr.	do. mens grey wsd. half
5/12	–	"	do. womens col'd wds. long
7-1/4	–	Yds.	Huckabuck, 8/4 bleached
1	1	Ea.	Jacket, pilot cloth
14	8	"	Kettles, open copper, 2 Gn.
10	6	"	do. " " 3 "
1	1	Doz.	Knives, Butchers Beechwood handles 8 in.
1/2	–	"	do. " " " 10 "
1/3	1/3	"	do. Buffalo hunting "
1/2	–	"	do. Fine horn pocket w'h pricker
1-1/6	–	"	do. " " " dble blade
–	25	Yds.	Merino S'fine black
–	50	"	do. " blue light
–	50	"	do. " crimson
1/4	–	Doz.	Neckties, Burlington #4 black
1	–	Cwt.	Needles, darning

List No. 7 (Continued)

Elbow	Bow River		
2	–	"	do. Glovers
1	–	"	do. white chapel
1/12	–	Doz.	Pans, frying 9 in.
1/2	–	"	Pins, patent B.C.
2/3	–	"	Pipes, briar root #2
1	–	Gro.	do. Baltic yachter clay
1-1/4	–	Doz.	Pomatum, scented roll
14	–	Pces.	Ribbon, 8 dy. double black hair
2	–	"	do. 6 dy. sarsnet col'd.
1/4	–	Gro.	Rings, yellow metal finger
13	–	Ea.	Robes, Embossed 2
1/4	1/4	doz.	Scissors, Tailors small 9 in.
1/2	5/12	"	Shauls, 8/4 com'n black wool
11/12	1/3	"	do. 5/4 fine Tartan wool
1	1/2	"	do. 8/4 " " "
173	50	Ea.	Shirts, mens com. blue striped cotton
6	20	"	do. " " yacht "
11	6	"	do. " " dark blue flannel
27	8	"	do. " " red "
15	4	"	do. " " white "
15	6	"	do. " fancy Crimean " collars
–	6	"	do. Boys com. striped cotton
5	–	"	do. Childs " " "
1-12/112	3	Cwt.	Shot, #28 ball
1-14/112	1-14/112	"	do BB
–	50/112	"	Soap, hand yellow
2-1/2	–	Doz.	do. scented honey #2
1-1/4	–	"	Spoons, tin'd iron table
–	4	"	Steels, oval strike fire
1/3	1/3	Pairs	Stirrups, tin'd iron
1/3	1/3	"	Straps, Stirrup
456	96	Yds.	Strouds, HB plain blue
4	–	Ea.	Suits, fine light summer tweed
3	–	"	do. " winter "
25	50	Yds.	Tartan, assorted fine 24-1/4 Yds.
50	50	"	do. Galaplaid
1	–	Ea.	Tents, stout duck, 10 ells
1/4	–	Gro.	Thimbles, brass steel top
1-7/12	–	Doz.	do all "
2-7/12	–	"	Thread, col'd reel cotton

List No. 7 (Continued)

Elbow	Bow River		
2	–	"	do white " "
–	4	Lbs.	do. all cols. linen
–	80	"	Tobacco, Canada twist
16	8	Pairs	Trousers, drab beavertrim
10	12	"	do. com. blue cloth
–	10	"	do. " mix'd
44	5	"	do. drab Corduroy
4	–	"	do. blue "
–	3	"	do. com. grey gambroon
–	2	"	do. fine summer tweed
–	1	"	do. com. " "
4	–	"	do. fine winter "
5	–	"	do. duck sheeting
3	–	Yds.	Tweed, fine all wool light
23	–	"	do. " " " dark
25	–	lbs.	Vermillion in 1/4 lb. bags
14-1/2	–	"	Wire, ear #16
1	–	"	do. snaring #22
2	–	"	Worsted, colored
		Provisions	
60	–	lbs.	Chocolate, English
13	–	"	Mustard, Durham
26	–	"	Pepper, black
450	900	"	Tea, Congon in whole chests
		American Goods	
10	–	lbs.	Apples, dried Canadian
–	1/6	doz.	Axes, HB #177 4 1/4 lbs.
5/6	1/12	"	do. " #178 2 1/2 "
–	1 2/3	"	do. " #179 1 5/8 "
–	1/3	"	Belts, road, L'Assumption
–	1/3	"	do. narrow
10	–	Pairs	Boots, Kip miners
5	–	"	do. black oxford hunting
1	–	"	do. Shoes, fine calf elastic
1	–	"	do. Boys, Kip Balmoral
3 1/5	–	M	Cartridges, 7.44 W.C.F. for Winchester '73
7/10	–	"	do. 56.50 " Spencer's 8's

List No. 7 (Continued)

Elbow	Bow River		
6	6	Bags	Flour XXXX 100 lbs.
6	2	"	do. XXX
–	18	lbs.	Sugar, crash'd
100	–	"	Grease, hand
–	1/24	Gro.	Painkiller, P.D. med.
13	–	Ea.	Rifles, Winchester
–	2	"	do. " Carbines
10 lb.		Bbls.	Salt, Goderich of 5 bush.
			Country Produce
200	–	lbs.	Pemican com'n
20	–	"	Sinews
16	–	Ea.	Skins, dressed Buffalo whole
2	–	"	Tents, Leather used pr. skin

Acton House, 1799-1821, and Rocky Mountain House, 1799-1834

1 James G. MacGregor, *Peter Fidler, Canada's Forgotten Surveyor* (Toronto: McClelland & Stewart, 1966), pp. 74-8.
2 Duncan McGillivray, *The Journal of Duncan M'Gillivray of the North West Company at Fort George on the Saskatchewan, 1794-5* (Toronto: Macmillan, 1929), p. 56.
3 Hudson's Bay Company Archives (hereafter cited as HBCA), Edmonton House: Journals, 12 March 1798, B.60/a/5. This and subsequent references from the Hudson's Bay Company Archives, London, are published by permission of the Governor and Committee of the Hudson's Bay Company.
4 Ibid., 26 September 1799.
5 Ibid., letters, John Peter Pruden to James Bird, 17 June and 10 August 1799.
6 In his reminiscences, McDonald places the date at 1802 but he was in error (L.R. Masson, *Les bourgeois de la Compagnie du Nord-Ouest* [Quebec: Cote, 1889], Vol. 1, pp. 26-7). James Bird noted on 7 September 1799 that "Mr. McDonald of N.W. Co. had arrived [at Buckingham House] the 5th inst. & that he intends to build near the Rocky Mountains" (HBCA, Edmonton House: Journals, B.60/a/5.
7 HBCA, Edmonton House: Journals, 14 September 1799, B.60/a/5.
8 Ibid., 24 September 1799.
9 In some instances, traders referred to the fort as Rivière l'Eau House, Clearwater House, Stoney Mountain House, or simply as Mountain House.
10 For an account of this trip *see* Hugh A. Dempsey, ed., "Thompson's Journey to the Red Deer River," *Alberta Historical Review*, Winter, 1965, pp. 1-8.
11 David Thompson, *David Thompson's Journals* (Toronto: Ontario Archives), Vol. 6, No. 13 (hereafter cited as Thompson Journals).
12 HBCA, Edmonton House: Journals, 2 November 1799, B.60/a/5.
13 Thompson Journals, Vol. 8, No. 18, entries for November 21, 1806, January 26, 29, February 2, March 3, 5, 1807.
14 HBCA, Edmonton House: Journals, 25 August 1806, B.60/a/6.
15 Ibid., 22 September 1806.
16 Ibid.
17 Canada. Public Archives (hereafter cited as PAC), MG19, A13, Vol. 1, 6 October 1810.
18 HBCA, Edmonton House: Journals, 9 October 1818, B.60/a/19.
19 Ibid., 25 September 1818.
20 Ibid., 15 March 1820, B.60/a/21.
21 Arthur S. Morton, *A History of the Canadian West to 1870-71* (London: Thomas Nelson & Sons, n.d.), p. 630.
22 HBCA, Edmonton House: Journals, 30 November 1823, B.60/a/24.
23 HBCA, York Factory: Journals, Box 541, 811, Gov. James Simpson to Governor and Committee, London, 25 July 1827, B.239/a.
24 HBCA, Rocky Mountain House: Journals, various entries for 1828-29, B.184/a/3.
25 Hiram A. Chittenden, *The American Fur Trade of the Far West* (New York: Harper, 1902), Vol. 1, p. 334.
26 E.H. Oliver, ed., *The Canadian North West* (Ottawa, 1914), Vol. 1, p. 678.
27 For an account of this post's history, *see* J.E.A. Macleod, "Piegan Post and the Blackfoot Trade," *Canadian Historical Review*, Vol. 24 (1943), pp. 273-9.

Rocky Mountain House, 1835-61

1 HBCA, Bow Fort: Journal (Peagan Post and Rocky Mountain House Journal), 20 January 1834, B.21/a.
2 Ibid.
3 HBCA, Gov. George Simpson, Correspondence Books Inward, John Edward Harriott to Gov. Simpson, 27 April 1835, p. 66, D.4/127.
4 Ibid.
5 Ibid.
6 HBCA, Rocky Mountain House: Journals, 25 January 1837, B.184/a/4.
7 Glenbow Foundation. Archives, *Extracts from the Journals and Letters of Rev. Robert Terrill Rundle, Upper Saskatchewan River, 1840-48*, ed., Rev. J. P. Berry and Frank G. Roe, pp. 21-2.
8 Ibid., p. 24.
9 Hiram M. Chittenden and A. T. Richardson, *Life, Letters and Travels of Father Pierre-Jean De Smet, S.J., 1801-1873* (New York: Harper, 1905), Vol. 2, p. 518.
10 Glenbow Foundation. Archives, *Journal of the Rev. Robert T. Rundle, 1840-48*, entry for 7 October 1845.
11 Paul Kane, *Wanderings of an Artist Among the Indians of North America* (Toronto: Radisson Society, 1925), p. 287.
12 Ibid., p. 288.
13 William Gladstone, "William Gladstone's Diary," *Rocky Mountain Echo*, 30 June 1903.
14 Ibid.
15 Ibid.
16 Henry J. Moberly, *When Fur Was King* (New York: Dutton, 1929), p. 35.
17 Ibid., pp. 35-6.
18 William Gladstone, op. cit., 30 June 1903.
19 Ibid.
20 Hugh A. Dempsey, *The Band System of the Blood Indians.*
21 William Gladstone, op. cit., 28 July 1903.
22 Ibid., 6 October 1903.
23 Ibid.
24 Ibid., 7 July 1903.
25 Henry J. Moberly, op. cit., p. 45.
26 Ibid., p. 44.
27 Thomas Woolsey, "Edmonton and Rocky Mountains," *Wesleyan Missionary Notices, Canada Conference, Quarterly*, No. 16 (May 1858), 29 October 1857.
28 John Palliser, *Papers Relative to the Exploration by Captain Palliser. . .* (London: H.M. Stationery Office, 1859), p. 40.
29 Ibid., 1863, p. 15.
30 Ibid., p. 18.
31 William Gladstone, op. cit., 6 October 1903.
32 Ibid.
33 HBCA, Edmonton House: Journals, 28 March 1861, B.60/a/31.
34 Ibid.
35 Glenbow Foundation. Archives, Papers of Richard Hardisty, Chief Factor of Edmonton House, 1861-98, W.J. Christie to Richard Hardisty, Fort Garry, 10 July 1861.

36 John B. Tyrrell, "Gold on the North Saskatchewan River," *Transactions of the Canadian Mining Institute* (1915), p. 162.
37 *The Nor'Wester*, Winnipeg, 11 June 1863.
38 HBCA, Edmonton House: Correspondence Books, W.J. Christie to Gov. A. G. Dallas, 31 December 1863, B.60/b/1.
39 Ibid., 13 September 1864.
40 Katherine Hughes, *Father Lacombe, the Black-Robe Voyageur* (Toronto: W. Briggs, 1911), pp. 104-5.
41 W.A. Griesbach, ed., "The Narrative of James Gibbons," *Alberta Historical Review*, Summer 1958, p. 4.
42 HBCA, Edmonton House: Journal, 28 March 1865, B.60/a/34.
43 John McDougall, *Pathfinding on Plain and Prairie* (Toronto: W. Briggs, 1898), p. 129.
44 Ibid., p. 138.
45 Ibid., p. 129.

Rocky Mountain House, 1866-75

1 HBCA, Rocky Mountain House: Journals, 24 August 1866, B.184/a/5.
2 Freeda Fleming, "Rocky Mountain House," *The Beaver*, Outfit (December 1949), p. 53. No source is given by the author for her statement.
3 Glenbow Foundation. Archives, Papers of Richard Hardisty, Chief Factor of Edmonton House, 1861-98, "Census of Whites, Halfbreeds and Indians at the Several Posts in the Saskatchewan District, 1st January 1872."
4 Campbell Munroe, *Reminiscences.*
5 Ibid.
6 William F. Butler, *The Great Lone Land* (London: Sampson, Low, Marston, Low & Searle, 1874), pp. 283-4.
7 John McDougall, *In the Days of the Red River Rebellion* (Toronto: W. Briggs, 1903), p. 42.
8 HBCA, Edmonton House: Journal, 5 December 1869, B.60/a/36.
9 W.A. Griesbach, ed., op. cit., p. 10. While Gibbons places the date of his trip in February, 1869, he is a year out, as he mentions that the Blackfoot were suffering from smallpox and this epidemic did not break out until the summer of 1869.
10 Katherine Hughes, op. cit., pp. 174, 191.
11 William F. Butler, op. cit., p. 281.
12 Manitoba. Public Archives, Papers of A. G. Archibald, No. 189. Deposition of John Newbert.
13 Ibid., W.J. Christie to Donald A. Smith, 29 June 1870.
14 Ibid.
15 Ibid.
16 Glenbow Foundation. Archives, Papers of Richard Hardisty, "List of Furs, Total Returns of Rocky Mt House, Outfit 1872."
17 Ibid., John Bunn to Richard Hardisty, 27 August 1872.
18 Hugh A. Dempsey, ed., "Robertson-Ross' Diary, Fort Edmonton to Wildhorse, B.C., 1872," *Alberta Historical Review,* Summer 1961, p. 11.
19 Freeda Fleming, op. cit., pp. 54-5. Jean l'Heureux was born in Quebec and studied for the priesthood but was never ordained. He came west about 1860 and passed himself off as a priest while living with the Blackfoot Indians. He was present at Treaty No. 7 negotiations in 1877 and wrote a number of memorials and letters on behalf of various Indians. He served as interpreter for the Indian Department from 1879 to 1891 and died in Lacombe Home, Midnapore, in 1919. During his lifetime he wrote a number of papers on subjects relating to history, ethnology and geography. One of these, dealing with a Blackfoot sacrificial stone, was published in the *Alberta Historical Review*, Autumn, 1951.
20 Glenbow Foundation. Archives, Papers of Richard Hardisty, John Sinclair to Richard Hardisty, 29 October 1872.
21 Ibid.
22 This was at the south end of the Porcupine Hills, near the present town of Pincher Creek.
23 *See* n. 20, above.
24 Glenbow Foundation. Archives, Papers of Richard Hardisty, "Results of Trade at Rocky Mountain House from July 24th up to 4 December 1872."
25 HBCA, Report of W.S. Gore, p. 49, E.15/14.
26 Ibid.
27 Glenbow Foundation. Archives, Papers of Richard Hardisty, John Sinclair to Richard Hardisty, 18 February 1873.
28 Ibid., "Result of Stone trade, Summer 1873," and "Result of Blackfoot trade, Summer 1873."
29 Canada. Geological Survey, *Annual Report*, 1873-74, Report of Alfred R.C. Selwyn, p. 60.
30 Glenbow Foundation. Archives, Papers of Richard Hardisty, John Sinclair to Richard Hardisty, 16 March 1874.
31 Ibid.
32 Ibid., Minutes of the Northern Council, 14 July 1874.
33 Ibid., John Bunn to Richard Hardisty, 26 October 1874.
34 Ibid., Angus Fraser to Richard Hardisty, 15 October 1874.
35 Ibid., Comm. J.A. Grahame to Richard Hardisty, 28 December 1874.
36 Ibid., 5 January 1876.
37 Ibid., Angus Fraser to Richard Hardisty, 8 November 1875.
38 Ibid.
39 Ibid., "Result of trade up to this date, Nov. 8, 1875."
40 Ibid., Comm. J. A. Grahame to Richard Hardisty, 5 January 1876.
41 Ibid., Lawrence Clarke to Richard Hardisty, 4 June 1877.
42 *Edmonton Bulletin*, 8 July 1882.
43 Canada. Geological Survey, *Annual Report*, n.s., Vol. 2 (1886), p. 53E: Report of J. B. Tyrrell.

Descriptions of Rocky Mountain House

1 HBCA, Edmonton House: Journals, 2 October 1799, B.60/a/5.
2 Thompson Journals, Vol. 8, No. 18, 11 October 1806.
3 PAC, MG19, A13, Vol. 1, 13 February 1811.
4 Ibid.
5 Ibid.
6 Ibid., 7 October 1810. An edited version of Henry's journal for this period may be found in Elliott Coues, ed., *New Light on*

the Early History of the Greater Northwest (New York: Harper, 1897), pp. 644-67.
7 PAC, MG19, A13, Vol. 1. This and following entries are from Henry's manuscript journal and are not contained in the published Coues edition.
8 Ibid., p. 1, 166.
9 HBCA, Edmonton House: Reports on Districts, Report on the State of Edmonton District during the Year 1819-20, pp. 6-8, B.60/e/3.
10 This and succeeding quotations from the Rocky Mountain House Journals are from HBCA, B.184/a/3 and B.184/a/4.
11 HBCA, Gov. George Simpson, Correspondence Books Inward, John Edward Harriott to Gov. Simpson, 27 April 1835, p. 66, D.4/127.
12 HBCA, Rocky Mountain House: Journals, 1 October 1836, B.184/a/4.
13 Glenbow Foundation. Archives, *Journal of the Rev. Robert T. Rundle, 1840-48*, entry for 22 February 1841.
14 Paul Kane, op. cit., pp. 287-8.
15 William Gladstone, op. cit., 14 and 28 July 1903.
16 Henry J. Moberly, op. cit., pp. 34-5.
17 Thomas Woolsey, op. cit., 31 October 1858.
18 John Palliser, op. cit., 1859, p. 25.
19 Ibid., 1863, p. 74.
20 Ibid.
21 Ibid.
22 John B. Tyrrell to Secretary of Hudson's Bay Company, 24 January 1938, cited in letter to the author from Mrs. Shirlee A. Smith, Librarian, Hudson's Bay Company, Winnipeg, 25 April 1967.
23 This and succeeding quotations from the Rocky Mountain House Journals are from HBCA, B.184/a/5.
24 John McDougall, *In the Days of the Red River Rebellion* (Toronto: W. Briggs, 1903), p. 42.
25 Campbell Munroe, *Reminiscences*.
26 Ibid.
27 William F. Butler, op. cit., p. 277.
28 Ibid., p. 281.
29 Ibid., pp. 283-4.

Identification of Fort Sites

1 Ontario. Archives, Toronto, *David Thompson's Journals*, Vol. 6, No. 13.
2 PAC, MG19, A13, Vol. 1, 11 October 1810.
3 Elmer, S. Gish, *A Study of the History of the Rocky Mountain House Area* (M.A. thesis, Univ. of Alberta, 1952), p. 11.

Appendix A: Trade Goods

1 Thompson Journals, Vol. 8, No. 18, "Journal of the Rocky Mountain House, Occurrences, 1806 & 7."
2 Ibid., 5 January 1807, pp. 225-6.
3 Ibid., p. 268.
4 PAC, MG19, A13, Vol. 1, p. 1,150.
5 HBCA, "Mr. James Sinclair Dr. to Hudson's Bay Co., To Supplies at Rocky Mountain House," 21 May 1851, B.184/z/1.
6 Glenbow Foundation. Archives, Papers of Richard Hardisty, "List of articles left at R.M.Ho.," November, 1875.
7 Ibid. The Lists for Lesser Slave Lake, Victoria Post, Lac La Biche, Lac Ste. Anne and Edmonton are omitted from this list, as are any articles which were not contained in the Bow and Elbow river inventories.

Primary Sources

Canada. Public Archives.
MG19, A13, Vol. 1 (Alexander Henry the Younger), "Mr. Henry's Journal Across the Rocky Mountains to the Pacific, 1799 to 1816." MS transc. by George Coventry.

Glenbow Foundation. Archives.
Papers of Richard Hardisty, Chief Factor of Edmonton House, 1861-98.
Extracts from the Journals and Letters of Rev. Robert Terrill Rundle, Upper Saskatchewan River, 1840-48, ed. Rev. J. P. Berry and Frank G. Roe.
Journal of the Rev. Robert T. Rundle, 1840-48. Photocopy.

Hudson's Bay Company Archives

Section B: Post Records
B.21/a Bow Fort: Post Journal, 1833-34
B.60/a Edmonton House: Post Journals, 1795-1871
B.60/b Edmonton House: Correspondence Books, 1857-68
B.60/e Edmonton House: Reports on Districts, 1815-62
B.184/a Rocky Mountain House: Post Journals, 1828-68
B.184/z Rocky Mountain House: Miscellaneous Items, 1851
B.239/a York Factory: Post Journals, 1714-1852

Section D: Governors' Papers
D.4/125-7 Governor George Simpson, Correspondence Books Inward, 1829-35

Section E: Miscellaneous Papers
E.15/14 Deputy Surveyor W.S. Gore's

Field Notes, Diary and Reports of Survey of Hudson's Bay Company Reserves in the North West Territories, 1872 and 1873, 25th Nov. 1873

Manitoba. Public Archives.
Papers of A. G. Archibald, Lieutenant-Governor of Manitoba.

Munroe, Campbell
Reminiscences. (Title page missing, 2 pp.) In the author's possession.

Ontario. Public Archives, Toronto.
David Thompson's Journals, Vol. 6, No. 13; Vol. 8, No. 18.

Secondary Sources

Butler, William F.
The Great Lone Land. Sampson, Low, Marston, Low & Searle, London, 1874.

Canada. Geological Survey.
Annual Reports for 1873-74 and 1886. Queen's Printer, Ottawa.

Chittenden, Hiram M.
The American Fur Trade of the Far West. Francis P. Harper, New York, 1902. 2 vols.

Chittenden, H. M. and A. T. Richardson
Life, Letters and Travels of Father Pierre-Jean De Smet, S.J., 1801-1873. Francis P. Harper, New York, 1905.

Coues, Elliott, ed.
New Light on the Early History of the Greater Northwest. Francis P. Harper, New York, 1897. 3 vols.

Dempsey, Hugh A.
The Band System of the Blood Indians. MS in the author's possession. 1955.

Dempsey, Hugh A., ed.
"Robertson-Ross' Diary, Fort Edmonton to Wildhorse, B.C., 1872." *Alberta Historical Review*, Summer 1961, pp. 5-22.
"Thompson's Journey to the Red Deer River." *Alberta Historical Review*, Winter 1965, pp. 1-8.

Fleming, Freeda
"Rocky Mountain House." *The Beaver*, Outfit 280 (December 1949), pp. 52-6.

Gish, Elmer Samuel
A Study of the History of the Rocky Mountain House Area. (M.A. Thesis, University of Alberta), Edmonton, 1952.

Gladstone, William
"William Gladstone's Diary," serialized in *Rocky Mountain Echo*, Pincher Creek, May 26, June 2, 9, 16, 23, 30, July 7, 14, 21, 28, August 4, 11, 18, 25, September 1, 8, 15, 22, 29, October 6, 13, 20, 27, November 3, 10, 17, 25, December 8, 15, 1903, January 26, 1904. Also reprinted weekly in the *Lethbridge Herald* between April 15 and November 26, 1958.

Griesbach, W. A., ed.
"The Narrative of James Gibbons." *Alberta Historical Review*, Summer 1958, pp. 10-5.

Hughes, Katherine
Father Lacombe, the Black-Robe Voyageur. W. Briggs, Toronto, 1911.

Kane, Paul
Wanderings of an Artist Among the Indians of North America. Radisson Society of Canada, Toronto, 1925.

McDougall, John
Pathfinding on Plain and Prairie. W. Briggs, Toronto, 1898.
In the Days of the Red River Rebellion. W. Briggs, Toronto, 1903.

McGillivray, Duncan
The Journal of Duncan M'Gillivray of the North West Company at Fort George on the Saskatchewan, 1794-5. Ed. Arthur S. Morton. Macmillan, Toronto, 1929.

MacGregor, James G.
Peter Fidler, Canada's Forgotten Surveyor. McClelland & Stewart, Toronto, 1966.

Macleod, J. E. A.
"Piegan Post and the Blackfoot Trade." *Canadian Historical Review*, Vol. 24 (1943), pp. 273-9.

Masson, L. R.
Les bourgeois de la Compagnie du Nord-Ouest. A. Côté, Quebec, 1889. 2 vols.

Moberly, Henry John
When Fur Was King. E. P. Dutton & Co., New York, 1929.

Morton, Arthur S.
A History of the Canadian West to 1870-71. Thomas Nelson & Sons, London, n.d.

Oliver, E. H., ed.
The Canadian North West: Its Early

Development and Legislative Records. Publications of the Canadian Archives, No. 9. Ottawa, 1914. 2 vols.

Palliser, John
Papers Relative to the Exploration by Captain Palliser of That Portion of British North America which Lies Between the Northern Branch of the River Saskatchewan and the Frontier of the United States; and Between the Red River and Rocky Mountains. H. M. Stationery Office, London, 1859, 1860, 1863. 3 vols.

Tyrrell, John B.
"Gold on the North Saskatchewan River." *Transactions of the Canadian Mining Institute*, Toronto, 1915.

Woolsey, Thomas
"Edmonton and Rocky Mountains." *Wesleyan Missionary Notices, Canada Conference, Quarterly*, No. 16 (May 1858).

The Excavation and Historical Identification of Rocky Mountain House

by William C. Noble

Abstract

In 1963, one of the Rocky Mountain House sites on the North Saskatchewan River, Alberta, was excavated. A total of 7 buildings and 19 pits was found within the enclosure. Evidence was found for an enlargement of the original enclosure which showed that the south palisade had been moved outward 16 ft. Several of the architectural features and artifacts (notably North West Company bail fasteners, nails and step-down pits) date the original fort to the early 1800s. The later version can be credited with five buildings and a heavy blockhouse bastion whose foundations were laid in Hudson's Bay Company style. Early stamped nails (1820-30) and eight Hudson's Bay Company buttons constitute further evidence of that company's occupation of the extended fort. Historical documentation is generally consistent with the archaeological evidence, indicating intermittent occupation between 1799 and 1834.

Acknowledgements

The excavation and historical identification of Rocky Mountain House is the direct result of many combined and co-operative efforts. It is, therefore, with great pleasure that I take this opportunity to thank the various people and institutions contributing to the success of the excavations and the production of this report.

To the Glenbow-Alberta Institute of Calgary is extended sincere appreciation for their interest in sponsoring the explorations and excavations at Rocky Mountain House. This historic site represents but one of the many archaeological projects the Institute has sponsored since 1955. Laboratory space for the analysis of the excavated artifacts was made available in the Archaeology Department of the Institute, and all photographs reproduced herein are produced through the courtesy of that institution.

To Dr. Richard G. Forbis, formerly of the Glenbow-Alberta Institute and now associated with the Department of Archaeology at the University of Calgary, I am especially grateful. It was through his direction of the Glenbow's 1963 summer archaeological programme that this author was introduced to some of the aspects of northern Plains archaeology in Alberta. Dr. Forbis has also been particularly helpful and informative throughout the realization of this report. As a token of my esteem I have dedicated this report to him.

To Mr. and Mrs. William Brierly of Rocky Mountain House, Alberta, I also extend sincere thanks and appreciation. They kindly granted permission to excavate the site on their property, and were most obliging and cooperative throughout the activities conducted on their ranch. Recently they turned the site area over to the Alberta government for the creation of a provincial historic site.

To Mr. Don R. King of the Glenbow-Alberta Institute is also extended sincere appreciation. Mr. King spent some time at the site in both 1962 and 1963, and was responsible for the tedious task of cataloguing the recovered artifacts and taking the photographs of artifacts reproduced in this report.

Mr. Hugh A. Dempsey, Archivist at the Glenbow-Alberta Institute, drew together many threads of historical information pertaining to Rocky Mountain House which, considered in conjunction with the archaeology, have afforded valuable cross-checks in the historical identification of the fort. His special knowledge of the archival history of the Canadian West and Alberta in particular has been of inestimable value.

Mr. Gordon Gay of the Military Department of the Glenbow-Alberta Institute was most helpful with the identification of the various calibres of lead shot and spherical lead balls recovered from the site. This information adds considerably to the knowledge of the munitions at the fort.

Dr. Allan B. Dove, Senior Development Metallurgist, Wire and Fastener Divisions of The Steel Company of Canada, Limited, analyzed the nails from Rocky Mountain House. This analysis is most detailed and includes an identification of nail types, dates of manufacture and a metallurgical analysis. Dr. Dove's report is included verbatim in this monograph.

Mrs. A.H. Vanderburgh of Port Credit,

Ontario, analyzed ceramic fragments from the site. Dr. Walter A. Kenyon of the Royal Ontario Museum, Toronto, aided us by identifying copper kettle bail fasteners. Dr. Kenyon also made available his excavated specimens from Fort Albany, which proved valuable for comparative purposes. The late Mr. H. Gieger Omwake examined photographs of some of the pipe stems and bowl fragments recovered from Rocky Mountain House and many of his comments are included in the following pages.

The Hudson's Bay Company generously made available their post records covering Rocky Mountain House from 1828 to 1868, and the advice of the Company's Archivist, Mrs. Joan Craig, was found most helpful with regard to interpretation of some of the data.

The five student members of the 1963 field crew are in a large part responsible for the success of the excavation. As initiates to archaeology, Brian Reeves, Ron and Wayne Getty, Kirk Meade and Terry Moore all displayed a high degree of willingness and efficiency in completing total excavation of the site. Photographs taken in the field were handled by Wayne Getty. I also wish to extend appreciation to Helen Devereux, Vera Burns and Jean Noble for their supplementary information and aid rendered toward the realization of this monograph.

Rocky Mountain House was first established on the North Saskatchewan River by the North West Company in September 1799, by John McDonald of Garth (Dempsey 1967:8). From 1799 until its close in 1875, this fort, which appears to have had four major periods of building, was the most western and southern outpost in the Blackfoot country (Dempsey 1962:19). As such, its history spanned much of the late period of rival trading, exploration and final consolidation of the fur trade in western Canada and it is in this larger historical context that Rocky Mountain House played a colourful role.

By 1799, three major fur trading companies were actively vying with one another for control of the western trade and exploration. These rivals were the North West Company, the Hudson's Bay Company and the XYZ Company. The latter firm, founded by Alexander Mackenzie in 1798, was especially competitive with the North West Company and instances are on file in which the two came to physical blows (Rich 1960:II, 229). In 1804, however, the XYZ Company was amalgamated with the North West Company, thus leaving but two major rivals for the fur trade of the Canadian northwest.

Competition between the Hudson's Bay and North West companies continued to be keen. The North West Company established Rocky Mountain House, or Mountain House as it was sometimes called. In 1799, the Hudson's Bay Company sent a party of men up the North Saskatchewan from Fort Edmonton to erect a fort nearby, opposing Acton House, built by James Bird (Dempsey 1967:9). Opposition continued between the two forts during the successive years that each fort was occupied.

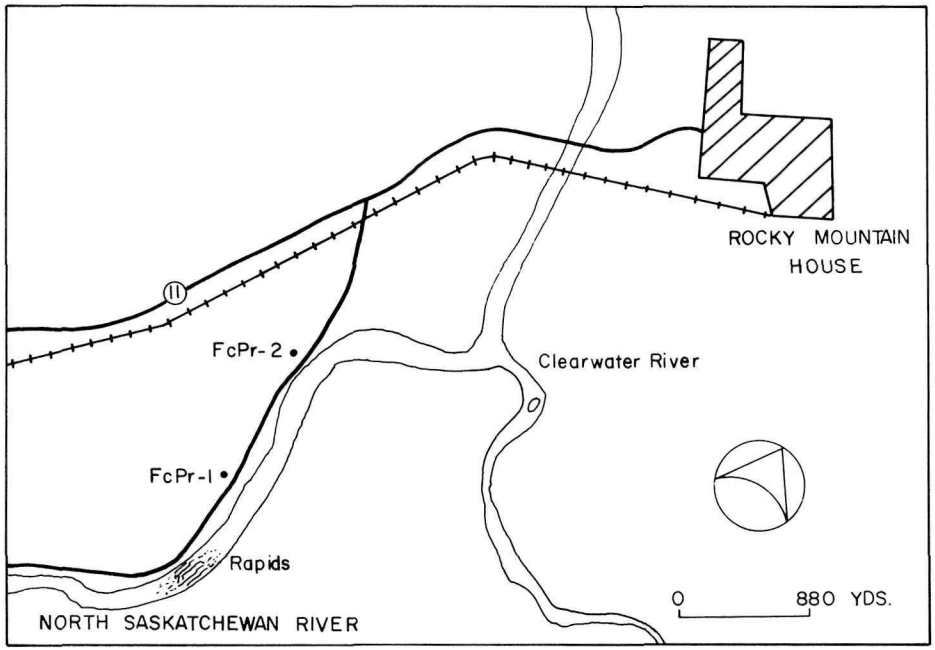
Amalgamation of the North West and Hudson's Bay companies was effected under the terms of the Deed Poll in March, 1821. Consequently, Rocky Mountain House came under the jurisdiction of the Hudson's Bay Company. Available historical and archaeological evidence favours the interpretation that Acton House was abandoned in favour of Rocky Mountain House. Chief Trader John Rowand, a former Nor'Wester, took charge in 1821-23 (Dempsey 1963: 1).

The ensuing years after 1821 were years of virtual fur trade monopoly by the Hudson's Bay Company in many areas of the Canadian West, but not so at Rocky Mountain House. Competition from American firms and free traders continued the disruptive type of rivalry characteristic of the previous decades.

In its early years, Rocky Mountain House was more than just a far western trading post. It became an important depot and point of embarkation for transmountain exploration. Of the many scenes and famous persons connected with this aspect of Rocky Mountain House, David Thompson emerges as one of the important figures. Indeed, his mapping exploits and successful crossing of the mountains from the fort to the headwaters of the Columbia River in 1807 have made him legendary. Thompson wintered at Rocky Mountain House in 1800-01, 1801-02 and 1806-07 (Thompson 1916: 88, n.), and also passed part of the summer of 1810 here.

Other famous persons passed through Rocky Mountain House between 1799 and 1864; their presence at the fort

1 Map of Rocky Mountain House area, Alberta.



contributes colour and significance to its history. Some of the better known persons and their dates of sojourn at the fort are John McDonald of Garth, 1799, 1806-07, 1810; Duncan McGillivray, 1800-01; Peter Fidler, 1801; Alexander Henry the Younger, 1810-11; John Rowand, 1821-23; Sir George Simpson, 1822; John Fisher, 1828-32; John Edward Harriott, 1834-41, 1843-46, 1848-53; Reverend Robert Rundle, 1841; Father De Smet, 1845; Paul Kane, 1848; William Gladstone, 1848-61; Henry Moberly, 1854; Sir James Hector, 1858 and Captain John Palliser, 1859. The passing remarks of each provide us today with useful information for historical identification, and shed light on some of the events of the period.

Joseph Burr Tyrrell of the Geological Survey of Canada visited and photographed Rocky Mountain House in 1886. At that time corner bastions and one building were still standing (Tyrrell 1887: 53). In later years he identified this site as the original fort (Thompson 1916; xlvi, 190, n.), but in fact it is the final version, 1864-75, partially excavated in 1966.

Since the precise location of the early Rocky Mountain House was not definitely known an attempt was made in October, 1958, to locate the old fort. A three-man party composed of Mr. Jack D. Herbert, Mr. Hugh A. Dempsey and Dr. Richard G. Forbis of the Glenbow-Alberta Institute, Calgary, made a reconnaissance visit to the present town of Rocky Mountain House, Alberta. Using aerial photographs, historical descriptions and a mine detector, the three men found a site producing metal, glass trade beads, buttons and rocks marking the location of former chimneys. This site was on the ranch of Mr. William Brierly, approximately three-quarters of a mile up the North Saskatchewan River from the federal cairn erected in 1931 on the site of the final Rocky Mountain House, 1864-75 (Dempsey 1962: 19-20).

Another three-man field party from the Glenbow-Alberta Institute travelled to the new site on 10 June 1962 to carry out archaeological testing. This party, under the direction of Dr. Richard G. Forbis, was composed of Mr. Alf Trent, an interested volunteer, Mr. Frank O'Leary and Mr. Don R. King who joined the party somewhat later. Work continued at the site until 7 July, during which time the limits of the fort and some of its interior structures were determined. Colonel Erick Harvey, founder of the Glenbow-Alberta Institute, also paid a visit to the site during this testing.

Positive historical identification of the fort was not possible, however, upon completion of the 1962 excavations. Hudson's Bay Company buttons bearing the insignia PRO PELLE CUTEM clearly established a Hudson's Bay Company occupation of the fort, but no positive evidence was found of the earlier North West Company's Rocky Mountain House. The test trenching of 1962 raised many new questions which only additional complete excavation of the site could answer. Accordingly, between 3 June and 3 August 1963, the site was completely excavated and mapped. This operation was carried out under the field direction of the author, then of the University of Toronto, for Dr. Richard G. Forbis, Glenbow-Alberta Institute archaeologist. Upon completion of the 1963 excavation

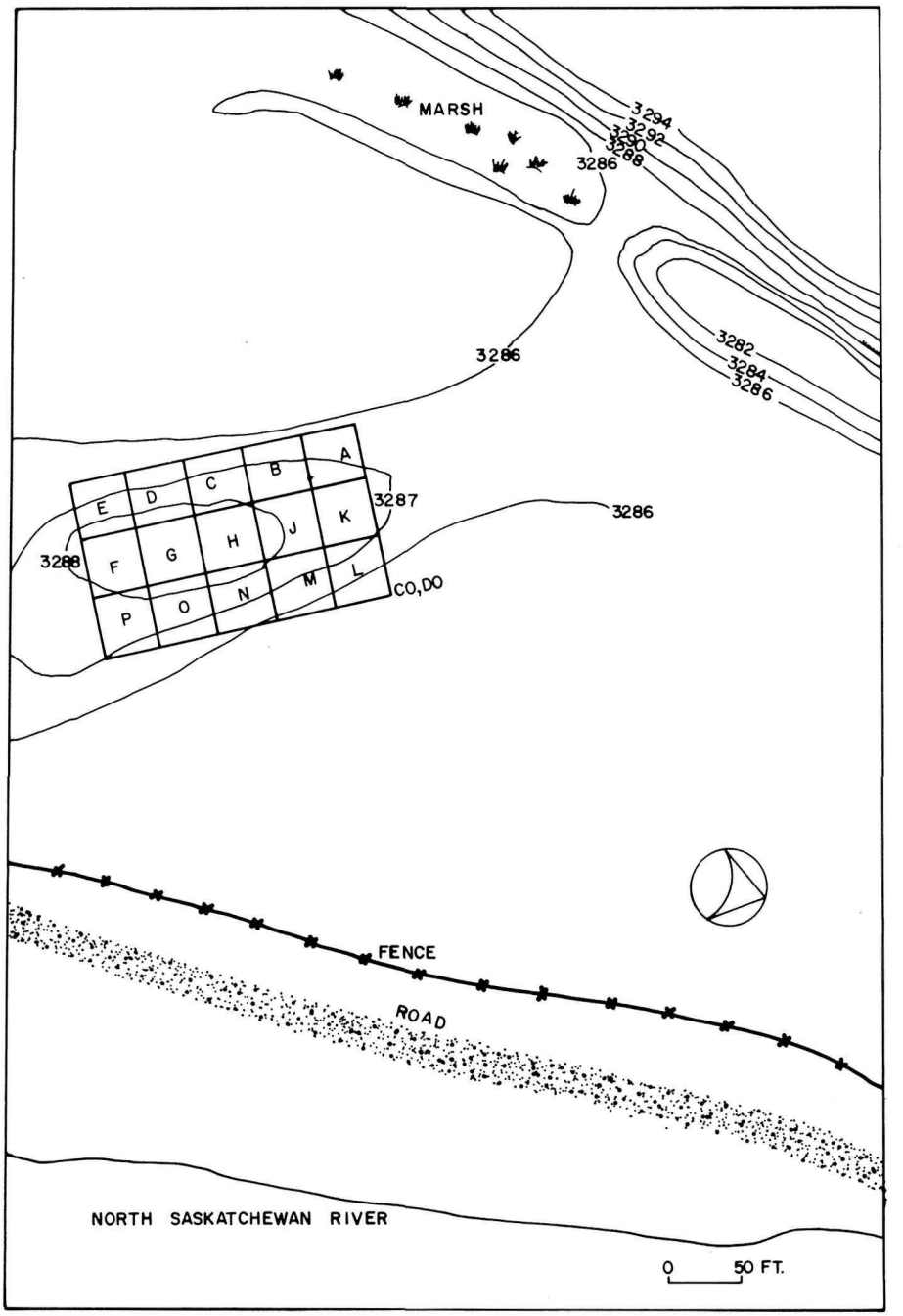
there was a significant revelation — two forts with differing styles of architecture were represented on the same locale. The description and historical identification of these two structures constitutes the basis of this report.

The site of Rocky Mountain House is known in the Borden (1952) system of site designation as FcPr-1. This method of designating archaeological sites in Canada is based upon the position of a site by latitude and longitude. FcPr-1 is located at 52°21'20" N. latitude by 114°58'50" W. longitude on Lot 3975, Township 39 of Range 7, west of the 5th meridian, Rocky Mountain House, Alberta. David Thompson's calculation of the position of Rocky Mountain House is extremely close to this, being 52°22'15" N. latitude by 115°07'00" W. longitude (Thompson 1962: liv).

The fort site is situated on the North Saskatchewan River approximately two and one-half miles up-river (south) from the present town of Rocky Mountain House, Alberta (Fig. 1). It sits on the northwest bank, one and one-fifth miles up-river from the entrance of the Clearwater River (Rivière-à-l'Eau-Claire). The first major rapids on the North Saskatchewan River is presently located immediately opposite and slightly up-river from the site, and has probably been migrating slowly upstream since the days of the fur trade. Alexander Henry the Younger (Henry 1897: II, 642) relates that:

The current was too swift to cross opposite the house, where there is a strong rapid; we therefore passed about 1/4 of a mile above, to the head of the rapid, where we crossed with ease.

2 Contour map and quadrants at Rocky Mountain House.



Rocky Mountain House is 3,760 ft. south of the benchmark at the base of the federal cairn resting on the site of the final Rocky Mountain House. Both sites are easily accessible by a concession road leading south from the David Thompson Highway.

Rocky Mountain House is located immediately south and below the Brierly homestead buildings on the north end of an open plain. This plain represents the first major river terrace in the area and has an elevation of 15 to 20 ft. above the river. Altitude above sea level is 3,286 ft. and the plain has a noticeable rise of an additional two feet in the vicinity of the fort. The present distance from the river's western bank to the northeast corner of the fort measures 140 yd., while the western edge of the concession road east of the fort is 93 yd. to this same corner of the fort. In all, then, the fort covers a rectangular area of a little over one-third of an acre. Its maximum length measures 116 ft. and it is 90 ft. wide. The orientation of the fort is northwest to southeast.

Some 67 yd. immediately to the west of the fort, the plain grades into a depressed area of marsh and swale. This marsh contains a sizeable body of spring water and lies at the base of a second former river terrace which rises 10 ft. above the plain on which the fort is situated. A third and yet higher terrace forms the plain to the north on which the Brierly farm buildings are located (Fig. 41). Finds of historic trade goods on this third terrace may be clues as to the location of Acton House which is believed to have been located close to Rocky Mountain House.

It is apparent that the lower fort plain is a former meander course and flood plain of the North Saskatchewan River. Gravelly sands and water-laid silts containing flecks of coal cover the area, and were encountered during excavation of the fort. The river floods seasonally and Mr. Allan Turnquist of Rocky Mountain House reported to the author in 1963 that during the last major flood in 1915, the North Saskatchewan covered the entire site plain. Top soil on the plain is very sandy and thin.

The Brierlys first cleared and broke the lower plain in the early 1930s (William Brierly: 1963, personal communication). At that time the plain was quite sandy and overgrown with willows. Rocks from the old chimneys at the site were visible above ground level and many of these were removed for incorporation into the Brierly's barn and house foundations. Today the plain is grassed over in clover and rye. The only trees in the area grow east of the fort along the concession road down to the river bank. These include large black spruce, aspens, willows and cottonwoods.

Alexander Henry the Younger gives an excellent description of the flora present in 1810 (Henry 1897: II, 700), which may be compared with the present flora. *The country about the house is in general wooded, with small prairions at intervals of a mile or more, when large, open swamps are found. The wood is principally pine of several kinds, aspen, willow, and birch. What we call Rocky Mountain pine grows tall and straight; the bark resembles that of cypress; the leaves are like those of the common white pine, and bear similar knobs. The wood is soft and easy to work; when split into boards and well seasoned it acquires a yellowish hue, and will take a smooth, glossy surface. In the swamps grows the juniper or épinette rouge, but seldom to any great height; in many places below, these swamps are only covered with long, coarse grass and low willows. Among the pines grows a particular kind of goose-grass, four inches high and very thin, of which the horses are very fond, and on which they soon fatten; but it does not answer for them in winter, as it becomes so brittle that when the horses scrape away the snow with their hoofs they break the grass into small pieces, and can get very little of it.*

Henry continues his description by stating that the spot on which Rocky Mountain House was built "was formerly covered with aspen and pine, which have been cut down for the use of the place, leaving a large open space." He also states that

Frequent fires have aided much in clearing away the wood and brush, so that now we have a grand view of the Rocky Mountains, lying nearly S.W., and apparently running from W.N.W. to S.S.E. (Henry 1897: II, 701).

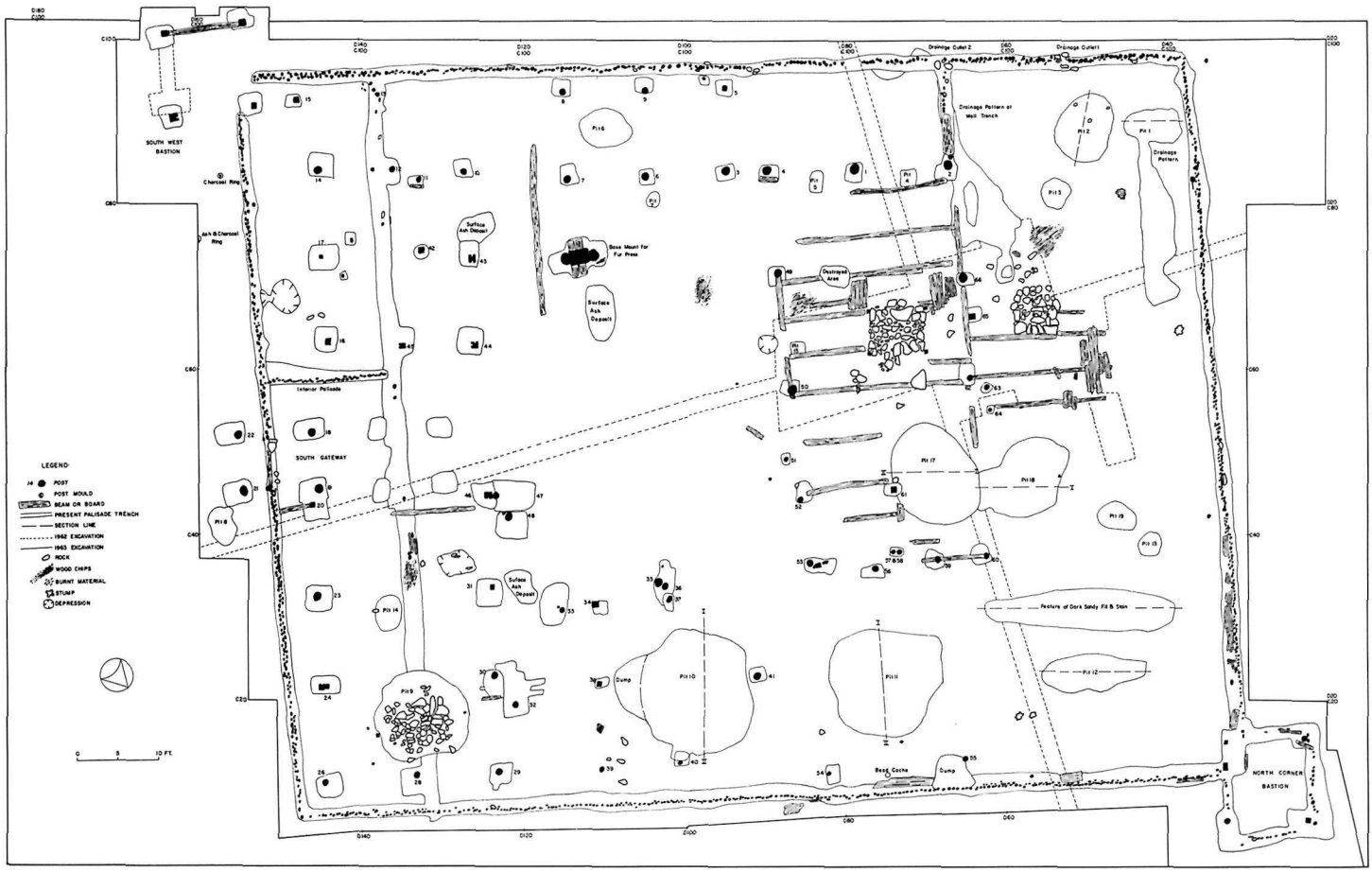
These statements clearly indicate a forest cover much denser than is to be found today over much of the region.

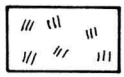
The climate about Rocky Mountain House appears to have changed little since 1810. Henry remarks (Henry 1897: II, 701) that,

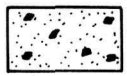
The climate is too inconstant for gardening. In the daytime the heat is excessive, but no sooner has the sun set than the weather becomes chilly, with a white frost almost throughout the summer.

Similar conditions were encountered

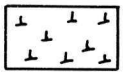
3 Ground plan of Rocky Mountain House.




Humus


Sand & Charcoal

Bone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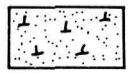
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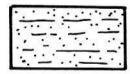
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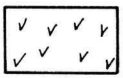
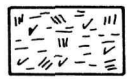
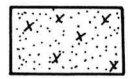
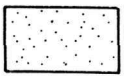
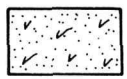

Clay

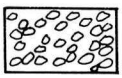

Wood, Clay & Humus

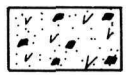

Fire Reddened Sand


Sand

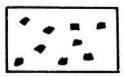

Sand & Clay

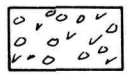
Post


Gravel

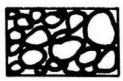

Sand, Clay & Charcoal

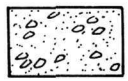

Wood Chips


Charcoal

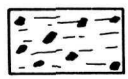

Gravel & Clay

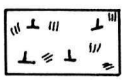

Wood

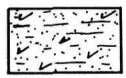

Rock

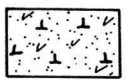

Sand & Gravel


Humus & Charcoal


Wood & Charcoal


Humus & Ash


Sand, Wood & Clay


Sand, Ash & Clay


Sand, Wood & Charcoal

during the 1963 summer excavations, and it usually showered at least once daily. Such rains and dampness are probable factors contributing to the decaying and rotting of the fort. Prevailing winds in the area are westerlies from the mountains 50 miles distant.

As with the excavation of all historic sites, the excavation of Rocky Mountain House involved and combined the goals of historical and archaeological research techniques and methods. Both disciplines, history and archaeology, overlap in this instance and have a common objective – a mutual contribution to increased knowledge. Briefly stated, the objectives for excavating Rocky Mountain House were three-fold: (1) to recover the architectural pattern of the remaining physical features of the fort together with associated artifacts; (2) to make a positive historical identification of the fort and its integral structures and (3) to ultimately study the position and function of the fort in its wider context of the fur trade and exploration in western Canada.

Archaeology contributed the techniques and methods instrumental to realizing the first objective. Historical identification is realized by comparing and evaluating the similarities or dissimilarities between written descriptions of the fort and what was actually found upon excavation. The realization of this second objective is clearly a mutual product and is only as sound as the historian's and archaeologist's ability to interpret their raw data. The third objective falls primarily within the realm and scope of the historian. Anthropologists, however, wishing to study the effects and policies of the fur trade as they affected the indigenous Indian populations, can also contribute from the point of view of ethnohistory and studies of culture change.

Techniques of Excavation

At Rocky Mountain House two techniques of excavation were employed. The first, used by Dr. Richard G. Forbis in 1962, involved the initial systematic testing of the site. This was accomplished by excavating a system of two-foot wide trenches across the main axes of the site (Fig. 3). Thus the limits of the exterior walls of the fort and details of some of the interior structures were recorded. Pickets of the palisade walls were well-preserved and clearly distinguishable. Soil excavated by trowel was put through a screen to ensure recovery of artifacts, and subsequently the excavated area was mapped.

In 1963, total excavation of the site necessitated a larger scale technique and a system for rapid and accurate recording of the field data. Accordingly, a grid system of 40-ft. squares, each called a sector, was established over the site with the use of a transit. Each sector was given an alphabetical label and further divided into four clockwise numbered quadrants, each 20 ft. square. The datum point of the grid, CoDo, was at the northeast corner of the excavation at a point established the previous year by federal surveyors.

Excavation proceeded by quadrants. A mine detector was helpful in locating metal objects and areas of ash beneath the turf prior to the opening up of each unit.

As the site had previously been ploughed, the top four to six inches of turf and sandy soil were removed by shovel. Disturbance was not found to be deep, generally extending only to a six-inch depth. After the removal of the upper levels of turf, trowels were used to clean and expose the buried subsoil

features of the fort. Pits were numbered with arabic numerals and building structures with roman numerals. All pits were cross-sectioned in excavation and the contents screened for artifacts. Scale diagrams were then drawn of their stratigraphic profiles and these diagrams supplement the photographic record of the fort's features.

Coordinate tape measurements were made to record the salient features of the fort. Positions of all posts, pits and other distinguishable features were recorded by measuring their distances from any two of the four corner pegs bounding a quadrant. The features for each quadrant were then plotted by compass triangulation from the permanent record of measurements. The over-all ground plan of the site (Fig. 3) is a composite of the quadrant diagrams. Figure 2 is a contour map of the site with the quadrants labelled.

Methods of Analysis

Analysis techniques applied to the architecture, soil features and artifacts from Rocky Mountain House are primarily descriptive with comparative references when available. Each of the various features and artifacts is first considered in terms of its description and associations, and then with broader distributions over the various sectors of the fort and with similar specimens from other sites. This procedure has the advantage of fully presenting the raw data in a form useful for present and future comparisons with material from other excavated western forts. Also, the distributional studies highlight configurations or patterns, if present, both on the site and across the country.

Architectural and constructional features are among the most prominent and significant features at Rocky Mountain House. Wooden posts and the outlines of former buildings are well preserved, thus yielding much structural information. Changes have been made in the fort's structural details throughout its history. These are useful in determining the historical period represented by each modification of the fort and in formulating an interpretation of historical identification.

In addition to architecture, other types of features are present at Rocky Mountain House. Pits of all sizes and inferred functions are describable, being stratified and containing artifacts. The contents of the pits aid in assessing relative dates for the time period the pits were in use. Something also can be learned about the habits and activities of the fort's occupants from the study of pit features.

The base of a large fur press represents yet another type of feature encountered at the fort. This feature contributes significantly to the existing meagre knowledge of how stationary fur presses were built during the fur trade era. In general, furs were pressed into standard 90-pound bales or "pieces" for compact transportation in canoes or boats.

The soil features within the fort also provide useful information. Different types of soil configurations are present which, although they are seemingly small details, yield important inferences about various types and centres of activities that took place within the fort.

Palisades

Exterior Walls

Palisade walls surrounded the entire fort and were easily recognizable. They constituted important structural features in delimiting the extent of the fort.

The wall pickets of the exterior palisade were found well preserved below the plough zone. The term *pickets* is used because the average diameter of most of the palisade posts was amazingly slender, 3.5 in. to 4 in. Such slender pickets particularly characterized the north, west and east walls of the fort; they could hardly have afforded much defensive strength.

Construction of the exterior palisades followed a definite pattern. A trench 18 in. to 24 in. wide by 24 in. to 30 in. deep was dug around the perimeter of the fort in a rectangular pattern. The corners of this pattern were not entirely square, being 7 degrees off normal. After the trench had been dug the pickets were set upright within it side by side. Many of the pickets are of spruce and cottonwood, and some represent longitudinally split half-posts. From a number of excavated cross-sections through the exterior palisades, it is apparent that very few of the pickets were trimmed or sharpened prior to their erection. Once set, the pickets were held upright by grey clay-sand soil backfilled into the trench.

Trench Feature

There is substantial evidence to indicate that the southern wall of the fort was once torn down and re-erected 16 ft. south of its original position. The primary evidence for this observation is clearly defined in a trench feature running east-

4 Fallen boards along the interior of the north wall of the exterior palisade.

west across the interior southern end of the fort. This trench was similar to those for the other exterior palisade walls except that it had few preserved pickets. The occasional preserved pickets all bore evidence of having been chopped or sawn off at ground level; they formed a definite line of palisade wall in the trench feature. There were also moulds of former palisade posts left after removal and now filled in with mixed sandy fill. These also represented positions of former posts in a line of pickets bounding the original southern wall of the fort. Fill throughout the trench feature was mixed grey sandy clay with a few rocks and pieces of bone, similar to the fill of the exterior palisade trenches of the northern part of the fort.

Clearly, the trench feature represents a trench for the fort's original southern exterior wall. As such, the dimensions of the original fort measure 90 ft. east-west by 100 ft. north-south (Fig. 3).

Exterior Extension Walls

With the dismantling of the original southern wall of the fort, an extension was added. This is clearly defined by two sections of exterior palisade extending 16 ft. south of the trench feature along the east and west sides as well as by a new southern wall completing the rectangle. These new extension walls differed in two major respects from those of the original fort. First, the new walls were heavier and stronger than in the original fort. Posts 5 in. to 6 in. in diameter were present in a close double row (Fig. 3) as opposed to the normal single row of slender pickets in the exterior walls of the original fort. This new pattern in the

exterior extension walls probably reflects a very different and definite concern for increased defensive measures.

The second major difference in the extension palisades lies within their trenches. These were reddened along their sides, a condition not present in the trenches of the original fort's dimensions. The reddening in the extension trenches is the result of fire burning within them and it is therefore inferred that the trenches for the exterior extension palisades were dug at a time of year when fire was required to thaw frozen ground. This is an important factor pertinent to the problems of historical identification at the fort.

Exterior Palisade Details

Picket Heights. In addition to the archaeological details discussed above, there are four other details pertaining to the exterior palisades which entail estimates of the height of the walls, the type of picket-top finishing, determining the presence or absence of interior ramparts, and a description of the drainage outlets through the walls. Estimates for the heights of the exterior pickets around Rocky Mountain House cannot be derived from the archaeology; they can, however, be evaluated from written historic accounts. Only one account is known directly concerning this feature of the fort. It comes from the dubious memory of Henry J. Moberly who, at the youthful age of 18, was in charge of the fort during the winter of 1854-55. He states in his memoirs (Moberly and Cameron 1929: 34) that, "Mountain House was surrounded by the usual 28-foot pickets." To the author, this height seems too exaggerated and in view of other inaccuracies Moberly made about constructional details his memory was probably incorrect and not to be trusted. A more probable estimate of height is between 12 ft. and 15 ft. This was the height of the picketing surrounding Fort Gibraltar built and occupied by the North West Company from 1806-16 (Bryce 1885: 137).

Picket-Top Finishing. Details on how the tops of the exterior pickets were finished at Rocky Mountain House must come from an evaluation of old drawings and photographs of other western forts. In many of the late post-1850 period forts it was customary to saw the tops off the erected palisade walls and fasten a horizontal plate along the top. This style of picket capping is depicted in an 1871 photo of Fort Edmonton (Roe 1964: 10), and in a photo of Fort Whoop-up (Dempsey 1962: 29). In earlier forts, the practice appears to have been to simply leave the palisade picket tops jagged as hewn. A presumably early drawing of Fort Garry illustrates this style (Bryce 1926: 262). This meagre documentary evidence, the slender nature of the pickets surrounding Rocky Mountain House, and the fort's pre-1850 date of construction lead the author to infer that exterior picket walls were left jagged and had no horizontal plating.

Ramparts or Reinforcements. A problem exists in determining whether there were ramparts or "catwalks" encircling the inside of the exterior palisades at Rocky Mountain House. Henry J. Moberly states (Moberly and Cameron 1929:34) that there was "a gallery running all round inside" the fort "about four and a half feet from the top" of the palisade pickets. Archaeologically, there is little evidence to confirm this statement. No consistent pattern of well-spaced posts which could have supported ramparts is present along the interior of the palisades. This fact and the slender nature of most of the pickets cast strong doubt that rampart structures existed around the interior of this fort during any of its building stages. If such ramparts did exist, evidence of support posts would be expected.

Boards 6 in. to 9 in. wide were present along the interior of the fort's palisades, but were noticeably restricted in their distribution. They extended only along the north and east walls of the palisade for distances of 24 ft. and 54 ft. from the north corner junction. Often two boards lay horizontally side by side or overlapped one another along the interior base of the exterior palisades (Fig. 4).

In view of the unsubstantiated evidence for rampart supports and the restricted distribution of the fallen boards flanking the north corner bastion walls, it may be that these boards represent fallen support slats originally nailed horizontally to the interior of the pickets for strengthening purposes. The concern for strengthening the walls around the southwest bastion as evidenced by the double row of thick palisade posts leads the author to believe that the few fallen boards along the north walls of the fort may well represent a different method of strengthening the walls around the north corner bastion. All in all, the archaeological evidence does not convincingly favour the presence of ramparts around the interior of the palisade surrounding Rocky Mountain House. Henry

5 The south gateway of the extended fort.

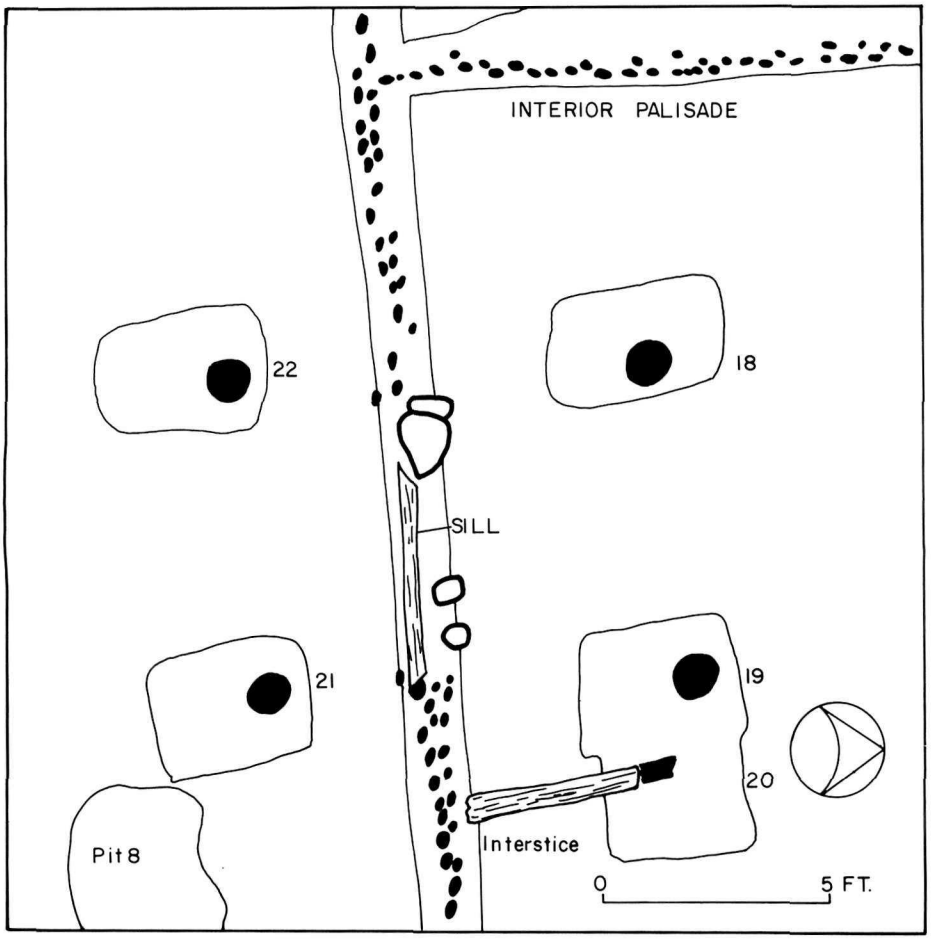
Moberly is probably relating a confused architectural description of another fort.

Drainage Outlets. The northwest corner of Rocky Mountain House lies in a low area not far from the marshy region immediately to the west. Evidence of intentional drainage exists in the form of three outlets through the northern portion of the western exterior palisade wall. Each of the three drainage outlets is small and channelled with rocks.

The first outlet, 14 ft. south of the northwest corner, is constructed of two flat rocks standing on end and flanking each other 6 in. apart. Outside the palisade, leaning up against these two flat drain rocks, is another large rock plugging the outlet. Refuse bones were found clogging this drainage opening. Drainage outlet 2 is located 20 ft. south of the northwest corner. Portions of ribs and a two-tined, straight-shanked fork were found around this open drain. Drainage outlet 3 is located 52 ft. from the northwest corner of the fort and has essentially the same construction as the other two outlets. As with outlet 2, it was not blocked or closed.

Gateways

At least one major gateway has existed in the mid-section of the southern wall since the period of major rebuilding. This feature is well preserved and describable. On the other hand, evidence to prove the existence of other gateways is not so readily available from the archaeological record. Here the difficulties are compounded by written historic accounts.



South Gateway

The south gateway (Fig. 5) appears to have been the major entrance to the fort. It was large; it was present in both the original and final forms of the fort; and it offered access to the interior through the southern palisade wall. In addition, an overhead bastion guarded this entrance.

The construction details of this gateway are illustrated in Figure 5. Spanning the 6 ft. wide entrance is a 4.5 in. wide beam lying on the ground. This sill is morticed into two large 6 in. posts flanking either side of the gateway. Immediately south of each of these two large side posts is a 4 in. square post.

It seems reasonable to believe that a six foot wide entranceway such as this would have been split into double doors, each three feet wide. As evidence to corroborate this assumption, there are four conspicuous rocks located on either side of the entrance just inside the fort.

These are paired two to a side, and range in diameter from 4 in. to 11 in. Their size and position suggests that they were used to back-prop two doors of the gateway to prevent them from swinging open into the fort. As such, it may be inferred that the doors normally opened outward to the south and, by so doing, they would each extend to the insides of the large exterior support posts of the overhead bastion (posts 21 and 22). This type of door arrangement would channel entry to the fort.

The same pattern of gateway construction described above is inferred to have existed in the south palisade prior to the fort's enlargement. Four large rectangular pits are spaced in a rectangular pattern on both sides of the trench feature, presumably to hold large support posts for an overhead bastion similar to that built over the south gateway.

North Gateway

Evidence of other gateways is not as definite as for the south gateway. However, there is meagre data indicating a small entrance through the north exterior palisade wall (Fig. 3). Two large rocks 14 in. long lie spaced 3.5 ft. apart along the base of the exterior side of the north palisade wall, 30 ft. from the western end of the north corner bastion. The arrangement of these rocks is similar to that of the rocks on either side of the south gateway. Nowhere else in the fort are rocks found in such a relationship with the exterior palisades.

If these rocks along the north palisade indicate the location of a second entranceway, the nature of the gate deserves further comment. The line of palisade pickets in this region is uninterrupted. This suggests that either the gateway was a step-through opening sawn out of the palisade after the pickets were erected, or the gateway was abandoned and simply walled up. There was no observable disturbance of the picket trench in this region which tends to support the presence of a small 3.5 ft. wide step-through doorway: however, the interpretation must remain conjectural.

No iron hinges, lintels or pintles were found around any of the fort's gateways, nor was there any evidence for gateways in any other areas but the cases mentioned above.

When we turn to the written historic records, the accounts are either unspecific or conflicting. Alexander Henry the Younger (Henry 1897: II, 658) relates an incident in which he "got the fort clear and the gates shut." On another occasion he indicates that planks were sawn for gates and "Pickette finished the fort gates" (Henry 1897: II, 665-6). In none of these brief comments does he make it clear that the gates are for more than one entranceway; they may in fact refer to doors on a single gateway. Henry also remarked on 1 November 1810 that "We have mild clear weather; no snow is to be seen, except on the Rocky mountains, which are in full view from the W. gate" (Henry 1897: II, 660). This reference to a western gate cannot be corroborated by the archaeological evidence; however, the mountains are in full view from the southern gateway. Perhaps compass readings on the position of magnetic north have changed sufficiently in 150 years to account for this discrepancy. Or, again, perhaps Henry's fort and Rocky Mountain House are two different posts.

The only other account referring to the gateways at Rocky Mountain House comes from the memory of Henry J. Moberly. He states (Moberly and Cameron 1929: 34) that "There were two gates, the main gate on the north and a smaller one on the south side leading through a narrow passage the height of the stockade." The description of this latter gate and the interior palisade accords amazingly well with the archaeological findings at the site, but the reference to the northern gate being the larger of the two and the main entrance is much less credible. Indeed, his description of this northern gate cannot be verified from the excavated data.

Interior Palisade Walls

Within the Rocky Mountain House stockade there are two short sections of palisade-like pickets. They appear to have been erected for purposes of fencing off specified areas, either for protective or divisional reasons.

Wall Behind Building II

A short eight-foot long single row of pickets extended eastward from the western exterior palisade wall to within four feet of the northwest corner of building II marked by post 2 (Fig. 3). The pickets averaged 3 in. in diameter and were set in a trench 16 in. wide by 31 in. deep. This trench, filled with grey ashy sand and many flecks of charcoal, ran the full 12 ft. 9 in. length between the western palisade and post 2, but no remains of pickets were found for a space of 4 ft. 9 in. immediately west of the building. This

suggests some type of opening or passageway through the picket wall, which clearly fences off the northwest corner of the fort behind buildings I and II.

Wall Flanking South Gateway

A second line of interior palisade flanked the western side of the entranceway inside the south gateway. This lay 6.5 ft. west of the western side of the entrance, and the pickets had been set in a closely spaced double line for a distance of 15.5 ft. north from the final wall of the southern exterior palisade. The posts averaged 3 in. to 4 in. in diameter and were mainly half-slat posts.

The trench into which the interior palisade posts were placed measured 16 in. wide. At its northern end the trench clearly cut into the trench feature of the former southern exterior palisade. Such an intrusion definitely implies that the interior wall was erected subsequent to the demolition of the old south wall of the exterior palisade.

The sides of the trench for this interior line of palisade flanking the south gateway were not fire-reddened as found in the trenches for the final southern wall of the exterior palisade. This evidence suggests that the interior wall was erected at a different, frost-free season of the year than the final southern exterior palisade.

It is evident that the southern interior palisade formed a security wall flanking the western side of the south gateway. It helped to confine and channel access to the interior of the fort and certainly reflects a concern for protection on the part of the fort's latter-day inhabitants. No such interior palisade flanked the southern entrance of the original fort.

This line of interior palisade corresponds remarkably with part of the description of Rocky Mountain House of 1854 given by Moberly. He mentions (Moberly and Cameron 1929: 34) "a narrow passage the height of the stockade" leading into the fort and a long hall from the south gateway. The archaeological evidence confirms this description.

Interior Interstice

Flanking the eastern side of the south gateway of the final fort is another form of interior barrier offering confining protection. This is in the form of the west end wall of building V, erected after the enlargement of the original fort. The west wall of this building extended 22 ft. between large posts 20 and 46. Lying between post 20 and the southern line of the exterior palisade was a short, 4 ft. long, charred beam, all that remained of a probable wall of short horizontal beams filling the interstice between building V and the southern wall of the exterior palisade. In short, this interstice and the interior western palisade on the west side of the south gateway carefully protected and channelled entry into the fort. The width of this passageway between the southern interior line of palisade and the west end wall of building V measured 12.5 ft.

Bastions

Three bastions of three different styles of construction were present at Rocky Mountain House. Two of the bastions appear to have dated from the original construction of the fort, while the third was a later addition of definite Hudson's Bay Company style of construction.

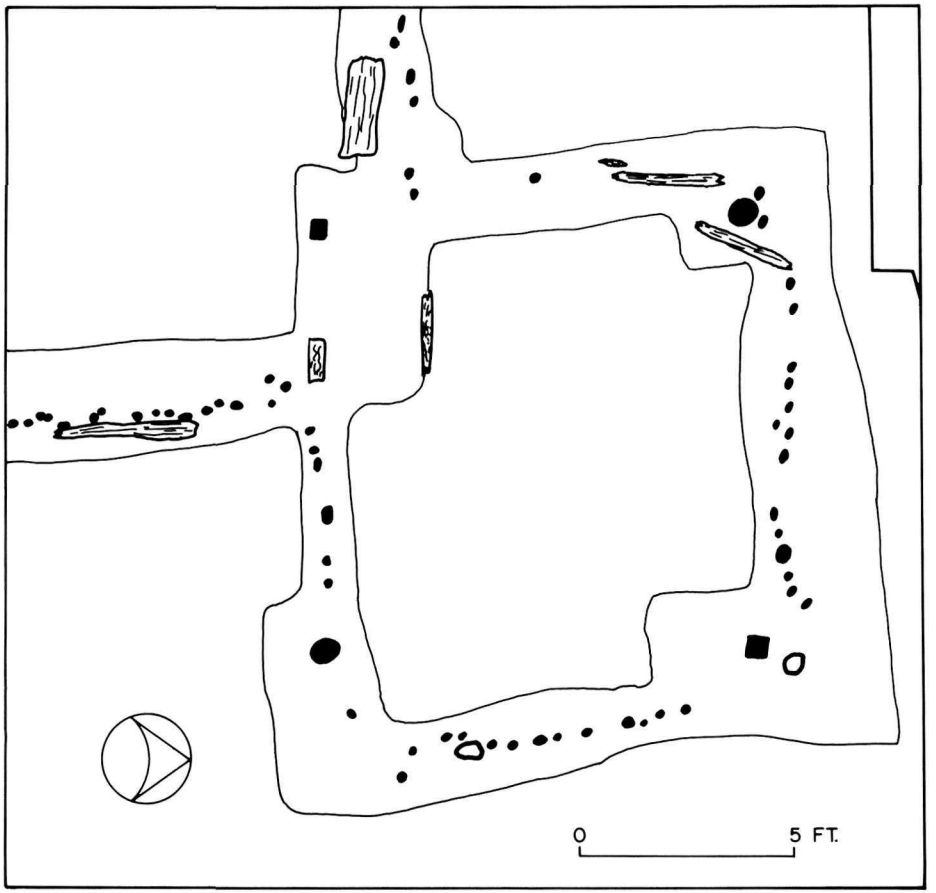
North Corner Bastion

The north corner bastion (Figs. 6, 7) was part of the original fort and, although probably repaired many times throughout its history, the original style and form had not been changed. This bastion sat at the corner junction of the north and east walls of the exterior palisade, and protruded 9 ft. north of the northern exterior palisade and 8 ft. east of the eastern wall of the exterior palisade. The bastion was rectangular in outline, 11 ft. by 13 ft. with the longer axis running east-west.

The construction of the north corner bastion differed from that of the other two bastions in the fort, and is a key to who built it and the period to which it belongs. The lower part of the bastion consisted of four walls of poorly preserved vertical pickets, averaging 3 in. to 4 in. in diameter, set in a trench. In essence, this is simply a continuation of the exterior palisade technique, but as a formal description of bastion construction it is referred to as "*en pile*" architecture (Jefferys 1939: 375). The slender nature of the vertical pickets does not suggest that this bastion was particularly strong.

Sitting above the lower picket walls of the north corner bastion was probably a gabled blockhouse. The evidence for this type of superstructure lies in the patterned position of four large posts within each of the four corners of the bastion. These large 9-in. posts, both square and round, are inferred to have supported some type of overhead superstructure; it can only be surmised that this was a roofed blockhouse with horizontal log walls.

6 The north corner bastion.



The entranceway to the bastion was through the southwest corner from the interior of the fort. Here two large square posts were spaced 2.5 ft. apart in a manner and position indicating an entranceway. Flanking either side of the entranceway, the north and east walls of the exterior palisade directly abutted the south and west walls of the bastion.

Artifacts found in this bastion include four fragments of clay pipe stems; a portion of a clay pipe bowl; one hollow silver button; one misshapen spherical lead ball, and one nail of an early rosehead type.

The archaeological evidence does not indicate any major disturbance or rebuilding of the north corner bastion. This, in addition to the *en pile* style of architecture, suggests that the bastion dates from the original erection of the fort and was not torn down or replaced when the fort was enlarged. As increasing evidence will show, the enlargement of the fort was carried out by the Hudson's Bay Company, who invariably used a consistent style and pattern of architecture. The north corner bastion is not typical Hudson's Bay Company architecture. It may, therefore, be a representative of earlier North West Company style of construction.

South Gateway Overhead Bastion

An overhead or half-bastion appears to have stood over the south gateway (Figs. 5, 8) in both the original and the final extended versions of the fort. That of the final period is best preserved. Four large round piles, 12 in. in diameter and characteristically set in large rectangular pits, lay in a definite pattern inside and outside of the south wall of the extension palisade. These posts represent corner support posts for a superstructure over the south gateway. The dimensions between these corner piles indicate a rectangular structure 8 ft. from east to west, and 9 ft. from north to south. The structure protruded 3 ft. to the south outside the extended fort, creating an overhanging half-bastion. In all probability, the bastion was constructed of horizontally tenoned logs and had a roof.

This half-bastion was erected at a time when frost inhibited working the ground, as is indicated by the presence of fire-reddening along the sides of the large rectangular pits dug for the four corner support piles. It will be remembered that fire-reddening was also observed on the trench sides for the extension palisade walls. This leads the author to believe that the south gateway overhead bastion was erected at the same time as these walls.

This same style of bastion also overlooked a similar south wall entranceway

7 Outline of the north corner bastion looking northeast.

in the fort prior to its extension. A similar pattern of four large rectangular corner post pits existed on either side of the trench feature immediately to the north of the extension gateway. These pits, however were devoid of wooden piles.

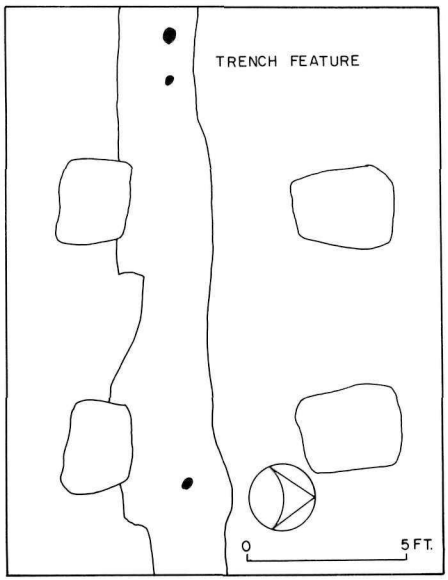
Measurements to the centres of each of these corner pits indicated that the second, earlier overhead bastion was 8 ft. square. It, too, protruded outside the original south wall of the fort for a distance of 2 ft. It seems reasonable to believe that the earlier version was simply moved and rebuilt with the revamping activities involved in the later extension of the fort.

It should also be noted that the sides of the four rectangular corner pits of the second, earlier overhead bastion were fire-reddened. This may have been caused by fires used to thaw the ground to facilitate removal of the support posts. The absence of posts in these pits clearly indicates that the bastion was torn down. I would venture to suggest that this demolition occurred at the same time the extension palisade trenches and the support post pits were dug for the final south gateway overhead bastion.

To further support this suggestion, there is evidence from the two large rectangular pits immediately south and outside of the trench feature. These are not only fire-reddened, but also cut into the southern edge of the trench feature. This intrusion clearly occurred after the trench had been dug for the original southern wall of the fort. A major question in interpretation rests in determining whether the intrusion occurred at the time the overhead bastion was dismantled, or at the time it was originally set up. From the evidence given above, I prefer to believe the intrusion occurred during the dismantling of the corner support posts.

The possibility of a third and even earlier overhead bastion existing over the mid-section of the south exterior palisade is a matter of interpretation. There

8 The original south gateway.



existed in the trench feature, bordering and underlying the two intrusive rectangular pits mentioned above, the outlines of two rectangular pits. The sides of these pits were not fire-reddened and their fill was identical to that in the trench feature. Do these represent pits for corner support posts of a different bastion, or are they the original pits for the overhead bastion which was torn down? If they are associated with the latter, then it may be inferred that this bastion dates to the original construction of the fort. If the former alternative is correct, then the possibility of yet a third and even earlier structure must be considered. In either case, an overhead style of bastion did exist over a southern gateway in the original exterior southern wall of the fort.

Southwest Bastion

A third style of bastion was erected at the southwest corner of the extended fort (Fig. 9). Many of its salient construction features are well preserved. This bastion was of blockhouse style with horizontal beams laid upon one another and tenoned into mortised vertical corner posts. One of the original horizontal beams lay charred *in situ* on the ground between the northwest and southwest corner piles.

Each of the four corner posts measured 10 in. square, and they were set into large rectangular pits, the sides of which were fire-reddened. The southeast corner post preserved a definite mortise on its north side. Measurements between these four corner piles indicate that the bastion was 10 ft. square. Furthermore, it extended 8 ft. outside the south wall and 7 ft. beyond the west wall of the extension palisade. Thus it would have offered a full view of the outside faces of the fort's western and southern exterior palisades. Certainly this heavily constructed bastion was a strengthening feature to the fort.

Again reddening of the corner post pits suggests the use of fire to thaw frozen ground, a feature which has been noted for other construction features associated with the extension of the fort. There can be no doubt from the style and position of the southwest bastion that it was erected as part of the extension plans: however, one piece of evidence indicates that it was begun prior to the erection of the new south palisade wall. This evidence is in the form of a superimposed feature associated with the bastion's northeast corner posts. The trench for the south wall of the exterior extension palisade clearly cuts into the rectangular pit dug for this post, indicating that the bastion was begun prior to the digging of the trench for the southern palisade wall; yet both features were constructed during a ground-frozen season of the year.

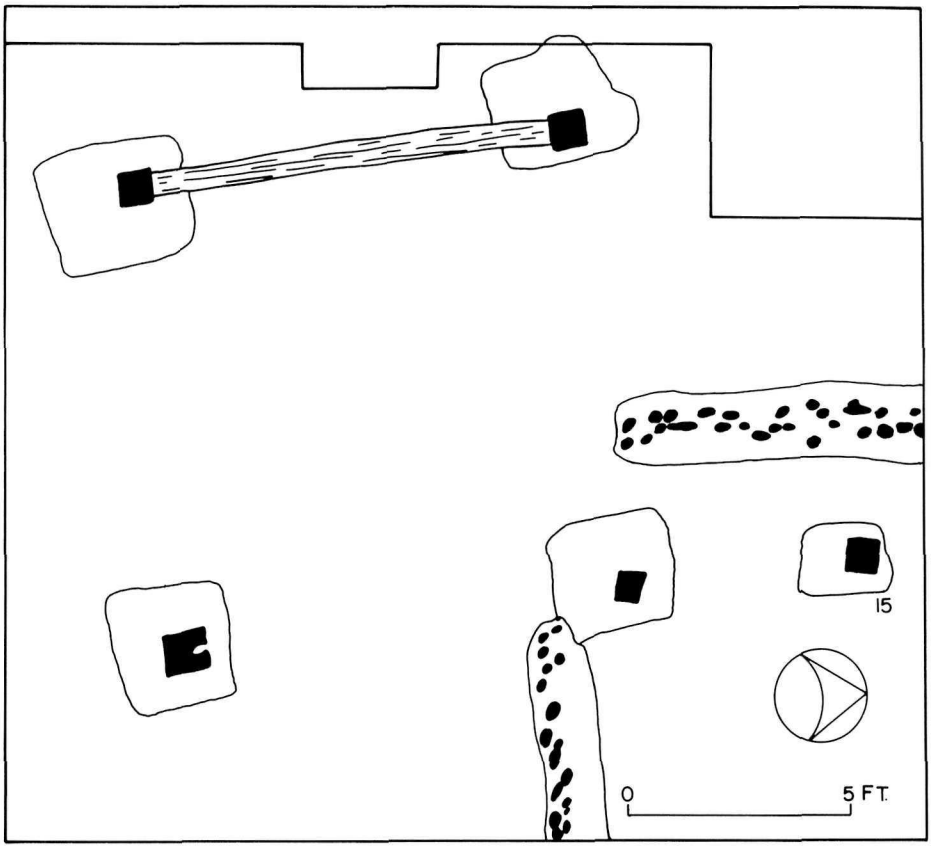
One small box or chest latch was the only portable artifact recovered from this feature.

The blockhouse style of the southwest bastion is typical of Hudson's Bay Company fort construction (Garth 1947: 221). Roe (1958: 6) also suspects that the method of sinking pairs of huge posts or piles at intervals and dropping short lengths of logs between them "originated as the result of ignorance and inexperience which crystallized into a custom and then into a rigid convention." Certainly the practice of erecting large vertical posts with mortises for short log tenon insertions is a distinctive feature of Hudson's Bay Company construction, and is amply displayed in much of the later period architecture at Rocky Mountain House.

There was no further archaeological evidence of any other bastions at this site. The original fort had two bastions, one at the north corner and one over the southern entrance. The later extended version of the fort had three bastions including both of the above-mentioned structures as well as an additional bastion at the southwest corner. This information is of importance in confirming or denying the extant historical accounts of the fort.

By and large, most of the accounts appear to be inaccurate or very sketchy. For instance, Henry Moberly recalls from memory "a block bastion at each corner" of "Mountain House" in 1854 (Moberly and Cameron 1929: 34). This cannot be

9 The southwest bastion of the extended fort.



confirmed. Similarly, the picture drawn by Paul Kane during his stay at the fort between 21 April and 1 May 1848 appears to be inaccurate (Kane 1925: 287-91). This picture (cover) centres primarily upon scenery and native peoples, with the fort depicted in the background. No bastion is shown over the south entrance, nor is there one at the north corner. The artist also included a blockhouse bastion positioned either at the southeast corner of the fort or just out from this corner similar to some type of watch house. The possibility exists that such a watch house did stand outside the southeast corner of the fort for this area was not tested during the excavations. However, the archaeological data do not substantiate the general impressions given in Kane's picture.

Earlier accounts of the fort consistently mention more than one bastion. The Hudson's Bay Company records (Hudson's Bay Company Archives, Rocky Mountain House, Post Journals, B.184/a) for 20-21 October 1828 mention "the Men erect two bastions," and later on 15 November 1830, "two choping Logs to make a Bastion." Also, on 2 April 1831, mention is made of "two men working build a wach house." Yet earlier, in 1809-10, Alexander Henry the Younger states (Henry 1897: II, 666), "the bastions were put in order, but they are wretched buildings for defense." He later states (Henry 1897: II, 701) that the situation for the fort "is well adapted for defense, as the blockhouses command the fort for some distance."

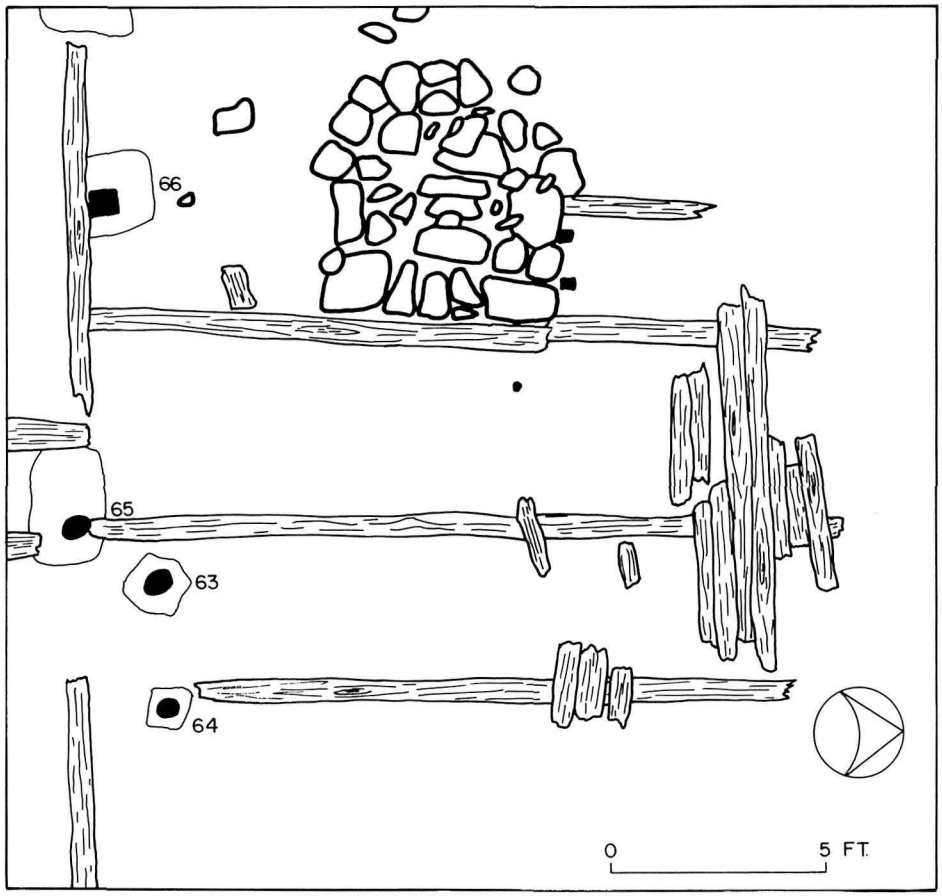
Attempts to correlate these early accounts with interpretation and historical identification of the fort's history will be made in a later chapter. Suffice it to say here that the archaeological evidence does indicate multiple bastions throughout the fort's history, including a definite Hudson's Bay Company structure in later times. The north corner bastion remains most probably a representative of earlier North West Company architecture.

Buildings

Remains of seven buildings are recognizable within the stockade of Rocky Mountain House, all but one constructed in typical Hudson's Bay Company style of architecture. This method seems invariably to have utilized the section-plank-wall type of construction in which vertical posts were placed 8 ft. to 10 ft. apart, with short horizontal wall logs tenoned into these uprights (Garth 1947: 221-2). Sills, heavy horizontal timbers supporting a wall, were also used, but frequently omitted in rough structures such as barns, stables and worksheds (Garth 1947: 222).

It is very apparent that major renovations and rebuilding took place at the fort during the period it was enlarged. All available architectural evidence indicates that this enlargement was carried out by

10 Building I and its associated single-hearth fireplace.



the Hudson's Bay Company. As such, the ground plan (Fig. 3) mapped of the preserved buildings is primarily a replica of the final fort operated by the Hudson's Bay Company. Pre-extension building details are exceedingly rare and difficult to reconstruct.

Building I

This single-roomed building located at the north end of the fort adjoining the northern wall of building II appears to represent an original piece of architecture (Fig. 10). It is definitely not of Hudson's Bay Company style. The building measured 18 ft. long north-south by 12 ft. wide east-west. It was constructed by laying down large 6 in. to 9 in. wide joists directly on the ground and then building up the walls from these. Four such joists were preserved lying in a north-south direction, and were spaced unevenly 2 ft., 3 ft., and 4 ft. apart from one another. They were also charred. Overlying and nailed to the joists were preserved sections of charred plank flooring. The planks averaged 6 in. in width and were oriented east-west. Presumably the walls of the building rested upon the floor.

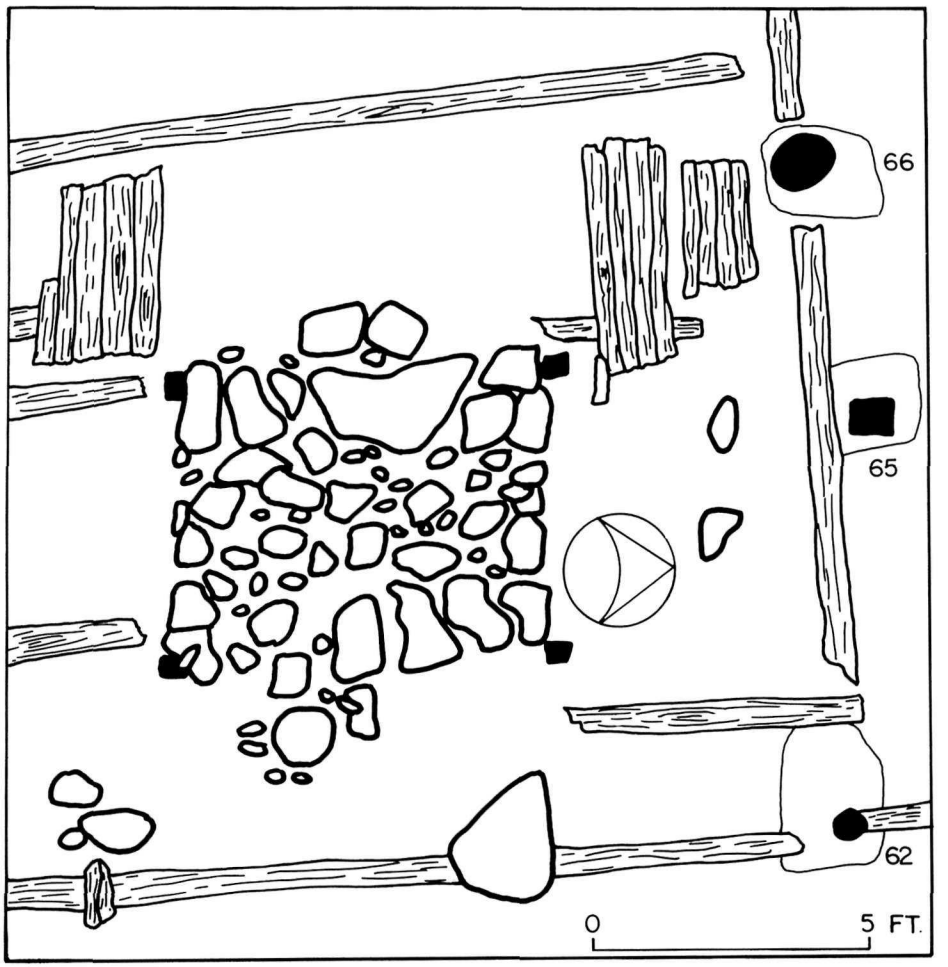
This style of architecture, in which the building rests directly on the ground, is considered by Garth (1947: 219) to be probably typical of North West Company construction. He cites the firsthand description given by W.H. Gray, a Protestant missionary, who visited the old North West Company fort of Nez Percé in 1836, a fort which was built in 1818. In his description Gray states:

The houses and quarters were built by laying down sills, placing posts (studs) at from eight to twelve feet apart, with tenons on the top, and the bottom grooved in the sides,. . . . The roofs were of split cedar, flattened and placed upon the ridge pole and plate-like rafters, close together;. . . . The roofs were less than one-fourth pitch, and of course subject to leakage when it rained. For floors, split puncheons or planks were used. . . . The room was lighted with six panes of glass seven inches by nine, set in strips of wood . . . shaped so as to hold the glass in place of a sash.

This excellent eyewitness account offers a considerable amount of information on North West Company architecture, much of which could be directly pertinent to the construction of building I. By building directly on the ground, a building is allowed to rise and fall with frost action. The Hudson's Bay Company style of architecture overcame the frost problem in a different manner: the large foundation piles were sunk deep into the ground below frost level.

The four large posts erected in pits

11 Double-hearth fireplace in building II.



along the south end of building I were probably set up by the Hudson's Bay Company carpenters in an attempt to firmly attach building I to building II. This clearly is the case for posts 62 and 65, and posts 63 and 64 may represent posts for some type of doorway or added foundation supports.

The base of a single-hearth stone fireplace lay along the western back wall of building I. The interior portion of this hearth projected 3 ft. into the room and had a width of 5 ft. The northern edge of the hearth lay 7 ft. distant from the building's north wall.

The exterior portion of the hearth projected in a semi-circle outside the back wall for a distance of 3 ft. Its maximum width of 6 ft. occurred at the wall junction. The basal joists of the western wall abutted two shallow 6-in. right-angled recesses formed at the juncture of the 6-ft. wide exterior and 5-ft. wide interior portions of the hearth. This juncture also marked the interior face of the firebox.

The firebox began flush with the inside western wall of building I. Its orifice measured 2 ft. wide and was 1.5 ft. deep. The sidewalls curved gently inward to an interior width of 15 in. As only two tiers of basal rocks remained, no measurements of the height of the firebox could be made.

All rocks used in the construction of this fireplace were sandstone except for one piece of petrified wood. Notably, most of the rocks were round in contrast to the split flat rocks used in the larger double-hearth fireplace in building II. Also, a dry-stone technique appeared to have been used for no traces of mud or mortar were found between the tightly positioned rocks.

Artifacts recovered from building I are considered in detail in a later section of the report. Recovered were 141 sub-cylindrical beads; 104 seed beads; 6 barrel beads; 4 tubular beads; 1 globular bead; 10 fragments of clay pipe stems; 5 early nails; 2 pieces of 1.5 mm. thick clear window glass from near the northeast corner of the east wall; 3 cut metal projectile points; 1 spherical lead ball; 1 carved antler-tine powder horn plug; 1 iron needle; 1 offset awl; 1 three-sided iron file; 1 severely corroded iron clasp-knife blade, and 1 copper kettle bail fastener.

The nature of these artifacts as well as the size of the room and the presence of a fireplace suggest that building I was the private quarters used by the chief trader or chief factor. The building appears to

12 Close-up view of base for double-hearth fireplace in building II

have been in existence throughout the fort's history and was probably originally built by the North West Company. The charring of the joists and floorboards and the paucity of nails further suggest that the building was dismantled and burned at the end of the fort's life. Possibly the floorboards were burned in an effort to salvage nails.

Building II

Building II (Figs. 3, 11, 12, 13) is the largest structure in the fort; it is also characteristic of Hudson's Bay Company style of architecture. Eleven large piles set in typical rectangular pits demarcated the perimeter of this long building, which measured 49 ft. long east-west by 22 ft. wide north-south. The building lay 12 ft. 9 in. east of the western wall of the exterior palisade and 30 ft. south of the northern palisade wall. As such, building II dominated most of the north end of the fort and looked out upon an open square immediately to the south.

The large foundation piles set upright around the border of building II ranged in diameter from 8 in. to 14 in. Three such posts, 1, 2 and 4, were found to extend 30 in. to 36 in. deep within large rectangular pits. All of these vertical posts had been sawn off at ground level and appear from their wood grain to have been spruce.

As an example of how these foundation piles were erected, post 4 is classic. This 14 in. diameter pile was set in an open rectangular pit measuring 28 in. north-south by 26 in. east-west and 32 in. deep. Mixed sand, gravel, clay and charcoal was then backfilled into the pit to within 8 in. of the ground surface. Then a horizontal log 28 in. long by 8 in. wide with sawn ends was wedged into the pit against the east side of the pile. This wedge, or deadman, appears to have been pine. Further fill and packing completed the fixing of the pile (Fig. 14). Large piles with wedging deadmen were also encountered at posts 1 and 2 of building II.

The large foundation piles set around the perimeter of the building were spaced 10 ft. to 13 ft. apart at the building's west end, and some were 6 ft. to 8 ft. apart at the east end. Charred, 8-in. wide sills lay mortised into these piles. Abutting the sills and running north-south across the width of the building was a series of 11 preserved parallel joists (Fig. 13). These lay charred on the ground

13 Northeast view of charred joists and base for double-hearth fireplace in building II.

regularly spaced 4 ft apart. Their widths ranged from 6 in. to 10 in.

Overlying and nailed to the joists was flooring. Charred planks of this flooring were preserved at four locations within building II. The planks averaged 6 in. in width and had been laid down in an east-west direction at right angles to the joists.

There is one piece of evidence to indicate the height of the walls in building II. This comes from corner post 2, which during dismantling activities was simply sawn off at ground level and left unmoved. This pile measured 12 in. in diameter by 6 ft. 3 in. long. It lay exposed where it fell west of building II over many of the small pickets in the short line of interior wall behind the building. The above-ground length of post 2 indicated that the floor to plate height was slightly over 6 ft. in building II.

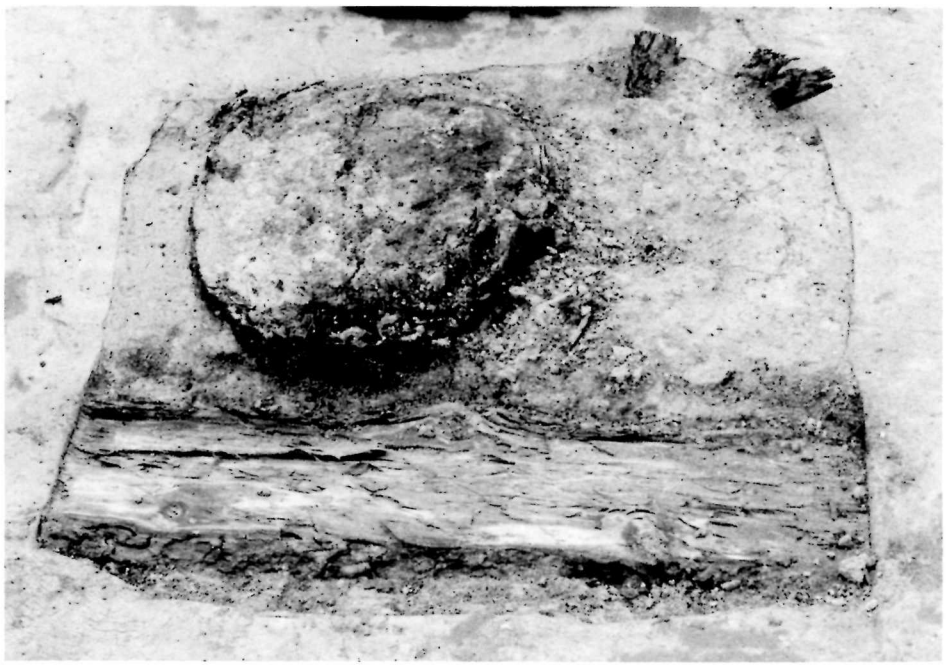
Within building II were several notable features, primarily at the western end. Large pit 17 and the three smaller rectangular pits 4, 5 and 15, however, will be discussed separately in a later section.

Positioned off-centre in the interior of building II was the base of a large double-hearth stone fireplace (Fig. 11). This lay 5 ft. from the north wall of the building, 10 ft. from the south wall and 17 ft. east of the western end. The base consisted of two preserved courses of flat split sandstone rocks ordered in a 7-ft. square between four vertical corner posts. These posts measured 4 in. square and were driven into the ground to form a framework for the fireplace.

Two hearths were present in this fireplace — one on the east side and another on the west. Presumably the fireboxes of each fed into a common central flue. The hearths were generally in poor condition, but appeared to have projected 2 ft. out from the 7-ft. square base. Measurements were not obtainable from the eastern hearth, but were from the western one; these measurements are considered valid for both hearths.

The width of the firebox in the western hearth measured 3.5 ft. The back of the fireplace curved inward to an interior width of 2 ft. from the front face. As

14 Post 4 looking west showing the rectangular pit outline and dead-man log.



with the fireplace in building I, no measurement of firebox height could be made.

This double-hearth fireplace was constructed of flat split sandstone rocks. Apparently a dry-stone technique was used for there were no traces of mud or mortar. The design of the fireplace was such that it would have cast heat to both the east and west ends of building II when in operation. Sufficient quantities of loose and waste building rocks were found around the chimney and in pits 11 and 18 to warrant belief that the upper portion of the chimney was also constructed of stone. Other techniques, however, could also have been used. Sod construction is a possibility as is the vertical pole-mud plaster technique which this author recorded at the remains of old Fort Reliance, established by Sir George Back at the east end of Great Slave Lake in 1833; however, no lumps of mud plaster occurred around the double-hearth fireplace in building II.

In its over-all form and nature, building II resembles a barracks-like building. In this respect, Garth (1947: 221) states that:

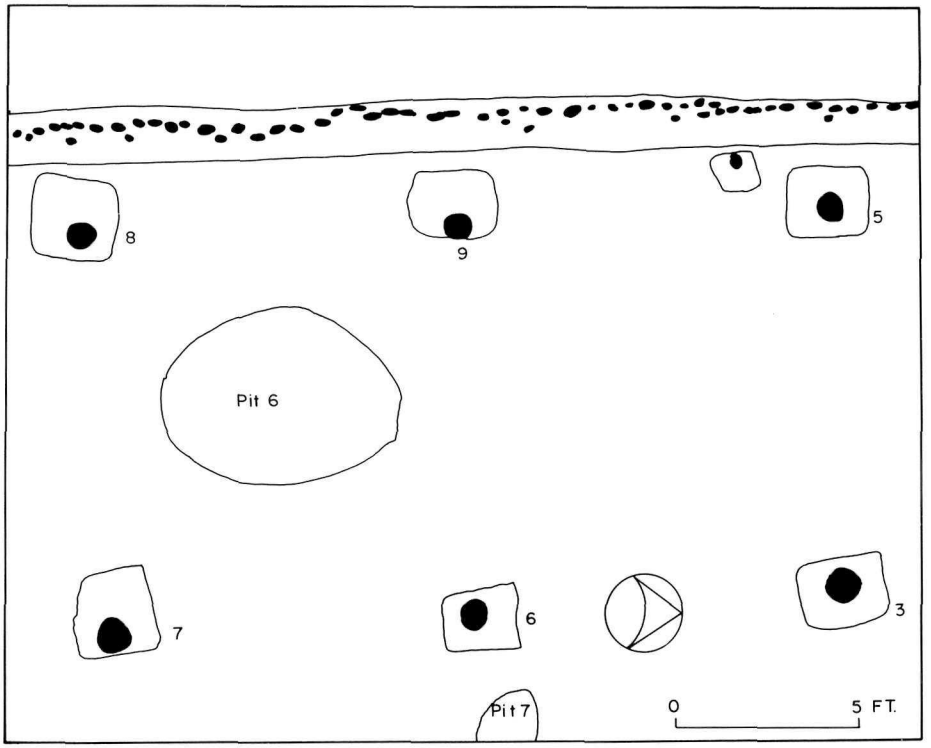
The typical Hudson's Bay Company building was a barracks-like affair, sometimes as much as 170 feet long (as at Fort Vancouver) and 30 feet wide. The usual length was from 50 to 75 feet, the width from 20 to 25 feet, and the height from 12 to 14 feet.

Building II of Rocky Mountain House conforms admirably to this description and may reasonably be considered as the main habitation during Hudson's Bay Company occupation.

A further perusal of the artifacts recovered loose or from pits within building II attests to the nature of its use as a habitation. Recovered were 210 large subcylindrical beads; 15 tubular beads; 6 barrel beads; 4 seed beads; 3 silver earrings; 1 lead cross; 13 buttons, 4 of which are Hudson's Bay Company coat buttons; 10 pipe bowl portions; 29 pipe stem fragments; 1 fragment of white salt-glazed stoneware; 2 under-glazed pieces of creamware decorated with transfer printing; 1 complete glass vial; 1 square green bottle; 2 other bottle fragments; 1 iron needle; 2 fishhooks; 4 gunflints; 1 gun sear; 15 spherical lead balls; 56 pieces of lead shot; 1 steel file; 1 iron punch; 1 cold chisel; 2 iron axe wedges; 28 nails of which the early types cluster at the western end of the building; 1 brass kettle bail fastener; 5 fragments of sheet copper; 2 carved antler tines, and 3 small rolls of cut birchbark. A total of 421 items came from building II.

It is difficult to determine the duration of time that building II was in existence. Clearly it was built by the Hudson's Bay Company, but limited evidence suggests an earlier aspect at the western end of the building. This is reflected in the distribution pattern of specific artifacts such as early types of nails and gunflints. Also, pit 17 at the eastern end of building II lies superimposed over an earlier pit, 18. Perhaps the western end of building II simply rests on ground utilized by earlier occupants. Lack of stratigraphy in this area helps little to clarify this question. Certainly building II was dismantled and burned at the end of occupation of the fort.

15 Ground plan of building III.



Building III

This small building (Fig. 3) located along the western side of the fort is also typical of Hudson's Bay Company architecture. Six large foundation posts ranging in diameter from 9 in. to 11 in. were set in large rectangular pits about the perimeter of the building. Measurements from these posts indicated that building III was 21 ft. north-south, by 11 ft. east-west. The foundation piles lay 9 ft. and 10 ft. apart from one another.

The building was set out 2 ft. east of the western exterior palisade wall; it also lay 4 ft. south of the southeast corner of building II and 12 ft. north of building IV. The base of a large permanent fur press lay 8 ft. east of the front of building III.

In contrast to buildings I and II, there are no joists, sills or flooring in building III. Garth (1947: 222) states for Hudson's Bay Company architecture that, "in such crude structures as barns, stables and worksheds. . . . the upright posts might be set directly into the ground, which served as the floor, no sills being employed." This description fits building III, and in all probability it was a warehouse. The artifacts found loose within this building also attest to this inference, while those from pit 6 generally dated late enough to be associated with the Hudson's Bay Company occupation. Pit 6, therefore, is regarded as being some type of cellar pit within building III.

Artifacts recovered from building III, both loose and in pit 6, included: 1 fur bale tag; 1 brass spigot; 2 nested brass banglers; 3 pipe stem fragments; 2 large subcylindrical beads; 2 cut metal projectile points; 1 brass button; 2 iron buttons; 1 copper wrist band; 1 small hawk bell; a neck portion of a small glass vial; 1 lead ball; 1 piece of lead shot; 1 offset awl; 1 piece of sheet copper; 15 nails; 1 soapstone pipe bowl, and 1 core of yellow jasper. All but the bale tag, brass spigot, banglers, projectile points and the jasper core came from pit 6.

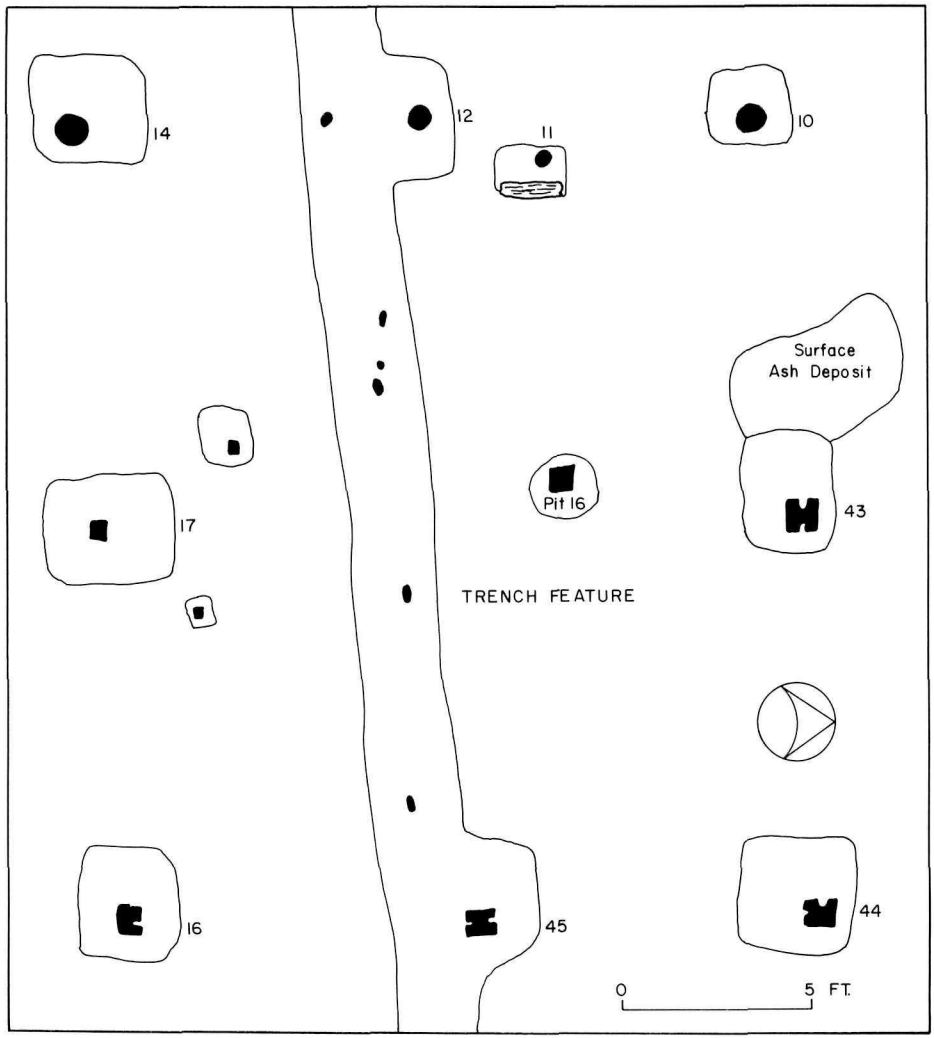
Building III was cut down and burned at the end of the fort's occupation. The tops of the large foundation posts were each hewn and sawn off at ground level, as well as charred. A heavy 3-in. thick ash layer covered most of the area encompassed by this building.

Building IV

This building at the southwest end of the fort (Figs. 3, 16) was of typical Hudson's Bay Company architecture and was clearly erected after the fort was enlarged. Building IV straddled and was superimposed on the trench feature, thereby lying within the confines of the original fort and additional area provided by the extension.

Eight large posts 9 in. to 10 in. in diameter and characteristically set in rectangular pits demarcated the borders of this building. It covered a rectangular area 21 ft. east-west by 18 ft. north-south. In wider context, building IV lay 12 ft. east of the western wall of the exterior palisade, 8.5 ft. north of the final southern extension palisade, and a short 3 ft. west of the interior wall of security pickets

16 Ground plan of building IV.



flanking the west side of the south gateway.

Although no sills or joists were found preserved within this building, four of the large foundation posts had mortises for the insertion of tenoned sills. These were 16, 43, 44 and 45. Rotten portions of flooring were also encountered oriented north-south along the western end of the building. Thus it is reasonable to believe that joists once existed.

Artifacts from within building IV were not numerous. Recovered were 6 pipe stem fragments; 6 nails; 3 large sub-cylindrical beads; 2 brass banglers; 1 cut metal projectile point; 1 brass kettle bail fastener; 1 sawn antler tine; 1 rim of undecorated lead-glazed earthenware; 1 fragment of a green glass bottle, and 1 portion of a red sandstone pipe bowl. If anything, this artifact inventory reflects trade objects.

Building IV in all probability was a Hudson's Bay Company trading room or Indian room. Robinson (1879: 74), describing Lower Fort Garry, stated that "immediately at the left of the gateway is the trading-store, devoted solely to the sale of goods." This same positioning occurred at Rocky Mountain House. Further, it is not inconceivable that in the later 1800s Hudson's Bay Company designs and layouts of forts had crystallized into a custom, or even a rigid convention.

Whatever the function of building IV, it was in the end dismantled. The large foundation piles were chopped and sawn off at ground level and tenoned sills were missing. Also, a large 8-in. wide beam measuring 21 ft. long lay abandoned 9 ft. north of the building. It may represent a plate from either building IV or building III.

Building V

Building V (Figs. 3, 17) was also a Hudson's Bay Company structure erected after the fort was enlarged and revamped. It clearly superimposed the trench feature at the southeast corner of the fort and overlay space within the original fort and the extension.

The extent of building V was demarcated by 6 large foundation posts 7 in. to 13 in. in diameter, set in large rectangular pits around the structure's perimeter. An area 22 ft. north-south by 34 ft. east-west was thus delineated. In general, the large foundation piles were spaced 10 ft. apart

and mortises were present for the insertion of tenoned sills. The remains of one 10-ft. sill portion lay along the western side of the building. Notably, no interior joist or flooring were encountered here.

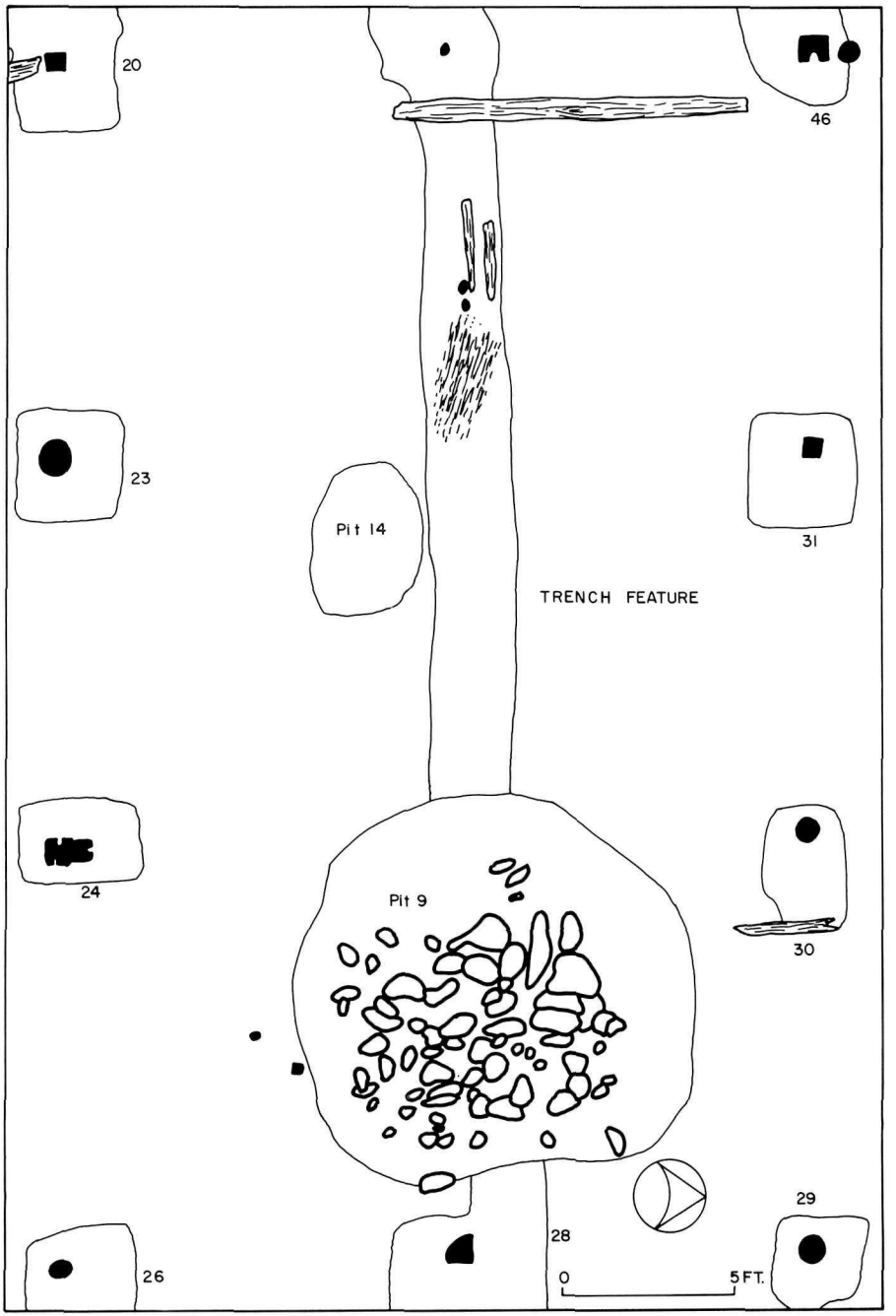
In its wider context within the fort, building V lay 4 ft. west of and parallel to the east wall of the exterior palisade, and 3 ft. to 4 ft. north of the southern wall of the extension palisade. The western end of the building bordered the east side of the entrance through the south gateway. As such, it formed a continuous wall with the short 4-ft. interstice between its southwest corner and the southern wall of the extension palisade. It seems improbable that any windows or doors existed in building V's western wall in light of the security nature and protective measures made around the south gate.

Within building V were two pits definitely dating to the Hudson's Bay Company period of this building. Pit 9 appeared to represent a forge, and a cache of hoop iron was found buried and forgotten in pit 14. These features and the paucity of artifacts from building V suggested that it was some type of earthen-floored workshed.

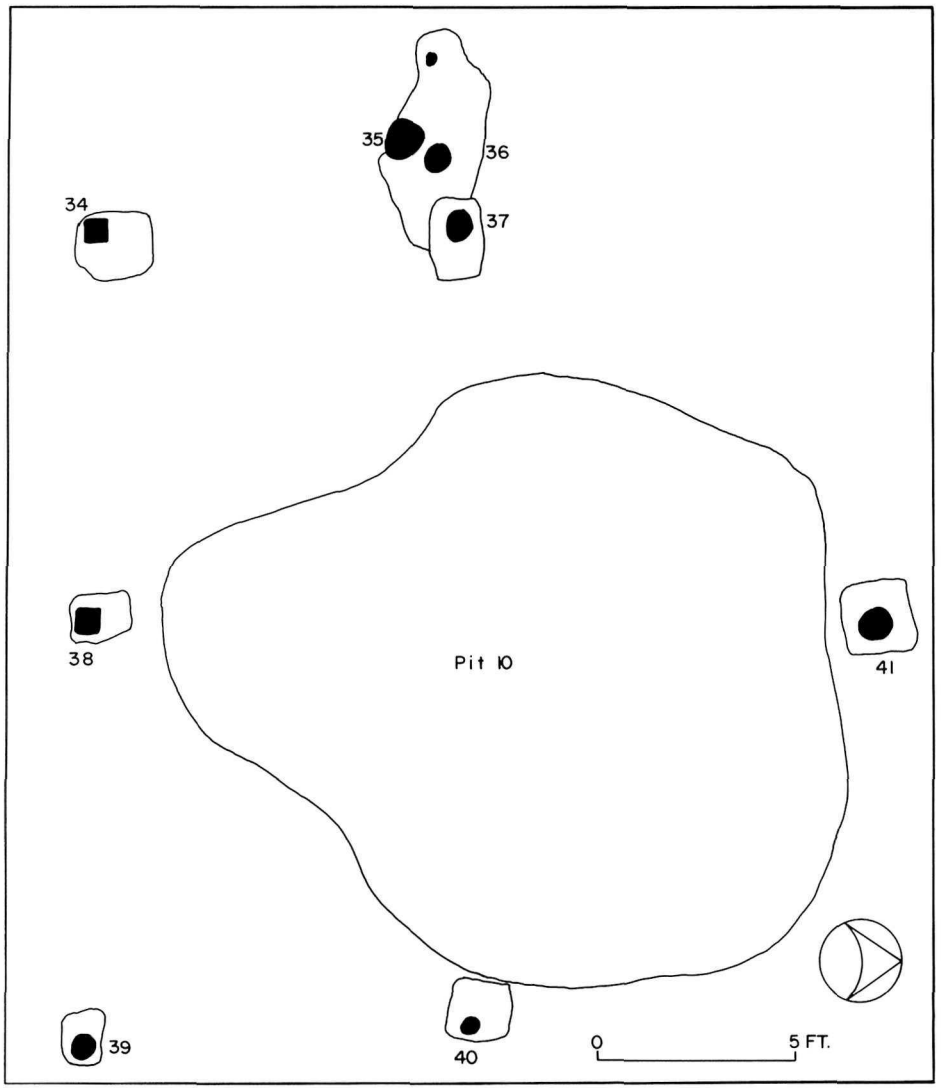
Artifacts from this building included 6 iron hoops; 2 nails; 1 rough machine-made copper rivet; 1 cut metal projectile point; 1 brass kettle bail fastener; 1 lead sinker; 1 spherical lead ball; 1 white seed bead; 1 large subcylindrical bead; 1 plated button; 1 plain brass button; 1 pipe bowl fragment, and 1 portion of a round clear glass bottle.

The chopped and sawn off nature of the large foundation piles indicate that building V was dismantled at the end of the fort's occupation.

17 Ground plan of building V.



18 Ground plan of building VI.



Building VI

This building along the eastern side of the fort (Figs. 3, 18) was not well defined. Five large foundation piles, 34, 37, 38, 39 and 40, delineated three of the walls and were set in typical Hudson's Bay Company fashion. The piles measured 8 in. to 10 in. in diameter and were set 9 ft. apart in large rectangular pits. Measurements from these posts indicated that the building was 21 ft. east-west by 10 ft. north-south. It is undecided whether post 41 was associated with this building, for like many other posts in the southeast corner of the fort it did not complete any part of a recognizable pattern. Building VI, therefore, appeared to be a long rectangular structure spaced 4 ft. west of the eastern wall of the exterior palisade. No floorboards, joists or sills were found in this building.

Pit 10 lay partially within building VI, but probably represented a basement structure for a former building in this area. Artifacts from the pit appear to date between 1810 and 1830. The artifacts from pit 10 and its adjoining extension included 787 large subcylindrical beads; 35 seed beads; 2 tubular beads; 2 globular beads; 2 barrel beads; 7 clay pipe stem fragments; 1 clay pipe bowl fragment; 10 nails; 52 pieces of lead shot; 2 pieces of melted lead; 2 sheet copper fragments; 1 cut silver strip; 1 slate pencil; 1 brass pin; 1 silver hawk bell; 1 double-gilt button; 1 portion of black basalt stoneware; portions of one round green bottle; 2 pieces of antler tine, and 1 freshwater bivalve shell.

Building VI had the general shape and style of architecture reminiscent of a stable-like barn. Its location was within an area displaying random signs of former construction features. In the end, building VI was also dismantled.

Building VII

Building VII (Figs. 19; 30) was a unique rectangular subterranean log structure in pit 11 along the east side of the fort. It measured 9 ft. north-south by 8 ft. east-west, and was 4.5 ft. deep. The structure lay 9 ft. west of the east wall of the exterior palisade, 35 ft. south of its north wall, and 9 ft. east of the west wall of building II.

19 Plan of subterranean building VII in pit 11.

Building VII was floored with 15 logs averaging 3 in. in diameter, lying close together in a north-south orientation. The upper surfaces of these floor logs had been hewn flat. Ascending up the sides from the flat bottom were walls of heavier 4 in. to 6 in. diameter round logs. Most of these were found caved in and charred on the inner faces. Boards and poles of a ground-surface roof also lay depressed in the building and were charred on both upper and lower surfaces. Clearly a fire had burned in the building.

Overlying and depressing the structure was a grey ash layer filled with split sandstone building rocks. These, in addition to the evidence of fire and the artifacts recovered from the pit, all suggest that building VII was utilized and filled in during the late period of the fort's occupation. The rocks most probably were dismantled from the double-hearth fireplace in building II.

Artifacts from building VII were recovered in the lowest levels of the structure and in the top 6 in. of surface fill. Those from the bottom were bone pieces found lying on top of the log floor and included severed but articulated portions of a young horse. The mandible, 16 articulated vertebrae including 5 cervicals, ribs, a scapula, several limb bones and a small, unshod hoof represented portions of at least one horse. Also, there was a femur that appeared to be from a bear. These specimens were covered during the burning and filling of the pit.

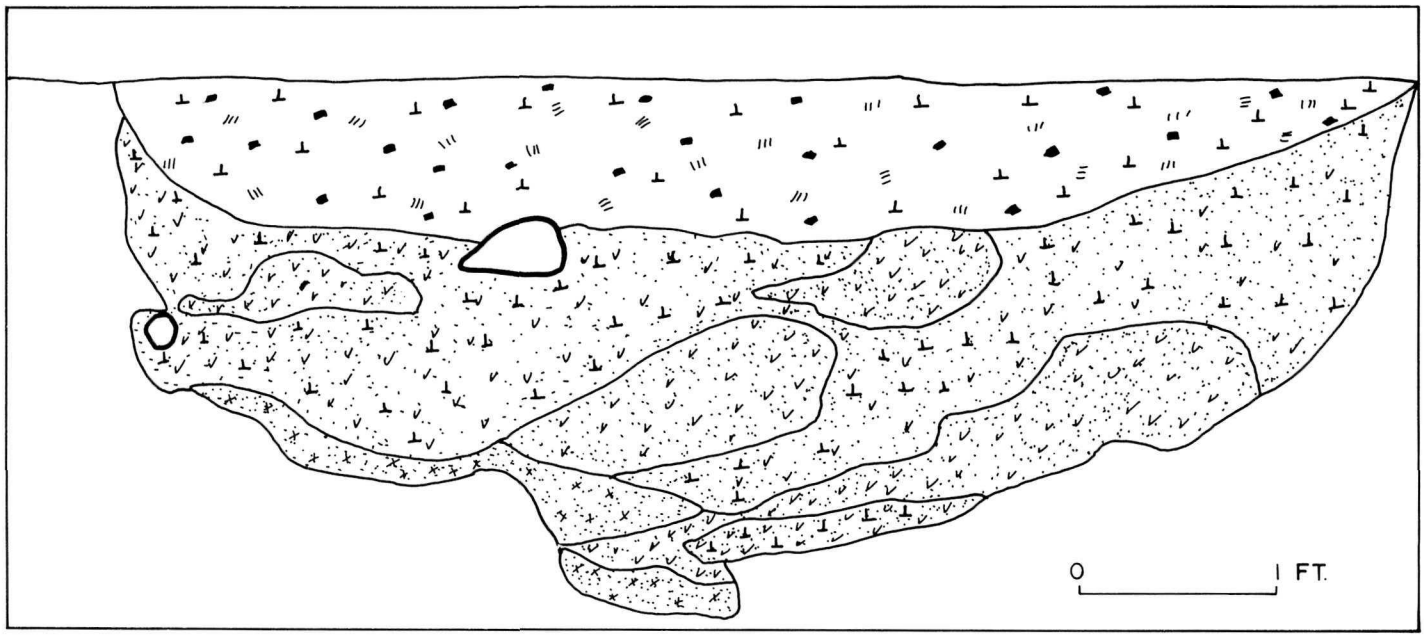
Artifacts from the ash fill at the top of building VII included 5 clay pipe bowl fragments; 4 clay pipe stem fragments; 6 nails; 1 piece of lead shot; 1 brass bangler; 1 sharpening file; 1 steel clasp knife blade; 1 barrel bead; 2 seed beads, and 3 tubular beads.

The nature of the bone artifacts from building VII and its subterranean construction suggest that it was a cold storage repository. Obviously it was burned and filled in at the end of the fort's occupation.

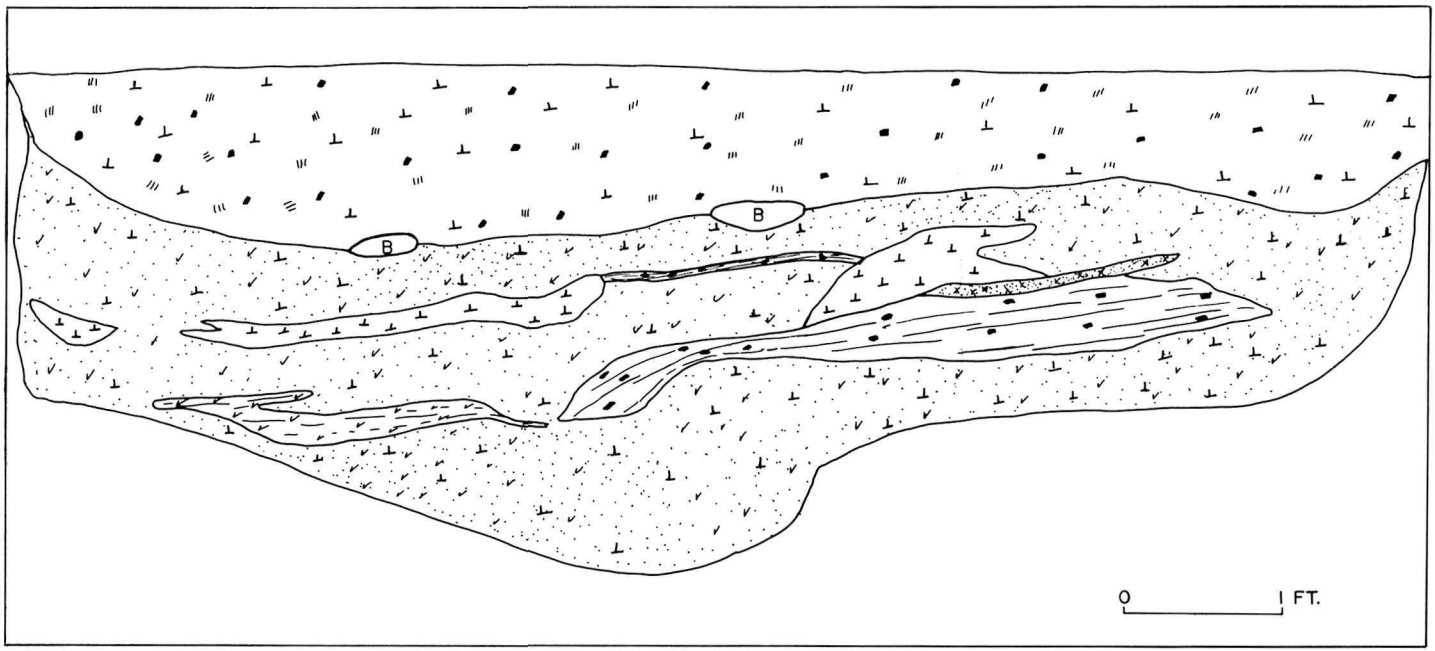
Pits

Pits of all sizes and different functions were a distinctive feature of Rocky Mountain House. They were also a prominent feature at other western forts observed by the author, such as at Rocky Mountain House (FcPr-2), Fort Forks on the Peace River, and the old forts Rae and Reliance on Great Slave Lake. At the site under discussion, the pits produced a

20 East wall profile of pit 1.



21 North wall profile of pit 2.



greater variety of artifacts than any of the other features.

Pit 1

This oval shaped refuse pit (Fig. 20) lay in the northwest corner of the Fort behind buildings I and II. From its centre the north wall of the exterior palisade was 4 ft. distant and the west wall 8 ft. away. A very distinct 20-ft. long drainage depression led into this pit from the east. The pit measured 6 ft. 3 in. north-south by 3.5 ft. east-west.

Stratigraphy in pit 1 indicated a sequence of burning and filling from its maximum 28-in. depth to ground surface. The overlapping nature of the deposits may have been the result of daily, weekly or yearly dumping. At the very bottom, fire-reddened sands indicated fire in the pit. These sands were overlain by grey ash and then a layer of mixed white sandy clay. This was possibly heaped into the pit to extinguish the underlying fire. Over the sandy clay layer was more fire-reddened sand and ash. This second layer of grey ash, more than one foot deep, included an occasional sandstone rock in the upper levels. Capping the pit was an 8-in. depth of mixed charcoal, ash, humus and artifacts.

None of the 21 artifacts from pit 1 have been dated. Recovered were 11 large subcylindrical beads; 1 seed bead; 1 globular bead; 1 watch winder; 1 steel clasp-knife blade bearing the stamp REAGLE; 1 copper upholstery nail with poured umbrella head; 1 iron needle; 4 pieces of lead shot, and some fragmented bone. In addition, a folding sheath fork with one brass foil side-cover was found in the drainage depression leading into this pit.

Clearly the main function of this pit was for the burning of refuse or debris. Only in its upper, later level were cultural items found.

Pit 2

A circular pit (Fig. 21) also lay in the northwest corner of the fort immediately south of pit 1 and west of building I. Its diameter measured slightly over 8 ft., the centre of which is 8 ft. from the west wall of the exterior palisade and 12 ft. south of the north wall of the exterior palisade. Maximum depth of the pit was 44 in.

The sequence of layered debris in pit 2 indicated successive burning and dumping. Fire-reddened sand reflected actual burning within the pit, while mixed grey ash in other levels attests the burning of rubbish or wood elsewhere prior to its deposition in the pit.

The lowest layer of debris was mixed sandy-clay and grey ash. This was overlain by a layer of charcoal and partially burned wood chips. Above this was more white ash, mixed sandy-clay and a thin lens of fire-reddened sand at the east side of the pit. The heavy white ash level above this again contained a large quantity of small fire-blackened rocks. The uppermost 6 in. to 8 in. level of the pit was composed of grey ash, charcoal, bone, artifacts and black humus.

The few artifacts from pit 2 are not very diagnostic for dating purposes. Recovered were 3 pipe bowl portions; 5 pipe stem fragments; 8 pieces of lead shot; 1 spherical lead ball; 2 rosehead nails, 1 wrought and the other cut; 1 large subcylindrical bead; 1 globular bead; a few pieces of broken bottle glass; 2 scrap iron hoop pieces; 1 dolomitic chert flake; 1 freshwater bivalve half; quantities of minutely fragmented bone, and several segments of butchered horse limbs.

The utilitarian nature of pit 2 is similar to pit 1. The pit appears to have been used primarily as a general burning dump and ash repository. Cultural items only occurred in the upper humic level.

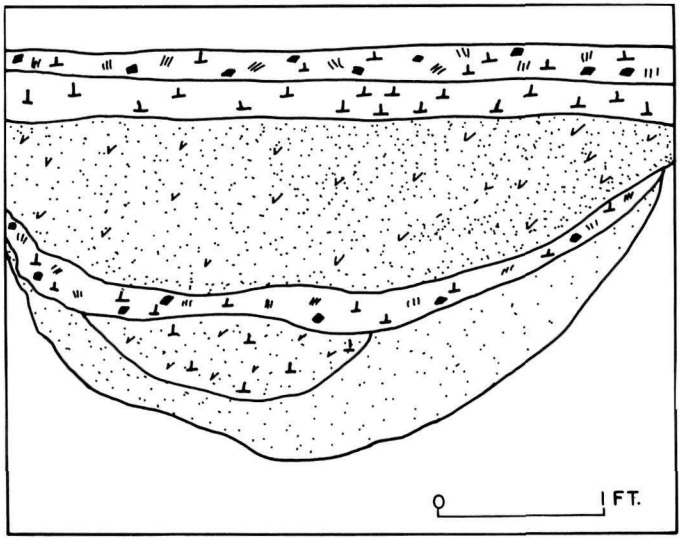
Pit 3

Pit 3 (Fig. 22) was a small circular depression with a 45 in. diameter, lying in the northwest corner of the fort behind buildings I and II. Its centre was 15 ft. east of the west wall of the exterior palisade and 16 ft. south of the north wall of exterior pickets. Maximum depth of this round-bottomed pit was 30 in.

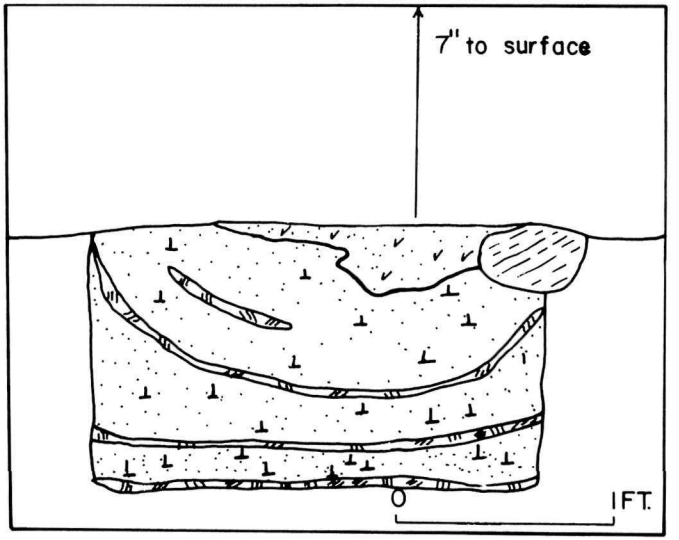
The stratigraphy in pit 3 gave few clues as to its function. A basal layer of light yellow sand was overlain by a pocket of mixed sandy-ash. This in turn was succeeded by a layer of mixed charcoal wood chips and black humic soil which possibly represents a former ground surface. It was overlain by a layer of sterile sandy clay. Above this sandy clay was a highly compacted grey ash 2.5 in. thick which lay under the present surface sod.

Three unidentifiable nails and a piece of sheet copper were recovered from the grey ash layer overlying pit 3. These are the only artifacts from the pit.

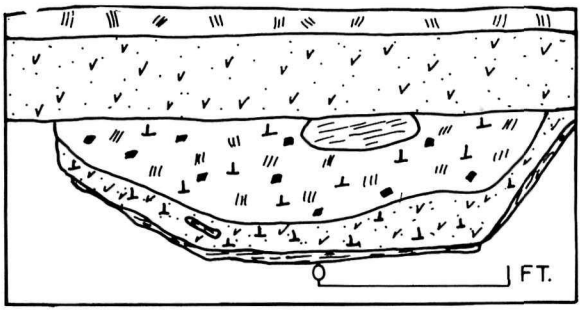
22 West wall profile of pit 3.



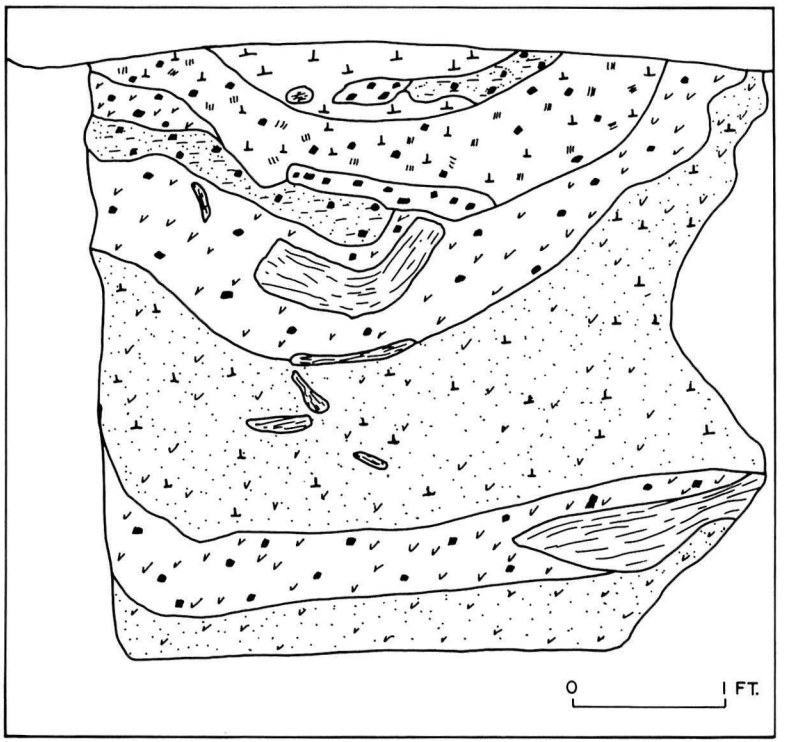
23 North wall profile of pit 4.



24 North wall profile of pit 5 (*below*).



25 South wall profile of pit 6 (*right*).



Pit 4

This rectangular pit (Fig. 23) was sunk 22 in. below the floor of the north-west corner of building II. It measured 24 in. eats-west by 22 in. north-south. Notably, the side walls and pit were straight and met at right angles at the bottom of the basal corners, giving the pit a box-like appearance.

The first seven inches of upper fill were composed of hard compacted clay, grey ash and flecks of charcoal. At the 7-in. depth a burned joist from the interior of building II lay parallel and superimposed over the east side of the pit. Below the first layer of grey ash and clay there was a softer layer of grey sand. This was underlain by a thin 2 in. lens of black humic soil below which the first artifacts were encountered. More grey sand followed and was in turn underlain by a second layer of thin black humic soil. This was underlain by another layer of grey sand and a final third layer of black humic soil lining the bottom of the pit.

The 51 artifacts from pit 4 date both early and late, and include many items of a personal nature. Two Hudson's Bay Company buttons from the middle levels of the pit attest to the post-1821 use of the upper portions of the pit and, indeed, to the wider context of building II itself. From the bottom 21 in. depth of the pit, a tan spall gunflint of French style was uncovered. This may date to an earlier North West Company occupation, or it could be contemporaneous with the Hudson's Bay Company specimens.

Total artifacts recovered from pit 4 included 9 clay pipe stem fragments; 2 clay pipe bowl portions; 2 Hudson's Bay Company buttons; 3 plain iron buttons; 1 gun sear; 10 spherical lead balls; 16 pieces of lead shot; 1 tan spall gunflint; 2 nails of early variety; 4 large subcylindrical beads, and the tip of an antler tine. The nature of these artifacts and the provenience of the pit strongly support the inference that pit 4 was a personal cache in building II. Pits 5 and 15 are of this nature also.

Pit 5

This rectangular pit (Fig. 24) also lay within the western end of building II, 10 ft. south of pit 4. Its surface measurements were 32 in. east-west by 21 in. north-south, with the maximum depth being 17 in. below the present ground surface. The sides of this pit sloped inward to meet a flat bottom 18 in. east-west, and were lined with thin 0.5 in. wooden slats. A thin layer of rotten wood also covered the pit bottom, indicating that pit 5 held some type of rectangular box.

Successive layers of fill were present in this pit. Above the basal wooden floor was a layer of mixed grey sand and ash. This was overlain by another thin layer of rotten wooden slats which in turn were covered by a thick layer of black humus, ash and flecks of charcoal. All artifacts recovered from pit 5 came from within and below this layer. The remains of wooden flooring from building II overlay the black humic layer, and from this layer upward 9 in. to present ground surface, the fill was composed of mixed white clay and ash.

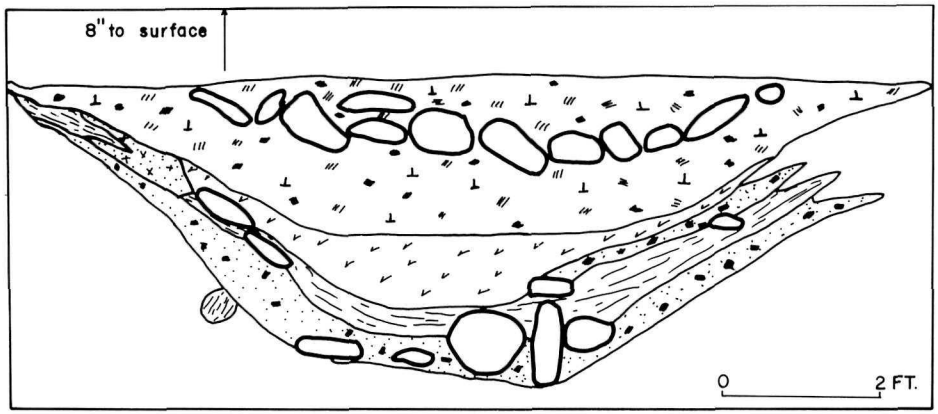
As with pit 4, the 32 artifacts recovered from pit 5 included many items of a personal nature. Recovered were 16 large subcylindrical beads; 2 tubular beads; 3 nails only one of which can be identified as an early machine product; 3 pieces of lead shot; 1 spherical lead ball; a tan spall gunflint; 1 incomplete steel file; 1 gilded button; 1 conical silver earring; 1 complete small glass vial; a portion of a square green bottle, and 1 clay pipe stem fragment.

Pit 6

Pit 6 (Fig. 25) was a large oval feature within the south end of building III. It measured 6.5 ft. north-south by 5 ft. 2 in. east-west, with a maximum depth of 5 ft. The bottom of the pit was flat and the sides were essentially vertical except for one region of slumpage in the lower western wall.

A 5 in. to 6 in. layer of sterile mixed sandy clay lined the bottom. This was overlain by a layer of grey ashy-clay containing flecks of charcoal. Intruding from the west wall into this layer was a pocket of slumped sand. The next succeeding layer was a deep bed of grey ash, charcoal, pieces of wood and an occasional nail. One of the nails from the 26 in. depth in this layer was an early machine product. Overlying grey sandy ash and charcoal included part of a large unburned stump. No fire-reddening occurred in any of the ash deposits in this pit, thereby indicating that all of the ash was formed elsewhere prior to dumping in the pit. Above the ash and stump layer was a layer of sand, some fire-cracked rock, much finely broken bone and the major concentration of cultural material. This level was overlain by a pocket of black charcoal which was in turn succeeded by a layer of black humus,

26 West wall profile of pit 9.



charcoal, ash and sandy clay. A top layer of white ash completed the sequence of fill in pit 6.

The 40 artifacts from pit 6 all date late enough to be associated with the surrounding Hudson's Bay Company building III. Recovered were 13 clay pipe stem fragments; 15 nails; 1 small offset awl; 1 spherical lead ball; 1 piece of lead shot; 2 cut metal projectile points; 1 sheet copper fragment; 1 large subcylindrical bead; 1 rim of a small glass vial; 1 copper wrist band; 1 plain brass button; 1 plain iron button, and the bowl of a soapstone pipe.

The diffuse and general late date of these artifacts, together with the extensive deposits of grey ash in pit 6, suggest that most of the debris was dumped in the pit at the end of the fort's occupation. Prior to this filling pit 6 probably served as a large flat-bottomed cellar pit in building III.

Pit 7

Pit 7 (Fig. 3) was a small oval pit lying directly in front (east) of post 6 of building III. Its measurements were 24 in. east-west by 16 in. north-south with a depth of 13 in. No artifacts were found in this pit.

Pit 7 has some similarities to pits 4, 5 and 15 of building II in that it has straight sides and a decidedly flat bottom. The lowest level of fill was composed of 3 in. of sandy clay containing wood chips and charcoal. This was overlain by a deposit of more wood chips and charcoal and, finally, by a top layer of massed wood chips and rotten wood. Perhaps this pit represents an intial trial hole dug for a foundation pile for building III. Clearly it was later filled in with wood debris.

Pit 8

Pit 8 (Fig. 3) was a shallow 16-in. depression filled with debris. It was located outside the extended fort immediately southeast of support pile 21 at the southeast corner of the south gateway. This pit was oval, measuring 45 in. east-west by 36 in. north-south, and had a round basin-like bottom. Filling the pit was a homogeneous mixture of white ash and charcoal with no signs of fire-reddening.

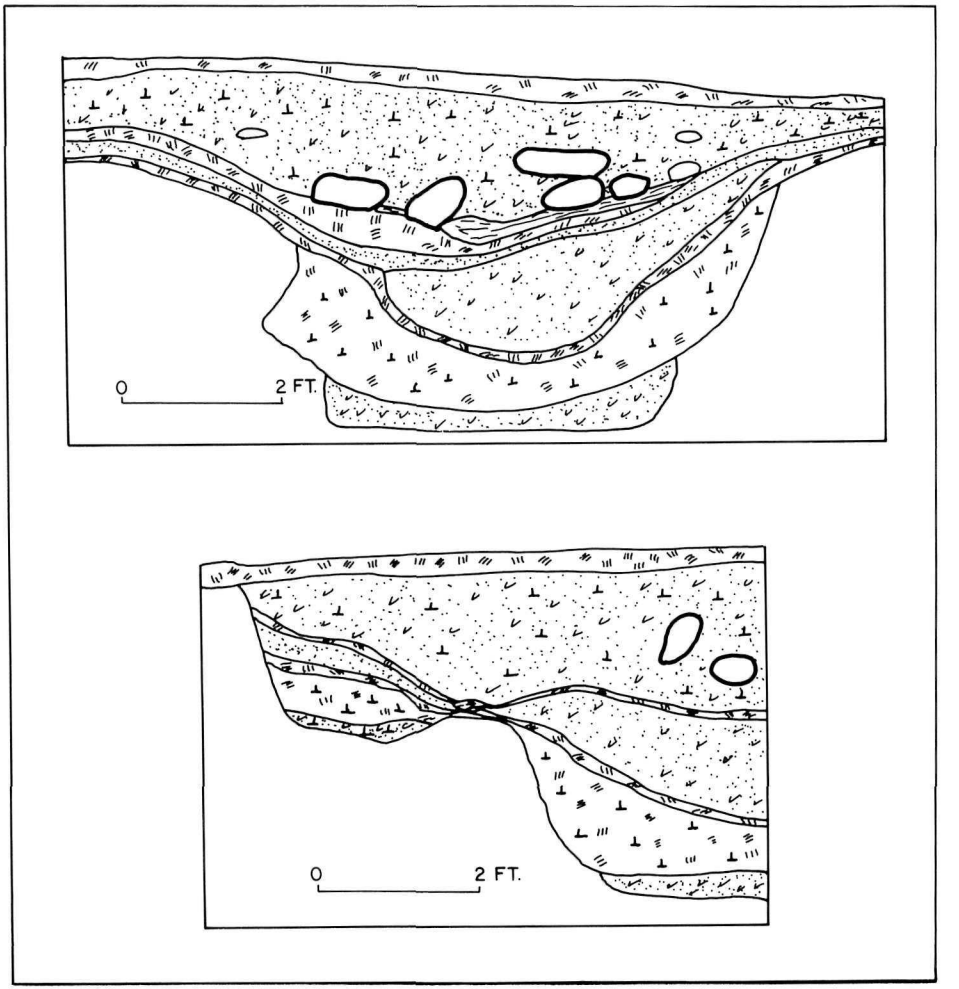
Twelve artifacts come from this pit, all dating after 1830. Recovered were 3 nails of late dating varieties; 2 large subcylindrical beads; 2 pieces of clear bottle glass; 1 small iron needle; 1 decorated copper button; 1 clay pipe stem fragment; 1 complete clay pipe bowl of the spurred TD type, and the blade of a crooked knife. The variety of artifacts from this pit, located outside the fort proper is truly impressive. The pit dates to the Hudson's Bay Company occupation at the fort.

Pit 9

Pit 9 (Figs. 3; 17; 26) was a large irregular oval pit located within the east end of building V. It measured 11 ft. 3 in. north-south by 9 ft. 7 in. east-west, and had a maximum depth of 57 in. below the present sod surface. A major concentration of sandstone rocks occurred in the upper levels of this pit.

Lining the bottom of the pit and continuing for a short distance up the sides was a layer of brown sand, charcoal and flat sandstone rocks. This was overlain by a layer of rotten wooden boards, many of which were burned and sloped down the sides of the pit at about a 45-degree angle. Above this board layer was a solid grey clay layer with a few sandstone rock inclusions. This clay layer did not extend to the edges of the pit. Rather, considerable fire-reddened soil ringed the edges of the pit at this level and extended from the 20 in. to 32 in. depths where it merged with the beginning of the buried wooden boards. Overlying the grey clay was a deep layer of black humic soil and charcoal. This extended to the surface of the pit where a

27 North wall profile of pit 10 and west wall section of dump adjoining pit 10.



heavy concentration of uncut sandstone rocks occurred. These rocks extended to a depth of 24 in. below surface and were arranged in a general circular pattern 7 ft. to 8 ft. in diameter. Seventy-four of these rocks were plotted on the ground plan.

Only one large subcylindrical bead and small bone fragments were recovered from pit 9; they came from the upper level of black soil and sandstone rock.

Definite burning occurred in pit 9, but only along the buried wooden board level. What was the function of the pit? The general pattern of the rock concentration in the upper level suggests some type of forge, but the lack of fire-reddening in the underlying clay layer is unaccountable. The rocks at the bottom of the pit are also clearly separated from those in the upper level and pose yet other problems.

If pit 9 was a forge in its later years, was it formerly just a cellar pit? The answers to these questions remain conjectural.

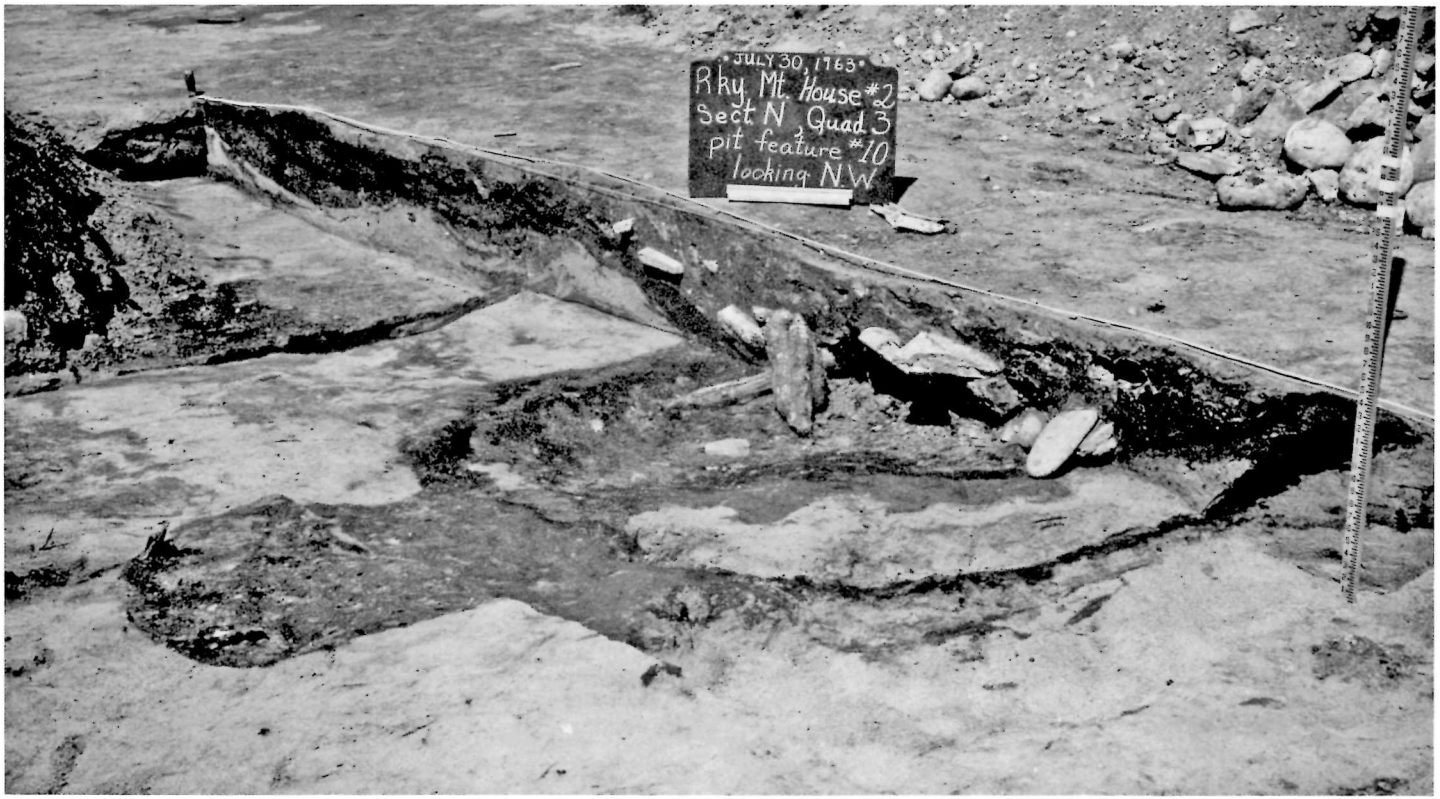
Clearly pit 9 dates to the period of Hudson's Bay Company occupation of the fort. The pit cut through the trench feature marking the fort's original southern exterior palisade, and overlapped area within the extension and the original fort. This superimposition indicates that pit 9 was dug after the extension was made to the fort by the Hudson's Bay Company. It seems reasonable to believe that pit 9 was contemporary with building V, the Hudson's Bay Company structure which encompassed the pit.

Pit 10

Pit 10 (Figs. 3; 18; 27; 28) was a large oval pit along the east side of the fort, 5.5 ft. west of the east wall of the exterior palisade. It lay within the bounds of the original fort and had a complex sequence of stratigraphy. Six inches below the present sod surface, pit 10 measured 15 ft. east-west by 13 ft. north-south with an extension to its south edge measuring 7 ft. north-south by 5 ft. east-west. This extension is here referred to as the "dump adjoining pit 10."

At the 8 in. to 10 in. depth of excavation, certain particulars become more clearly defined. First, the southern extension to pit 10 took on a clearly patterned "beaver-tail" appearance with measurements of 3 ft. north-south by 3 ft. east-west. Second, the western half of the pit proved to be a shallow depression extending eastward 7 ft. from marker pin I at the west side of the feature. This depression was stratified and merged with pit 10 proper. Third, the limits of pit 10

28 Pit 10 in partial cross-section showing the beavertail extended entrance and two lenses of humus in the depression west of pit 10 proper.

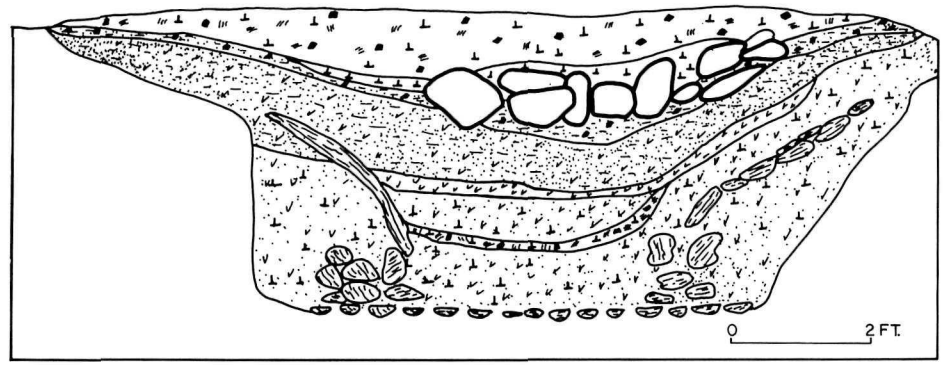


proper were established and revealed a square pit with a diameter of 6.5 ft. The side walls of pit 10 sloped gently inward. All of these features are well illustrated in Figure 28.

By means of further cross-sectioning through the centre of the pit, both east-west and north-south, we found pit 10 to be a circular pit 6.5 ft. wide with a flat bottom 4.5 ft. below the present ground surface. Adjoining its southern end was a shallow 2 ft. deep pit shaped like a beaver tail, which possibly represented a step-down type of entrance to the main pit. West of pit 10 proper, debris filled the hollows of a natural depression ranging from 11 in. to 16 in. deep.

The stratigraphy of pit 10 continued into both the beaver tail extension and the western depression. Progressing from the bottom upward, the first type of fill lining the flat bottom of the pit was a layer of mixed white sand and clay. This layer ranged from 4 in. to 6 in. in depth. Above this layer was a deep 6 in. to 18 in. layer of black sandy humic soil mixed with grey ash and charcoal. Many artifacts were recovered from this zone. Of note is the continuity of this layer into the beaver-tail extension adjoining the south end of the pit. Capping this layer was a solid lens of black humus 1.5 in. to 2 in. thick which possibly represents an old sod line. This layer extended from pit 10 over the beaver-tail extension and westward over the depression. Above this in pit 10 proper was a pocket of white sand and clay localized in the lower central and eastern sectors of the pit. This pocket was not found outside this area. Above the pocket was a 2 in. to 4 in. thick layer of grey-brown silty sand, which continued outside pit 10 proper to directly overlie the lower black humus lens in both the depression and the beaver-tail extension. This level was overlain by a second solid black humus line 1 in. to 4

29 North wall profile of pit 11.



in. thick which also covered all features associated with pit 10. In the main pit, the second upper black humus line was covered by a deep 30 in. layer of mixed sandy grey ash, charcoal, sandstone rocks, rotton wood and artifacts. This layer extended to the present ground surface and covered the surrounding area with a thin 3-in. veneer.

The interpretation and dating of pit 10 remains relative in terms of the artifacts recovered from it. Pit 10 proper produced 1 slate pencil in the lowest level; 28 seed beads from below the lower humus lens; 643 large subcylindrical beads; 1 tubular bead; 2 globular beads; 5 nails; 1 cut silver strip; 2 sheet copper fragments; 2 antler tines; 2 melted lead pieces; 41 pieces of lead shot; 1 brass pin; 1 silver hawk bell; 7 clay pipe stem fragments; 1 clay pipe bowl portion; 1 double-gilt button at the 35 in. depth; portions of a round green bottle in the upper 6 in. plough zone; 1 portion of black basalt stoneware from the same zone, and a half portion of a freshwater bivalve shell at a similar depth. Dates for all of these artifacts fall within the 1800 to 1825 period.

The artifacts from the beaver-tail extension adjoining pit 10 are of a similar nature. Recovered were 144 large subcylindrical beads; 2 barrel beads; 1 tubular bead; 7 seed beads, and 11 pieces of lead shot.

The nails and seed beads from pit 10 would indicate that it dates early in the history of the fort. The nails are all early varieties dating from 1800 to 1825. In a similar manner, seed beads appear to be early. Aside from the 104 specimens from building I, which is considered to pre-date the Hudson's Bay Company occupation, pit 10 produces the next highest total. The 35 seed beads from pit 10 and the extension adjoining its south end all came from the second lowest layer of black humus, ash and charcoal in the pit. This layer also underlay a lens of solid humus which conceivably represents a former sod line.

The following is presented as a plausible reconstruction explaining the various stratigraphic layers of this pit. Pit 10 was originally dug as a flat-bottomed cellar pit with a step-down extension entrance, a type of entrance which was not present in any of the other known Hudson's Bay Company pits in the fort. At some later date the pit was partially filled in and a sod horizon became established. This soil horizon was depressed in the centre of the pit. An attempt to level this depression involved further filling with white sand and clay in the pit over the sod horizon. Then a layer of grey-brown silty sand washed over the whole area. A second, thin humus sod horizon subsequently became established and continued in existence until eventual dismantling activities provided a heavy concentration of ash, rock, wood and charcoal debris, which helped fill and level the pit to the present ground surface.

It seems reasonable to assign pit 10 to North West Company authorship on the basis of its shape and the artifacts recovered from its lowest levels. In all probability the lowest solid humus stratum represents a sod line formed at the end of this company's occupation. Subsequent filling of the pit probably rests with the Hudson's Bay Company, which continued to fill the pit until some period of dismantling. The period of renovation of the original southern end of the fort for an extension, or the final tearing down process of 1864 are two possible periods during which debris would be available such as is found in the upper levels of pit 10. The nature of the few datable artifacts from the upper levels of pit 10 argues in favour of an immediately post-1825 period for such dismantling activities.

This reconstruction of events seems highly plausible and as such yields a little more data on the early nature of the fort. It does not seem reasonable that pit 10 had any association with building VI other than simply underlying it.

30 Excavation and cross-section of pit 11 looking north. Note the fallen side logs of subterranean building VII.

Pit 11

This large pit (Figs. 3; 19; 29; 30) along the northeast side of the fort has been partially described with reference to building VII. Before the present sod layer was broken, a very profuse growth of clover was growing in this area and also over pit 10. Six inches below ground surface, pit 11 appeared as a large black circular feature 14 ft. north-south by 12 ft. 9 in. east-west. At the 9 in. depth many of the diagnostic features of pit 11 appeared.

Pit 11 was essentially a rectangular pit 9 ft. long by 7 ft. wide oriented north-south. It had generally straight sides extending 4.5 ft. deep to a flat floor. As mentioned previously, it housed the subterranean log building VII, filled in during the Hudson's Bay Company period of occupation.

Fifteen logs with upper hewn surfaces lined the bottom of the pit forming a wooden floor. Filled above this floor was a layer of mixed grey-brown ashy sand. Overlying this layer was a thin 3 in. layer of black humus, boards, grey ash and charcoal. Many of the boards in this upper layer were charred only on the underside and thus it is not improbable that this layer represents part of the building's fallen roof. Above this was another layer of mixed grey-brown ashy sand sterile of artifacts. This level was succeeded by a thin layer of brown sandy clay. Grey sandy fill mixed with many wood fragments formed a deep layer above the clay lens. The next level contained dark brown sandy soil with charcoal flecks and many pieces of punk wood and small 2-in. diameter sticks. This was overlain by a grey ash-clay concentrate with large sandstone rock inclusions. Dark black humus with pieces of charcoal completed the sequence to ground level.

Artifacts from pit 11 occurred either directly on the wood floor in the lowest levels or in the grey ashy concentrate and black humus at the top of the pit. As mentioned earlier, the fragmentary horse bones found at the bottom suggest that pit 11 and its subterranean building possibly functioned as a cold storage repository. The 25 artifacts from the upper levels include 6 nails; 5 clay pipe bowl portions; 4 clay pipe stem fragments; 1 brass bangler; 3 tubular beads; 2 seed beads; 1 barrel bead; 1 piece of lead shot; 1 sharpening file, and 1 steel clasp-knife blade. The nails from this pit date between 1810 and 1825, but probably represent stray items dumped into the pit from another area along with the ash and sandstone rocks.

Pit 12

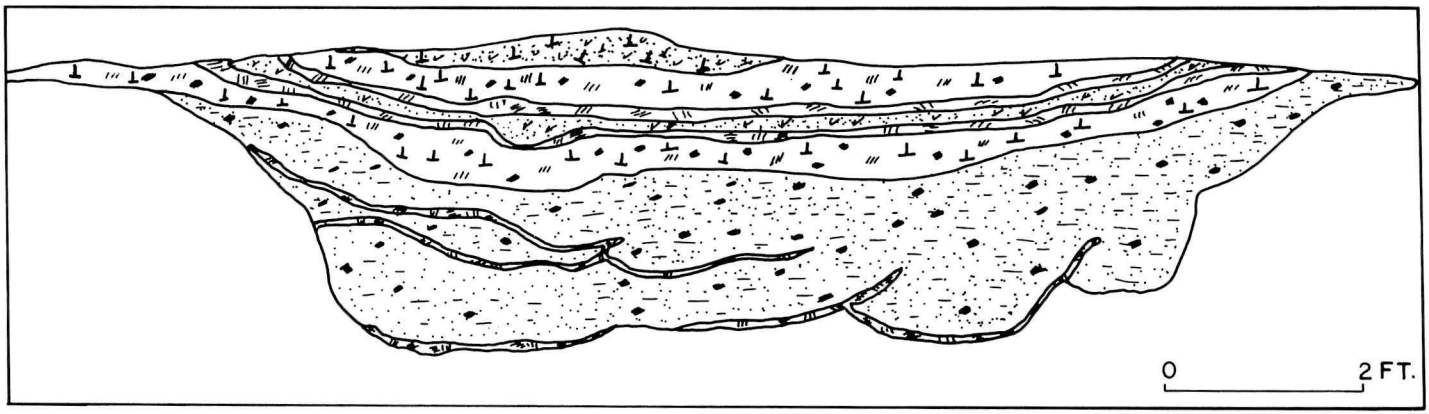
This oblong pit (Figs. 3; 31) was located in the northeastern end of the fort, 5 ft. south of the north wall of the exterior palisade and 5 ft. west of the eastern exterior palisade. At ground surface it measured 12.5 ft. north-south by 5 ft. east-west. Maximum depth of the pit was 3 ft.

Pit 12 contained many thin strata and exhibited the same two former humus lenses as recorded in pit 10. Lining the pit's irregular flat bottom, but primarily located in the centre of the pit, were traces of bark. Above this was an 18 in. layer of sand with flecks of wood and bark scattered throughout. A small iron keg hoop, a single nail and a dolomitic cobble whetstone appeared in this level. Overlying this stratum was another composed of dark brown sand and charcoal. This was followed by a 2 in. layer of solid black humus which probably represents a former sod line as in pit 10. Also similar to pit 10 is the occurrence of an overlying layer of brown silty sand and clay underlying yet another solid black humus lens. This section of the stratigraphy in pit 12 duplicates that found in pit 10. Above the second humus lens was a layer of brown sand and charcoal filled with animal bone. The unfragmented nature of this bone stands in direct contrast to the extremely fine fragments recorded from pits 1, 2 and 6 along the western side of the fort. A large board 12 in. wide also lay in this stratum oriented north-south along the east side of the pit. The final upper stratum of fill was composed of mixed sand, clay and ash.

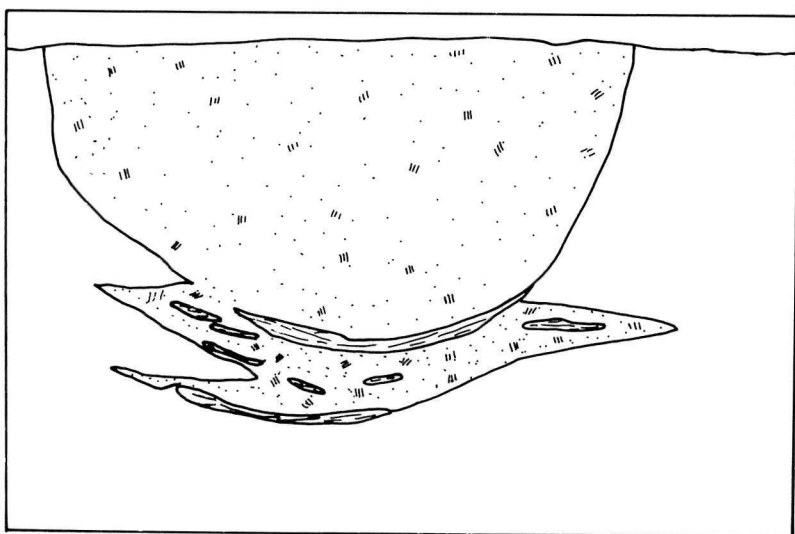
The duplication of two buried humus lenses in pits 10 and 12 is of note. If, in fact, these lenses do represent former sod lines, then it is reasonable to infer that the lower levels of pit 12 date from pre-Hudson's Bay Company occupation. As a meagre indication corroborating this inference, the one nail recovered from the pit is an early pre-1800 wrought clinch rosehead type. It comes from below the first buried humus lens as does the small keg hoop.

By the same method of reasoning, everything above the second and higher humus lens would date to the Hudson's Bay Company period. This would include all the discarded bone recovered from the pit, one of which was a buffalo scapula. Pit 12 appears to have been a genuine refuse pit throughout its history.

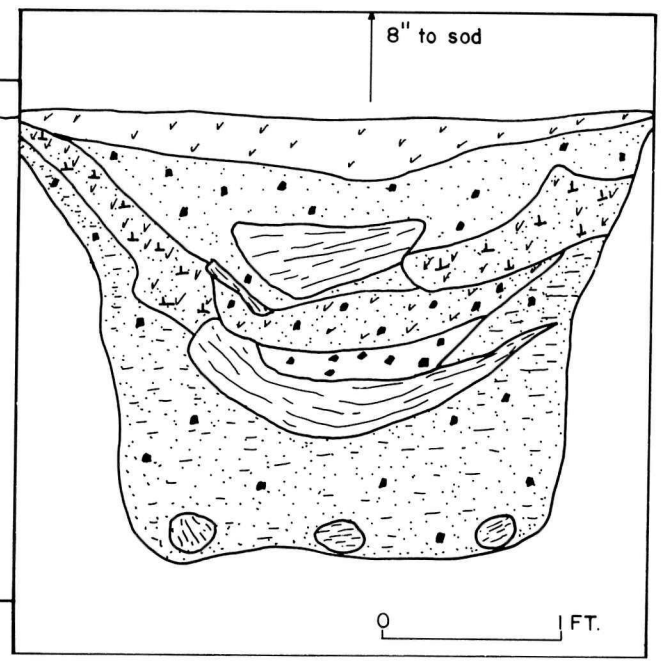
31 East wall profile of pit 12.



32 West wall profile of pit 13.



33 East wall profile of pit 14.



34 Pit 14 with buried group of six nested iron hoops. This pit lies within building V and probably represents an iron cache.

Pit 13

This circular pit (Figs. 3; 32), 3 ft. in diameter, also lay within the northeast corner of the fort. Its position was 9 ft. south of the north wall of the exterior palisade and 28.5 ft. west of the east wall. Maximum depth of the pit was 22 in.

Stratigraphy in pit 13 was not complex and few artifacts were found in it The bottom of the pit was lined with rotten bark or disintegrated wooden boards. A 5 in. long complete clay pipe stem was found at this level. Overlying the basal lining was a fill of dark brown and black sandy humus with small pieces of wood. This level produced an iron strap hinge. Above this was a definite but thin layer of short wooden boards. These were overlaid by brown sandy soil which continued to the present ground surface. Some burned animal bone came from this upper layer of fill.

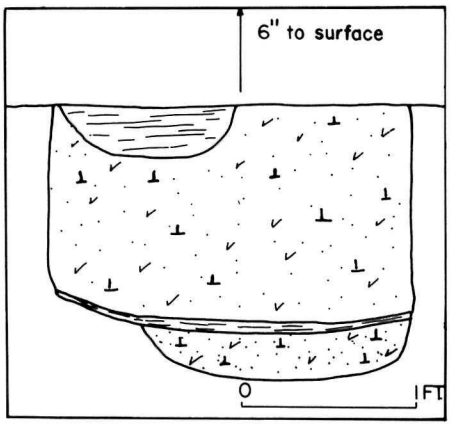
The artifacts from pit 13 are of little help in dating the feature. Obviously it simply represents a refuse deposit. Side-wall slumps of sand occurred in the lower levels.

Pit 14

This oval, flat-bottomed pit (Figs. 3; 33; 34) lay within the centre of building V, just south of the trench feature marking the original southern palisade of the fort. It measured 4.5 ft. east-west by 3.5 ft. north-south, and had a maximum depth of 34 in. The side-walls of the pit were essentially straight.

At the very bottom of pit 14 were three wooden logs 3.5 in. in diameter which were spaced 7 in. apart and lay horizontally over the length of the pit. These logs were covered by a 6 in. to 12 in. deep layer of brown sand containing charcoal flecks. Six iron hoops nested inside one another lay horizontally in this layer at a depth of 28 in. below ground surface. Above the iron hoops was a thick 4 in. layer of wooden boards which in turn was covered by a thin layer of black charcoal. Clay, silty sand and more charcoal followed. This was then covered by a mixture of brown sand, clay, charcoal and portions of roots and short sticks. A layer of grey clay covered the pit top and was followed by the humus and sod of the present ground surface.

35 East wall profile of pit 15.



Pit 15

Pit 15 (Figs. 3; 35) was a 2-ft. square feature sunk 19 in. below the floor of building II. It lay 8 ft. south of the double-hearth fireplace and 26 ft. east of the west end wall of building II. The sides and bottom of this pit were flat.

Fill in Pit 15 was essentially homogeneous. A 3 in. bed of sterile mixed grey sand and clay lined the bottom. This was overlain by a one inch layer of wood and charcoal, perhaps representing a false bottom. More mixed grey sand and clay continued to the pit top where a small pocket of wood chips rested. This sand and clay fill above the thin wooden floor produced 40 artifacts.

The artifacts from pit 15 include many items of a personal nature. Recovered were 13 pieces of lead shot; 5 clay pipe stem fragments; 1 clay pipe bowl portion; 4 nails; 2 steel fishhooks; 1 iron axe wedge; 2 black blade gunflints; 1 plain iron button; 1 antler tine tip; 9 large sub-cylindrical beads, and 1 tubular bead.

Pit 15 has many affinities with pit 4 and 5 also in building II. As speculation, it seems possible that these three features represent personal cache pits near, if not under, individual sleeping quarters.

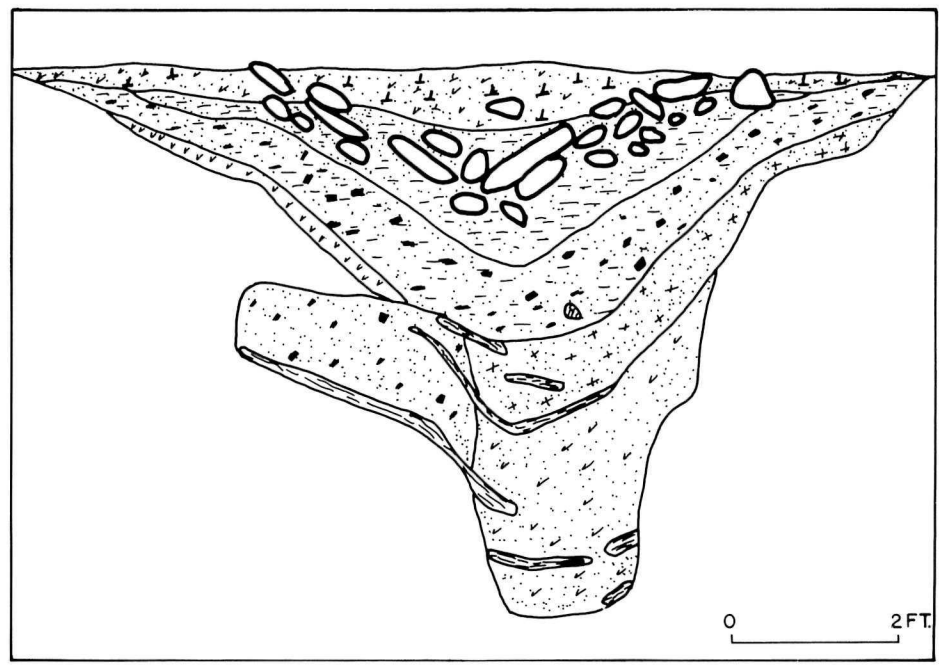
Pit 16

This pit first appeared as a circular feature 20 in. in diameter, but upon subsequent cross-section a large 10 in. square post was revealed. This was post

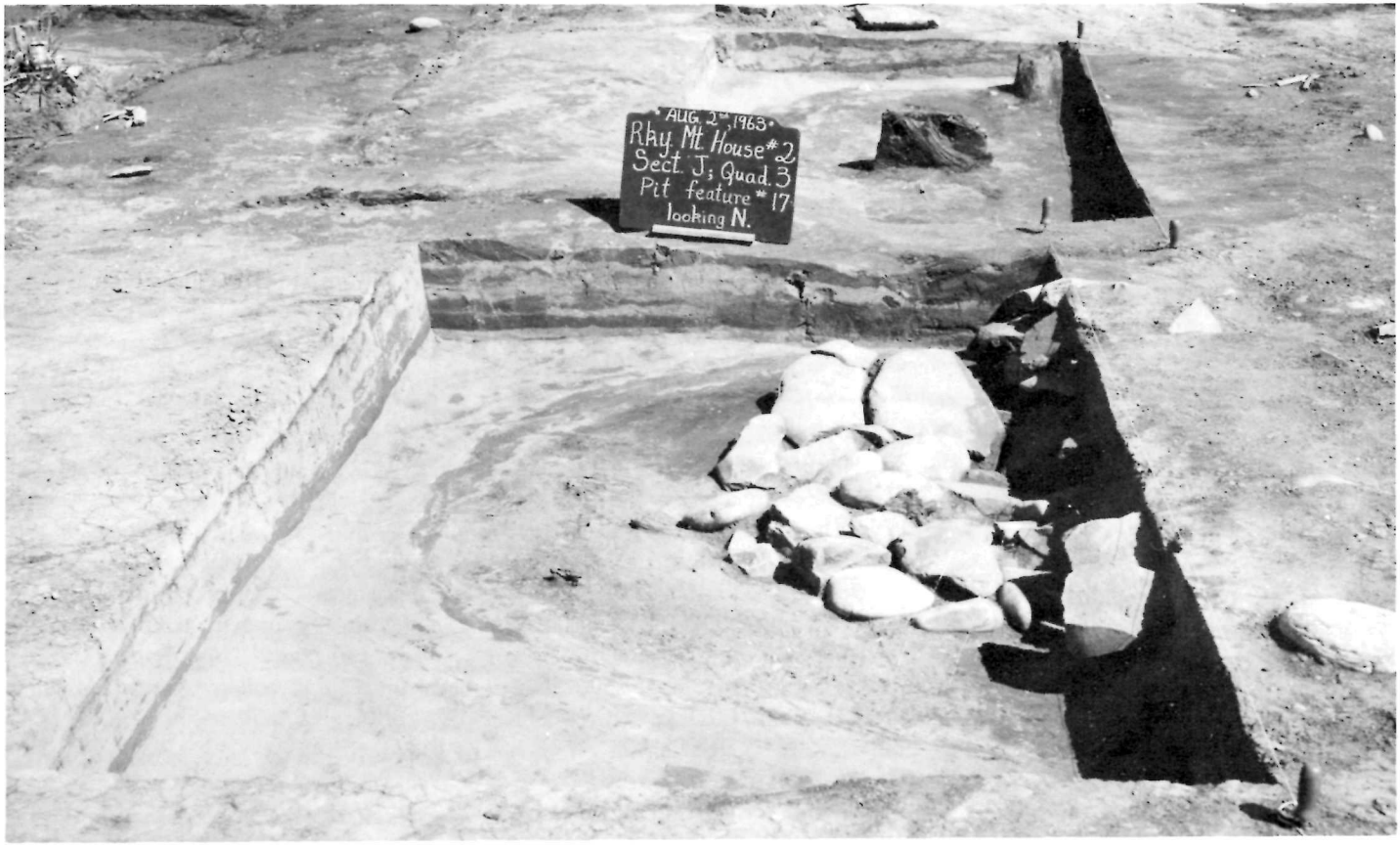
The six iron hoops were the only artifacts recovered in pit 14. Their neatly folded and horizontally nested position inside one another precludes the possibility that they ringed a barrel sunk in the pit. A more random dispersal would be expected if such were the case. Also, flat boards extended almost directly on top of this hoop nest. In a later section of the report Dr. Dove discusses early nail-making procedures and states that iron for nails was commonly purchased in hoops. A reasonable interpretation here is that the hoops in pit 14 represent a buried and forgotten iron cache intended for making nails.

Pit 14 clearly lay within the extended area of the fort; it also lay within building V erected by the Hudson's Bay Company. It seems reasonable to assume that pit 14 was associated with this building and that the iron hoops were buried by Company employees.

36 East wall profile of pit 17.



37 Pit 17 in partial cross-section. Pit 18 can be seen in the immediate background to the north.



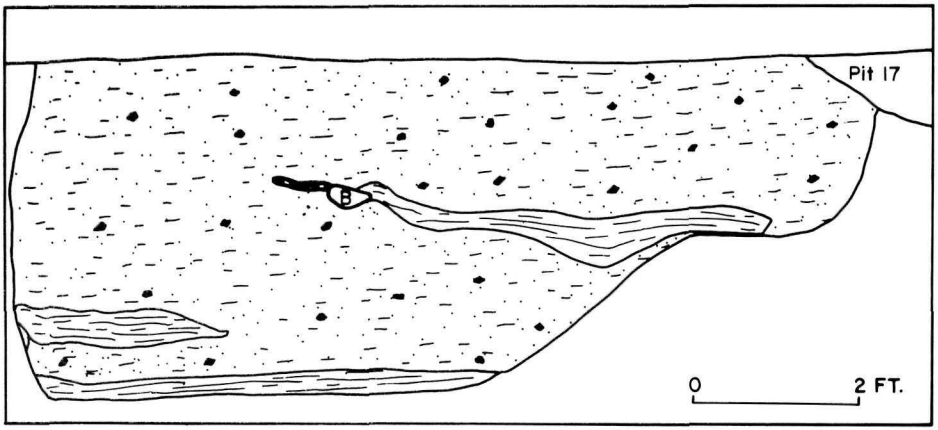
42 in the northern sector of building IV which may have been associated with interior divisions in that building, or a relic of a former time period. The circular nature of the pit was different from the usual rectangular shape exhibited in Hudson's Bay Company style of architecture.

Pit 17

This large 12-ft. diameter pit (Figs. 3; 36; 37) lay within the northeastern end of building II. It reached a maximum depth of 7 ft. below present ground surface in an unusual funnel shape. The lower 2.5 ft. of the pit was a 2.5 ft. wide shaft. At the 4.5 ft. depth, a definite shelf-like feature extended into the north wall of the pit. These features are intelligible with the realization that pit 17 was a latrine pit.

Few artifacts were found in this pit, but there was a stratigraphic sequence of fill. The bottom 2 ft. to 2.5 ft. was filled with decomposed matter, grey sandy clay and flecks of wood and charcoal. The extension above and to the north side of the lower levels had a wooden board lining and was covered with mixed white sand, wood and charcoal flecks. In all probability this extension represents a digging platform used to reach and dig the lower shaft part of pit 17. Slumped into the pit at a higher level in V-shaped fashion was yet another layer of wood, charcoal and fire-reddened sand. This was overlain by a layer of brown sand with more charcoal and flecks of wood. Filling the upper depression of the pit was a heavy layer of grey ash, charcoal and numerous sandstone rocks. Many of these rocks were round and irregular while

38 East wall profile of pit 18.



others were purposely split. They probably represent debris from the double-hearth fireplace in building II. Eleven large subcylindrical beads came from this level of the pit.

Pit 17 lay within building II and appears to have functioned as an indoor latrine for Hudson's Bay Company employees. Intruding into the southern edge of the pit was a large 9 in. square post set up in typical Hudson's Bay Company fashion. It seems probable that this post (61) was part of some type of internal division around pit 17 inside building II.

There is an additional feature to pit 17 which is of note. Its northern edge clearly cut through and superimposed the southern extension of pit 18 immediately to the north. This overlapping of pit 17 conclusively indicates that it dates later than pit 18. The full significance of this sequence of pits will become more apparent with the following discussion of pit 18.

Pit 18

This pit (Fig. 38) was located in the north portion of the fort, 18 ft. south of the north wall of the exterior palisade, and immediately adjacent to and underlying the northeastern end of building II. Significantly, pit 18 had a beaver-tail extension to the south side as did pit 10.

Pit 18 measured 9 ft. square with the beaver-tail extension to the south being 4 ft. east-west by 2 ft. north-south. Depth of this extension was 2 ft. and that of the main pit 4 ft. The bottom of pit 18 was flat, and the north wall vertical.

Fill within pit 18 was relatively homogeneous. Wooden boards lined the bottom and were covered by a very mixed layer of brown sand, ash, wood and charcoal. This continued to the upper levels of the pit. No artifacts were found in pit 18 except some broken bone from near the surface.

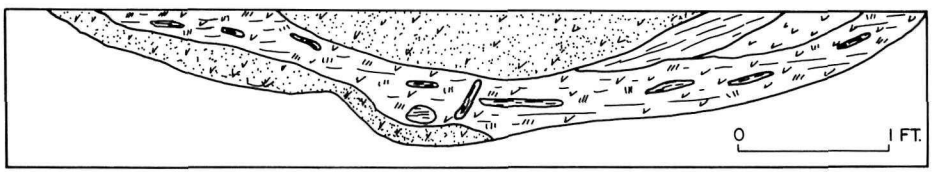
The superposition of pit 17 over the south end of the extension to pit 18 clearly indicated the temporal priority of the latter pit. As noted, pit 18 had many structural similarities to pit 10, believed to be of North West Company authorship. The occurrence of a step-down beaver-tail entrance in both pits is a feature not found in any of the known Hudson's Bay Company pits in the fort. It is, therefore, considered to be characteristic of the North West Company.

It seems reasonable to believe that pit 18 was a cellar pit. As such, it may be queried whether building I is the structure which originally sat over pit 18. Building I is not of typical Hudson's Bay Company architecture and may have been shifted to its present position from the vicinity of pit 18. This inference and that of pit 18 and building I being of North West Company authorship seem plausible.

Pit 19

This oval pit (Figs. 3; 39) lay in the north sector of the fort adjacent to pit 13 and north of pit 18. It measured 5.5 ft. north-south by 3.5 ft. east-west, with a depth of only one foot. The bottom of the pit was basin-shaped.

39 East wall profile of pit 19.



Pit 19 had three layers of fill. Covering the north bottom half of the pit was a brown sandy clay level. This was overlain by a layer of mixed sand, wood and clay, with bone inclusions. The top layer was composed of more brown sandy clay that produced two portions of clay pipe stem.

Nothing can be inferred about the temporal provenience of this pit.

Stain Feature

A 24 ft. long by 5 ft. wide feature lay in the northeast corner of the fort between pits 12 and 13 (Fig. 3). The south end gradually tapered to a rounded point while the north end was more square. The feature first appeared 7 in. below the present ground surface and only extended another 3 in. deep. No artifacts were found.

In cross-section, this feature appeared only as a soil stain of grey brown colour in contrast to the surrounding sterile white sand. Little can be said of this stain feature except that it had the general shape of a boat. Perhaps a boat did rest over this area with some type of preservative dripping into the underlying sand. Interpretation of the stain feature must remain inconclusive.

Bead Cache

A very rich cache of glass trade beads (Fig. 3) was found along the east side of the fort, 2.5 ft. west of the east wall of the exterior palisade and 42 ft. south of the north corner bastion. This cache appeared in a circular feature 7 in. in diameter, buried 15 in. to 21 in. below the present ground surface. The feature appeared as a black ring bordering the sides and bottom of the cache, with grey sand and the beads filling the centre. This suggests that the beads were contained in some type of bag or small sack.

A total of 7,094 large subcylindrical beads came from the bead cache, 4,643 of which are white and the remainder blue. This enormous quantity constitutes 65.5 per cent of the total of 10,832 beads recovered from the site.

Dump Against East Palisade

Located 4.5 ft. north of the bead cache and against the east wall of the exterior palisade was another type of refuse area producing a large number of glass trade beads (Fig. 3). This area was a dump measuring 4 ft. 3 in. north-south by 4 ft. east-west. It had a maximum depth of 13 in. and a large round 9 in. post, 55, lay at its northwest corner.

A total of 2,309 glass trade beads came from this dump feature. Practically all beads came from under fallen boards lying 7 in. deep along the inside of the east wall of the exterior palisade. The fill beneath these boards containing the beads was a mixture of grey-brown sand and clay.

In view of the large concentration of glass beads found in this dump and the nearby bead cache, it seems plausible to believe that some type of barter window may have existed in the eastern palisade in this vicinity. No other explanation seems suitable to explain the localized provenience of these bead concentrations.

Fur Press

The base for a large stationary fur press (Figs. 3; 40) represents one of the most interesting features in Rocky Mountain House. This well-preserved fur press lay 8 ft. east of building III and 10 ft. north of building IV in the central western side of the fort.

The press was constructed of two large 15 in. diameter posts set vertically in rectangular pits opposite one another, 45 in. apart centre to centre. One post sat on the north side and the other on the south. Tightly wedged between these upright posts was a heavy flat wooden block 28 in. long north-south by 20 in. wide and 5 in. thick. This block had been sawn to length from a spruce log with both the top and underside surfaces hewn flat. No doubt this block formed the basal mount against which furs were pressed flat.

The block also rested on two short 4 in. thick sawn planks oriented east-west parallel to one another. The southernmost plank measured 4 ft. 10 in. long by 10 in. wide and was pointed at both ends. The other plank measured 11 in. wide by 4 ft. 5 in. long and had slightly rounded ends. Both planks had been set in a shallow rectangular pit 58 in. long east-west by 30 in. wide. Unmistakably they would offer greater rigidity to the mounting block and prevent it from sinking into the ground under pressure of a press.

Both of the large vertical side posts had been chopped and sawn off level with the top of the mounting block. This indicated that the superstructure of the press was dismantled. W.H. Dall sketched a similar style of fur press in 1867 at Fort Yukon, operated by the Hudson's Bay Company (Leechman 1948: 15). In this sketch the two vertical side posts rise about 5 ft. to 6 ft. high with a crossbar between them just below the top. The

40 East view of base of large stationary fur press.

sides of the vertical posts are also slotted for a distance of about 3 ft. up from the ground. Four smaller round logs are shown inserted horizontally through the side-slots, and ride down upon a thick wooden block which rests on top of a basal mounting block. In all probability this same style of construction characterized the fur press at Rocky Mountain House.

From the above description and the presence of the large rectangular pits dug for the erection of the two side posts, the Rocky Mountain House fur press is attributed to the Hudson's Bay Company. Its location between buildings III and IV also makes sense with the inferences that these structures represent a storehouse and a trading room. Furs and hides traded could be baled on the nearby press and stored in building III to await shipment downriver to Edmonton.

Something may also be learned about the size of the bales pressed. Harmon (1957: 48) and Back (1836: 32) record that fur bales were pressed into compact 90-pound pieces easily portaged by one man. The width of the mounting block at Rocky Mountain House indicates that the bales pressed here were no wider than 28

in. Their lengths cannot be calculated with certainty.

Surface Ash Deposits

Four major deposits of grey burned ash (Fig. 3) lay exposed within the fort. These probably represent areas where rotten timbers and debris were burned during renovation or dismantling activities.

The first concentration of burned ash lay north of building II behind building I, covering the top of pit 3 and much of the surrounding area. Ash in this area was 5 in. to 6 in. deep beneath the present ground surface. It seems reasonable to infer that this ash was formed when buildings I and II were dismantled and burned at the end of the fort's occupation.

A second ash deposit lay 2 ft. east of the fur press. This produced one wrought iron roseheaded nail of an early type. Conceivably this ash deposit was formed when the fort was renovated and enlarged.

The third major ash deposit lay along and under the north wall of building IV near large post 43. It is obvious from the superposition of post 43 that this ash deposit pre-dates the erection of building IV. Two nails from the deposit post-date 1810 and an early rim of grey glazed stoneware, 1800-50, was also recovered. Thus it may be inferred that this ash deposit dates to the time of the fort's enlargement when former buildings were dismantled.

A fourth ash deposit lay 2 ft. north of the north wall of building V. This deposit also lay within the bounds of the original fort. One recovered fragment of clear bottle glass and two of green bottle glass do not aid in dating this ash deposit.

The paucity of nails in these ash deposits is noteworthy, and suggests salvage of the nails for future use.

Wood Chip Concentrations

Five areas of wood chip concentrations (Fig. 3) complete the description of features in Rocky Mountain House. These concentrations mark activity areas where axe hewing and chopping took place.

One extensive concentration of wood chips lay behind the single-hearth fireplace of building I. Another was under the floorboards in the south-central area of building II. Yet another lay 8 ft. south and in front of post 49 of building II. The fourth concentration rested in pit 7, and a fifth lay in the trench feature at the southeast end of the fort within building V.

It is apparent from the distribution of these wood chip concentrations that some were formed in the process of constructing buildings, cutting firewood and, ultimately, during the dismantling of the fort.

41 Aerial view of the site after completion of the 1963 excavation.

The artifacts excavated from Rocky Mountain House are of interest to the layman, historian and historical archaeologist alike, but in differing respects and attitudes. To the interested layman the recovered items have an aesthetic and romantic appeal in that they are "old" and represent something beyond memory. The historian, dealing with written documents, finds the nature of the goods interesting in terms of the degree to which they confirm or deny accounts of fur trade logistics, economics and trade goods inventories. The historically minded archaeologist, on the other hand, is interested in the artifacts from the point of view of the data they provide regarding the time period represented and the cultural inferences obtainable. The proveniences and the nature of the artifacts also aid in his reconstruction of the way of life and function of specific structures in the fort.

Information may also be gained concerning the industrial changes made in the manufacture of exported goods from Europe to the Canadian West. As Rocky Mountain House dates from 1799 to 1834, it spans part of the important era of the Industrial Revolution in England and other European countries. Machine-made products do appear at the fort during the 1810-40 period, as exemplified by the different types of nails recovered.

The artifact sample recovered from the fort includes 11,464 items of which 10,832 or 94.4 per cent comprises glass trade beads. This over-whelming percentage obviously skews the sample, but the remainder of the sample appears to be truly representative with many different types of artifacts included. The one notable exception is the paucity of heavy tools and hardware which no doubt were of premium value and probably salvaged for use in a later version of Rocky Mountain House.

The artifacts are described under five major headings of general functional use. Each item in a class of artifacts is considered in detail according to specific function. Throughout, commentary either explicative or interpretative accompanies the analysis. It is felt that the detailed descriptions presented here will be of use to future researchers analyzing materials from other western Canadian historic forts. While the interpretations and historical identifications are of the most general interest, I feel that the real value of this report rests in the detailed description of the raw data.

PERSONAL AND HOUSEHOLD ITEMS

The following table represents a synthesis of the artifacts from Rocky Mountain House ascribable to personal or household use. As a unit, 14 different commodities are represented despite the fact that they constitute only 1.8 per cent of the total artifact sample. The clay pipes are included as personal items rather than trade articles because of their low frequency and restricted proveniences.

Table 1: Personal and Household Items

Item	Number
Clay pipe bowls and fragments	25
Clay pipe stem fragments	104
Buttons	27
Cuff-links	1
Lead cross	1
Earrings	3
Watch winder	1
Hawk bells	2
Copper arm band or bracelet	1
Needles	4
Pins	1
Forks	2
Glass vials	2
Glass bottles	5
Glass bottle fragments	17
Ceramic fragments	9
Total	205

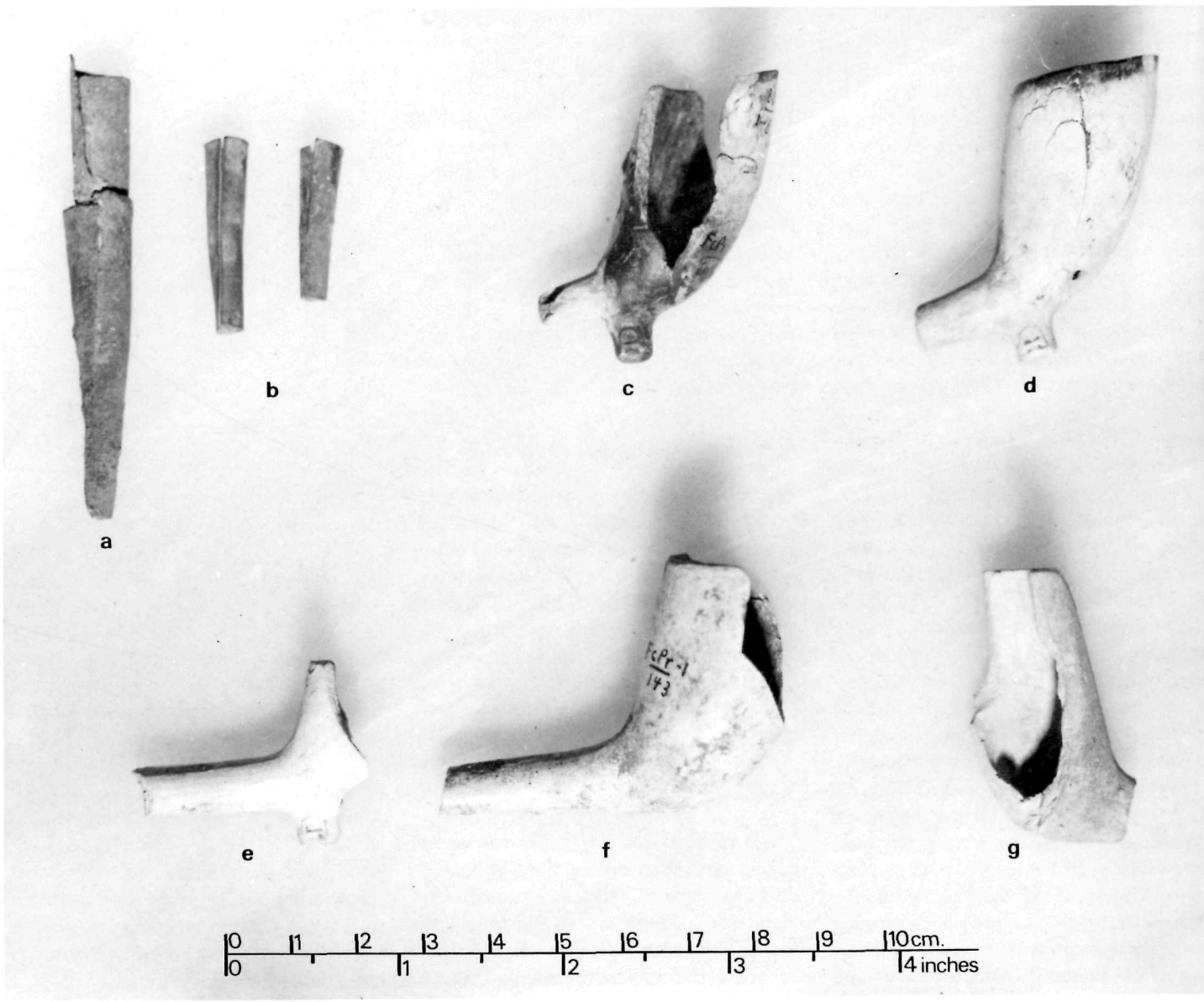
Pipes

The fragments of clay pipes recovered during excavation include bowl and stem portions, some of which were possible to mend and reconstruct. In the following the author's analysis is complemented by comments from a report made by the late Mr. H. Gieger Omwake (1964) who examined some of the typical specimens from Rocky Mountain House through a series of photographs.

Pipe Bowls

A total of 25 pipe bowl fragments was recovered during excavation, five of which represent intact or semi-intact specimens suitable for detailed examination. Classification of these five bowls reveals three distinct types, two of which are variations of the TD pipe.

42 Banglers and pipe fragments. *a,* two large nested brass banglers from building III; *b,* two smaller brass banglers; *c,* clay pipe bowl with TD spur and TD scroll on back; *d,* complete bowl from pit 8 with TD on spur; *e,* bowl portion with TD on spur; *f-g,* flat-based and unlettered pipe bowls.



Type 1. Flat-Based and Unlettered. This bowl type is represented by two excavated specimens (Fig. 42, *f-g*). The base of the bowl has no projecting spur, and the bowl as a whole is devoid of any distinguishing maker's mark or lettering. On one of the specimens, mottled blue transfer paint appears on the lower portion of the bowl and adjoining stem segment; the other specimen is completely plain. Both bowls project obtusely from the stem at an angle of about 105 degrees; they also have a bowl height of 4 cm. and measure 2.1 cm. in diameter. The provenience of the two excavated specimens, recovered close to one another, was south of the double-hearth fireplace in the central area of building II, a building attributable to the Hudson's Bay Company occupation of the fort (1821-34).

Type 2. Spurred and Scroll TD. Two specimens of this type of TD pipe are represented in the Rocky Mountain House bowl sample (Fig. 42,*c*). The type is characterized by a projecting basal spur on which the letters T and D are impressed in relief on opposite sides. When the pipe bowl is held in vertical smoking position the letter T appears on the left side of the spur and the letter D on the right. In addition, this bowl type has a hand-impressed stamp on the back of the bowl facing the smoker. The design of this stamp includes a circle within which are the two letters T and D accompanied by scroll-like floral ornamentation both above and below the letters. The bowl projects from the stem at an angle of 110 degrees, measures 2 cm. in diameter and has a height of 2.4 cm. This height is noticeably less than that of bowl type 1, described above.

One of the specimens of this type of TD pipe was found within the south central area of building II, while the other was recovered in the open area between building II and the north corner bastion.

Type 3. Spurred TD. One complete specimen of this variety of TD pipe concludes the analyzable sample of pipe bowls (Fig. 42,*d*). This type is characterized by having a completely plain bowl. This spur is identical to that described above for bowl type 2, and similarly has the impressed letters T and D in relief on opposite sides. The bowl protrudes from the stem at an angle of 110 degrees, measures 2.1 cm. in diameter, and has a height of 3.4 cm. The provenience of this specimen in pit 8 just outside the south gateway of the extended fort indicates that this pipe was in use and discarded during the Hudson's Bay Company occupation of the fort.

Table 2: Concentration of Clay Pipe Bowl Portions

Provenience	Number
Building II	7
Building II (pit 4)	2
Building II (pit 15)	1
Building V	1
North corner bastion	1
South gateway	1
North corner of fort	1
Open centre of fort	1
Pit 2	3
Pit 8	1
Pit 10	1
Pit 11 (ash fill)	5
Total	25

In addition to the 5 analyzable bowl portions, 20 other fragments were found at Rocky Mountain House. None could be joined together, but their distribution proves useful. Considered together with the five analyzable specimens, the distribution of pipe bowl fragments shows a close association with the buildings and refuse pits situated around the north, east and southeast perimeters of the fort. This evidence supports the inference that these were the main areas of habitation within the fort where pipes were smoked, broken and discarded. The following tabulation lists the distributive concentrations of pipe bowls and fragments at Rocky Mountain House.

Pipe Stems

Much more numerous in number than the pipe bowl fragments are the 104 recovered portions of pipe stems from Rocky Mountain House. Of these fragments, 86 represent mid-stem sections, 15 are mouth pieces and 3 are badly fragmented stem-bowl junctures.

As with the bowl fragments, a plotting of the distribution of stem pieces from the fort is of interest. A similar close association of the stem fragments to pits and buildings is noted (*see* Table 3).

Without exception, all the stem fragments are devoid of any maker's mark or moulded stamp. Two specimens, however, both found along the east wall of the north corner bastion, display the mottled deep blue transfer painted pattern described previously on one of the

type 1 pipe bowls. These two painted stem fragments do not fit together, but have a consistent stem bore diameter of 4/64 in.

One other stem fragment, a mouthpiece section, has a red paint or enamel coating over it. This red-tipped stem fragment, 3.6 cm. long by 9 mm. wide, has a bore diameter of 5/64 in. It was recovered loose in the northwest corner of the fort. Omwake (1964: 16) notes that,

The "red paint or enamel" which appears on one stem fragment is probably the residue from some substance into which the stems were dipped to prevent the lips of the smoker from clinging to the clay. Usually the preparation was a secret known only to a few masters of the shop. Analysis of one such concretion used in a French pipe factory about 1775 indicated that protection to the lips was provided by a kind of wax emulsified in a solution of extremely fine pulverized pipe clay, soap, gum arabic and water. Probably, all sorts of solutions were devised for this purpose.

Discussion

Because of the late occupation date of Rocky Mountain House (1799-1834). measurement of pipe stem bore diameters for dating purposes is of little use. The pipe stem dating technique, first devised by Harrington (1954) and later refined by Binford (1961), yields reasonably accurate results for the period 1620 to 1800; after this time it breaks down. Tests on the Rocky Mountain House pipe stem bore diameters gave obviously inaccurate results.

Table 3: Concentration of Clay Pipe Stem Portions

Provenience	Number
Building I	10
Building II	14
Building II (pit 4)	9
Building II (pit 5)	1
Building II (pit 6)	5
Building III	3
Building III (pit 6)	13
Building IV	6
Building VI	3
North corner bastion	4
North corner of fort	5
Open centre of fort	2
South gateway	1
South corner bastion	1
Pit 2	5
Pit 3	1
Pit 8	1
Pit 10	7
Pit 11 (ash fill)	4
Pit 13	1
Pit 19	2
Outside fort	6
Total	104

Comparison of the Rocky Mountain House clay pipe bowl specimens with those recovered from other western forts must necessarily be limited, due to the fact that most of the historic western sites excavated and published to date lie south of the 49th parallel in the United States. Archaeological research on the western forts of Canada is in its infancy.

The pipe bowls from Rocky Mountain House are distinctly different from those recovered from American western forts of the 1799-1864 period. Different types of pipes and greater variety appear on the American sites. In westward progression from the Great Lakes the number of pipe type varieties decreases. Such differences in kind and degree are probably associated with differences between the separate trading companies involved, their sources of supply and the related distances of transport.

The specific differences and similarities between the Rocky Mountain House specimens and other western forts are significant. For instance, at Fort Mackinac (1781-1895) in Michigan, 25 different pipe bowl types have been identified (Petersen 1963: 7). Only one of these, a plain heelless bowl, conforms to one of the types at Rocky Mountain House. Similarly, the pipes recovered from Kipp's Post (1826-30) in north central North Dakota and Fort Lookout II (1831-51) in South Dakota are quite different. Fort Lookout has three varieties of pipe bowls, primarily of the WD type (Miller 1960: 65). No such pipes were encountered at Rocky Mountain House. The Kipp's Post pipes include two varieties of fluted bowls, two varieties of combined TD wreath - WG spur bowls,

and an ill-defined miscellaneous type. Again, none of these types appears at Rocky Mountain House, although there are general similarities in size and shape between the TD bowls from both sites.

Omwake (1964: 5, 9, 12, 13) notes that the varieties of TD pipes from Rocky Mountain House and Kipp's Post are shorter and squatter, although not noticeably of smaller diameter than TD pipes recovered from British campsites of American Revolutionary War provenience. These earlier TD pipes, he believes, were probably manufactured by Thomas Dormer of London. It is also evident that the Rocky Mountain House and Kipp's Post TD pipes are different from the 13-star TDs of the War of 1812, believed to be patriotic American products. Omwake thus concludes that the Kipp's Post and Rocky Mountain House TD pipes are of English manufacture.

The available evidence would certainly indicate that the Kipp's Post TD pipes are an English type. They carry the dual marking of TD and WG, a practice of probable sales significance, in which a craftsman simply added his own mark to an already well established mark (Omwake 1964: 8). The TD mark had acquired a significance unapproached by any other pipe mark, and eventually became a literal synonym for "white clay pipe." Omwake (1964: 12) considers William Giles of Liverpool (1802-?) as the probable craftsman for the dually marked TD pipes from Kipp's Post. Of more remote possibility is the less well known Gain and Sons manufacturer of Hull (1826-?).

But the Rocky Mountain House TD pipe bowls are neither dually marked nor as high as the 3.8 cm. (1.5 in.) bowls from Kipp's Post. Bowl diameters and bowl-stem angles, however, are approximately the same. The TD pipes from Rocky Mountain House appear from Hudson's Bay Company contexts while Kipp's Post was an outlet for the Columbia (Tilton) Fur Company. This latter company was organized by disgruntled employees let out during the 1821 merger of the Hudson's Bay and North West companies. Consequently, it is improbable that the Hudson's Bay Company would allow a competitive rival access to their supplies or that both companies drew from the same pipe manufacturing source. The question remains, from where and whom did the Hudson's Bay Company draw their TD pipes such as appear at Rocky Mountain House?

This question has by no means a certain answer. The Rocky Mountain House TD pipes date after 1800 and before 1850 when pipe bowl sizes grew steadily larger and shapes became increasingly more like those of modern briar pipes (Omwake 1964: 13). The pipe proveniences are attributable to the Hudson's Bay Company occupation of the fort, thereby bracketing a time period between 1821 and 1834. During this period, there is only one English manufacturer of TD pipes recorded, Cain and Sons of Hull who set up shop in 1826 (Omwake 1964:4). But the TD mark was also in use in Holland where it was controlled by the pipe-makers' guild. The guild assigned the mark in 1779 to Cornelis Prince, who presumably held it until 1822 when the mark was reassigned to Johannes de Loos. How long De Loos used the mark is as yet unknown. Thus there are three possible makers for the Rocky Mountain House TD pipes from two centres – England or Holland.

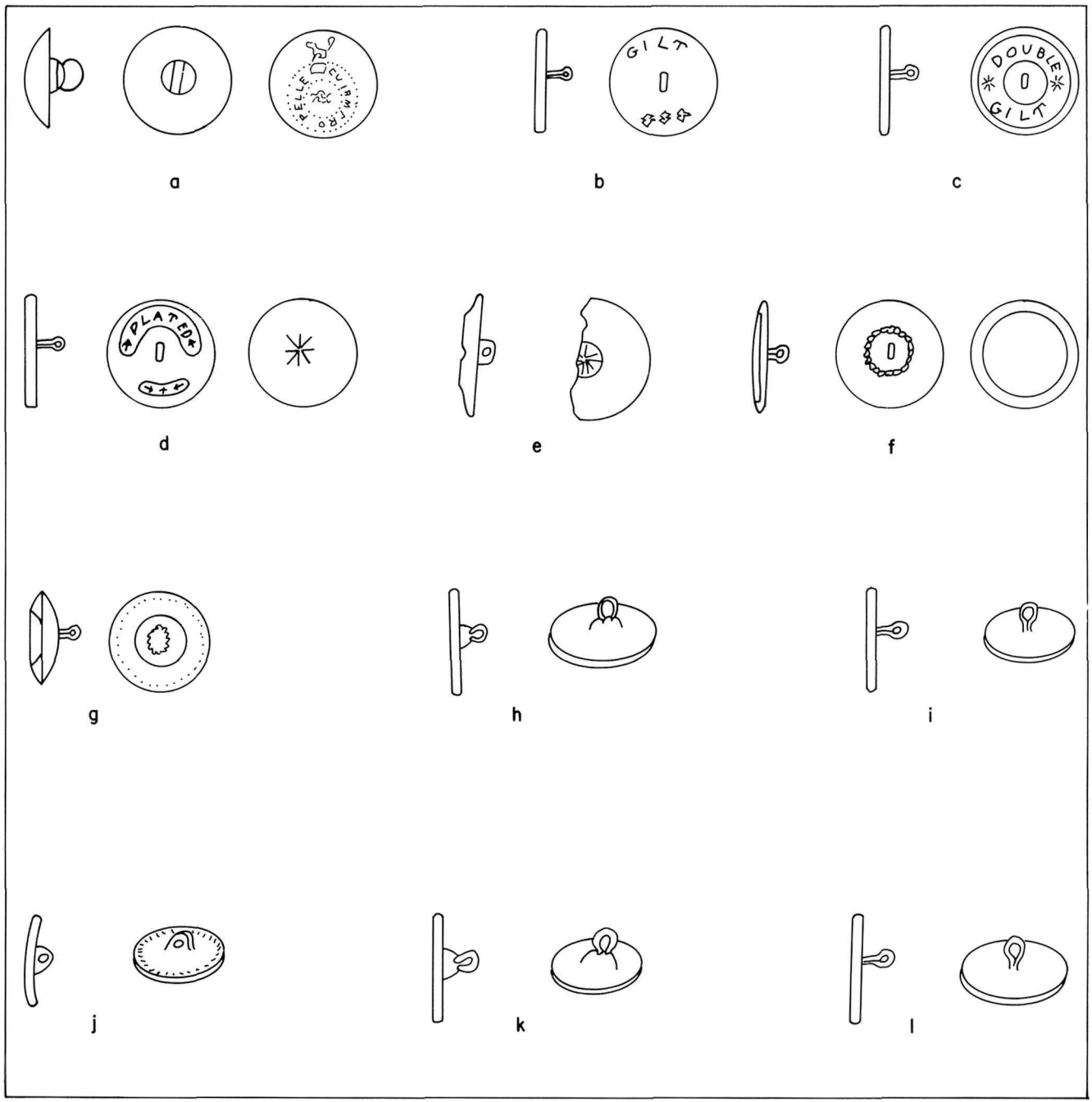
The two heelless pipes from the fort might at first glance be inferred to be early versions of clay pipes because basal spurs are missing. However, there are three factors suggesting that they date between 1821 and 1850. First, their provenience is within building II of Hudson's Bay Company construction; second, these bowls are larger in height than the TD bowls and more closely resemble modern pipes; third, one of the specimens exhibits a mottled deep blue transfer paint pattern characteristic of later pipes. Thus, a date of 1821-50 does not seem unreasonable for these specimens.

Buttons

The buttons from Rocky Mountain House are among the more sensitive indicators useful for dating and identifying feature associations, particularly the Hudson's Bay Company buttons. Unfortunately there is no standard classification of button types which includes all the varieties from this site. The general classification by Olsen (1963) is useful as far as it goes, and to a more limited extent South's (1964) classification of button types is also applicable. Both sources are considered in the following button descriptions for the 27 analyzable specimens excavated.

Sixteen decorated buttons and 11 plain specimens were recovered from the site. Of the decorated buttons, 10 are silver or silver plate, 2 are gilded, 1 is of copper, 1 of copper and silver, 1 of

43 Decorated and plain buttons. *a,* Hudson's Bay Company; *b,* gilt; *c,* double gilt; *d,* plated; *e,* decorated copper; *f,* copper and pearl; *h,* plain brass, type D; *i,* plain brass, type G; *j,* plain iron, drilled eye; *k,* plain iron with cast boss; *l*, plain iron with wire eye.



copper and mother of pearl, and 1 of ceramics. Of the plain buttons, six were iron and five were brass. None of these specimens, either decorated or plain, has sewing perforations through the disc. In all cases the buttons are circular.

Hudson's Bay Company Dress Buttons.
A total of eight Hudson's Bay Company buttons is represented in the sample, three of which are of the large coat variety (21 mm. diameter) and the remainder of cuff or sleeve size (15 mm. diameter). Both button forms are silver or silver plated, bear the Company insignia on the outer face, and have the same type of eye attachment.

The Hudson's Bay Company button eye attachments are quite distinctive and different from any others in the collection. Moulded in one piece with flat disc back, the foot of the eye attachment is round and rises in dome-like fashion until cleavage on two sides forms two parallel flat shelves. These shelves are separated by an upraised dividing portion into which an iron wire loop eye is inserted.

On the convex outer face of the silver disc is moulded the distinctive Hudson's Bay Company insignia. A fox seated on his hind quarters facing the viewer's left sits atop the main crest. This crest, bounded by two rings of small upraised beads, carries the words PRO PELLE CUTEM and an elaborately interlaced monogram of the three letters HBC.

The presence and distribution of the Hudson's Bay Company buttons concisely establishes a Hudson's Bay Company occupancy at the fort. Two of the large coat-size specimens come from building II, one from pit 4 and the other from just west of the double-hearth fireplace. A third large specimen was found five feet outside the south end of the extended fort. Of the five smaller versions of Hudson's Bay Company buttons, two also came from building II. Here one was found in pit 4 while the other was lying in the central part of the building. The other small Company buttons turned up between the west end of building II and the north end of building III. The final specimen was found in the area between building II and pit 11. Clearly the button associations are direct proof of the Hudson's Bay Company's occupancy of the fort and residence in building II.

Gilt Button
A single specimen of a gilt button occurs in the sample (Fig. 43, *b*). The disc is small with a diameter of 13 mm. and has a plain, flat exterior face. Although the disc is of iron, it was once covered with a thin layer of gold or gold-like substance, hence the occurrence of the stamped word GILT in capital letters on the flat back of the button. Below this word further decoration is present on the button's reverse side. Flanking each of the two side margins is a wreath of laurel leaves branching in four directions from a central stem. Underlying these side wreaths in turn are three six-pointed stars, spaced equidistant from one another, and bordering the bottom of the button in a position directly opposite the word GILT at the top. These designs are also stamped within shallow concavities. The well-soldered iron loop eye is brazed to the disc without any accompanying foot. The provenience of this gilded button is from pit 5 within building II, definitely within a Hudson's Bay Company context. As such, it should date between 1821 and 1834. Ford (1943: 206) remarks that,

The popularity of the gilt buttons lasted from the time of George III until electro-gilding, discovered in 1840, so cheapened the quality that all demand for them ceased. Electrogilding was not so durable as the older methods of plating and tarnished more easily, and there is no wonder these buttons lost their appeal — they were an altogether inferior product.

Double Gilt Button
This single button is very much like that described above except that its base is brass (Fig. 43, *c*). Both the obverse and reverse faces are flat and the disc diameter measures 14 mm. While the obverse face is devoid of any decoration, the reverse side carries the stamped signet DOUBLE GILT in capital letters. These words are within two shallow encircling bands, one separating the words from the outer rim of the button and the other between them and the wire eye shank. The word DOUBLE overlies and is separated from the word GILT by an eight-pointed star at each end of the word. No foot is present on an otherwise well-soldered eye. This gilded specimen is from the 35 in. depth of pit 10 within building VI.

Plated Button
Another brass button bearing decoration and insignia is represented in the sample (Fig. 43, *d*). This small specimen of 14 mm. diameter has a slightly convex exterior face in the middle of which is a finely etched star design composed of

eight intersecting thin lines. The lines of this star do not extend to the button's margin. On the reverse side of the button, seated within shallow curved depressions, are two other stamped designs in relief. The uppermost insignia bears the word PLATED in capital letters and is flanked at either end by an arrow pointing inward toward the word. At the bottom of this same side of the button in another shallow, curved depression is a decoration composed of two arrows pointing centrally toward an intermediate plus sign. Although no evidence remains of a plating substance over this button, it seems reasonable to believe it was silver plated as opposed to being gilded. The soldered eye attachment has no foot.

The provenience of this plated button is from the east end of building V, known to date to the Hudson's Bay Company occupation of the fort.

Hollow Silver Button

This button specimen has a very distinctive decoration and method of manufacture. It is made of a single piece of thin silver foil folded so as to create a hollow interior concavity between the exterior and reverse faces of the disc. The diameter of the disc is 17 mm. On the concave reverse side of the button are two small holes each spaced apart from one another near the outer margin of the disc. These holes are for fastening purposes and perhaps imply that the hollow silver disc was used as a cap or covering over a firmer button base.

The exterior face of the hollow silver disc is ornately embossed. Fifteen spoke-like segments radiate around the disc from an upraised central hub, the centre of which is depressed. Around the rim of the button the spokes separate 15 upraised bulges which complete the exterior moulded design. No recognizable maker's mark occurs on this artifact.

The provenience of this button or button covering is from within the north corner bastion; thus it may date to the early period of the fort's occupancy.

Ceramic Button

This specimen (Fig. 45, *e*) is more fully described in a later section on ceramics, under the heading dealing with the decorated underglazed creamware with transfer printing. Suffice it to state here that this particular specimen is from within building II near the double-hearth fireplace; it is, therefore, from a Hudson's Bay Company context in the fort.

Decorated Copper Button

This button type is represented by a single specimen whose disc is incomplete (Fig. 43, *e*). The button, a large one measuring 24 mm. in diameter, is of copper, cast and moulded in one piece. The reverse side of the button is flat and plain with a fixed shank square in section and having a drilled eye.

The exterior face of the button exhibits an ornately embossed design. Around the outside margin of the disc is a single chain of small adjacent beads. Within this outer beaded circle is another chain of beads forming continuous triangular loops 1.5 mm. wide. These beaded triangles not only touch the outer bead circle but touch each of the pointed tips of a central heavily raised solid star design. Nine points of this solid star are preserved, each radiating from a common ring which encircles the shallow depressed centre of the disc. The width of the solid star from its interior to the point tips is 6 mm., and it lies 3 mm. from the centre of the button. Within the depressed shallow centre of the button there is another star design of eight radiating lines. These lines are in low relief and radiate from the exact centre of the button.

This decorated copper button came from pit 8 just outside and to the east of the south gateway of the rebuilt fort. It is, therefore, in a context datable to the Hudson's Bay Company occupation.

Copper and Silver Button

A copper and silver button measures 17 mm. in diameter and has a flat disc of silver inlaid into the copper setting of the exterior face (Fig. 43, *f*). The silver disc is 15 mm. wide, and other than a few deep scratches bears no stamp or design. The copper setting has gently rounded exterior shoulders which continue around to meet the flat back of the button. Stamped on the reverse side and encircling the base of the eye shank is a design of continuously interlacing stylized laurel leaves. Other than this design, no other marks appear. The eye is formed of a well-soldered loop, the shank of which is directly brazed to the copper disc without any foot. This specimen was found in the open central area of the fort.

Copper and Pearl Button

The single copper and pearl button measures 14 mm. in diameter (Fig. 43, *g*). It is characterized by having a mother of pearl disc inset into a copper setting on the exterior face. The pearl disc is 11 mm. in diameter and has a design of 12

radiating loops or "fingers" out into its face. The copper setting, arising from a slightly convex reverse side, rounds at the margin shoulders and bevels upward to hold and fit flush with the pearl inset. A single row of small contiguous copper beads encircles the front of the copper setting on the bevelled margin. The eye attachment on the back of the button is simply a soldered loop brazed to the disc without any foot.

The provenience of this composite button is from within building II near pit 15. It is thus in a Hudson's Bay Company context.

Plain Brass Buttons

A total of five plain brass buttons are represented in the sample from Rocky Mountain House. Within this series there are five different sizes and two different types of eye attachments. The following descriptions are considered according to Olsen's (1963) and South's (1964) classification of plain buttons and their eye form.

Type D (Olsen) or Type 7 (South). Four of the brass buttons are of this type (Fig. 43, *h*). The discs are flat and range in diameters through 13 mm., 14 mm., 15 mm. and 21 mm. Each has a brass wire eye whose foot is inserted within and hidden by a cast boss on the back of the button. Also present on the disc's back are a series of concentric rings or striations left by a cutting tool.

Both Olsen and South consider brass buttons of this type to date between 1720 and 1785. However, the proveniences of the above specimens suggest a later date. The 21 mm. specimen is from building II near the double-hearth fireplace, and the 14 mm. specimen is also from this building. The 15 mm. brass button came from the area west of building II, while the smallest (13 mm.) button comes from pit 6 within building III. The proveniences within buildings II and III are datable to the Hudson's Bay Company occupation of the fort.

Type G (Olsen) or Type 9 (South). The single specimen of this type of plain brass button is also characterized by having a flat coin shape (Fig. 43,*i*). This specimen has a diameter of 23 mm. The brass wire eye is simply brazed to the back of the disc without any accompanying foot or cast boss.

Olsen dates this plain brass button type between 1785 and 1800, a date which again appears too early for the context in which the button was found. It comes from the area encompassed by the northeastern end of building V which was erected after the fort was extended. There remains the possibility, however, that the button dates to the original dimensions of the fort within which area it was recovered. It may simply be a matter of chance that the button's position was later the site of the Hudson's Bay Company erection of a new building. The precise contextual dating of this specimen remains uncertain; it could be of either North West Company or Hudson's Bay Company times.

Plain Iron Buttons

Other than the one GILT button with an iron base, all other iron buttons recovered from the site are plain. The plain iron specimens total six and display three types of eye attachments, two of which are similar to those described for the plain brass buttons. Since neither the Olsen nor South classifications are helpful for these plain iron buttons, the specimens are simply described below according to form and eye attachment.

Plain Iron Button with Drilled Eye. The single small specimen of this button type measures 14 mm. in diameter (Fig. 43,*j*). Its exterior face is flat while the reverse side is slightly concave. The squarish eye attachment is moulded in one piece with the button disc and has simply been drilled to produce the eye.

This specimen is from pit 4 within building II, thereby establishing its temporal provenience to the Hudson's Bay Company occupation.

Plain Iron Buttons with Cast Boss. Two buttons of this type are represented in the sample (Fig. 43,*k*). Each has a flat coin-like shape with diameters measuring 14 mm. and 16 mm. The distinctive eye attachment is similar to that on Olsen's (1964) Type D brass button. An iron wire eye, whose foot is inserted into and hidden by a cast boss, is the attachment. Concentric spun rings on the back of the button disc are not visible on these iron specimens.

The 16 mm. button is from pit 15 within building II, and thus is assignable to the Hudson's Bay Company occupation of the fort. Similarly, the 14 mm. specimen recovered from pit 6 within building III is of late date.

Plain Iron Buttons with Wire Eye. Three specimens of this button type complete the button descriptions (Fig. 43,*l*). These specimens also are flat on both faces and have a simple well-soldered wire eye brazed to the disc without any accompanying foot or insertion bracket.

The single specimen of 15 mm. diameter is from the central area of building II. The remaining two buttons, each 17 mm. wide, were found in pit 4 within building II, and in pit 6 of building III. Clearly all of these specimens are of late provenience dating to Hudson's Bay Company times.

Discussion

It is apparent that almost all the buttons from the site, either decorated or plain, have proveniences indicative of being used and lost during Hudson's Bay Company occupation. As the single most distinctive button type, the silver Hudson's Bay Company coat and sleeve buttons firmly establish that Company's occupancy of the fort and residence in building II. Some of the plain brass buttons considered to be of early date (1720-85) by Olsen and South have provenience at Rocky Mountain House indicative of a much later period of use. This temporal discrepancy is probably another direct reflection of the isolated nature of the fort, away from the more advanced, style-concious eastern centres, and the necessity to salvage and retain buttons for personal use. Unfortunately, there is no one button from the site which may be separated and conclusively stated to represent a relic of North West Company occupation.

The distribution of buttons over the site shows an expected close association with buildings. Specifically, 23 of the 27 buttons in the sample are from building structures, particularly building II which alone yielded 13 specimens. Four other structures, buildings III, V, VI and the north corner bastion together yielded an additional 10 buttons. This evidence strongly suggests that these were areas within the fort where personnel resided or worked. While some buttons were evidently lost in refuse pits, at least seven were cached within personal pits in building II. Yet others appear to have been lost inadvertently during normal activities inside and outside the buildings.

Table 4: Button Distribution

Provenience	Number
Building II	7
Building II (pit 4)	5
Building II (pit 5)	1
Building II (pit 15)	1
Building III (pit 6)	2
Building V (east end)	2
North corner bastion	1
Pit 8	1
Pit 10	1
Fort area west of building II	3
Between building II and pit 11	1
Open centre of fort	1
Outside south end of fort	1
Total	27

Cufflinks

A single set of copper cufflinks (Fig. 44,*e*) is included in the inventory of personal and household items from Rocky Mountain House. This set is composed of two thin oval discs, each 17 mm. by 13 mm. The copper discs are mould-made with an accompanying shank and drilled eye attachment on the reverse side of each. Passing through these eyes to join the discs together is a soldered copper wire loop 15 mm. in total length.

The central back portion of each disc is moulded into a depression. Encircling this well, however, there is an outer rim in low relief 2 mm. wide. Other than this moulding form, no other decoration or marks appear on the reverse side of the discs.

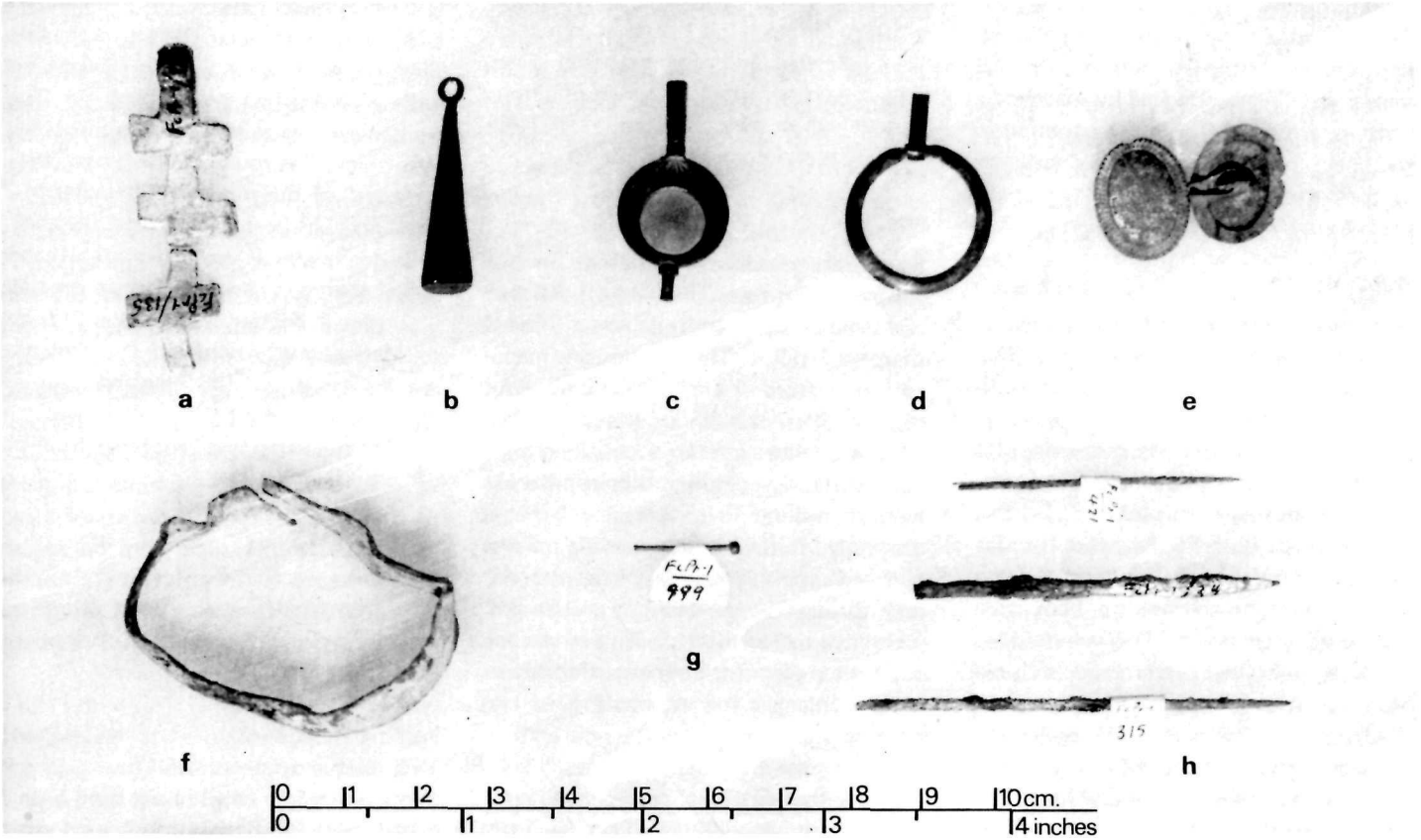
The exterior face of each disc has the reverse form of the backs. Around the outer margins each disc is depressed in a 2 mm. wide band which rises in relief over the central body of each disc. These central convex faces are plain. Moulded decoration occurs around the depressed margins. Here the marginal rims are bordered by a single line of contiguous, small upraised beads. Within this outer bead ring and radiating centrally at right angles from it is an additional series of parallel, elongated bead-like projections. These cross and continue around the depressed margins of each disc.

This specimen was found just below the sod in the vicinity of pit 2 in the northwest corner of the fort. Undoubtedly it was once worn as a sleeve link.

Lead Cross

Unique within the sample of personal artifacts is a homemade pendant lead cross (Fig. 44,*a*). This specimen measures 4.5 cm. long by 5 mm. wide, and has been cut from a sheet of lead 2.5 mm. thick. Distinctive of this cross is the fact that it has three horizontal bars, each 14 mm. in length, spaced parallel to one another 9 mm. apart. A small 0.5 mm.

44 Personal items. *a,* handmade lead cross from building II; *b,* conical silver earring from pit 5 in building II; *c,* watch winder from pit 1; *d,* silver loop earring from building II; *e,* copper cufflink from near pit 2; *f,* copper band from pit 6 in building III; *g,* brass pin with copper knob from pit 10; *h,* three round iron needles.



hole for suspension is located 3 mm. from the top of the vertical shaft. No insignia or identifying marks occur on this specimen, which was found loose in the south-central area of building II.

Earrings

Two styles of earrings are present among the three earrings recovered from the site (Fig. 44,*b,d*). The first style, represented by a single specimen, is made from a hollow cone of tarnished silver or silver alloy. It measures 2.6 cm. long and tapers from a top diameter of 2.5 mm. to 7 mm. wide at the base. Closing off the base is a folded circular flap joined in one piece to the side of the cone. The fold seam running down the side of the cone is tightly annealed. Projecting from the top of the cone is an iron wire loop for suspension. This particular specimen came from pit 5 within building II.

Conical silver earrings such as this appear on many historic fur trading sites dating between 1780 and 1870. Petersen (1964: 46) illustrates one from Fort Mackinac (1781-1895); one is known from Fort St. Joseph of 1796-1825 (Helen Devereux: personal communication); Woolworth and Wood (1960: Pl.60,*f*) illustrate three from Kipp's Post (1826-30): and Smith (1960a: Pl.28,*j*) illustrates an identical specimen from Fort Pierre II (1858-63). It will be noted that although the distribution of this type of earring is widespread through time and geographic area, it never appears in quantity.

The second style of earring found at Rocky Mountain House is represented by two specimens, both of silver. Each is composed of a 0.2 mm. thin circular

band, 2.5 mm. wide, with an over-all ring diameter of 20 mm. Hanging from each ring is a silver strap-like pendant, also 2.5 mm. wide. This is attached by means of a bent loop around a slight constriction in the main circular band. No identifying marks occur on either of the two specimens found loose within building II.

Watch Winder

A brass winding key and pendant for an old-style pocket watch was found (Fig. 44,*c*) The fob ring is missing. Total length of the specimen is 3.1 cm. with the circular key-winding tube measuring 1.0 cm. long by 3 mm. in diameter. The open socket at the end of this tube is square. A circular brass disc 1.5 cm. wide by 1.5 mm. in thickness immediately adjoins the key-winding tube and holds a 1 cm. wide bluish-violet amethyst. This amethyst is cut in an octagonal pattern and is visible on both sides of the pendant disc. A short circular 0.6 mm. long projection extends from the brass disc in line with the main key-winding tube. This specimen is from pit 1.

Copper Band

This copper band represents an attempt to fashion a homemade bracelet (Fig. 44,*f*). Cut from a piece of sheet copper 0.5 mm. thick, the band measures 1.0 cm. wide by 12.6 cm. long. It is folded to fit the wrist of a child or a person with a small wrist diameter of 4.0 cm. This specimen was recovered from pit 6 within building III.

Hawk Bells

Two small, severely crumpled bells occur in the artifact inventory. The small copper specimen recovered from pit 6 within building III is damaged, but is of hawk-bell size and was probably silver plated. Another small specimen of 5 mm. diameter is of silver. This bell, too, is of hawk size and comes from pit 10.

Needles

Four iron needles are present in the sample of artifacts (Fig. 44,*h*). All but one are complete and all have a tapered sharpened point. The needles are manufactured from round iron wire, but display different methods of eye piercing.

The smallest needle, 4 cm. long by 1 mm. thick, is complete and approaches modern needles in appearance. It has a distinctive fluting or slot running parallel to the shank on two sides of the eye end, and through these flutings a 0.5 mm. wide eye is perforated. This specimen from pit 8 just outside the south gateway of the enlarged fort probably is of late date.

The remaining three iron needles are all from the northwest corner of the fort in and around buildings I and II. From building I is a needle 5 cm. long and 2 mm. thick. The 1 mm. wide eye is simply perforated through a very slight flattening of the shank. This specimen is heavily corroded.

A third specimen, 5.2 cm. long by 2 mm. thick, comes from the central area of building II. This needle has the same style of eye perforation as the specimen recovered from building I; the eye width is 1 mm.

The fourth and longest iron needle, 6 cm. long by 2 mm. thick, has the eye portion broken off. This specimen was found in pit 1 behind building I.

Pin

Only one pin occurs in the artifact sample (Fig. 44,*g*). This is a brass straight pin with copper knob and broken tip. This broken pin measures 15 mm. long by 1 mm. thick. The round copper knob at the butt end of the pin has a diameter of 2 mm. and has been attached to the shaft. This technique is indicative of a hand-made specimen, and thus may pre-date 1824, for in that year, Mr. Lemuel Wright of Massachusetts patented the first pin-making machine in England (Moore 1933: 123).

This specimen was recovered from pit 10 within building VI.

Forks

Two forks, each of a different style, were recovered from the northwest corner of the fort and give a glimpse of the cutlery used at the fort.

Folding Sheath Fork

This unique specimen of fine workmanship is an article which must have been a prized pocket possession of its former owner. It is a folding two-tined steel fork originally covered by two decorated brass foil side covers. One of the side covers is presently missing.

The slightly curved sheath of 10.2 cm. length measures 1.3 cm. wide at its narrowest end and 1.5 cm. at the widest (hinge) end. The casing is composed of an inner steel shank with depressed slots for spur fittings of the two foil side covers. The preserved brass foil side cover is very thin, 1 mm. and is elaborately embossed with a sinuous floral and vine sign, terminating in a five-pointed flower or star. At either end of the foil sheath in a

1.3 cm. square area, the design is composed of five lines of contiguous upraised beads. A brass rivet through these square areas at either end of the sheath holds the whole assemblage together.

The 1.5 mm. thick rivet through the widest end of the sheath also serves as a hinge for the fork blade. This rivet was removed during the analysis to examine the fork blade in detail. In the photograph (Fig. 51,*j*), the fork blade is improperly inserted; its position should be reversed.

The fork blade is flat, being 1 mm. thick, 8.2 cm. long, and 1 cm. wide. The two tines extend for 4.6 cm. and taper to points 1.5 mm. wide. Unfortunately, no identifying mark or letters appear on this specimen. It was recovered in the drainage area running into pit 1.

Table Fork

The second style of fork is a straight-shanked, two-tined steel table fork (Fig. 50,*j*). This well-preserved specimen is 19.1 cm. long and is fitted with a two-piece antler handle. The handle measures 7.8 cm. long by 2.1 cm. in maximum width, and is composed of two antler side pieces fixed to the central shank by two rivets. The butt end of the shank is flattened to cap the antler handle.

The exposed portion of the shank is circular and has a length of 5.3 cm. It then bifurcates into two tines, each 4 mm. thick and extending an additional 6 cm. These tapering tines are spaced 9 mm. apart.

No identifying letters or manufacturer's symbols occur on this specimen. The presence of two tines, however, indicates that it is earlier than the later three-tined fork found on other western forts of post-1860 vintage (Smith 1960a: 134; 1960b: 221; Mills 1960: 40). Straight-shanked, two-tined forks are known from Fort Michilimackinac of 1720-80 (Maxwell and Binford 1961:Pl. 14,*k*). The Rocky Mountain House specimen is from the trench of the west exterior palisade near drainage outlet 2.

Glass Vials

Two glass vials are represented, both of blown glass, one being incomplete and the other undamaged.

The complete vial (Fig. 45,*f*) of clear blown glass is cylindrical and measures 5.6 cm. long. The main body of the vial is 1.4 cm. in diameter by 4.7 cm. long. It rounds to a thick, flat bottom displaying a pontil mark in the centre. The vial bottom is 5 mm. thick.

The upper portion of this vial has a constricted neck and outflaring rim. The neck measures 7 mm. high and has a diameter of 9 mm. Topping the neck is a flared rim of 1.5 cm. diameter. This rim is not uniform in width across the top of the neck and projects noticeably on one side. The thickness of the glass rim is 2 mm., while the small bore measures 4 mm. in width. This fine specimen from pit 5 within building II probably represents a small medicine, perfume or condiment vial.

The second glass vial, (Fig. 45,*g*) is represented only by the neck and rim section. Its dimensions indicate that it is a larger vial than the specimen previously discussed, but again it is circular, of clear blown glass and has an irregular rim.

The neck measures 1 cm. high by 1.5 cm. in diameter with the glass being 1.5 mm. thick. The adjoining rim flares outwardly for an average diameter of 2.1 cm. The orifice in this 2 mm. thick rim measures 1.1 cm. in diameter.

The specimen comes from the 30 in. depth of pit 6 within building III.

Glass Bottles

A total of five distinct bottles occur in the Rocky Mountain House glassware sample. Four of these may be stated definitely to date to the Hudson's Bay Company period of occupancy, and it is very probable that the fifth, a lettered bottle, also dates to this period. Seventeen additional fragments of bottle glass cannot be ascribed to specific bottles.

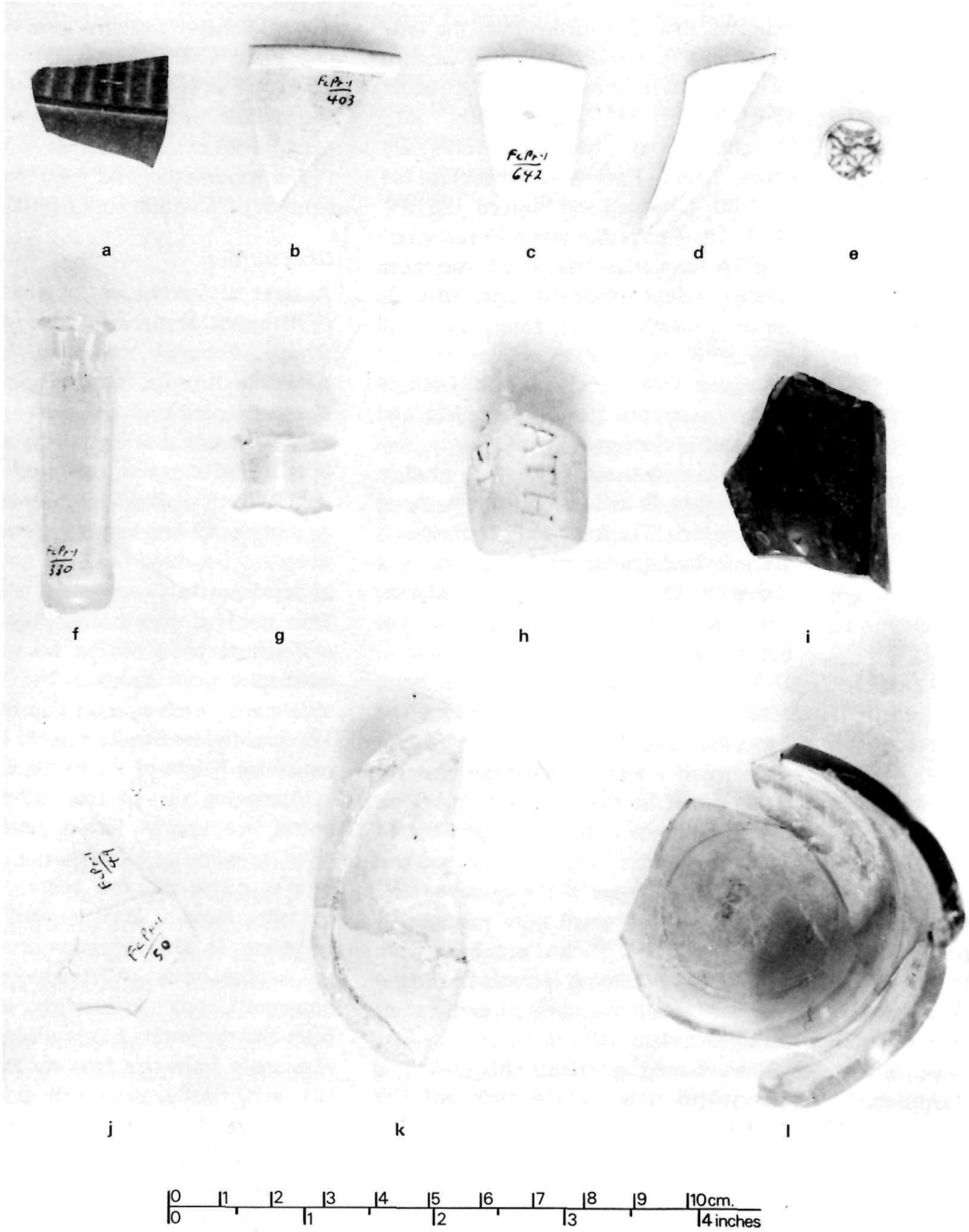
Lettered Bottle

This moulded glass bottle (Fig. 45,*h*) is represented by a broken basal portion, misshapen from heating. The bottle is square with each opaque side measuring 1.8 cm. wide by 2 mm. thick. The remaining height of the bottle is 2.6 cm.

Appearing on all four sides of the bottle are capital letters moulded in relief, presumably identifying a manufacturer's name or the nature of the contents. None of these lettered words is complete. In the illustration cited above, the capital letters ATH appear on the uppermost side. Proceeding clockwise from this,the letters EI are visible: clockwise again from this face are the letters HN; and, finally, the fourth side carries the letters BY. Attempts to trace the identity and meaning of these letters have been unrewarding.

This bottle is from the area between

45 Ceramics and glass. *a,* black basalt stoneware sherd from pit 10 (1767-1810); *b,* rim sherd of grey salt-glazed stoneware from ash deposit underlying building IV (1800-50); *c,* rim sherd of undecorated lead-glazed earthenware; *d,* sherd of white unglazed stoneware; *e,* ceramic button of underglazed creamware decorated with blue transfer printing from building II; *f,* complete glass vial from pit 5 in building II; *g,* portion of glass vial from pit 6 in building III; *h,* bottom of lettered bottle; *i,* portion of squared green bottle from pit 5 in building II; *j,* clear window glass from building I; *k,* portion of round clear glass bottle bottom; *l,* portion of round purple glass bottle.



the north corner bastion and the northeast end of building II. It probably represents a container for some type of patent medicine.

Squared Green Bottle

This bottle specimen (Fig. 45,*i*) is represented by only one piece, a side fragment of dark olive green coloured glass exhibiting many interior oval bubbles. The glass is 2.5 mm. thick and the recovered portion displays two vertically bevelled corners giving the bottle a squared form. The intact side measures 3.5 cm. high by 2.0 cm. wide between its two bevelled corners.

This bottle, recovered from pit 5 within building II, may have held liquor.

Round Green Bottle

This bottle is represented by nine fragmented pieces, none of which fit together. The glass is a light green colour filled with many air bubbles, and ranges from 3 mm. to 4.5 mm. in thickness. From these measurements and the curvature of some of the fragments, this bottle was a heavy, round container. One of the glass fragments (specimen 671) has been worked along one edge.

The fragments of this bottle came from the upper level of pit 10 underlying building VI.

Round Clear Glass Bottle

Half of the bottom and 11 fragments are all that remain of this circular bottle of clear glass with a light greenish tint (Fig. 45,*k*). The glass bottom is a very thick 7 mm., and has a basally concave indentation of 7 mm. The diameter of the bottle is 6.7 cm. across the bottom. Appearing on opposite sides of the bottle are two vertical lines indicating that the bottle was manufactured in a two-section mould.

This bottle is from the southeast end of building V, dating to the Hudson's Bay Company rebuilding of the fort.

Purple Glass Bottle

This bottle is represented by a basal portion and 14 fragments, many of which are highly distorted through melting (Fig. 45,*l*). Purpling of glass apparently occurs as a result of a heating reaction by sunlight or fire on the manganese oxide in the glass (Fontana et al. 1962: 100). Thus the purple colour of this bottle is not its original colour.

The bottle's base measures 7 mm. thick by 6.4 cm. wide. It is flat and displays a thin encircling mould ring 3.3 cm. in diameter. Two vertical mould lines up opposite sides indicate that the bottle was made in a two-section mould.

The pieces of this bottle were found loose in the area between building IV and the interior security wall flanking the west side of the south gateway.

Other Bottle Fragments

In addition to the identifiable bottles, there are 17 loose fragments. Briefly these may be subdivided into clear and green bottle glass. Two pieces of the clear glass are from pit 8; one from the ash fill of pit 11; one from building II; one from the open centre of the fort; one from the vicinity of the surface ash deposit north of building V, and five others are loose splinters of uncertain provenience.

Of the loose green bottle glass fragments, one is from building II; one from north of the south gateway; two from the vicinity of the surface ash deposit north of building V; one from the surface ash deposit in building IV, and one from near the surface ash deposit by the fur press base. Noticeably, many of the green glass fragments have a close association with surface ash deposits.

Ceramics

Only nine ceramic sherds were recovered from Rocky Mountain House. This small sample is in part probably a reflection of the 1,000-mile distance between the fort and the headwaters of the Great Lakes. The numerous breakage possibilities during transit over this long canoe route no doubt made ceramics a very select and valued commodity. Its limited occurrence at Rocky Mountain House suggests that ceramics were personal luxury items.

The small ceramics sample yields additional inferences reflecting the nature of the fort itself. Too, one would not expect to find large quantities of china in a rude seasonal outpost for handling furs or an interior depot for transmountain exploration. Such would be expected to characterize the more sedentary and permanent forts (e.g., Fort Edmonton, Fort Garry).

Black Basalt Stoneware

One sherd of this ware was recovered in the plough zone covering pit 10 under building VI (Fig. 45,*a*). The sherd is very thin, measuring 2 mm. in thickness. Mrs. Vanderburgh states that this ware, sometimes called "Egyptian Black," was made by many 18th - century Staffordshire potteries, and that its manufacture continued into the 19th century. Its shape

Table 5: Ceramics from Rocky Mountain House

Sherd No.		Ware Type	Date
883	1	Black basalt stoneware	1767-1810
403	1	Grey salt-glaze stoneware	1800-1850
836	1	White salt-glaze ware	1850-1900
627	1	White unglazed stoneware.	?
642 204 815	3	Undecorated lead-glaze earthenware	
935 328	2	Decorated underglazed creamware with blue transfer printing	prior to 1850

indicates that it may have been from a tea-pot, sugar bowl or cream jug.

Grey Salt-Glazed Stoneware

The single sherd of this ware was found in the ash deposit adjoining post 43 of building IV (Fig. 45,*b*). The sherd represents a rim fragment, the body of which is 3 mm. thick, and the rim lip 3.5 mm. thick. The rim lip has been fashioned by folding the clay over the lip and down the exterior of the sherd for a distance of 5 mm. Commencing 1 cm. below the folded rim on the exterior is a series of finely etched parallel bands spaced approximately 2 mm. apart and encircling the bowl.

This type of stoneware was made throughout the 18th century. The folded rim is associated with early stoneware, and may be from a small bowl or cup.

White Salt-Glazed Stoneware

One very small fragment of this type of stoneware was found in the plough zone within the eastern end of building II. It measures 3 mm. in thickness.

Much white salt-glazed stoneware was made in the 18th century for table use, and in the 19th century, for more utilitarian purposes.

White Unglazed Stoneware

The single sherd of this ware was recovered in the plough zone within the vicinity of the south gateway (Fig. 45,*d*). It is quite thick, 4 mm., and massive. The sherd is from a flat plate or platter, and may have a thin wash of lead glaze, but this is difficult to determine.

Undecorated Lead-Glazed Earthenware

Three sherds of this ware were recovered over different sections of the fort (Fig. 45,*c*). The rim sherd illustrated came from building IV, and the two body fragments from the northern end of the fort northeast of building II. The rim sherd measures 3 mm. in body thickness, as does one of the body fragments; the other body sherd measures 3.5 mm. thick. The two body sherds are too small to identify with any particular shape, but the rim sherd again has the interesting folded rim that occurs on the grey salt-glazed stoneware. This rim sherd is also probably from a bowl or cup.

This earthenware was developed in the second half of the 19th century by many English potters, and became the most common earthenware of the period 1765 to 1820.

Decorated Underglazed Creamware with Transfer Printing

Two pieces of this ware were recovered from the plough zone within the northwest corner of the barracks-like building II (Fig. 45,*e*). Each sherd measures 3 mm. in thickness. The sherd illustrated has been ground down into a circular form, 12 mm. in diameter, presumably for use as a button or bead. The centre of the white glazed interior face of the disc has been partially drilled through. The hole represented is 1.5 mm. wide and quite shallow. These sherds may date from before 1850 because of the thickness of the pottery and the colour of the blue transfer printing.

Discussion

It is apparent from this analysis that all of the ceramics found at Rocky Mountain House are of English origin and manufacture. The temporal range falls between 1765 and 1850, well within the known life span of the fort. Of particular interest is the black basalt stoneware which was manufactured between 1765 and 1810. Its occurrence within the upper levels of pit 10 underlying building VI tends to support the belief that this pit dates to the North West Company occupation in the fort. On the other hand, a late appearance of this ware and others on the site may be due to temporal lag between the time of manufacture and the time at which ceramics reached Rocky Mountain House.

The suggested forms are also interesting. The few identifiable forms include bowls or cups, a plate and either a tea-pot or sugar bowl. These items are rather finer than one would expect to be in the personal retinue of a voyageur. The excavated ceramic material is noticeably associated with buildings II and IV.

HUNTING AND SUBSISTENCE ITEMS

Eleven different commodities included under this heading comprise 1.6 per cent of the total artifact inventory.

Gunflints

Five gunflints from flintlock weapons are represented in the artifact sample from Rocky Mountain House. All are plano-convex in cross-section, and all but one are from pits within building II.

The gunflints may be classified into two types based on the method of manufacture and colour. All specimens of dark black flint are products manufactured by sectioning long flint blades. This type is generally recognized as British and is characterized by having well-defined sharp parallel ridges on the convex surface. In contrast, all honey-coloured or tan gunflints are made from single spalls struck from a core. These gunflints are distinguished by a well-defined bulb of percussion on the convex surface, and are generally considered to be of French origin.

Table 6: Hunting and Subsistence Items

Item	Number
Gunflints	5
Gun sear	1
Spherical lead balls	25
Spherical lead shot	127
Lead spue	1
Fishhooks	2
Lead sinker	1
Melted lead pieces	6
Pelt stretcher	1
Bone, shell and bark artifacts	16
Total	185

In the following descriptions the interpretations of the different types of guns represented according to the gunflint sizes are taken from Dr. Carlyle S. Smith's analysis of the gunflints from Kipp's Post (Woolworth and Wood 1960:268).

Black Blade Gunflints

There are three specimens of this type. The first (Fig. 46,*a*). is D-shaped with two rounded corners. It measures 24 mm. by 23 mm. and has been worn from use. This size is from a horse pistol or gun with a medium-sized lock. Its provenience is from pit 15 within building II.

The second gunflint of this type (Fig. 46,*b*). is badly worn from use. It is rectangular in form, measuring 23 mm. by 20 mm. Again the size of this specimen falls within the range for a horse pistol or gun of medium-sized lock. This specimen is also from pit 15 within building II.

The third specimen (Fig. 46,*c*). is larger and not as worn as the two previous gunflints. It measures 29 mm. by 24 mm. with a thickness of 9 mm. This is a typical British flint from a carbine or gun with a large lock. It is from the south gateway in the extended fort.

Tan Spall Gunflints

There are two specimens of this type. The first (Fig. 46,*d*), which is rectangular, measures 30 mm. by 26 mm., with a maximum thickness of 9 mm. occurring at the bulb of percussion. The large size of this gunflint indicates that it is from a musket or other type of gun having a large lock. This specimen is from pit 5 within building II.

The second specimen has an incomplete crescentic D-shape similar to the French *grande fine ronde* gunflint illustrated by Bourlon (1907: Pl. 2). The width of this specimen is 30 mm., with the maximum thickness of 8 mm. occurring at the bulb of percussion. The incomplete length measures 24 mm. The proportions of this gunflint suggest that it is from a musket. It was found at the 21 in. depth of pit 4 within building II.

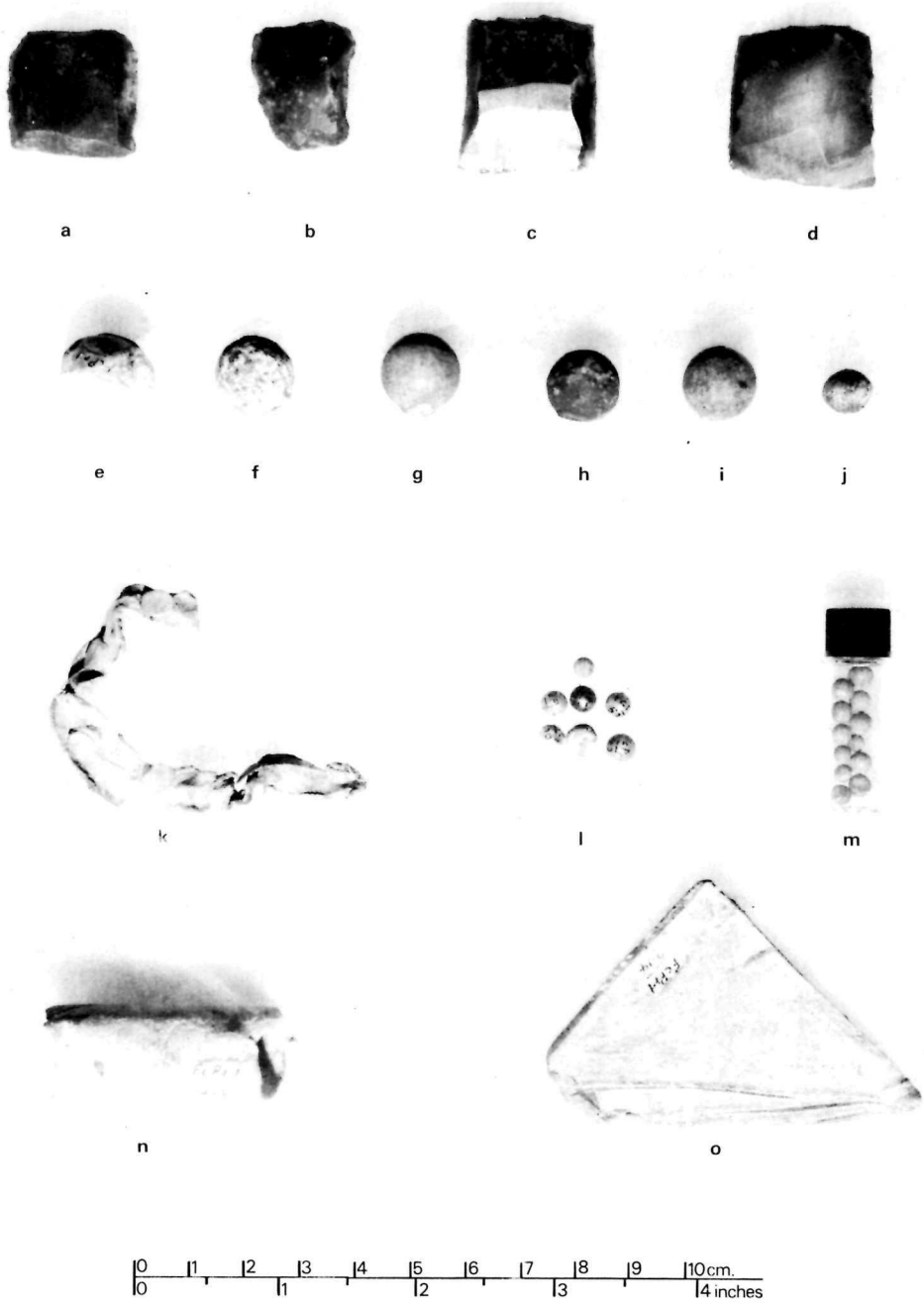
Comparisons of the Rocky Mountain House gunflints with those from other western forts are limited. The two illustrated black blade specimens from Kipp's Post (Woolworth and Wood 1960: Pl. 58, *b-c*) are similar to one from Rocky Mountain House (Fig. 46,*c*). No tan spall gunflints occur at Kipp's Post (1826-30), but several do occur at Fort Michilmackinac (Maxwell and Binford 1961: Pl 5,*b*), and appear to be similar to the Rocky Mountain House specimens.

Maxwell and Binford (1961: 99) demonstrate by chi-square analysis that the tan spall gunflints from Fort Michilimackinac pre-date the blade varieties, yet both types continued to be used during the late years of the fort's occupancy. The data from Rocky Mountain House suggests that both blade and spall gunflints were used during the Hudson's Bay Company occupation.

Gun Sear

This single specimen represents the only iron gun part from the entire site. It is

46 Gunflints, shot and lead pieces. *a,* black blade gunflint from pit 15 in building II; *b,* badly worn black blade gunflint from pit 15 in building II; *c,* black blade gunflint from south gateway of extended fort; *d,* rectangular tan spall gunflint from pit 5 in building II; *e,* spherical lead ball of 17 mm. or .669" calibre; *f-g,* spherical lead balls of 14.5 mm. or .570" calibre; *h,* spherical lead ball of 13 mm. or .512" calibre; *i,* spherical lead ball of 13.5 mm. or .530" calibre; *j,* spherical lead ball of 9 mm. or .354" calibre; *k,* waste lead sprue; *l,* different calibres of lead shot; *m,* vial filled with lead shot; *n,* threaded lead pipe from west of building II; *o,* triangular lead piece.



L-shaped and has a 4 mm. diameter hole through one end for hinge attachment. This sear is from pit 4 within building II.

Commenting on the Hudson's Bay trade guns during his 1820-21 journey to the Athabasca Department, Sir George Simpson (1938: 408) said:

The Trading Guns (marked Wilson) are not to be compared with those of "Barnets" make which the NW Coy-import, the Locks are badly finished, soft in the hammer, the Tumbler and Shear not properly tempered and the pan loses the Powder: the NW locks are altogether better finished and bridled inside or the Tumbler covered.

Spherical Lead Balls

Twenty-five spherical lead balls constitute the sample from Rocky Mountain House (Fig. 46, *e-j*). Three of these are so misshapen that calibre measurements are not possible. All of the lead balls are mould-made and cut from a sprue. Each of the three misshapen balls has portions of lead pared from it, possibly done in an effort to reutilize the lead for recasting of new balls.

Spherical lead balls such as the Rocky Mountain House specimens are for use in smoothbore muzzle-loading weapons. The calibres represented range from .354 in. to .669 in. A frequency count of these various calibres indicates a unimodal curve of distribution, thus ruling out the possibility of a distinction between the calibres used by the North West and Hudson's Bay companies. If such a difference were indeed real, then it would show up as a bimodal distribution curve.

The represented calibres and their numerical abundance are: one specimen of .354 in. (9mm.); two of .512 in. (13 mm.); five of .530 in. (13.5 mm.); seven of .551 in. (14 mm.); three of .570 in. (14.5 mm.); three of .591 in. (15 mm.); and one specimen of .669 in. (17 mm.). Clearly, the apex falls at the .551 in. calibre which probably was most useful in bringing down deer or heavier game.

The spherical lead balls have a very confined distribution within the fort. They are predominantly from pits and buildings, particularly building II which accounts for 15, or 60 per cent of the sample. Two of the three misshapen balls were found 30 ft. outside the southern end of the fort.

In all, the range in ball calibres from Rocky Mountain House compares favourably with those from other forts. At Kipp's Post (Woolworth and Wood 1960: 268), the range is slightly greater, but the predominant calibres fall between .527 in. and .566 in. Similar results appear at Fort Michilimackinac where 68.5 per cent of the lead musket balls are between the .54 in. and .59 in. calibres (Maxwell and Binford 1961: 107).

Spherical Lead Shot

The recovered 127 spherical lead shot constitute one of the most numerous artifact items from Rocky Mountain House (Fig. 46, *l-m*). The sizes vary considerably from 3 mm. to 6 mm., representing seven different calibres. A frequency count of these different sizes shows a bimodal curve with one peak at 3.5 mm. (.134 in. or no. 3 shot), and the second at 5 mm. (.197 in. or T shot).

Within this lead shot inventory, 19 shot measure 3 mm. (.118 in. or no. 6 shot); 24 measure 3.5 mm. (.134 in. or no. 4 shot); 21 measure 4 mm. (.157 in. or no. 1 shot); 7 measure 4.5 mm. (.177 in. or BB shot); 41 measure 5 mm. (.197 in. or T shot); 13 measure 5.5 mm. (.217 in. or TT shot), and 2 measure 6 mm. (.236 in. or no. 4 buckshot).

Table 7: Distribution of Spherical Lead Balls

Provenience	Calibres	Number
Building I	.530"	1
Building II	.551"	1
	.570"	1
	.591"	2
Building II (pit 4)	.354"	1
	.512"	1
	.530"	2
	.551"	4
	.591"	1
	.669"	1
Building II (pit 5)	.512"	1
Building III (pit 6)	.551"	1
Building V	.570"	1
North corner bastion	misshapen	1
Open centre of fort	.530"	1
South gateway	.570"	1
Pit 2	.530"	1
Outside fort	misshapen	2
	.551"	1
Total		25

When the distribution of the lead shot is plotted over the site it becomes apparent that most of the specimens are from pits and building II. Ninety-eight (77.2 per cent) pieces of shot are from pits with 41 specimens (32.3 per cent) represented from pit 10 alone; an additional 21 specimens (16.5 per cent) occurred loose among the floorboards of building II. The following table presents the provenience of the lead shot recovered from the fort.

Table 8: Distribution of Lead Shot

Provenience	Number	Per cent
Building II	21	16.5
Building II (pit 4)	16	12.6
Building II (pit 5)	3	2.4
Building II (pit 15)	13	10.2
Building III (pit 6)	1	0.8
Building VI (dump adjoining pit 10)	11	8.7
Pit 1	4	3.1
Pit 2	8	6.3
Pit 10	41	32.3
Pit 11	1	0.8
Other	8	6.3
Total	127	100.0

According to today's standards, differences in shot size are correlated with the type of bird or small game to be hunted. It is inferred here that such was also the case in the past. It seems probable that the smaller 3 mm. to 4 mm. shot in the bimodal frequency curve are convenient sizes for shooting ducks, grouse, pheasants, pigeons or other upland game birds. The second curve in the bimodal frequency represents larger shot sizes between 4.5 mm. and 6 mm. These sizes are effective in shooting geese, swans, cranes or small game such as rabbits and beaver. Frequently the early traders' documents refer to different types of shot (e.g., swan shot, beaver shot and bird shot). The evidence found at Rocky Mountain House tends to support these distinctions.

There was no evidence of cartridges or percussion caps at the fort.

Lead Sprue

Sprues such as this twisted specimen (Fig. 46,*k*) are formed from excess lead left in a spherical lead ball casting mould. This sprue is from a six-cavity mould indicated by the presence of six short circular plugs left on the specimen. Each of these plugs measures 6 mm. in diameter and they are spaced 11 mm. apart. The length of the spue is 11.1 cm. with a width of 1.0 cm.

This specimen is from the area just north of the north end of building III.

Fishhooks

Two fishhooks are included in the inventory of subsistence items (Fig. 50,*c-d*). Both are made from steel wire and are eyeless. Each has been fashioned from 2 mm. thick round wire, with a shank 3 cm. long. The curve forming the hook is quite wide, and the tip of the curved shank has been longitudinally split. A barb was produced by folding one of the longitudinally split halves to one side and sharpening it.

Both specimens come from pit 15 within building II. It seems probable, therefore, that they belonged to one of the inhabitants of building II.

Lead Sinker

Only one lead sinker is known from the site (Fig. 51,*e*). This excavated specimen is 4.8 cm. long and tapers to a blunted circular point. The maximum width of the weight is 8 mm. Located 3.5 mm. from the top of the specimen is a 1 mm. wide hole through which a string or line could be threaded. The sides of the lead shank around this hole are flattened. It seems probable that this specimen is a lead fishing weight although it may be a plumb line weight.

This sinker comes from within the central area of building V.

Melted Lead Pieces

There are six pieces of melted lead in the artifact assemblage (Fig. 46,*o*). The illustrated piece is triangular, but most of the other portions are irregular in shape. A spherical lead droplet is from pit 10 as is the illustrated piece. There is no distinctive distributional pattern for the other melted lead pieces. No doubt many are wastes from larger pieces melted to cast balls.

Pelt Stretcher

This well-preserved pine board skin stretcher is direct evidence of some of the hunting activities at the fort. The stretcher is paddle-shaped and has been sawn from a 43 cm. long half-rounded slab. The blade measures 36 cm. long by 16.5 cm. wide by 3.7 cm. thick. A 1.7 cm. wide hole is located more or less centrally, 5.8 cm. from the distal end of the square-sawn blade. This hole may have been used for pegging or thong stringing. The proximal end of the stretcher has a short, hand-sawn rectangular handle which measures 7 cm. long by 5.5 cm. wide by 3.4 cm. thick. The entire rounded dorsal surface of the stretcher is charred and scorched.

A pelt stretcher of this style is used in "case-skinning," where the animal's pelt is not slit and spread open. The size of the stretcher is suitable for small game such as rabbits. From its provenience behind and outside the single-hearth fireplace of building I, it seems reasonable to infer that this item was used by one of the men living at the fort.

Bone, Shell and Bark Artifacts

This category is incomplete due to the fact that the bone analysis for Rocky Mountain House has not yet been completed. Bison scapulae and sectioned horse bones were identified in the field. (See pits 2, 10 and 12). To be added to the bone inventory, however, are 16 other artifacts.

Antler Tines

A total of seven sawn and discarded antler tips were found during excavation. These range in length from 3.4 cm. to 10.5 cm. and appear to be predominantly from deer. All were found within buildings or pits and two carved specimens definitely represent homemade plugs for powder horns. The following table lists the specimens and their provenience.

Table 9: Distribution of Antler Tine Tips

Provenience		Specimen No.
Building I	(carved plug)	961
Building II	(carved plug)	128 118
Building II (pit 4)		281
Building II (pit 15)		554
Building IV		650
Pit 10		827

In addition, two large portions of deer antler are clearly identifiable. These have each been sawn off at either end. One specimen is from within building VI, the other immediately adjacent to the west side of building IV.

One pronghorn core *(Antilocapra americana)* is present. This measures 21 cm. long and has been obliquely sawn off at the base. It is from the open centre of the fort, east of the fur press base.

A large antler burr, possibly from a moose, came from the exterior palisade trench west of the northwest corner of building III. It has been sawn off and has a diameter of 5.8 cm.

Freshwater Bivalve Shells

Two specimens of freshwater bivalves recovered from the fort enclosure indicate another subsistence source. One fragmented specimen is from pit 2 and the other, a large complete half measuring 11.8 cm. long by 5.7 cm. wide, came from the upper level of pit 10 underlying building VI. It seems probable that these shells were taken from the nearby North Saskatchewan River.

Cut Birchbark Rolls

Three rolls of cut birchbark came from within building II. They are each 2.5 mm. thick and measure 2.4 cm., 3.2 cm. and 4.1 cm. in width. These are probably small canoe repair patches. Similar specimens are recorded from Kipp's Post (Woolworth and Wood 1960: 276).

TOOLS AND HARDWARE

This category of artifacts represents 1.7 per cent of the total inventory and includes 19 different types of commodities. Noticeably absent are heavy implements and large iron items of hardware, suggesting that these items were salvaged at the end of the fort's occupancy.

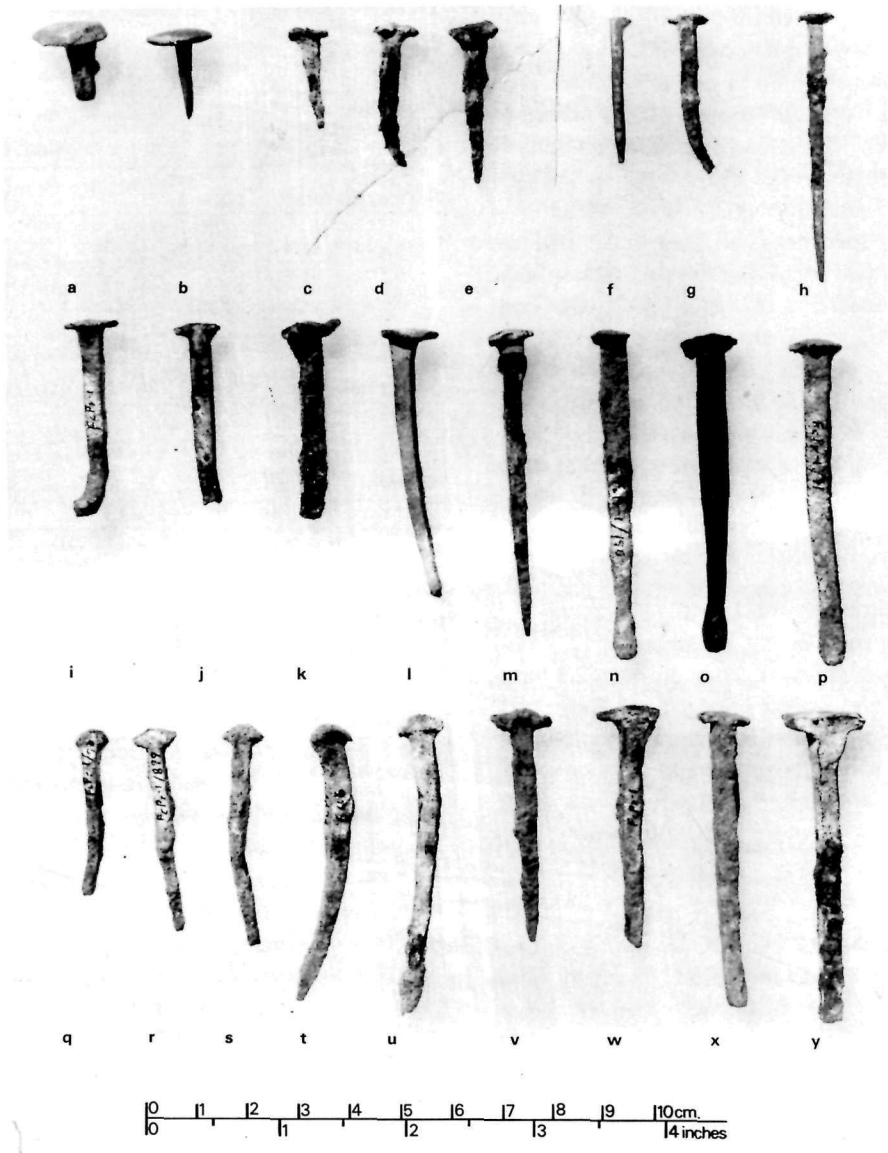
Sir George Simpson gives some interesting comments on the nature and high value of ironware sent to the northwest by the Hudson's Bay Company in 1820-21. He states (1938: 407-8) that ironmongery in general was vital, but of poor quality.

The supplies of this Department [Athabasca] *generally speaking are of good quality, the Ironmongery excepted. . . . The ice Chissels are badly tempered. . . . Our*

Table 10: Tools and Hardware

Item	Number
Nails	100
Copper rivet	1
Copper tack	1
Iron hoops and fragments	37
Files	3
Iron punches	2
Offset awls	2
Cold chisel	1
Wedges	2
Knives	4
Whetstones	2
Latch	1
Pintle	1
Window glass	2
Threaded lead tube	1
Silver fragment	1
Copper strap	1
Sheet copper fragments	14
Tin fragments	23
Total	199

47 Rivets, tacks nails. *a,* rough machine-made copper rivet (pre-1820); *b,* copper upholstery tack from pit 1; *c,* upholstery nail (pre-1800); *d,* part rose, cut nail, 2d (post-1810); *e,* flat stamped nail (1825-30); *f,* small flat cut nail, 3d (post 1810); *g,* flat rectangular cut nail, 3d (post-1810); *h,* wrought iron rosehead, 6d (pre-1800); *i,* flat square-cut nail, 4d (post-1810); *j-k,* flat cut nails (post-1810); *l,* flat machine-cut nail, 7f (ca. 1825); *m,* flat machine-made nail, 7d (1800?); *n,* part head, wrought



with chisel point, 8d (pre-1800); *o-p,* hand-wrought rosehead nails with chisel points, 8d (pre-1800); *q,* part rose, cut nail, 3d (post-1810); *r,* rose rectangular cut nail, 4d (post-1810); *s,* rose rectangular wrought nail, 5d (pre-1800); *t,* rosehead wrought brad, 6d (pre-1800); *u,* rosehead, cut common nail, 7d (post-1810); *v,* rosehead wrought nail, 5d (pre-1800); *w,* broken nail; *x,* rosehead wrought and cut nail, 7d (1820); *y,* !arge rectangular head early machine nail (post-1810).

Iron Work is the most important article of Trade in this Country.

One of the firms supplying the Hudson's Bay Company with ironware at this time was that of Messrs. Moreton and Foster (Simpson 1938: 407).

Table 10 enumerates the ironware tools and hardware recovered during excavation at Rocky Mountain House.

Nails

The nails from Rocky Mountain House are extremely useful for dating purposes (Figs. 47; 48; 49). Of all the specimens recovered, 100 are analyzable; others are too fragmented or corroded.

The temporal span of Rocky Mountain House encompasses the important technological transition from wrought to cut and stamped nails during the 40-year period between 1790 and 1830. In his letter of 27 April 1967 to the author, Dr. Allan B. Dove of the Steel Company of Canada remarks:

The dating of these nails is indicated by the general form and the machines in existence at that time. It is pointed out in my report that there are three general periods represented:

(a) Wrought nails produced prior to 1800.

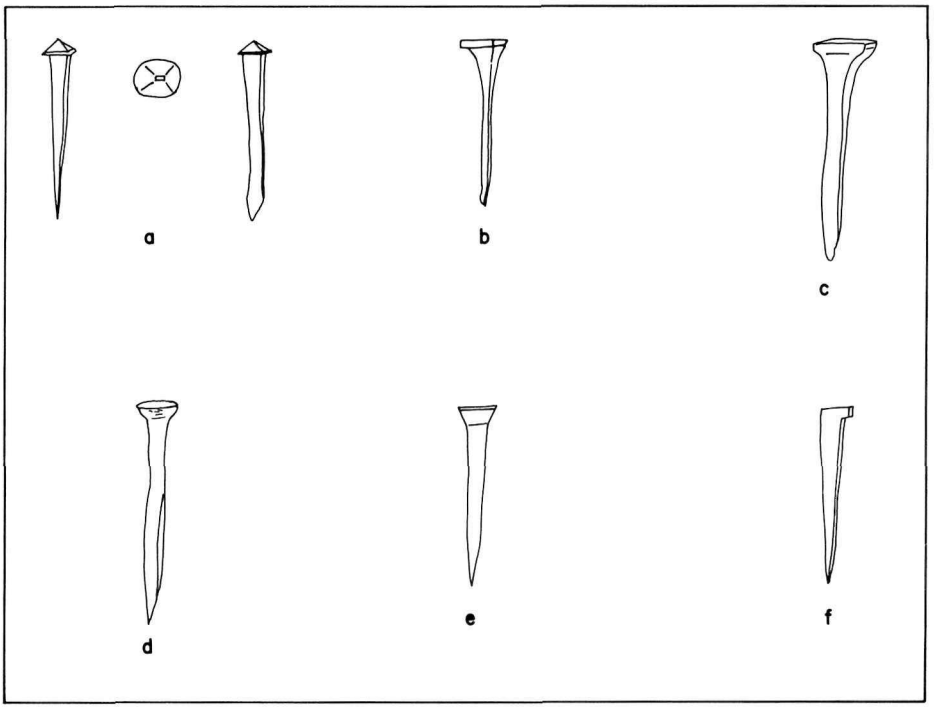
(b) Cut nails produced between 1810 and 1825.

(c) Early stampings produced between 1820 and 1830.

There is no evidence that any samples in this group were made on completely automatic machinery or from modern steels.

The following are Dr. Dove's (1967: 2-3) distinctions between wrought, cut and stamped nails.

48 Nail types. *a, left,* drawn point, *right* chisel point roseheads; *b,* L-head; *c,* large rectangular head (early machine); *d,* csk. wrought; *e,* flat stamped; *f,* flat cut.



Regardless of size, wrought nails can readily be distinguished from square cut nails on the basis of the following features:

1. *Wrought nails taper on all four sides of the shank toward the point, rather than on two opposite sides as in the case of square cut nails.*
2. *Wrought nails vary in thickness throughout the length of the shank because of their having been hand forged. Square cut nails exhibit uniform thickness because of their having been cut from a plate of uniform thickness.*

   Some of the nails in this sample are both cut and wrought. By this I mean that they have been cut from plate and then finished on the anvil. Notable examples are Nos. 871, 122, and 645. In these cases, the nails were first cut from a sheet or strip and then a separate operation of finishing was carried out.
3. *Striations, or parallel shear marks from the cutting blades used to make square cut nails, would not be found on the shanks of wrought nails. Practically all the nails of this sample, however, are too rusty and too deeply pitted to show up this identification criterion.*

None of the nails in this sample shows the characteristic shaping of the shank which is evident on a machine-produced nail, but a few examples would appear to indicate the use of one of the early machines, notably Nos. 691, 612, 415, 417, 64, 645 and 100.

It is also notable that until the 1830s, most cut nails can be distinguished by the fact that the iron fibres run crosswise to the shank while later cut nails have a fibre structure parallel to the shank (Nelson 1963: 6).

A stamped nail by contrast is one in which the nail head has been stamped by machine rather than by hand. Fontana and Greenleaf (1962: 46) report that: *Between 1825 and 1830 the stamped heads were rather thin and lop-sided. After 1830 they became less thin, more uniform, and comparatively square.*

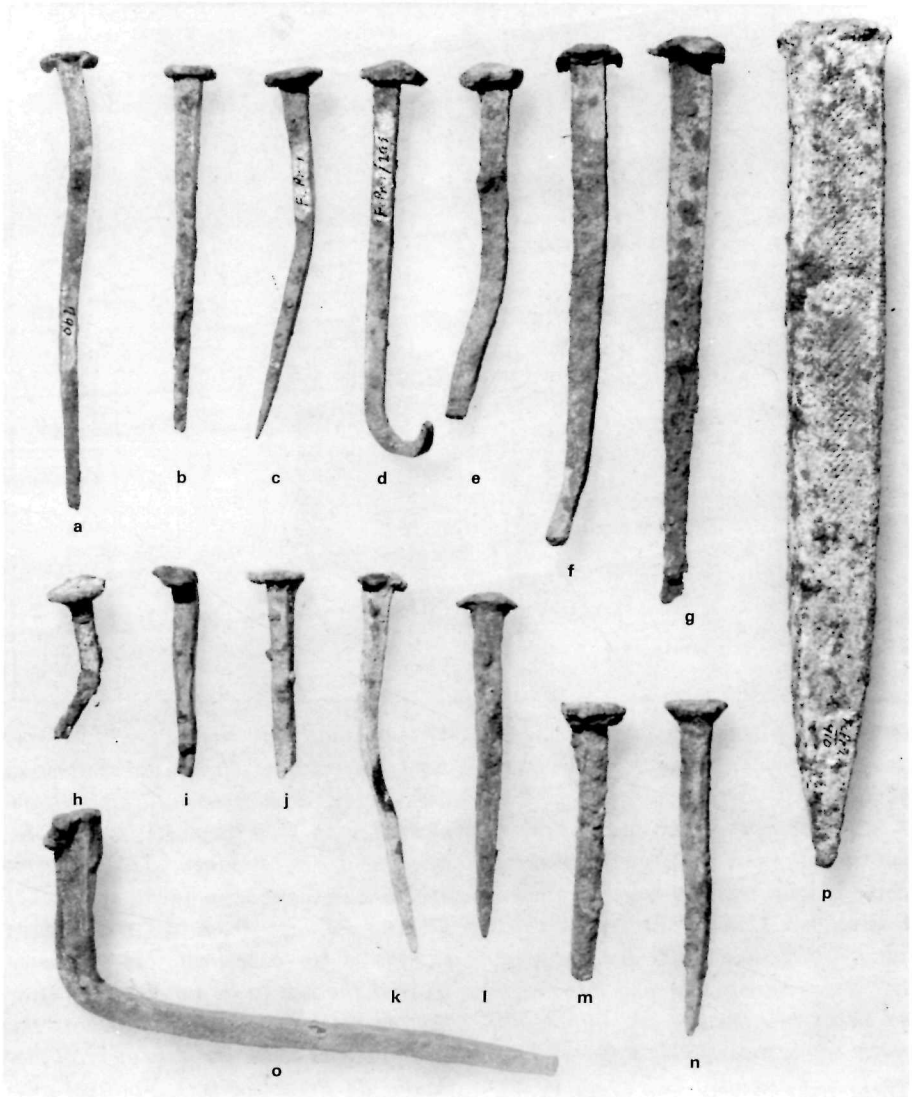
Three nails of this type occur in the Rocky Mountain House sample, notably Nos. 415, 417 and 691. Figure 48 depicts the main nail types recovered from the fort.

As an introduction to wrought and cut iron nails, Dr. Dove's (1967: 1-2) historical outline is pertinent and helpful.

Wrought and Cut Iron Nails.

Background. *The first iron factory in Canada was established by Talon on the site of rich iron deposits in the St. Maurice Valley between Trois Rivieres and Shawinigan at a plant called Les Forges. Reports from all the French experts who examined the property showed the ore to be suitable for reduction to pig iron, but it was not until the examinations of Dr. Sarrazin in 1730 that Poulin de Francheville, a Montreal merchant, organized a company. The operation was accelerated in 1736 under the guidance of a French engineer named Vezain. The ore was reduced by hardwood charcoal from timber obtained locally, and the plant operated for 147 years until it was abandoned in 1883.*

49 Nails and sharpening file. *a,* flat head wrought clinch nail, 16d (pre-1800); *b,* wrought rosehead nail, 10d (pre-1800); *c,* wrought flat head nail, 10d (pre-1800); *d,* wrought rosehead nail, 16d (pre-1800); *e,* cut rosehead nail with drawn point, 9d (post-1810); *f,* wrought rosehead nail, chisel point, 20d (pre-1800); *g,* wrought rosehead nail, drawn point, 30d (pre-1800); *h,* large flat head cut nail, 4d (post-1810); *i,* broken



nail; *j,* L-head cut nail (post-1810); *k,* wrought rosehead clinch nail (pre-1800); *l,* rosehead cut and wrought nail, 9d (1800); *m,* wrought tapered head nail, 50d? (pre-1800); *n-o,* wrought csk. head nails, 9d, special types from building I (ca. 1800); *p,* handmade sharpening file of pseudo-steel.

Coke smelting in Britain had come into use for the operation of large-scale blast furnaces, but it was not until 1784 that it was possible to turn iron pig into wrought iron by puddling. After this time, the British iron output began to soar. Cranage and then Cort improved the puddling operation so that separating and stirring gave air access to the iron, decarbonizing it to the point that it became malleable. The coal made no contact with the metal, and it was due to the efforts of Cort that grooved rollers were first used in rolling. Difficulties with acid slags and high phosphorus were not overcome until metal furnace bottoms were made in 1816 in Monmouthshire.

While advances were being made in England and in Europe generally, the American colonies had been developing their iron industry. In 1700 the colonies had produced only one-seventieth of the world's iron, but by 1775 they produced one-seventh, with pig and bar production exceeding that of England and Wales. Bar iron was not made, however, in the United States until 1817 when a plant was started in Plumstock, Pa., and soon after a similar operation was commenced in Pittsburgh, Pa. Already in 1790 a machine had been developed by Perkins in Massachusetts which could cut strips and head nails in one operation to make the first machine-cut nails.

Early Nailmaking. *By the 18th Century wrought nails were fashioned from metal plates rolled to the required thickness and slit by slitting rollers into nail rods and "split rods" of various sizes depending on the type of nail to be made. The rods were drawn to a point on the anvil by hammering, then clamped at the un-*

tapered end by a vice and struck to form a head. This was generally done hot. Even after the nailmaking machine was invented in 1790, heads were generally formed by hand-hammering until about 1825. From 1790 until 1810 machine cut nails were made by setting the knife on a permanent diagonal, then the plate was reversed, cutting nails with alternate heads and points. Larger heads still had to be hammered. After 1810, a machine was developed by which the blade was switched through an angle, cutting nails without turning the plate.

Canadian Nail Manufacture. *About the time that the first nailmaking machine was invented in United States, John Bigelow opened a small workshop in the St. Laurent suburb of Montreal to become Canada's first nail manufacturer and founder of a company which later became part of The Steel Company of Canada, Limited. The nail was particularly precious at this time and was a much-prized commodity. Some men in the American colonies were known to burn down old houses, with and without the owner's permission, to collect nails from the charred ruins. Captain Cook's sailors pulled them from their ships to trade them to the South Sea Islanders. On the anvil each nail had to be hammered and shaped by hand from bits of iron so that the nails were often so hard to come by that builders still often laboriously fitted wooden pegs. The invention in Massachusetts of a machine for cutting square nails from flat red-hot strips of iron was an important advance in the industry and was soon to be used in England as well as in Massachusetts to expand production.*

John Bigelow survived the competition of his counterparts by using one of the primitive American machines himself. It was run by horsepower and cut the nails from the iron automatically, but the nails still had to be headed by hand and he still brought in his raw material in iron hoops from the wholesalers.

It is pointed out that the officers of the two opposing armies in the War of 1812 probably had their horses shod with the help of Bigelow's nails. Kilbourn points out that "war was not allowed to interfere, except for the briefest periods, with anything so important as the flow of the Richelieu valley trade and the regular functioning of customs officers on either side of the river border."

Nail Analysis

Dr. Dove's analysis of the nails from Rocky Mountain House appears in Table 11. He considers wrought iron nails to date to 1800 and before, cut nails to date after 1810, and stamped nails to date between 1825 and 1830. These dates are pertinent to eastern Canada and the United States, but the occurrence of wrought iron nails at Rocky Mountain House, 1799-1834, obviously indicates a continued use of this nail type well into the 19th century in the Canadian West. Nelson (1963: 2) also points out that wrought nails continued to be used for several decades following the introduction of cut nails, and that they remained superior for certain purposes, especially where clinching was required.

From Dr. Dove's analysis in Table 11, various observations and correlations can be made. At Rocky Mountain House wrought iron nails are only slightly more numerous than cut iron nails. Of a total of 89 nails identified according to mode of manufacture, nine different techniques are represented. Thirty-eight nails are hand wrought; 3 are wrought common; 3 are both wrought and cut; 1 is wrought and machine finished; 1 is wrought and early stamped; 31 are cut; 8 are cut common; 2 are entirely produced by early machine, and 2 are entirely stamped specimens. This data indicates that not all of the nails at the fort can be attributed to on-site manufacture. Forty-eight specimens are products manufactured by machine elsewhere and subsequently brought to the fort.

The types of nail heads represented can be synthesized and clearly rosehead nails predominate at the site. Of 86 analyzable specimens having heads, roseheads account for 52. Next in numerical frequency are 17 flatheaded nails; 7 csk. heads; 3 headless nails; 2 each of L-heads and part heads; and 1 each of large rectangular, large rounded and pinched head nails. A csk. nail is a special type with a circular shank; they are not for general use.

When nailhead forms are tallied together with their mode of manufacture, the following correlations occur: 24 roseheads are wrought; 23 are cut; 3 are cut and wrought; 1 is wrought and machine, and 1 is wrought and early stamp. The near equal occurrence of wrought and cut roseheads is noteworthy.

Other correlations show that all of the wrought common, wrought and cut, wrought and machine, and wrought and early stamped nails in the collection are roseheads. In addition, 5 of the 8 cut common nails are roseheads. Table 12 gives the complete list of nailhead-mode of manufacture correlations.

Table 11: Analysis of Nails from Rocky Mountain House

Specimen No.	Size Length	Plate	Head	Point	Remarks	Type
910	7–3/4" X	1/2"	File		Hand made – probably cemented after cross marking	
871	2–3/4" X	3/16"	Prob. Rose	Tapered – pointed on anvil		9d Cut and wrought 1800
690	5–1/4" X	1/4"		Tapered	Split along slag lines	50d? Wrought < 1800
672	4–1/2" X	1/4"		Drawn chisel		30d Wrought < 1800
478	3–3/4" X	1/8"+	Rose	Drawn clinch		20d Wrought < 1800
657	1–3/4" X	1/8"	L - Head	Drawn	Broken	5d Cut > 1810
205	3–3/4" X	3/16"	Rose	Drawn clinch		16d Wrought < 1800
169	5? X	1/4"	Flat		Broken (Fire?)	40d Cut > 1810
257	4" X	1/4"	Rose	Wedge chisel		20d Wrought < 1800
401	2–1/2" X	3/16"	Rose	Drawn pyramidal		8d Cut > 1810
664	2–3/4" X	1/4"	Rose	Drawn	Broken	9d Cut > 1810
183	4–1/2" X	1/4"	Rose	Drawn chisel		30d Wrought < 1800
790	3–3/4" X	3/16"	Flat	Clinch, not turned		16d Wrought < 1800
880	? X	1/8"	Flat	Drawn	Broken	Wrought < 1800
253	3" X	3/16"	Rose	Drawn		10d Wrought < 1800

Table 11 (Continued)

Specimen No.	Size Length	Plate	Head	Point	Remarks	Type
579	2–3/4" X	3/16"	Rose	Drawn		9d Wrought < 1800
63	3–1/2" X	3/16"	Flat	Drawn		16d Wrought < 1800
540	2–1/2" X	3/16"	Small	Drawn		8d Wrought < 1800
691	2–3/4" X	3/16"	Rose	Clinch		9d Wrought, early stamp 1825 – 1830
494	1–1/2" X	3/16"	Flat	Square		4d Cut > 1810
976	2–3/4" X	3/16"	Rose	Drawn	Very rusty	Wrought < 1800
547	? X	3/16"	Rose		Broken	Cut > 1810
548	? X	3/16"	Rose		Broken	Cut > 1810
550	? X	3/16"	Rose		Broken	Cut > 1810
552	1–1/2" X	3/16"	Csk.	Clinch		Wrought < 1800
75	2–3/4" X	.200	Csk.	Drawn		*9d Wrought csk. head approx. 1800
87	2–3/4" X	.200	Csk.	Drawn		*9d Wrought csk. head approx. 1800
381	2–3/8" X	3/16"	Rose			8d Wrought rosehead common < 1800
86	2"+ X	3/16"	Rose		Broken	6d Wrought common < 1800
158	? X	.200"	Csk.		Broken	Round shank wrought fencing fencing < 1800

*Not of general type – special.

Table 11 (Continued)

Specimen No.	Size Length	Plate	Head	Point	Remarks	Type
285	2–1/8" X	3/16"	Rose	Drawn		7d Wrought common < 1800
886	3–1/8" X	3/16"	Rose – flattened	Long drawn		Wrought clinch < 1800
923	– X	1/4"	Csk. Square	No point		Cut common > 1810
578	– X	.190"	No head	No point		Cut common > 1810
967	– X	3/16"	Rose	No point		Cut common > 1810
68	3" X	3/16"	Large	Clinch		10d Large head cut > 1810
962	2–1/4" X	3/16"		Drawn		7d Wrought < 1800
122	1–3/8" X	1/8"	Side flat Rose	Chisel		4d Cut and wrought, L–head > 1810
833	– X	3/16"	Rose		Broken	Cut > 1810
936	1–1/2" X	3/16"	Rose	Drawn		4d Cut > 1810
939	1–3/4" X	3/16"	Rose	Drawn		5d Cut > 1810
937	2–1/4" X	1/8"	Rose	Drawn		7d Cut > 1810
633	– X	3/16"	Rose		Broken	Cut > 1810
632	2–3/8" X	3/16"	Rose	Drawn		7d Wrought brad < 1800
11	2–1/2" X	3/16"	Rose	Chisel		8d Wrought < 1800
646	2" X	3/16"	Rose	Drawn		6d Wrought brad < 1800
928	3–1/2" X	3/16"	Rose	Clinch		16d Wrought clinch < 1800
306	5/8"		1/2"		Copper upholstery nail	Hand made, poured umbrella head

Table 11 (Continued)

Specimen No.	Size Length	Plate	Head	Point	Remarks	Type
612	Broken rivet		9/16"			Rough machine made > 1820
402	2–1/2" X	1/4"	L - Head		Broken	8d Cut > 1810
390		3/16"	Rose		Broken	Wrought < 1810
415	1–1/8" X	3/16"	Flat	Drawn		Stamped 1825 – 1830
417	–	.192"	Csk.		Broken	Stamped 1825 – 1830
416	–	1/8"	Csk.		Broken	Cut > 1825 – 1830
975	–	3/16"	Rose		Broken	Cut common > 1810
977	–	3/16"	Rose		Broken	Cut common > 1810
946	1" X	1/8"	Rose			Cut (Tobacco?) > 1810
763	2–1/4" X	1/8"	Headless	Poorly drawn		7d Wrought finishing < 1800
720	–	3/16"	Poor – flat		Broken	Cut > 1810
222	2–1/2" X	3/16"	Rose	Drawn		8d Wrought < 1800
223	–	3/16"	Rose		Broken. Fire.	Cut > 1810
64	2–1/8" X	1/8"	Flat	Blunt	Hard, machine made	7d Cut – about 1825
885	2–3/8" X	5/32"	Rose	Chisel hammered	Hand made	8d Wrought < 1800
465	3" X	5/32"	Flat	Long drawn		10d Wrought < 1800
13	2–1/4" X	5/32"	Flat	Long drawn	Machine made	7d Wrought < 1800?
182	2–1/4" X	3/16"	Flat	Blunt	Machine made	7d Cut nail > 1810

Table 11 (Continued)

Specimen No.	Size Length	Plate	Head	Point	Remarks	Type
645	2–1/4" X	5/32"	Rose	Chisel	Hand made	7d Cut nail, wrought 1820
100	1–1/2" X	1/8"	Rose	Chisel	Hand made	4d Wrought and machine 1820
469	1–3/4" X	1/8"	Rose	Drawn	Hand made	5d Wrought < 1800
446	1–3/8" X	5/32"	Large flat 7/16"	Blunt		4d Cut > 1810
912	1–3/4" X	1/8"	Pinched – then	Drawn		Cut Finishing nail > 1810
726	3/4"		Flat	Drawn	Upholstery?	< 1800
725	1"		Flat	Drawn	Upholstery?	2d < 1800
748	1–1/4" X	1/8"	Flat rect.	Drawn		3d Cut > 1810
724	1–5/8" X	1/8"	Rose	Blunt		4d Wrought < 1800
759	1–1/8" X	14 ge.	Small flat	Drawn sharp		3d Cut > 1810
721	2–1/4" X	3/16"	Rose	Blunt		7d Cut common > 1810
367	–	1/4"	Large round 1/2"		Broken	Early machine made > 1810
811	–	1/8"	Flat rect.		Broken. Fire – Clean hard.	Cut common > 1810
374	–	3/16"	Large rect.		Broken. Clean hard.	Early machine > 1810
348	2" X	1/8"	Rose	Drawn very sharp		6d Wrought < 1800
722	–	3/16"	Rose (clear form)		Broken. Hard.	Cut common > 1810

Table 11 (Continued)

Specimen No.	Size Length	Plate	Head	Point	Remarks	Type
761	2–3/8" X	1/8"	Headless	Drawn		8d Wrought finishing < 1800
190	2–1/2" X	5/32"	Part head	Chisel		8d Wrought < 1800
499	2" X	5/32"	Part head	Drawn		6d Wrought finishing < 1800
631	1–3/4" X	1/8"	Rose rect.	Blunt		5d Wrought < 1800
879	1–1/2" X	1/8"	Rose rect.	Blunt and drawn		4d Cut > 1810?
947	1–3/4" X	1/8"	Rose rect.	Drawn		5d Wrought < 1800
510	1–7/8" X	5/32"	Rose?	Blunt		5d Cut > 1810
10	3" X	5/32"	Rose rect.	? Blunt		10d Cut > 1810
780	2–1/2" X	5/32"	Part rose	Drawn		8d Wrought < 1800
528	1" X	1/8"	Part rose	Drawn sharp		2d Cut nail, square point > 1810
779	1–5/8" X	1/8"	Rose	Blunt		4d Cut nail > 1810
70	1–1/4" X	1/8"	Part rose	Blunt		3d Cut nail, square point > 1810

Broken Pieces

692, 336, 380, 335, 170, 895, 354, 818 (cut), 526 (squared head), 200

Table 12: Nail Heads and Mode of Manufacture

Head Type	Mode of Manufacture	Number	Size
Roseheads (52)	Wrought	21	4-30d
	Wrought common	3	6-8d
	Wrought and cut	3	7-9d
	Wrought and machine	1	4d
	Wrought and early stamp	1	9d
	Cut	18	2-10d
	Cut common	5	7d
Flatheads (17)	Wrought	5	10-16d
	Cut	6	3-40d
	Cut and machine	2	7d
	Cut common	1	?
	Stamped	1	?
	Unknown	2	
Csk. heads (7)	Wrought	4	9d
	Cut	1	?
	Cut common	1	?
	Stamped	1	?
Headless (3)	Wrought	2	7-8d
	Cut common	1	?
Part heads (2)	Wrought	2	6-8d
L-heads (2)	Cut	2	5-8d
Pinched (1)	Cut	1	?
Large round (1)	Early machine	1	?
Large rectangular (1)	Early machine	1	?
Total		86	

Metallurgical Analysis

The metallurgical examination of the Rocky Mountain House nails indicates that the nails are extremely soft and produced from puddled iron. Dr. Dove selected five representative nails, 13, 41, 374, 465 and 818, for metallurgical examination. Number 13 is a flathead machine-made 7d wrought iron nail; 41 is a hand wrought rosehead with chisel point; 374 is an early machine-made large rectangular headed nail; 465 is a flathead, 10d wrought iron nail; and 818 represents a portion of a cut nail made for heavy driving. Longitudinal microsections were cut from the heads of 374 and 818, photographed and then etched with 2 per cent nital acid.

Samples 374 and 818 had numerous heavy complex inclusions with a background rating of D+ (i.e., very heavy). The structure of sample No. 374 showed broad bands of

(a) Coarse grained ferrite (grain size 3-2-4 with a few 1's).

(b) Fine grained ferrite (grain size 7-6-8) with large carbides and coarse lamellar pearlite.

The structure of sample No. 818 showed very little carbide with bands of coarse grained ferrite that resisted nital etching, and bands of finer ferrite. The general grain size was 5-6-4-3.

Dr. Dove remarks on the metal in the selected nails that:

There is no doubt that this material is puddled iron from the nature of the inclusions. It is probable also that Sample No. 374 was made from material which had been previously annealed to make it soft enough to produce the large head shown on the sample.

Hardness tests and tensile strengths were also determined for the metallurgical nail sample:

The approximate tensile strengths of these materials referred to the Rockwell B hardness readings are shown beside the values so that you will see that these nails were extremely soft in comparison to normal nails of these dimensions which would have tensile strengths in the order of 100,000 to 140,000 psi. This is characteristic of early nails, particularly those produced from puddled iron.

Table 13: Rockwell B Hardness Tests on Sample Nail Shanks

Nail No.	R_B	Tensile (Approx.)
13	63-66	55,000 psi.
41	66-70	60,000 psi.
374	53-55	48,000 psi.
465	63-67	55,000 psi.
818	72-75	64-66,000 psi.

Nail Sizes

Nail sizes are expressed in an anachronistic manner in terms of price (d =pence) per hundred. The nail sizes from Rocky Mountain House have an observable correlation with different types of nails. For instance, the wrought rosehead nails have by far the greatest range in size with 3d, 4d, 6d, 7d, 8d, 9d, 10d, 16d, 20d, and 30d sizes represented. Cut rosehead nails, on the other hand, are restricted to smaller sizes: 2d, 3d, 4d, 5d, 7d, 8d, 9d, and 10d. The cut flatheaded nails are similarly of small size except for one large specimen: 3d, 4d, 7d, and 40d. Wrought flatheaded nails are larger at 7d, 10d, and 16d. This general pattern of cut nails being restricted to smaller sizes may well be a reflection of the infancy of the cut nail production.

Other Nails

In the analysis tables three nails, 169, 223 and 811, have been noted "fire." Dr. Dove remarks that:

There is evidence that these samples were exposed to fire. This is evident from the small amounts of coating of red iron oxide which have appeared and which are essentially a high temperature product. This might be of some guidance to you in learning what went on in various areas.

The fired nails do offer interesting data. Specimen 169 is a flatheaded cut nail dating 1810-25 from the interior western end of building II. Specimen 223, a rosehead nail cut between 1810-25 comes from pit 2 immediately northwest of building II. The third specimen, 811, is a flat rectangular head nail, cut common, and dating 1810-25; it comes from pit 6 within building III. The distribution of these three specimens covers a large triangle between pit 2 and buildings II and III. There is consistency in their dates (1810-25) and proveniences suggest burning during the Hudson's Bay Company occupation.

The two wrought csk. head nails have been marked "special" by Dr. Dove. These nails exhibit a peculiar composite round and square shank (Fig. 49,*o*), as compared to the purely round-shanked wrought csk. "fencing" specimen (Fig. 49,*n*). Both "special" type specimens date early (1800) and come from the interior of building I. This building is believed to date to the North West Company occupation.

Nail Distributions

A further over-all view of the nail distributions within the fort is informative. Of the total 100 recovered nails, the two most numerous concentrations occur in buildings II and III; 28 nails are from building II and 15 from building III. It is proposed here to list the various features within the fort, together with the types of nails found in them and their dates. No attempt is made to date a building on the basis of a single nail.

Building I. Five nails recovered from this floored building all date early 1800 or pre-1800. Nails 75, 86, 87, 917 and 962 are from the building's interior. One of the nails, 917, has not been identified, but the remaining specimens are all wrought nails. As mentioned previously, the two 9d csk. "special" wrought nails are from this building.

Building II. Nineteen loose nails are from this floored building. Ten dating after 1810 (64, 68, 70, 100, 122, 169, 182, 833, 936 and 937), have a random distribution over the entire building. These include four cut rosehead, three cut flathead, one wrought and cut rosehead, one wrought and machine rosehead, and one large head cut nail. The six nails of pre-1800 date (158, 183, 205, 499, 540 and 790), are all from the vicinity of the double-hearth fireplace westward. Two of these nails are wrought rose, one is wrought flat, one is wrought part head, one is wrought small, and one is the wrought csk. head nail having a completely round shank. Three other specimens remain unidentified. The distribution of the early nails restricted to the western end of building II as opposed to the wider over-all distribution of the later nails is of note. This is highly suggestive of the presence of an earlier structure in what later became the western end of the Hudson's Bay Company building.

Building II (Pit 4). The two nails from pit 4, 285 and 286, are both wrought common roseheads of 7d size. They date early, prior to 1800.

Building II (Pit 5). Three nails, 335, 336 and 367, came from this pit. The one

identifiable specimen, 367, is a large roundhead nail produced by early machine methods. It thus dates 1810-25.

Building II (pit 15). The four nails from this pit, 547, 548, 550 and 552, all appear to date after 1810 but prior to 1825, except for specimen 552. It is wrought csk. head clinch nail of pre-1800 date. The three other nails are all cut roseheads.

Building III (Pit 6). All nails from the interior of this unfloored building were from pit 6. Nail 354 is the only unidentified specimen of the 15 nails, 348, 354, 374, 528, 720, 721, 722, 724, 725, 726, 748, 759, 761, 763, and 811. All nails but five, 348, 724, 726, 761, and 763, date between 1810 and 1825. The five nails of pre-1800 date include two wrought rose nails (one from the 30-in. depth of the pit), one flat upholstery nail and two wrought headless finishing nails. The post-1810 nails include two cut common rose. one cut rose, two cut flat, one cut common flat, one cut flat rectangular, and a large rectangular early machine-made nail. This latter specimen is from the 26-in. depth of the pit.

Building IV. This floored building which extended across space within both the original and the extended fort produced only six analyzable nails, 446, 631, 632, 633, 645 and 646. Three are early varieties and three nails post-date 1810. Of the three nails of pre-1800 date, two are wrought rosehead brads and the other nail is a wrought rose. These three early specimens are all from proveniences within the area of the old fort's boundary which was later covered by building IV with the expansion of the fort. The three later nail types include a cut rose, a cut flat and a wrought and cut rose.

These data suggest three possible explanations. The first is the probable salvaging of nails from the original fort for use in constructing building IV; second, the early nails are not a part of building IV but are from the earlier fort, and third, both the early and later types of nails date contemporaneously in this context.

Building VI. This ill-defined floorless building produced five loose nails. These are specimens 672, 779, 780, 879 and 880. Three of the nail types date early and two are of later post-1810 vintage. The early specimens include a wrought rosehaed nail, a wrought flathead nail and a wrought headless form. The later nail types are both cut rose varieties. It seems probable that these nails are from the upper surface of pit 10 rather than from the building itself.

Building VII (Pit 11). Six nails from pit 11 have a general date between 1810 and 1825. Specimens from this pit are 578, 657, 885, 886, 923 and 967. The top 6-in. level is represented by a cut common rosehead nail and a cut L-head nail. Within an ash-filled layer 12 in. below the top of the pit two wrought rosehead nails and a single cut common csk. square nail were found in association with one another. This occurrence clearly demonstrates contemporaneity of earlier type nails with later types on the site. An additional cut common headless nail from between the upper and ash-filled layers of this pit is also of post-1810 manufacture.

Pit 1. Only one nail, 306, came from this pit. It is a handmade copper upholstery nail with poured umbrella head. A date for this type of nail is uncertain.

Pit 2. This pit produced two nails, 222 and 223. Both are roseheads, but while one is wrought the other is cut.

Pit 8. The three nails from this pit represent the latest dating specimens from the site. Nails 415, 416 and 417 are from this pit. Specimen 415 is a flat stamped nail of 1825-30; 416 is a cut csk. head nail also of 1825-30 date; and 417 is a stamped csk. head of 1825-30. This late date for the nails agrees favourably with the temporal position of other specimens from this pit.

Pit 10. Five nails from pit 10 have a nearly identical temporal span noted for the loose nails from building VI. Two specimens, 947 and 976, are wrought roseheads of pre-1800 date. Two others, 975 and 977, are cut common roseheads dating after 1810. The third specimen is a cut (tobacco?) rosehead nail which dates post-1810. In general, this pit is of probable 1800 to 1825 date according to Dr. Dove's sequence of nail dates.

Pit 12. Pit 12 produced a single nail, 928, a 16d early wrought rosehead clinch nail of pre-1800 vintage.

Surface Ash Dump East of Fur Press. The one nail, 579, from this ash dump is a wrought rose type.

Surface Ash Dump Near Building IV. Two nails, specimens 401 and 402, from this ash dump post-date 1810. One is a cut rose nail; the other is a cut L-head.

Surface West of Building II. Four nails from the area west of building II and between pit 2 and building II are early types. Two, 253 and 257, are wrought rose; another, 381, is a wrought common

rose. From the western exterior palisade trench northwest of building II, a wrought rose nail, 390, was also recovered.

North Exterior Palisade and North Corner Bastion Area. Four nails from these areas of the fort are all early types. Nails 465, 478 and 871, all early wrought nails of large size, 9d to 20d, are from the exterior palisade trenches flanking the north corner bastion. A single hand-wrought 5d rose nail, 469, came from within the north corner bastion. It is interesting to note that all nails found within the exterior trenches of the old fort are early varieties and, indeed, such nails only occurred in the palisade trenches bounding the northwest, north and northeast sides of the fort.

Stain Feature. One cut nail, 818, came from the boat-shaped stain feature in the northeast corner of the fort. This nail is a post-1810 type used for heavy driving.

Nails from South of the Fort. Four nails, 510, 526, 690 and 691, are from excavated areas outside the south end of the extended fort. One is a broken square-headed nail; another is a wrought headless nail of large 50d size; another is a cut rose; and the final specimen represents a wrought and early stamped rose clinch nail of 1825-30.

Observations

From this analysis come several observations. First, hand-wrought iron and cut iron nails are nearly equally represented at the site. Both types appear with roseheads which are the dominant nailhead form.

Second, there are some nails completely manufactured or finished by early nail machines. Such machines were usually water-, horse-, or hand-powered. The possibility that such a machine existed at the fort is remote, and thus the inference that all nails were made on the site is precluded.

Third, although Dr. Dove's dating of the various nail types is consistent with the development of nails in eastern Canada, Europe and the United States, it is not altogether suitable for dating the structures at Rocky Mountain House. It appears that early wrought iron nails have considerable contemporaneity and overlap with the later cut and machine made nails.

Fourth, most of the cut nails are of small size. This may well indicate the state of infancy of the cut nail manufacturing technique at the time Rocky Mountain House was occupied.

Fifth, there is a clear correlation of wrought iron nails in association with the exterior palisades bounding the northwest, north and northeast sides of the fort. These palisades date to the earliest construction of the fort. In addition, there is a distinct restriction of wrought iron nails in the western end of building II. This suggests the possibility that an earlier building than the Hudson's Bay Company structure was in that locale.

Sixth, although there is no one nail type which can definitely be designated to date to the North West Company occupation, some of the wrought iron nails and the special csk. head nails are probable candidates.

Copper Rivet

This broken specimen, 612, is the only rivet from the site (Fig. 47, *a*). The head is 9/16 in. in diameter. According to Dr. Dove this item is rough machine made and would post-date 1820. Its provenience within building V supports this date.

Copper Tack

This specimen, 306, is a copper upholstery nail. (Fig. 47, *b*). It is handmade with a 0.5 in. poured umbrella head. Length of the tack is 5/8 in. It is from pit 1. Dr. Dove (1967:3) notes that:

Copper nails were used during that period in order to obtain large heads and in order to avoid severe corrosion in smoky atmospheres or due to extremely acid woods. These cases do not appear to fit the circumstances.

Could it not be that a tack like this came from a luggage trunk, such as the one which appears to have been sunk in pit 5?

Iron Hoops and Fragments

Seven complete iron hoops and 30 small hoop fragments are represented in the excavated artifact sample from Rocky Mountain House. Six of these hoops were found folded and nested together at the 28 in. depth of pit 14 within building V (Fig. 34). All measure 2.5 cm. wide by 3 mm. thick. Two of the hoops have diameters of 26.9 cm.; two are 45 cm. wide, and two measure 56.3 cm. in diameter. All are fastened together by large iron rivets. The fact that these hoops are neatly folded and nested flat inside one another precludes the possibility of their position being attributable to

normal crushing and disintegration of a barrel. Such action would leave the hoops randomly dispersed at any number of angles. Much more reasonable is the interpretation that these six iron hoops represent a forgotten iron cache. It will be noted in Dr. Dove's historical outline of early nailmaking (*See* pp. 124-27) that iron for the manufacture of nails was commonly purchased in iron hoops from wholesalers. This group of six iron hoops was probably intended for nail making. The provenience in pit 14 lies well within the area of the extended fort under building V which dates to Hudson's Bay Company times.

The seventh iron hoop is also from a pit, but one in which other debris was randomly scattered. This single-riveted hoop came from the 30-in. depth of pit 12 in the north corner of the fort. It measures 2.5 cm. wide by 2.5 mm. thick and has a hoop diameter of 24 cm. The hoop has inwardly tapering sides for fixture over the end of a small nail, powder or spirits keg. The random inclusion of other rubbish in this pit does not suggest that the hoop was expressly buried as an iron cache.

Thirty other fragments of iron hoops were distributed over the site. These are cut portions on either side of the rivet fixture. The possibility that these are rejects from hoops used for nail manufacture seems reasonable. If so, then trouble was not taken to remove the rivets binding hoops together during the nail-making procedure.

Files

Three files came from localized areas within the fort. The first (Fig. 51, *f*) is a small portion of a three-sided iron file with the tang juncture intact. Total length of the specimen is 2.6 cm., of which 8 mm. composes the rectangular tang. The width of the file measures 1.4 cm. and its height 1.2 cm. File teeth occur on all three sides and are unidirectional and parallel. There are 16 teeth per cm. This specimen came from between the floorboards of building I.

The second file (Fig. 51, *h*) is an incomplete steel specimen with trapezoidal cross-section. The basal width of the file is 1 cm. while the dorsal width is 5 mm. Thickness of the file is 1.1 cm. With the tip of the file broken, the specimen's length measures 10.6 cm. of which 4.3 cm. is the well-preserved rectangular tapering tang. File teeth are only present on the flat ventral and two sloping sides. These are quite fine, numbering 22 per cm., and are all unidirectional and parallel. This file came from pit 5 within building II.

The third file (Fig. 49, *p*) has been identified by Dr. Dove (1967: 4):

I do not believe item 910 to be a nail. I believe that this is a sharpening tool which was held in the hand, and that it would be a cemented product resembling steel which has been formed, surface marked, and then hardened. Such a tool would be used for scythe sharpening or small tools in the field.

It is also pointed out that this specimen was handmade. It measures 17.5 cm. long by 1.9 cm. wide by 1.3 cm. thick, and came from the 3 in. depth of the west edge of pit 11, thereby dating quite late in the fort's history.

Iron Punches

Two complete hand-wrought iron punches are represented in the ironware sample from the site. The first and smaller specimen (Fig. 50, *g*) measures 7 cm. long, with a tapering tang 2.5 cm. long. The main segment of the punch is square, measuring 4 mm. wide, and tapers to a sharp point. This specimen came from north of the double-hearth fireplace in building II.

The second iron punch (Fig. 50, *h*) is larger and of a different style. Measuring 10 cm. long, this punch has no distinguishing tang juncture. The punch is rectangular in cross-section, measuring 4 mm. by 5 mm., and tapers to a point at one end. It is from an excavated area southwest of the fort proper.

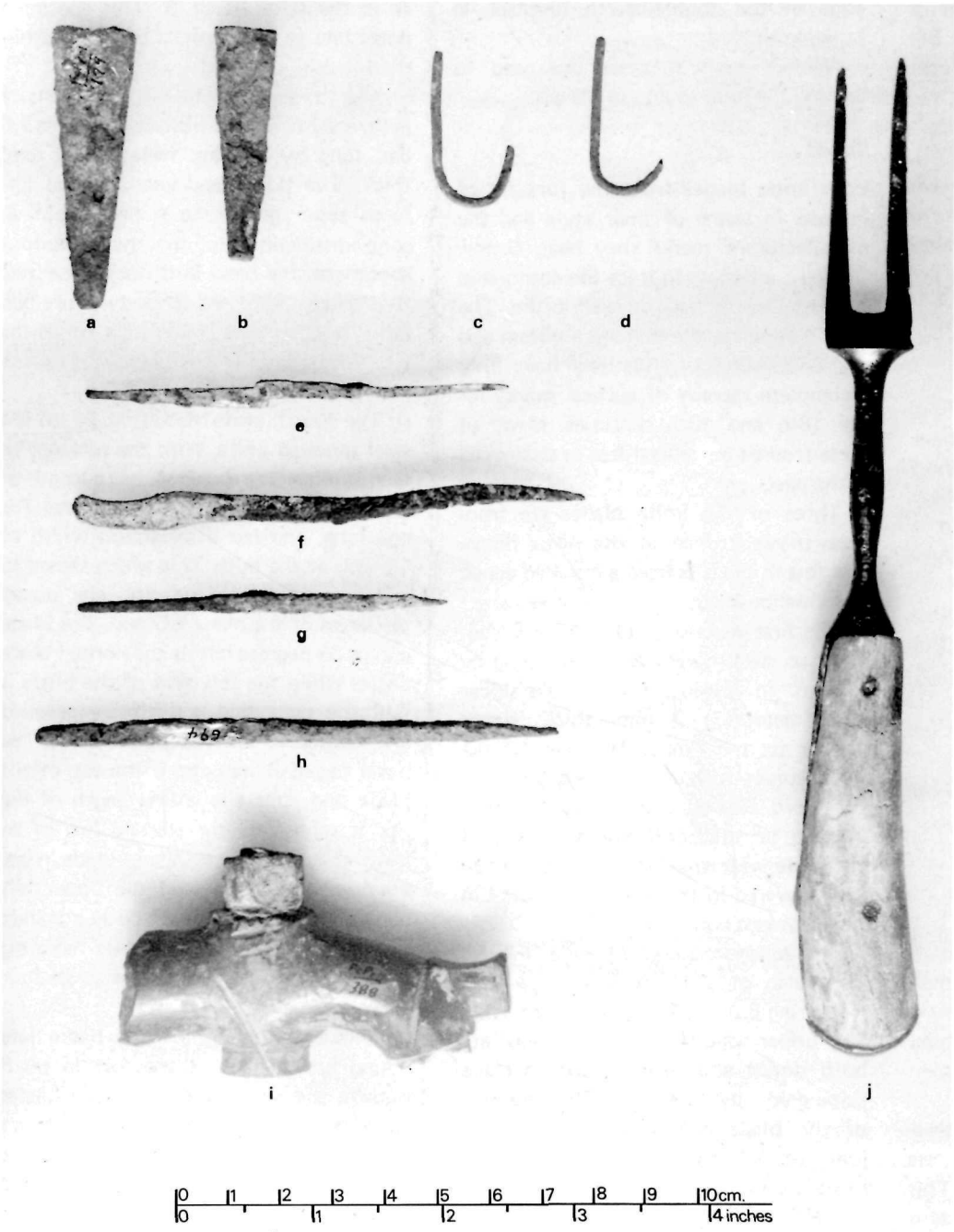
Offset Awls

Two double-pointed iron awls with a Z-shaped offset at the middle were recovered. Two sizes are represented. The smaller square specimen (Fig. 50, *e*) is nearly complete having only the tip of one end broken off. It measures 5 cm. long with a maximum width and thickness of 3.5 mm., and came from pit 6 within building III.

The second specimen (Fig. 50, *f*) is much heavier, but has part of one pointed end broken off. The awl is square with a maximum width and thickness of 6 mm. The length of the one complete prong measures 8 cm. from the awl tip to the centre of the offset section. This specimen is from the eastern interior of building I.

Offset awls are found on many historic sites dating between 1740 and 1830. One is illustrated by Woodward (1948: 6) in

50 Wedges, awls and punches. *a,* large iron axe wedge from pit 15 in building II; *b,* smaller iron axe wedge from building II; *c-d,* eyeless wire fishhooks from pit 15 in building II; *e,* double-pointed offset awl from pit 6 in building III; *f,* large offset awl from building I; *g,* small iron punch from building II; *h,* large iron punch from southwest of the fort; *i,* brass spigot from building III; *j,* straight shanked table fork from near drainage outlet 2.



his depiction of select trade goods of 1748. Maxwell and Binford (1961: 88) recovered nine specimens dating to the early 1760s at Fort Michilimackinac, and one specimen is recorded from Kipp's Post (Woolworth and Wood 1960: 274). Either end of such double-pointed awls could be used as a hafting tang with the offset acting as an efficient brake against deep penetration of the tang into the awl handle.

Cold Chisel

This hand-wrought iron chisel (Fig. 51, *g*) measures 7.2 cm. long with the shank being 4.9 cm. long by 8 mm. wide and 5 mm. thick. The top of the shank has been folded over at right angles to form a hammering platform 9 mm. long by 7 mm. wide. Hammer marks cover the top of the platform. The distal cutting blade of the chisel has been formed by flattening the shank; the straight-based cutting blade measures 2.3 cm. long by 1.3 cm. in maximum width. This cold chisel was recovered near the double-hearth fireplace in building II, and may have been used in splitting the sandstone rocks for that structure.

Iron Wedges

Two flat tapering iron wedges are both from building II. The larger specimen (Fig. 50, *a*) measures 5.5 cm. long by 4 mm. thick. Its width tapers from 1.6 cm. to 6 mm. at the distal end. This specimen came from pit 15 within building II.

The smaller wedge (Fig. 50, *b*) measures 4.5 cm. long by 5 mm. thick. Its width tapers from 1.2 cm. to 6 mm. This specimen was found loose by the western edge of the double-hearth fireplace in building II.

Wedges such as these are used to expand the head of an axe handle.

Knives

Four knife blades from the fort are of interest in terms of their style and the manufacturers' marks they bear. Unfortunately, attempts to trace the authorship of these marks have proved futile. The British Museum, the London Museum and the Sheffield City Museums have only incomplete records of cutlers' marks for the 18th and 19th centuries. Many of these records have been lost or destroyed in the past.

Three of the knife blades are from clasp-knives broken at the pivot hinge. The fourth blade is from a crooked canoe or snowshoe knife.

The first clasp-knife blade (Fig. 51, *a*), made of steel, measures 7.4 cm. long by 1.7 cm. in maximum width. Its upper edge, measuring 2 mm. thick, slopes sharply to the point. The base of the blade curves toward the hinge juncture. The word REAGLE in capital letters is stamped on the upper left hand side of the blade near the butt. This specimen was recovered in the top 6 in. of pit 1 in the northwest corner of the fort.

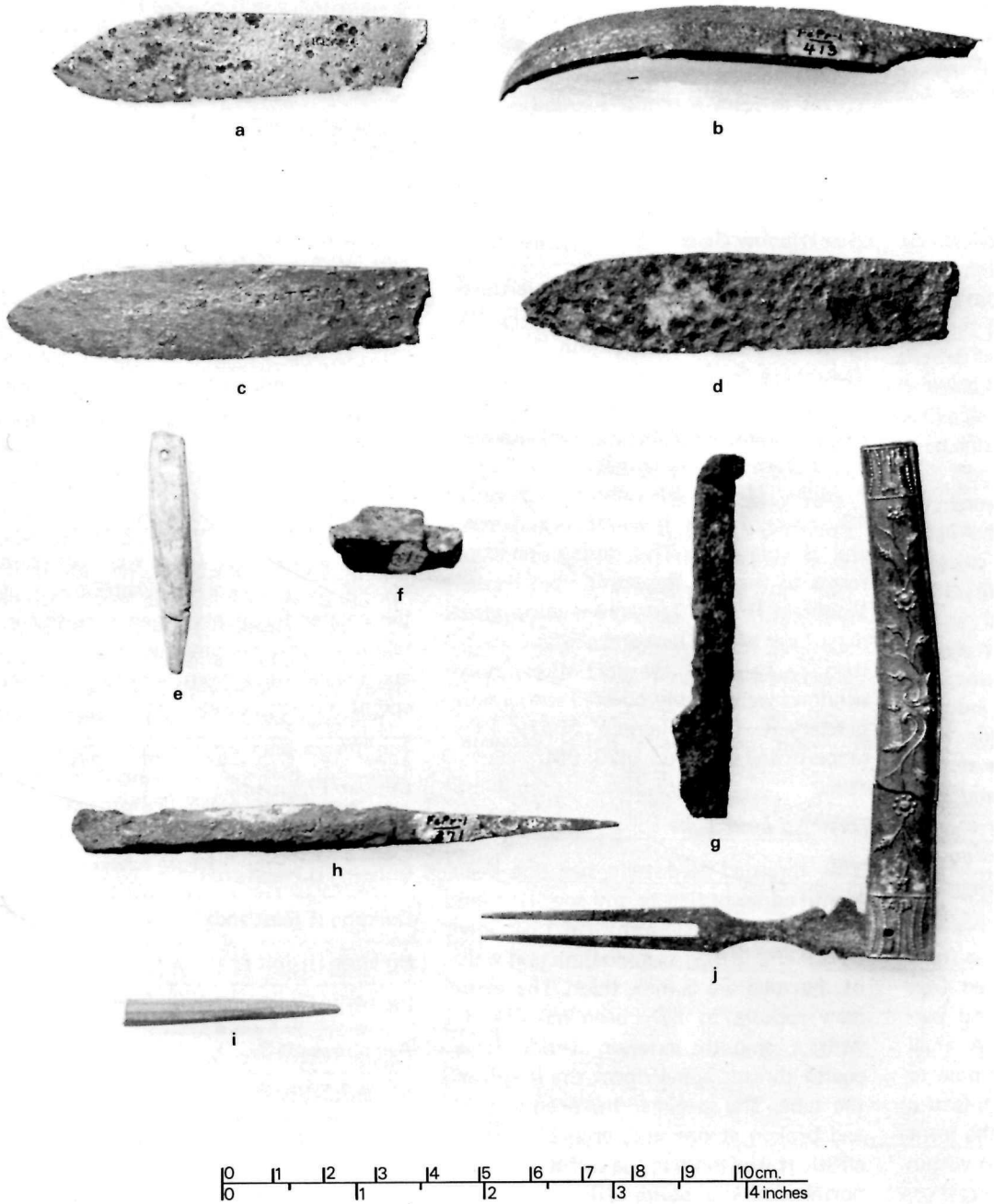
The second clasp-knife blade (Fig. 51, *c*) is also of steel. It is a large blade measuring 8.3 cm. long by 1.9 cm. wide. The upper edge thickness is 3 mm. and both dorsal and ventral blade surfaces slope gradually to a point. The basal butt of the blade curves toward the hinge juncture. Along the upper left side of the blade are stamped distinctly the letters ATEMA. Less distinct and in front of the A is the letter R or B. This specimen dates late in terms of its context within the top 6 in. of pit 11.

The third clasp-knife blade (Fig. 51, *d*) is severely corroded iron. It measures 7.6 cm. long by 2.0 cm. wide and 3 mm. thick. The dorsal and ventral blade surfaces taper gently to a point, but in contradistinction to the two previous specimens, the basal butt does not curve. It is simply indented squarely. Only one letter, a D, is discernible high up in the left hand corner of the blade. This specimen is from building I.

The fourth knife blade (Fig. 51, *b*) is a steel crooked knife. With the rectangular tang broken, the specimen has a length of 9.4 cm. The curved blade measures 7.5 cm. long, and has a maximum width of 1.6 cm. at the butt. This width tapers to 1.0 cm. at the blade tip. The dorsal thickness of the blade is 3 mm. The blade curves 33 degrees left of the normal blade angle. While the left side of the blade is flat, the right side is distinctly bevelled and warped to account for the curve. The bevel begins 8 mm. from the top of the blade and runs the entire length of the tip; it represents the starting line of an inslope to form the sharp blade edge. Stamped indistinctly on the upper left hand butt end of the blade is a square symbol displaying four petals radiating from the centre of the square to its four corners.

This crooked knife blade has a late dating provenience at the fort in pit 8 outside the south gateway. Such blades were usually supplied by the Hudson's Bay Company without any handle (Woodward 1948: 6), thus allowing the individual to fashion his own. The knife is

51 Knife blades, files and fork. *a,* steel clasp-knife blade from pit 1 bearing the word REAGLE; *b,* steel crooked knife from pit 8; *c,* steel clasp-knife blade from pit 11 bearing the word BATEMA or RATEMA; *d,* iron clasp-knife blade from building I bearing the letter D; *e,* lead sinker from building V; *f,* portion of three-sided iron file from building I; *g,* hand-wrought iron cold chisel from building II; *h,* steel trapezoidal file from pit 5 in building II; *i,* portion of a slate pencil from pit 10; *j,* folding sheath fork with brass foil side cover from drainage pattern adjoining pit 1.



used much like a drawknife in making snowshoes or trimming canoe ribs.

Whetstones

Two whetstones of grey dolomitic rock are included in the inventory of tools and hardware. Both are long, rectangular cobbles, probably from the river nearby. The first specimen measures 13.2 cm. long by 4.7 cm. wide and 2.0 cm. thick. It has been ground flat and striated on one face only. It was found loose within the southwest corner of the fort.

The second specimen measures 9.1 cm. long by 2.8 cm. wide by 1.4 cm. thick. It is abraded on two faces and was recovered from a low level of pit 12 in the north corner of the fort.

Alexander Henry the Younger remarks on the use of stones from the North Saskatchewan River near the fort for sharpening tools. He relates (Henry 1897: II, 702):

Both sides are rocky, and the current is very strong where, rushing among the large stones, it forms several cascades. The stone is light gray, some of it inclining to whitish and yellowish. It is excellent for sharpening axes and other tools; when found of a proper shape it answers for grindstones, nearly as good as those from Europe.

Latch

One small 3.5 cm. long latch came from the site. This is a round-shanked iron specimen with a flat circular end perforated by a 4 mm. wide hole. A small nail could be used through this hole to make a swinging hinge. The latch is of a size suitable for attachment to the front of a box or chest. It comes from within the southwest bastion.

Pintle

A wrought iron pintle has a total length of 23.5 cm. of which 14.5 cm. represents a long square shank which tapers and curves to form a round, hooked end. It was found in the turf between pit 11 and the eastern wall of the exterior palisade.

Clear Window Glass

Two pieces of clear window glass came from the same area of the fort (Fig. 45, *j*). These pieces are very thin, 1.5 mm. They were found along the east wall of building I near the northeast corner, suggesting the presence of a small window in that part of the building.

Miller (1960: 67) states that early 19th-century glass is very thin at 1 mm. and is colourless. This description conforms to the few fragments from Rocky Mountain House. Certainly window glass must have been a rare and perhaps costly item to bring to the fort. Commonly windows were simply covered with a skin parchment flap (Harmon 1957: 137; Moberly and Cameron 1929: 95).

Threaded Lead Tube

This threaded lead tube has not been identified according to any specific function (Fig. 46, *n*). It measures 4.1 cm. long by 1.9 cm. in diameter, and the lead walls of the tube are 5 mm. thick. The specimen appears to have been mouldmade with a smooth exterior. Inside large coarse threads spiral down the length of the tube. The specimen has been severed and broken at one end, probably with a chisel. It was loose in the turf west of the northwest end of building II.

Silver Fragment

A small, unidentifiable cut silver strip, 1.3 cm. long, came from pit 10 within building VI.

Copper Strap

This heavy copper strap is bent at right angles at each end. Its total length is 19.7 cm., with a width of 3.2 cm. and thickness of 3 mm. At each end there is a square hole 5 mm. wide. It was excavated outside the fort, directly south of building IV and east of the south corner bastion. It appears to be a piece suitable for partial encirclement of a square beam or post.

Sheet Copper Fragments

Fourteen pieces of cut sheet copper were present at the site. These were cut from copper pails or kettles. Distribution of the copper fragments shows a close correlation with buildings within the fort, and several came from outside the south end of the fort as well.

Table 14: Distribution of Sheet Copper Fragments

Provenience	Number
Building II (west end)	4
Building II (east end)	1
Building III (pit 6)	1
Pit 10	2
Ash above pit 3	1
Fill around post 36	1
Outside fort to south	4
Total	14

Tin Fragments

Twenty-three pieces of thin disintegrating tin came from random distributions over the site. The presence of tin on the site is by no means anachronistic. The manufacture of tin cannisters, plates, and other articles, extends well back into the 18th century (Fontana and Greenleaf 1962: 67).

TRADE AND BUSINESS ITEMS

This category comprises the largest number of artifacts from the site, due entirely to the high frequency of glass trade beads which are counted singly. As a group, the items of trade and business account for 10,861 or 94.7 per cent of the total (11, 464) artifact inventory. Glass trade beads alone account for 94.4 per cent. While it is obvious that beads constitute an important trade commodity, there are seven other kinds of commodities also represented. Even so, there are many trade items of a perishable nature that are not preserved at the fort. Such items as coats, caps, blankets, feathers and the like are good examples; these are frequently recorded in trade goods inventories. Table 15 presents an itemization of the trade and business items recovered at the fort.

Table 15: Trade and Business Items

Item	Number
Glass trade beads	10,832
Metal projectile points	10
Brass banglers	8
Bale fasteners	7
Slate pencils	2
Bale tag	1
Brass spigot	1
Total	10,861

Glass Trade Beads

Glass trade beads (Fig. 52) have a high incidence on virtually all historic fur trade sites and Rocky Mountain House is no exception. A total of 10,832 glass beads comprise the most numerous artifact commodity excavated from the fort, with 7,094 of these beads coming from a single bead cache. In order to bring some type of standardization into the terminology and classification of the beads from this fort the author has used three reference sources. First is W. C. Orchard's (1929) classic work; the second is G. Hubert Smith's (1953) work from Fort Berthold, North Dakota; and the third is Carl F. Miller's (1960) work on the beads from Fort Lookout, South Dakota. None of these works is entirely consistent with the others, but all contain pertinent data for analysis of beads from western forts.

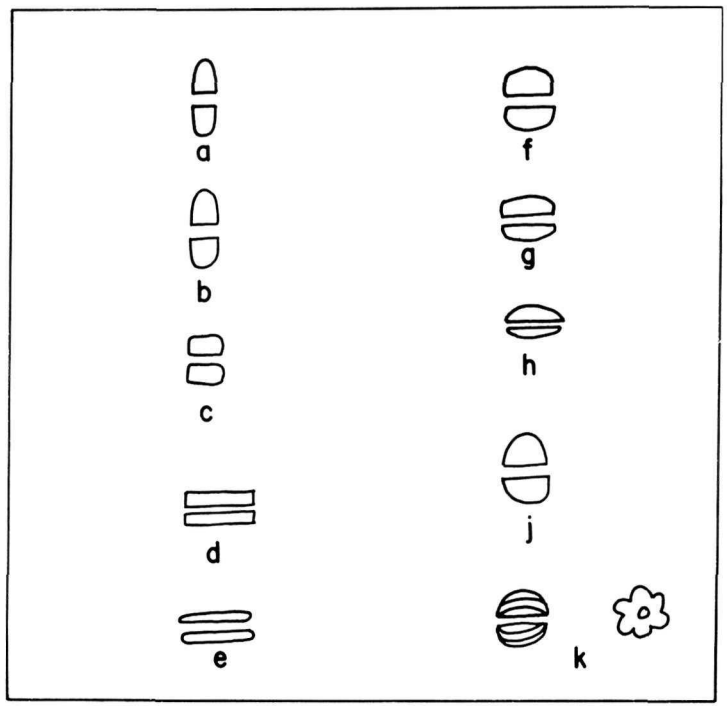
At the outset, the beads from Rocky Mountain House can be separated according to a size criterion. In keeping with Miller (1960: 63), a "seed bead" is defined as being a bead which measures less than 2 mm. in diameter. Within the Rocky Mountain House sample only 151 beads can be classified as belonging to this type. The diameter for all bead varieties considered represents the width of the bead taken at right angles to its stringing hole.

Notably, the seed beads are restricted to the three colours red, white and blue. The 10,684 glass beads larger than 2 mm. come in seven colours. These two categories of beads are compared in the foregoing table together with the bead counts. Clearly, the tallies of the bead colours indicate that white and blue beads are dominant. The inference suggested is that these two colours were

Table 16: Glass Beads from Rocky Mountain House

Colour	Seed Beads	Larger Beads	Total
White	68	7,355	7,423
Blue	23	3,244	3,267
Red	60	23	83
Purple	–	26	26
Green	–	22	22
Black	–	8	8
Yellow	–	3	3
Total	151	10,681	10,832

52 Glass trade beads. *a-c,* subcylindrical; *d-e,* tubular; *f-h,* barrel; *j-k,* globular.



preferred by the aboriginal populations. Black and yellow glass beads have the lowest frequencies.

Shapes of glass trade beads are also a common attribute used for classification and a variety of these exists. Four major forms have been recognized and selected for the Rocky Mountain House sample; subcylindrical, tubular, barrel and globular. Within these major forms are ten subvarieties, each designated by a small alphabetical letter. Figure 52 illustrates these forms.

Seed Beads

Analysis of the seed beads indicates that all are of subcylindrical shapes *a* and *b*. No separation was made to make frequency counts of these two shapes. A perusal of the distributions of the seed beads, however, shows a marked concentration in building I and pit 10. Building I alone produced 104 specimens recovered loose among the floorboards. The following table records the seed bead distrubutions.

The comparatively low number of seed beads at Rocky Mountain House is in contradistinction to bead samples from other historic forts. For instance, seed beads are by far the most numerous at Fort Michilimackinac (Maxwell and Binford 1961: 90), and, similarly, many appear at Kipp's Post. But it is important to note that Woolworth and Wood (1960: 281) include beads over 2 mm. diameter under their seed bead heading. Miller (1960: 63) records 225 seed beads in a total of 659 beads from Fort Lookout II. This comparative data suggests that the Rocky Mountain House seed bead sample

Table 17: Distribution of Seed Beads

Provenience	White	Red	Blue	Total
Building I	52	40	12	104
Building II	2	–	2	4
Building V (pit 9)	1	–	–	1
Dump adjoining pit 10	3	2	2	7
Dump against E. palisade	–	–	2	2
Pit 1	–	1	–	1
Pit 10	7	16	5	28
Pit 11 (top level)	2	–	–	2
Open centre of fort	1	–	–	1
South of fort	–	1	–	1
Total	68	60	23	151

is very low. This may be a function of time, different suppliers or simply due to a preference on the part of the Indians.

Large Subcylindrical Beads

Large subcylindrical beads (i.e., 2.1 mm. to 4 mm. in diameter) dominate the glass bead sample from Rocky Mountain House A total of 10,633 specimens are of this variety.

The subcylindrical beads are broken down according to three prevalent shapes correlated with colour. All seven colours, white, blue, red, purple, green, black and yellow, are represented in the large subcylindrical glass bead sample, but only beads of shape *b* carry the entire range. Shape *c* subcylindrical beads dominate the sample with 10,539 specimens, but are restricted to the three colours red, white and blue. Shape *a* specimens are only present in white, blue green and purple colours. In total numbers, both shapes *a* and *b* are equally represented with only 47 specimens. Table 18 presents the detail of the analysis.

The distribution of large subcylindrical beads over the site clearly indicates the predominance of specimens from the bead cache east of pit 11. This cache of 7,094 beads considerably skews the sample frequencies in favour of white and blue beads which are the only colours represented in the cache. Another heavy concentration of beads occurred in the dump against the east palisade. Excluding these two areas, there is a consistent correlation between bead concentrations and buildings or pits. Very few beads occur loose in random dispersal over the site.

The other subcylindrical beads coloured red, green, purple, black and yellow have a particularly close association with building I and pit 10. These beads may be early. None appear in building II, but within this building there is another distinct distribution. Blue subcylindrical beads are nearly equally distributed within both east and west ends of building II while the white beads show a much heavier concentration in the eastern end. The meaning of this pattern is not clearly understood.

All subcylindrical beads from pits 8 and 11 have late dating associations. Table 19 lists the distributions of coloured subcylindrical beads from the fort.

Table 18: Shapes and Colours of Large Subcylindrical Beads

Colour	Subcylindrical Shapes			Total
	a	*b*	*c*	
White	13	19	7,305	7,337
Blue	7	8	3,217	3,232
Red	–	5	17	22
Green	13	6	–	19
Purple	14	1	–	15
Black	–	5	–	5
Yellow	–	3	–	3
Total	47	47	10,539	10,633

Tubular Glass Beads

A total of 28 tubular glass beads comes from the site. These range in size from the one large white specimen measuring 2.2 cm. long by 6 mm. wide to smaller specimens measuring 6 mm. long by 3 mm. wide. All have been cut from glass cane tubes.

Two varieties, shapes *d* and *e,* are recognized within this general form (Fig. 52). A compilation of the incidence of these two tubular forms together with bead colour indicates that plain white *d* tubular beads are the most common. Blue tubular beads have an equal representation between the *d* and *e* forms. Five of the seven bead colours appear on tubular beads. It should be noted that the green tubular bead is actually a green striped specimen with four thin, straight green stripes running parallel to one another along the length of the bead. The background colour is white.

Tubular glass beads have a limited distribution at Rocky Mountain House. All specimens come from buildings or pits within the north and northeast ends of the fort. The west end of building II produced the largest number, nine, of which eight are white in colour. Distinc-

Table 19: Distribution of Large Subcylindrical Beads

Provenience	White	Blue	Red	Green	Purple	Black	Yellow
Building I	63	51	5	8	10	2	2
Building II (west end)	29	23	–	–	–	–	–
Building II (east end)	104	26	–	–	–	–	–
Building II (pit 4)	–	3	1	–	–	–	–
Building II (pit 5)	–	16	–	–	–	–	–
Building II (pit 15)	6	2	–	1	–	–	–
Building III	1	–	–	–	–	–	–
Building III (pit 6)	1	–	–	–	–	–	–
Building IV	1	2	–	–	–	–	–
Building V	1	–	–	–	–	–	–
Pit 1	1	9	1	–	–	–	–
Pit 2	1	–	–	–	–	–	–
Pit 3 (ash layer)	2	–	–	–	–	–	–
Pit 8	1	1	–	–	–	–	–
Pit 9	1	–	–	–	–	–	–
Pit 10	435	185	10	9	3	–	1
Dump adjoining pit 10	17	118	5	1	–	3	–
Pit 11 (top level)	18	5	–	–	–	–	–
Pit 17 (top level)	11	–	–	–	–	–	–
Bead cache	4,643	2,451	–	–	–	–	–
Dump against east palisade	1,998	304	–	–	1	–	–
Ash dump north of building V	1	–	–	–	–	–	–
East of fur press	1	–	–	–	–	–	–
South palisade trench	1	–	–	–	–	–	–
South gateway	–	1	–	–	–	–	–
South of fort	–	1	–	–	1	–	–
Other	–	34	–	–	–	–	–
Total	7,337	3,232	22	19	15	5	3

Table 20: Shapes and Colours of Tubular Beads

Colour	Shapes		Total
	d	*e*	
White	17	1	18
Blue	3	3	6
Purple	–	2	2
Red	1	–	1
Green	–	1	1
Total	21	7	28

tively, the only red and purple tubular beads come from building I. Table 21 lists the distribution of tubular beads.

Barrel Beads

Fifteen specimens are classified as barrel beads. These have three shapes, *f*, *g* and *h*, and appear in only four colours, purple, black, blue and green. The beads are 5.5 mm. to 9.0 mm. long by 3 mm. to 5.5 mm. in diameter. In table 22 it will be noted that purple is the preferred colour.

Globular Beads

Lowest in frequency from the site are five globular beads. These are 6.0 mm. long by 5.2 mm. to 7.0 mm. wide. Only two shapes are represented, *j* and *k*. Shape *k* is a distinctive bead having seven parallel flutes running parallel to the long axis of the bead. Blue and purple are the two colours represented by the globular beads.

Table 21: Distribution of Tubular Beads

Provenience	White	Blue	Red	Purple	Green	Total
Building I	1	–	1	2	–	4
Building II (east end)	2	–	–	–	1	3
Building II (west end)	8	1	–	–	–	9
Building II (pit 5)	–	2	–	–	–	2
Building II (pit 15)	1	–	–	–	–	1
Pit 10	1	–	–	–	–	1
Pit 11 (top level)	3	–	–	–	–	3
Dump adjoining pit 10	1	–	–	–	–	1
Dump against east palisade	1	3	–	–	–	4
Total	18	6	1	2	1	28

Table 22: Shapes and Colours of Barrel Beads

Colour	Shapes			Total
	f	*g*	*h*	
Purple	4	3	1	8
Black	–	–	3	3
Blue	2	–	–	2
Green	–	–	2	2
Total	6	3	6	15

Table 23: Distribution of Barrel Beads

Provenience	Purple	Black	Blue	Green	Total
Building I	4	2	–	–	6
Building II	3	1	2	–	6
Dump adjoining pit 10	–	–	–	2	2
Pit 11	1	–	–	–	1
Total	8	3	2	2	15

Table 24: Shapes and Colours of Globular Beads

Colour	Shape		Total
	j	*k*	
Blue	2	2	4
Purple	1	–	1
Total	3	2	5

Table 25: Distribution of Globular Beads

Provenience	Blue	Purple	Total
Building I	1	–	1
Pit 1	1	–	1
Pit 2	–	1	1
Pit 10	2	–	2
Total	4	1	5

Observations

All in all, the glass trade beads represent the single most numerous artifact item preserved at Rocky Mountain House. The three dominant colours are red, white and blue, which may indicate the European response to a preference on the part of the Indians trading at the fort.

The 7,094 white and blue subcylindrical beads from the bead cache east of pit 11 came from a circular ring feature suggestive of some type of perishable sac or bag. The location of this bead cache and the nearby dump against the east wall of the exterior palisade also suggests the possibility that a bartering window was present through the eastern palisade in this vicinity. Together these two bead concentrations, which are the only two of their kind in the fort, account for an astonishing 9,396 beads of the total sample of 10,832.

The distribution of barrel beads over the site shows a predominant association with buildings I and II. Others occur in pit 11 and the surface dump adjoining pit 10. These proveniences date early and late.

Distribution of the globular beads is predominantly restricted to pits.

Unfortunately the dating of the beads from Rocky Mountain House must remain relative. No single bead type can unequivocally be assigned an absolute date. For this reason none of the recovered beads can definitely be attributed to the North West Company. However, there are some beads, particularly the seed varieties and the globular fluted beads, which do show a close association with early features in the fort. Seed beads came predominantly from building I and pit 10 which are considered to be earlier than the Hudson's Bay Company occupation and attributable to the North West Company. This same distribution is noted for the globular fluted beads. These beads and those exhibiting the rarer colours of green, purple, black and yellow probably are early varieties. No large blue chinaware beads were found as described by Alexander Henry the Younger (Henry 1897: II, 753) during his stay at the fort in 1811.

Metal Projectile Points

Excavated from the fort are ten metal projectile points (Fig. 53, *a-i*) cut with a chisel from sheet iron, copper and brass. These were probably cut by the traders at the fort for trade to Indians for use in tipping their arrows. As such, the shapes of the points do not necessarily conform to lithic counterparts made by the Indians, but rather represent the trader's conception of what an arrowpoint would look like and what was the easiest style for him to cut. Uniformity is present in the triangular, stemmed shape of all the points. Eight specimens are of iron, one of copper and one of brass. The first specimen illustrated (Fig. 53,*a*) has been cut from a serrated saw blade or bread knife. Table 27 gives pertinent measurements.

Table 26: Distribution of Cut Metal Projectile Points

Provenience	Specimen	Number
Building I	16	1
	76	1
	46	1
Building III (pit 6)	352	1
	735	1
Building IV	640	1
Building V	611	1
Northeast corner of fort	516	1
	817	1
Outside southeast of fort	517	1
Total		10

The distribution of cut metal projectile points shows association with four of the buildings and one pit within the fort. Three specimens occurred loose inside and outside of the fort.

Cut metal projectile points have been recovered from other western forts dating

53 Cut metal projectile points and North West Company bail fastners. *a,* serrated iron point from building V; *b,* iron point with tapering shoulders from building I; *c,* iron point from northeast corner of fort; *d,* broken iron point from building IV; *e,* iron point from building I; *f,* brass point from southeast of fort; *g,* iron point from building I; *h,* iron point from 30-in. depth of pit 6 in building III; *i,* small copper point from pit in building III; *j,* North West Company style brass bail fastener and rivet; *k,* small copper bail fastener attached to exterior of copper pail fragment from building I; *l,* exterior view of North West Company style brass bail fastener from building IV; *m,* North West Company style of brass bail fastener from inside building V.

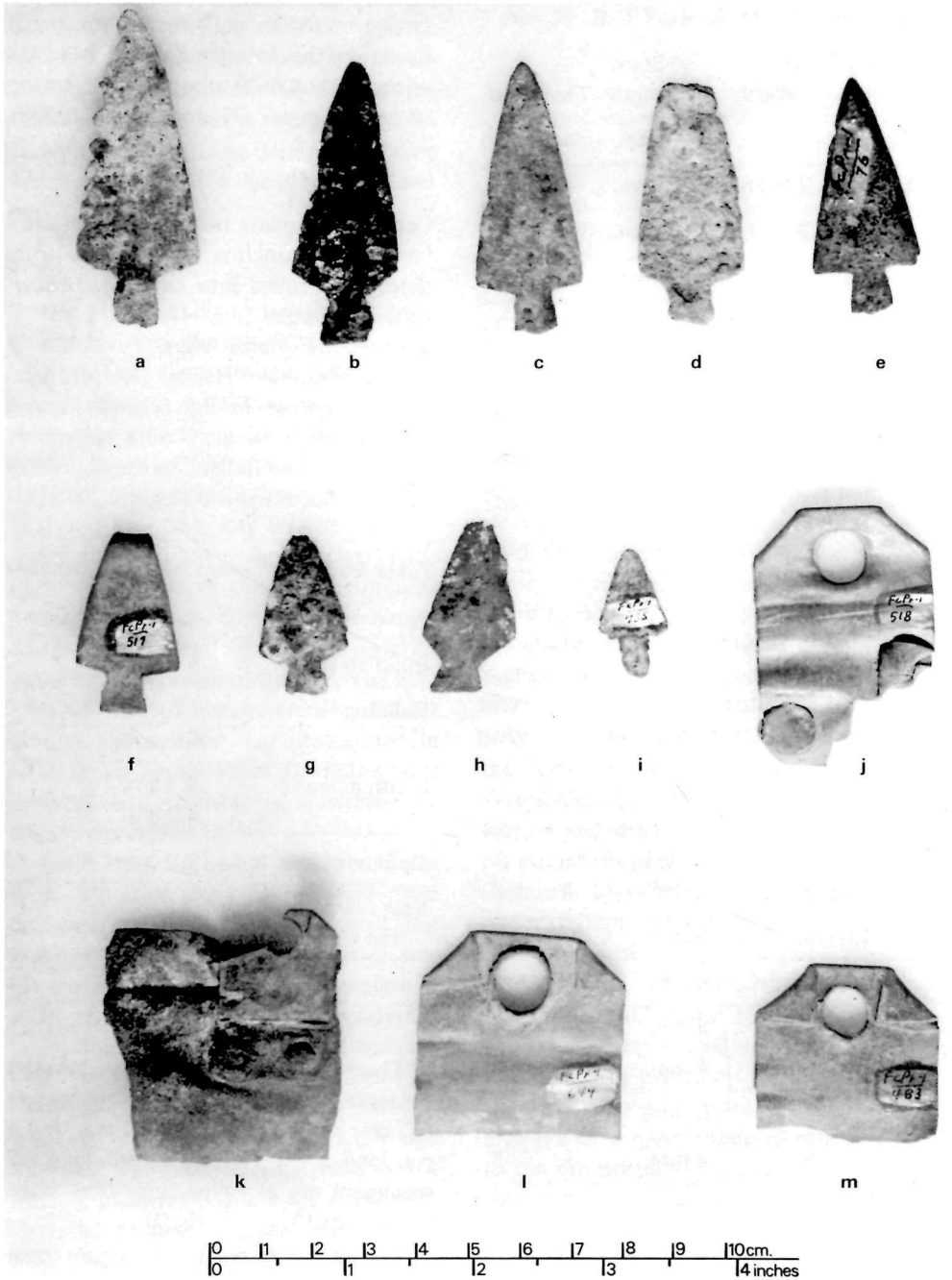


Table 27: Cut Metal Projectile Point Measurements

Specimen	Material	Total Length	Shoulder Width	Stem Length	Thickness
611	iron	6.1 cm.	2.3 cm.	1.0 cm.	1.0 mm.
16	iron	5.5 cm.	2.0 cm.	1.0 cm.	1.0 mm.
516	iron	5.2 cm.	2.1 cm.	9.0 mm.	1.0 mm.
640	iron	broken	2.0 cm.	8.0 mm.	1.0 mm.
76	iron	4.6 cm.	2.1 cm.	1.0 cm.	1.0 mm.
817	iron	broken	2.0 cm.	broken	1.0 mm.
352	iron	3.8 cm.	1.8 cm.	6.0 mm.	1.0 mm.
46	iron	3.3 cm.	1.7 cm.	7.0 mm.	1.0 mm.
517	brass	4.2 cm.	1.9 cm.	7.0 mm.	1.0 mm.
735	copper	2.5 cm.	1.3 cm.	8.0 mm.	1.0 mm.

between 1820 and 1863, but not in such numbers as at Rocky Mountain House. A single stemmed triangular point of brass is recorded from Kipp's Post (Woolworth and Wood 1960: 282), and a similar type of steel point is known from Fort Smith II (Smith 1960a: 141). The substantial number of cut metal projectile points at Rocky Mountain House suggests that they were a popular and common trading item. David Thompson is recorded as having traded several hundred iron arrowheads to the Interior Salish during the winter of 1809-10 along with "upwards of twenty guns" (Thompson 1962: 305).

Table 28: Brass Banglers

Specimen	Length	Bottom Width	Top Width	Number
386	4.7 cm.	1.0 cm.	5 mm.	2
643	4.7 cm.	1.0 cm.	5 mm.	1
412	4.6 cm.	1.0 cm.	5 mm.	1
437	4.4 cm.	1.0 cm.	4 mm.	1
436	4.3 cm.	8.0 mm.	5 mm.	1
787	2.8 cm.	7.0 mm.	4 mm.	1
656	2.3 cm.	6.0 mm.	4 mm.	1
Total				8

Brass Banglers

Common on many historic sites are brass banglers or tinkling cones made from sheet brass rolled into tapering cones of various lengths (Fig. 42*a-b*). Eight of these trade items were recovered at Rocky Mountain House, two of them nested together in the original packing fashion. Such banglers were commonly fastened by the Indians to the borders of their dresses, shirts and leggings.

Table 29: Distribution of Brass Banglers

Provenience	Length	Number
Building III	4.7 cm.	2
Building IV	4.7 cm.	1
	4.6 cm.	1
South gateway	4.4 cm.	1
	4.3 cm.	1
Open centre of fort	2.8 cm.	1
East side of pit 11 (top 6 in.)	2.3 cm.	1
Total		8

Three general sizes of brass banglers are represented at the fort. These measure 4.6 cm. to 4.7 cm. long, 4.3 cm. to 4.4 cm. long, and 2.3 cm. to 2.8 cm. long. All specimens are of rolled sheet brass open at each end.

All but one of the brass banglers came

from the southern or the western interior of the fort. Th is is evident distributional table 29. The prevalent concentration was around building IV and the south gateway, with the two nested cones coming from building III, the building which is believed to have been a storehouse.

Bail Fasteners

Seven of these distinctive kettle parts were recovered during excavation (Fig. 53, *j-m*). They represent the fixtures used for attaching a wire bail handle to the sides of a copper or brass pail. Significantly, the North West Company used a different style of bail fastener than the Hudson's Bay Company (Walter Kenyon: personal communication). The trade kettles and pails of this latter company had bail fasteners composed of simple flanged lugs driven through two exterior opposite upper sides of the pail. The wire ends of the bail handle were then bent around the exterior lug projections in small loops. An excellent example of this type of bail fastener is illustrated by Woodward (1948: 3).

In contrast, the bail fasteners on North West Company trade kettles were more complex. They utilized two small flat rectangular plates fastened on either side of the pail top. These plates were cut from short lengths of sheet copper or brass, folded in half and then inserted over the sides of the pail rim. Two large-headed rivets were driven through the base of each outside plate, through the pail wall and finally through the interior plate half, where the rivets were flattened to hold the plate fast to the pail. The upper portion of each plate projected above the kettle rim as high as an inch. The two upper projecting corners of each plate were then folded as small triangular ears toward the exterior of the pail and flattened. Finally, a circular hole for insertion of a wire bail handle was punched through each plate above the kettle rim. These holes were punched from the interior to exterior judging from the flattened ragged flanges encircling the exterior margins of the bail holes. This feature and the exterior folded ears left no inward projections on the North West Company style of bail fasteners which might inhibit smooth nesting of pails during transport.

Table 30: Bail Fastener Measurements

Specimen	Metal	Gauge	Plate Width	Plate Height	Bail Hole Diameter
527	Copper	0.5 mm.	4.2 cm.	broken	1.2 cm.
400	Copper	0.5 mm.	4.0 cm.	5.0 cm.	1.0 cm.
58	Copper	0.5 mm.	2.2 cm.	3.4 cm.	0.6 cm.
644	Brass	0.5 mm.	4.0 cm.	broken	1.0 cm.
483	Brass	0.5 mm.	3.5 cm.	broken	0.8 cm.
518	Brass	0.5 mm.	3.5 cm.	5.0 cm.	1.0 cm.
934	Brass	0.5 mm.	3.5 cm.	5.0 cm.	1.0 cm.

All seven of the recovered bail fasteners from Rocky Mountain House are of the North West Company style. No Hudson's Bay Company style specimens occurred. One small specimen (Fig. 53,*k*) displays its original mode of attachment to the rim portion of a copper kettle. Of the seven bail fasteners recovered, four are brass and three are copper. It will be noted from Table 30 that there is a general functional correlation between the size of a bail fastening plate and the size of its bail hole. This is to be expected where smaller fastening plates, and by inference smaller pails, would have a lighter bail handle than larger kettles. Of interest is the consistent gauge (thickness) of the plates, which is 0.5 mm., regardless of plate size. Dr. Walter Kenyon (personal communication) has recently analyzed copper and brass kettles recovered from Fort Albany and the Winnipeg River in Ontario. He has noted a consistent correlation between the size of a kettle and its gauge, with the larger kettles having thinner walls. Undoubtedly, this feature accounts in part for the generally poorer state of preservation of large kettles than of smaller specimens.

The measurement data on bail fasteners from Rocky Mountain House indicates a uniformity in gauge for both brass and copper specimens. This also appears to be the case regardless of inferred differences in vessel size. In fact, there is

the suggestion that bail fastener gauges were standardized for all sizes of kettles and were simply cut in mass from a common 0.5 mm. thick sheet of copper or brass.

Table 31: Distribution of Bail Fasteners

Provenience	Specimen	Metal
Building I	58	Copper
Building II	934	Brass
Building IV	644	Brass
Building V	483	Brass
Northwest of building IV	400	Copper
Outside southeast end of fort	527	Copper
	518	Brass

The distribution of the seven bail fasteners from the fort indicates wide dispersal with some concentration in buildings I, II, IV and V. There is no observable distinction between the distribution of copper and brass specimens except a negative association of copper specimens with Hudson's Bay Company structures. The only copper specimen from a building comes from between the floorboards of building I, which displays North West Company architectural style.

Aside from architectural features, the seven bail fasteners from Rocky Mountain House are the best evidence to confirm North West Company occupation of this site. However, there remains the possibility that North West Company merchandise was handled by the Hudson's Bay Company. Brass specimen 934 suggests this, for it was found in a Hudson's Bay Company context along the north end of the double-hearth fireplace in building II. Similarly, brass specimens 644 and 483 came from within the southern ends of buildings IV and V, also of Hudson's Bay Company provenience. These latter two specimens, however, are incomplete and may have been cut to salvage rivets (Fig. 53, *l-m*). It is obvious that metal from bail fasteners was not used to cut metal projectile points for the latter are of a heavier gauge. With the Hudson's Bay Company takeover of the fort in 1821, it seems reasonable to believe that any remaining old North West Company stock would be used. The limited evidence from bail fasteners indicates that some brass kettles of North West Company style did remain and were cut up by later Hudson's Bay Company employees.

Slate Pencils

Portions of two slate pencils give a partial insight into the business affairs at the fort (Fig. 51,*j*). No doubt they were used for tallying bales of furs and hides.

The broken tip portion illustrated is from a pencil measuring 4.3 cm. long by 5 mm. thick; its hardness according to Mohs' scale is 3. This tip portion has seven longitudinally faceted sides worn down to a circular point. It comes from the lowest level of pit 10 at 54 in.

The second pencil is represented by a middle section 2.9 cm. long by 4 mm. thick. It too has seven irregular longitudinally faceted sides. It was found in the turf in the vicinity of pit 12. The two slate stylus portions do not fit together and are, therefore, considered to represent portions of two distinct pencils.

Slate pencils such as these are known from Fort Stevenson of a later 1867-83 date (Smith 1960b: 214).

Bale Tag

This copper bale tag or seal (Fig. 44, *i*) is a plain circular disc with a small 2 mm. hole punched through its upper border. The diameter of the disc is 2.7 cm. and its thickness is 1 mm. As mentioned, the bale tag is plain with no recognizable marks on it. It is from the fill around post 9 of building III.

Brass Spigot

This specimen is made of heavy cast brass (Fig. 50,*j*). It is incomplete and shows many signs of mutilation. The broken tap is locked in a closed position and the end of the spout has been cut off raggedly. The square nubbin pail holder located above and in front of the spout remains intact as does the main spout barrel. The length of the spigot is 7.4 cm. and its exterior diameter is 1.8 cm. The spout orifice has an interior width of 1.1 cm.

This brass spigot was found in the top 6 in. of the turf within the northeasterly corner of building III. It is obviously a portable item for fixture into liquor kegs or other such barrels.

ABORIGINAL ARTIFACTS

The few aboriginal artifacts found within the fort constitute a low 0.1 per cent of the total specimens recovered. None is so distinctive as to enable direct historic identification with specific Indians known to have frequented the fort. Such tribes included the Kootenays, the Swampy Ground Stonies, Crees and various

members of the Blackfoot Confederacy, particularly the Peigan (Muddy River Indians).

Six different classes of aboriginal artifacts are represented.

Table 32: Aboriginal Artifacts

Item	Number
Stone pipe bowls	6
Scrapers	3
Large flesher	1
Anvil stone	1
Core	1
Chert flakes	2
Total	14

Stone Pipe Bowls

Six carved pipe bowls are represented in the excavated sample. All are incomplete bowls of the monitor type which had separate detachable stems. Soapstone, sandstone, dolomite, steatite and argillite are the five materials utilized. In Table 33, dashed lines indicate absence of decoration or incompleteness of the specimen. Specimens 320 and 821 do not fit together.

All but one of the pipe bowls were found loose within the top 6 in. of turf in the fort. As the distribution table shows, the predominant concentration is in the north half of the fort near buildings I, II and III. Specimen 849, of bluish argillite, was recovered from the 26 in. depth of pit 6. An outcrop of this material occurs on the Pipestone River near Banff, named by Sir James Hector (Canada. Geographic Board 1928: 103). This seems to be a probable source.

Table 34: Distribution of Stone Pipe Bowls

Provenience	Specimen
West of building I	12
	307
West of building II	320
Building III (pit 6)	849
Building IV	641
Northeast corner of fort	821

Table 33: Stone Pipe Bowls

Specimen	Material	Bowl Height	Exterior Bowl Diameter	Interior Bowl Diameter	Stem Hole Diameter	Decoration
849	blue-black argillite	6.9 cm.	3.1 cm.	0.9 cm.	0.6 cm.	Single incised Horizontal line 6 mm. below lip
12	grey soapstone	–	0.9 cm.	0.8 cm.	0.5 cm.	–
641	red sandstone	–	2.8 cm.	1.6 cm.	–	–
320	grey dolomite	–	3.6 cm.	2.1 cm.	–	vertically carved lines 2.6 cm. apart
821	grey dolomite	–	–	–	0.3 cm.	–
307	red steatite	–	–	–	–	–

Scrapers

Three small scrapers, all worked unifacially, were recovered. These are described in detail as they may in future be identified and correlated with historic tribes. In particular, tracing the materials utilized may be helpful.

Flat Tabular Side Scraper

This side scraper of mottled yellow jasper in Tabular form has very fine chipping along one side only. It is 2.9 cm. long by 2.5 cm. wide and has a thickness of 0.6 cm. It comes from the top 6 in. of turf just north of building I.

Rectangular Obsidian Side Scraper

One large black obsidian side scraper was recovered loose in the south gateway area. This rectangular scraper has been continuously chipped along two adjacent sides. It measures 3.6 cm. long by 2.7 cm. wide and has a thickness of 1.9 cm.

Oblong Snubnose End Scraper

This oblong pear-shaped specimen is of bluish black chert. Both dorsal and ventral surfaces are flat with a bulb of percussion occurring on the narrow ventral proximal end. The distal cutting end rises in a very steep 82-degree angle to form a snub nose. Although the distal snubnosed end displays the principal chipped surface, there is fine retouch along the right side of the specimen. This scraper was found outside the extended south wall of the palisade west of the south gateway.

Large Flesher

A large fleshing tool of fine-grained pink quartzite came from the site. This has been fashioned from a portion of split cobble of trapezoidal shape. The tool measures 9.1 cm. long with a thickness of 2.2 cm., and has rough chipping along the 6.4 cm. wide distal end. This specimen was recovered loose in the eastern interior of the fort just west of building VI.

Anvil Stone

A round dolomitic cobble anvil stone is from the southwest corner of building V. This specimen is centrally pitted on the ventral surface only. It has a diameter of 6.4 cm. and a thickness of 2.8 cm.

Core

Also in the inventory of aboriginal artifacts is a single randomly battered core of yellow jasper. This small core is 3.3 cm. long by 2.9 cm. wide and 2.2 cm. thick, and was found within building III.

Chert Flakes

Two chert flakes complete the assemblage of items attributable to aboriginal manufacture. The first flake of black chert (specimen 900) was found loose in the centre of the fort. The second specimen (265) is a dolomitic chert flake found within pit 2. Neither flake has been worked.

With the excavation, description and analysis of Rocky Mountain House completed, it now remains to synthesize the amassed data into a correct and meaningful history of the fort. This task is by no means without problems, one of the foremost of which is the coordination of historical documentation with the archaeological evidence. To a large degree the goals of archaeological and historical research are combined in this task.

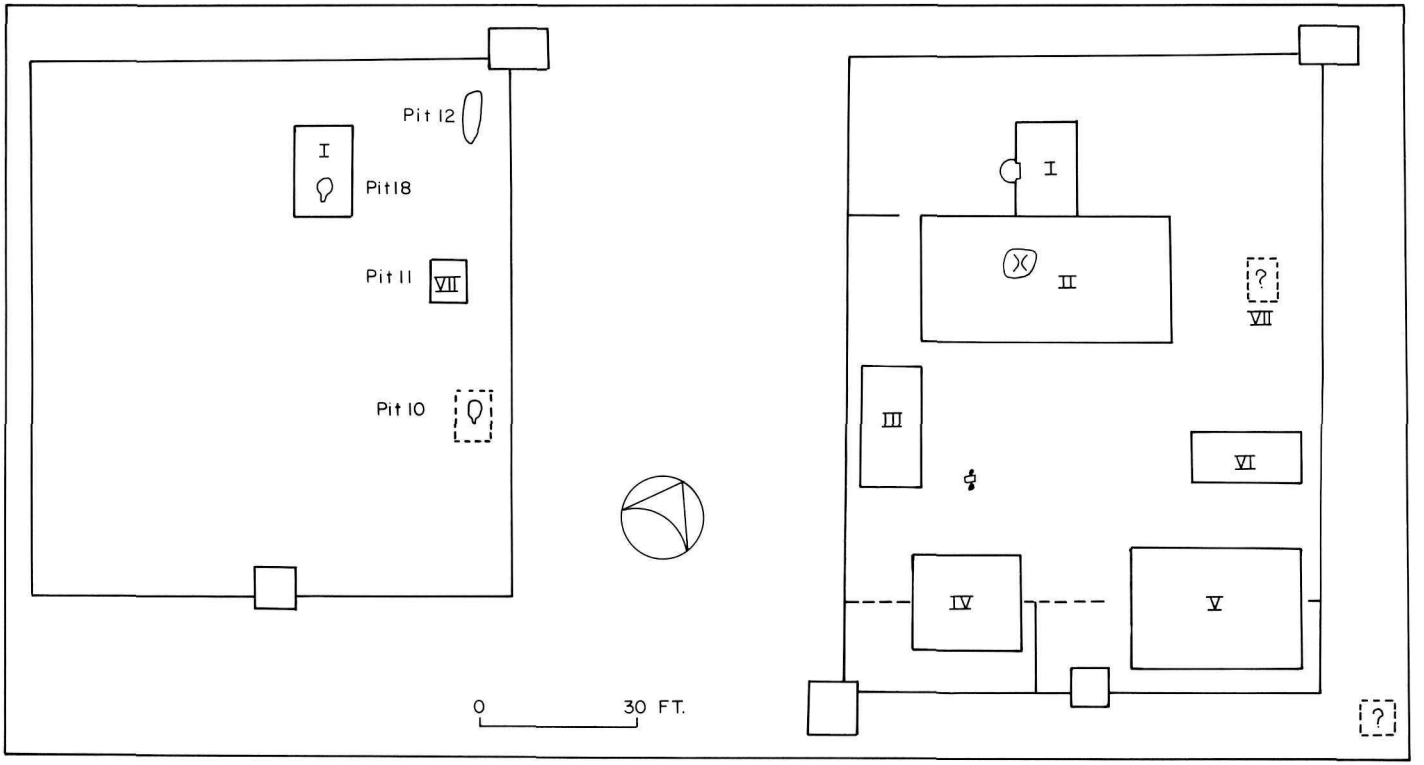
The following interpretations, however, are based primarily on archaeology. This is done through necessity as much as by intent. No clear description or continuous sequence of events can be obtained for the fort from the historical records. The documents are just too few, ambiguous and even untrustworthy in some cases. Nevertheless, important information can be gleared from the documents to aid in establishing the time periods for some of the major architectural changes in the fort. The integration of these written and excavated details forms an important premise for any correct interpretation and historical identification of the fort.

Rocky Mountain House (FcPr-1) definitely pre-dates the later version (FcPr-2) built and operated down-river by the Hudson's Bay Company from 1866 to 1875. FcPr-1 also marks the site of a former Hudson's Bay Company fort as well as an earlier structure. The identification of these two forts at FcPr-1 constitutes the main problem discussed in this chapter.

Two Forts on the Same Site

There is no doubt that two different forts existed on the same site of Rocky Mountain House. This important fact is fundamental in clarifying interpretations

54 The two forts at Rocky Mountain House. *a,* the original fort, 1799-1828, North West Company and Hudson's Bay Company; *b,* the extended fort, 1828-34, Hudson's Bay Company.



relevant to the formulation of correct historical identifications.

As described in an earlier chapter, the primary evidence for the dual occupancy of the site lies in the trench feature. This trench, cutting across the interior southern end of the fort, represents the position of an original southern wall of exterior palisade. When this wall was standing the fort measured 100 ft. long north-south by 90 ft. wide.

At a later date, the original fort was enlarged and renovated. The original southern wall in the trench feature was dismantled and a 16-ft. extension was added to the fort's southern end. New buildings were also erected during the enlargement and, in effect, a new fort emerged measuring 116 ft. long north-south by 90 ft. wide. Let us now consider each of these two forts in detail.

The Original Fort

Details about the original fort are meagre. As noted above, the original extent of the fort can be determined as covering an area of 9,000 sq. ft. Accompanying and fortifying the exterior palisade walls, which are believed to have ranged from 12 ft. to 15 ft. high, were two bastions. One was positioned at the north corner of the fort and the other sat over a gateway in the south wall of the exterior palisade.

The north corner bastion, 13 ft. east-west by 11 ft. north-south, was built of vertical pickets, commonly referred to as *en pile* architecture (Jefferies 1939: 375). This is an early French style and is not characteristic of the Hudson's Bay Company. The occurrence in this bastion of interior corner support posts suggests that it had a superstructure. The second bastion, 8 ft. square, was one of overhead construction supported on four large corner piles spaced 8 ft. apart. All that remained of this structure were the four corner post pits marking its original position. A southern gateway existed under this bastion and, as a composite feature, both structures were retained in the

second enlarged version of the fort. In both of these forts the south entrance was the main gateway.

Five features are all that can be reconstructed in the interior of the original fort. This is due to the fact that almost all of the original architecture was dismantled after the enlargement of the fort; it is also a reflection of the very nature of the early style of architecture as explained below. Building I appears to be the one surviving building of the original fort. Its simple architectural style is one in which the foundation joists and sills were placed directly on the ground without sunken support piles. This is definitely uncharacteristic of the Hudson's Bay Company, and is considered by Garth (1947: 219) to be probably typical of North West Company construction. If ground-laid foundation joists were removed, little evidence would remain to mark the location of a former building of this architectural style.

Four pits also appear to be associated with the original fort. These are pits 10, 11, 12 and 18 in the northeastern area of the fort. Pits 10 and 18 are large cellar-like depressions with distinctive beavertail step-down entrances. This characteristic entrance only occurs at these two pits and is unlike the construction of known Hudson's Bay Company pits on the site. Two buried humus layers interpreted as representing two former sod horizons are present in pits 10 and 12. This evidence and the sequence of fill in each would indicate an early date for these pits. It is also pertinent to point out that no building remains are preserved over the cellar-like pits 10 and 18. Possibly building I once stood over pit 18, and was simply moved westward for subsequent attachment to building II. Pit 11, housing the subterranean building VII interpreted as a cold-storage repository, also appears to be early. The nails from this pit date to 1810-25.

Artifacts of early 1810-20 date are conclusively represented at the site. Some have proveniences in the above-mentioned features of the original fort. In particular, glass seed beads show a close association with early features; of a total 151 specimens recovered, 139 come from building I and pit 10. Similarly, many of the nails from the fort are early hand-wrought types or early cut nails dating between 1800 and 1825. The two wrought csk. nails marked "special" by Dr. Dove date to 1800 and come from building I. Other early artifacts are the seven bail fasteners of North West Company style. These constitute the single most diagnostic and identifiable artifacts pertaining to that company. Their distribution over the site is random, but there is a negative association of copper specimens with Hudson's Bay Company structures. One copper bail fastener was found in building I.

Other artifacts associated with features dating prior to the enlargement of the fort include 1 hawk bell; 1 brass pin; brass buttons of type G and D style; 1 sherd of black basalt stoneware; 1 sherd of grey salt-glazed stoneware; 1 clasp-knife blade bearing the stamped letter D, and 1 small iron keg hoop. Of probable or possible early date are an additional three pieces of undecorated lead-glazed earthenware; 1 hollow silver button, 1 brass spigot, and 1 red painted clay pipe stem.

It seems obvious from this synthesis of architectural and artifactual evidence that the original fort can be dated to the early 1800s. Several of the architectural features and particularly the bail fasteners can be attributed to the North West Company. Thus, this author feels confident in assigning the original fort to the North West Company strictly on the basis of archaeological data.

The Extended Fort

The second fort at Rocky Mountain House is an enlarged and revamped version of the original fort. However, the changes made are of such a major degree that in fact the impression of a new fort is created. It is also important to note that there is no archaeological evidence indicating anything but a relatively continuous occupation of this site, from the time of the original fort through to the final demolition of the second fort.

Details on the extended version of the forts are copious in comparison to the original structure. The entire southern exterior wall of the original fort was dismantled and extended 16 ft. to the south. This gave the new fort dimensions of 116 ft. north-south by 90 ft. wide, with a much larger area of 10,440 sq. ft. The former eastern, northern and western palisade walls were retained in the new version, as was the north corner bastion. As described in an earlier chapter, the picket trenches dug for the extension walls were fire-reddened as opposed to the uncoloured trenches of the original fort's palisades. This distinctive feature indicates that the extension was constructed during a season of the year when the ground was frozen and had to be thawed.

Included in the plans for enlarging the fort was the erection of a heavy block-house bastion constructed of horizontal square beams tenoned into four mortised corner posts. This style of bastion was erected at the south corner of the fort and is distinctively Hudson's Bay Company architecture. The 10 ft. square southwest bastion also has fire-reddened corner post pits, and in one place the north corner pit is intruded by the superimposed trench for the new southern wall of the exterior palisade. This indicates that building of the new bastion commenced prior to the erection of the southern wall of the extension.

The overhead bastion of the original fort was also dismantled and set up over a new gateway in the exterior southern wall of the extended fort. Its large corner support post pits are fire-reddened in both the old and new locations, suggesting that both the dismantling and re-erection activities took place when frost inhibited easy digging of the ground. In effect, this second overhead bastion was a replica of the one which stood over the south entrance of the original fort.

Within the enlarged fort a completely new complex of buildings was erected in the typical architectural style of the Hudson's Bay Company. Buildings IV and V, in particular, overlay area within the original fort and that provided by the extension. Clearly, they date after the extension was made. Buildings II, III and VI are also attributable to the Hudson's Bay Company. It seems probable that they, too, date to the period of enlargement, for they help form a regular and organized building pattern within the fort.

Buildings I and II at the north end of the fort represent habitation quarters, complete with fireplaces. Building II had a large double-hearth fireplace located near the central western end, presumably near sleeping quarters, while an indoor latrine was located at the northeastern end of the building. The west side of the fort appears to have been devoted to buildings used for trading and storing. Building IV probably represents the Indian or trading house from which furs could be taken to the large stationary fur press standing in front of building III. The rough nature of building III and the artifacts found within it suggest that it was a warehouse. Bounding the east side of the fort are the three buildings V, VI and VII. Building V appears to be an earthern-floored workshed with a probable forge at the east end. Building IV has the general appearance of a stable-like structure, and building VII probably represents some type of subterranean cold-storage repository. Whether it was still in use at the time of the extension is not clearly known. Suffice it to say that all of the above buildings encircle an open central 38-ft. square.

In addition to the distinctive Hudson's Bay Company style of architecture, eight silver Hudson's Bay Company buttons were found in the extended fort. Four of these came from within building II and clearly confirm a Hudson's Bay Company occupancy of the fort as well as residence in building II. New types of early stamped nails produced between 1820 and 1830 also appear in the extended fort, although it is obvious that many early types were also utilized. It seems reasonable to believe that nails were salvaged from the dismantled buildings of the original fort and were used in the new extended version. In total, all datable artifacts from the site, particularly the nails, date primarily between 1800 and 1830.

From this data, the author feels very confident in assigning the extended fort to the Hudson's Bay Company, and would date their occupancy between the early 1820s and the 1830s on the basis of the datable nails and other artifacts from the site. The exact date of the enlargement and revamping of the fort is a topic left to the following discussion of historical cross-checks.

Certainly, the extended fort was a much stronger establishment than the original post. The additional bastion at the south corner, the reinforced exterior palisades, the interior line of security pickets, and a possible watch house outside the fort's southeast corner attest to this observation. There is also ample evidence indicating that the extended fort was completely dismantled and burned at the end of its history. This appears to have been purposeful, and probably offered an opportunity to salvage nails and other pieces of heavy ironware.

Historical Cross-Checks

The historical records contain further data which can be brought to bear on the identification of the two forts at Rocky Mountain House. As noted in the foregoing pages, a North West Company and later Hudson's Bay Company occupation, from the early 1800s to the 1830s, is

indicated from the archaeological evidence. Is this consistent with the documentary evidence?

Descriptions of the early version of Rocky Mountain House come from the journals of North West Company employees. David Thompson records that the fort was first established in September, 1799, by the North West Company (Thompson 1962:xlvi), but he does not expressly state who built the fort. This question has posed a problem in past years (McGillivray 1929: App.1,6), but Dempsey (1967: 8) has now clarified the matter. John McDonald of Garth is not claiming more than his due when he claims to be the builder of the fort, despite his mistaken memory of the date being 1802.

The journal descriptions of the early Rocky Mountain House are few, but useful information may be gleaned for identification purposes. David Thompson's calculation of the position of the fort at 52° 21′20″ N. latitude by 114° 58′50″ W. longitude (Thompson 1962: liv) is extremely close to the 52° 22′15″ N. latitude by 115° 07′00″ W. longitude location of this site. Similarly, Alexander Henry the Younger's description of the location of the fort conforms remarkably to the position of the site also. Henry describes the fort on the north bank of the North Saskatchewan River opposite the first major rapids in the river. These general descriptive details are consistent with the location of Rocky Mountain House, but are not strong enough to confirm a positive identification of the fort.

Specific architectural details, however, are sensitive cross-checks for positive identification. Thompson speaks of arranging and erecting an elevated half-bastion with four posts over a gateway in the south end of the fort; this activity began 21 November 1806, and continued through to 3 March 1807 (Dempsey 1967: 49-50); The description of this distinctive type of bastion conforms exactly to the archaeological evidence of the original fort at Rocky Mountain House. This same style of bastion was also retained over the later extended fort's south gateway.

At a later date, on 3 May 1811, Alexander Henry the Younger makes reference to a southeast bastion (Dempsey 1967: 54,67). There is no archaeological evidence to confirm this statement, which leads this author to agree with Dempsey (1967: 67) that if either Thompson or Henry was wrong in their orientations of the south bastion it was probably Henry. Henry does mention later a "Block house over the Gate" (Dempsey 1967: 54), which would be in accord with the south gateway overhead bastion mentioned by Thompson and appearing in the archaeological ground plan of the original fort. Henry also mentions a western gate in the fort (Henry 1897: II, 660), which does not conform to the archaeological evidence.

Frequent reference is made by Henry to multiple bastions at Rocky Mountain House, but he cites no specific number (Henry 1897: II, 642, 658, 666). These structures were "wretched excuses for defense." The archaeological evidence at the site indicates that the original fort had two bastions, one at the north corner and the other over the gateway in the south wall of the external palisade. Multiple bastions, therefore, can be confirmed.

Another specific architectural feature which appears to offer an excellent cross-check is the reference by Thompson to an ice house. Thompson relates that on 16 March 1807, they dug an ice house or *glacière* in which they placed 90 quarters of meat (Dempsey 1967: 50). This reference again fits the archaeological findings in the original fort. Subterranean building VII in pit 11 in the northeast corner of the fort has been interpreted as a probable cold-storage repository, and the nails from the upper levels of this feature consistently date between 1810 and 1825. This cross-check is exceedingly convincing.

As noted earlier, archaeological details about the interior of the original fort are meagre. One building and four pits remain the only recognizable features. David Thompson and Alexander Henry the Younger, however, relate other details. There existed a stable (Dempsey 1967: 50); a warehouse (Dempsey 1967: 49); three men's houses (Dempsey 1967: 52); several chimneys (Henry 1897: II, 666); an Indian hall (Dempsey 1967: 53); a forge (Henry 1897: II, 702); a garden in which the inhabitants attempted to grow potatoes (Henry 1897: II, 701); a hen yard (Dempsey 1967: 51), and a flagstaff (Dempsey 1967: 52). Of all of these features, only the factor's house may possibly be correlated with building I of the original fort at Rocky Mountain House.

From the available evidence it is very obvious that close cross-checks exist between the archaeological and historical data with regard to descriptions pertinent

to the original fort. There is no doubt that this excavated fort can reasonably be correlated and identified with the North West Company's Rocky Mountain House built in 1799. The historic descriptions are generally consistent with the archaeological site, and North West Company architecture as well as artifacts were excavated from it. In particular, the overhead bastion over the south gateway and the subterranean cold-storage building of the original fort match similar descriptions in the historic records. The cross-check of these two rather unique and therefore sensitive architectural details serves to corroborate even more convincingly the already established archaeological identification. It is important to note that this important identification rests on concrete evidence and not on conjecture.

There now remains the task of historically identifying the extended and revamped version of the original fort at the site of Rocky Mountain House. The archaeological evidence indicates that the Hudson's Bay Company was responsible for this rebuilding, and did so during the 1820s and 1830s. How does this evidence correlate with the documents?

No historical records document whether Acton House or Rocky Mountain House was the fort retained after the 1821 merger of the North West and Hudson's Bay companies. Dempsey (1967: 15) is of the opinion that Rocky Mountain House was most probably the fort occupied. The archaeological evidence at FcPr-1 substantiates this belief, for there is no indication of anything but a continuous occupation of the fort from the early 1800s into the 1820s. Datable artifacts confirm this statement as does the sequence of extension and rebuilding activities.

Chief trader John Rowand, a former Nor'Wester, took charge of Rocky Mountain House in 1821 and remained until 1823. Apparently the fort was abandoned after this date until Henry Fisher returned to take charge in 1828. From 20 October 1828 to 2 April 1831, constant reference is made in the post journals to repairing and constructing new buildings (Dempsey 1967: 55). Often such references mention "New Houses" and a "New Fort." For instance, on 5 February 1829, "two men began to saw Pickets for a New Fort," and on 12 October 1830, "six men making two chimneys in the new House and four at the flooring." Dempsey (1967: 56) notes that, "It soon becomes apparent that the term 'new' was used in an offhand manner, for seldom did it indicate anything more than the repairing or replacing of part of the old structure."

This is clearly consistent with the archaeological data for the extended version of the fort. As noted earlier, the extension and renovation are of such a major degree that the impression of a new fort is created, in spite of the fact that the extended fort developed as an enlargement of the original post.

There are no pre-1828 descriptions of reconstruction at Rocky Mountain House by the Hudson's Bay Company. Thus it appears reasonable to identify and correlate Henry Fisher's 1828 remodelling activities with the beginning of the extended fort. This identification is consistent with the sequence of architecture, the datable artifacts and the obvious Hudson's Bay Company occupation of the extended fort.

Specific structures of the extended fort can be correlated with those mentioned in the 1828-31 post journals. The sawing of pickets for the "New Fort" and the succeeding construction from 5 February to 20 April 1829 probably refers to the erection of the extension palisades. This activity took place at a time of year when frost is generally found in the ground, and it will be remembered that the trenches dug for the extension walls were fire-reddened. This feature is believed to be a result of thawing the ground with fire, and thus there is consistency between the records and the archaeological findings.

Reference is also made in the records for 12 October 1830 to two chimneys and flooring being laid in the "New House." Building II in the extended fort conforms to this description with its flooring and large double-hearth fireplace. Similarly, building IV offers a probable candidate for the Indian house begun on 15 January 1829. Three bastions in the extended fort offer a number of alternatives for the historical references to these structures, and the reference of 1 March 1830 to "The smith making nails" implies the presence of a forge. Such a feature is inferred for pit 9 in building V within the extended fort. It is interesting to speculate whether the iron cache in pit 14 is the same one mentioned for 29 April 1829, when a hole was dug "in the Bafonts de La Jeuness [literally in the floor of the new one – a building] to Put the Iron work en cache" (Hudson's Bay Company: n.d.). The one distinctive feature, a watch house erected in April

1831, cannot be identified in the archaeological ground plan. This is because extensive area was not excavated beyond the southeast corner of the extended fort where such a structure would most probably have been located. Perhaps a future test excavation could clarify this important detail.

Some confusion has arisen in the past over the duration of the Hudson's Bay Company fort at this location. Its description is obviously incompatible with the later descriptions of Henry Moberly and with Paul Kane's painting, yet the general description given by Hector (Palliser 1863) does obtain. It may be that Moberly is in fact speaking of an entirely different fort from either the extended Hudson's Bay Company version at FcPr-1 or that at FcPr-2. The artifactual evidence from FcPr-1 also substantiates this belief for there is a significant lack of items dating between 1840 and 1860.

Fortunately Dempsey has found a crucial piece of evidence to resolve this problem and establish the terminal occupation date for the extended fort at FcPr-1. In the Rocky Mountain House journals, John Edward Harriot states that a new fort was begun by the Hudson's Bay Company in January, 1835, "a short distance from the old" (Dempsey 1967: 58, 69). This new fort is the Rocky Mountain House of 1835-61 described by Kane, Moberly, Gladstone and Hector. The available archaeological and historical data, therefore, indicates and confirms the identity of the extended fort at FcPr-1 as being the 1828-34 Hudson's Bay Company's Rocky Mountain House. This is the only interpretation compatible with all lines of evidence.

In all probability, Henry Moberly and Paul Kane are not mistaken, as initially believed by this author, in their descriptions of Rocky Mountain House. The fort they describe is probably located on the same plain as FcPr-1, a short distance to the south. Dempsey (1967: 69) is also of this opinion. During the 1963 excavations Mr. Bill Brierly was disc-harrowing the field south of FcPr-1 and recovered a Hudson's Bay Company iron axe head which he donated. This was found about 1,000 ft. southwest of FcPr-1 near the second telephone pole located at the base of the second terrace on the plain. Possibly this is the location of Rocky Mountain House, 1835-61.

The archaeological and historical identification of the two forts at Rocky Mountain House (FcPr-1) now draws to a close. The original fort can be identified as the North West Company post built and intermittently operated between 1799 and 1821. With the 1821 merger, the Hudson's Bay Company took jurisdiction over the fort and kept it open in the years 1821-23. The fort was then enlarged and rebuilt in 1828-31 under Henry Fisher, and this new fort can be correlated with the extended and revamped version at FcPr-1. Figure 54 represents the ground plans and historical identification of the two forts excavated at Rocky Mountain House.

With this archaeological and historical evidence compiled, it is now obvious that there are five forts at four sites in the Rocky Mountain House area. These include: the Hudson's Bay Company's Acton House (1799-1821); the North West Company's original Rocky Mountain House (1799-1821) at FcPr-1; the enlarged and revamped Hudson's Bay Company fort at FcPr-1 (1828-34); the later Hudson's Bay Company fort (1835-61), and the final Rocky Mountain House (1866-75) at FcPr-2. This sequence and series of identifications is the direct result of a coordination of archaeological and historical research. The specific identifications made were not possible on the basis of one line of research alone.

Primary Sources

Hudson's Bay Company. Archives.
Section B: Post Records
B.184/a Rocky Mountain House: Post Journals, 1828-68.

Secondary Sources

Back, George
1836
Narrative of the Arctic Land Expedition to the Mouth of the Great Fish River, and Along the Shores of the Arctic Ocean in the Years 1833, 1834 and 1835. J. Murray, London.

Bourlon, Lt.
1907
"Les Tailleries de silex de Meusnes." *Memoire de la Société des Antiquaires du Centre,* Vol. 30, pp. 1-12.

Bryce, George
1885
"The Five Forts of Winnipeg." *Royal Society of Canada, Proceedings and Transactions,* Vol. 3, Sect. 2, pp. 135-43.
1926
Mackenzie, Selkirk, Simpson. Oxford Univ. Press, Oxford.

Canada. Geographic Board.
1928
Place-Names of Alberta. King's Printer, Ottawa.

Dempsey, Hugh A.
1962
Historic Sites of the Province of Alberta. Alberta Travel Bureau, Department of Industry and Development.
1963
"A Letter from Fort Edmonton." *Alberta Historical Review,* Vol. 11, No. 1, pp. 1-6.
1967
A History of Rocky Mountain House. MS. in possession of Dr. R.G. Forbis.

Dove, Allan B.
1967
Analysis of Nails from Rocky Mountain House, FcPr-1. MS. in possession of W.C. Noble.

Fleming, Freeda
1949
"Rocky Mountain House." *The Beaver,* Outfit 280 (December), pp. 52-6.

Fontana, B.L. and J.C. Greenleaf
1962
"Johnny Ward's Ranch: A study in Historic Archaeology." *The Kiva,* Vol. 28, Nos. 1-2 (Oct.-Dec.). Tucson.

Ford, Grace H.
1943
The Button Collector's History. Pond-Ekberg, Springfield, Mass.

Garth, Thomas R., Jr.
1947
"Early Architecture in the Northwest." *Pacific Northwest Quarterly,* Vol. 38, No. 3 (July), 215-32. Seattle.

Gray, W.H.
1870
History of Oregon, 1792-1849, Drawn from Personal Observations and Authentic Information. Portland.

Harmon, Daniel W.
1957
Sixteen Years in the Indian Country: The Journal of Daniel Williams Harmon, 1800-1816. Macmillan, Toronto.

Harrington, J.C.
1954
Dating Stem Fragments of Seventeenth and Eighteenth Century Clay Tobacco Pipes. *Archeological Society of Virginia, Quarterly Bulletin,* Vol. 9, No. 1.

Henry, Alexander
1897
New Light on the Early History of the Greater Northwest; the Manscript Journals of Alexander Henry and David Thompson, 1799-1814. Vol. 2. Harper, New York.

Jefferys, Charles W.
1939
"The Reconstruction of the Port Royal Habitation of 1605-13." *Canadian Historical Review,* Vol. 20, No. 4 (December), pp. 369-77.

Kane, Paul
1925
Wanderings of an Artist Among the Indians of North America. Radisson Society of Canada, Toronto.

Leechman, Douglas
1948
"McConnell's Long Trek." *The Beaver,* Outfit 279 (December), pp. 12-15.

Maxwell, L.S. and L.H. Binford
1961
"Excavation at Fort Michilimackinac, Mackinac City, Michigan." *Publications of the Museum, Cultural Series,* Vol. 1,

No. 1. Michigan State University, East Lansing.

McGillivray, Duncan
1929
The Journal of Duncan M'Gillivray of the North West Company at Fort George on the Saskatchewan, 1794-5. Macmillan, Toronto.

Miller, Carl F.
1960
"The Excavation and Investigation of Fort Lookout Trading Post II (Site 39LM57) in the Fort Randall Reservoir, South Dakota." *U.S. Bureau of American Ethnology, Bulletin* 176, pp. 49-82.

Mills, John E.
1960
"Historical Sites Archaeology in the Fort Randall Reservoir, South Dakota." *U.S. Bureau of American Ethnology, Bulletin* 176, pp. 25-48.

Moberly, H.J. and W.B. Cameron
1929
When Fur Was King. J.M. Dent, London.

Moore, N. Hudson
1933
Old Pewter, Brass, Cooper and Sheffield Plate. Garden City, New York.

Nelson, Lee H.
1963
"Nail Chronology as an Aid to Dating Old Buildings." *American Association for State and Local History, Technical Leaflet 15.*

Olsen, Stanley J.
1963
"Dating Early Plain Buttons by Their Form." *American Antiquity,* Vol. 28, No. 4, pp. 551-4.

Omwake, H. Geiger
1964
Report of an Examination of Photographs of White Kaolin Pipe Stem and Bowl Fragments Recovered from Rocky Mountain House Sites. MS., Glenbow Foundation, Calgary, Alberta.

Orchard, W.C.
1929
Beads and Beadwork of the American Indians. Museum of the American Indian, Heye Foundation, New York.

Palliser, John
1863
The Journals, Detailed Reports, and Observations Relative to the Exploration by Captain Palliser. . . During the Years 1857, 1858, 1859 and 1860. Eyre & Spottiswoode, London.

Petersen, Eugene T.
1963
"Clay Pipes: A Footnote to Mackinac's History." *Mackinac History,* Mackinac Island State Park Commission, Michigan.
1964
Gentlemen on the Frontier: A Pictorial Record of the Culture of Michilimackinac, Mackinac Island State Park Commission, Michigan.

Rich, E.E.
1960
The Hudson's Bay Company, 1670-1870. Hudson's Bay Record Society, London. 3 vols.

Robinson, Henry M.
1879
The Great Fur Land, or Sketches of Life in the Hudson's Bay Territory. Sampson, Low, Marston, Searle, London.

Roe, Frank G.
1958
"The Old Log House in Western Canada." *Alberta Historical Review,* Vol. 6, No. 2 (Spring), pp. 1-9.
1964
"Edmonton a Century Ago." *Alberta Historical Review,* Vol. 12, No. 1, pp. 10-16.

Russell, Carl
1957
Guns on the Early Frontiers; A History of Firearms from Colonial Times Through the Years of the Western Fur Trade. Univ. of California Press, Berkeley.

Simpson, George
1938
Journal of Occurrences in the Athabasca Department, 1820 and 1821, and Report. The Champlain Society, Toronto.

Smith, G. Hubert
1953
"Indian Trade Beads from Fort Berthold, North Dakota." *Central Texas Archaeologist,* No. 6
1960a
"Fort Pierre II (39ST217): A Historic Trading Post in Oahe Dam Area, South Dakota." *U.S. Bureau of American Ethnology, Bulletin* 176, pp. 83-158.
1960b
"Archaeological Investigations at the Site of Fort Stevenson (32ML1), Garrison Reservoir, North Dakota." *U.S. Bureau of American Ethnology, Bulletin* 176, pp. 159-238.

South, Stanley
1964
"Analysis of the Buttons from Brunswick Town and Fort Fisher." *The Florida Anthropologist, Goggin Memorial Issue,* Vol. 17, No. 2, pp. 113-33.

Thompson, David
1962
David Thompson's Narrative of His Explorations in Western America, 1784-1812. The Champlain Society, Toronto.

Traquair, Ramsay
1945
"The Coat-of-Arms." *The Beaver,* Outfit 276 (June), pp. 42-6.

Tyrrell, Joseph B.
1887
"Report on a Part of Northern Alberta and Portions of Adjacent Districts of Assiniboia and Saskatchewan." *Geological Survey of Canada, Annual Report for 1886,* n.s., Vol. 2, Pt. E, pp. 1-176.

Woodward, Arthur
1948
"Trade Goods of 1748." *The Beaver,* Outfit 279 (December), pp. 3-6.

Woolworth, A.R. and W.R. Wood
1960
"The Archaeology of a Small Trading Post (Kipp's Post, 32MN1) in the Garrison Reservoir, North Dakota." *U.S. Bureau of American Ethnology, Bulletin 176,* pp. 239-305.

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