ARCHAEOLOGY AT THE FORKS: AN INITIAL ASSESSMENT

by

Peter J. Priess, Sheila E. Bradford, S. Biron Ebell
and Peter W.G. Nieuwhof

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INTRODUCTION

1.1 Significance

The significance of the junction of the Red and Assiniboine rivers (the Forks) was recognized by the Historic Sites and Monuments Board of Canada in 1925. A plaque commemorating Forts Rouge, Gibraltar and Garry was installed on the north gate of Upper Fort Garry, the only structural remains of the latter fort (Parks Canada 1980). This initial recognition, however, concerned specific forts which had played a role in the early European exploration of western Canada or in the fur trade. There were no physical remains still visible other than the Upper Fort Garry gate.

When the Board reconsidered the Forks during the 1970s it did so within a broader, more general perspective and decided that the location itself was of national historic significance. Furthermore "every effort should be made...to ensure the restoration and preservation of its historic environment" (Parks Canada 1980:4). Further discussion with the Board established that the location itself was to be considered the resource (Parks Canada 1980). It was to be seen as a historic place, regardless of whether or not any physical remains were still present.

Recognition of the location as being the major resource was seen as an advantage for the development of themes. In not being tied to specific resources or events, such as one or more of the fur trade posts, it allowed for a broader perspective on historic themes. Interpretation of the site could be in broader and more comprehensive terms, encompassing its total history rather than being tied to a specific period in history (Parks Canada 1980).

Recognition of the significance of the Forks was reinforced when this area was included in the Canada-Manitoba Agreement for Recreation and Conservation on the Red River Corridor (Red River-ARC) in 1978 (Parks Canada 1980). Because of the absence of many above ground resources the need for archaeology was recognized, but fieldwork was not feasible until 1984 when a portion of the CN East Yards, a strip along the Red River, was identified for transfer to Parks Canada.

1.2 Historical Overview

The area is assumed to have had long native or prehistoric occupations, although no evidence of them had previously been located. This part of the area's history is discussed in Chapter 4 relating to the prehistoric archaeological remains recovered during 1984.

For the recent prehistoric and early historic period, Ray (1974) presents the idea that the area of the Forks existed as a no man's land on the border between a number of native populations, none of which were strong enough to occupy and defend it. This interpretation may be reinforced by the fact that in 1737 LaVerendrye was encouraged by the Assiniboines to establish a fort at the Forks. If he did so the Assiniboines would establish a permanent village there (Guinn 1980b). LaVerendrye noted the presence of two Assiniboine villages at "the great fork of the Red River" (quoted in Douglas 1945:52), yet when he arrived there in September 1738 the site was occupied by "'ten cabins of Cree, including two war chiefs'" (quoted in Guinn 1980b:8). Later in the century MacDonnell noted the presence of Saulteux (Wood and Thiessen 1985:80).

The first European occupation at the Forks was established in 1738 by de Lamarque, a member of the LaVerendrye expedition, who arranged the construction of Fort Rouge. The fort may not have been used for any length of time and in 1749 it was reported as having been abandoned (Guinn 1980c).

Use of the Forks continued sporadically for the remainder of the 18th century. From documentary records it appears the location was occupied for an extended period only twice, once for the winter of 1752-53 and again for the winter of 1781-82 (Guinn 1980b; 1980c; Douglas 1945). Both occupations were an attempt to escape potential hostilities by natives. For the 1790s MacDonnell noted the presence of "the remains of several old Posts...some of which were built as far back as the time of the French" (Wood and Thiessen 1985:80).

The fur trade which developed in western Canada after 1760 placed little emphasis on the lower Red or Assiniboine rivers. Posts were established on the upper Assiniboine and Red rivers and the Qu'Appelle River. Travellers would have passed the Forks and may have stopped there for trade or encampment. Records of this period are scant, so use of the area is not well-known.

By the 1790s the fur trade competition had escalated and use of the Red and Assiniboine rivers intensified. A 'number of instances are on record of traders stopping at the Forks and meeting people from the competing fur trade company .

The importance of the Forks in the fur trade began to change in 1800 when North West Company canoe brigades from various posts began meeting there, both on their way to and on their return from Fort William. Hudson's Bay Company canoes would also stop there/ often meeting and spending some time with the North West Company people.

Until 1810 this kind of activity had still not resulted in the establishment of more permanent facilities. A North West Company employee wintered at the Forks in 1803-04 but there is no indication of this involving any construction. Then the North West Company began the construction of Fort Gibraltar in 1810, possibly as a means of getting away from potential hostilities at Pembina, their Red River headquarters since 1800. Thus began a continuing occupation of this location.

The first Fort Gibraltar stood until 1816 when it was captured by the Hudson's Bay Company and the Selkirk settlers. It partially dismantled and the remainder was burned to prevent the North West Company from reoccupying it.

A second Fort Gibraltar was begun in 1817. When the two fur trade companies amalgamated in 1821 as the Hudson's Bay Company, this fort was chosen as its Red River headquarters and renamed Fort Garry. Until 1826 Fort Garry was being extensively renovated and expanded, but in 1826 it was damaged heavily by the largest recorded spring flood of the Red River.

Fort Garry carried on for a number of years after 1826. In the early 1830s the Hudson's Bay Company tried to relocate its headquarters to Lower Fort Garry some 30 kilometres downstream and north of most of the Red River settlement. The decision for such a move was not based entirely on economic or practical considerations and the company soon found that people were unwilling to travel to Lower Fort Garry to carry out their business. Hence, a new fort called Upper Fort Garry was begun in 1835 on the north bank of the Assiniboine less than one-half kilometre from the Forks.

For the remainder of the fur trade era in Red River the immediate vicinity of the Forks took on a secondary importance as business was transacted at Upper Fort Garry. The buildings of Fort Garry may have continued in use as required. A drawing of 1847 (Guinn 1980c: Fig. 15) shows a number of buildings and a section of palisade at this location. A map of 1848 also shows a number of buildings in the area and notes several of them to be the "site of old fort". The remaining buildings of Fort Garry may have been removed in 1852.

For the property transferred to Parks Canada there does not appear to have been any major change or new development until the 1870s when large numbers of immigrants began arriving by riverboat. Several immigrant sheds were erected and may have been situated on the Parks Canada property.

Further use of the Forks and the area along the west bank of the Red River came with the development of a railway operation. By 1889 a roundhouse and maintenance shop had been built, and during the next century a number of small buildings were put up and removed in areas close to the riverbank. The major railway development took place to the west.

The preceding has been concerned primarily with that part of the Forks area which became Parks Canada property and was thus available for archaeological investigation. It has also been.concerned with the history of the area as it relates to the potential for archaeological remains. The historical overview has not attempted to provide an extensive rationale for any occupation or use of the Forks area beyond the general idea that it was an important location in a transportation system.

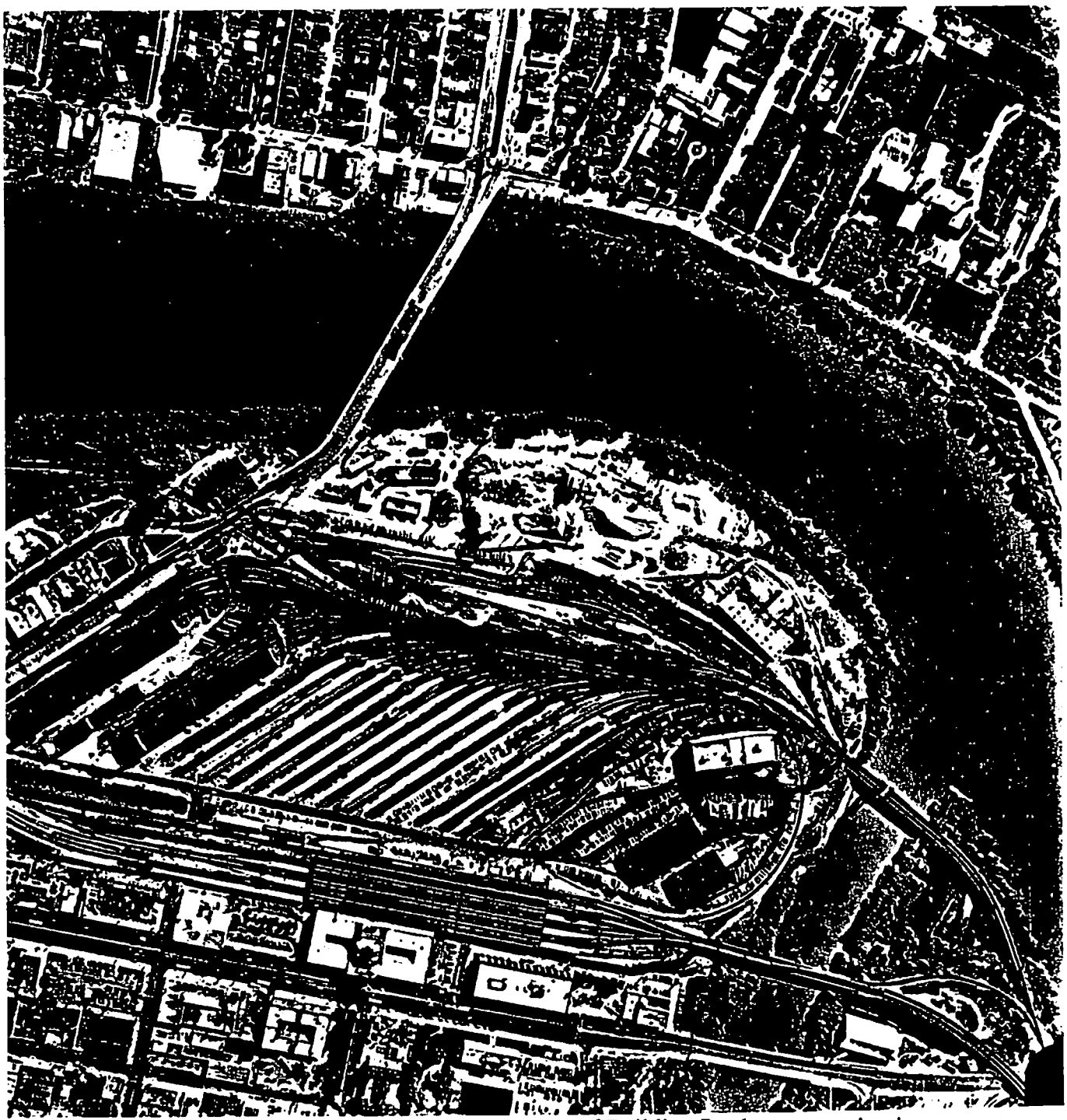


Figure 1.1 Aerial view of Forks area in 1970; extent of Building Products operation is apparent north of junction. (Photo courtesy of Department of Energy, Mines and Resources.)

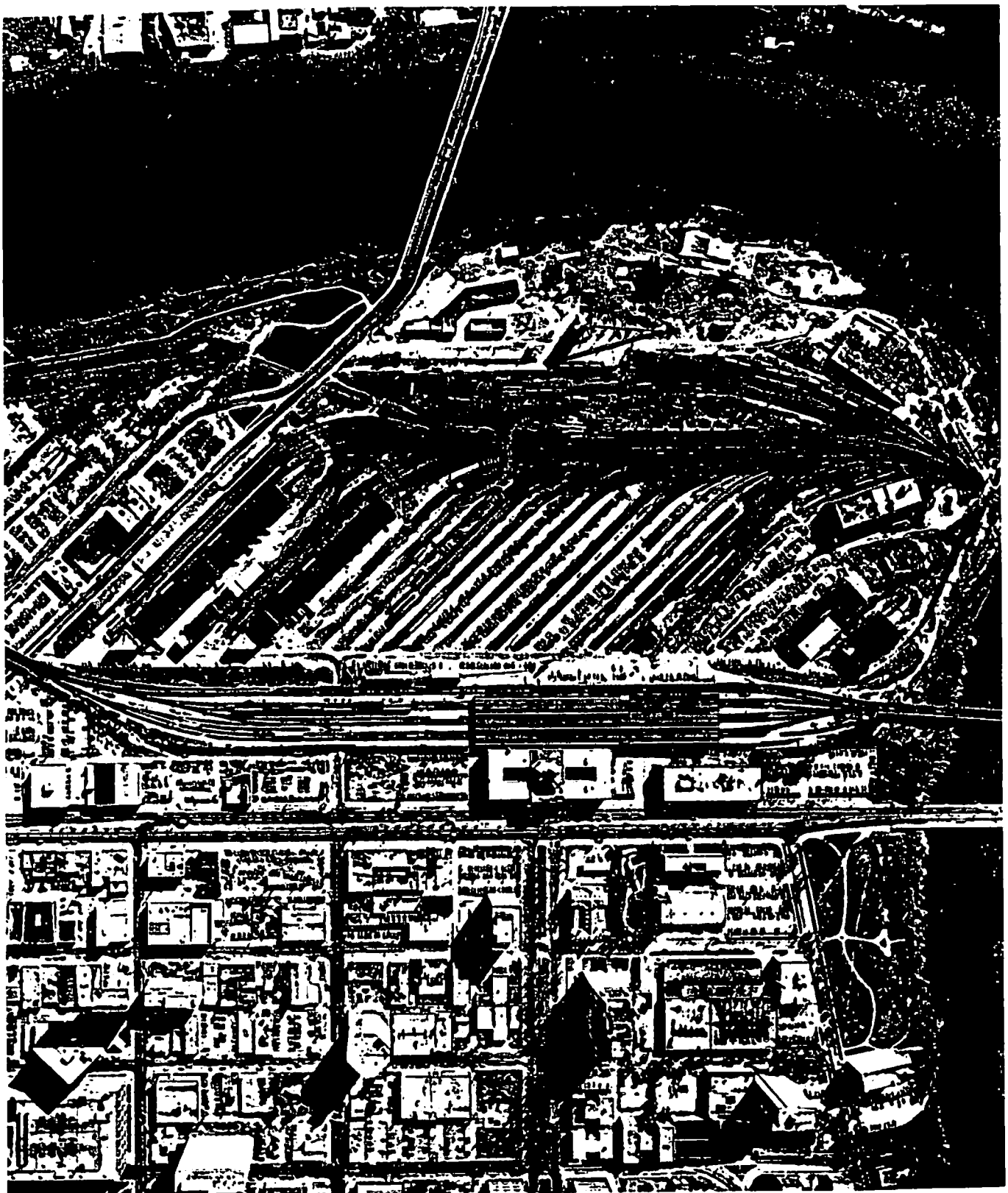


Figure 1.2 Aerial view of Forks area in 1984; Products no longer functioning but still in place. (Photo courtesy Resource Surveys Ltd.)

Figure 1.3 Aerial view of Forks area in 1984 during archaeological field season and after removal of Building Products facilities. (Photo courtesy of Earl Kennedy.)

RESEARCH APPROACH

2.1 Constraints

A number of factors influenced the means chosen to investigate the Forks area. Time limitations were the basis for several of these. The project came during the last year of the seven year Red River-ARC agreement, making it the final time any archaeology could be considered. An extension to the agreement was theoretically possible but had not been arranged by the time work got underway. Therefore it was not possible to work out a multi-year program. It was to be assumed that only one season of field investigations would be allowed.

The transfer of property making it possible to work on the site came relatively late in the type of time frame usually involved in putting together a field project. Work would not be able to begin in early summer as preferred. The property transfer also came without advance notice so anticipatory preparations had not been made. In fact, the project director was proceeding with plans for other projects.

Time also played a role in making it difficult to investigate or test the entire area transferred to Parks Canada; a total of approximately ten acres. To this could be added another 3.5 acres at the north end of the area which had been expropriated for park development but was not under the jurisdiction of Parks Canada. Not even a long field season would be adequate to test that large of an area.

The property which could be investigated had been used as part of a railway operation for almost a century. Parts of it had recently been used by a building supplies and materials company, resulting in the construction of various facilities and the accumulation of construction materials stockpiles.

The long term railway use had resulted in various reports bordering on horror stories about how much material had been deposited over the years. It was considered probable that all earlier remains had been buried by many feet of fill. It was even concluded that any search for remains of the fur trade era would not be worthwhile (Smythe and Chism 1969:13). The existence and extent of fill deposition was hinted at by the general condition of several parts of the area. It was apparent that embankments had been built up for the two bridges spanning the Assiniboine River. On the south point on the south side of the Assiniboine, the height of embankment for the tracks provided some indication of earlier elevations or topography. The earlier topography on the two sides of the Assiniboine may not have been identical but are considered to have been similar. Elsewhere, the west bank of the Red River north of the junction with the Assiniboine was littered with deposits of large blocks of concrete, larger pieces of garbage and general garbage. Deposition of such material appeared to have resulted in a shift of the bank's edge towards the river.

An examination of the bank at a time of low water did not locate any artifacts that could be associated with a pre-railway period. The majority of items, such as shopping carts and parking meters, were a reflection of current use of the bank by transients. One area of the north side of the Assiniboine had a lot of pre-CN railway ceramics washing out of the bank. The area had apparently been used as a dump for table and kitchen garbage.

The archaeology project thus had to work with a truncated time frame for a single season of on-site investigations. The work was to be done on a site which had been extensively altered and disturbed to the point where areas of earlier occupation or use were completely masked and unrecognizable.

The boundaries for the property transferred to Parks Canada were not determined on the basis of historical associations or archaeological potential. It could be suggested they were based on railway practicalities and consisted of a strip along the Red River which contained virtually no railway facilities and was not required for the continuing operation of the east yards. The western boundary of this strip generally was a roadway which continued to serve as a major access for CN.

The initial opinion, based on historical sources, was this property comprised only a portion of the location of either of the two major fur trade posts. If historical factors had been able to play a more significant role, the boundaries could have been defined on the basis of resource location and would

have been defined after archaeological investigations of the nature and extent of cultural remains.

2.2 Objectives

Three objectives were defined for the project: 1) to locate and identify archaeological remains; 2) to obtain artifacts for site interpretation and display; and, 3) to identify development impacts and provide mitigation. The first two were field-oriented, the third was a continuing responsibility of the project.

This should not be considered as an object collecting expedition as the second objective may suggest. The objects available for site interpretation and display would be those located during efforts to meet the first objective.

The project was organized with a director (P.J. Priess) and four assistant archaeologists: three (P.W.G. Nieuwhof, L. Konotopetz and S.E. Bradford) for the field operation and one (S.B. Ebell) for the laboratory. Analysis and reporting of results was divided up as indicated by the authorship of the individual chapters.

2.3 Field Approach and Rationale

To obtain maximum results within existing constraints, a two-stage approach to the field investigations was chosen. This consisted of initial mechanical soil testing followed by archaeological test excavations in selected areas.

Soil testing was done with power equipment and was intended to provide general information on stratigraphy, ideally defining the nature and extent of railway fill and locating areas of probable fur trade occupation. The location for archaeological testing would be based on results of soil testing and available historical information and be concentrated in areas which were considered to have the best potential for containing archaeological resources. Any results obtained thus would not be considered as a random sample or a true indication of the archaeological potential of the property. This approach would, however, respond to the first two objectives and have a better chance of providing new or supplementary data for site interpretation.

Two areas were chosen for investigation, each considered as a possible or probable location for one of the Gibraltar forts. The location of Fort Gibraltar II was considered to be reasonably well-known since it appears on several illustrations and is shown to be on the right of the junction of the two rivers. It is probable the two forts were not in the same location and is estimated that the first Fort Gibraltar was on the Red slightly downstream from the second (Guinn 1980b:15). There are no known representations of this fort to assist in its placement on a map.

2.4 Field Techniques

The extent of railway fill layers led to the decision to use mechanical equipment. A backhoe or similar machine was used to remove what was considered to be railway materials. This was done under archaeological supervision to control depth of excavation and general notes were made on types of fill. Artifacts present in these layers were collected, recorded on site and eventually returned to the excavation.

Railway fill was removed from a relatively large area which was then tested further by hand excavation, mostly of a series of 2.0 m. by 1.0 m. test units (Fig. 2.1). The latter were not laid out in a random pattern but along a series of lines. Individual test units were divided into two halves with only one-half being excavated in many instances and this accounts for mention of the north or south half in some of the following descriptions. Contiguous areas were excavated when features were encountered.

Two test trenches were dug by machine north of the Fort Gibraltar II area (Fig. 2.1) to obtain more complete information on stratigraphy and investigate the possible presence of other fort remains.

All artifacts uncovered during the test excavations were collected and processed in a lab located off-site. The artifacts were sorted, cleaned and catalogued using the Prairie Region artifact manual and

coding sheets. The latter allows for key punching and creation of a computerized data base for electronic data processing; a step which has, however, not yet been undertaken.

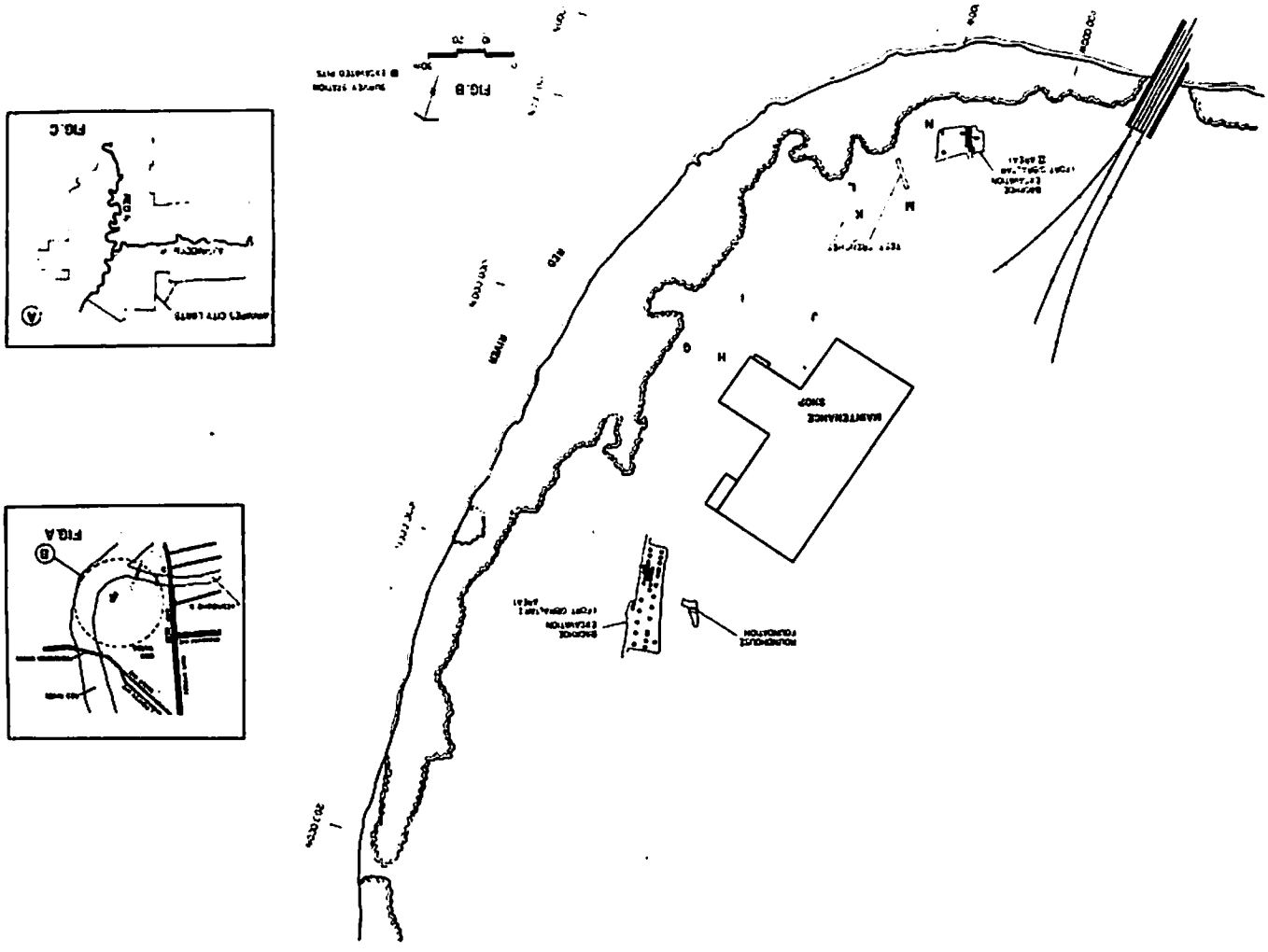


Figure 2.1 Location of archaeological excavations. (Drawn by D. Elrick.)

TESTING BY MACHINE

3.1 Soil Testing

Soil testing and core sampling were conducted under contract by National Testing Laboratories Limited of Winnipeg, Manitoba. A series of 24 auger test holes in lines perpendicular to the Red River (Fig. 3.1) were drilled. Both the upper and lower river terraces were tested. A 50 mm. hand auger was used on the lower terrace where tree growth and bank slope prevented access for truck mounted equipment. Either a 200 mm. or a 400 mm. truck mounted power auger was used for the remaining test holes.

The original intention of collecting core samples proved to be untenable due to the unconsolidated nature of the fill layers overlying the natural stratigraphy. The entire operation was overseen by Parks Canada archaeologists who monitored the auger tests for any indications of buried archaeological resources. Soil samples were collected and retained from most identifiable layers in each test hole.

The locations of the test holes were in part determined by the historical background data as well as the extant features present, such as concrete foundations, railway ties, wooden platforms or utility poles, which would hinder operation of a machine. A detailed record of each auger test hole is contained in Appendix C.

Evidence of archaeological resources was found in 21K1A16, 21K1A18, 21K1A22 and 21K1A24. The first two proveniences refer to the Fort Gibraltar I area; the latter two are located near the Fort Gibraltar II area.

Between 1.2 m. and 2.4 m. below the surface and within the railway fill, wood fragments, chinking, ash and charcoal deposits were noted in 21K1A16. In 21K1A18 historic artifacts were collected from the fill layer prior to an auger refusal at 1.37 m. below surface. These tests suggested this would be a likely location of Fort Gibraltar I archaeological remains.

Underlying two fill layers which extended to a depth of 1.50 m, a fine to medium compact silty sand layer contained a 0.125 m. thick layer of a decomposed wooden log at a depth of 2.3 m. in 21K1A22.

Auger test 21K1A24 was dug to a depth of 4.27 m. Four discrete stratigraphie layers were noted: 1) 0 m. to 0.65 m., gravelly sand fill with some concrete and cobbles from railway activity; 2) 0.65 m. to 1.28 m., sandy fill with wood, cinders and silt; at 1.0 m. a concentration of fish bones, clam shells, charcoal and chinking occurred; 3) 1.28 m. to 1.52 m., sand horizon alluvial deposit, and 4) 1.52 m. to 4.27 m., soft to firm tan sandy silt.

The results of the 21K1A22 and 21K1A24 tests indicated the presence of a historic structure and related faunal remains. This area is believed to be the location of Fort Gibraltar II/Fort Garry remains.

3.2 Backhoe Test Trenches

As part of the archaeological resources evaluation, two test trenches were dug by backhoe. These were designated as suboperations 21K5A and 21K5B. The trenches were located in the area between the investigations of Forts Gibraltar I and II (Fig. 3.1). They were excavated perpendicular to the bank of the Red River. It was hoped the trenches would provide information on the location of the original ground and bank surfaces as well as indicating any historic and prehistoric features present in this area.

Test trench 21K5A was 29.8 m. long by 1.5 m. to 2.0 m. wide and varied in depth from 3.22 m. (east end) to 0.98 m. (west end). Stratigraphy at the west end was roughly half noncultural whereas the bottom of cultural deposits was not achieved at the east end of the trench. The stratigraphy of this area was comprised of various layers of railway fill overlying the naturally deposited soil horizons. Seventeen distinct stratigraphie layers were recorded (Fig. 3.2) and detailed photographs were taken of the south wall profile at 3.0 m. intervals. The railway period fill can be seen as a series of roughly parallel deposits, paralleling the natural deposits below them. Near the bank edge these layers are at an oblique angle because they parallel an early natural bank slope. Natural deposits are generally

horizontal.

The stratigraphy is described below using layer numbers from the corresponding illustrations (Fig. 3.2):

1) mixture of clay and gravel fill, recent railway deposits;
2) gravel fill railway deposits;
3) banded railway fill consisting of cinders, ash, gravel, bricks, wood and fabric;
4) within layer 3 a brick rubble deposits;
5) sheet glass deposit underlying layer 4;
6) natural stratum of yellow clay representing natural ground surface of small lower terrace and the west riverbank of the Red River prior to railway related fill deposits ;
7) sand underlying layer 6 yellow clay; natural riverine flood deposit;
8) mixed clay with coal inclusions deposited during railway period (1887-1984);
9) white sand lens underlying fire hearth features and associated charcoal stained clay, within layer 6 yellow clay, natural stratum deposited by riverine flooding;
10) second white sand lens within layer 6 natural stratum;
11) fine black charcoal lens underlying layer 10, possibly representing a sealed prehistoric occupation floor or a burn episode during the prehistoric period prior to the fire hearth occupation;
12) third white sand layer flood deposited within layer 6;
13) fourth white sand layer flood deposited within layer 6;
14) fifth white sand layer in yellow clay, layer 6, which was flood deposited;
15) gravel fill layer railway period deposit, uppermost layer east of layer 1 mixed clay and gravel;
16) yellow gravel deposit within layer 3 west of original bank;
17) white sand lens within layer 8; and,
18) charcoal stained clay with three charcoal stained prehistoric hearth features within layer 6; probably representing Late Woodland occupation (faunal remains present but no diagnostic artifacts recovered).

Between 8.8 m. and 12.2 m. west of the east wall of the trench a series of three prehistoric hearths were noted in the south wall (Fig. 3.3). These features were contained within the yellow clay stratum and joined stratigraphically by a thin black charcoal lens. They were pit-shaped in cross section and contained calcined faunal remains as well as charcoal stained clay. From left to right (Fig. 3.3) their dimensions are: 1) 0.87 m. wide by 0.29 m. deep; 2) 0.7 m. wide by 0.3 m. deep; and, 3) 0.7 m. wide by 0.2 m. deep. The middle hearth contained faunal remains and appeared to extend for some distance into the south wall. These features require further archaeological investigations if the prehistoric component of the area is to be more fully understood. This area contains a sealed, single component site located in close proximity to the edge of a high terrace on the west bank of the Red River.

Trench 21K5B was 11.45 m. long and varied from 1.2 m.to 1.5 m. in width; depth was 1.20 m. to 1.68 m. The eastern edge of the trench abutted a concrete platform associated with the 20th century railway occupation. Several utility trenches were noted in the north wall profile (Fig. 3.4). One of these trenches contained three metal pipes and wooden utility box fragments.

Eleven stratigraphie layers were recorded on the north wall profile (Fig. 3.4):

1) the lowest stratum was a sand alluvial deposit;
2) a brown sand-silt overlay layer 1;
3) a yellow sand-silt overlay layer 2;
4) within layer 3 an organic black band or lens was noted;
5) a grey-brown sand-silt overlay layer 3;
6) two utility trenches were filled and cut through layers 1 to 3 and 5;
7) a layer of black cinders overlays layer 5;

8) a layer of grey cinders overlays layer 7;
9) a gravel layer overlays the grey cinders railway deposit;
10) a mixed gravel railway fill is the uppermost deposit and constitutes the present ground surface; and,
11) a black cinder layer on the east half of the profile replaces layers 7 and 8. It was probably deposited by the railway during the same period as the cinder layers found beneath and beside it.

There were neither 19th century historic or prehistoric occupations evident in 21K5B, but the organic black band (in layer 3) could represent a prehistoric occupation similar to those found in 21K5A and 21K3 areas.

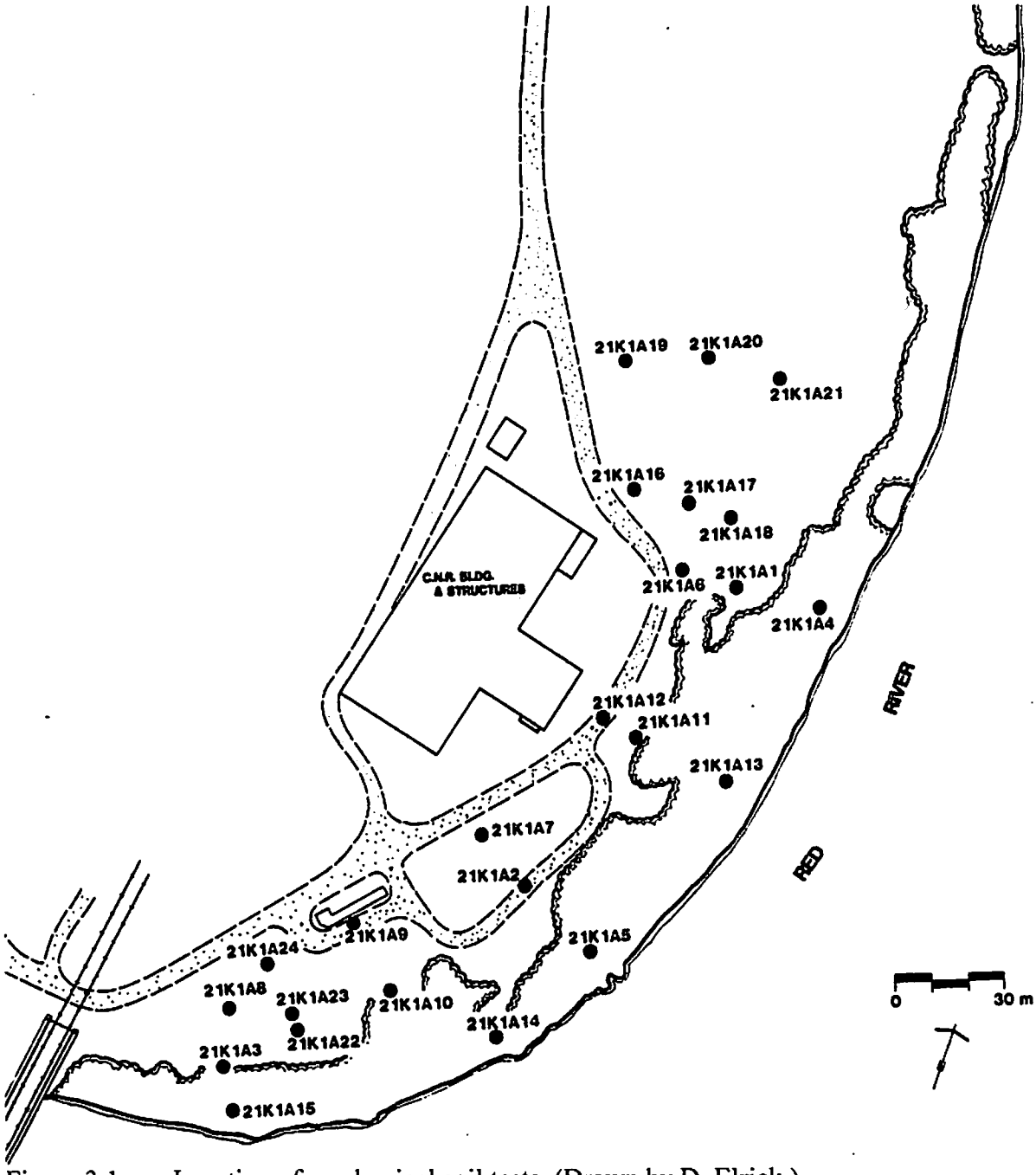


Figure 3.1 Location of mechanical soil tests. (Drawn by D. Elrick.)

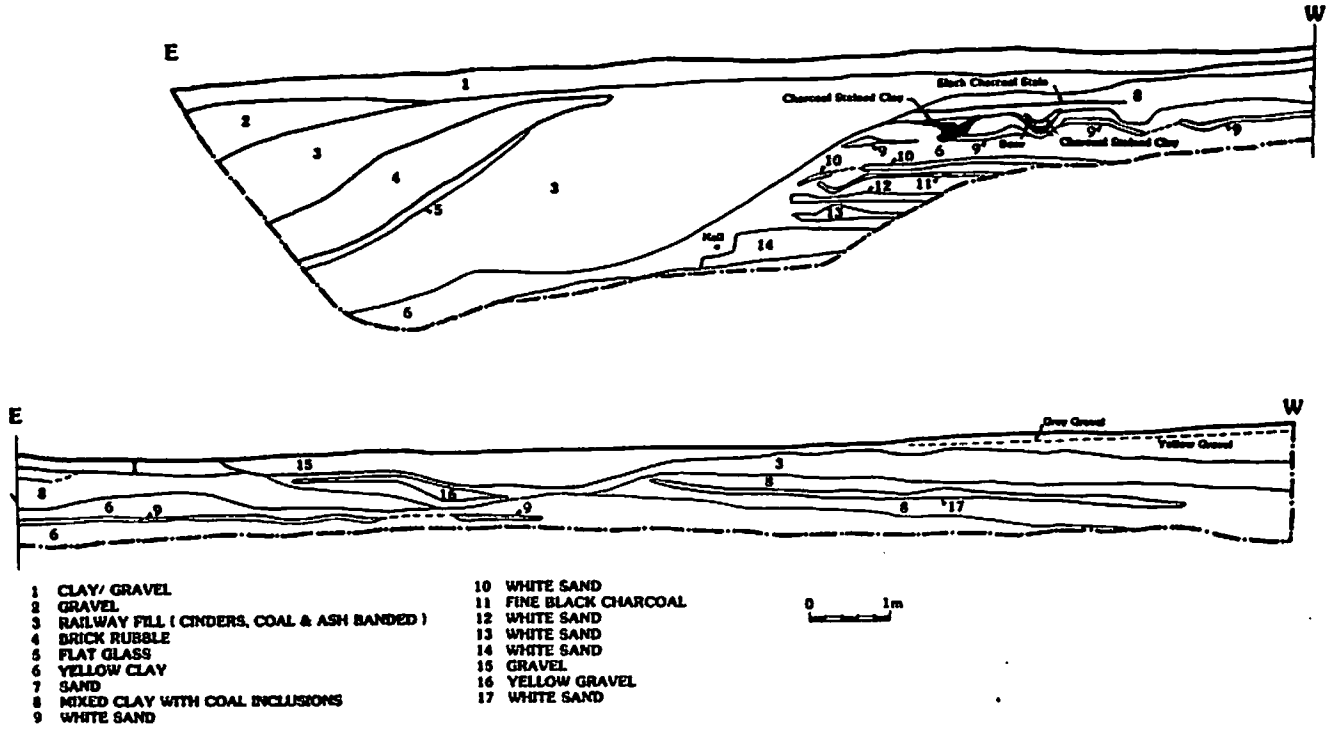


Figure 3.2 21K5A south profile. (Drawn by P.J. Priess.)

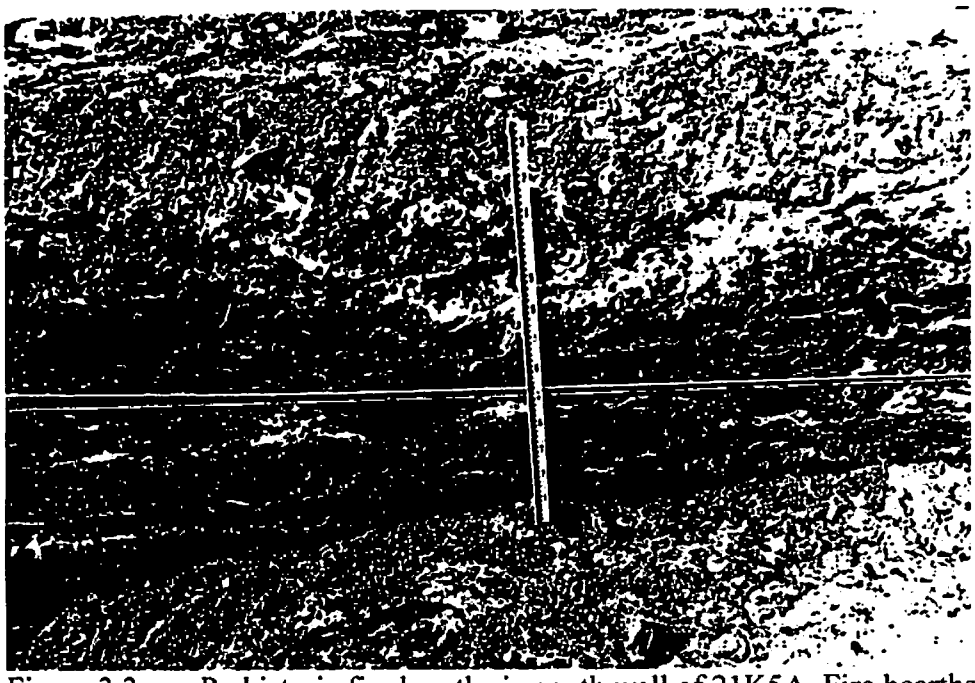


Figure 3.3 Prehistoric fire hearths in south wall of 21K5A. Fire hearths are the dark stains dipping below the string level. (Photo by P. Nieuwhof.)

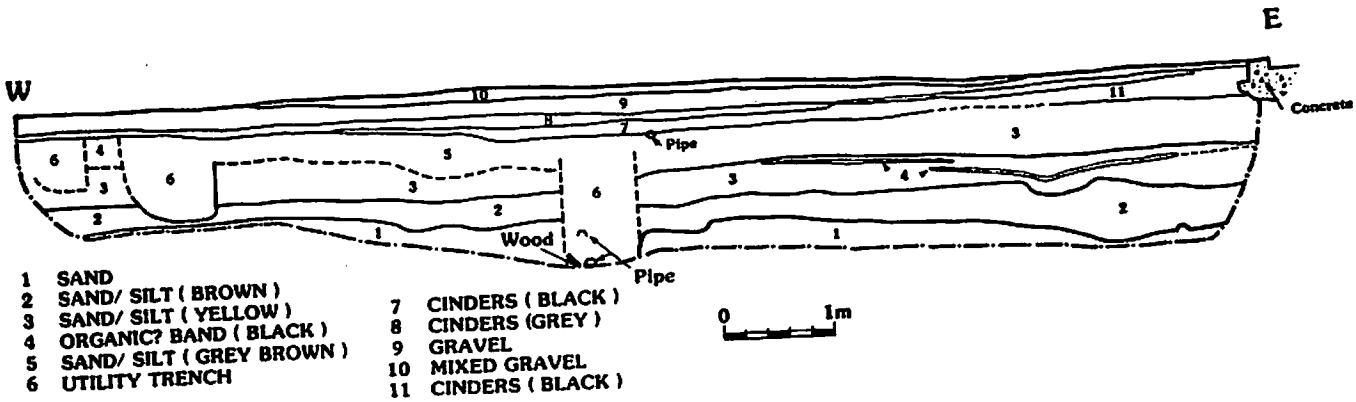


Figure 3.4 21K5B north profile. (Drawn by P.J. Priess.)

PREHISTORY

4.1 Background

Archaeological data pertaining to the earliest human occupation of Manitoba is based on artifacts recovered from the surface of cultivated fields. A number of these are distinctive diagnostic projectile points that are similar to those recovered in the USA from dated contexts. From this, it is hypothesized the first human entry into Manitoba occurred ca. 10,000 years ago soon after plant and animal communities had become established following the recession of the Laurentian glacier (Pettipas 1983). Again, based on analogy with American data, it is believed these early people hunted large mammals and foraged plant foods.

Because Glacial Lake Agassiz covered southern Manitoba from the Manitoba Escarpment to beyond the Ontario border and south, well into North Dakota and Minnesota, the Red River Valley remained uninhabitable until ca. 6000 B.C. Excavations at the Sinnock Site on the Winnipeg River indicate people using distinctive lanceolate projectile points and a variety of other tools and hunting bison as early as 6000 B.C. (Buchner 1981a; 1984:38-39). The proximal end of a projectile point similar to those from Sinnock was recovered from the Red River Valley near St. Norbert, Manitoba (Ebell 1982:103-6). This may constitute evidence of the earliest human presence in the Red River Valley.

The temperature amelioration that spelled an end to the Laurentian glaciation continued for several millennia, reaching a peak between 5200 B.C. and 4600 B.C.

Temperatures were warmer than present, precipitation was somewhat reduced and surface water evaporation on the plains exceeded accumulations. In contrast, the forest areas may have actually received more rainfall (Pettipas 1983:47).

In response to the warming trend, human populations from the plains moved to the forests and river valleys where game animals and water persisted. Socially and economically there was a shift away from the focus on big game hunting towards a way of life that relied on hunting, fishing and foraging. By 3500 B.C. the severe conditions had become more moderate, and by 3000 B.C. vegetation and vegetational zones were much as they are today.

With a return to more hospitable conditions on the plains, human populations again began to exploit the Red River region for its resources. With minor variations in material culture, bison hunting and foraging remained the primary economic factors on the plains until the arrival of the European explorers and traders in the 18th century.

However, human populations who remained in the forest region continued to exploit a vast resource base. With a large mammal population in the Boreal region of Manitoba being more widely dispersed than those on the plains, human populations who continued in this environment retained a broad based hunting and foraging economy that also included the fish resources of the region's lakes and rivers.

4.2 Previous Archaeology

There had been no systematic archaeological excavations at the Red and Assiniboine rivers' confluence prior to 1984. Riverbank surveys have been conducted and sites on both rivers have undergone excavation. A number of these sites have a direct bearing on prehistoric recoveries made at the Forks in 1984, including the Lockport Site and Rosser Mound

(MacNeish 1958), the Lord Site in St. Norbert (Syms 1977: 102), Kuyper's Site (Buchner 1981b) and the Rat River Site (Ebell 1984; Callaghan 1984:14) near St. Agathe.

An archaeological survey of metro Winnipeg in 1968 and 1969, although identifying numerous sites and find spots, was unable to confirm that in situ archaeological deposits remained at the Red and Assiniboine junction. As a result of extensive research in the Forks area it was concluded that these deposits, if they still existed, would be deeply buried and inaccessible (Dickson 1979).

4.3 Archaeology of 1984

Since Parks Canada's archaeological mandate at the Forks was to assess the earthbound historic resources present and since the area chosen to test focused on the historic building and refuse remains, it was impossible at that time to accomplish much beyond sampling the prehistoric deposits that were inadvertently encountered. A number of the historic features explored were in ground structures that crosscut and disturbed presumably widespread prehistoric strata. Thus it was impossible to expose extensive prehistoric living floors for study. The relative chronological sequence of prehistoric events was derived from reconstructing the stratigraphic sequence based on soil type, unique widespread depositional features (i.e., compact fish remains, etc.) and artifact crossmends. Based on these observations, ten stratigraphically discrete occupational events were recorded.

The following narrative records the artifact recoveries and features from the excavated prehistoric deposits. Figure 4.1 is a horizontal site map of operation 21K3 showing the location of sub-operations (excavation units) mentioned in the text. A layer/event description for 21K3

appears in Appendix A. This summarizes the sequence of events as they were interpreted from the stratigraphy. Figure 4.2 is a stratigraphic schematic diagram based on field drawings that illustrate the vertical, and in some cases, horizontal occurrences of the prehistoric occupations. Two occupations, 5 and 9, that do not appear on this diagram occur as isolates in other sub-operations.

4.3.1 Prehistoric Occupation 1

Occupation 1 corresponds with layer/event 24 (see Appendix A) and includes lots 21K3B25, 21K3C10 (east), 21K3C11 (west), 21K3H19, 21K3J9, 21K3J10 (south) and 21K3N26.

Stratigraphy

This layer is a thin band of dark grey clay containing discontinuous deposits of compressed fish bones and scales. Some of the Blackduck ceramics described below were recovered at the interface between the fish remains and the underlying deposits of layer/event 23 in 21K3C11 (east) and 21K3C12 (west). It is probable the sherds were trampled into layer/event 23 during the fish-processing operation. Prehistoric occupation layer 1 was encountered ca. 155 cm. below present ground surface in 21K3C. Its horizontal distribution is documented in Figure 4.3.

Artifacts

Fragments from a Blackduck ceramic vessel were recovered along with one Knife River Flint uniface and six pieces of lithic detritus. Several thousand fish bones and fish scales were recovered.

Ceramics. Two restored sections of one vessel were recovered from 21KC10 (east), 21K3J9 and 21K3J10 (Fig. 4.4). The sherds retain examples of decorative elements occurring on the lip, rim, neck and upper body of the vessel. A tabular summary of attributes follows.

- Exterior rim diameter is 16 cm.
- Lip thickness is 9.5 mm.
- Lip surface is decorated with widely spaced cord wrapped object (CWO) impressions.
- A band of parallel right-oblique CWO impressions encircles the rim below the lip.
- Three parallel CWO impressed lines encircle the neck with the centre line interrupted by punctates placed at regular intervals along its length.
- The punctate cavities are cylindrical and retain a central nipple in the bottom.
- Below the third horizontal CWO impressed line is a row of short oblique trilobate CWO impressions.
- The vessel body displays a vertical cord marked pattern.

Lithics. Only seven lithic flakes were recovered from this occupation level. Of these, six were recovered from the compact layer of fish remains in 21K3H19 and one from 21K3J9.

Only one lithic is a finished tool (Fig. 4.5). Measuring 36.4 mm. long, 27.4 mm. wide and 0.5 mm. thick, it is made on a Knife River Flint (Clayton et al. 1970) secondary decortication flake (White, Binford and Papworth 1963:5). Both lateral edges are unifacially retouched on the dorsal side. Post-manufacture attrition is minimal with some crushing present on both working edges (Wheat 1979:92). Both working edges are thin and acute in horizontal cross section.

Four small Knife River Flint retouch flakes were also recovered from the fish remains in 21K3H19. They measure between 5.5 mm. and 6.5 mm. long and 3.5 mm. to 5.0 mm. wide. Similarities in colour and striking platform morphology among the four specimens suggest they were all removed from the same artifact.

The sixth specimen recovered from 21K3H19 and associated with the fish remains is an unremarkable minute rectangular tabular piece of grey quartzite.

The last lithic specimen, a retouch flake, was also recovered from the fish remains in 21K3J9. It is made from Knife River Flint and measures 4.9 mm. long by 6.8 mm. wide and 1.0 mm. thick. Flake scars cover the dorsal side and its small striking platform suggests the artifact was formed during biface refurbishment.

Fauna. The high incidence of fish remains to the exclusion of almost all other species in this occupation says much about the importance of the waters of the Forks as a resource source. The large quantities of fish remains recovered here suggests that large scale food procurement and processing activities were taking place. As the analysis of these data is yet to be completed, we are unable to discuss such things as fish species involved, seasonality, butchering and processing.

Carbon. Carbon samples recovered from 21K3H19 were assayed by the Saskatchewan Research Council, Saskatoon. The age is 1105 ± 160 years B.P. (A.D. 845)(S-2565).

4.3.2 Prehistoric Occupation 2

Occupation 2 includes layer/event 26 (Appendix A) as identified in lots 21K3B23, 21K3C9, 21K3H23 and 21K3N24; and layer/event 27 as identified in lots 21K3B22 and 21K3H17 (see Fig. 4.6)

Stratigraphy

Occupation 2 consists of a thin dark grey to black clay layer - probably stained by organic refuse - containing some white ash. Above this is an organically sterile zone of finely divided sand and clay. These two occupation layers were encountered ca. 150 cm. below ground surface. The

artifact material, though scant, was recovered from the sand-clay layer, but may have been laying directly on the dark clay-humus zone. Occupation 2 is separated from occupation 1 by a culturally sterile tan clay and caliche layer (layer/event 25) and overlaid by a culturally sterile grey clay and caliche (layer event 47a).

Artifacts

Only two artifacts were recovered, both from the sterile zone overlaying the dark clay and ash layer.

Ceramics. One small cord marked body sherd was recovered.

Lithics. This artifact is similar to these identified as pièces esquillées (Macdonald 1968:86) as heavy crushing occurs bifacially on opposite ends (Fig. 4.7). It is made from a flake of white and yellow chert that contains some crystal cavities. It is 30.2 mm. long, 25.6 mm. wide and 9.3 mm. thick.

Fauna. A total of seven unidentifiable mammal bone fragments were recovered from the lower stratum. A few of these were charred.

4.3.3 Prehistoric Occupation 3

Occupation 3 includes layer/event 47B as identified in lot 21K3N22.

Stratigraphy

Occupation 3 is represented by a very thin black layer sandwiched between sterile clay and caliche layers stratigraphically above prehistoric occupation 2.

Artifacts

Only one small fragment of unidentifiable bone was recovered.

4.3.4 Prehistoric Occupation 4

Layer/event 46 consists of lot 21K3N20.

Stratigraphy

Occupation 4 is represented by a thin black zone laying on a sterile clay stratum. It is directly under occupation 6, but there is a significant difference in soil type and colour between the two occupations.

Artifacts

The recovery from the level consisted of a small quantity of broken mammal bones.

4.3.5 Prehistoric Occupation 5

Occupation 5 includes layer/event 45 (Appendix A) identified in lot 21K3D16 (Fig. 4.8).

Stratigraphy

A discrete brown sand layer may be a flood deposit as the sand appears "rippled". Artifacts were laying on the surface of the deposit in direct contact with the soil zone that overlays it. Both lots 15 and 16 were truncated by a recent historic trench. It was not possible to relate occupation 5 to other prehistoric occupations identified in the main excavation because no continuous stratigraphic relationship was established between the two areas.

Artifacts

A total of 39 prehistoric pottery sherds were recovered. There were no lithics and only two small unidentified faunal fragments.

Ceramics (Fig. 4.9). All body sherds displayed cord marking and are probably Blackduck. One small rimsherd retains

decorative elements occurring on its lip rim and a portion of the neck. A tabular summary of attributes follows:

- Lip thickness 11.4 mm.
- Slight inward lip eversion.
- Lip surface decoration is oblique CWO impressions.
- Probable band of short parallel right-oblique CWO impressions encircle the vessel rim.
- Three or more CWO impressed lines encircle the vessel neck.
- Vertical striations (brushing) occur between the CWO impressed lines.

A second vessel from the level is represented by five sherds from the upper body/neck interface (Fig. 4.9). Decorative elements present are chevron-shaped CWO impressions. The extant body appears to be cord marked.

4.3.6 Prehistoric Occupation 6

Occupation 6 includes layer/event 31 (Appendix A) consisting of lots 21K3D13 and 21K3N18 (Fig. 4.10).

Stratigraphy

The ceramics discussed below were recovered enclosed in brown stained, grey clay with calcium carbonate inclusions 118 cm. to 120 cm. below surface. Both the clay and artifacts were in contact with a underlying deposit of light brown sand. This light brown sand may have been a stable ground surface, as most of the sherds conjoined. Occupation 6 lay under a sterile sand zone.

Artifacts

A cluster of 18 ceramic sherds, some unidentified fish bone, a clam shell and mammal bone were recovered.

Ceramics. Sixteen conjoining cord marked body sherds which appear to be the bottom of a globular ceramic vessel were recovered from 21K3N18. The interior surface is blackened. The two other sherds are small but display smooth interior surfaces and corded exterior (see Fig. 4.11). Although no rim or neck decorative elements are present, it seems safe to assume these are Blackduck ceramics.

Fauna. Mammal, fish and mollusk remains recovered from this occupation have not yet been analyzed.

4.3.7 Prehistoric Occupation 7

Occupation 7 includes layer/event 29 as identified in lots 21K3B21, 21K3C8, 21K3D8, 21K3H16, 21K3J8, 21K3K7 and 21K3N16 (Appendix A)(Fig. 4.12).

Stratigraphy

All lots, except 21K3C8 and portions of 21K3J8, appear to have been disturbed by historic construction. The stratigraphic unit containing the prehistoric artifacts and the mixed historic and prehistoric deposits is a brown sandy clay that underlies a historic structure in some places. A sterile layer of sand separates occupations 6 and 7.

Artifacts

A cluster of 17 cord marked (Blackduck?) ceramic sherds were the only prehistoric artifacts recovered. All but six of these conjoined. The fact that these sherds are restorable suggests a portion of this layer was left intact.

Features

Sixteen post moulds were observed in this cultural layer (see Fig. 5.12 for horizontal distribution). These are approximately 7.0 cm. in diameter and extend over 10 cm.

deep, cutting through all of the stratigraphically deeper prehistoric layers. In 21K3C the sand overlying the post moulds is swirled. This suggests the actual posts may have been standing while the riverbank was flooded.

Cross sections show the stakes to have been pointed before inserted into the ground. In some cases they have a square or rectangular horizontal cross section.

Although fish remains were uncommon in this occupation level, it is possible the posts were used to support drying racks or other such structures.

4.3.8 Prehistoric Occupation 8

Occupation 8 is represented in six layer/events: 18, 19, 20, 21, 22 and 43 (Appendix A).

Stratigraphy

Six layer/events have been identified, based on stratigraphy, features and artifacts that relate to a single occupation by people using Blackduck ceramics. A summary of each layer/event is summarized below. The horizontal distribution of this occupation zone is shown in Figure 4.13.

Layer/Event 22. Identified in lots 21K3G12 (east), 21K3L3, 21K3K10 and 21K3N11 consisted of tan clay with clay-silt lenses. Artifacts consisted of some fish remains.

Layer/Event 21. Identified in 21K3G10 (east) and 21K3L8. Consisted of lenses of sterile sand.

Layer/Event 20. Identified in lots 21K3L9, 21K3L10 (east) and 21K3L12. Consisted of fire-reddened clays and sand associated with a prehistoric hearth. Charcoal was also recovered (Fig. 4.14).

Layer/Event 19. Identified in lots 21K3G5 (west), 21K3G8 (east), 21K3L6, 21K3G11 (east) and 21K3L7. Consisted of brown-grey clay or brown-black clay silt. Colouration probably varied due to organic content. This was the living floor of prehistoric occupation 8 and the stratum containing the artifacts described below.

Layer/Event 18. Identified in lots 21K3G9 (east), 21K3L5 and 21K3K9 (north), it is an ash lens associated with ceramics lithics and faunal remains (Fig. 4.13).

Layer/Event 43. Identified in lot 21K3N15, consisted of ash and charcoal containing ceramic sherds. A ceramic sherd from 21K3N15 crossmends with some sherds associated with layer/events 18 and 19, suggesting these hearth features are one and the same.

Artifacts

Most artifacts were recovered from layer/events 18, 19 and 43, the living floor and hearth. These consisted of 352 ceramic sherds, 36 lithics, a quantity of (as yet) unanalyzed faunal remains, two radiocarbon samples and a bone awl.

Ceramics. Reconstructed fragments of three ceramic vessels were recovered along with numerous cord marked body sherds. A summary of the reconstructed vessels follows:

(a) Vessel 1 (Fig. 4.15) is represented by a section of restored lip, rim, neck, shoulder and body displaying a sample of all decorative elements occurring within the vessel (note descriptive terminology follows: Tisdale 1978).

Salient features of this vessel are:

- Rim diameter is estimated to be 24 cm.
- Lip thickness varies from 10.5 mm. to 11.5 mm.
- Internal lip eversion varies from none to slight.
- Lip surface decoration is crosshatched CWO impressions.
- Band of parallel right-oblique CWO impressions encircles the rim below the lip.
- A horizontal row of widely spaced (22 mm.), hemispherical punctates (7.0 mm. diameter) occurs directly below the oblique CWO impression with punctates centred between every fifth CWO impression.
- Vertical parallel striae extend from the lip edge to the base of the neck with both CWO impressions and punctates superimposed on them.
- A horizontal row of shallow, oval punctates encircles the neck immediately below the brushed zone.
- Punctate bosses with fingerprints and coarse horizontal striae occur on the inside of the neck (Fig. 4.15b).
- Vertically-oriented cord mark began below the shallow oval punctate, extending to the edge of the fragment.

(b) Vessel 2 (Fig. 4.16) is represented by two articulating rimsherds recovered in 21K3K9 (north) and 21K3N15, and two other sherds based on paste and design are from the same vessel. These sherds display a representative sample of decorative elements occurring on the vessel. Measurable dimensions and decorative elements are listed below:

- Estimated external rim diameter is 20 cm.
- Lip thickness varies from 12 mm. to 14 mm.
- Internal lip eversion varies from none to slight.
- Lip surface decorated with closely spaced to overlapping crosshatched CWO impressions.

- A band of parallel right-oblique linear CWO impressions encircles the rim below the lip.
- Two parallel horizontal CWO impressed lines encircle the vessel neck.
- A row of punctates (5.0 mm. diameter) encircle the neck between the parallel CWO impressed lines, producing low internal bosses.
- One punctate perforates the vessel wall and appears to have been drilled.
- A zone of vertical striae extending from the upper horizontal CWO impressed line to the base of the neck encircles the vessel neck. Both the lower horizontal CWO impressed line and punctates are superimposed over the brushing.
- A horizontal row of shallow "club"-shaped punctates, probably from the edge of the CWO, encircles the neck base.
- Body surface treatment cannot be determined from these fragments because they are broken directly under the lower punctate row. As with most Blackduck specimens, it is probably vertically cord marked.

(c) Vessel 3 (Fig. 4.17) is represented by a restored section extending from the rim to the base. From this, the vessel is known to be globular with a constricted neck and slightly everted lip. The body thickness is extremely variable with numerous irregularly shaped depressions occurring on the interior surface. In contrast, the exterior surface, while vertically cord marked, is symmetrical and even. The exterior surface glistens with small flecks of biotite, probably from the granite temper incorporated into the paste. Temper size is highly variable consisting of quartz and/or

feldspar pieces. Small cavernous openings may be observed in sherd cross sections at 20X magnification. These probably resulted from gases or moisture trapped in the paste during manufacture and suggests that compaction was somewhat incomplete.

The interior of the vessel is heavily encrusted with food residue, often concentrated within the interior surface irregularities. These residue have been collected pending chemical analysis that may determine their nature (Tisdale 1984: pers. com.).

Measurable dimension and decorative elements are summarized as below:

- Lip thickness is 6.3 mm.
- Vessel is approximately 17 cm. high.
- Rim is decorated with widely spaced CWO impressions.
- A band of parallel right-oblique linear incisions encircle the rim just below the lip.
- Two parallel horizontal CWO impressed lines encircle the vessel neck.
- Widely spaced punctates producing internal bosses encircle the vessel neck between the horizontal CWO line.
- Vertical trending cord marks covering the body are deep, distinct and regular, except near the base where the cord marks overlap.

Lithics. Of the 34 lithic artifacts recovered from this level, only one appears to have been a functioning tool, the remainder being thinning or shatter flakes.

(a) A uniface fragment (Fig. 4.18) is a retouched olive coloured chert secondary decortication flake (White, Binford and Papworth 1963:5) recovered from 21K3G11. Unifacial retouch occurs along one edge creating a

sharp, acute cutting edge. There is no evidence of post-manufacture attrition or wear.

(b) Based on striking platform morphology and flake size, the remaining lithic samples from this level are detritus from small biface and uniface finishing and refurbishing.

Fauna. A small quantity of fish and mammal remains was recovered. These await further research.

Bone Artifact. A sliver of small mammal longbone is polished along the lateral edges and on one surface. It tapers towards one end but the point is missing (Fig. 4.19) (the point was misplaced during its collection).

Charcoal. Carbon samples were recovered from lots 21K3L5, 21K3L6 and 21K3N15 and were assayed by the Saskatchewan Research Council.

Species identification of two charcoal samples were received. One sample was identified as hardwood while the second sample may be ash. This latter species is still found locally on the riverbank.

Ages obtained were 1225 ± 160 years B.P. (A.D. 725) (S-2563) from 21K3L5 and 21K3L6; and 1440 ± 165 years B.P. (A.D. 510) (S-2564) from 21K3N15.

4.3.9 Prehistoric Occupation 9

Occupation 9 is represented in layer/event 53 (Appendix A) and consists of lot 21K3M5 (east).

Stratigraphy

A discrete brown sandy clay contained some charcoal, ash and fire-cracked rock. Only a small area of the sub-operation contained undisturbed deposits of this strata (Fig. 4.20).

Artifacts

One small triangular pointed biface of white Selkirk chert was recovered (Fig. 4.21). Both distal and proximal ends were carefully flaked while some areas of the artifact were not retouched. There is no evidence of post-manufacture attrition. The biface measures 23.6 mm. long, 14.4 mm. wide and 3.8 mm. thick.

Feature

A small cluster of fire-cracked stones was associated with the pointed biface approximately 10 cm. away.

4.3.10 Prehistoric Occupation 10

This occupation is represented by layer/event 38 (Appendix A) and consists of lots 21K3B8, 21K3D3, 21K3D4, 21K3H3, 21K3H4, 21K3H6, 21K3N7, 21K3N8 and 21K3N10.

Stratigraphy

Artifacts were recovered from light brown sandy clay with charcoal flakes. This stratigraphic unit bears a strong resemblance to deposits identified in layer/event 19 as part of prehistoric occupation 8. This relationship is supported by similarities that exist between ceramics recovered from layer/events 19 and 38 although none of the specimens crossmend.

Artifacts

Only ceramic artifacts and a small quantity of fish and mammal remains were recovered.

Ceramics. All specimens are cord marked. Two larger body sherds resemble others from prehistoric level 8 in terms of surface treatment, paste and internal surface features.

Fauna. Large quantities of fish scales were recovered along with an occasional fish bone. These await further research.

4.4 Radiocarbon Assay

As mentioned previously, three charcoal samples from prehistoric occupation 1 and two samples from prehistoric occupation 8 were submitted to the Radiocarbon Dating Laboratory, Saskatchewan Research Council, in Saskatoon.

4.4.1 Prehistoric Occupation 1

A sample of charcoal was obtained from 21K3H19. This lot was a compact layer of fish scales and bones associated with Blackduck rim and body sherds. The age of the charcoal sample is 1105 ± 160 years B.P. (S-2565) or A.D. 845.

4.4.2 Prehistoric Occupation 8

A sample of charcoal was obtained from 21K3N15. This lot consisted of a grey-white ash deposit with charcoal flecks. A Blackduck rimsherd was recovered from the level that crossmends with those recovered from 21K3K9 (north). The age of this charcoal sample is 1440 ± 165 years B.P. (S-2564) or A.D. 510.

Another sample was obtained from 21K3L5 and 21K3L6. These lots consisted of a white ash and charcoal hearth feature associated with Blackduck ceramics. The crossmended rim mentioned above was also associated with the hearth that yielded this charcoal sample. The age of the sample is 1225 ± 160 years B.P. (S-2563) or A.D. 725.

Table 4.1 Radiocarbon Assay Obtained from Charcoal Associated with Blackduck Components.

Prehistoric Occupation #	Lab. No.	Age	Date	Material Assayed
1	S-2565	1105±160 yrs. B.P.	A.D. 845	Charcoal
8	S-2563	1225±160 yrs. B.P.	A.D. 725	Charcoal from hearth
8	S-2564	1440±165 yrs. B.P.	A.D. 510	Charcoal

Prehistoric occupation 1 was stratigraphically deeper than occupation 8 and should have provided the earlier date. Bearing in mind that the C-14 assay actually dates the trees burned as fuel, not the human occupation itself, it is possible that the wood used in occupation 8 could have been older than that used in occupation 1 by as much as 200 years. Further, with the standard deviation overlapping as it does, it is not possible to place much confidence in the temporal differences obtained had the date sequence been in the correct order. Therefore it is probable that the two occupations are separated by a short time interval. If true the two Blackduck occupations may be characterized by a weighted average of all three dates (Tisdale 1978:115; Appendix E). This is 1253 ± 93 years B.P. (A.D. 697), which is less than 100 years earlier than obtained for either the Lord Site in St. Norbert or the Stott Site near Brandon (cf. Syms 1977:102) and is currently the oldest date estimated for Blackduck in Manitoba.

4.5 Summary

Based on preliminary [stratigraphic] research there were ten prehistoric occupations exposed in the 1984 excavations at the Forks. In some ways it is surprising that deposits containing human prehistoric resources survived, considering the land has been used and modified considerably since the early 18th century. In fact, all the prehistoric deposits exposed in 1984 were truncated in some way by probable fur trade structures (features) or railroad structures.

Considering that faunal analysis remains to be completed, some tentative observations may be made based on the excavated material. Three prehistoric occupations - 2, 3 and 4 - did not contain artifacts or features apart from some faunal remains.

Blackduck ceramics were excavated from prehistoric occupations 1, 6, 7, 8 and 10. Similar ceramic types have been recovered from Lockport, Manitoba (MacNeish 1958), the Bjorklund Site (Buchner 1982) and the Stott Site (Tisdale 1978; Hamilton et al. 1981), to mention a few. Figure 5.22 is a schematic summary of the Blackduck decorative patterns recovered from the Forks. A mean date of A.D. 697 is suggested for the Blackduck occupations at the Forks, making it the earliest date obtained from a Blackduck occupation in Manitoba.

Although mammal bones did occur in the prehistoric deposits, fish remains dominated. This is especially true of occupation 1 where a solid mat of fish remains was associated with Blackduck ceramics. An analysis of these faunal remains is planned which may indicate those species being exploited, how the fish were processed, the season of occupation (cf. Monks 1981) and perhaps how the meat was preserved. The post moulds from occupation 7, although apparently occurring later in time, suggest that fish resources may have been dried but there was no charcoal or other evidence present that would suggest the meat was smoked.

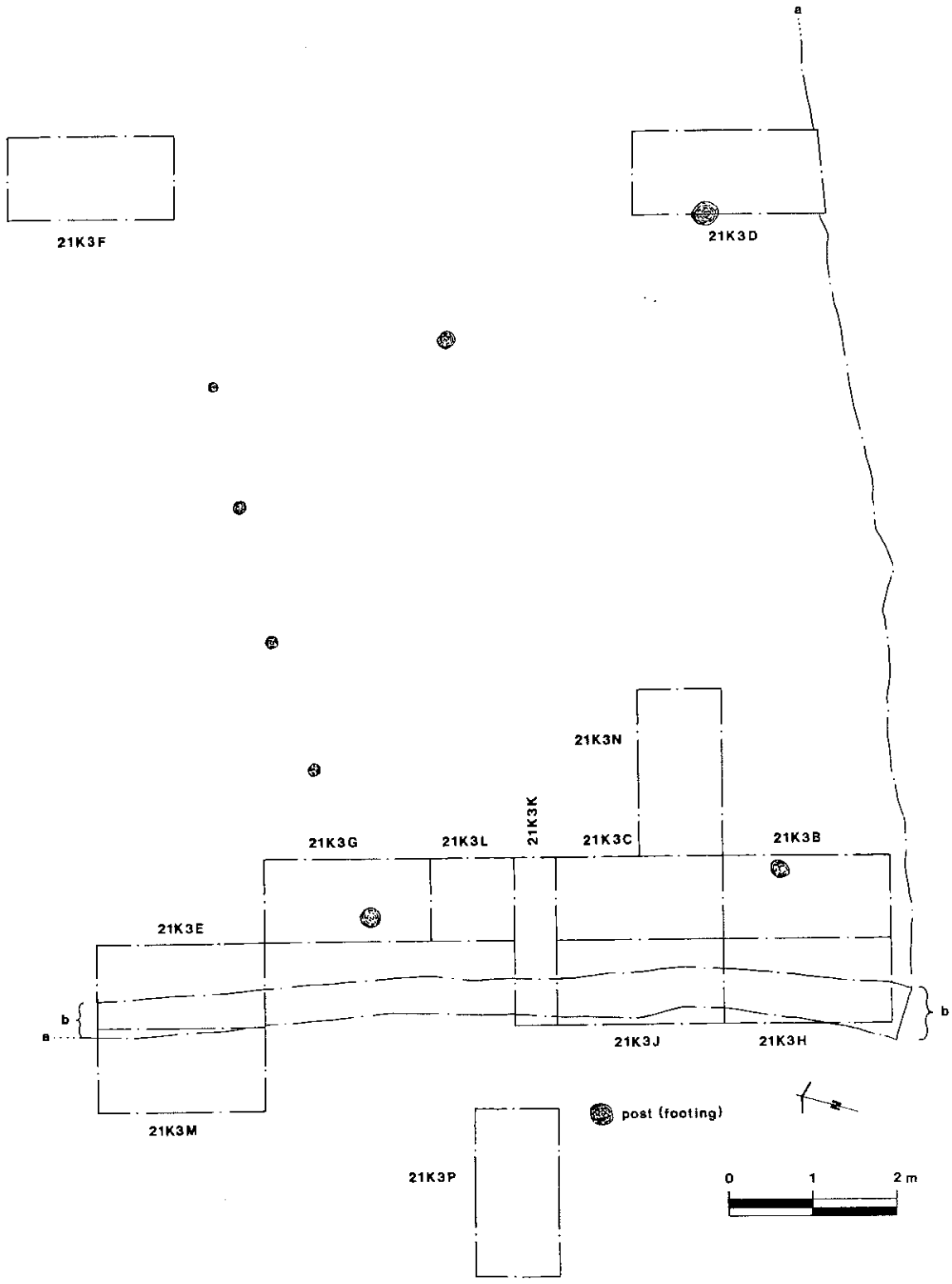


Figure 4.1 Planview of sub-operations (excavation units). (Drawn by D. Elrick.)

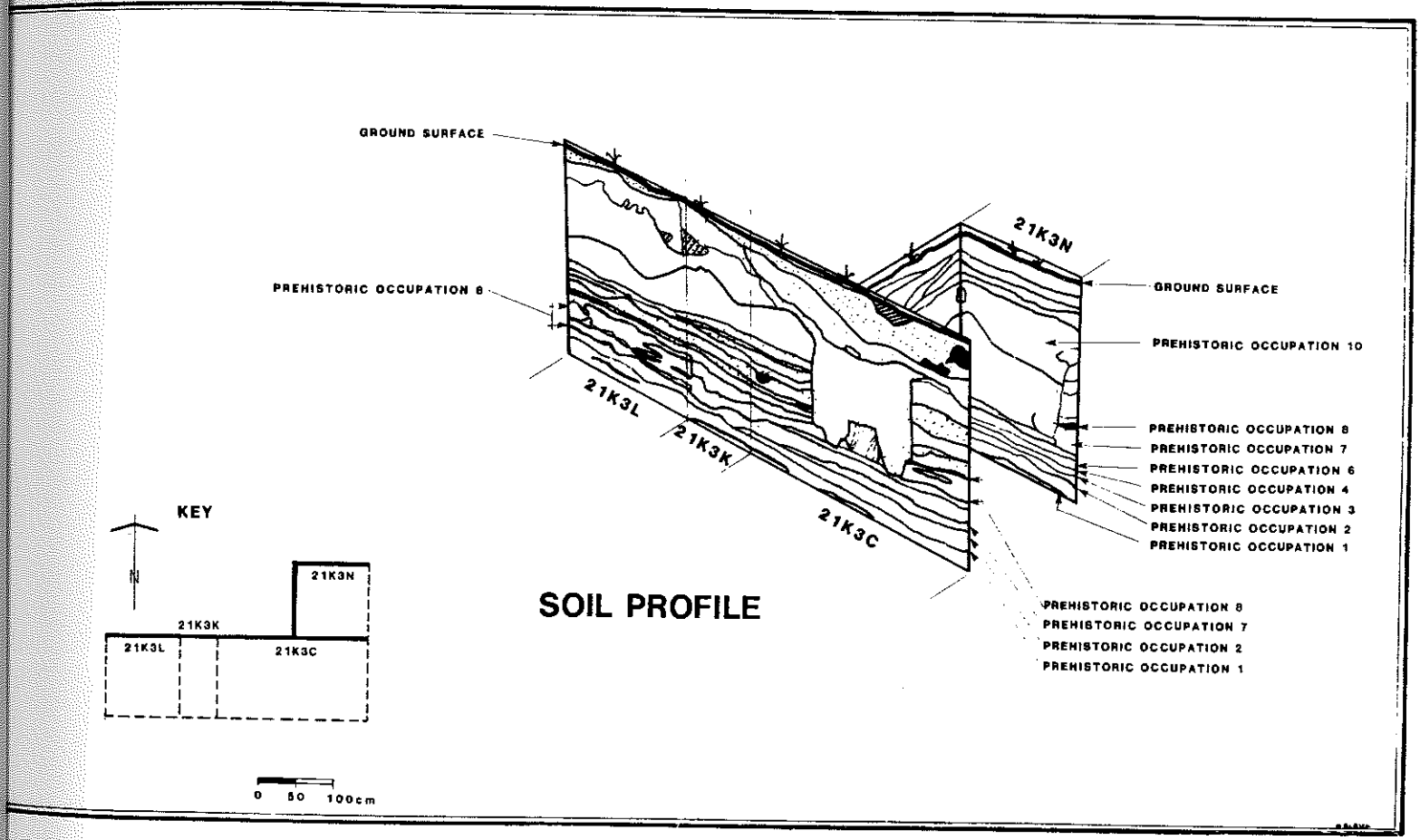


Figure 4.2 Stratigraphic profile showing the vertical and horizontal provenience of prehistoric occupations 1, 2, 3, 4, 6, 7, 8 and 10. Prehistoric occupations 5 and 9 occur in other parts of the operation not included in this stratigraphic section. (Drawn by D. Elrick.)

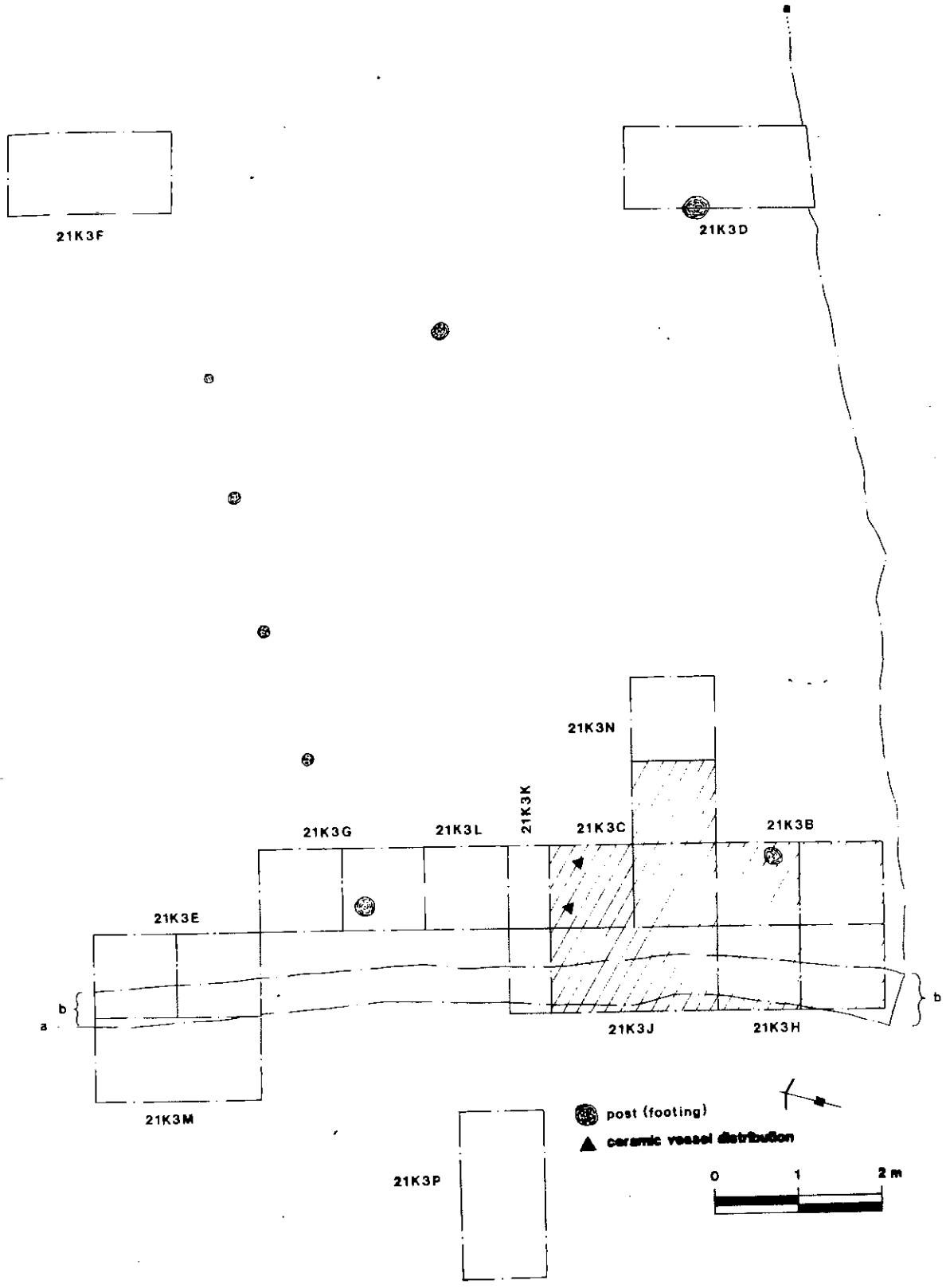


Figure 4.3 Horizontal provenience of prehistoric occupation 1. (Drawn by D. Elrick.)

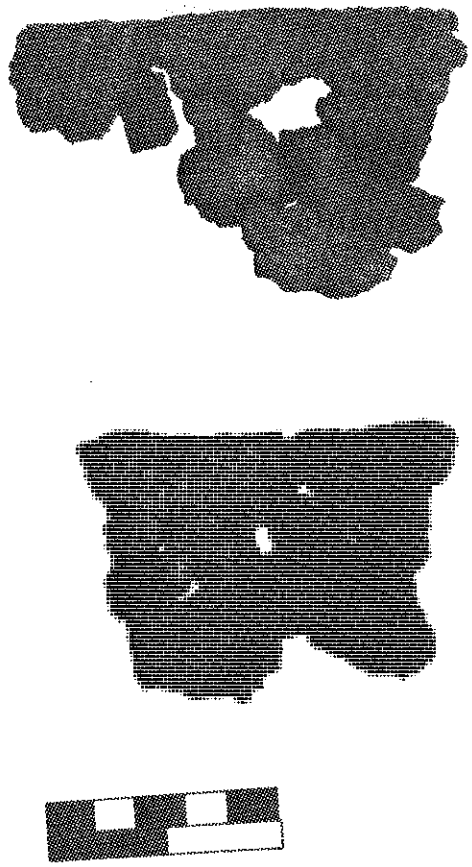


Figure 4.4 Blackduck horizontal rimsherds from prehistoric occupation 1. (Photo by S. Biron Ebell.)

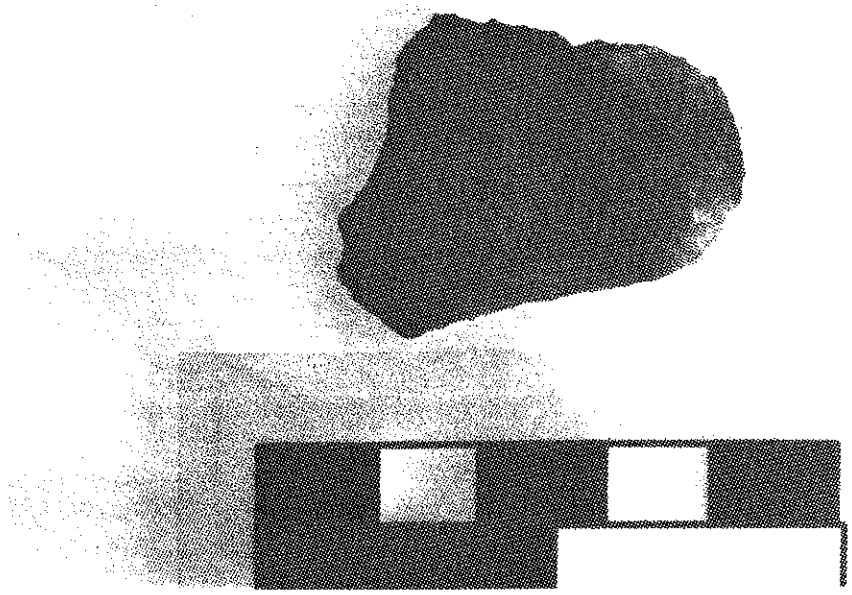


Figure 4.5 Knife River Flint uniface recovered from the compact layer of fish remains associated with Blackduck horizontal ceramics. (Photo by S. Biron Ebell.)

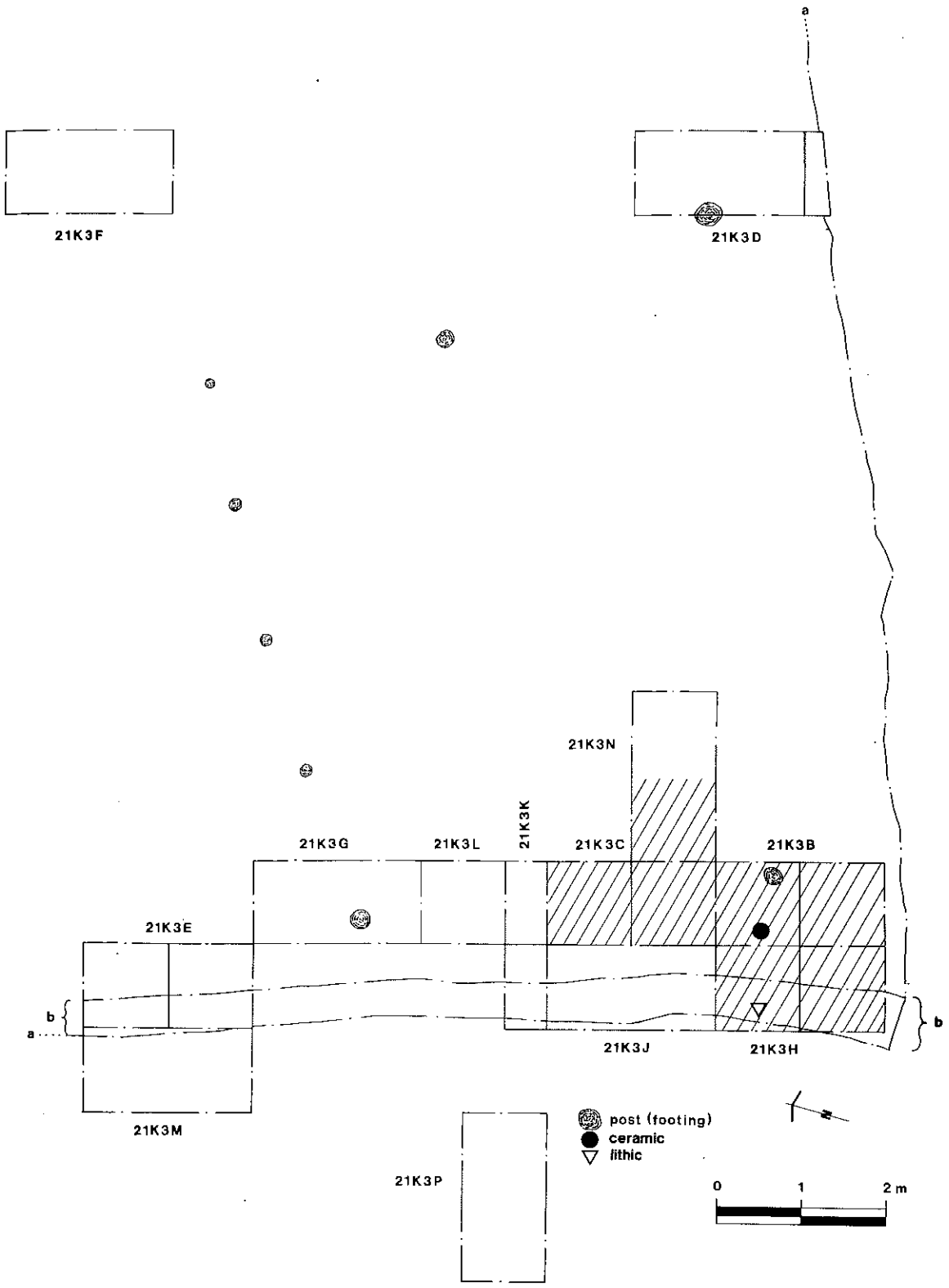


Figure 4.6 Horizontal provenience of prehistoric occupation 2. (Drawn by D. Elrick.)

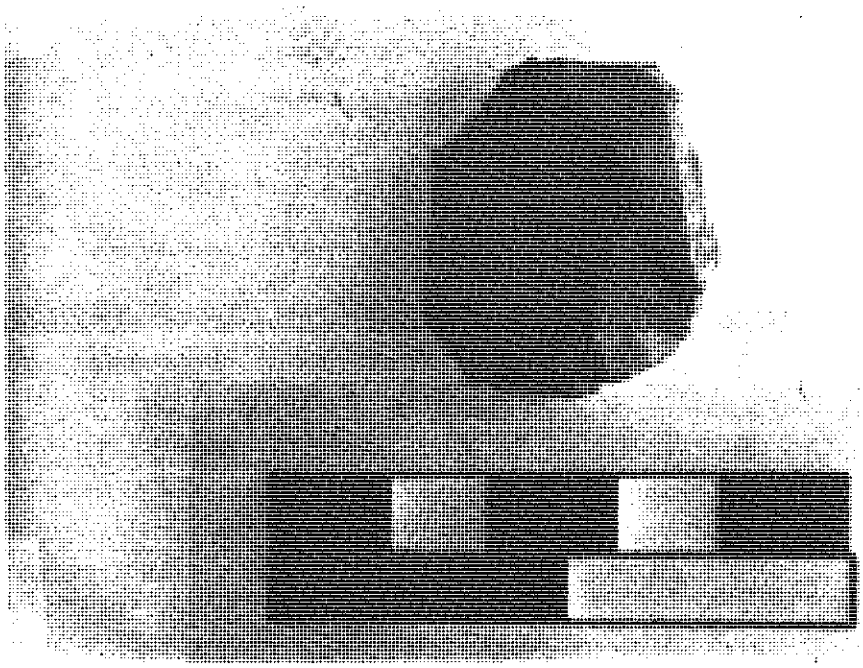


Figure 4.7 Possible pièces esquillées or bipolar core from prehistoric occupation 2. (Photo by S. Biron Ebell.)

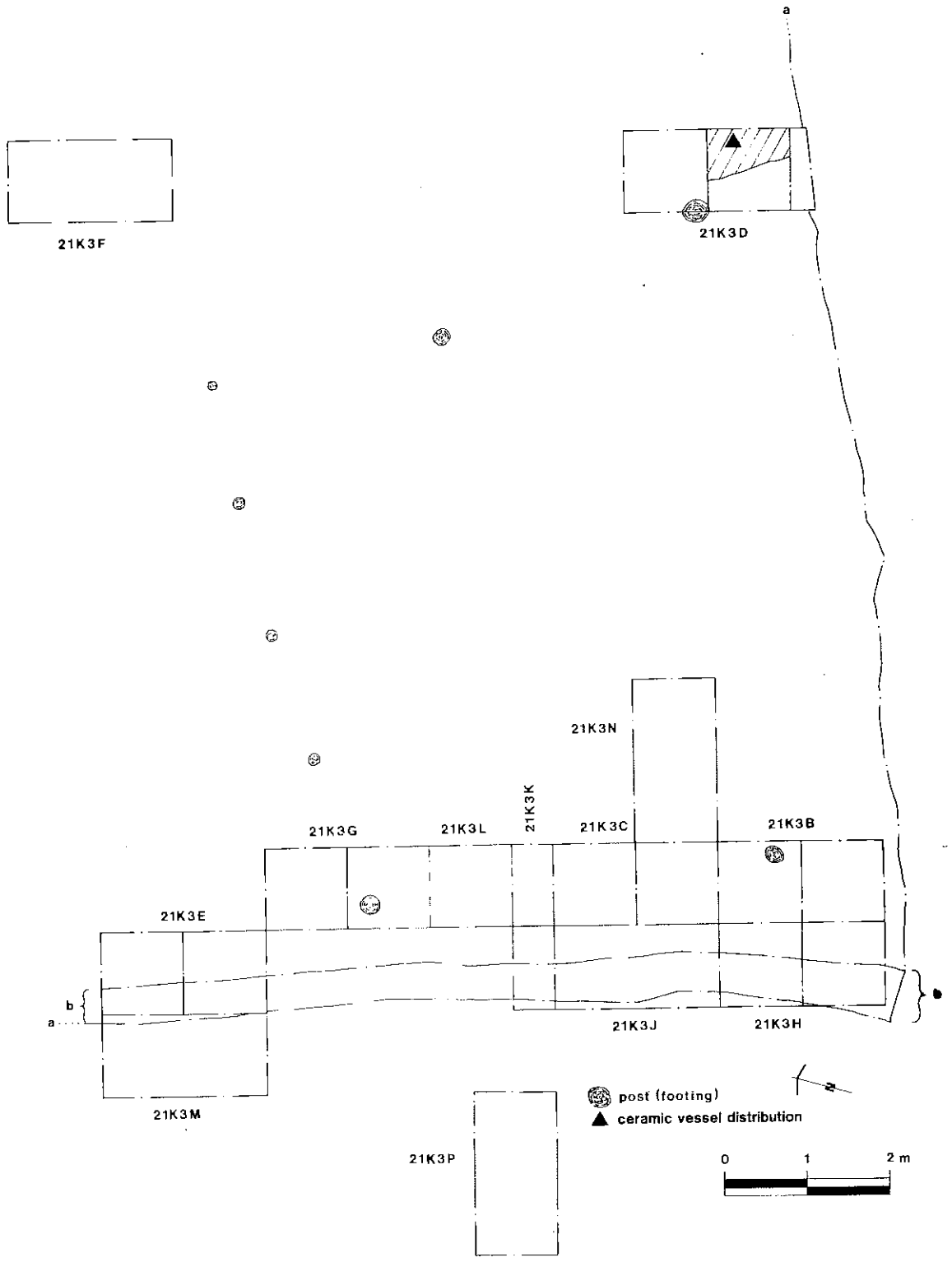


Figure 4.8 Horizontal provenience of prehistoric occupation 5. (Drawn by D. Elrick.)

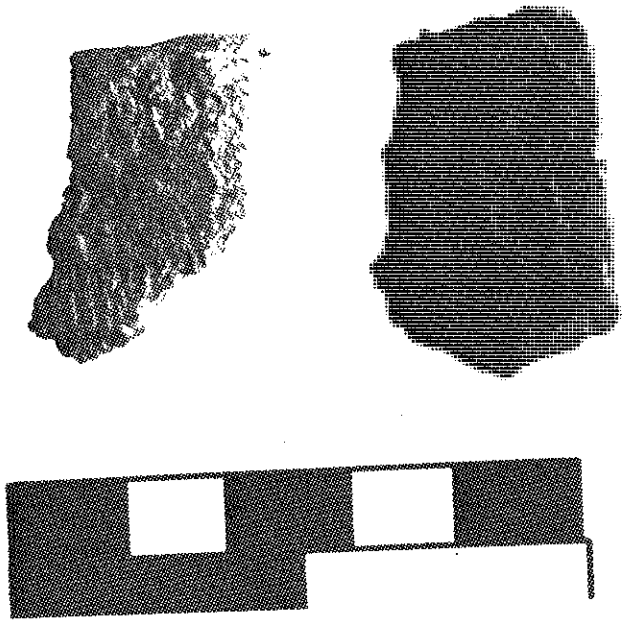


Figure 4.9 Blackduck ceramics from prehistoric occupation 5. (Photo by S. Biron Ebell.)

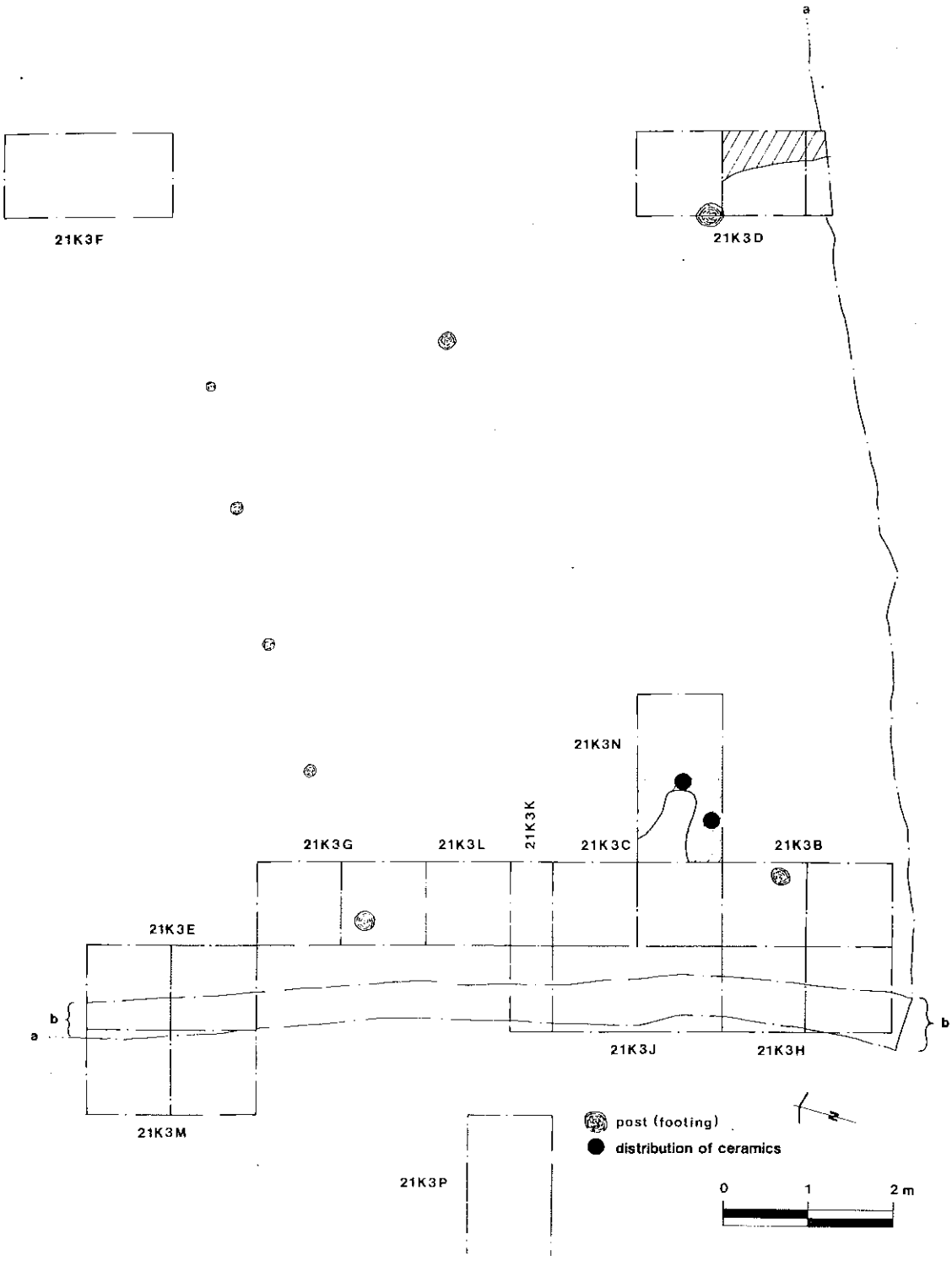


Figure 4.10 Horizontal provenience of prehistoric occupation 6. (Drawn by D. Elrick.)

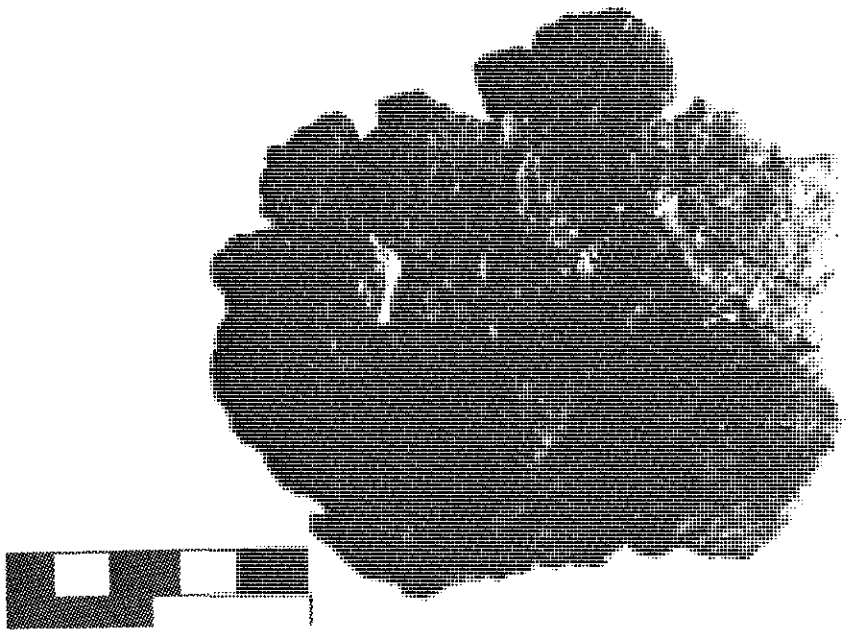


Figure 4.11 Reconstructed ceramic vessel fragments from prehistoric occupation 6. (Photo by S. Biron Ebell.)

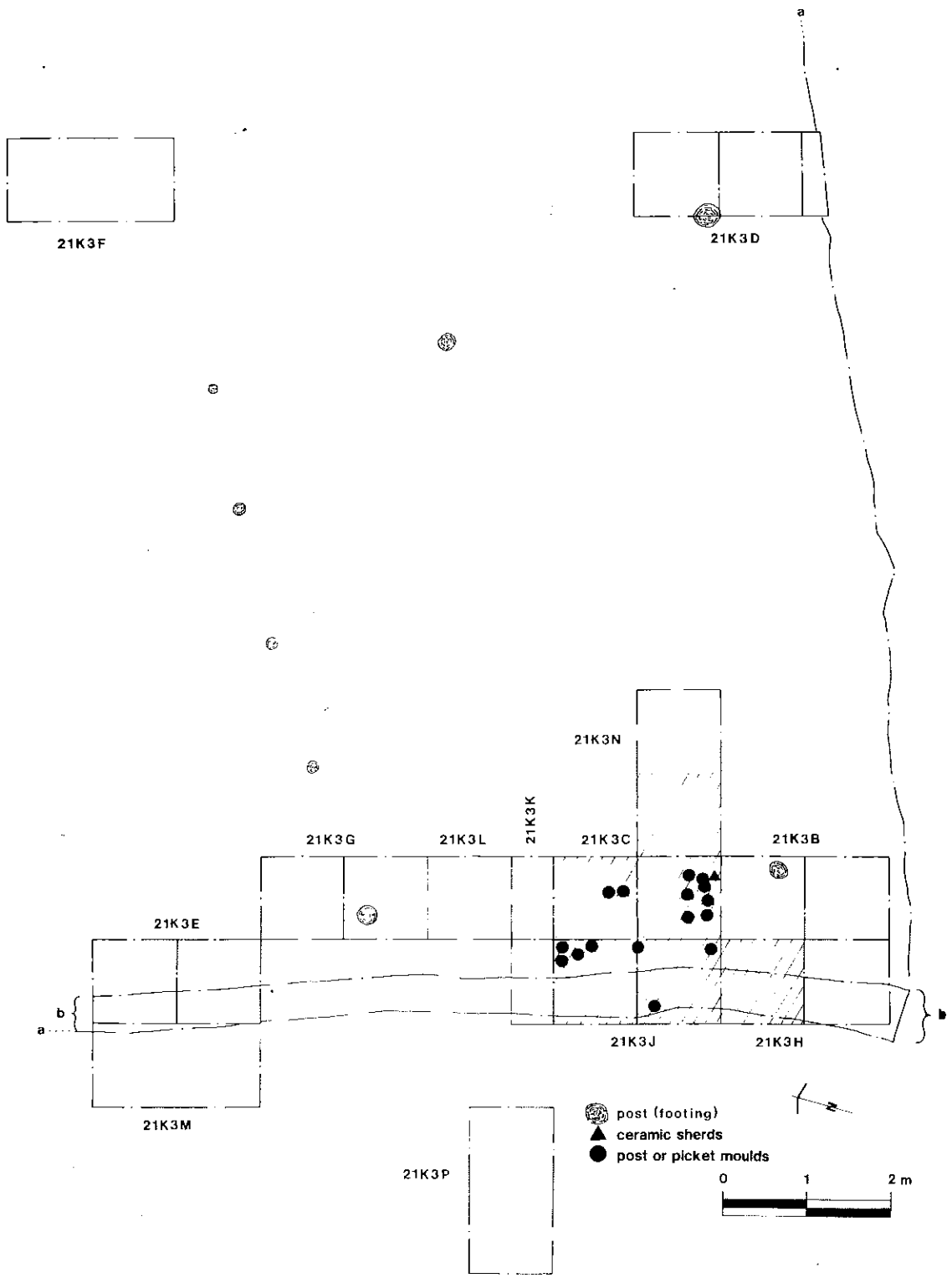


Figure 4.12 Horizontal provenience of prehistoric occupation 7. (Drawn by D. Elrick.)

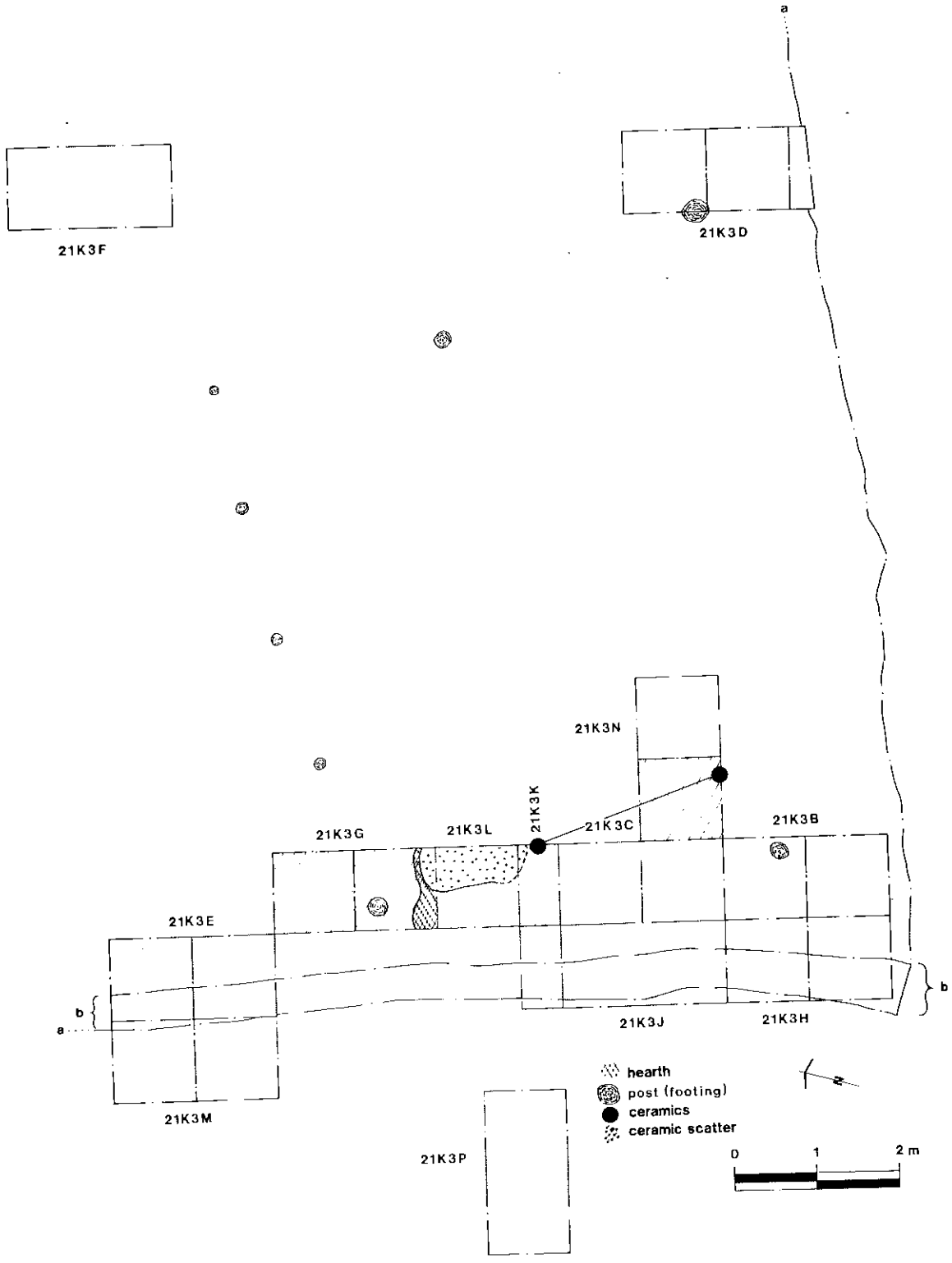


Figure 4.13 Horizontal provenience of prehistoric occupation 8. Note fire hearth features and ceramic crossmends. (Drawn by D. Elrick.)

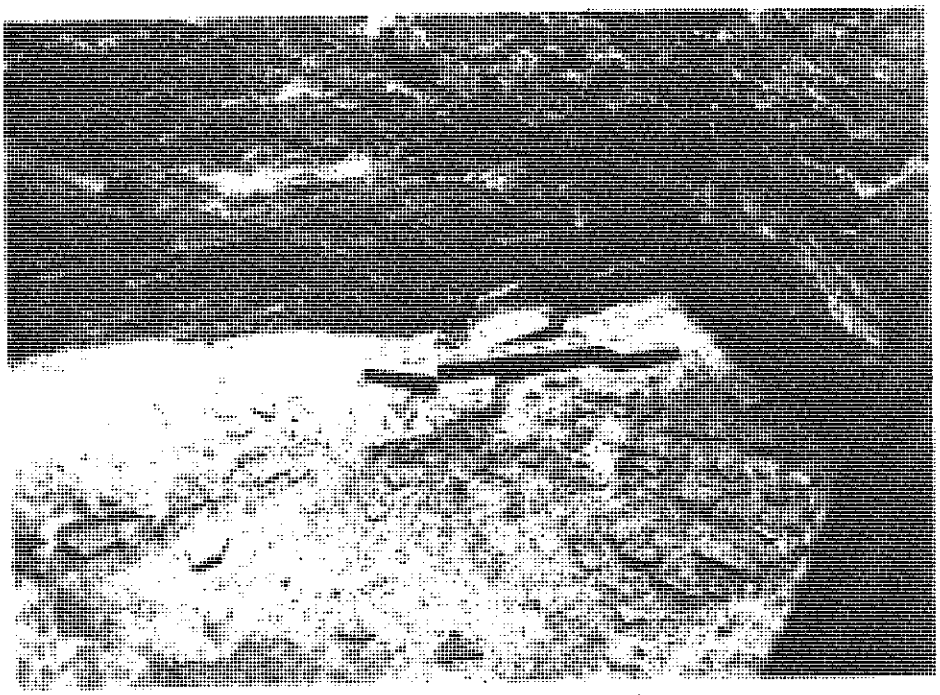
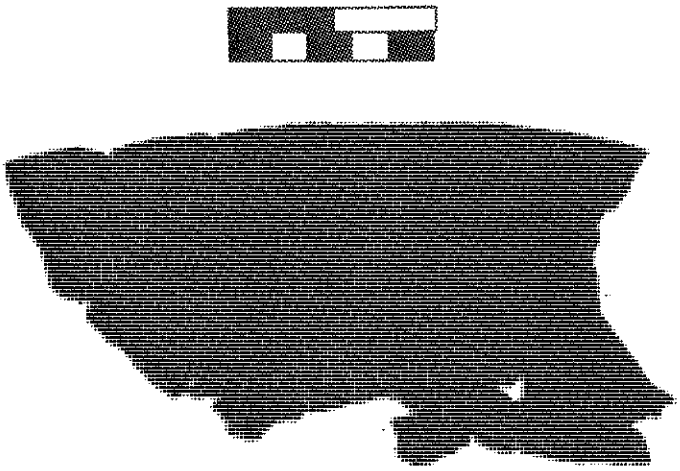
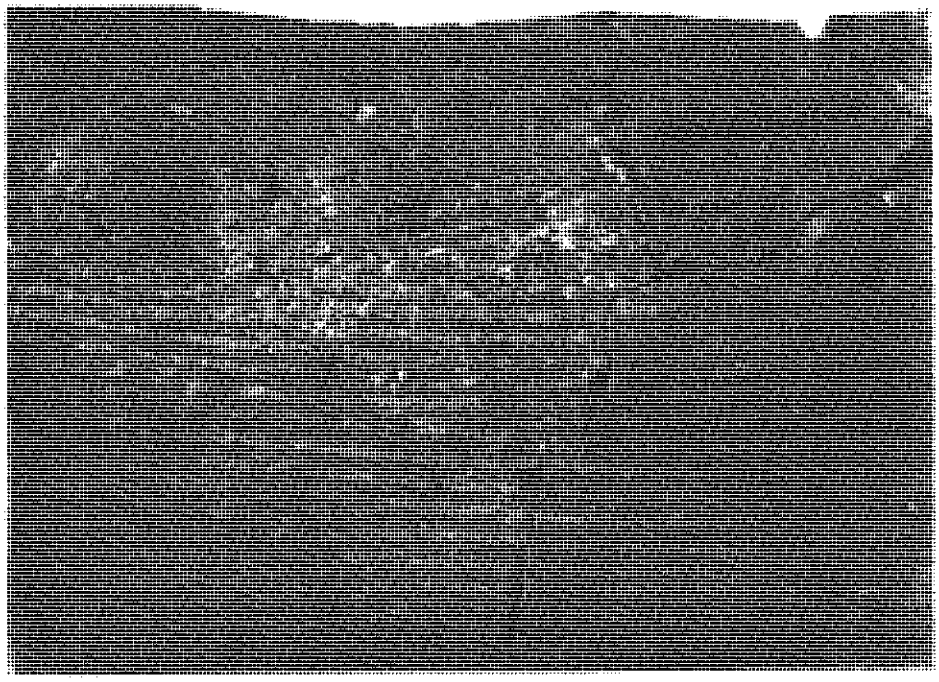


Figure 4.14 Fire hearth from prehistoric occupation 8 exposed in sub-operation 21K3G. Rimsherd is illustrated in Figure 4.15. (Photo by Peter Nieuwhof.)



(a)



(b)

Figure 4.15 Vessel 1 from prehistoric occupation 8.
a) Rimsherds showing exterior decorative motif.
b) Interior rim detail showing horizontal striations and fingerprints on the punctate bosses. (Photos by S. Biron Ebell.)

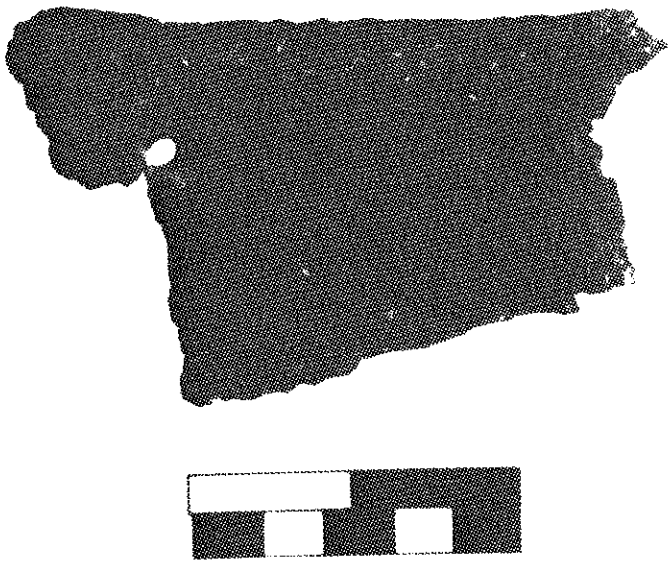


Figure 4.16 Vessel 2 from prehistoric occupation 8. Note that one punctate perforates the vessel wall. (Photo by S. Biron Ebell.)

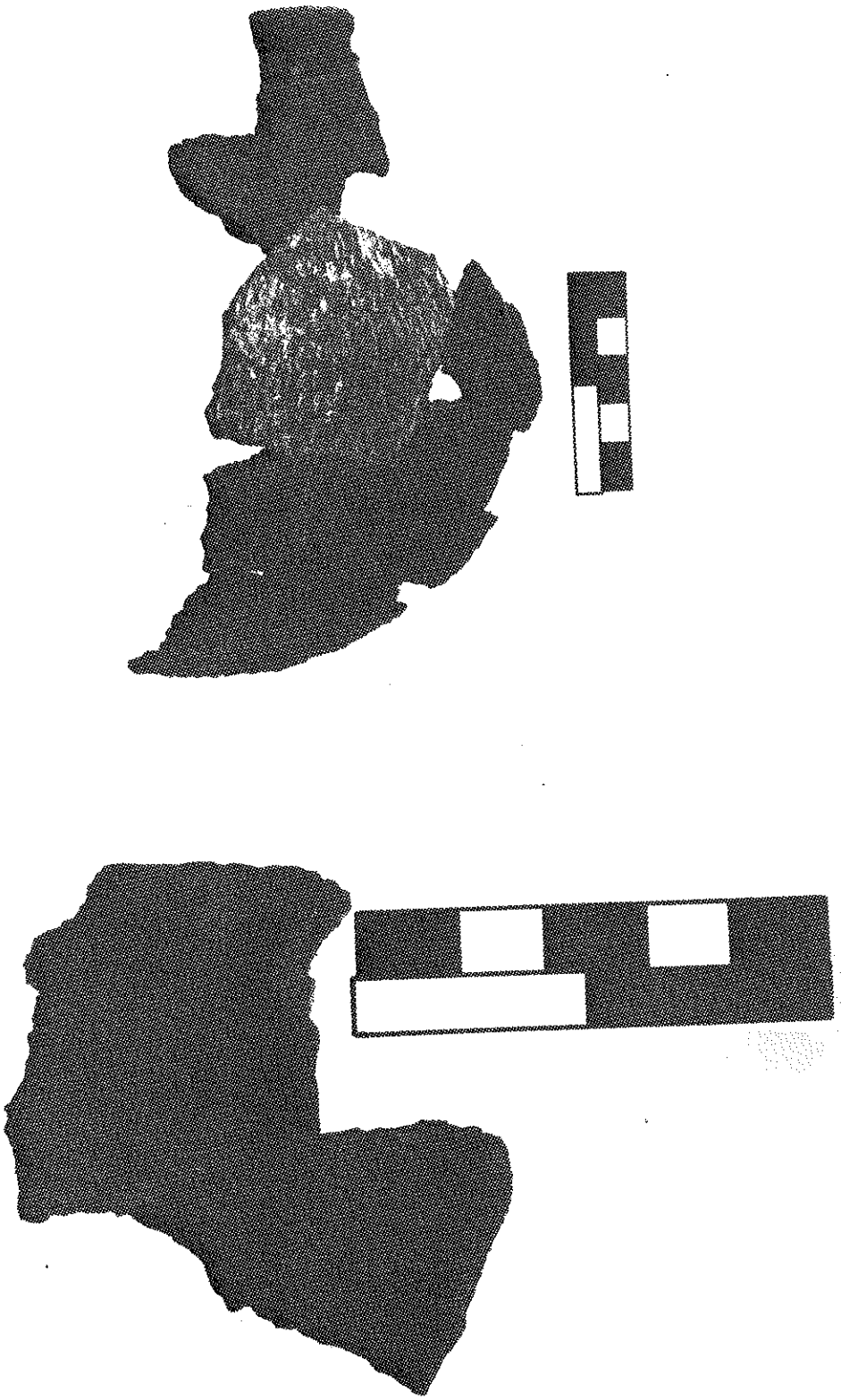


Figure 4.17 Vessel 3 from prehistoric occupation 8. Exterior view and interior rim detail. (Photo by S. Biron Ebell.)

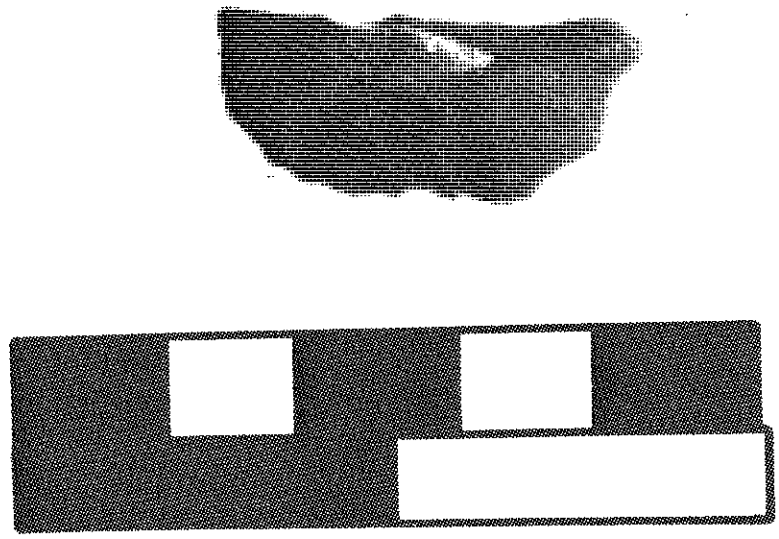


Figure 4.18 Unifacially flaked lithic tool from prehistoric occupation 8. (Photo by S. Biron Ebell.)

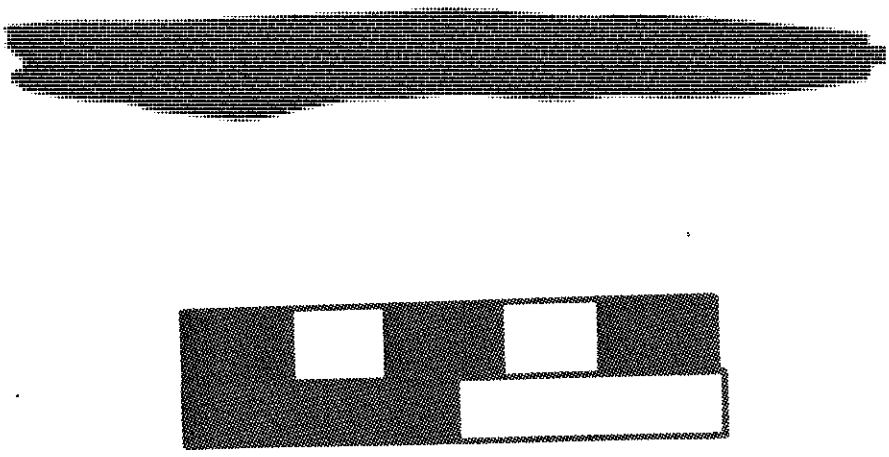


Figure 4.19 Bone tool from prehistoric occupation 8. Lateral edges and surface are polished. (Photo by S. Biron Ebell.)

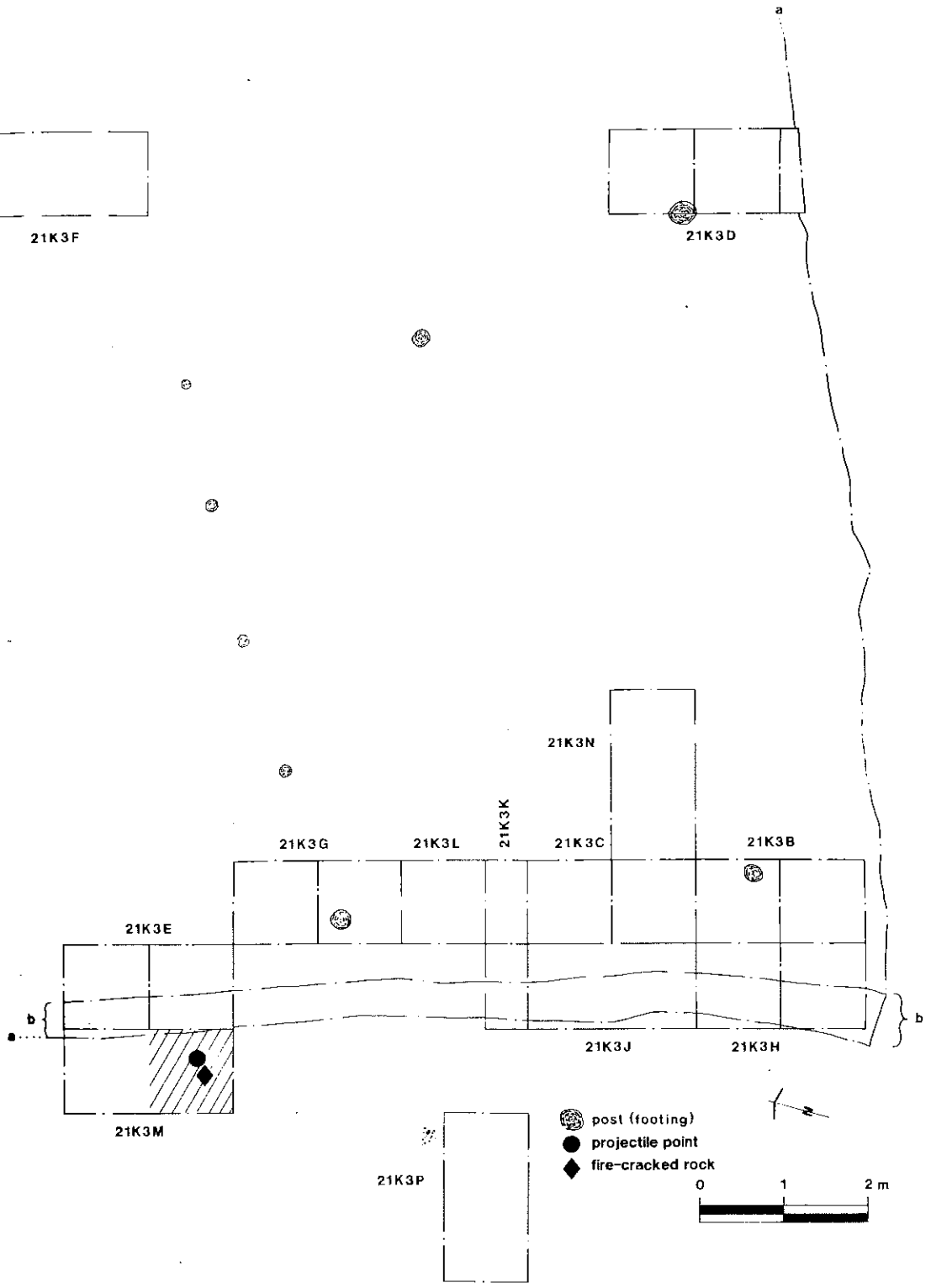


Figure 4.20 Horizontal provenience of prehistoric occupation 9. (Drawn by D. Elrick.)

Figure 4.21 Chert pointed biface recovered from prehistoric occupation 9. (Photo by S. Biron Ebell.)

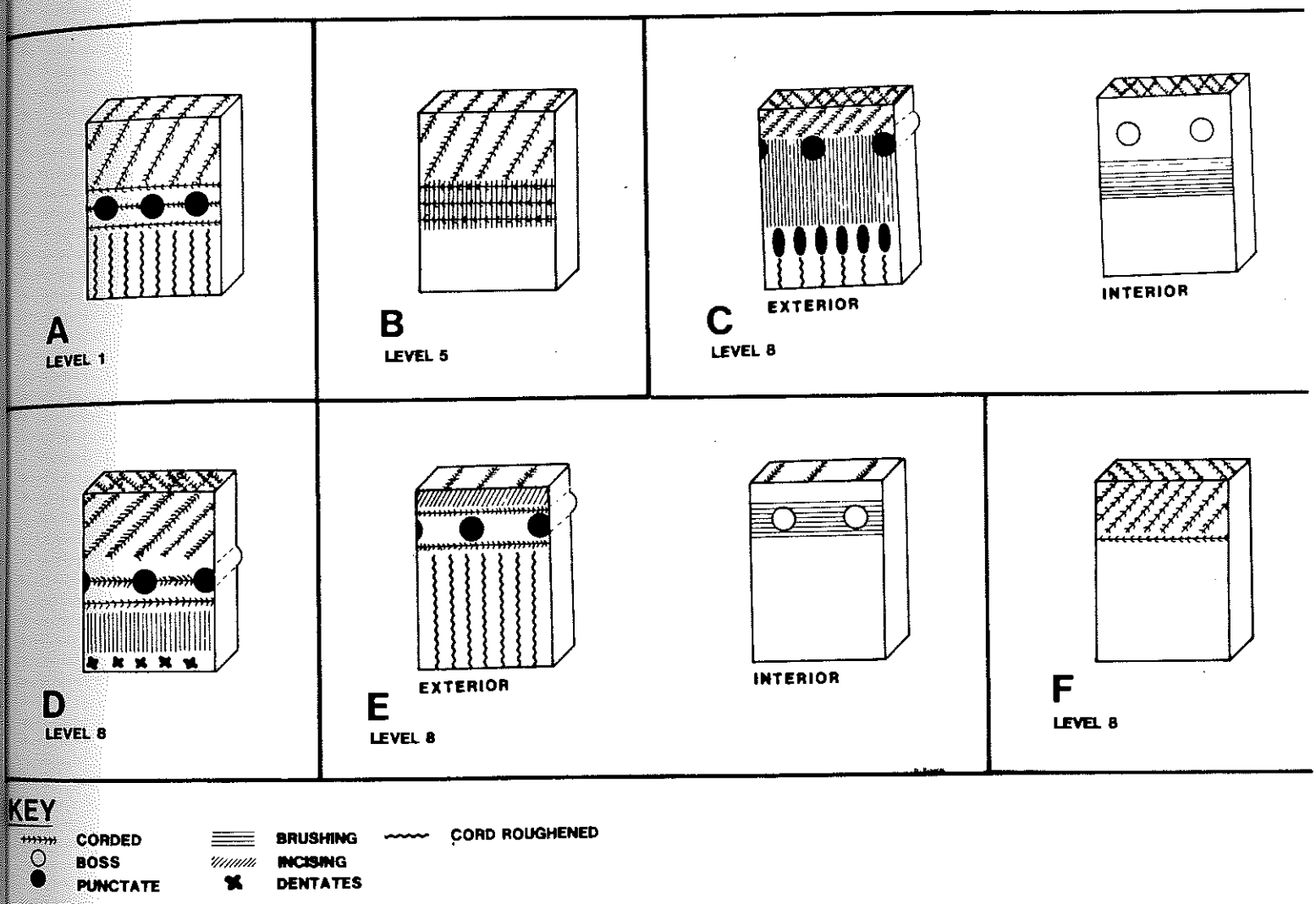


Figure 4.22 Schematic decorative summary of prehistoric ceramic decorative motifs.
a - prehistoric occupation 1.
b,c and d - prehistoric occupation 8.
(Drawn by D. Elrick.)

FORT GIBRALTAR I AREA

5.1 Introduction

Stratigraphie layers at Fort Gibraltar I tend to follow the same general distinctive pattern of deposition across the entire area (Figs. 5.1, 5.2, B.I). Although further research may alter the temporal sequence suggested in this report, tentative dates have been assigned to each of these stratigraphie layers and the features they contain on the basis of the types of artifacts recovered, correspondences to certain documented flood events (Table 5.1) and other historical information, and on the relationships between stratigraphie layers and features themselves.

Approximately two metres of land fill consisting of uncompacted ash, cinders, sand, gravel and coal covered the entire site area. This fill layer dated primarily to the late 19th and 20th century railway period (ca. 1889-1950) and contained contemporary artifacts. It was underlain in turn by a series of multi-banded flood deposited silty clay and sand layers dating to different flood events and time periods (Table 1; Ehrlich et al. 1953; Labelle et al. 1966). Evidence for cultural occupations generally occurred at the interfaces between these layers.

At least six basic time periods can be isolated at the site (Fig. 5.1). Each of these can be subdivided into smaller temporal units, as described below:

a) A period of modern surface deposition (ca. 1950-84) associated with the use and demolition of the Building Products installations at the site and represented by 20-40 cm. of recently deposited surface sand, gravel, lime, mortar, broken concrete and building debris (layer 1).

b) A period of late 19th and 20th century railway related deposition and land fillings activity (ca. 1880-1950) consisting of:
   1) 1.0-1.5 m. of uncompacted ash, cinders, sand, gravel coal, railway features and railway related artifacts (layer 1; ca. 1889-1950); and,
   2) 4.0-25 cm. of apparently flood deposited light grey-brown silty clay (layers 2 and 85) possibly dating to the flood of 1882 and containing early railway and turn of the century artifacts (ca. 1806-1900).

c) A pre-railway/post-Fort Gibraltar I time period (ca. 1826-80) consisting of a series of flood events and cultural features:
   1) a 1.0-2.0 cm. thick layer of dark grey-brown silty clay (layer 40) which may possibly date to the flood of 1861;
   2) 2.0-4.0 cm. thick bandings of manure (layer 16; ca. 1852-61) found either alone or in direct association with the layer 46 silty clay (above) and overlying the ca. 1852 flood sands (layers 5, 6 and 9 2 below);
   3) a pit-and-post feature (layers 23 and 24) and pointed post mould feature (layers 21 and 22) representing cultural activity (ca. 1852-61) between the time that the 1852 flood sands (layers 5, 6 and 92 below) and the ca. 1852-61 manure layer (layer 16 above) were deposited;
   4) a 12-32 cm. thick layer of cross-bedded dark and light brown sand (layers 5, 6 and 9 2) which may date to the flood of 1852 and appears to have extensively affected the site area; and,
   5) a picket post fence/trench line feature (layers 42-44, 79-81 and 126) which predates the ca. 1852 flood sands (layers 5, 6 and 92 above), postdates the ca. 1826 post-Fort Gibraltar I silty clay flood layers (layers 7-9, 32-34, 37, 41, 62 and 86 below), and may date to the experimental farm period (ca. 1836-41) at the site.

d) A period of immediate post-Fort Gibraltar I flooding (ca. 1826) consisting of flood

deposited/flood mixed grey-brown silty clay (layers 7-10, 32-34, 36, 37, 41, 62 and 86) and Fort Gibraltar I contemporary artifacts, structural debris and faunal material.

e) A Fort Gibraltar I contemporary period (ca. 1810-16) consisting of charred structural remains and the midden, hearth and pit remains of two possible encampment areas:

1) 8.0-24 cm. of in situ structural remains and building collapse believed to be part of Fort Gibraltar I which include sections of three outer walls, an inner wall, charred flooring, charred floor joist, fireplace base, limestone chimney rock collapse, cellar pit and debris consisting of collapsed beams, chinking, ash, mortar and charcoal;
2) 8.0-24 cm. of hearth-like, midden and pit features possibly representing part of a fort associated native encampment area (ca. 1810-16) 8.0-22 m. north of the fort-contemporary structural area; and,
3) 4.0-10 cm. of midden-like, hearth-like and pit features which appear to be part of a slightly later southern encampment area (ca. 1816-26) established just south of and possibly on top of part of the fort-contemporary structural remains.

f) A period of pre-Fort Gibraltar I deposition (ca?-1810) consisting of:

1) more than 2.0 m. of almost feature free/artifact free tan clay (layer 14) characterized by 1.0-2.0 cm. thick bandings of dark black organic material which may represent earlier flood deposits and/or frost-varving; and,
2) two pre-Fort Gibraltar I features (layers 78 and 129) consisting of two charred wooden planks found approximately 8.0 m. apart and approximately 16 cm. below the Fort Gibraltar I contemporary layers within the layer 14 tan clay.

Critical changes could occur in the above dates if subsequent research indicates that:

a) the charred remains uncovered at the site are not those of Fort Gibraltar I but those of an earlier or later structure (e.g., the 1781-82 fort of Bruce and Boyer or part of the 1836-41 experimental farm);
b) the picket post fence/trench line uncovered was actually part of Fort Gibraltar I, not the later experimental farm; and,
c) certain flood deposits date to different time periods than those assumed above.

Until further research indicates otherwise, these dates will be used to discuss the deposits and features uncovered at Fort Gibraltar I. The occurrence of these layers across the site generally and within specific excavation units can be found in Figures 5.1, 5.2 and B.l-38.

The more than two metres of fill (layer 1) consisting of 20-40 cm. of the Building Products installations related surface debris and 1.0-1.5 m. of late 19th and 20th century railway fill were removed from the site area by backhoe. All other layers below this level were excavated by hand. In the early stages of investigation both backhoe work and manual excavations operated simultaneously with features and soil layers exposed by one helping to guide placement of and excavation by the other. In the end, a backhoe area measuring approximately 18 m. east-west by 72 m. north-south in size was opened up. Thirty-nine 1.0 m. by 2.0 m. units (with the exception of 21K4B which was a 1.0 m. by 4.0 m. unit) were laid out in north-south lines across the bottom of the backhoe excavated area. Thirty-seven of these units were fully excavated (Fig. 5.3).

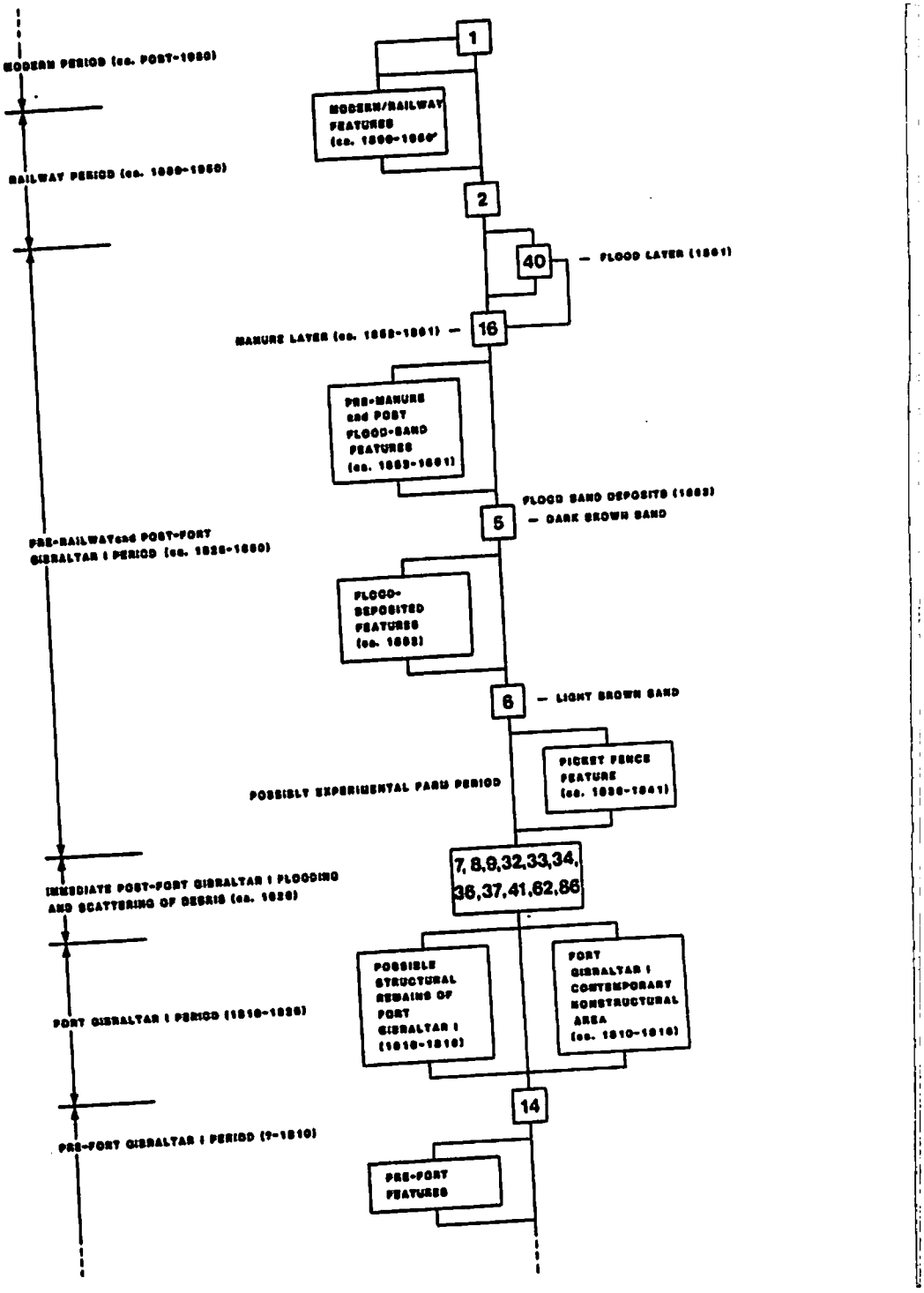


Figure 5.1 Simplified layer/event diagram with tentative dates for the fort Gibraltar I site area (21K4 and 21K6). (Drawn by P.J. Priess.)

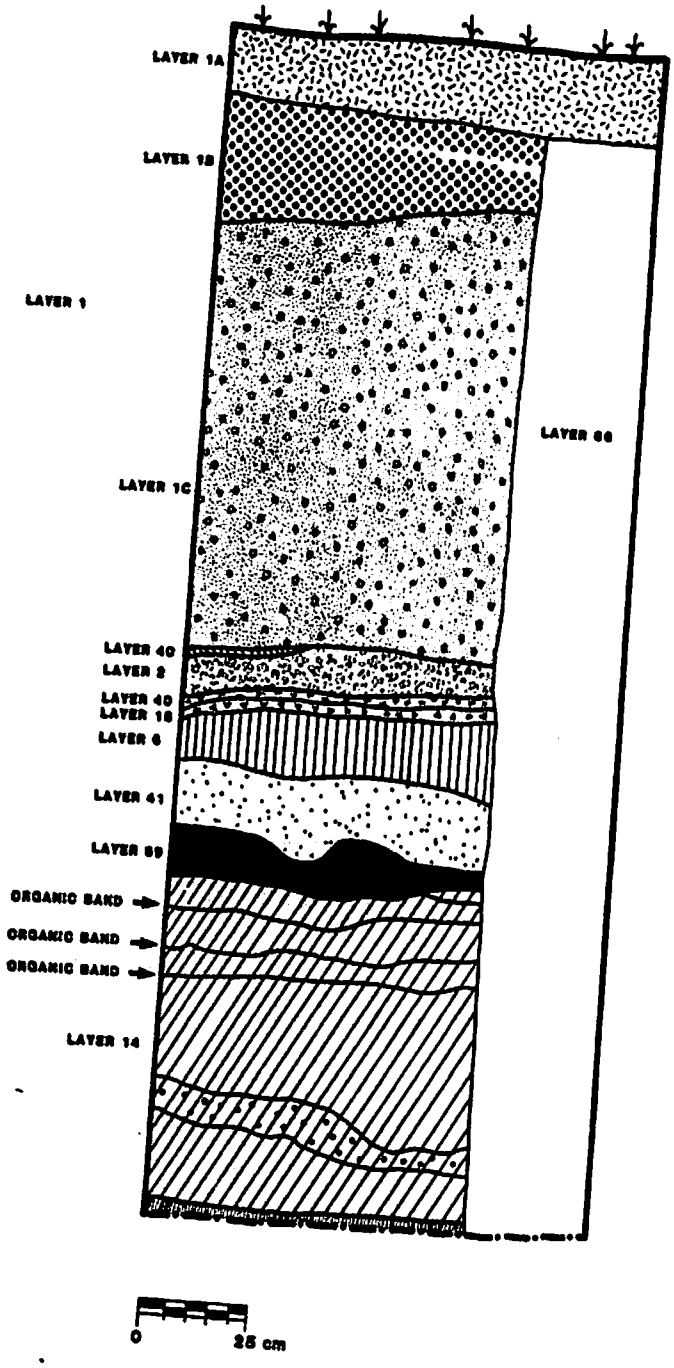


Figure 5.2 Sample profile showing the relationship of stratigraphie layers to one another at Fort Gibraltar I (based on the south wall profile of 21K6C and photographs of modern railway fill layers).

la) Modern Building Products installation related deposition (ca. 1950-84)

lb) Modern and railway period mixed sand and gravel (ca. 1950)

lc) Railway fill (ca. 1889-1950) including railway related artifacts and features

2) Early railway light grey-brown flood deposited silty clay (ca. 1882 flood) containing turn of the century artifacts; pre-railway dark grey-brown flood deposited silty clay (ca. 1861 flood)

16) pre-railway manure layer (ca. 1852-61)

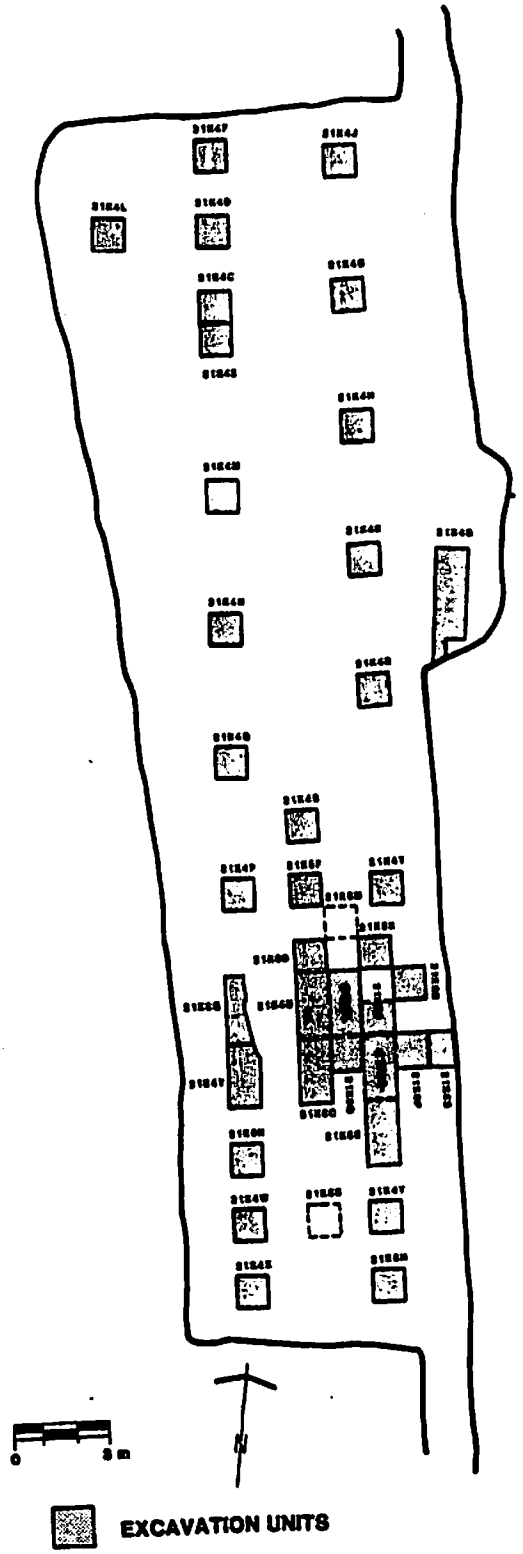
6) light brown flood sand (ca. 1852 flood)

4l) immediate post-Fort Gibraltar I flood deposited grey- brown silty clay (ca. 1826 flood) containing fort- contemporary artifacts and structural debris

69) carbon stained flooring level of fort-contemporary structure (ca. 1810-16)

14) pre-fort tan clay layer (ca?-1810)

66) modern clay-filled utility trench (ca. 1950) (Drawn by D. Elrick.)



5.3 Fort Gibraltar I (21K4 and 21K6) site excavation map (Drawn by D. Elrick.)

Table 5.1 Flood Events, Dates and Elevations for the Winnipeg Area, 1826-1950 (from Labelle et al. 1966).

	MAXIMUM ELEVATION *	
YEAR	Feet	Metres
1826	764.5	233.0
1852	762.5	232.4
1861	760.5	231.8
1882	753.6	229.7
1893	749.7	228.5
1897	750.0	228.6
1904	752.2	229.3
1916	751.6	229.1
1948	751.2	229.0
1950	758.5	231.2

* At junction of Assiniboine G.S. of Canada Datum. City of Winnipeg Datum 727.57 feet (221.76 m.) G.S. of C. at junction, minimum flood level 18 feet above City of Winnipeg Datum of 746 feet (227.3 m.) G.S. of Canada.

5.2 Modern Surface Deposition and Building Demolition (ca. 1950-84)

Modern surface deposition at the site dates to the ca. 1950-84 use and demolition of the Building Products installations originally located approximately 140-150 m. north of the Fort Gibraltar I site excavation area. From aerial photos taken since 1950 (Figs. 1.1-1.3) it appears the site area itself received minimal disturbance from the Building Products related activities. The area appears to have been primarily used for the stockpiling or warehousing of raw, waste or finished materials associated with the production of cement and brick - a fact reflected by the 20-40 cm. of uncompacted sand, gravel, lime, mortar, broken concrete and brick (layer 1) that cover the site. This very loose uncompacted surface layer mixed easily with the underlying and equally uncompacted, earlier railway fill layer (ca. 1889-1950) and was often difficult to distinguish (Fig. 5.2). As a result, both layers were removed by backhoe as a single unit (layer 1).

When the archaeological project began in August 1984, some stockpiles of sand and piles of waste products were being removed from the adjacent site area, the buildings located 140-350 m. north of the site area were being demolished, and land in the surrounding area was being leveled by bulldozer. By the time archaeological investigations were well under way in September 1984, all remaining Building Products installations had been destroyed.

5.3 Late 19th and 20th Century Railway Period (ca. 1880-1950)

5.3.1 Introduction

This railway period is represented at the site by two main stratigraphie layers and a number of trench, pit and other related features containing railway period or turn of the century artifacts (Figs. 5.4, 5.5). As noted earlier, the two main stratigraphie layers include:

a) 1.0-1.5 m. of uncompacted railway fill (layer 1, Figs. 5.6, 5.7) consisting of ash, cinders, sand, gravel, coal and railway related artifacts such as wooden railway ties, metal railway track fragments, metal railway car ports, bricks, glass bottles, window glass, ceramics (crocks, bottles and tableware items), asbestos, leather, cloth nails (mostly drawn nails with a few cut or wrought nails), wire, slag and tin cans (ca. 1889-1950); and,

b) 4.0-24 cm. of apparently flood mixed/deposited grey-brown silty clay (layer 2)

containing charcoal, metal fragments, a few glass and ceramic fragments, cut nails, railway spikes, wood fragments, small river shells, and unique items such as a shotgun shell, metal file, a few pieces of chinking and one seed bead (ca. 1882 flood).

Both layers covered the entire site area. The layer 1 railway fill was clearly the result of use related, refuse dumping and land filling activities. It postdated and was partially the result of the ca. 1889 land leveling activities undertaken by the railway in order to raise the original land level by "about four feet" (Guinn 1980c:140), activities which Guinn assumes would have badly affected any underlying structures and features. Within the Fort Gibraltar I area excavated, the actual disturbance to underlying features appeared to have been remarkably limited relative to the amount of land alteration that obviously occurred. The railway roundhouse (21K2) excavated 20-25 m. to the west was the only major structural feature that could have caused irreparable damage to underlying, fort-contemporary features. Fortunately, however, excavations at Fort Gibraltar I seem to suggest this feature was slightly north and west of what is believed to be part of the fort remains.

This fill layer contained several different types of features dating to different periods of deposition and use. About 1.0 m. below the modern day surface (or 40-60 cm. below the bottom of the more recently deposited materials associated with the Building Products installations), approximately 8.0-10 m, of in situ railway track bed were uncovered running NNE-SSW along the eastern edge of the site in the northeast section of the site (in the vicinity of 21K4B) (Fig. 5.5), The segments of track, steam pipes, refuse and ash/cinder concentrations found in association with this |n situ railway track appear to date to the period of railway use between 1890-1940 and may be part of the same railway side lines and ash heaps visible in early 1930 aerial photography of the site (cf. Guinn 1980c: Fig. 81). The heaviest concentration of layer 1 metal railway car parts, bricks, ceramics, glass, etc. were found at the same level as and just below this section of railway track (Fig. 5.7). Bottles produced by such companies as Stanley, Blackwoods and Drewery were recovered in association with the track and suggest a date between 1890 and 1930 (cf. Table G.I). Since layer 1 artifacts were too numerable to be collected, lab people did on-site recording, measuring and photographing of sample specimens. It would appear that once the section of railway track was no longer used (ca. 1940-50), other refuse materials - particularly ash, sand, cinders and gravel - were dumped on top (cf. Fig. 5.4).

In the north-central section of the site immediately west of the area of railway track recovered, a cinder pit/ dump area was exposed in the vicinity of 21K4E, 21K4H, 21K4M, 21K4K and 21K4B (Figs. 5.5, 5.6). The cinder pit appears to postdate use of the railway track and forms some of the material that later buried it. The pit began just below the deposition layer affiliated with the Building Products activities and probably dated to the ca. 1930-50 time period. Another similar and probably contemporary cinder pit was uncovered within the railway turntable (21K2) 20- 25 m. to the west.

Layer 1 was underlain in turn by 4.0-24 cm. of light grey-brown silty clay (layer 2) which had a swirled or patchy appearance typical of flood deposited silty clays at the site. The artifacts recovered (Tables G.l, G.2) were from the turn of the century (ca. 1880-1900) and could represent both early railway related activities (ca. 1882-89 post-flood surface mixing of artifacts) and pre-railway use of the area (1882 flood deposited/mixed artifacts). The layer itself contained few artifacts in comparison to layer 1 and was almost feature free. Like many of the flood layers at the site, layer 2 often occurred as a multi-banded layer of lighter and^ darker silty clay. Of the 37 excavation units dug, 18 contained a double-banded layer of layer 2 silty clay, another 13 units contained only a single layer of layer 2 silty clay, and in another six units (21K4P, 21^4^, 21K4S, 21K4X, 21K4W and 21K6N) the layer appeared to have been accidentally removed by backhoe. Layer 85 in unit 21K4B seeded to be a sandier version of the layer 2 silty clay found elsewhere across the site (Figs. 5.4, B.2-B.38). Given the types of artifacts recovered from the layers above and below layer 2 and within the layer itself it appeared this probably dated to the flood of 1882. A total of 477 artifacts were recovered from layers 2 and 85, the early railway flood layers immediately underlying the layer 1 railway fill (cf. Tables G.l, G.2). The most frequently recovered materials included bottle glass, window glass, cut nails and unidentified iron metal

fragments.

Nine features associated with the railway period were uncovered starting within or just below the railway fill layer (layer 1). Two others were found starting within the potentially 1882 flood deposited layer (layer 2). Two trench features (one dating to ca. 1950 and another to ca. 1882-89), seven pit features dating either to the time the railway fill was deposited or immediately prior to it, and one post mould feature were recovered from just within or just below the layer 1 railway fill layer. Another pit feature and one large fragment of wood were uncovered from within the silty clay flood layer. All of the features penetrate well below the bottom of the railway fill layer often truncating other soil layers and occasionally other, cultural features below them.

The railway roundhouse (21K2) was the most significant ca. 1889 feature in the area which had a dramatic impact on the underlying soil layer. The only railway period feature which has significantly affected underlying site features was the relatively modern (ca. 1950) utility trench feature (layer 66) which cross sectioned the southwest three-quarters of the site area. This trench prevented the excavation of certain areas of the site and destroyed portions of some underlying cultural features, in particular the western edge of the structure believed to be part of Fort Gibraltar I (Figs. 5.5, 5.30).

A chronology of events which created the archaeological features within layers 1 and 2 follows:

a) a modern trench (layer 66) was excavated and fill- ed with clay along the west edge of the site (ca. 1950);
b) a cinder pit was excavated and filled (ca. 1940-50) in the north-central section of the site;
c) a portion of |n situ railway track was abandoned and buried beneath fill consisting of ash, sand, gravel, cinders, etc. (ca. 1940-50);
d) the portion of |n_ situ track (above) was still in use and refuse related to it deposited (ca. 1890-1940);
e) land fill was deposited to raise level of land prior to establishing railway lines in the area (ca. 1889)
f) six pit features (three refuse-filled) and one small trench were excavated below layer 1.
g) Artifacts were randomly deposited on the surface prior to the ca. 1889 land filling activities (ca. 1882-89). Some of these artifacts became embedded in the softer underlying ca. 1882 flood layer (see below); and,
h) the surface of the site was flooded and surface artifacts mixed in with the flood deposited silty clay (ca. 1882 flood).

5.3.2 Railway Period Trench Features (ca. 1882-1950)

Two railway period trench features were uncovered. Layer 66 was a fairly modern trench feature (ca. 1950) 1.5 m wide, 2.0-2.5 m deep and approximately 30 m. long. Layer 88 consisted of a 75 cm. long segment of a 15-34 cm. wide by 50 cm. deep trench that dated approximately to the time of the layer 1 railway fill deposition (ca. 1882-89). Both features truncated other features below them.

5.3.2.1 Modern Trench Feature (ca. 1950)

Layer 66 began just below the modern day surface of the site and dated to either the last phase of railway use or to the early phase of the Building Products operations (ca. 1950). It continued down at least 1.0 m. below the bottom of layer 1 giving it a total depth of between 2.0 and 2.5 m. It was first uncovered in 21K4P where it almost completely obliterated the unit. The same feature prevented excavation of 21K6B and cut through portions of 21K4Q, 21K4V, 21K6C and 21K6G (Fig. 5.5). It consisted of a very dense, wet, sticky olive-coloured clay and was approximately 1.5 m wide and at least 30 m. long. It is oriented NNW-SSE across the southern three-quarters of the site, was likely a utility trench of some kind, and was relatively artifact free (Fig. 5.5; Table G.I). It was only partly excavated in 21K4P where it produced one window glass fragment, two turquoise glass bottle body fragments one piece of North American improved glaze stoneware crock fragment one yellow brick fragment, one

common drawn nail one harness snap, two metal bottle cap fragments and a piece of slag. A cut nail was also recovered from the uppermost few centimeters of this trench feature in 21K6B before excavation of that unit ceased (cf. Table G.I). The primary feature known to be affected by this trench was the underlying fort-contemporary structure believed to be part of Fort Gibraltar I (Figs. 5.5, 5.30). Part of the southwest corner of this structure - in particular, the western edge of a cellar feature (Fig. 5.48) and part of what would have been the north wall of the structure (Fig. 5.32) - was obliterated by the trench. In other areas, the trench did not appear to have significantly affected other features.

5.3.2.2 Early Railway Trench Feature (ca. 1882-89)

The layer 88 trench-like feature was found in 21K4B. It was oriented east-west across the middle of the unit and may have extended further westwards under the unexcavated areas. It began just above the layer 2 silty clay and just below the layer 1 railway fill and contained a grey-brown mixture of layer 2 silty clay, layer 86 fort-contemporary silty clay, layer 14 pre-fort tan clay, and some cinder material characteristic of the layer 1 railway fill. It contained only a few fragments of bone (probably from the underlying hearth areas), one piece of window glass, two wood fragments, a piece of chinking and one piece of clam shell. The feature was about 75 cm. long, 15-34 cm. wide and about 50 cm. deep. It truncated an underlying fort-contemporary hearth and midden area (layers 87, 89 and 90) and ended 5.0-10 cm. into the layer 14 tan clay (Figs. 5.5, 5.8, 5.66).

5.3.3 Railway Period Pit Features (ca. 1882-89)

Of the seven railway period pit features recovered, three were refuse-filled pits and four others had no obvious function (Fig. 5.5). Six dated to the period either between the deposition of layer 2 silty clay and the layer 1 railway fill or just after the initial deposition of layer 1 railway fill. One other pit feature dated to around the time of the layer 2 silty clay.

5.3.3.1 21K4E: Refuse Pit and Two Smaller Non-Refuse Pits (ca. 1882-89)

Refuse Pit (Layers 96-98). Layers 96-98 in 21K4E was one of the largest pits uncovered during excavation (Figs. 5.9, 5.10). It consisted of an oak bark-lined 60 cm. deep V-shaped pit that was approximately 70 cm. wide (N-S) by 7 5 cm. long (E-W) at the top and 40 cm. wide (N-S) by 55 cm. long (E-W) at the bottom. It was located along the west wall of 21K4E and covered most of the south half of the unit. It began below the railway fill and above the layer 2 silty clay, and appeared to date to ca. 1882-89. It probably continued further west of the excavation unit.

The pit fill was a mixture of grey-brown silty clay, tan clay, cinders, ash, gravel and sand typical of the railway fill. It contained 44 window glass fragments, two unidentified curved pieces of glass, one manganese tint glass bottle base, two green glass bottle body fragments, one yellow brick fragment, three cut square-headed nails, two iron rivets, one large iron pipe fragment, five unidentifiable iron metal fragments, two pieces of unidentified iron strip-strap, three pieces of iron wire, one unidentified iron rod fragment, four large pieces of heavy duty iron metal mesh (perhaps machinery parts), one large riveted iron reinforcement plate and a few fragments of bone. Although the pit did cut through the underlying soil layers (including the layer 16 manure layer) to about 20-30 cm. within the pre-fort period (ca?-1810) layer 14 tan clay, there were no other underlying cultural features (such as pits, hearths, etc.) for the pit to intercept. It was found in association with two other smaller Non-refuse early railway pits (layers 99 and 100).

Two Small Non-Refuse Pits (Layers 99 and 100). Two small circular pits roughly 20 cm. in diameter and about 16 cm. deep were found adjacent to one another (about 20 cm. apart) along the east wall of 21K4E opposite the layers 96-98 refuse pit (Fig. 5.5). These were discovered after excavation and have no obvious function. They began below the bottom of layer 1 and were contemporary with the larger

refuse pit (ca. 1882-89). The pit fills were a mixture of layer 2 silty clay and some ash cinder material typical of layer 1. The pits ended just above the ca. 1852 layer 6 flood sand and did not intercept any underlying cultural features. Although no artifacts were recorded as being directly in association with the pits, 12 glass fragments, four cut nails, one drawn nail and three rubber fragments were recovered from the surrounding layer 2 ca. 1882 flood silts (Table G.I).

5.3.3.2 21K4K: Refuse Pit (ca. 1889)

A densely filled, more domestic related refuse pit feature (layers 19 and 20) was found in 21K4K. This feature also dated to the early railway period and was uncovered within the bottom 4.0 cm. of layer 1 railway fill along the east wall of 21K4K (Figs. 5.4, 5.5). The pit was oriented north-south along this east wall, was roughly egg-shaped or tear-drop-shaped and flat-bottomed, about 80 cm. long, 8.0 cm. wide at the south end and 40 cm. wide at the north, and 24-32 cm. deep (Figs. 5.12, 5.13). It obviously extended further east past the area excavated and was 2.0 m. west of the railway period trench in 21K4B (layer 88) and 8.0 m. southeast of the railway pits uncovered in 21K4E (layers 96-98, 99 and 100).

The pit fill consisted of a mixture of layer 1 railway fill and layer 2 silty clay and contained a dense concentration of tin cans, iron fragments, eggshells, large and small pieces of large mammal bone, charcoal, asbestos and cinders. The pit ended within the ca. 1852 layers 5-6 flood sands but did not truncate any of the other underlying cultural features which included: a ca. 1852-61 pit-and-post feature (layers 23 and 24) in the southwest corner; a ca. 1852-61 post mould feature (layers 21 and 22) along the west wall; and fort-contemporary hearth (ca. 1810-16) (layers 27 and 28), ash mound (layer 29) and midden-like (layer 87) features directly below it (Figs. 5.1, B.I, B.10). A total of 168 artifacts were recovered from the refuse pit and include one window glass fragment, one unidentified curved glass fragment, one screw, one copper rivet, two copper wire fragments, 82 unidentified iron metal fragments (probably disintegrated tin can fragments), one perforated iron metal fragment (possibly a container lug), one thick piece of iron wire, three complete tin cans, 75 tin can body or base end fragments, several large lumps of asbestos, one fragment of sawn wood, several pieces of bone and a dense 1.0-2.0 cm. thick layer of broken eggshells (Table G.I).

5.3.3.3 21K4J: Pit Feature (ca. 1882-89)

An irregular V-shaped pit of no obvious function (layers 3 and 4) was uncovered along the east wall in the northeast corner of 21K4J (Figs. 5.5, 5.14). It measured roughly 48 cm. (N-S) by 20 cm. (E-W), 75 cm. deep, and began just below the bottom of layer 1. The pit fill consisted of a dark grey silty clay similar to layer 2 and contained very few artifacts other than some disintegrated wood and wood fragments, charcoal chunks, one copper fragment, four glass fragments, one cut nail, a few pieces of mammal bone, one piece of clam shell and a large boulder about 18 cm. by 9.0 cm. in size (Table G.I). The boulder was found approximately two-thirds of the way down the pit (approximately 30-40 cm. below the top of the pit). The nail was recovered from underneath the boulder. The pit ended about 15 cm. into the pre-fort period layer 14 tan clay and was near but did not disturb two earlier fort-contemporary features: a pit feature (layers 11 and 12) in the southeast corner and a layer of organic material (layer 13) in the northwest corner (Figs. 5.1, B.I, B.9).

5.3.3.4 21K6R: Refuse Pit Feature (ca. 1889)

A fairly large semicircular section of another railway period pit (layer 140) was partially excavated along the north wall of 21K6R (Figs. 5.15, 5.16). The section excavated was approximately 75 cm. long (N-S), 8.0-10 cm. wide (E-W) and more than 42 cm. deep. The total depth of the feature is unknown since excavation of the unit ceased at this level. The pit began within the bottom few centimetres of layer 1 railway fill (ca. 1889) and contained railway related debris such as bricks, broken rock, ash, cinders and gravel. It obviously extended further north beyond the edge of the excavated area. The degree to which this feature has affected other fort-contemporary or pre-fort features is unknown since

the unit was not excavated past the immediate Fort Gibraltar I ca. 1826 silty clay flood layers (layers 41 and 62; Figs. B.I, B.37). Given that this unit may very well be inside the fort-contemporary structure believed to be Fort Gibraltar I (Fig. 5.30), there is a chance some significant features may have been affected. The pit feature was excavated as a surface dip of layer 1. Nine glass bottle fragments and one tin can base end were recovered from this railway fill in association with the layer 140 railway pit (Table G.I).

5.3.3.5 21K4D: Pit Feature (ca. 1882)

A shallow, U-shaped pit-like feature of no obvious function (layer 93) was also uncovered in the southwest corner of 21K4D within layer 2 (Fig. 5.5). The pit was about 24 cm. N-S by 32 cm. E-W in size and 12-16 cm. in depth. It was discovered after the unit had been excavated and appears to have been filled with a silty clay similar to but lighter than layer 2. No artifacts were noted as being associated with it.

5.3.4 21K4B: Railway Period Post Mould Feature (ca. 1889)

Only one post mould feature dating to this railway period was recovered (Figs. 5.5, 5.17). This feature (layer 91) greatly resembled a survey stake, was 5.0 cms. square, began within and was filled with uncompacted layer 1 railway fill (mostly black cinders and ash). It contained no artifacts, was more than 28 cm. in depth (the uppermost portion having been obliterated by the backhoe operations), and cut 2.0-3.0 cm. into a ca. 1810-16 fort-contemporary feature (ash mound, layer 90) directly below it in the northeast corner of 21K4B. It was about 1.5 m. northeast of a slightly earlier railway period trench (layer 88, ca. 1882-89) which transected the mid-south section of 21K4B (Figs. B.I, B.2).

5.3.5 21K4T: Railway Period Wood Feature (ca. 1882)

A fairly large piece of wood (layer 139) measuring about 20 cm. long by 4.0-8.0 cm. wide and veneer thin (2.0-4.0 mm. in thickness) was uncovered within the northwest corner of 21K4T (Fig. 5.5). It was oriented NNW-SSE across the northwest corner and found in association with one wrought nail, one bone fragment and one glass bottle finish (Table G.I). it was recovered from 2.0-3.0 cm. within the layer 2 flood deposited silty clay and it is not clear whether it was an |n Sltu^ feature or a possible flood deposited feature (cf. 1882 flood).

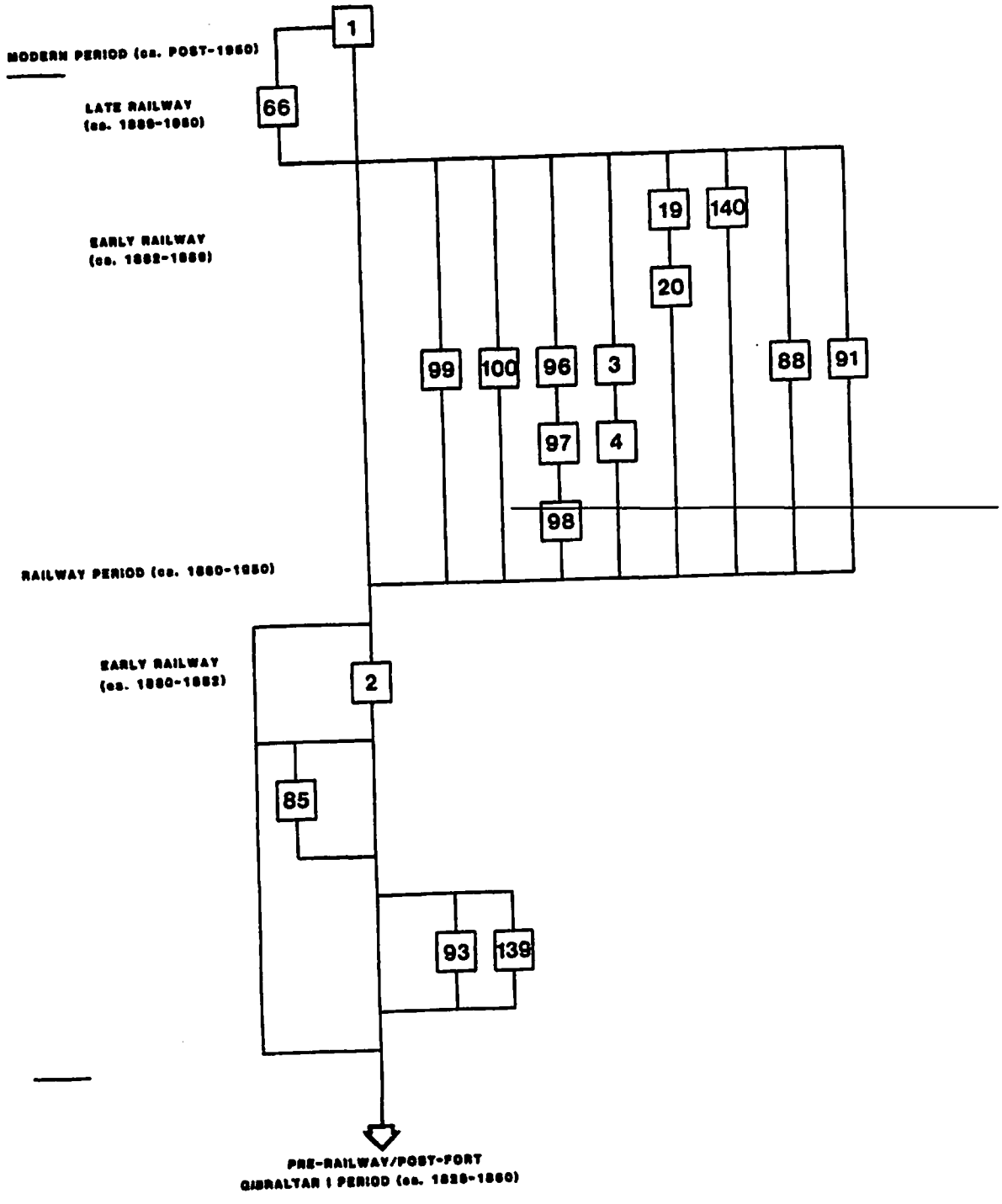


Figure 5.4 LaYer/event diagram with tentative dates for the railway period features and layers (ca. 1880-1950) uncovered at Fort Gibraltar I. (Drawn by D. Elrick.)

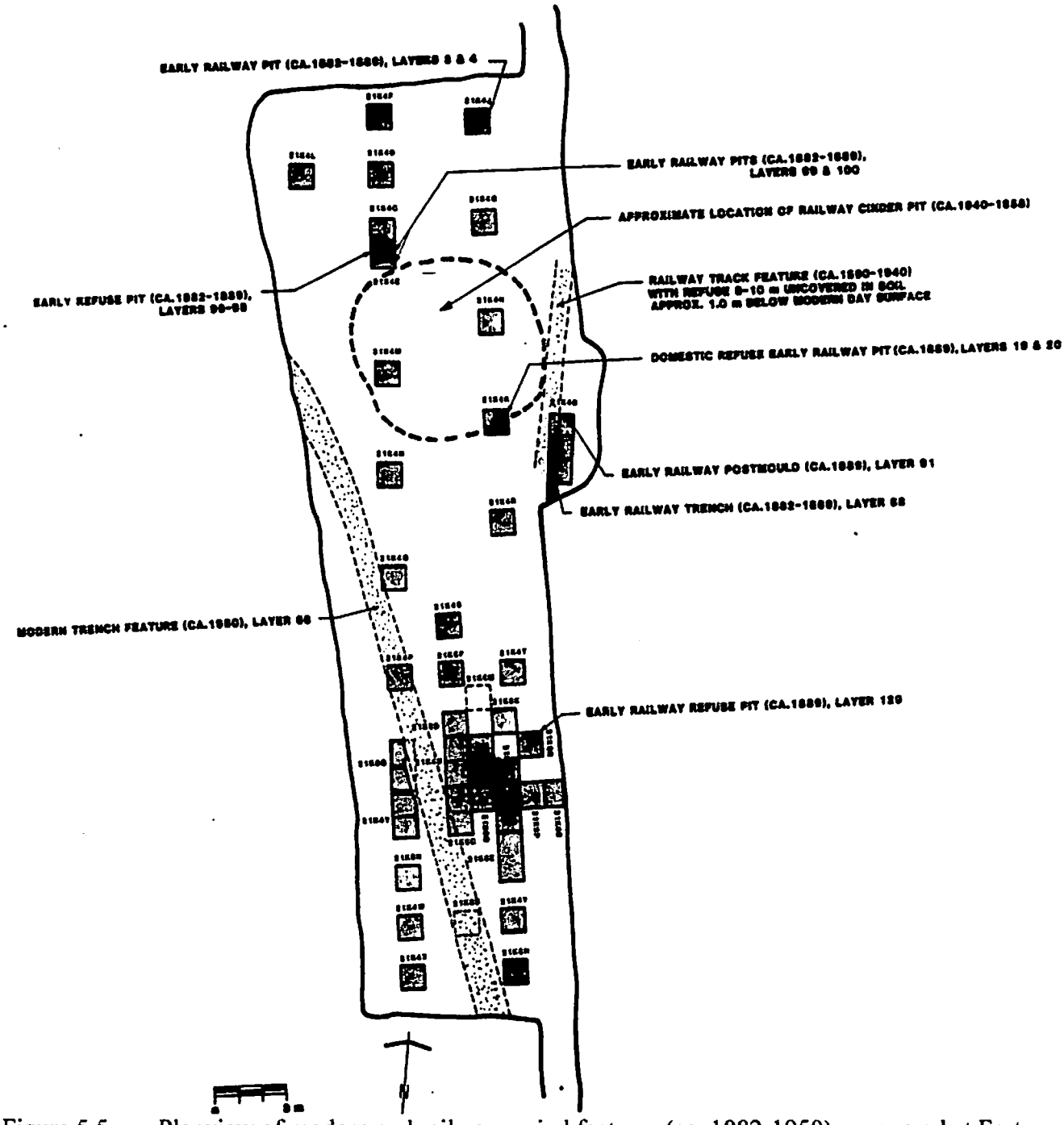


Figure 5.5 Planview of modern and railway period features (ca. 1882-1950) uncovered at Fort Gibraltar I. (Drawn by D. Elrick.)

Figure 5.6 East-west profile of the modern and railway fill layers (layer 1) overlying the site in the vicinity of 21K4M and 21K4K. A large cinder pit is shown to the left. Intervals on the stadia rod are in 10 cm. increments. (Photos by P. Nieuwhof.)

Figure 5.7 North-south profile of the modern and railway fill layers (layer 1) overlying the site in the vicinity of 21K4B. The railway tie to the right of the photo overlies a concentration of broken bottle glass, tableware ceramics, metal fragments and other refuse dating to the railway period. (Photo by S.E. Bradford.)

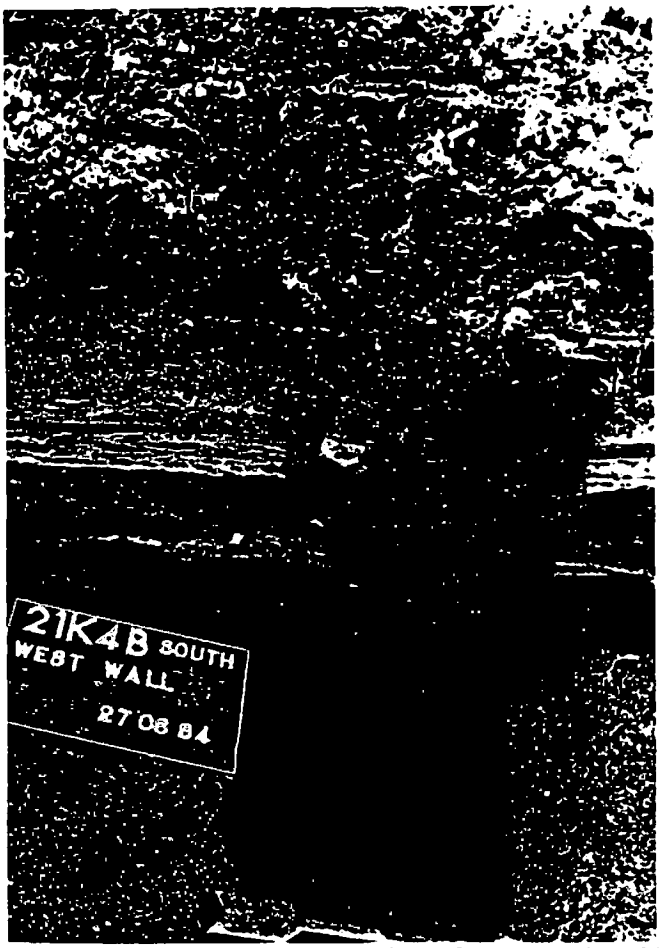


Figure 5.8 West wall profile of 21K4B (South) showing cross section of early railway trench (layer 88; ca. 1882-89). (Photo by L. Konotopetz.)

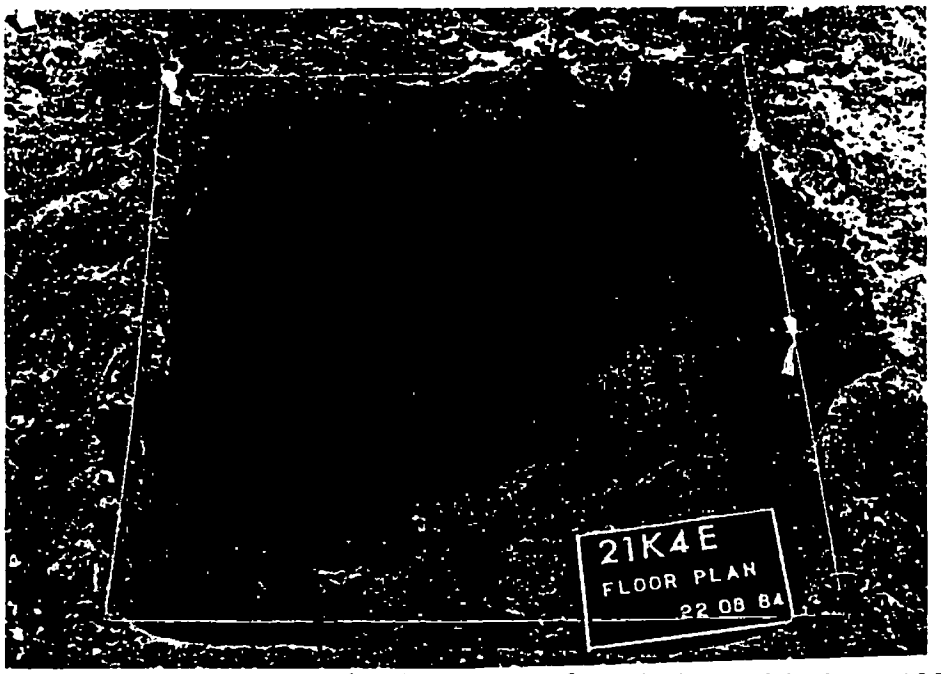


Figure 5.9 Planview of early railway refuse pit (layers 96-98; ca. 1882-89) in the south half of 21K4E. (Photo by L. Konotopetz.)

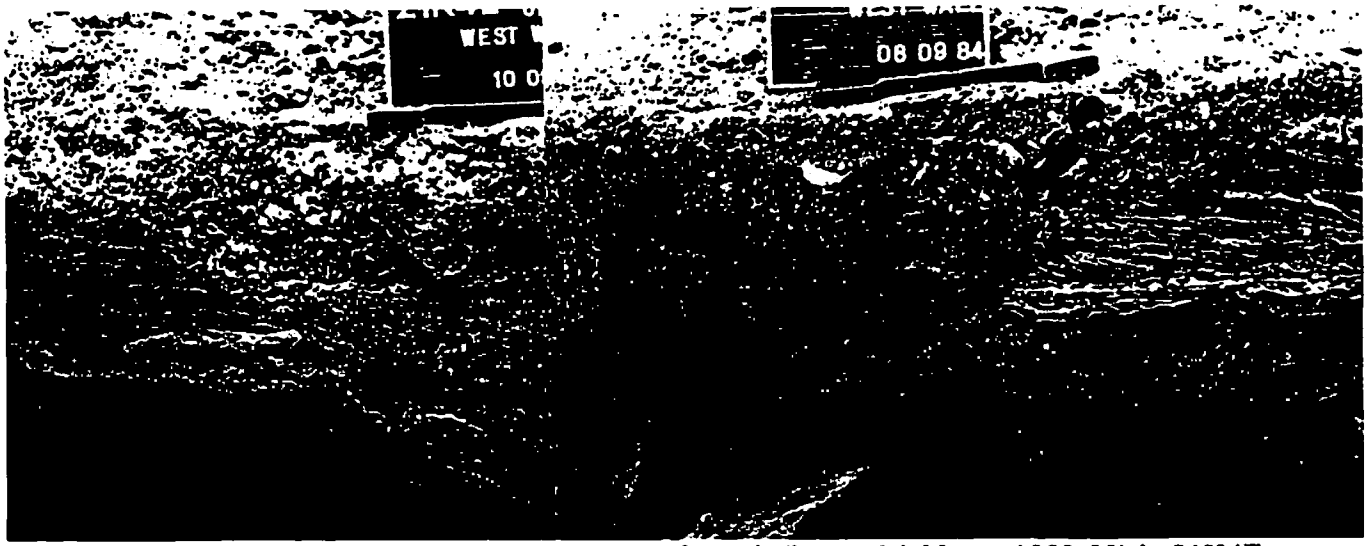


Figure 5.10 West wall profile of early railway refuse pit (layers 96-98; ca. 1882-89) in 21K4E. (Photo by L. Konotopetz.)

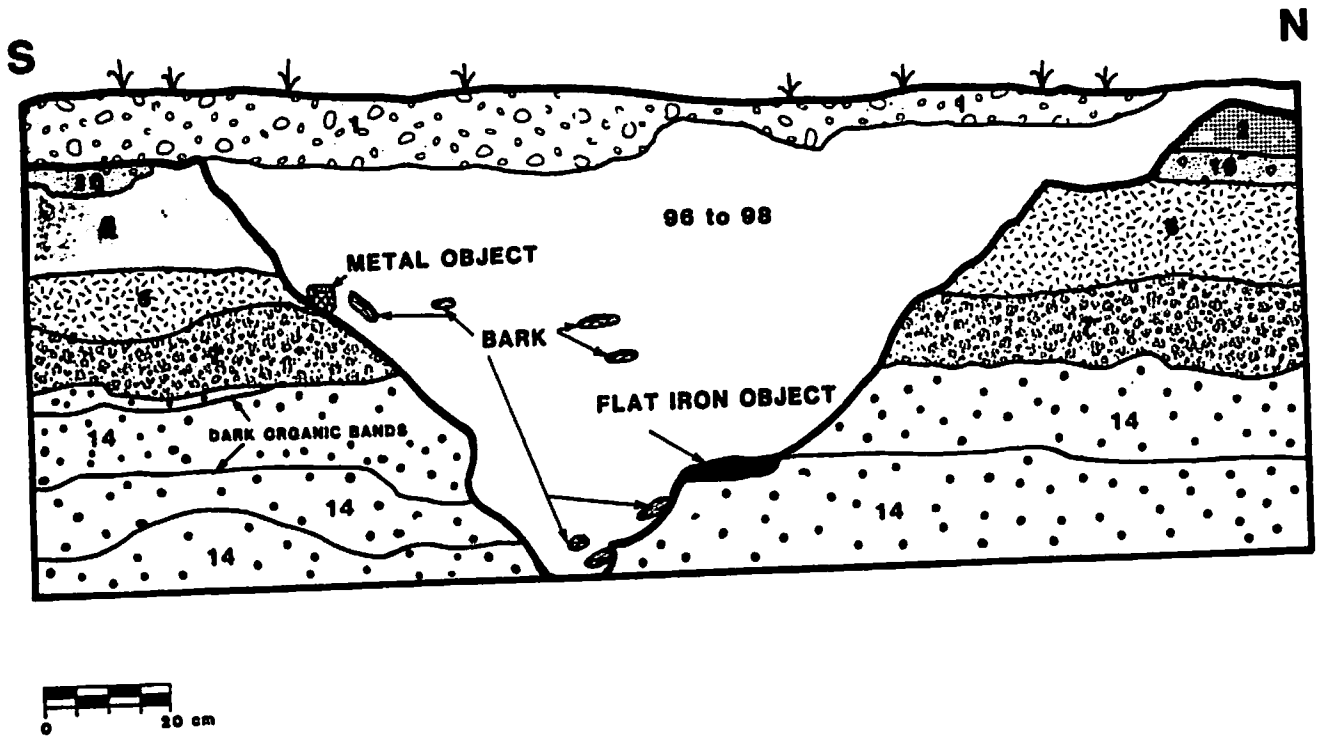


Figure 5.11 West wall profile of 21K4E with early railway refuse pit (layers 96-98; ca. 1882-89): 1) Railway fill of ash, sand, cinders and gravel remaining on surface after backhoe removal; 96-98) bark-lined refuse pit feature containing ash, sand, gravel and railway period artifacts; 2) early railway flood deposited grey-brown silty clay (ca. 1882); 16) pre-railway manure layer (ca. 1852-61); 5) dark brown flood deposited sand (ca. 1852); 6) flood deposited light brown marbled sand (ca. 1852); 7) immediate post-fort Gibraltar I flood deposited dark grey-brown silty clay (ca. 1826) containing fort-contemporary artifacts and faunal material; 14) pre-fort artifact free tan clay layer characterized by dark black organic bandings every 8.0-10 cm. (ca?-1810). (Drawn by D. Elrick.)

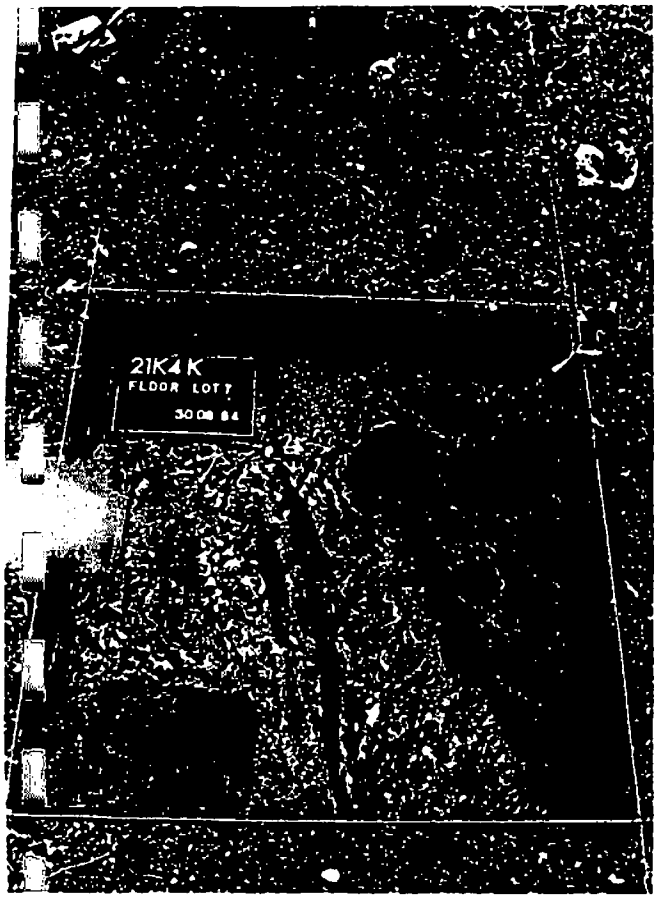


Figure 5.12 Planview of early railway domestic refuse pit (layer 19 and 20; ca. 1889) containing tin cans, asbestos, eggshells and other refuse uncovered in 21K4K. The square-shaped pit (layers 23 and 24) to the lower left of the photo dates to the pre-railway period (ca. 1852-1861). (Photo by S.E. Bradford.)

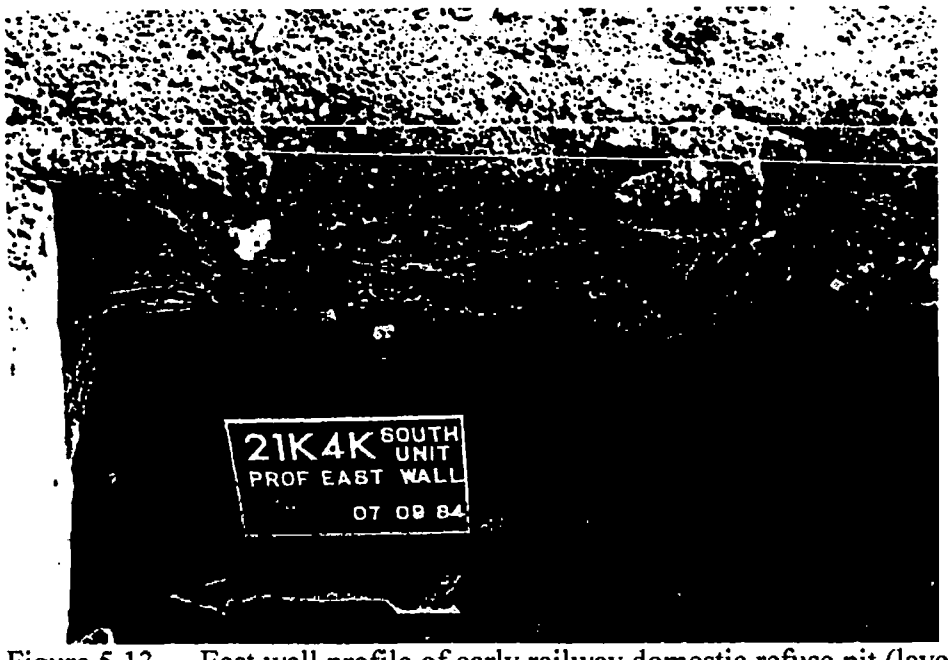


Figure 5.13 East wall profile of early railway domestic refuse pit (layers 19 and 20; ca. 1889) uncovered in 21K4K. (Photo by S.E. Bradford.)

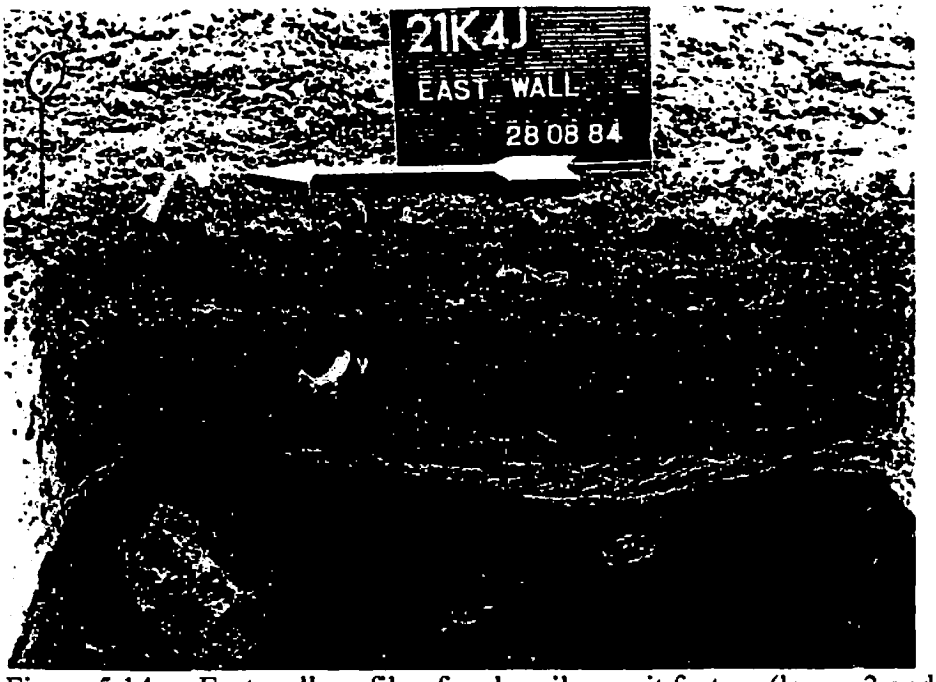


Figure 5.14 East wall profile of early railway pit feature (layers 3 and 4; ca. 1882-89) uncovered in the northeast corner of 21K4J. Large boulder is approximately 45-50 cm. from the bottom of the pit. An earlier fort-contemporary pit feature (layers 11 and 12) is visible to the right of this pit feature. (Photo by L. Konotopetz.)

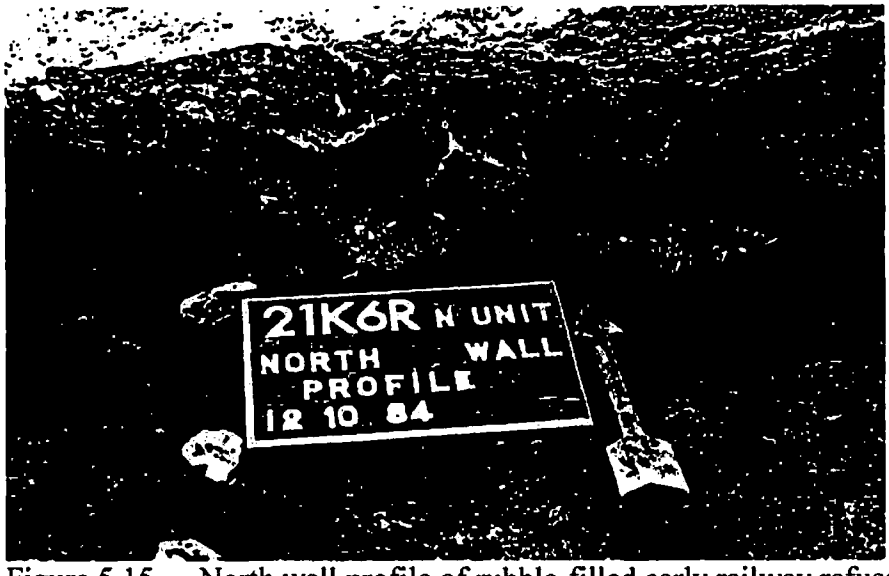


Figure 5.15 North wall profile of rubble-filled early railway refuse pit (layer 140; ca. 1889) in 21K6R. (Photo by L. Konotopetz.)

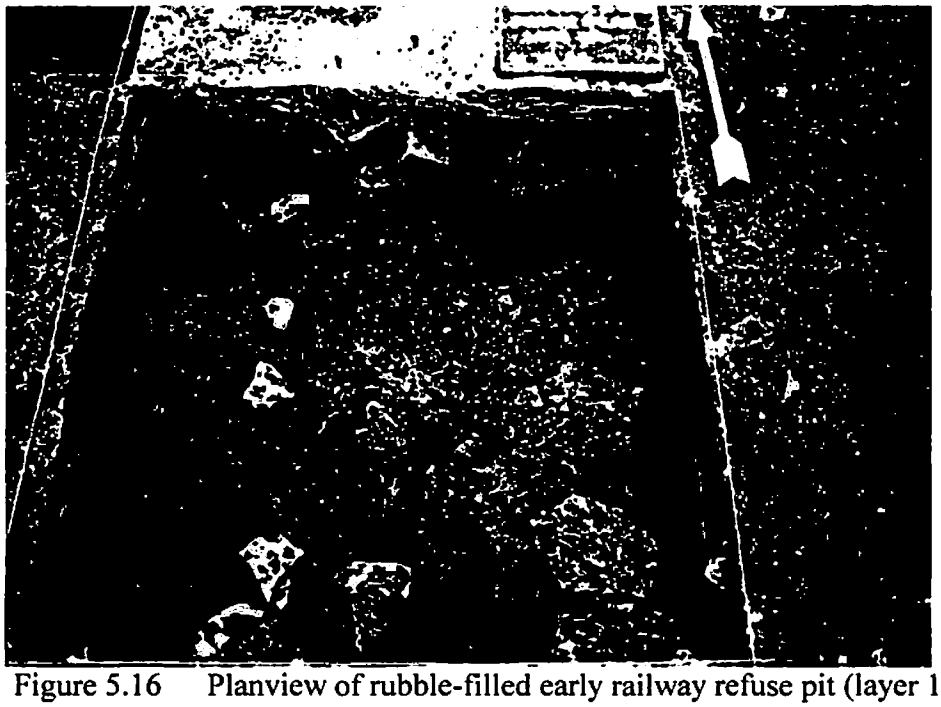


Figure 5.16 Planview of rubble-filled early railway refuse pit (layer 140; ca. 1889) in 21K6R. Rocks in the foreground are part of the fort-contemporary chimney collapse (layer 48; ca. 1826). (Photo by L. Konotopetz.)

Figure 5.17 North wall profile of 21K4B (North) showing cross section of railway periçd post mould feature (layer 91; ca. 1889) in the north- east corner. (Photo by S.E. Bradford.)

5.4 Pre-Railway/Post-Fort Gibraltar I Period (ca. 1816-80)

5.4.1 Introduction

This period between ca. 1816-80 consisted of several different periods of deposition, flooding and cultural activity (Figs. 5.18, 5.19, B.I to B.38) as described below:

a) A period of possible pre-railway flooding (ca. 1861) consisting of 1.0-2.0 cm. of dark grey-brown silty clay (layer 40) underlying the layer 2 early railway flood layer 9 (ca. 1882) and overlying the layer 16 manure layer (ca. 1852-61).

b) A period of manure deposition (ca. 1852-61) consisting of 1.0-2.0 cm. of manure (layer 16) often found in association with or underlying the ca.1861 layer 40 silty clay and overlying the ca. 852 layers 5, 6 and 92 flood sands.

c) Pre-manure/post-1852 flood sand cultural activity (ca. 1852-61) represented by a pit-and-post feature (layers 23 and 24) and a pointed post mould feature (layers 21 and 22) which predate the ca. 1852-61 layer 16 manure layer and postdate layers 5, 6 and 92 flood sands.

d) Pre-manure flooding (ca. 1852) consisting of 12-32 cm. of dark and light cross-bedded sand layers (layers 5, 6 and 92) which significantly affected the site and may date to the flood of 1852.

e) Pre-1852 flood sand/post-Fort Gibraltar I cultural activity (ca. 1836-41) consisting of a picket post fence/trench line feature (layers 42-44, 79-81, 126) which predates the ca. 1852 flood sands, postdates the ca. 1826 flooding (layers 7-9, 10, 32-34, 36, 37, 41, 62 and 86) and may date to the experimental farm period (ca. 1836-41).

f) A period of flooding immediately postdating Fort Gibraltar I (ca. 1826) consisting of one or more bands of darker and lighter grey-brown silty clay (totalling 16-30 cm. in thickness) containing fort-contemporary artifacts and structural debris (layers 7-9, 10, 32-34, 36, 37, 41, 62 and 86).

The flood sand (ca. 1852) and immediate post-Fort Gibraltar I silty clay flood layers (ca. 1826) are almost universal to the site area and provided an excellent stratigraphic control for features above and below them. The layer 40 silty clay layer (1861 flooding) and the layer 16 manure layer (ca. 1852-61) had more restricted distributions but still provided some stratigraphie control. Twelve of the 37 units excavated contained layer 40 silty clay; 11 of these were found directly in association with the layer 16 manure layer. Twenty-three of the 37 units excavated contained single or double bands of manure. The manure layer tended to be restricted to the central south and central north areas of the site. Layer 40 tended to be restricted to the units immediately overlying or near the area containing the structural remains believed to be part of Fort Gibraltar I. This flood layer, manure layer (layer 16) and flood sands (layers 5, 6 and 92) contained very few artifacts and almost no features. Cultural features were found at the interfaces between those layers (Fig. 5.19). The ca. 1826 post-Fort Gibraltar I silty clay flood layers (layers 7-10, 32-34, 36, 37, 41, 62 and 86) contained flood mixed artifacts and structural debris dating to the Fort Gibraltar I period (1810-16) and tended to reflect the underlying occupations, structural collapse, hearth and midden features associated with that time period.

5.4.2 Period of Pre-Railway/Post ca. 1852 Flood Sand Flooding (ca. 1861)

As noted above, 12 of the 37 units excavated (21K4V, 21K6A, 21K6C, 21K6D, 21K6E, 21K6G, 21K6J, 21K6L, 21K6P, 21K6Q, 21K6R and 21K6S) contained layer 40 silty clay (Figs. 5.2, B.l-B^38). The silty clay is a darker grey-brown in colour than layer 2 (ca, 1882 early railway silty clay) sometimes found overlying it and appeared to represent a flood event quite separate from it, possibly the flood of 1861. The layer was quite thin, averaging 1.0-2.0 cm. in thickness, and was restricted to those units immediately overlying or adjacent to the area in the south end of the site containing the structural remains believed to be part of Fort Gibraltar I. Although these structural remains were anywhere from

30-55 cm. below and were separated from layer 40 by 12-32 cm. of ca. 1852 flood sand (layers 5, 6 and 92) and 16-30 cm. of immediate post-Fort Gibraltar I flood deposited silty clay, the overlying area seemed to have somehow served as a natural catchment area for the flood deposited silts associated with layer 40.

In 11 of these 12 units, layer 40 was found in direct association with layer 16 manure; 21K6D was the only unit in which this was not the case. In seven of the 11 units containing manure (21K6E, 21K6J, 21K6L, 21K6P, 21K6Q, 21K6R and 21K6S overlying the eastern portion of the structural remains), the manure layer occurred as a 2.0-4.0 cm. thick single or double band within and separated by 1.0-2.0 cm. of dark grey silty clay. In the other four units (21K4V, 21K6A, 21K6C and 21K6G), layer 40 occurred as a single 1.0-2.0 cm. thick layer immediately above the manure layer. Other than the recovery of manure (a feature in itself), a few fragments of mammal bone, two wrought nails and two green glass bottle fragments (Table G.I), layer 40 was essentially both artifact and feature free.

5.4.3 Period of Manure Deposition (ca. 1852-61)

Twenty-two of the 37 units, or almost 60 per cent of all units excavated, contained layer 16 manure (21K4E, 21K4H, 21K4K, 21K4L, 21K4M, 21K4N, 21K4R, 21K4T, 21K4V, 21K4Y; 21K6A, 21K6C, 21K6E, 21K6G to 21K6L and 21K6P to 21K6S). In 11 of the 23 units, the manure layer was found in direct association with layer 40. In the remaining 12 units the manure layer occurred as a 2.0-4.0 cm. thick layer directly below the layer 2 early railway silty clay. It universally occurred above the ca. 1852 layer flood sands (layers 5, 6 and 92) (Figs. B.I- B.38) with the exception of 21K6K and 21K6L where the flood sands were absent and where it occurred directly above layer 41 (Figs. B.1-B.38). The deposition of manure seemed to be restricted to the central south area overlying the fort-contemporary structural remains and the central north area of the site (Fig. 5.19). Excavators also noted orange flecking at the same elevation level in a number of other units but it is unclear whether or not this flecking was actually manure.

The manure layer itself was virtually feature free and contained almost no artifacts. From the 23 units excavated, only a few fragments of mammal bone, two wrought nails, one cut nail, two green glass bottle body fragments and a few pieces of chinking were recovered (Table G.I). Only the stratigraphy provided any relative chronological date for this layer. The manure occurred between two flood layers - the ca. 1861 pre-railway flood layer (layer 40) and the ca. 1852 flood sands (layers 5, 6 and 92) - giving a tentative date for the manure layer of ca. 1852-61. The presence of wrought nails is congruent with this suggested date.

5.4.4 Period of Pre-Manure/Post-1852 Flood Sand Cultural Activity (ca. 1852-61)

Between the time the manure layer and the flood sands were deposited, some cultural activity took place. This cultural activity was represented by two features: one was a vertical piece of wood placed inside a pit (layers 23 and 24), and the other was a sharpened stick apparently driven into the ground (layers 21 and 22). Both were recovered from 21K4K in the northeast quarter of the site (Figs. 5.18, 5.19, B.I, B.10).

The pit and possible post feature were uncovered in the southwest corner of 21K4K along the south wall. The pit was roughly square-shaped, approximately 24 cm. (E-W) by 28 cm. (N-S) in size, 10-12 cm. in depth, and filled with a dark grey-brown silty clay. A concentration of vertical wood - possibly a post about 5.0 cm. in diameter and 10-12 cm. deep - was recovered from the northwest corner of the pit. The pit began at the interface between the manure and flood sand layers, cut through about 8.0 cm. of flood sands (layers 5 and 6), and ended approximately 2.0-4.0 cm. within the ca. 1826 post-fort period silty clay flood layer (layer 7) (Figs. 5.18, B.I, B.10, Appendix B). It overlaid but did not intercept two underlying features - a ca. 1826 flood deposited charred wood/organic layer (layer 26) within the underlying layer 7 silty clay, and the fort-contemporary (1810-16) ash/charcoal concentration (layer 29) 6.0-12 cm. below it (Figs. B.I, B.10). No artifacts were recovered from the pit and post feature. A sample of wood from the post-like feature could only be identified as "degraded hardwood" (Table G.I).

The other post-like feature (layers 21 and 22) was uncovered along the west wall in the northwest corner of 21K4K about 60 cm. north of the pit and post feature. The post was about 5.0 cm. wide, appeared to have been sharpened on one end, and driven in to a depth of 16 cm. Like the pit and post feature, this post feature cut through both layers of ca. 1852 flood sand (layers 5 and 6) and ended just within the ca. 1826 post-fort period silty clay flood layer. The post overlaid but did not truncate an underlying fort-contemporary hearth-like feature (layers 27 and 28) 16 cm. below it. The post was removed before deposition of the manure layer and the posthole subsequently filled with manure (Figs. 5.18, 5.19, B.I, B.10). No artifacts were recovered in association with the post. The sample of post recovered was too disintegrated to identify.

A post mould feature (layer 82) was also uncovered in 21K6F. Although it may be contemporary with the pit and post features, since it was uncovered within the top few centimetres of the flood sand layers, it will be discussed as one of the possible flood sand features (section 5.4.5.3).

5.4.5 Period of Pre-Manure Flooding (Sand Layers 5, 6 and 92; ca. 1852)

The 12-32 cm. of ca. 1852 flood deposited sand (layers 5, 6 and 92; Figs. 5.18, B.I) represents one of the most significant deposits at the site. It formed a unique easily discerned stratigraphie layer which was almost universal to the Fort Gibraltar I site area and provided an excellent stratigraphic control in establishing the relative chronological relationships between features and events. The deposit was obviously the result of massive flooding, was almost feature and artifact free (the only features and artifacts obviously having been flood deposited), and could have been the result of the 1852 flood (Table 5.1). The sand deposits occurred directly below the manure layer where this was present or directly below the layer 2 early railway ca. 1882 flood layer where the manure layer was absent (Figs. B.1-B.38).

The flood sands had a swirled, banded and cross-bedded appearance typical of other flood deposited layers at the site. In 13 of the 37 units (21K4C/ 21K4E, 21K4G to 21K4N, 21K4R, 21K4T, 21K4V and 21K6G), a 4.0-20 cm. thick band of dark brown sand (layer 5) was found on top of a 4.0-32 cm. thick band of lighter coloured marbled brown sand (layer 6). In three units (21K6A, 21K6F and 21K6J), a 1.0-8.0 cm. thick layer of dark brown sand (layer 92) similar to layer 5 occurred below the light brown layer 6 sand rather than above it. Twenty units (21K4B, 21K4D, 21K4F, 21K4P, 21K4Q, 21K4S, 21K4U, 21K4W, 21K4X, 21K4Y, 21K6C, 21K6D, 21K6E, 21K6H, 21K6L, 21K6N and 21K4P to 21K4S), or nearly 63 per cent of all units excavated, contained a single layer of light brown sand (layer 6) ranging from 4.0-32 cm. in thickness. Only two units (21K6K and 21K6L) either had no sand layer or few visible traces of sand.

The actual thickness of each sand layer varied from unit to unit with some of the thickest deposits occurring in the extreme southeast and northwest corners of the site (21K6H and 21K4F). The sand layers were thinnest in the units immediately overlying the fort-contemporary structural remains (Fig. 5.30). The structural remains were anywhere from 16-20 cm. below the flood sands and separated from them by a layer of earlier ca. 1826 flood deposited silty clay (i.e., layers 7-10, 41 and 62).

A total of 28 artifacts was recovered from the layer 5, 6 and 92 flood sands excavated in 36 of the 37 units. These included 12 window glass fragments, two olive-green glass bottle body fragments, one turquoise glass bottle finish, one colourless glass rim fragment (probably a lamp chimney), one plain white earthenware fragment (probably tableware), one pearlware fragment (probably tableware), four wrought nails, three unidentified (probably wrought) nails, one unidentified riveted iron strip-strap fragment, one blue glass seed bead and one white glass seed bead (Table B.I, G.I).

Chronologically the flood sands postdate both the picket post fence/trench line feature (layers 42-44, 79-81 and 126; ca. 1836-41) and the immediate post-fort period flood layers (layers 7-9, 10, 32-34, 36, 37, 41, 62 and 86; ca. 1826). They also predated both the manure layer and the pre-railway flood layer (Figs. 5.18, B.1-B.38). Two flood deposited features (layers 15 and 106) were uncovered within an area contemporary with the flood sands. Layer 15 consisted of a thin wooden palette with six wrought nails, and layer 106 was a patch of decayed wood found in association with one wrought nail (Table G.I). Another possible post mould feature (layer 82) was also uncovered within the flood sands but its

exact chronological relationship is not clear. The post feature may date to the much later pre-railway period (ca. 1852-61) before the layer 2 silty clay (ca. 1882) and after the flood sand layers (ca. 1852) were deposited. Descriptions of the flood sand period features recovered follow.

5.4.5.1 21K4H: Flood Deposited Wooden Palette with Forged Nails (ca. 1852)

A wooden palette (layer 15) measuring approximately 22 cm. by 27 cm. and 2.0 cm. thick was found within the layer 5 sand in the southwest corner of 21K4H. It was oriented NNW-SSE across the unit, underlain by the lighter coloured layer 6 flood sand, and protruded upwards into the overlying manure and early railway silty clay flood layer. Six forged nails were recovered in association with the feature with their points embedded in the wood and their heads projecting upwards about 4.0 cm. above it. From all stratigraphie indicators and the water worn appearance of the wood, the palette was probably a flood deposited feature contemporary with layer 5 (ca. 1852) (Figs. 5.18, 5.20, B.I, B.8). No other features were found in association with it and no other features overlaid or underlaid it within the unit.

5.4.5.2 21K4V: Flood Deposited Wood with Forged Nail (ca. 1852)

A patch of decayed wood (layer 106) approximately 7.0 cm. in diameter and 4.0-5.0 cm. thick was found in association with one forged nail within layers 5 and 6 in the northwest corner of 21K4V. It was found at an angle through layers 5 and 6 protruding slightly into the underlying layer 41. Like the feature in 21K4H, this feature also appeared to have been flood deposited. It overlaid but did not intrude into the underlying fort-contemporary structural remains (outer west wall beam) (Figs. 5.18, B.I, B.20).

5.4.5.3 21K6F: Possible Post Mould Feature (ca. 1852-61)

A possible post mould feature (layer 82) was uncovered along the south wall in the southwest corner of 21K6F. It was about 8.0 cm. in width and 18 cm. deep and seemed to have been placed somewhere around the same time as or just following the deposition of the ca. 1852 flood sands (layers 6 and 92). It appeared to begin just below the surface of the light brown sand (layer 6)f ended at the base of the underlying dark brown sand (layer 92) and had been filled in part with light brown sand. It is likely the feature dated somewhere between the flood sand (ca. 1852) and the layer 16 manure/layer 40 silty clay (ca. 1852-61) which were absent in this particular unit. It certainly predated the ca. 1882 layer 2 early railway flood silts and may be associated with the other pre-manure/post-flood sand pit-and-post (layers 23 and 24) and post (layers 21 and 22) features discussed earlier (section 5.4.4). The post mould did not affect any other cultural features.

5.4.6 Period of Pre-Flood Sand/Post-Fort Gibraltar I Cultural Activity (Picket Post Fence Line: ca. 1836-41):

Eleven metres of a picket post fence/trench line (layers 42-44, 79-81 and 126) were uncovered running NNW-SSE across the southeast quarter of the site area (Fig. 5.19). The feature was found immediately below the ca. 1852 flood sands (layers 5, 6 and 92) and immediately above the ca. 1826 flood deposited silty clay containing fort-contemporary artifacts (layers 7-9, 10, 32-34, 36, 37, 41, 62 and 86) placing construction of the feature somewhere between 1826 and 1852 (Figs. 5.18, B.I, B.23, B.24, B.26, B.27, B.30- B.32). Between 1836 and 1841 an experimental farm was established in the vicinity of Fort Gibraltar I (Guinn 1980c) and it is possible, given the stratigraphie indicators, this fence/trench line feature was part of and dated to that period. Both the size of the post recovered and the stratigraphie inDicators point to a later smaller feature than what would result from the 18 foot high palisade assumed to have surrounded Fort Gibraltar I.

The section of fence line uncovered extended from 21K6H in the south end of the site northwards into 21K6K for a distance of 11 metres (21K6H, 21K4Y, 21K6E, 21K6A, 21K6T and 21K6K) where it turned westwards for a distance of at least two metres through the north edge of 21K6D (Fig. 5.19). Eight metres of the north-south line and one metre of the east-west line were actually

excavated. The fence line undoubtedly extended further north, south and west of the areas excavated.

The fence line itself consisted of a 26-28 cm. wide trench containing 8.0-12 cm. wide posts (some apparently split logs) placed 8.0-12 cm. apart and 26-36 cm. deep (Figs. 5.21-5.28). The trench was 36-40 cm. deep along the north-south line (Fig. 5.22) and about 72 cm. deep along the east-west line (21K6D; Fig. 5.82). There also appeared to have been a double row of alternating picket posts (spaced 4.0-5.0 cm. apart but as noted above) along the east-west line (21K6D; Figs. 5.27, 5.28, 5.81).

In many places limestone rocks (originating from the ca. 1826 layer 48 chimney collapse associated with the underlying fort-contemporary structure) were found along the bottom of the trench, supposedly to support the picket posts inside the trench. Many of the posts excavated had disintegrated leaving dark soil discolourations, patches of disintegrated wood or post moulds subsequently filled with light brown flood sand (layer 126; Figs. 5.22, 5.21). In some units (21K4Y, 2lK6A, 21K6D and 21K6E) a few posts were still intact. Tests on samples of these posts show the fence line was made from readily available local materials such as oak (21K4Y), poplar (21K6A and 21K6E), and ash (21K6D)(Table G.I).

The trench fill consisted of dark grey silty clay very similar to but slightly darker than the immediate post-fort silty clay layers (layers 41 and 62). As a result, the trench was often difficult to distinguish from the ca. 1826 flood layers. In 21K6D the outlines of the trench were exceptionally hard to discern even when excavation of the contrasting lighter coloured pre-fort period (7-1810) layer 14 tan clay began. The trench, however, was clearly visible in the wall profiles after excavation of the unit was completed.

The trench fill also contained a number of fort-contemporary artifacts that probably originated from the underlying fort-conteraporary features and were a result of surface-subsurface mixing during construction of the fence/ trench line. Chinking, charcoal chunks, charred and uncharred wood, limestone rock fragments, three white glass seed beads, three pieces of copper, a few mammal bone fragments, two wrought nails, and a fragment of under glaze printed white earthenware (flatware) ceramic were recovered (Table G.I).

In 21K6E, 21K6A and 21K6J the fence/trench line cut straight through the charred flooring (layer 49) and the south outside wall (layer 125) of the underlying fort-contemporary structure believed to be a part of Fort Gibraltar I (about 12-28 cm. below the top of the trench feature), as well as through piles of debris (ash, charcoal, chinking, etc.) associated with the burning and collapse of the same structure (layers 45, 47, 48, 53, 123 and 124) (Figs. 5.18, 5.23-5.25, 5.27, G.l, B.24, B.27, B.31). Only the east-west floor joist in 21K6A was not affected by the trench feature (Figs. 5.23-5.25, 5.27). It may have been too solid to cut through at the time of trench construction unlike the badly charred, much thinner flooring area. The trench went to a depth of about 36 cm. in the pre-fort period layer 14 tan clay along the north-south line (Fig. 5.23) and a depth of 65-70 cm. in layer 14 along the east-west line (21K6D; Fig.5.82).

In 21K4Y the fence/trench feature dissected three underlying features. These were a fort-contemporary hearth-like feature (layers 127 and 128) consisting of ash, charcoal, fire-reddened soil, an associated deposit of large mammal bone (Fig. 5.79), and further down a pre-fort charred plank feature (layer 129) running roughly NEE-SWW through the Midwestern half of the unit (Figs. 5.83, 5.84). In 21K6D (the east-west extension of the fence line), construction of the trench destroyed a small edge of a fort-contemporary ash lens (layer 63) associated with the fireplace base running along the north wall of the structural area (21K4U and 21K6D). It also truncated a pre-fort charred plank feature (layer 78) similar to and running parallel to that uncovered in 21K4Y about 8.0 m. south (Figs. 5.28, 5.81, 5.82). In 21K6H and 21K6K at the extreme north and south ends of the north-south line, there were no other earlier underlying features to be affected by construction of the trench.

5.4.7 Period of Immediate Post-Fort Gibraltar I Flooding (ca. 1826)

Between the time the structure believed to be part of Fort Gibraltar I was occupied, abandoned

and burned and the time the picket post fence feature was constructed and the ca. 1852 flood sands were deposited, another period of flooding occurred, depositing 16-30 cm. of dark grey-brown silty clay over the entire site area. This universally deposited layer occurred as either a single band of silty clay or a series of contrasting lighter and darker bands of mottled dark grey-brown silty clay (layers 7-10, 32-34, 36, 37-41, 62 and 86; Figs. 5.18, B.1-B.38) below the flood sands and above the fort-contemporary deposits. Stratigraphically, this flood layer dated between ca. 1816-36 and may have been the result of the 1826 flood (Table 5.1).

Of the 37 units excavated, 20 contained a single band of silty clay (layers 7, 41 or 86), nine contained a double- banded layer (layers 8, 9 or 41, 62), and eight contained three or more bandings of silty clay (layers 7-10 or 32-34 with 36 and 37)(Figs. 5.18, B.1-B.38). The combined thickness of these silty clay flood bands ranged between 16-30 cm. over most of the site area and 32-40 cm. immediately above the area containing the fort-contemporary cellar feature (21K6C).

These 1826 flood Ayers seemed to be the result of flood mixed newly deposited silty clay and surface-subsurface artifacts contemporary with Fort Gibraltar I. Although some post-fort deposition may have occurred between the time the underlying fort-contemporary structure was abandoned and the 1826 silty clay flood layers were deposited, most of the materials recovered reflected the nature of the underlying fort-contemporary features. It is interesting to note that the majority of fort-period artifacts and faunal material recovered were from these overlying flood bands rather than from the actual underlying fort-contemporary deposits.

5.4.7.1 Structural and Nonstructural Features

Although the general types of artifacts and kinds of faunal material recovered from the 1826 silty clay flood layers tended to be similar for different parts of the site, their frequency of occurrence was not. The frequencies of materials recovered from any particular area tended to reflect the type of feature or nonfeature area immediately underlying the 1826 silty clay. Five main types of fort-contemporary areas need to be considered when examining the materials recovered from these silty clay layers:

1) a fort-contemporary structural area in the south end of the site (21K4U, 21K4V, 21K6A, 21K6C, 21K6E, 21K6G, 21K6J, 21K6L and 21K6P to 21K6S) consisting of the charred remains of what is believed to be part of Fort Gibraltar I;
2) midden, hearth and pit features which may be part of a fort-associated native encampment area in the north-east quarter of the site (21K4B, 21K4D, 21K4J, 21K4K and 21K4R), 8.0-22 m. north of the structural area;
3) midden, hearth and pit features which appear to be part of a southern and slightly later (ca. 1816-26) encampment area immediately postdating the structural remains, located just south of and on top of the structural remains in the south end of the site (21K4U, 21K4X, 21K4Y, 21K6C and 21K6H);
4) a nonstructural/non-midden area within 1.0-6.0 m. of the fort-contemporary structure which contains scatterings of structural debris associated with the burning and collapse of the structure (21K4P, 21K4Q, 21K4S, 21K4T, 21K4W, 21K6D, 21K6F, 21K6K and 21K6N); and,
5) a nonstructural/non-midden area more than 6.0 m. from the fort-contemporary structure and 2.0-6.0 m. from any particular midden or hearth feature, which contains a thinly dispersed, random scattering of cultural materials (21K4C, 21K4E, 21K4F, 21K4G, 21K4H, 21K4L, 21K4M and 21K4N), as well as some structural related materials (i.e., chinking).

Concentrations of structural debris associated with the burning and collapse of the fort structure tended to be densest immediately above the structural area itself and decreased rapidly as one moved away from the building area. Limestone rocks associated with the ca. 1826 chimney collapse (layer 48), mortar, chinking concentrations, charcoal chunks and flecks, charred/uncharred wood, and ash pockets/concentrations tended to cluster most densely inside the fort structure and within a 1.0-6.0 m. radius of it. Few concentrations of structural debris occurred more than 6.0 m. beyond the structural

area.

Concentrations of rock associated with the chimney collapse were found lying in a NNW-SSE direction immediately above and across the inside of the fort-contemporary structural area within the ca. 1826 flood deposited silty clay. All stratigraphie indicators suggest the main chimney collapse represented by these rock concentrations and scatters occurred considerably later than the collapse of the rest of the fort-period building, perhaps around the time of and possibly triggered by the 1826 flood itself. Other structural debris recovered from the silty clay layers tended to reflect flood mixing of surface debris associated with the 1816 burning and collapse of the building. Few nails and little glass of any description were recovered and almost all were recovered from immediately above or within 6.0 m. of the building. Thirteen wrought nails and four pieces of window glass were recovered from the ca. 1826 silty clay layers above the structural area, and another 6.0 m. wrought nails and two pieces of window glass were recovered from the area within 6.0 m. of the building (Table G.5). Three more wrought nails were recovered from above the nonstructural/non-midden areas 40-50 m. north of the structural area and another two nails (one cut and one probably wrought) from above the northern and southern midden/encampment areas (Tables G.I, G.4).

The areas immediately overlying the midden, hearth and pit features (possible a native encampment area) north of the structural area produced the densest concentration of artifacts and faunal material. Artifact and faunal recovery from above and within the structural area was surprisingly low. The only concentration of faunal material from above the structural area was recovered from above the collapsed cellar feature in 21K6C and appeared to represent post-fort abandonment deposition, possibly associated with the southern encampment area.

Not only was the frequency of artifact and faunal recovery higher from above the encampment midden, hearth and pit features north of the structural area but the variety of artifacts was also different from those above the structural area. Although both areas contained similar types of European-made artifacts, the 1826 flood layers above northern midden, hearth and pit feature areas contained materials which were more likely to be associated with a native rather than European encampment. Trade silver, finger-sized copper band, triangular iron metal projectile point, copper fragments, chert core, chert thinning flakes, polished long bone awl, bone hair pipe, antler needle, glass seed beads, spiral-cracked bone, concentrations of spiral-cracked large and small mammal bone, and dense concentrations of fish bone were characteristic of the northern encampment area. The structural area produced almost no fish bone and little mammal bone. Much of the mammal bone recovered from the 1826 silty clay overlying the structural area tended to consist of smaller unidentifiable fragments of bone. Little clam shell and almost no bird bone were recovered from the 1826 silty clay layers regard- less of feature area examined at Fort Gibraltar I.

The types of materials recovered from the ca. 1826 silty clay flood layers can be summarized for each feature area as follows (listed in Tables G.I, G.3, G.4):

1) Fort-contemporary structural area:
   - two charred pencil fragments, three metal fragments, four pieces of window glass, two glass bottle fragments, one metal glass fragment, 12 wrought nails, one unidentified nail, one rectangular whetstone fragment and one large clay marble.
   - one chert uniface/end scraper, one grey chert thinning flake (possibly from the later south encampment reuse of the fireplace as a hearth feature), one shatter flake, two copper janglers/tinkling cones, and eight seed beads.
   - concentrations of ash, charcoal, charred wood, mortar, rocks associated with the chimney collapse, and chinking associated with the wall collapse.
   - some mammal bone, almost no fish.
   - (cf. sections 5.5.1 to 5.5.3).
2) Midden, hearth and pit features associated with a possible northern native encampment area:
   - three pearlware hollowware base fragments, one ceramic pipe bowl fragment, four pieces of

bottle glass, one red chert gunflint, one 12 mm. lead shot and one cut nail.
- 18 unidentifiable iron metal fragments and one unidentified iron riveted strip-strap fragment.
- 13 glass seed beads, one long bone awl, one carved black horn comb fragment, one complete bone hair pipe, one antler needle, one fragment of flat incised bone, one chert core, two thinning flakes, one shatter flake, one finger-sized copper band, one triangular iron metal projectile point, one triangular piece of copper and one small fragment of cut trade silver.
- a few pieces of chinking, charcoal, charred wood.

Chinking may have been flood deposited; wood was probably from underlying hearth features.
- concentrations of large and small mammal bone, fish bone and some clam shell.
- (cf. section 5.5.4).

3) Midden, hearth and pit features associated with the slightly later southern encampment area:
- one gunflint, one fragment of glass, one white earthenware fragment, one unidentified nail and one unidentified iron metal fragment.
- concentrations of large unburnt pieces of large mammal bone.
- structural debris consisting of chinking, charred wood, charcoal, ash, mortar and limestone rocks associated with the chimney collapse were found mixed in with and at the same level as the faunal concentrations within the ca. 1826 clay.
- 20-25 cm. thick ash layer above fireplace in 21K4U may have been partially a result of encampment reuse of feature as a hearth; artifacts recovered from ca. 1826 silty clay above fireplace included one chert uniface, one chert thinning flake, one metal jangler/tinkling cone, one seed bead, three pieces of window glass, ten forged nails and two pencil fragments (cf. Table G.I).
- one whetstone found near small faunal concentration above collapsed cellar feature in 21K6C.
- (cf. section 5.5.4).

4) A nonstructural/non-midden area within 1.0-6.0 m. of the fort-contemporary structure:
- one musket battery fragment, one crescent-shaped red-brown gunflint, one clay pipe stem, two pieces of window glass, two metal fragments and six wrought nails.
- five white glass seed beads, one quartzite shatter flake and one triangular iron metal projectile point.
- concentrations of ash, charcoal charred wood, chinking, mortar and limestone rocks associated with the chimney collapse.
- some fragments of mammal bone; almost no fish bone.
- (cf. section 5.5.3.2).

5) A nonstructural/non-midden area more than 6.0 m. from the fort-contemporary structure and 2.0-6.0 m. from any particular northern midden hearth or pit feature:
- one 10 mm. lead shot, one clay pipe stem, one grey metal button, one triangular piece of copper, two copper fragments, three pieces of white earthenware ceramic, one fragment of pearlware ceramic, three wrought nails, one piece of bottle glass and one fragment of looped copper wire.
- nine seed beads, two small bone beads, a few pieces of vermillion, five fragments of twisted copper wire bracelet, one brass or copper hawk's bell and one incised piece of red limestone. almost no chinking, ash or charred wood were recovered.
- some mammal bone fragments; almost no fish bone.
- (cf. section 5.5.5).

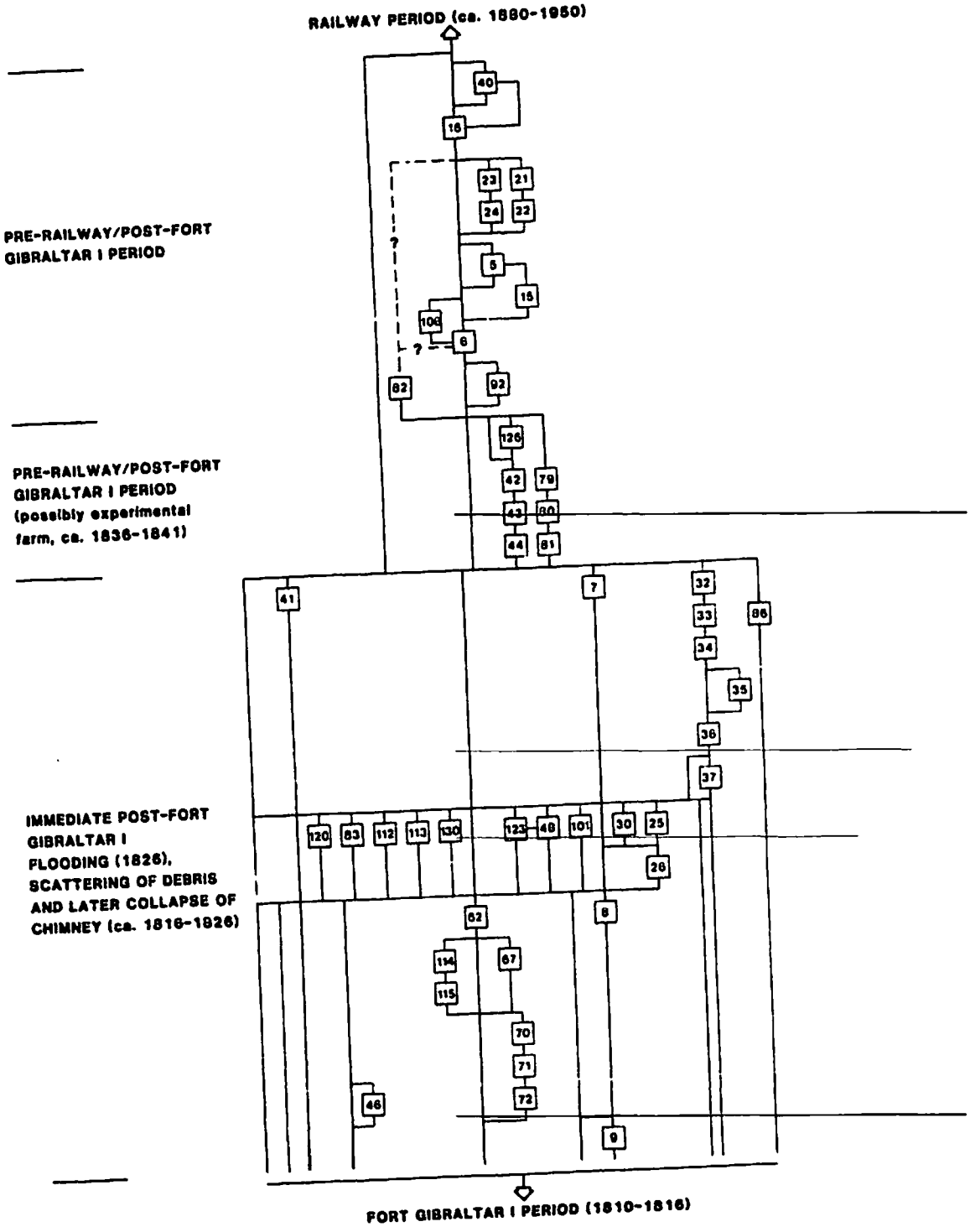


Figure 5.18 Layer/event diagram with tentative dates for the pre-railway/Post-Fort Gibraltar I period (ca. 1816-82). (Drawn by D. Elrick.)

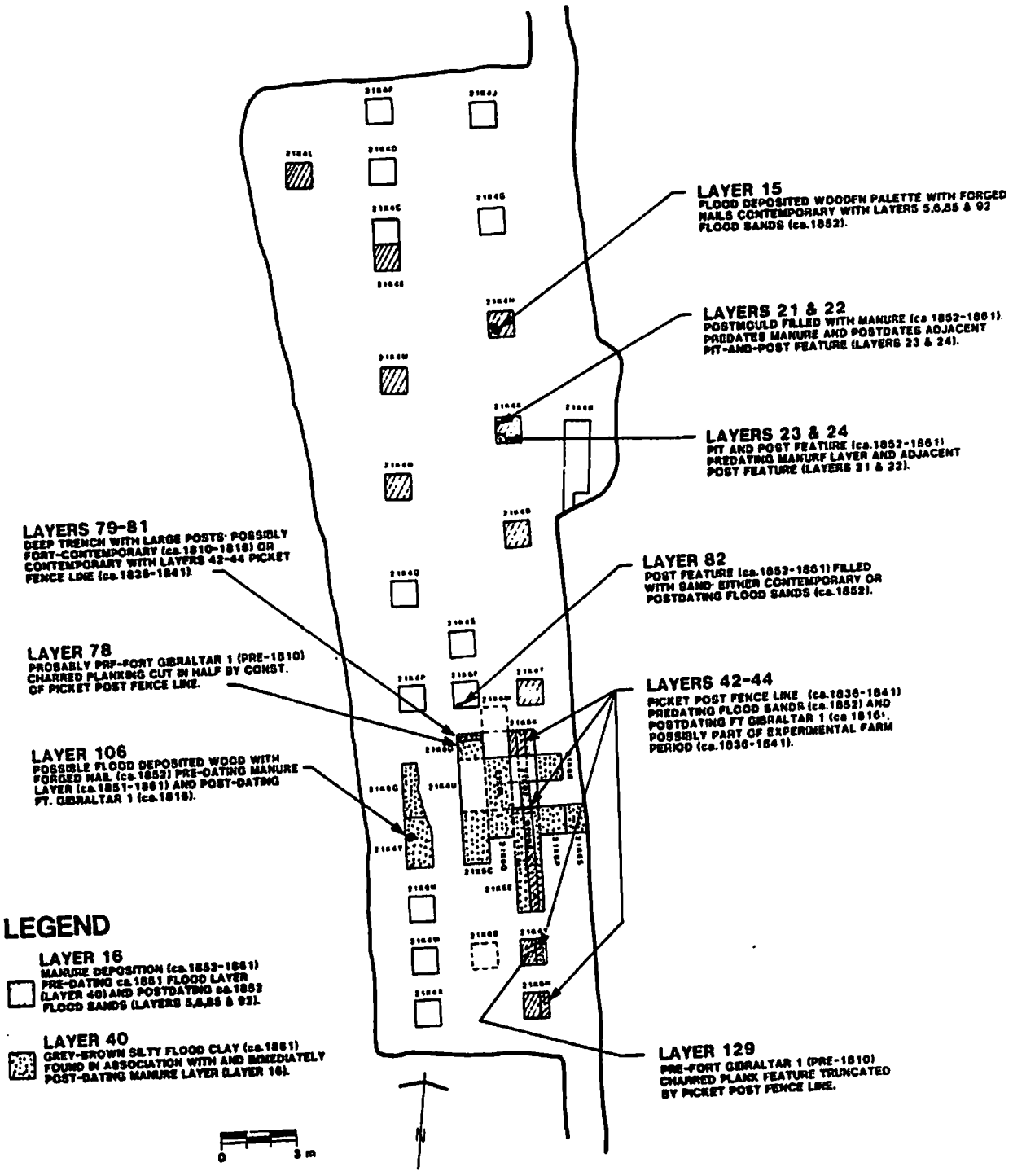


Figure 5.19 Planview of pre-railway/post-Fort Gibraltar I period features (ca. 1816-82). (Drawn by D. Elrick.)

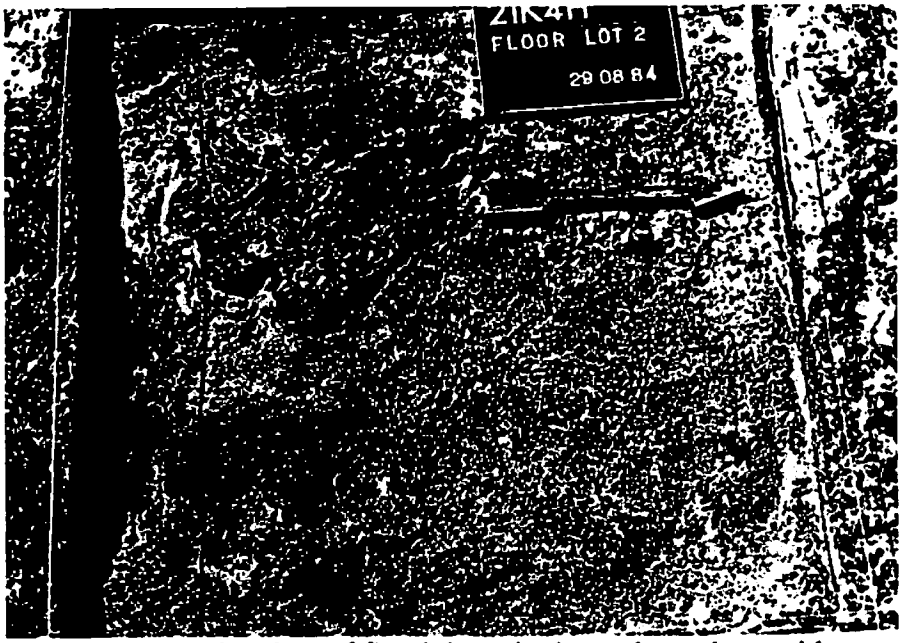


Figure 5.20 Planview of flood deposited wooden palette with wrought nails (layer 15; ca. 1852) found within the layer 5 flood sand in 21K4H. (Photo by A. Bell.)

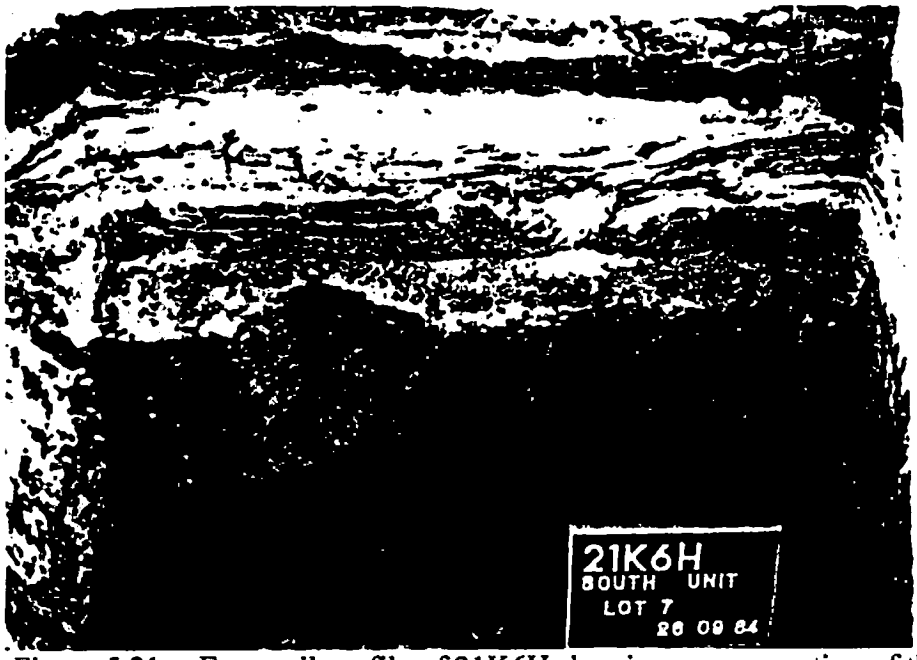


Figure 5.21 East wall profile of 21K6H showing a cross section of the picket post fence/trench feature (layers 42 to 44; ca. 1836-41). (Photo by L. Konotopetz.)

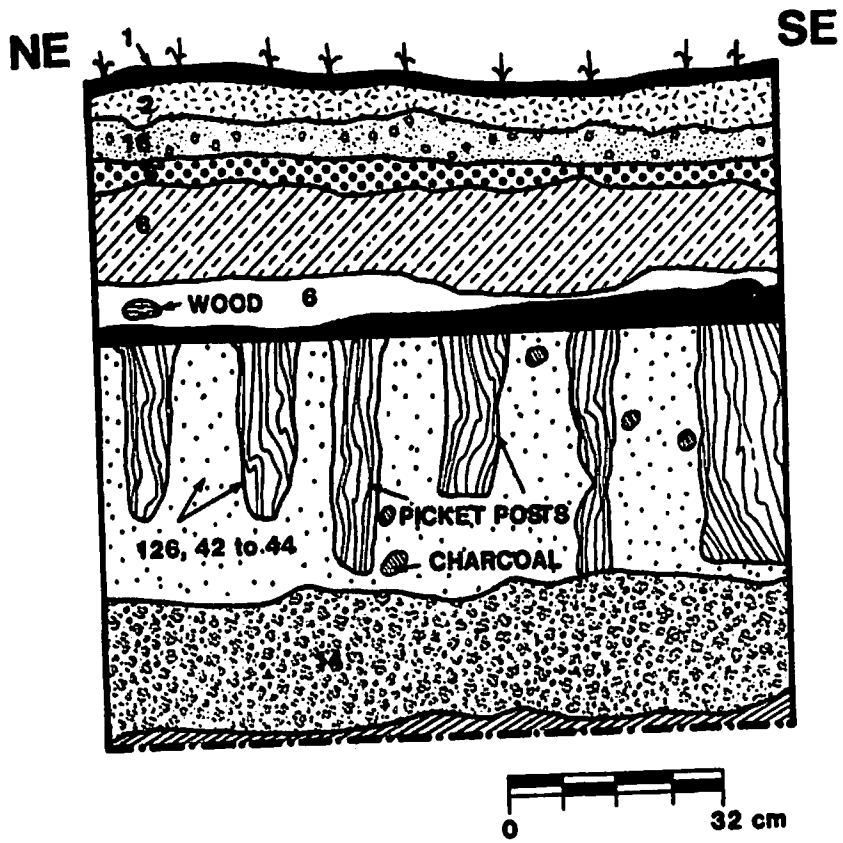


Figure 5.22 East wall profile of 21K6H showing relationship of the picket post fence/trench line feature (layers 42 to 44; ca. 1836-41) to surrounding stratigraphy: railway fill of ash, cinders, sand, and gravel remaining on the surface after removal by backhoe; 2) early railway flood deposited light grey-brown silty clay (ca. 1882); 16) pre-railway manure layer (ca. 1852-61); 6) cross-bedded flood deposited light brown sand (ca. 1852); 42 to 44) pre-railway/post-Fort Gibraltar I picket post fence/trench line feature, possibly from experimental farm period (ca. 1836-41); 14) essentially artifact free layer of pre-fort period tan clay. (Drawn by D. Elrick.)

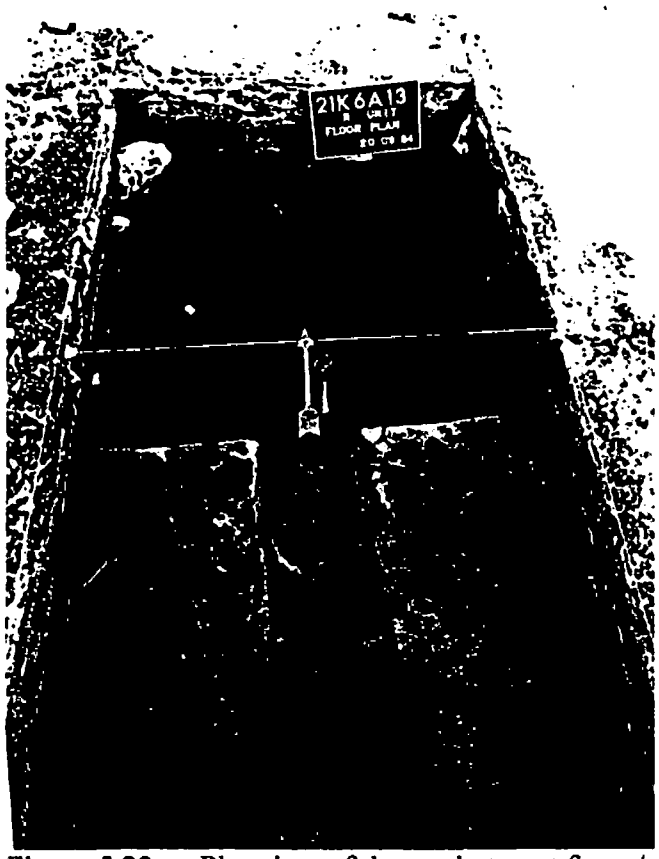


Figure 5.23. Planview of the pocket post fence/trench feature (layers 42 to 44; ca. 1836-41) showing where feature truncates the charred flooring of the fort-period structure in 21K6A. The floor joist along the north wall is unaffected. The south half of the unit (foreground) has been pedestled approximately 20 to 24 cm. above the flooring level. (Photo by S.E. Bradford.)

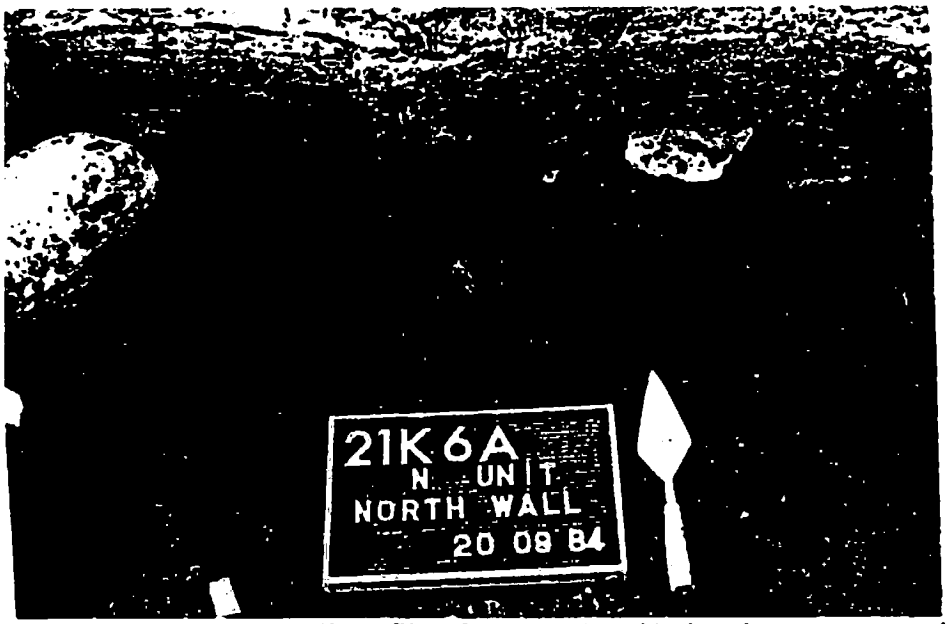


Figure 5.24 North wall profile of 21K6A (north) showing a cross section of the picket post fence/trench line feature (layers 42 to 44; ca. 1836-41). The trench begins about 30 cm. above the charred floor, truncates the floor but leaves the floor joist uneffected. It begins above the layer containing the rocks associated with the ca. 1826 chimney collapse. (Photo by S.E. Bradford.)

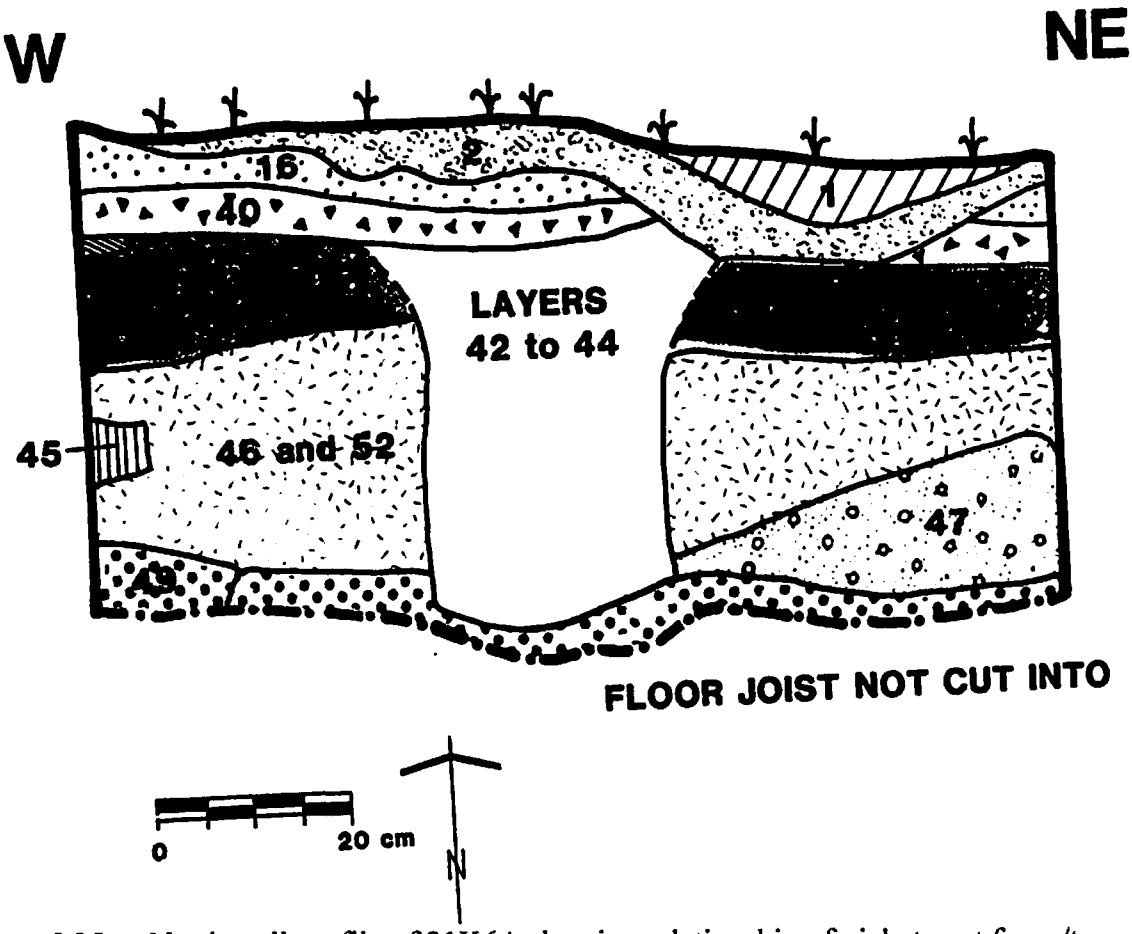


Figure 5.25 North wall profile of 21K6A showing relationship of picket post fence/trench line feature (layers 42 to 44) to surrounding stratigraphie layers and structural features: 1) railway fill of ash, cinders, sand and gravel remaining on surface after removal by backhoe; 2) double-banded layer of lighter and darker early railway flood deposited grey-brown silty clay; 16) pre-railway manure layer (ca. 1852-61); 40) pre-railway flood deposited dark grey silty clay layer containing two bands of layer 16 manure; 6) marbled light brown flood sand; 41) immediate post-Fort Gibraltar I flood deposited dark grey-brown silty clay containing fort-contemporary artifacts; 46 and 52) dark brown sand immediately on top of charred floor and apparently associated with building collapse; 45) concentration of chinking and chinking stained sand; 47) chinking stained sand, 49) charred flooring of fort-contemporary structure; 42 to 44) picket post fence/trench line feature containing dark grey silty clay, fort-period artifacts and structural debris. (Drawn by D. Elrick.)

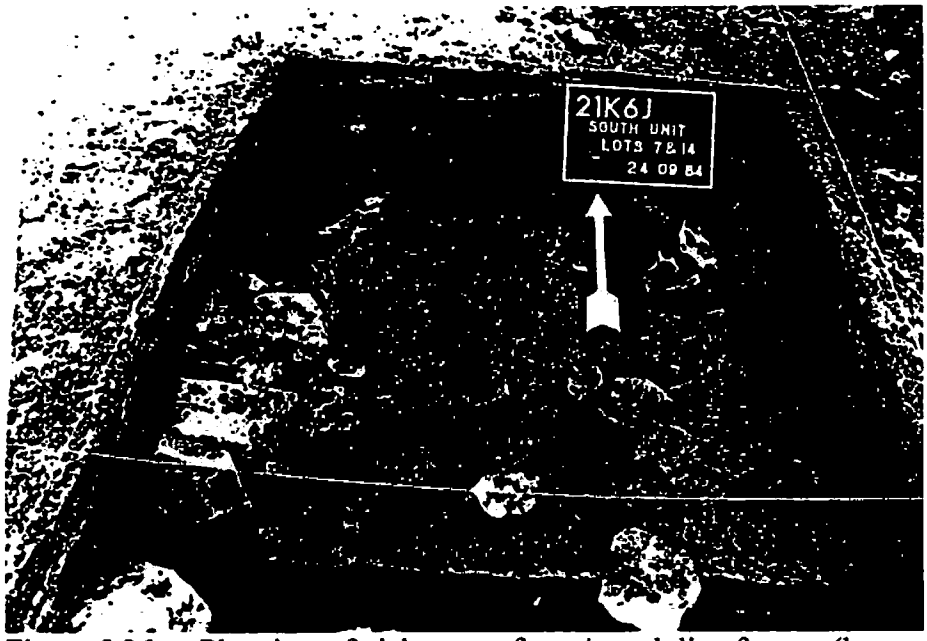


Figure 5.26 Planview of picket post fence/trench line feature (layers 42 to 44) in 21K6J (south) as it appeared directly below (about 8.0 cm.| the silty clay flood layer (layer 41) containing concentrations of rocks from the fort structure chimney collapse (layer 48). (Photo by S.E. Bradford.)

Figure 5.27 Planview of the picket post fence/trench line feature (layers 42 to 44) in 21K6J (south) as it appeared at the flooring level of the fort-contemporary structure. The chimney collapse visible in Fig. 5.26 has been left pedestled. Like unit 21K6A (north) the section of floor joist present along the south edge of this unit (foreground) remained unaffected by the trench. (Photo by S.E. Bradford.)

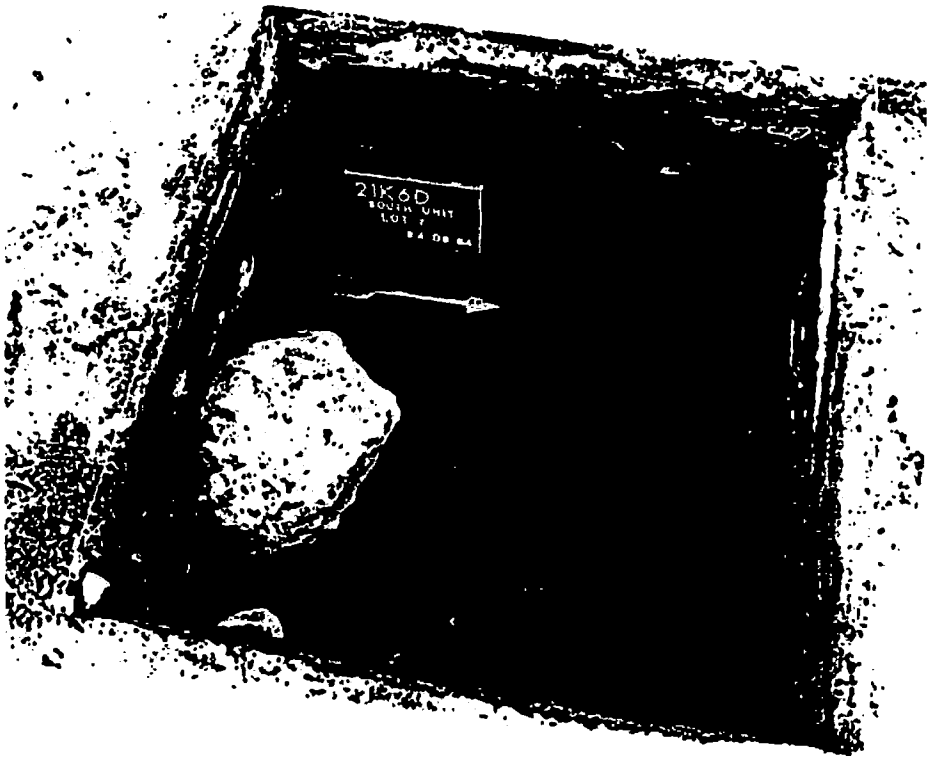


Figure 5.28 Planview of the picket post fence/trench line feature (layers 79-81) in 21K6D as it appeared approximately 56-60 cm below the top of the trench. Picket posts are visible as dark stains along the north side of the unit (right edge of photo). The charred wood along the west wall south of these pickets is one of the pre-fort charred plank features (layer 78) uncovered at the site. The large boulder along the south wall is part of the fireplace hearth and forms part of the back/north wall of the fort structure. (Photo by A. Bell.)

5.5 Fort Gibraltar I Period (1810-16)

5.5.1 Introduction

The Fort Gibraltar I period (1810-16) was basically represented by two main feature areas: the charred remains of a single chinked log structure believed to be part of the fort; and the midden, hearth-like and pit features believed to be part of a fort-contemporary, possibly fort-associated, native encampment area. The structural area was restricted to the south-central section of the Fort Gibraltar I site area. It consisted of the remains of intact structural features and scatterings of structural debris associated with the burning and collapse of the building. Although the densest concentrations of structural debris were found inside and above the structural remains, other scatterings of debris were found dispersed over areas within 6.0 m. of the building.

The midden, hearth and pit features believed to be part of a fort-associated native encampment were located in the northeastern quarter of the area, 8.0-22 m. northeast of the structural area (Fig. 5.30). The deposits there were the richest recovered at the site and were responsible for a high proportion of all faunal and artifactual material recovered from all fort-contemporary features and layers. The mixture of European and native artifacts (trade silver, seed beads, worked bone, lithics, etc.) together with the dense layers of matted fish bone seem to suggest this area of hearths and midden deposits was probably a native encampment area. Stratigraphically and artifactually these northern encampment deposits appeared contemporary with the possible Fort Gibraltar I structural remains in the south end of the site. Both the structural features and encampment features occurred below the 1826 flood deposited silts and above a pre-fort layer of essentially artifact and feature free tan clay.

Another smaller area of midden-like, hearth and pit features was uncovered 3.0-5.0 m. south of and on top of the fort-contemporary structural area. At first during excavation these southern encampment features appeared to be contemporary with both the structural area and the encampment features north of the structural area. Later during analysis, it became apparent these features lay above, were mixed in with, and at the same level as fragments of structural debris associated with the burning and collapse of the fort-contemporary structure. Although stratigraphically the southern encampment features also appeared at the same ca. 1826 silty clay/pre-fort tan clay interface as the structural remains and northern encampment features, the mix of structural debris at or below the same level as the southern encampment features strongly suggest these features postdated the occupation and use of the fort period structure (ca. 1816-26). The southern encampment probably only postdated the structural remains by a few years and consequently is discussed in the following sections as a somewhat fort-contemporary encampment feature area. Almost no artifacts were recovered in association with the southern midden and hearth features and it is unclear whether the deposits are native or European in origin.

At other times during excavations, concentrations of ash, charcoal and charred wood associated with scatterings of structural debris were difficult to discern from those associated with hearth features. The absence of mortar, the presence of midden-like deposits or fire-reddened soil, proximity to the structural area and relationships to other hearth, midden and pit features were used to isolate what probably constituted concentrations of structural debris from concentrations which appeared to be hearth features.

Five main types of "feature areas" need to be considered in any discussion of the Fort Gibraltar I contemporary period :

1) a fort-contemporary structural area (1810-16);
2) a north midden, hearth, and pit feature area/possible native encampment area (ca. 1810-16);
3) a south midden, hearth and pit feature area/possibly immediate post-fort encampment area (ca. 1816-26);
4) areas of structural collapse and scattering of debris (ca. 1816-26); and,
5) non-feature areas (ca. 1810-26).

5.5.2 Fort Gibraltar I: Structural Area (ca. 1810-16)

5.5.2.1 Introduction

The charred remains of a single chinked log structure believed to be part of Fort Gibraltar I were found immediately below the 1826 silty clay flood layers (layers 7-9, 41 and 62) in the south-central section of the site approximately 1.5-2.0 m. below the modern day surface (or 16-27 cm. below the layer 1 fill layer) (Figs. 5.1, 5.2, 5.29, B.1-B.38). The structure was rectangular in shape (4.5 m. wide by at least 7.0 m. in length) and oriented east-west across the far south end of the site (21K4U, 21K4V, 21K6A, 21K6C, 21K6S, 21K6J, 21K6L, 21K6P to 21K65, and parts of 21K6D and 21K6E; Figs. 5.30, 5.31). The remains of three outer walls, charred plank flooring, a floor joist, one possible inside wall, a limestone rock fireplace base, an associated limestone rock chimney collapse, an uncribbed cellar, and concentrations of fire-reddened chinking, mortar, ash, charred wood, and sand associated with the burning and collapse of the structure were uncovered during excavation. Thickness of deposits associated with the structural collapse ranged from 8.0-24 cm. above the floor area (Figs. 5.42, 5.60) and 70-100 cm. inside the cellar feature (Figs. 5.43, 5.49).

The structural remains were affected by two later period features: the ca. 1950 modern clay trench feature (layer 66) which cross sectioned the southern three-quarters of the site, and the ca. 1836-41 picket post fence/trench line feature (layers 42-44, 79-81 and 126) located in the southeast quarter of the site. The modern trench feature truncated the western edge of the cellar feature in 21K6C (Fig. 5.48), the northwestern corner of the building in 21K6G (Fig. 5.32), and the unexcavated portion of what would have been a flooring area between the western edge of the cellar and the outer west wall of the building. The picket post fence/trench line feature truncated the easternmost section of charred flooring in 21K6A, 21K6E, and 21K6J and the outer south wall of the building (21K6E) (Figs. 5.23, 5.27, 5.31, 5.35, 5.36). The fence line probably also truncated the outer north wall of the building in the unexcavated north metre square section of 21K6J.

Excavations in 1984 did not reveal the easternmost extent of the building. Both the charred flooring and dense concentrations of chinking continued further east past the edge of 21K6S and the edge of the backhoe excavated area. If the building continues much further east there is a good possibility, given its close proximity to the original riverbank, that a substantial portion of what appears to be Fort Gibralter I-associated remains may have been destroyed by post-abandonment riverbank erosion. The erosion of such a structure was observed by Bell in 1871 and Bryce in 1885. Bryce (1885:137-8) observed "that ten yards of the fort [possibly Fort Gibraltar I][had] fallen down the bank". In 1871 Bell (1927:19) observed:

> there plainly to be seen very near to the edge of the bank, were recognizable hollows representing cellars, and the semi-calcined limestone remains of chimneys...it was also evident that almost the entire area of the enclosure that had once been there had disappeared into the river through the washing away and crumbling in of the banks.

Fifty-six years later Bell (1927:19) concluded "if not in the two rivers, what remains of [the fort] is now buried many feet under the cinders and general refuse of the railway yard of the Canadian National". Even though it is not certain if these observations were of Fort Gibraltar I, archaeological evidence has indicated that some of the remains of what appears to be Fort Gibraltar I are buried under many feet of railway cinders and refuse. The easternmost portion of the fort may have been washed away. Further archaeological work should clarify these observations and conclusions.

The remains of what appeared to be an inside wall in 21K6P and 21K6S (Figs. 5.31, 5.40-5.42) would suggest the structure uncovered was part of a longer row housing type complex typical of structures built during the Fort Gibraltar I time period. The room area uncovered measured approximately 4.5 m. (N-S) in width by 7.0 m. (E-W) in length, had a 1.0 by 1.5 m. by 12-16 cm. thick fireplace hearth midwall along the north (back) wall of the building (21K4U), and an uncribbed oval-

shaped cellar (measuring 1.0 by 1.5 m. and at least 85-100 cm. deep) located 16 cm. north of the south (front) wall and 120 cm. south of the fireplace hearth (21K6C). The entrance to the room appeared to have been located in the southeast corner (21K6E) where a section of flattened wall beam and rock concentrations was found.

Judging from the line of chimney rock collapse (through 21K4U, 21K6A, 21K6E, 21K6J, 21K6L, 21K6P and 21K6Q) NNW-SSE across the inside of the building, the original chimney was probably 4.0-4.5 m. high and built from dressed and undressed limestone rocks cemented together with mortar and clay. The main chimney collapse seemed to have occurred some time after the rest of the building burned and collapsed, possibly around the time of the ca. 1826 flood. There appeared to have been some earlier chimney collapse (layer 58) contemporary with the burning of the building but this was restricted to those areas immediately above the hearth (21K4U and 21K6L).

About 54 per cent (or 17.5 square metres) of the 31.5 square metre floor area was excavated. Excavations ceased at the top of the floorboards or the carbon stained flooring level inside the structure. The structure was only excavated below floor level in the cellar area or where the picket post fence/trench line truncated the floorboards (21K6A, 21K6E and 21K6J). From the stratigraphie indicators below the floorboards in these areas, it is clear the floorboards were laid directly on top of the more than two metre thick layer of essentially artifact and feature free pre-fort period tan clay (layer 14). No evidence of the palisade said to have surrounded Fort Gibraltar I (Guinn 1980c) was found.

Although the archaeological information recovered in 1984 was inclusive, the following correspondences between the structural features uncovered and those expected on the basis of historical documentation suggest the structural remains recovered may be part of Fort Gibraltar I:

a) the location;
b) the construction style of the building (a chinked log structure with plank flooring that was possibly part of a larger row housing type complex);
c) the building had been burned (Fort Gibraltar I was captured, partially dismantled and burned by the Hudson's Bay Company in 1816 [Guinn 1980c]);

d) the artifacts recovered were contemporary with Fort Gibraltar I (ca. 1810-16); and,
e) the structural remains occurred below silty clay layers which could date to the flood of 1826 (layers 7-9, 41 and 62). Further excavation is needed to confirm these assumptions.

5.5.2.2 Outer and Inner Walls (Layers 104-108, 125 and 138)

The remains of two outer walls and the suggestion of a third outer wall were uncovered in 21K4V, 21K6G, 21K4U and 21K6E. Almost all of the west wall was exposed in 21K4V and 21K6G. It consisted of a dense concentration of wood-impressed chinking, chinking stained fire-reddened sand, and irregular patches of charred wood in a linear band approximately 16-24 cm. wide and 4.0 m. long and at least 8.0-16 cm. thick (layers 104, 108). It seemed a boulder was placed underneath or very near the northwest corner of the building, perhaps as support for the north wall beam (21K6G)(Figs. 5.32, 5.33). The only material recovered in association with the remains of the outer west wall included one small hardened ball of clay (possibly a clay marble) and a few splinters of bone.

The south outer wall was also defined by a linear concentration of chinking and charred wood (layer 125), and in this case by the sudden truncation of charred flooring. A 1.0 m. section of this south wall was excavated along the north edge of 21K6E (Figs. 5.34- 5.36). It was approximately 20-25 cm. wide and 16-20 cm. thick. The wall feature in this area seemed somewhat flattened and could have represented the entrance to the building. The wall may also have served as a floor joist for supporting the floorboards. Another floor joist feature was found running east-west through the centre of the building in 21K6A", 21K6C, 21K6Q and 21K6P.

The location of the north wall was suggested by the back edge of the fireplace hearth (layer 64) and the outline of chinking-coloured soil (layer 65) underlying it (21K4U and 21K6D) and by the truncation of flooring (carbon stained soil along the north edge of 21K6L) (cf. Fig. 5.55). The north wall beam was also suggested by the east-west turn of the chinking concentrations in 21K6G at right angles to the chinking concentrations forming part of the west wall beam (Fig. 5.33). More evidence of the north wall was expended in 21K6R (Fig. 5.30) but it was not excavated deep enough to reveal the structural features at this level.

Concentrations of charred wood and chinking (layers 133 and 138) found on top of the floor along the east wall of 21K6P and the west wall of 21K6S appeared to represent the remains of a inner wall (Figs. 5.37-5.42). Approximately 1.0 m. of this possible inner east wall was recovered. It was roughly 16-20 cm. wide and 16 cm. thick, and judging from the concentrations of chinking above the floor had collapsed inwards at the time of destruction. Further excavation north, south and east of the area is needed to confirm whether or not the remains recovered were in fact part of an inner wall, remnants of the east outer wall, or just another concentration of structural debris (e.g., a support beam) that collapsed on top of the floor.

5.5.2.3 Charred Flooring (Layers 49, 61, 68, 69 and 137) and Floor Joist (Layers 125 and 136)

About 54 per cent (or 17 square metres) of the 31.5 square metre floor area was excavated (Fig. 5.31). Of this excavated area the most continuous section of charred flooring (layer 49) uncovered was found in 21K6A, 21K6E, 21K6P and 21K6S, and adjacent sections of 21K6L and 21K6Q. The floor level occurred directly below the 1826 silty clay layers and 20-24 cm. of structural debris (concentrations of chinking, ash, mortar, chinking stained fire-reddened sand, charcoal, charred wood, limestone rocks and collapsed beams) associated with the building collapse (Figs. 5.23, 5.35, 5.38, 5.41, 5.42, 5.58-5.60, B.1-B.38). In some places a layer of ordinary brown sand (layer 46; Figs. 5.25, 5.29) was found immediately above the floor area in 21K6A, 21K6J and 21K6Q (Figs. B.24, B.31, B.36). This sand is something of an anomalie and its presence is not easily explained unless it was somehow associated with the later chimney collapse found in these same units.

Approximately five square metres of actual charred plank flooring was uncovered (21K6A, 21K6E, 21K6L, 21K6P, 21K6Q and 21K6S). Another two to three square metres of carbon stained soil

where floorboards apparently burnt away were also uncovered in the western halves of 21K6L and 21K6Q and the eastern half of 21K4U. Although remnants of the floor joist were uncovered along the north edge of the cellar (21K6C; Figs. 5.3, 5.48), there was no evidence of flooring immediately north of the cellar between the north edge of the cellar and the south edge of the fireplace. Slumped concentrations of charcoal, carbon staining and chinking visible in the wall profiles, however, indicated the areas south, east and west of the cellar feature were originally covered with floorboards, some of which collapsed into the cellar feature, along with fragments of other structural debris (such as large support beam fragments) (Figs. 5.45-5.47, 5.49). Little was recovered to suggest flooring east of the outer west wall beam uncovered in 21K4V and 21K6G (Figs. 5.31, 5.32).

Floorboards were too badly charred to discern individual plank widths but the direction of the wood grain suggested the planks were laid in a north-south direction across the inside of the structure. Cross sections of certain areas (e.g., inside the picket post fence/trench line feature in 21K6A) suggested the floorboards ranged from 5.0-13 cm. in thickness. Samples of wood taken from the flooring level were identified as white oak (21K6E) and poplar (21K6C and 21K6S).

The flooring appeared to have been laid across one central floor joist running east-west midway through the building with the outer north and south walls also serving as support for the floorboards. The central floor joist was represented by a 12-16 cm. wide and 10-12 cm. deep rounded depression of charred wood at floor level in 21K6A, 21K6P and 21K6S (Figs. 5.23, 5.24, 5.27, 5.31, 5.41), and by a plank and rock sill-like feature along the north end of the cellar in 21K6C (Figs. 5.31, 5.43, 5.48). Another concentration of charred wood (layer 55) found in 21K6Q may also have been an extension of this floor joist. Although the charred flooring area in 21K6A was truncated by the picket post fence/trench line feature, the floor joist was not affected. It may have been too thick and solid for the trench excavation to penetrate.

Other than piles of structural debris consisting of charred beams or logs, small fragments of charred wood, concentrations of chinking, ash, mortar, limestone rocks and fire-reddened chinking stained sand, little was recovered directly in association with the floor level inside the structural area. Surprisingly, few nails or glass of any kind were recovered. A total of 17 forged nails and one tack were recovered from the flood and structural collapse layers immediately above the floor (Tables G.I, G.4), but only two nails were found in direct association with the floor itself. One forged nail was recovered from the layer 49 flooring level in 21K6C and one cut nail from the same level in 21K6A. The cut nail was found immediately to the west of the picket post fence/trench line feature that truncated the floorboards in the middle of 21K6A. The cut nail was not contemporary with the rest of the artifacts recovered in association with the fort-period structure and could have been associated with the later picket post fence/trench line feature. The only other materials recovered directly at floor level included two flat copper fragments, one 4.0 mm. lead shot, one fragment of charred woven cloth, six white glass seed beads, and a small handful of mammal bone splinters.

The 1826 silty clay flood layers immediately above the structural debris on top of the floor and wall remains contained artifacts and deposits associated with the ca. 1826 chimney collapse and fort-contemporary artifacts probably picked up by and redeposited during the 1826 flooding.

5.5.2.4 Fireplace Base (Layers 64 and 65)

A fireplace base roughly 1.0 m. (N-S) by 1.5 m. (E-W) and 14-18 cm. thick was uncovered in the north half of 21K4U and along the northwestern edge of 21K6L (Figs. 5.31, 5.55). It consisted of a number of large flat boulders laid on top of and bonded with a 10-16 cm. thick layer of clay (layer 65) similar to that used for chinking (Figs. 5.50-5.55). Most rocks averaged 8.0 cm. in thickness, 40-45 era. in width and 50-55 cm. in length. They had been built around one very large central boulder measuring 45 cm. in diameter and 40 cm. in thickness. It was the back of this hearth feature and the line of Chinking-coloured clay underlying it which helped to define the north outer wall of the structure. The east-west section of the picket post fence/trench line cut along the back of this hearth feature about 40 cm. north of

the hearth/north wall area. The hearth itself was unaffected by the fence/trench line. No clay apron was found in association with the fireplace hearth. Instead, the area immediately in front and south of the hearth appears to have been left unfloored and the underlying layer 14 tan clay used as kind of "apron".

The fireplace hearth was overlain by 20-25 cm. of ash mixed with chinking, chinking powder and pockets of silty clay (layers 59 and 63) which was probably a result of both use related activities and the burning and collapse of the building. Artifacts recovered from this ash layer in 21K4U included charred wood, one grey chert uniface or end scraper, two fragments of window glass (one melted), ten wrought nails (one with wood adhering), one unidentified copper fragment, four glass seed beads, one glass wire wound bead with a white core and an amber-gold floral-like pattern, a few fragments of burnt bone, a few pieces of clam shell, some chinking and mortar (cf. layer 63, Table G.I). From the adjacent ash layer in 21K6L (layer 57) one melted piece of glass (probably window glass), one small wrought nail or tack, one 4.0 mm. lead shot, five white glass seed beads, one turquoise seed bead, one black seed bead, a fish scale and five bone fragments were recovered. Nothing was recovered from the adjacent ash layer at the back of the hearth in 21K60.

The ash layer above the hearth was in turn overlaid by 12-16 cm. of ca. 1826 silty clay (layers 41 and 62), the thinnest deposits of this layer at the site (and directly proportionate to the higher elevation of the hearth feature relative to the surrounding structural features). Material recovered from this layer in 21K4U included some fragments of mammal, fish and bird bone, one grey chert uniface, one grey chert thinning flake, three pieces of window glass (one melted), 11 wrought nails (one embedded in a piece of oak wood), one copper tinkling cone/jangler, two charred wooden pencil fragments held together with a copper wire ring, one white glass seed bead, rock fragments (associated with the chimney collapse), chinking, charred wood and pockets of mortar. One window glass fragment, one wrought nail, one copper tinkling cone/jangler, one unidentifiable iron metal fragment, one white glass seed bead, one turquoise glass seed bead, chinking and a few pieces of mammal bone were recovered from the adjacent layer 41 ca. 1826 silty clay layer above the fireplace feature in 21K6L. Another window glass fragment, two wrought nails, rock fragments, chinking and few bone fragments were recovered from the layer 62 ca. 1826 flood layer above the back of the fireplace in 21K6D (cf. layers 61-62, Table G.I).

The recovery of two chert unifaces and a thinning flake from the ash layer and ca. 1826 flood layer above the fireplace seemed a little surprising upon first analysis . Further investigation, however, would suggest these items may have been deposited during a post-fort abandonment reuse of the fireplace as a hearth in association with the ca. 1816-26 southern encampment. The highly localized deposits of ash above the fireplace were extremely thick, thicker than might be expected perhaps from a single occupation use of the fireplace during fort times or from the collapse of the structure itself. The thickness of the ash above the fireplace, the recovery of lithics from both the ash and overlying ca. 1826 silty clay, and a nearby deposit of large mammal bone above the cellar collapse inside the cellar depression in 21K6C would suggest the southern encampment was established both south of and on top of the original fort remains. Other south encampment features found in 21K4X, 21K4Y and 21K6H were between 6.0-7.0 m. southwest and southeast of the possible hearth reuse of the fireplace area in 21K4U. They included a major midden deposit of large mammal bone (layer 121) in 21K4X, a hearth feature (layers 127 and 128) in 21K4Y, and a concentration of large mammal bone in 21K4Y and 21K6H found in association with the hearth in 21K4Y. Only further excavation can verify whether the above hypothesis of fireplace reuse by a later subsequent occupation is valid or not.

5.5.2.5 Chimney Collapse (Layers 48 and 58)

Concentrations of limestone rocks associated with the collapse of the fireplace chimney were found at two stratigraphic levels: one immediately on top of the fireplace hearth and contemporary with the rest of the building collapse (layer 58), and another within the 1826 silty clay flood layer that clearly postdated the rest of the building collapse (layer 48) (Figs. 5.29, 5.30, 5.31). Rocks associated with the earlier chimney collapse were few and restricted to the area immediately overlying or surrounding the

hearth area in 21K4U and 21K6L (Fig. 5.56).

The main chimney collapse appeared to have been triggered by the 1826 flood some ten years after the rest of the building collapse. Rocks associated with this later collapse were found scattered throughout or concentrated within the 1826 silty clay layers overlying the 20-24 cm. of 1816 structural debris covering the entire floor area inside the structure (Figs. 5.57-5.60, B.1-B.38). Other random scatters of rock were found at the same level inside other parts of the building and within a 1.0-4.0 m. radius of the building. Some of this later chimney collapse was obviously reutilized by later occupants as witnessed by the use of rocks to support some of the picket posts in the later picket post fence/trench line.

5.5.2.6 Cellar Depression (Layers 68, 69, 70-75)

The debris-filled remains of a roughly oval-shaped, uncribbed cellar measuring 1.5 m. (N-S) in length by 1.0 m. (E-W) in width and at least 85 cm. deep were uncovered in 21K6C mid-room along the south side of the building 120 cm. south of the fireplace hearth in 21K4U and 16 cm. north of the south wall (Figs. 5. 31, 5. 48). Between 15-25 cm. of the extreme western edge, this cellar feature were truncated by the relatively modern (ca. 1950) utility trench (layer 66) that cross sectioned the southwestern three-quarters of the Fort Gibraltar I site area (Fig. 5. 5). This modern trench feature ended about 65-70 cm. below the top of the cellar leaving the bottom 20-30 cm. of structural collapse inside the cellar relatively intact (Fig. 5. 49). Excavation of the cellar ceased at approximately 130 cm. below the bottom of the layer 1 railway fill (or approximately 3. 3 m. below the modern clay surface). Both safety reasons and lack of time precluded the possibility of any further excavation. The cellar feature probably does not continue down anymore than another 20-40 cm. below this level.

The sill-like opening along the north edge of the cellar was actually a continuation of the east-west floor joist uncovered in 21K6A. It consisted of two large, flat rocks and two segments of charred wood. The rocks were located directly in front of the cellar opening and measured 25 cm. E-W by 15 cm. N-S by 5. 0-8. 0 cm. in thickness and 30 cm. E-W by 15 cm. N-S by 5. 0-8. 0 cm. in thickness. The sections of charred wood were found to either side of these centrally placed rocks and measured roughly 25-30 cm. long (E-W), 15-20 cm. wide (N-S) and 7. 0-10 cm. thick.

Three other limestone rocks were also found along the southwest edge of the cellar opening. These were directly opposite those found along the north edge of the cellar and were found directly above the carbon stained flooring level (layer 69). One rock measured about 20 cm. in diameter and 5. 0-8. 0 cm. thick and the other two were 15 cm. in diameter and 5. 0-8. 0 cm. thick.

Judging from the concentrations of charred wood and dark carbon staining uncovered during excavation and visible in the east, west and south wall profiles in 21K6C, floorboards not only surrounded but partly covered the opening to the cellar on the east, west and south sides. The resulting cellar opening was probably about 70 cm. (E-W) by 75-80 cm. (N-S) in size. These floorboards collapsed under the weight of heavier structural debris (such as support beams and masses of chinking); others collapsed when the underlying uncribbed cellar walls caved in. Figures 5.45-5.47 and 5.49 clearly show the slumped flooring level along the west wall of the cellar feature. Masses of charred fibre (possibly straw) were recovered from above the slumped flooring (layer 68) in the northwest corner of the cellar along the west wall. This burnt fibre/charred wood concentration measured approximately 30 cm. in length (N-S) by 10 cm. in width (E-W) by 5.0-8.0 cm. in thickness. Samples of the fibres have not been analyzed yet.

The cellar was the deepest feature excavated at Fort Gibraltar I. The cellar fill (layers 68-75) averaged 70-100 cm. in thickness and consisted of several different bands of soil and concentrations of material representing different stages of burning, collapse, slumpage and flooding. The bottommost deposit (layers 73 and 74) inside the cellar consisted of a crisscrossed jumble of large segments of charred beams (samples were identified as ash and poplar), bark, charred wood and fire-reddened chinking associated with the ca. 1816 collapse of the roof supports, walls and parts of the flooring around the edges of the cellar. The fill layers (layers 70-72) overlying this jumble of debris consisted of 1826 flood deposited silts, flood mixed debris and wall slumpage.

The first deposit over this debris was approximately 30 cm. thick (layer 72) and consisted of a mixture of dark brown-black carbon stained ca. 1826 silty clay, charred wood, charcoal and fragments of chinking. It was probably the result of both 1826 flooding and earlier (1816-26) slumpage/fill events. Overlying this fill layer were several different layers of layer 14 tan clay that had slumped from the uncribbed walls of the cellar (layer 71). These tan clay layers totalled 20-40 cm. in thickness and were found in, over and around different portions of slumped floor (layers 49, 68 and 69; Fig. 5.49). The wall slumpage postdated the 1816 burning and collapse of the building and may have both predated and been accentuated by the 1826 flooding. Several small concentrations of unburnt frog bones (layer 75) were found at the interface between the earlier layer 12 cellar fill and the slumping of the cellar walls (layer 71), suggesting some time may have elapsed between the two events. The slumped wall layers were in turn overlaid by a mottled dark brown layer of apparently 1826 flood mixed/deposited silty clay, charcoal, charred wood and chinking (layer 70) that ranged from 20-40 cm. in thickness.

Although the cellar contained significant amounts of debris associated with collapse of the building, almost no artifacts or faunal material were recovered from the cellar fill layers themselves (layers 70-74). Only five white glass seed beads, one forged rosehead nail, one 4.0 mm. lead shot and a few fragments of mammal bone were recovered from the collapsed flooring level (layers 49, 68 and 69) overlying and mixed in with the layer 71 cellar fill layer.

A fairly substantial post-fort period concentration of large unburnt pieces of large mammal bone (ribs, longbones, etc.) was uncovered within the 30-45 cm. of ca. 1826 silty clay immediately above but not inside the cellar feature. It was recovered along with a fair amount of chinking and rocks associated with the ca. 1826 chimney collapse. The concentration of faunal material was the only such concentration found inside or immediately overlying the fort-contemporary structure and could have constituted evidence for a post-Fort Gibraltar I/pre-1826 flood occupation at the site. The concentration of faunal material recovered was similar to that recovered from an adjacent

hearth feature and small midden-like deposits in 21K4Y and 21K6H 5.0-6.0 m. southeast and in 21K4X 7.0-8.0 m. southwest of the cellar feature (cf. Fig. 5.30) and may have implications for the dates assigned to these features and deposits. These features may also postdate the actual fort occupation and may represent a slightly later occupation (ca. 1016-26) established on top of the Fort Gibraltar I site. Until this is further substantiated, however, these deposits and features are being treated as roughly contemporary with the structural remains and Fort Gibraltar I (1810-16). Other materials recovered from the ca. 1826 silty clay layers above the cellar feature include fragments of charred/ uncharred wood, chinking, clam shell, one whetstone, and pockets of mortar and ash. Not only was the cellar feature the deepest feature excavated at the Fort Gibraltar I site but the 30-45 cm. thick silty clay layers overlying the cellar feature were also the thickest 1826 flood deposits uncovered at the site.

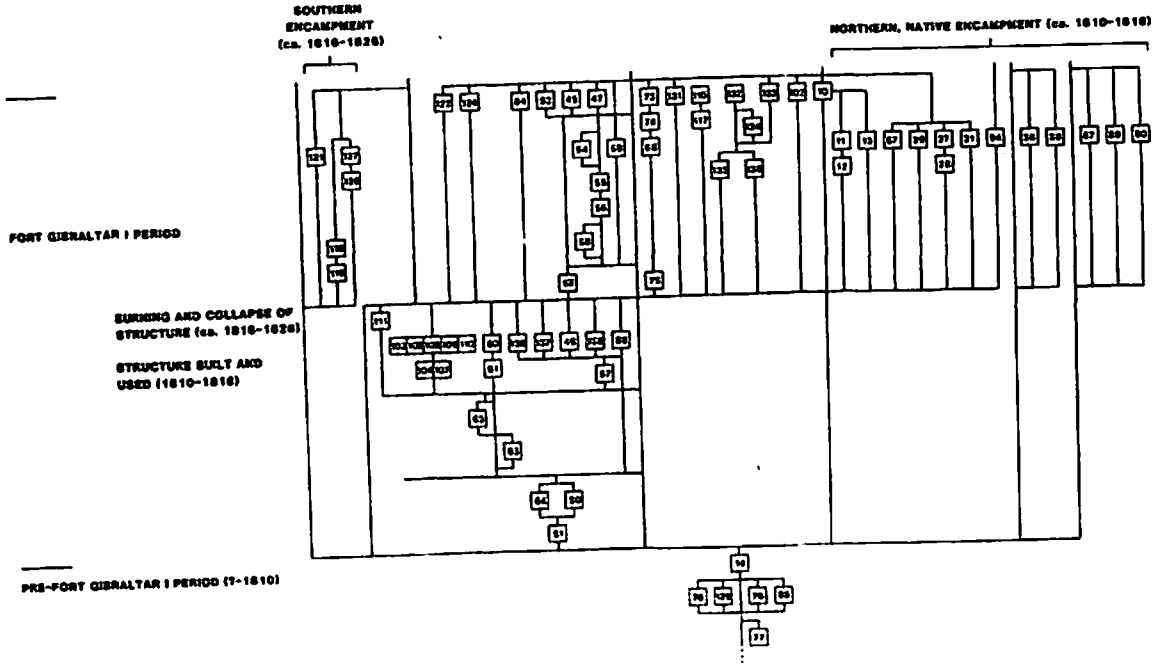


Figure 5.29 Layer/event diagram with tentative dates for the Fort Gibraltar I contemporary period (ca. 1810-16). (Drawn by D. Elrick.)

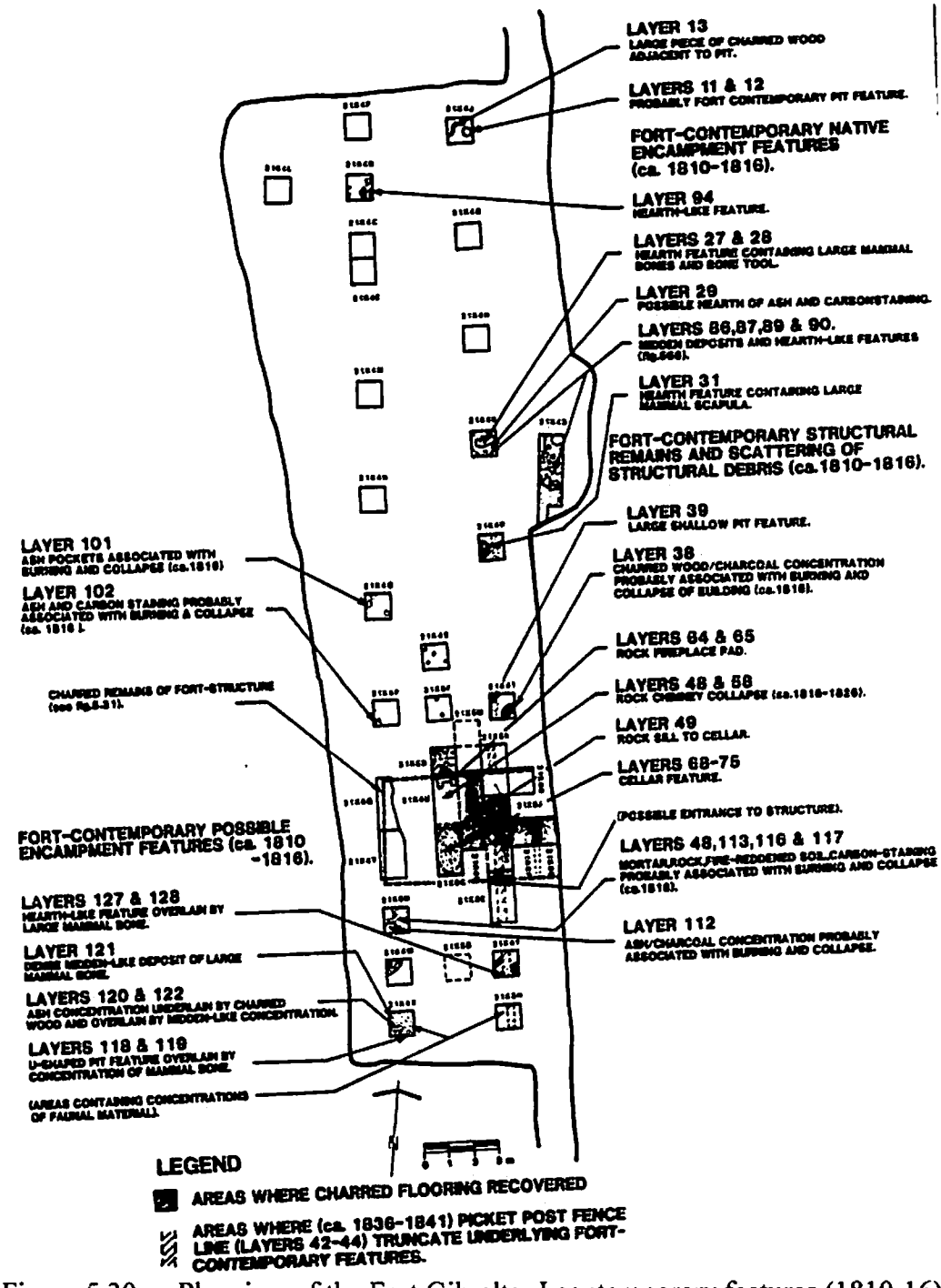


Figure 5.30 Planview of the Fort Gibraltar I contemporary features (1810-16). (Drawn by D. Elrick.)

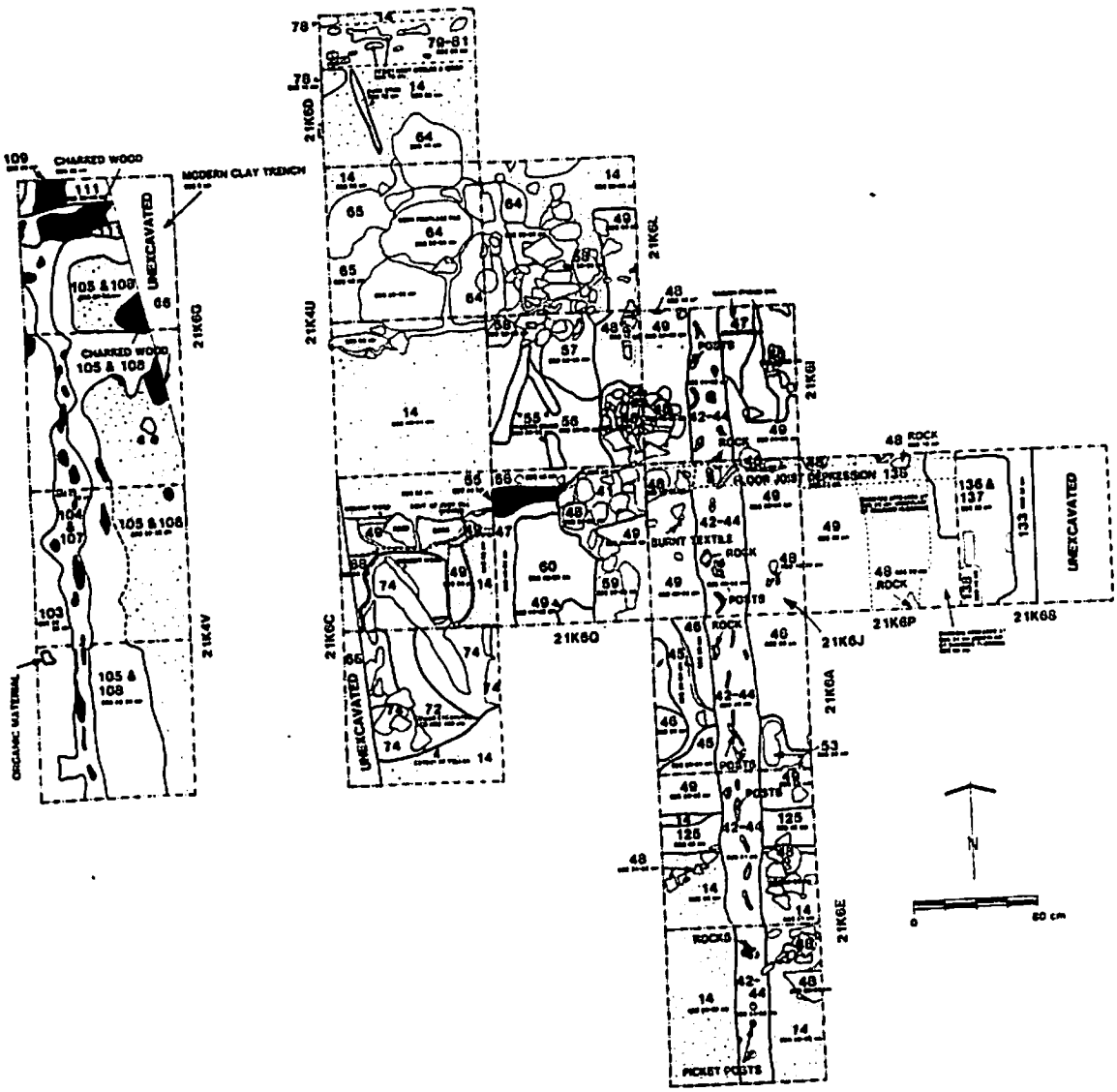


Figure 5.31 Composite floor plan of Fort Gibraltar I contemporary structural features (1810-16). (Drawn by D. Elrick.).

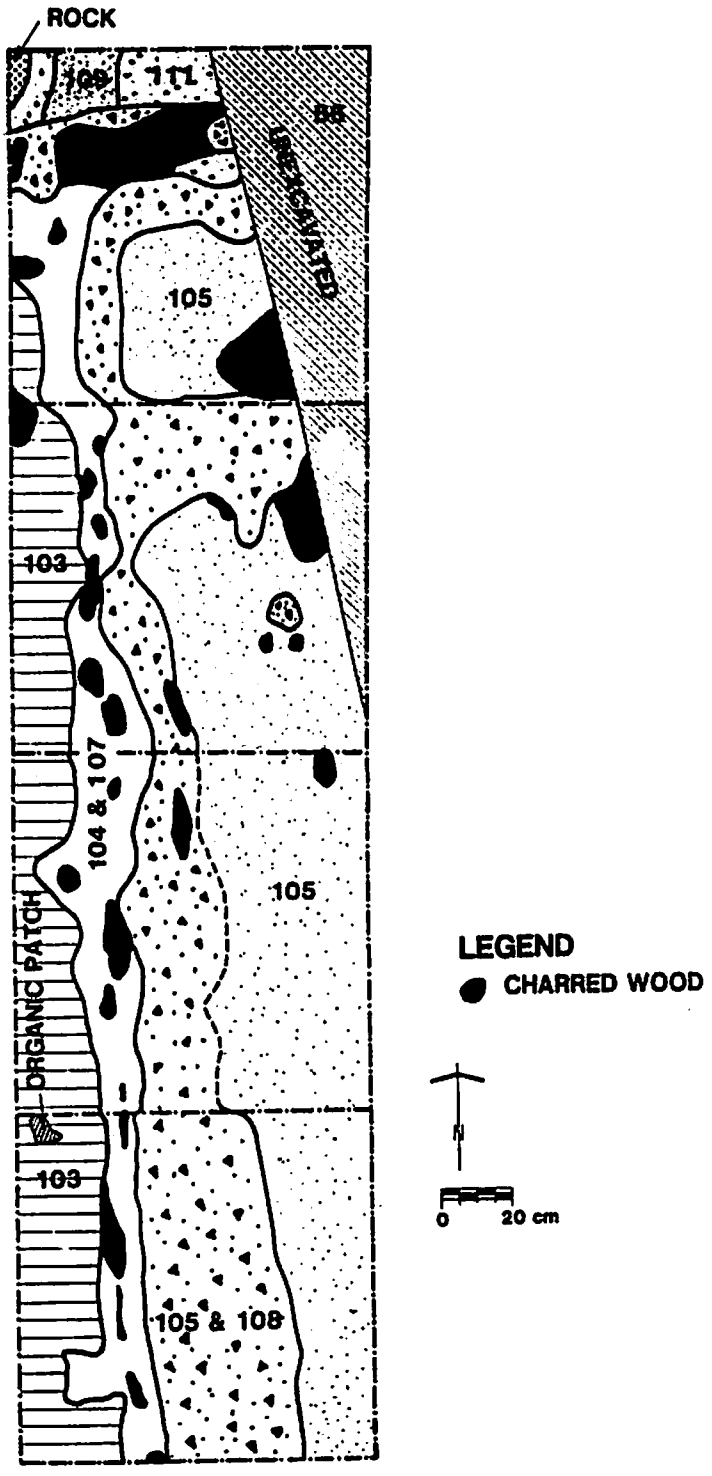


Figure 5.32 Floor plan of outer west wall beam (layers 104-108; ca. 1810-16) uncovered in 21K4V and 21K6G, Fort Gibraltar I. 66) Modern clay trench (ca. 1950); 103) chinking stained, fire-reddened and charcoal flecked sand; 104 and 107) charred wood concentrations in chinking-coloured/fire-reddened sand representing remains of wall beam; 105 and 108) dense concentration of fire-reddened chinking representing wall beam and collapse, concentration is densest in linear band through middle of the unit. 109) decayed wood patch; 111) grey-brown silty clay, possibly some of flood deposited ca. 1826 layer 41 silty clay. (Drawn by D. Elrick.)

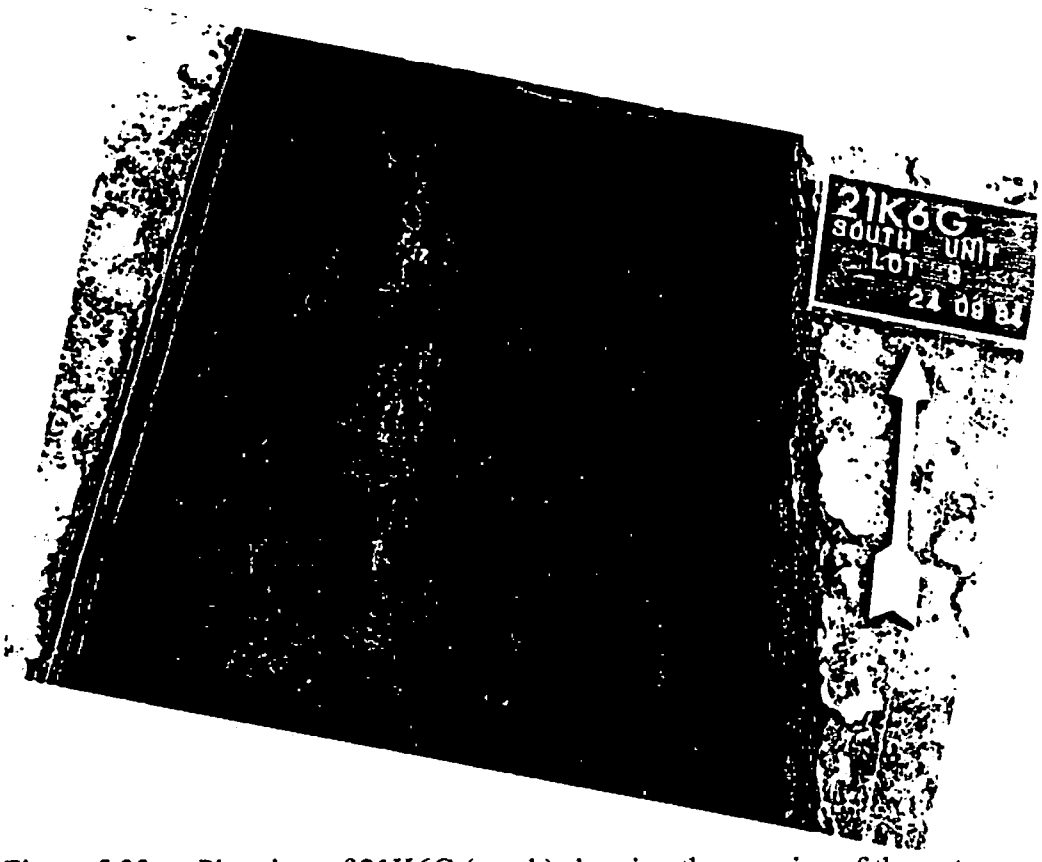


Figure 5.33 Planview of 21K6G (south) showing the remains of the outer west wall beam (layers 104-108; 1810-16); Fort Gibraltar I. (Photo by L. Konotopetz.)

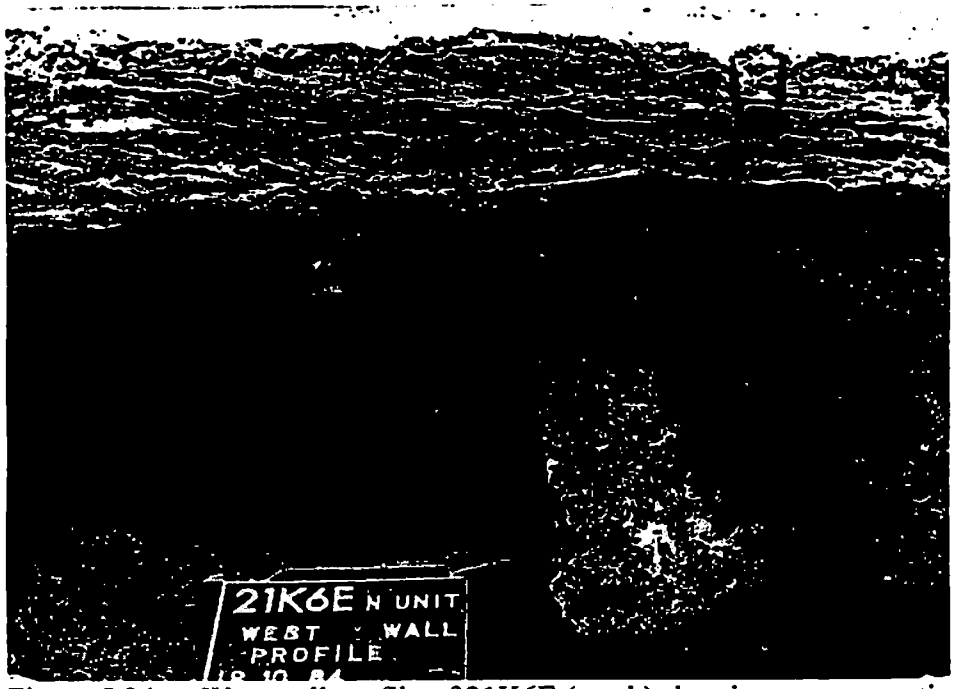


Figure 5.34 West wall profile of 21K6E (north) showing a cross section of the outer south wall (layer 125; 1810-16) where it is truncated by the post-fort (ca. 1836-41) picket post fence/trench line feature. Charred floor boards are visible to the right of the linear band of chinking representing the wall beam. (Photo by L. Konotopetz.)

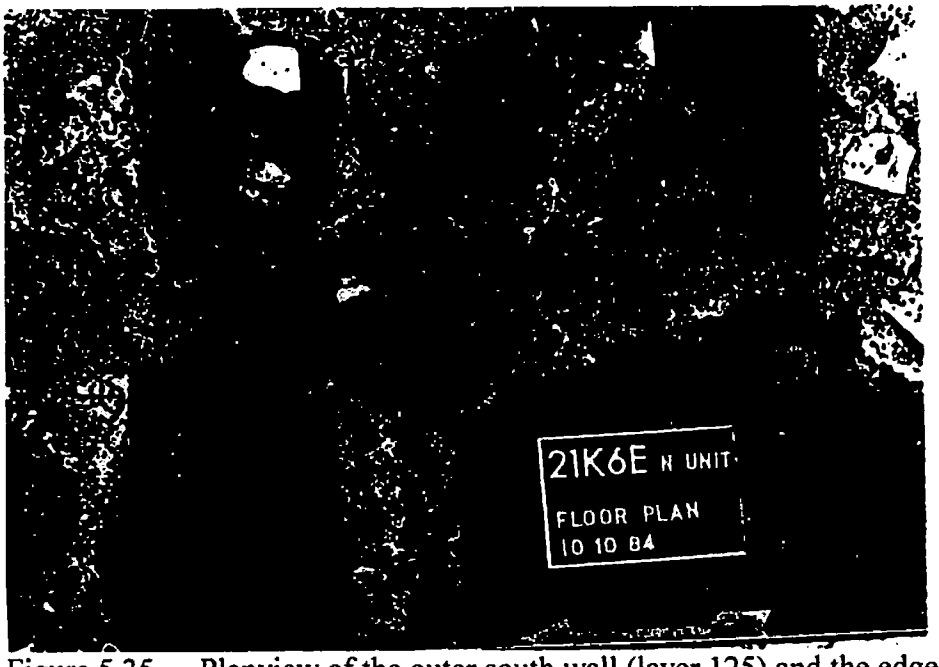


Figure 5.35 Planview of the outer south wall (layer 125) and the edge of the charred flooring (layer 49; 1810-16) in 21K6E (north). Both the flooring and wall beam are truncated by the post-fort period (ca. 1836-41) picket post fence/trench line feature. (Photo by A. Bell.)

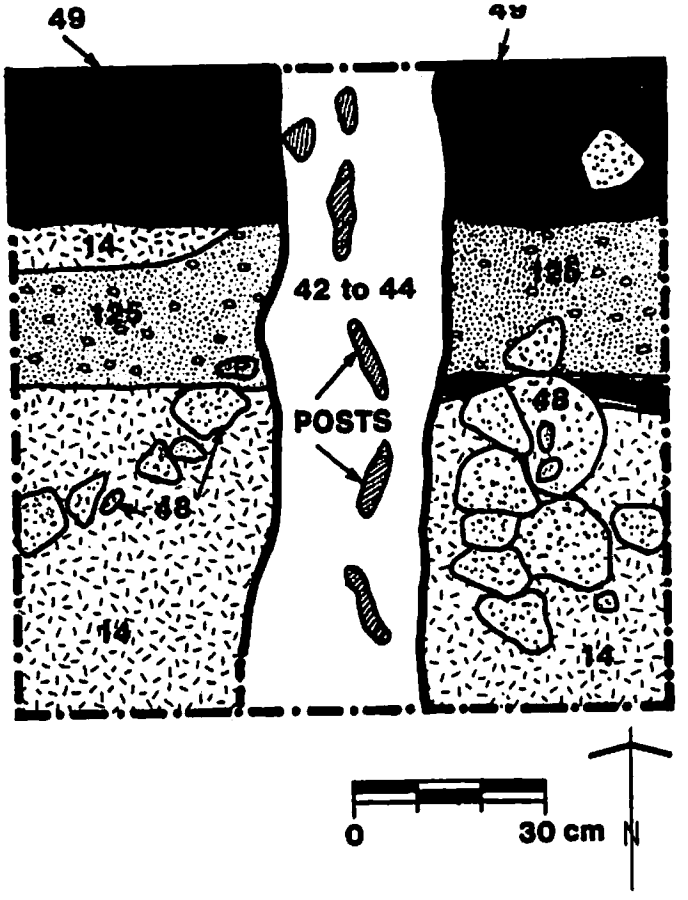


Figure 5.36 Planview of 21K6E (north) showing the outer south wall (layer 125) and charred flooring (layer 49; ca. 1810-16) truncated by the post-fort period picket post fence/trench line feature (layers 42 to 44; ca. 1836-41). Rocks in floor plan are part of the later chimney collapse (layer 48; ca. 1826) and were recovered by the silty clay flood layer approximately 5.0-10 cm. above the floor level; 125) outer south wall/floor joist depression filled with a dense concentration of fire-reddened chinking, charred wood and pockets of ash; 49) charred wooden flooring; 48) rocks from later chimney collapse (ca. 1826 flood); 42 to 44) post-fort period picket post fence/trench line feature (ca. 1836-41); 141) pre-fort period essentially artifact free tan clay. (Drawn by D. Elrick.)

Figure 5.37 Planview of 21K6P (north) showing linear concentration of chinking (layer 133; 1816) as it first appeared approximately 24 cm. below the railway fill. This concentration probably represents part of the wall collapse from the inner wall located about 30 cm. further east (see Figure 5.41). (Photo by A. Bell.)

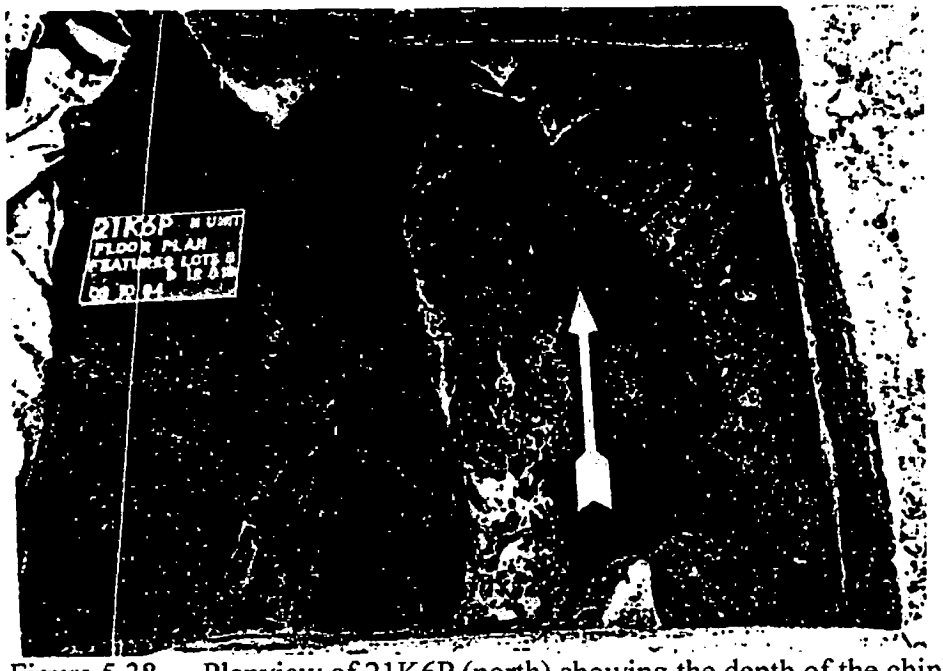


Figure 5.38 Planview of 21K6P (north) showing the depth of the chinking collapse (Figure 5.37) relative to the charred flooring (layer 49). The rocks along the north wall are part of the later chimney collapse (layer 48; ca. 1826). (Photo by L. Konotopetz.)

Figure 5.39 21K6S (north) east wall profile, showing charred beam fragment believed to be part of an inner wall (layer 138; lower right-hand corner) and density of chinking (layer 133) originally covering the entire charred floor area. (Photo by L. Konotopetz.)

Figure 5.40 21K6S (north) south wall profile, showing close up of charred beam fragment believed to be part of the inner wall (layer 138; immediately to the left of the north arrow) and density of chinking (layer 133) above the charred floor. (Photo by L. Konotopetz.)

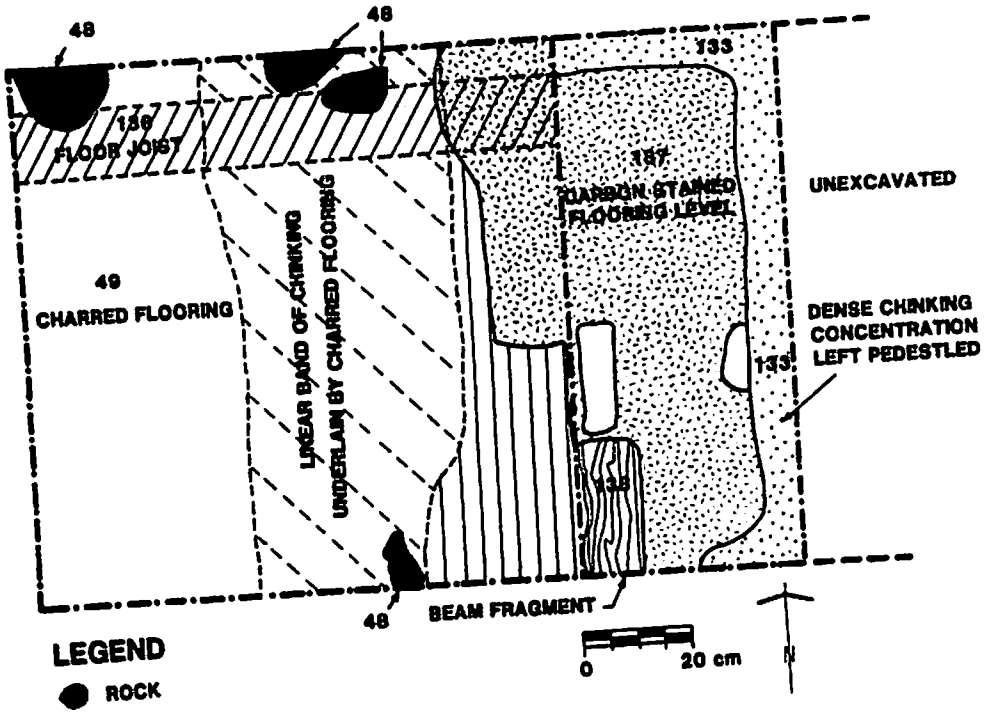


Figure 5.41 Planview of the charred flooring, floor joist, possible inner wall beam and chinking concentrations in 21K6P and 21K6S (detail of Figure 5.31). 48) rocks associated with later chimney collapse (1826 flood); 49) charred flooring; 137) carbon stained flooring level where flooring appears to have burnt away; 138) charred beam fragment believed to be part of an inner wall; 133) dense chinking concentration of an inner wall; 133) dense chinking concentration originally covering all of the floor area; 136) floor joist depression containing charred wood. (Drawn by D. Elrick.)

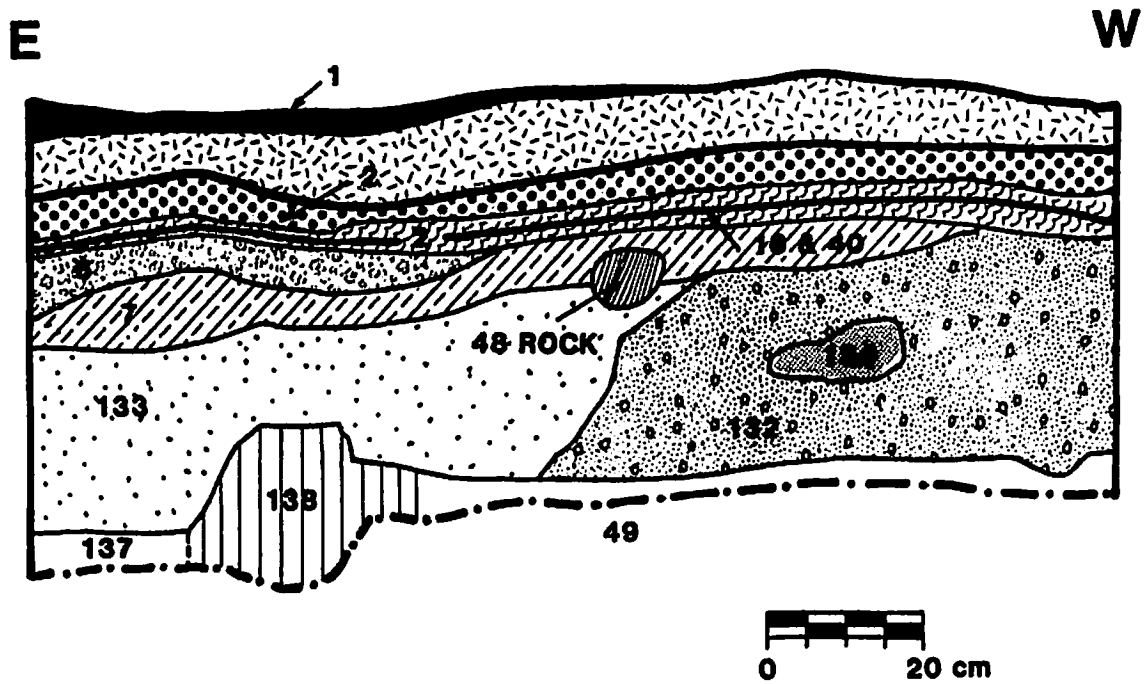


Figure 5.42 South wall profile of 21K6P and 21K6S showing the thickness of chinking on top of the charred floor and location of possible inner wall beam. 1) railway fill remaining on the surface after removal by backhoe (ca. 1882); 2) double-banded layer of lighter and darker grey-brown early railway silty clay (ca. 1882 flood); 16) pre-railway manure layer (ca. 1852-61); 40) pre-railway dark grey-brown silty clay containing a band of manure (ca. 1861 flood; 6) light brown marbled flood sand (ca. 1852 flood); 7) immediate post-Fort Gibraltar I grey-brown flood deposited silty-clay (ca. 1826 flood); 48) rock from later chimney collapse (ca. 1826); 133) very dense chinking concentration (probably inner wall collapse) above floor; 132) chinking stained/fire-reddened sand containing birch bark fragments; 134) dark organic lensing within layer 132; 49) charred wooden flooring; 138) charred beam fragment believed to be part of an inner wall; 137) carbon stained flooring level where floor boards appear to have burnt away. (Drawn by D. Elrick.)

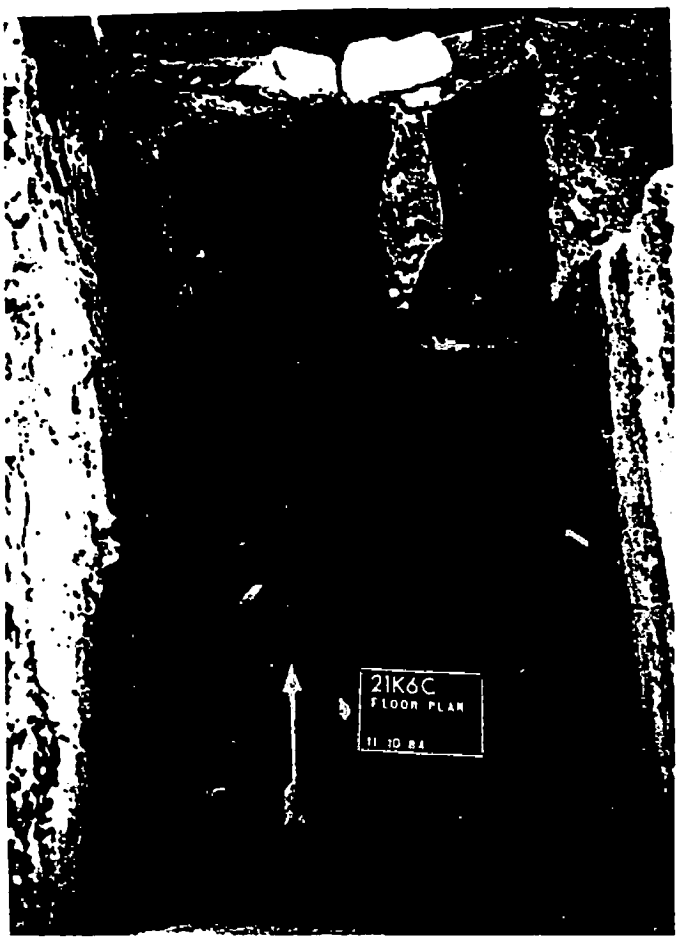


Figure 5.43 Planview of 21K6C showing the extent of the cellar feature, structural collapse inside cellar and sill-like continuation of floor joist along the north edge of the cellar. (Photo by S.E. Bradford.)

Figure 5.44 Close up of the collapsed beams (layer 74) in the bottom of the 21K6C cellar feature (see Fig. 5.43). (Photo by S.E. Bradford.)

Figure 5.45 Oblique view of the west wall profile in 21K6C showing the slumped flooring level (dark band) above the cellar. Slumped flooring mixed with burnt fibre (possibly straw; layer 68) is visible to the lower right of the photograph. The sill-like continuation of the floor joist (opening to the cellar) is in the foreground (see Figs. 5.48 and 5.49). (Photo by A. Bell.)

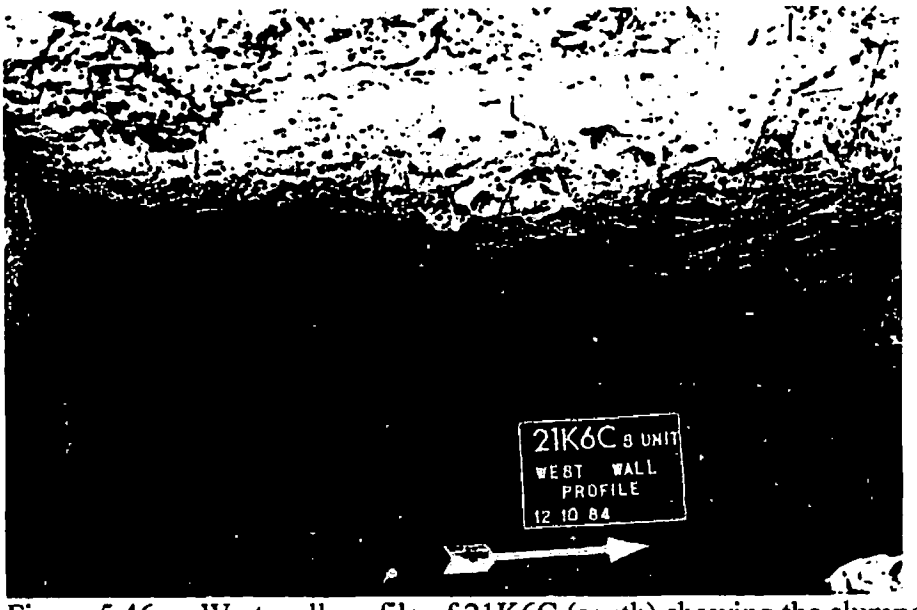


Figure 5.46 West wall profile of 21K6C (south) showing the slumped flooring level above the cellar and concentrations of chinking and structural collapse below it (see Fig. 5.49). (Photo by A. Bell.)

Figure 5.47 Close-up of the slumped flooring and concentration of burnt fibre (possibly straw; layer 68) along the west edge of the cellar feature in 21K6C. Concentration has been pedestled along the west wall and slumps from flooring level down into the cellar (to left of arrow)(see Figs. 5.48 and 5.49). (Photo by S.E. Bradford.)

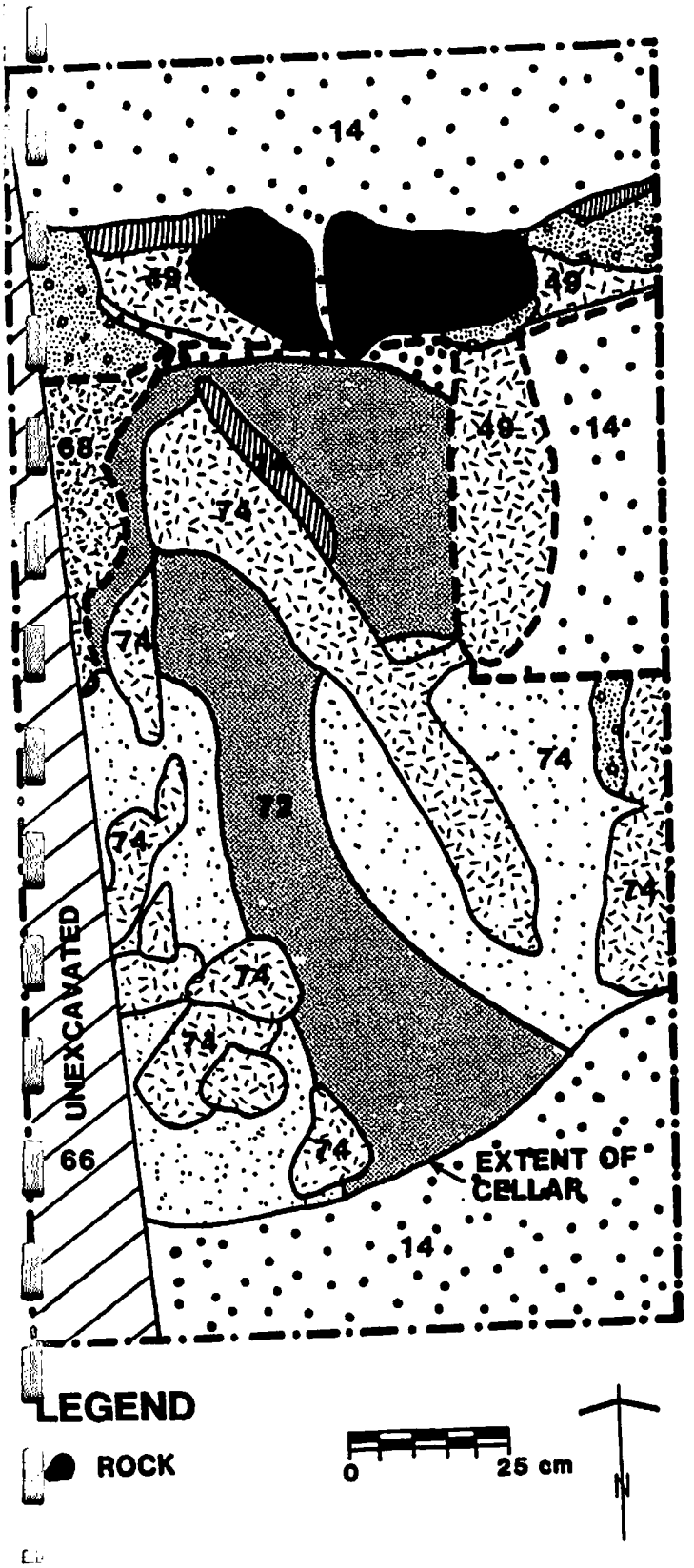


Figure 5.48 Composite planview of cellar feature, structural collapse inside cellar and sill-like continuation of floor joist along the north edge of the cellar in 21K6C (detail of Fig. 5.31). 49) sill-like continuation of floor joist containing two large rocks, charred wood, unburnt wood, and chinking/charred flooring; 68) slumped segment of flooring covered with a concentration of burnt fibre (possibly straw); 66) modern clay trench (ca. 1950) left unexcavated; 72) cellar fill consisting of layers 41 and 62 grey-brown silty clay, chinking, charred wood and carbon staining; 74) structural collapse inside the cellar consisting of large charred beam fragments scatters of charred wood chinking concentrations and chinking stained soil; 14) pre-fort period tan clay. (Drawn by D. Elrick.)

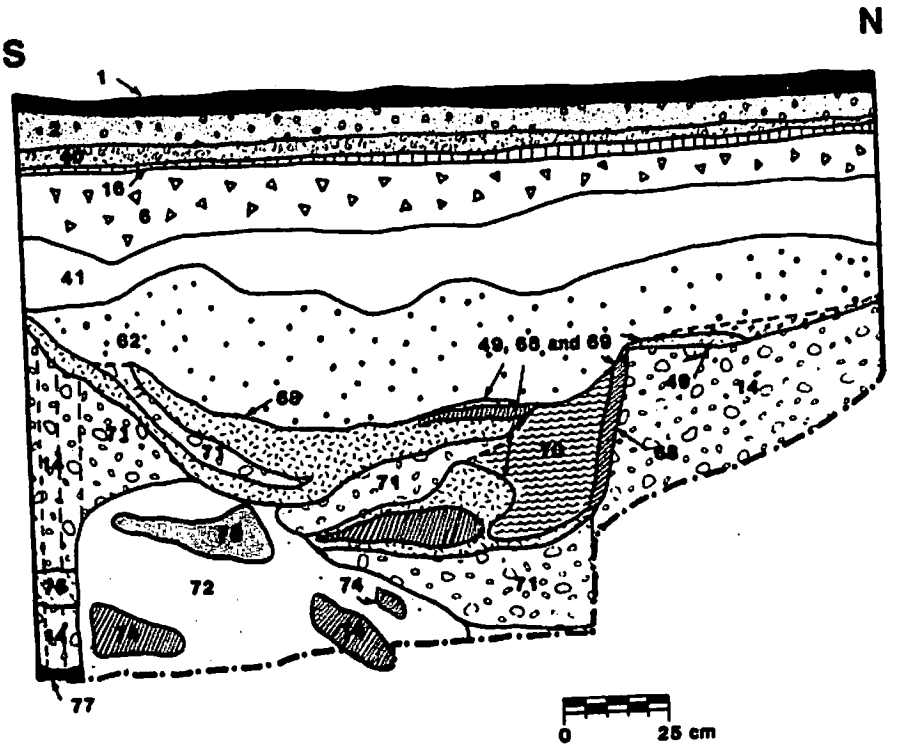


Figure 5.49 West wall profile of 21K6C showing the outline of the cellar feature, collapsed flooring above cellar and structural debris inside cellar. 1) railway fill containing ash, cinders, sand and gravel remaining after removal by backhoe; 2) early railway light grey-brown silty clay (ca. 1882 flood); 40) pre-railway dark grey-brown silty clay (ca. 1861 flood); 16) pre-railway manure layer (ca. 1852-61); 6) light brown marbled flood sand (ca. 1852; 41) immediate post-Fort Gibraltar I dark grey-brown silty-clay (ca. 1826 flood); 62) immediate post-Fort Gibraltar I lighter grey-brown silty clay (ca. 1826 flood); 59/69) charred wooden flooring; 68) collapsed flooring containing burnt fibre (possibly straw); 70) cellar fill layer containing dark brown-black silt, chinking, charred wood and layers 41 and 62 grey brown silty clay (ca. 1826 flood); 71) cellar fill layer of layer 14 tan clay which has slumped in from the walls of the cellar (ca. 1826 flood); 72) cellar fill layer containing a mixture of layers 41 and 62 grey-brown silty clay, chinking, charred wood, structural debris and carbon staining (ca. 1826 flood); 73) chinking concentration; 74) charred beams and charred wood (structural collapse) inside the cellar (ca. 1816); 76) compacted drier layer 14 tan clay; 77) sandier layer 14 tan clay. (Drawn by D. Elrick.)

Figure 5.50 Oblique view of fireplace hearth (layer 64) in 21K4U and 21K6L. The large boulder along the north edge forms part of the north outer wall of the structure and overlaps in 21K6D (see Fig. 5.51). (Photo by S.E. Bradford.)

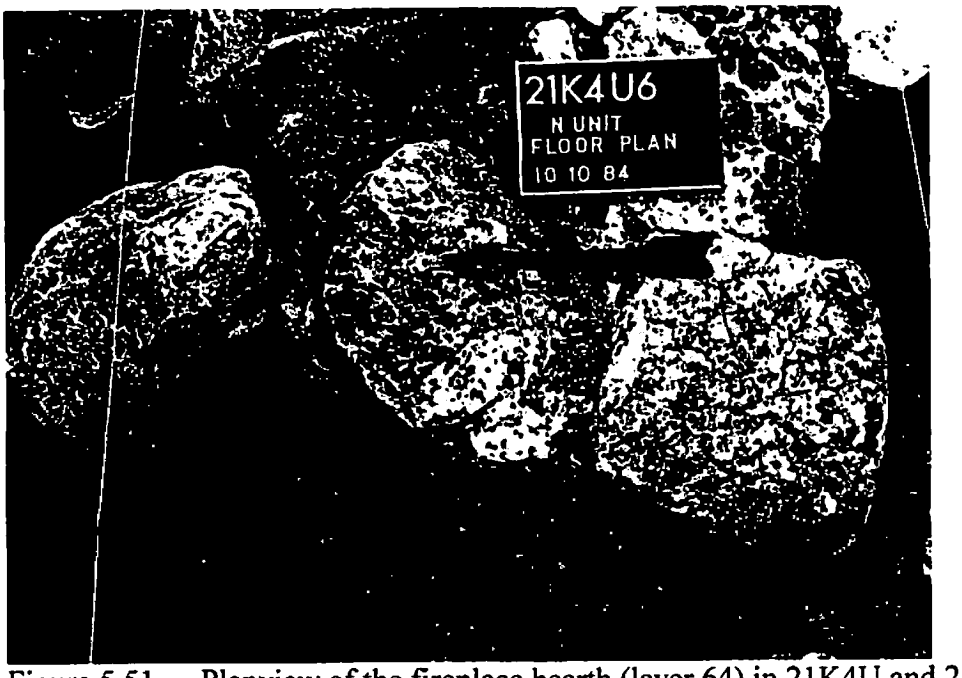


Figure 5.51 Planview of the fireplace hearth (layer 64) in 21K4U and 21K6D. The large boulder overlaps into 21K6D and forms part of the north wall of the structure (see Fig. 5.55). (Photo by A. Bell.)

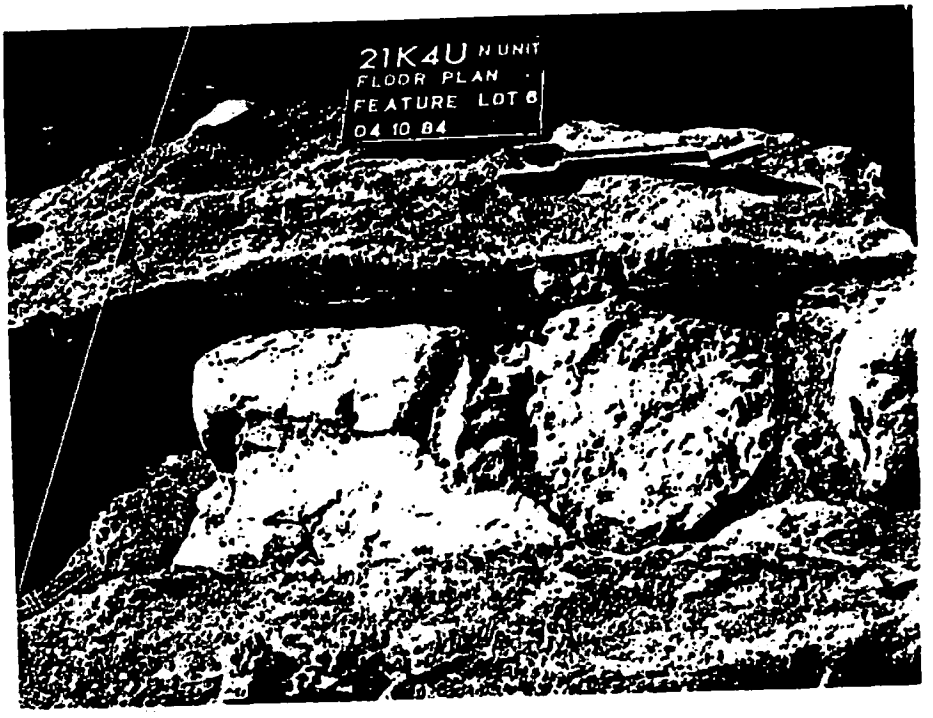


Figure 5.52 Oblique view of 21K4U (north) showing a cross section of the ash layer (layers 59 and 63) originally overlying the hearth area (layer 64) (see Fig. 5.53). (Photo by S.E. Bradford.)

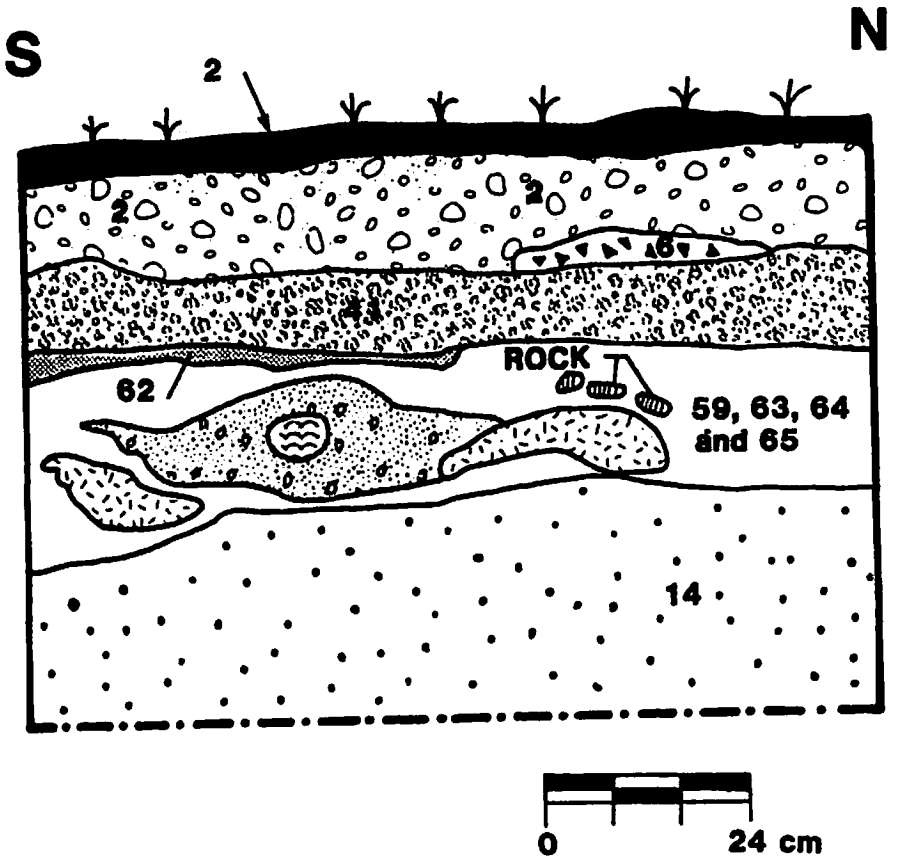


Figure 5.53 West wall profile of 21K4U (north) showing the thickness of the ash layer (layers 59 and 63) found above the fireplace hearth feature (layer 64) (see Fig. 5.52). 2) double-banded layer of lighter and darker grey-brown silty clay (ca. 1882 flood); 6) light brown marbled flood sand (ca. 1852); 41) immediate post-fort Gibraltar I dark grey-brown silty clay containing fort-contemporary artifacts (ca. 1826 flood); 62) immediate post-Fort Gibraltar I dark grey-brown silty clay containing fort-contemporary artifacts (ca. 1826 flood); 59/63-65) ash, chinking concentrations, chinking coloured clay, fire-reddened soil, charred wood and rocks overlying the fireplace rock pad; 14) pre-fort period tan clay. (Drawn by D. Elrick.)

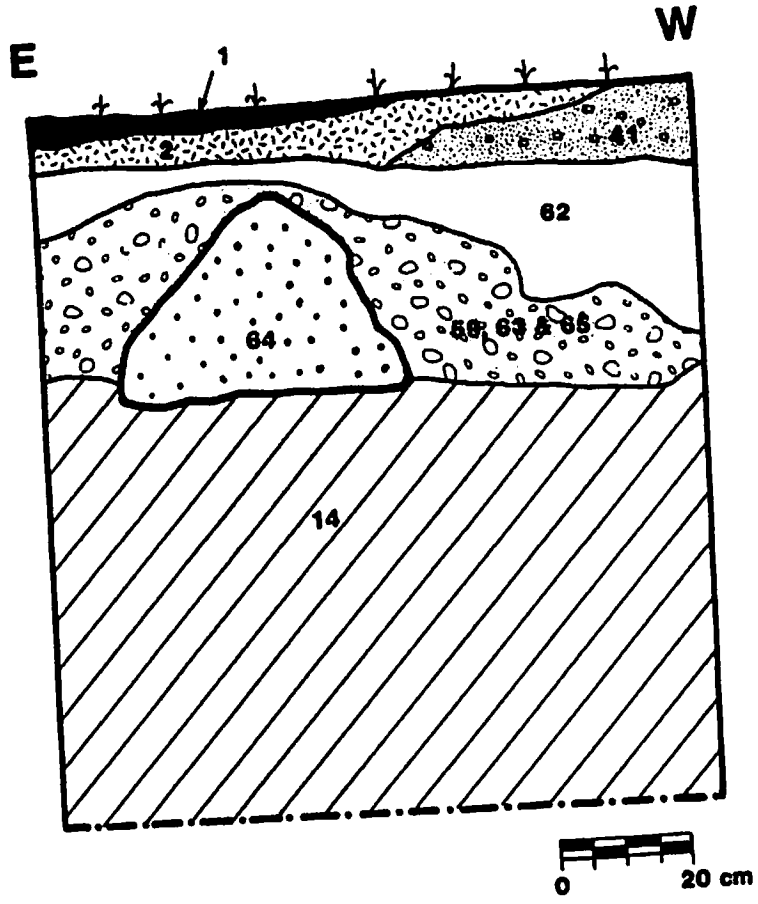


Figure 5.54 South wall profile of 21K6D showing the back of the fireplace hearth, the ash layer overlying the hearth, and the edge of deposits that help to define the outer north of back wall of the fort-contemporary structure (see Fig. 5.28 for planview of 21K6D). 1) railway fill (ca. 1889) remaining on surface after removal by backhoe; 2) early railway light olive-grey silty clay (ca. 1882 flood); 41) immediate post-Fort Gibraltar I dark grey-brown silty clay flood layer containing fort-contemporary artifacts (ca. 1826 flood); 62) immediate post-Fort Gibraltar I medium grey-brown silty clay flood layer containing fort-contemporary artifacts (ca. 1826 flood); 59/63/65) ash layer overlying hearth feature and containing chinking, chinking-coloured clay, fire-reddened soil and charred wood; 64) largest boulder in fireplace hearth forms the back of the fireplace and part of the outer north/back wall of the building; 14) pre-fort period tan clay. (Drawn by D. Elrick.)

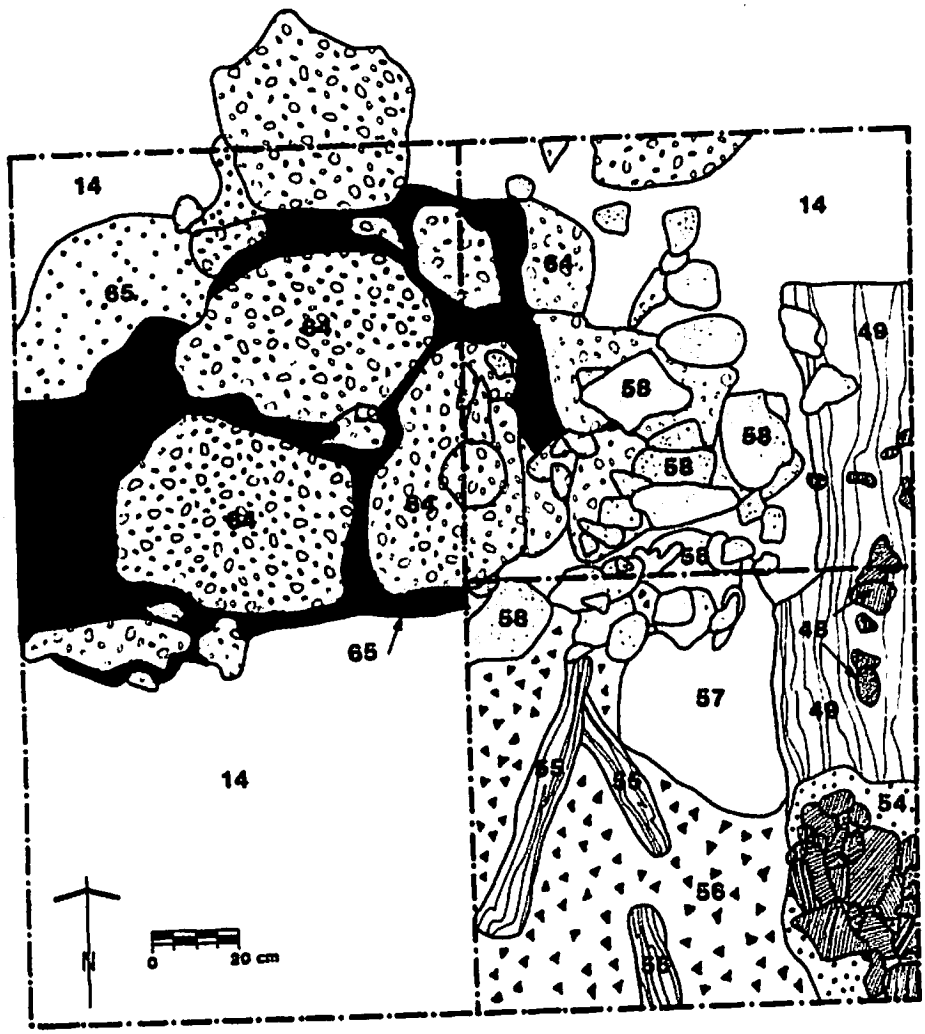


Figure 5.55 Planview of the fireplace pad in 21K4U, 21K6D and 21K6L (detail of Fig. 5.31). 14) pre-fort period tan clay underlying the fort-contemporary structure and deposits at the site; 48) rocks associated with later chimney collapse (ca. 1826 flood) found in the silty clay flood layers 16-24 cm. above the charred flooring; 49) charred wooden flooring; 54) chinking concentration and chinking-coloured soil underlying the later chimney collapse (ca. 1826); 55) charred wooden beams/structural collapse on top of flooring ca. 1816); 56) ash layer covering flooring level (ca. 1816); 57) mixture of layer 56 ash and layer 14 tan clay at floor level; 58) rocks associated with earlier chimney collapse (ca. 1816) found directly on top of the hearth area; 64) rocks forming fireplace base/rock pad; 65) fire-reddened and chinking-coloured clay pad underlying the rock pad and used to bond rocks. (Drawn by D. Elrick.)

Figure 5.56 Planview of 21K6L (north) showing rocks associated with earlier chimney collapse (layer 58; ca. 1816) on top of the eastern edge of the hearth feature (detail of Figs. 5.31 and 5.55). Charred wooden flooring is in foreground. Large boulder along the north wall is probably part of the outer north wall of the structure. (Photo by A. Bell.)

Figure 5.57 Planview of 21K6L (south) showing the elevation of rocks associated with the later chimney collapse (layer 48, ca. 1826) relative to the charred flooring level and other structural debris which collapsed on top of the floor during burning of the building (see Fig. 5.31). Photo by A. Bell.)

Figure 5.58 Close-up of later chimney rock collapse (layer 48; ca. 1826) in 21K6L (south). (Note: arrow points south. See. Fig. 5.31). The rock collapse is underlaid by approximately 26-28 cm. of chinking stained/fire-reddened sand and concentrations of chinking. It is overlaid and mixed in with layer 41 silty clay (ca. 1826 flood) and is a total of 28-30 cm. above floor level. (Photo by A. Bell).

Figure 5.59 Planview of 21K6J (south) showing elevation of rocks associated with later chimney collapse (layer 48; ca. 1826) relative to the charred flooring inside the structure. (Detail of Fig. 5.31) . (Photo by S.E. Bradford.)

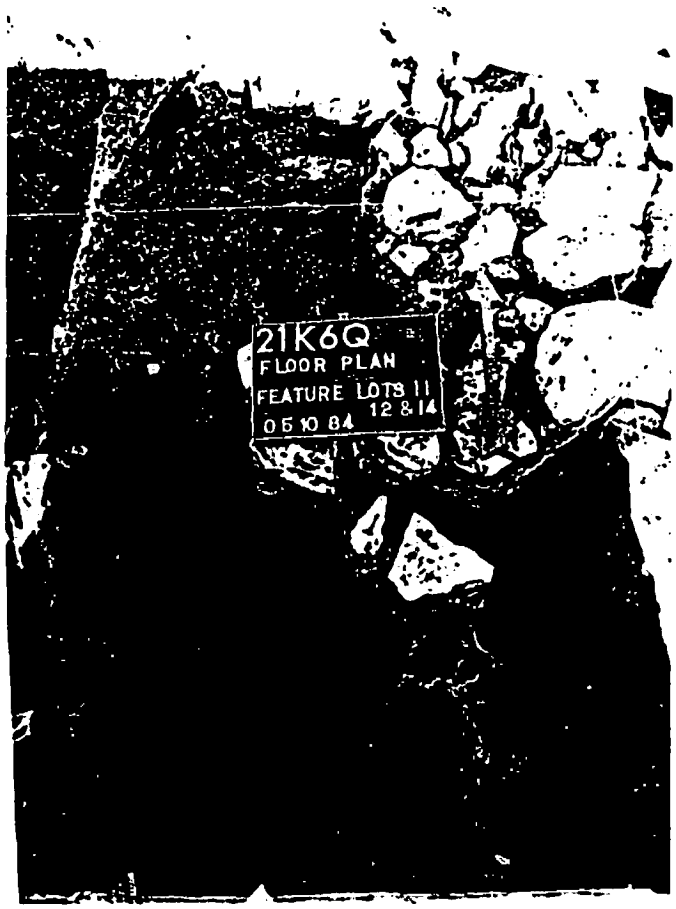


Figure 5.60 Planview of 21K6O (north) showing elevation of rocks associated with the later chimney collapse (layer 48; ca. 1826) relative to the charred floor and other structural collapse (e.g., a charred beam layer 59, directly south of the rock concentration). The chimney collapse in 21K6Q is both overlaid and underlaid by layer 41 silty clay (ca. 1826 flood). (Detail of Fig. 5.31.) (Photo by S.E. Bradford.)

5.5.3 Fort Gibraltar I: Structural Collapse and the Scattering of Structural Debris (ca. 1816)

5.5.3.1 Within the Structural Area

Aside from the features described above which represent fairly intact portions of the walls, cellar, fireplace and flooring, there was also a considerable amount of structural debris (layers 45-47, 52-56, 58-60, 68, 70-74, 124, 131, 132, 133, 134, 135 and 138; Figs. 5.29-5.31) on top of the floor and inside the cellar that provides evidence for how the building was constructed and how it collapsed. Approximately 20-24 cm. of structural debris consisting of charred beams, charred wood, carbon staining, chinking, ash, mortar, fire-reddened/chinking stained sand, charcoal and rock was excavated above the floor area and another 55-75 cm. inside the cellar feature in 21K6C (Figs. 5.25, 5.29, 5.42, 5.49, 5.53, 5.54, B.1-B.38).

Most structural debris appeared to have collapsed inwards towards the centre of the building with the densest concentrations occurring in 21K6C, 21K6L and 21K6Q, along the western edges of 21K6A and 21K6J, the outer west wall beam in 21K4V and 21K6G, and the possible inner wall beam in 21K6P and 21K65. Crisscrossed fragments of charred beams and charred wood (layers 55, 59 and 74) uncovered inside the cellar feature in 21K6C and on top of the floor in 21K6L and 21K6Q were probably fragments of collapsed support beams or trussing used to support the roof. The beams recovered ranged from 15-20 cm. in diameter and from 25-110 cm. in length. Unlike the wall beam collapse in 21K4V, 21K60, 21K6P, 21K6S, 21K6E and 21K6A which was primarily represented by dense linear concentrations of chinking, these charred support beams were not found in direct association with masses of chinking. Samples of wood taken from the beam collapse inside the cellar were identified as poplar and ash. Bark fragments found in association with the beam collapse in 21K6Q and near the inner wall in 21K6P were identified as birch.

Elsewhere inside the building (21K6A, 21K6E, 21K6J, 21K6P, 21K6S, 21K4V and 21K6G), linear bands of carbon/ chinking stained soil and concentrations of chinking suggest the inward collapse of the walls. Linear bands of carbon/ chinking stained sand and concentrations of chinking (layers 45 and 53) were found running NNW-SSE for a distance of 4.0ra. through 21K6A, 21K6E and 21K6J approximately 20 cm. above the charred floor. The bands together were approximately the same width (15-20 cm.) as the wooden support beam fragments recovered from 21K6C, 21K6L and 21K6Q. They appeared to be the remains of a totally burnt and/or disintegrated wall beam that collapsed inwards from the south outer wall in 21K6E sometime after the rest of the building burned and collapsed (ca. 1816-26). They were found within a layer of dark brown sand (layer 46) that may date to and partially be the result of the chimney collapse.

The densest concentrations of chinking (layer 133) were found above the charred floor and inner wall beam (layer 138) in 21K6P and 21K6S (Fig. 5.41). The chinking ranged from 24-28 cm. in thickness and was so dense in places that it had to be removed with a pickaxe (Figs. 5.38-5.40, 5.43). One pronounced linear band of this chinking concentration was found quite high up above the floor (approximately 26-28 cm.) immediately below and surrounded by the ca. 1826 layer 7 silty clay. It was about 20 cm. in width and ran NNW-SSE through the middle of 21K6P roughly parallel to and 24-30 cm. west of the possible inner wall beam. This chinking collapse also suggests an inward collapse of the east inner wall that was roughly contemporary with the burning and collapse of the rest of the building.

The next densest concentrations of chinking and fire-reddened/chinking stained

sand were found along the west wall in 21K4V and 21K6G where they also appeared as parallel linear bands of collapsed material. While one concentration (layers 104 and 107) containing charred wood served to define the location of the west wall beam/ the other dense chinking concentrations (layers 105 and 108) east of this tended to define the inward collapse of the wall.

Fire-reddened/chinking stained sand (layers 45, 47, 53, 103, 104, 132 and 135) associated with both the wall collapse and the chimney collapse occurred over most of the structural area (with the exception of the hearth area in 21K4U and the cellar feature in 21K6C). This sand layer occurred between the rubble of charred beams on top of the floor and the piles of rock associated with the chimney collapse within the 1826 silty clay flood layers. It occurred most densely in 21K6A, 21K6J, 21K6L, 21K6P, 21K6Q and 21K6S where it ranged from 12-24 cm. in thickness. In 21K4V and 21K6G (layer 103 along the west wall) it was between 10-12 cm. thick.

In a few areas (21K6A, 21K6J, 21K6L and 21K6Q), 2.0-24 cm. thick layer of ordinary dark brown sand (layer 46) similar to the 1852 layer 5 flood sand was found above the charred floor and either above or below layers of fire-reddened/chinking stained sand (e.g., 21K6A). The presence of this sand is something of an anomalie, but given its NNW-SSE orientation along the line of the chimney collapse, it is possible it was related to the chimney collapse.

As noted earlier, the chimney appeared to have collapsed in two stages: one directly on top of the hearth around the time the building burned, and the other around the time of the 1826 flooding (layer 48). This second collapse was the main chimney collapse, and like the other structural features it also collapsed across the inside of the building. This occurrence (represented by piles of limestone rock) was oriented NNW-SSE from the hearth area in 21K4U and 21K6L across the inside of the building through 21K6L, 21K6Q, 21K6J, 21K6A and 21K6E (Figs. 5.30, 5.31, 5.57-5.60). Isolated random scatters of rock from this were also found elsewhere inside the building and within a 1-0-4.0 m. radius of the building.

A total of 89 artifacts were recovered from the structural debris overlying the floor. The ash layer (layers 59 and 63) above the hearth in 21K4U was probably the result of both use related activities and structural collapse. This layer produced several of the artifacts recovered from the structural layer, including ten forged nails, two window glass fragments, four glass seed beads, one large wire wound bead, one grey chert uniface and one copper piece. The ca. 1826 flood deposited silty clay layers (layers 41 and 63) immediately overlying the hearth area produced similar types of material. Layer 41 produced seven forged nails, two pieces of window glass, one copper metal jangler/tinkler cone and one glass seed bead. Layer 62 produced a small chert uniface, thinning flake, one piece of melted window glass, three wrought nails and two charred wooden pencil fragments.

The layer 57 ash from the adjacent hearth area in 21K6L produced seven seed beads, one piece of melted window glass, a 4.0 mm. lead shot, one wrought tack or exotic nail, and one fish scale. The layer 56 ash and chinking surrounding the layer 55 charred beam collapse in 21K6L produced one forged nail, two glass seeds beads, one copper fragment and one iron metal fragment. The overlying ca. 1826 silty clay layers (layer 41) produced a few bone fragments, one iron metal fragment, a copper tinkler cone/metal jangler, two glass seed beads and one fragment of window glass.

The layer 60 ash concentration in 21K60 was responsible for 46 glass seed beads, a 5.0 mm. lead shot, one copper fragment, two iron metal fragments, some birch bark and a clam shell. The ash feature consisted of a 62 cm. E-W by 68 cm. N-S by 2.0-4.0 cm. thick

concentration of very fine powdery, creamy-yellow ash that had the consistency of very soft leather. It was found next to the layer 59 support beam collapse immediately on top of the floor and contained a dense scatter of 46 seed beads that formed no recognizable pattern. It is possible the ash concentration represented a storage container of some kind that may have collapsed on top of the floor around the same time the beam collapsed (ca. 1816). The overlying 1326 flood layer (layer 41) in 21K6Q produced one dark olive-green glass bottle body fragment and a few burnt bone fragments.

The structural collapse (layer 47 fire-reddened sand) in 21K6A produced two glass seed beads. The 21K6E layer 124 ash produced two glass seed beads, and the 21K6S layer 133 chinking produced one glass seed bead. No artifacts were recovered from the structural debris in the other structural units (21K4V, 21K6C, 21K6J, 21K6G and 21K6P). The stratigraphie layers containing intact portions of the fort-contemporary structure and concentrations of structural debris would suggest that between the time the structure was abandoned and burned and the 1826 flood silts were deposited (1816-26), the following sequence of events occurred :

1) The building burned (1016):
   - floorboards, walls and support beams burned.
2) The building collapsed (ca. 1816):
   - a small portion of the chimney (layer 58) collapsed directly on top of the hearth area in 21K4U and 21K6L.
   - support beams and portions of the walls (represented by chinking concentrations) collapsed inwards on top of the charred floor and into the cellar feature.
   - portions of the floor above and around the cellar feature in 21K6C collapsed into the cellar, possibly under the weight of other structural collapse.
3) The uncribbed walls of the cellar collapsed (ca. 1816-26):
   - the layer 14 tan clay forming the cellar walls collapsed in and around previously collapsed portions of the floor, possibly collapsing more of the flooring around the edge of the cellar in 21K6C.
4) Any remaining wall beams collapsed (ca. 1816-26):
   - linear bands of chinking and carbon staining would suggest any remaining wall beam fragments collapsed on top of the structural debris on top of the floor.
5) Post-fort/pre-1826 flood period deposition in cellar (1816-26) :
   - large pieces of large mammal bones were pitched into the old cellar opening that had not been completely filled in yet.
   - if the surrounding hearth, pit and midden-like features were contemporary with this deposit, there would be possibly evidence for an occupation on top of the structural area between the time the building burned and collapsed and the 1826 flood silts were deposited.
   - this means the lithic materials found above the hearth in 21K4U could also date to a post-fort occupation in the area rather than to the fort period itself.
6) Pockets of structural debris redeposited by 1826 flooding :
   - 16-30 cm. of grey-brown silt was deposited across the entire site area.
   - surface artifacts and structural debris were picked up and redeposited within this silty clay.
   - remaining chimney collapsed NNW-SSE across the inside of the building area.
   - the rest of the cellar feature in 21K6C silted in.

5.5.3.2 Around the Structural Area

Concentrations of ash, mortar, charred wood, chinking and limestone rock associated with the structural collapse were also found scattered around the outside of the structural area. Rock scatters associated with the chimney collapse were restricted to within 1.0-4.0 m. of the building while concentrations of ash, mortar and charred wood tend to be located within 1.0-6.0 m. of the structural area. These concentrations were sometimes difficult to separate from the more hearth-like features also present at the site. The presence or absence of fire-reddened soil was sometimes a helpful factor in determining whether a feature represented scatterings of structural debris or a hearth. The densest concentrations of ash, mortar and charred wood tended to occur immediately south of the structure. Less dense concentrations also occurred north of the structure in 21K4Q, 21K4T and 21K6D. Fragments of chinking, while most densely concentrated inside and immediately around the structure (i.e., within 2.0-6.0 m.), were found as far away as 14-16 m. north of the building (Fig. 5.30).

Scatterings of structural debris found within 1.0-6.0 m. north of the structural area were as follows:

a) Unit 21K4P (ash concentration 2.0 m. north of the structure):

- a 10-15 cm. square and 1.0 cm. thick ash and carbon stained soil feature (layer 102) located in the south west corner of 21K4P.
- found within the 1826 silty clay flood layers (layers 7-9) and appeared to be flood disturbed fragments of structural debris contemporary with the burning of the fort structure.
- no artifacts recovered

b) Unit 21K4Q (ash and charcoal concentrations 6.0 in. north of the structure):

- consisted of a number of circular-shaped ash and charcoal pockets (layer 101) about 12-24 cm. in diameter and 2.0-3.0 cm. in thickness, randomly scattered throughout layer 7.
- appeared to be flood mixed debris from the burning of the fort-contemporary building.
- approximately 131 small fragments of mammal bone (11 burnt) and a handful of chinking were recovered from the ash stains; another four white glass seed beads and one wrought nail were recovered from the surrounding layer 7.

c) Unit 21K4T (2.0 m. north of the structure); Three separate features were recovered:

1) scatters of limestone rock associated with the fort structure chimney collapse; found within the 1826 layers 36 and 37 flood bands; no artifacts recovered.
2) a thin lensing of organic material and charred wood (layer 35) in the southeast corner of 21K4T below layers 32-34 and separated from the underlying layer 38 charred wood feature by the 2.0-4.0 cm. thick band of ca. 1826 silty clay.

- no artifacts recovered.

3) an L-shaped 16 cm. wide band of 1.0-2.0 cms. of charred wood occupying a 56 cm. (E-W) by 48 cm. (N-S) area of the southeast corner of 21K4T; the feature (Fig. 5.63) was below layers 32-34, 36 and 37 and probably represented structural debris contemporary with the burning of the structure.

- wood grains were oriented in every direction; a sample of wood recovered was identified as poplar; no artifacts recovered.

d) Unit 21K6D (ash and rocks along back of fireplace hearth);
Two features recovered immediately adjacent to north wall and fireplace of fort-contemporary structure:

1) a 15-20 cm. thick layer of ash (layer 63) overlying a large boulder which formed

the back of the fireplace hearth in 21K4U and projected 30 cm. north past the back edge of the fort-contemporary building (Fig. 5.54); ash was associated with ca. 1816 burning of the building and possibly with a slightly later ca. 1816- 26 reuse of the fireplace base (as a hearth within the southern encampment area; ash was found below layers 41 and 62; no artifacts were recovered from the layer 63 ash but one flat glass fragment and two wrought nails were recovered from the overlying layer 62.

2) limestone rocks associated with layer 48; found scattered throughout layers 41 and 62; one flat glass fragment and two wrought nails were recovered from the surrounding layer 62.

e) Unit 21K6F (chimney collapse 2.0 m. north of structure) :

- limestone rocks associated with the ca. 1826 chimney collapse and found scattered throughout the ca. 1826 flood deposited silty clay; contemporary with the 1826 flood; one wrought nail and one white glass seed bead recovered from the surrounding layer 41 flood silts.

f) Unit 21K6K (chimney collapse adjacent to the north wall of the structure);

- limestone rocks associated with the ca. 1826 chimney collapse and found scattered within the 1826 silty clay; contemporary with the 1826 flood; one quartzite shatter flake and one crescent-shaped reddish-brown chert gunflint recovered from the surrounding layer 41.

Scatterings of structural debris found south of the structural area were as follows:

a) Unit 21K6N (1.0 m. south of the structural area); Four main features recovered:

1) a large concentration of mortar (layer 113) approximately 100 cm. (N-S) by 60-100 cm. (E-U) and 4.0-5.0 cm. thick in the east hall and southwest corner of 21K6N below the layer 41 silty clay; fort-contemporary collapse (Figs. 5.64, 5.65); no artifacts recovered.

2) a pocket of ash (layer 112) approximately 56 cm. (N-S) by 44-46 era. (E-W) and 1.0-2.0 cm. thick covering the southwest section of the mortar concentration below the layer 41 silty clay; fort-contemporary collapse.

3) small concentration of charcoal (layer 116) approximately 8.0 cm. (N-S) by 18 cm. (E-W) and 2.0-3.0 cm. thick underlaid by carbon stained/fire-reddened soil layers 112 and 113) and below the layer 62 silty clay; assumed to be debris associated with burning of fort due to its close proximity to the building; no artifacts recovered.

4) limestone rocks associated with the ca. 1826 chimney collapse found scattered within the layer 62 silty clay; contemporary with the 1826 flood; two wrought nails recovered from the overlying layer 41; no artifacts recovered.

b) Unit 21K6E (adjacent to and containing part of south wall) :

The north edge of the unit contained a part of the fort's flooring south wall and possible entranceway (layers 49 and 125); the rest of the unit contained scatterings of structural debris (layers 48, 123 and 124) as follow:

1) pile of limestone rock approximately 8.0 cm. wide by 20 cm. long associated with the ca. 1826 chimney collapse oriented NNE-SSW across the northwest corner of 21K6E and underlaid by chinking, charcoal and some ash (layer 123 and 124); contemporary with 1826 flood and found within layer 41; no artifacts recovered.

2) pile of limestone rock along east wall; began at southernmost edge of the 1.0-2.0 m. unit, extended north 148 cm., and was about 25 cm. wide and 8.0-12 cm. thick;

underlaid by 1.0-2.0 cm. of ash and charcoal (layers 123 and 124), contained two seed beads and two fragments of bone; associated with ca. 1826 chimney collapse and found within the ca. 1826 silty clay.

- rocks in both of the above appear to have been piled to either side of the picket post fence/trench line feature when this was constructed ca. 1S36-41; other fragments of rock were used to support posts inside the trench (Fig. 5.31).

c) Unit 21K4U (3.0 m. south of structural area); Three features recovered:

1) a concentration of chinking, charcoal and ash (layer 84) approximately 65 cm. (N-S) by 30-35 cm. (E-W) and 5.0-10 cm. thick in the northwest corner of 21K4W below the ca. 1826 silty clay at same level as the north wall beam in 21K4V and 21K6G.

- feature consisted of a ring-like configuration with a 15-20 cm. wide concentration of chinking in the centre surrounded by a 10 cm. wide ring of ash, followed by a 10-15 cm. wide ring of charcoal chunks/carbon staining; probably debris associated with burning of structure (Figs. 5.61, 5.62); no artifacts recovered.

2) limestone rocks associated with the ca. 1826 chimney collapse; within the ca. 1826 silty clay; no artifacts recovered.

3) a piece of charred wood (layer 122) approximately 20 cm. (E-V7) by 4.0-12 cm. (N-S) and 1.0-2.0 cm. thick oriented east-west across the middle of the unit slightly north of the ash/mortar lense (layer 120); found within the silty clay flood layer and was probably flood deposited debris; only one gunflint recovered in association.

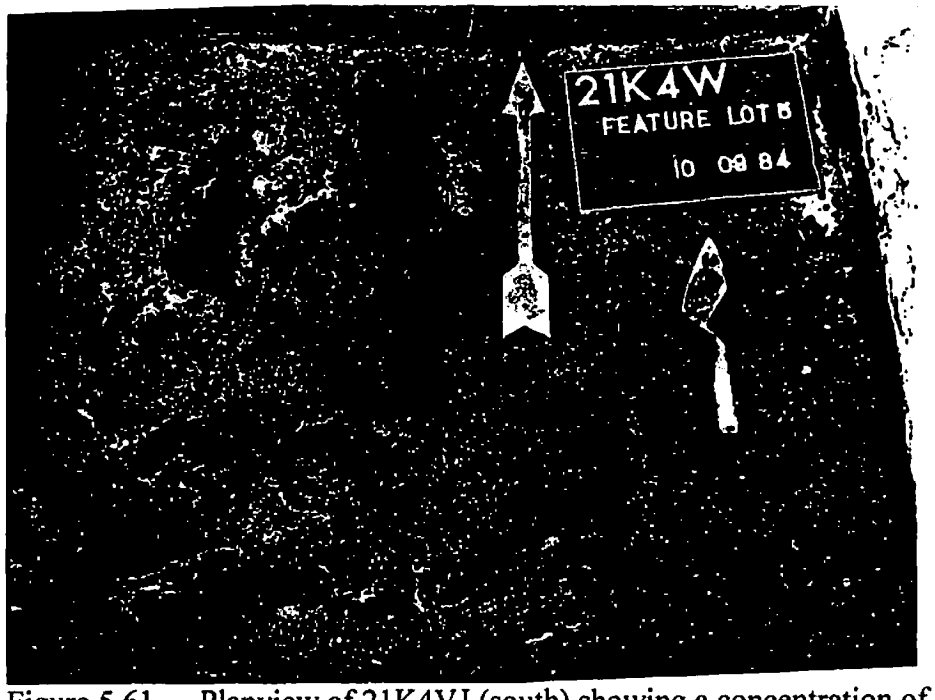


Figure 5.61 Planview of 21K4VJ (south) showing a concentration of ash, charcoal, charred wood and chinking-coloured clay (layer 84) associated with the collapse and scattering of structural debris (see Fig. 5.30). (Photo by A. Bell.)

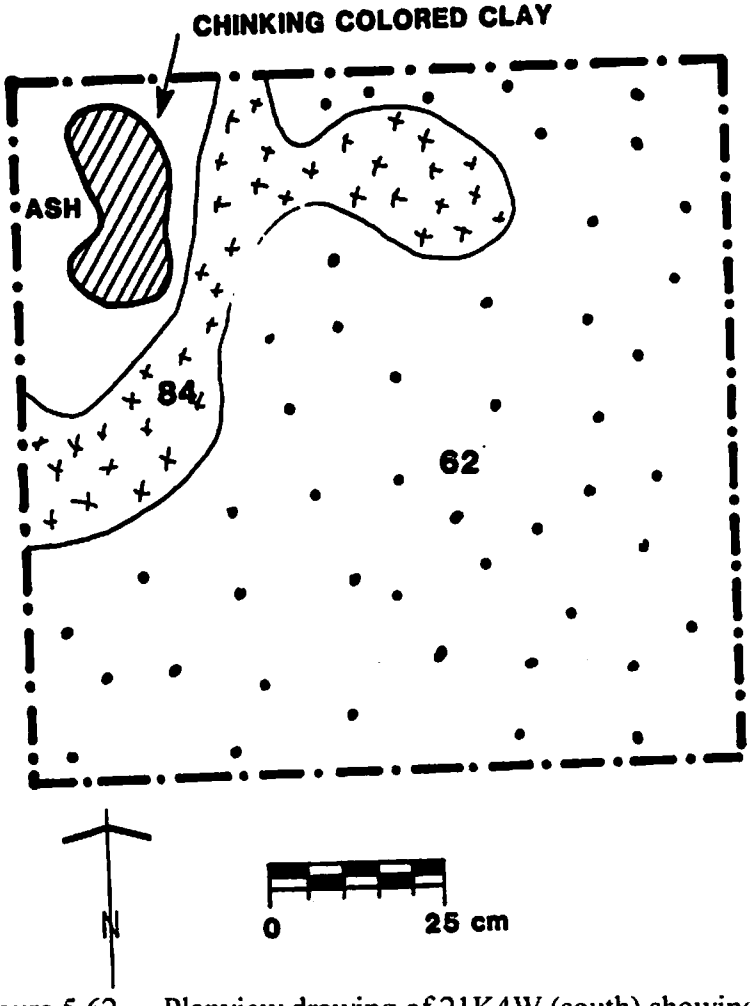


Figure 5.62 Planview drawing of 21K4W (south) showing concentration of ash, charcoal, charred wood and chinking-coloured clay (layer 84) associated with the collapse and scattering of structural debris (see Figs. 5.30 and 5.61). 62) ca. 1826 flood deposited grey-brown silty clay; 84) concentration of structural debris; DBS -"depth below surface" (railway fill) in centimetres. (Drawn by D. Elrick.)

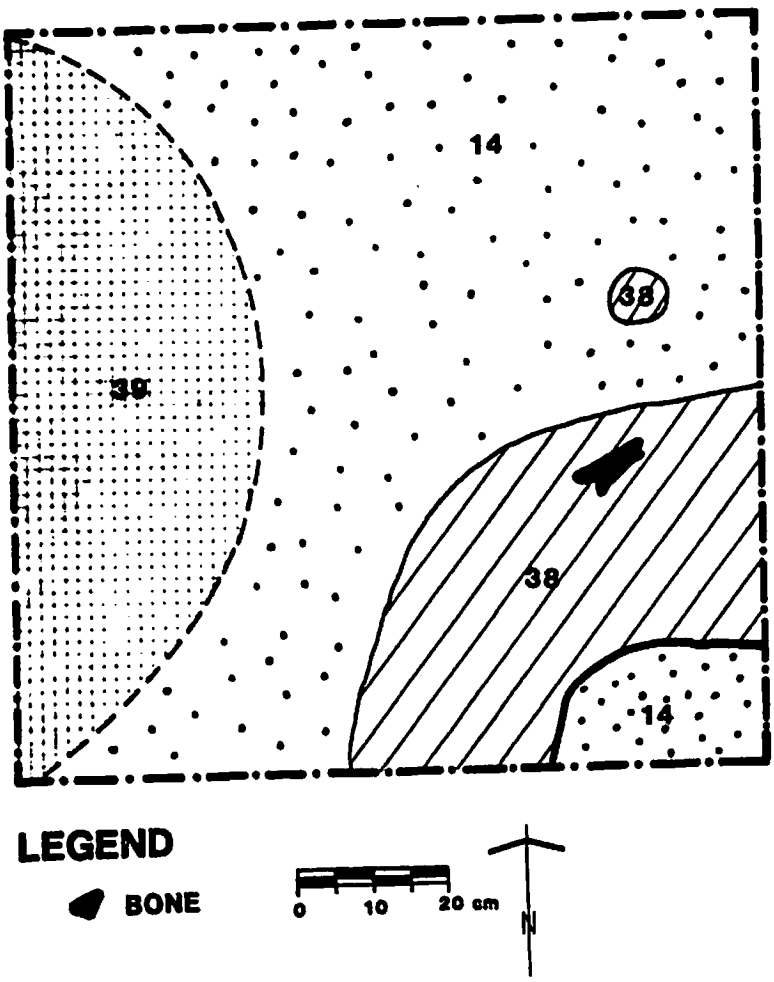


Figure 5.63 Planview of 21K4T (south) showing charcoal and charred wood concentration (layer 38) associated with structural collapse. The approximate outline of a large shallow pit (layer 39) contemporary with Fort Gibraltar I (1810-16) is located to the east. 14) pre-fort period tan clay found underneath all fort-contemporary deposits; 38) charcoal and charred wood concentration associated with structural collapse; 39) large shallow pit feature (see Fig. 5.); DBS (railway fill) in centimetres. (Drawn by .D. Elrick.)

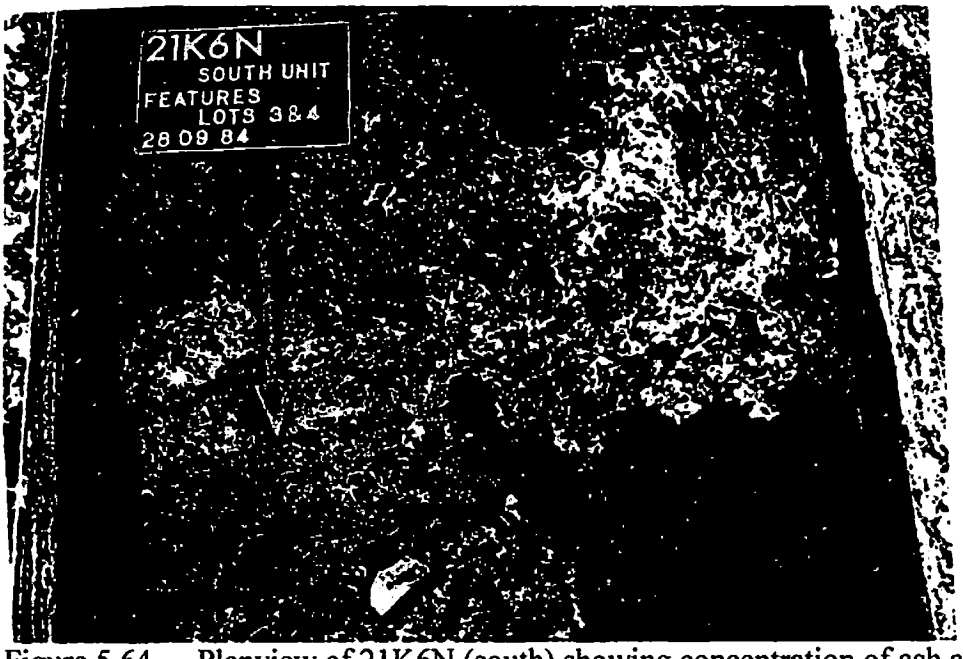


Figure 5.64 Planview of 21K6N (south) showing concentration of ash and mortar (layers 112 and 113) associated with collapse of the fort-contemporary building (detail of Fig. 5.30). (Photo by L. Konotopetz.)

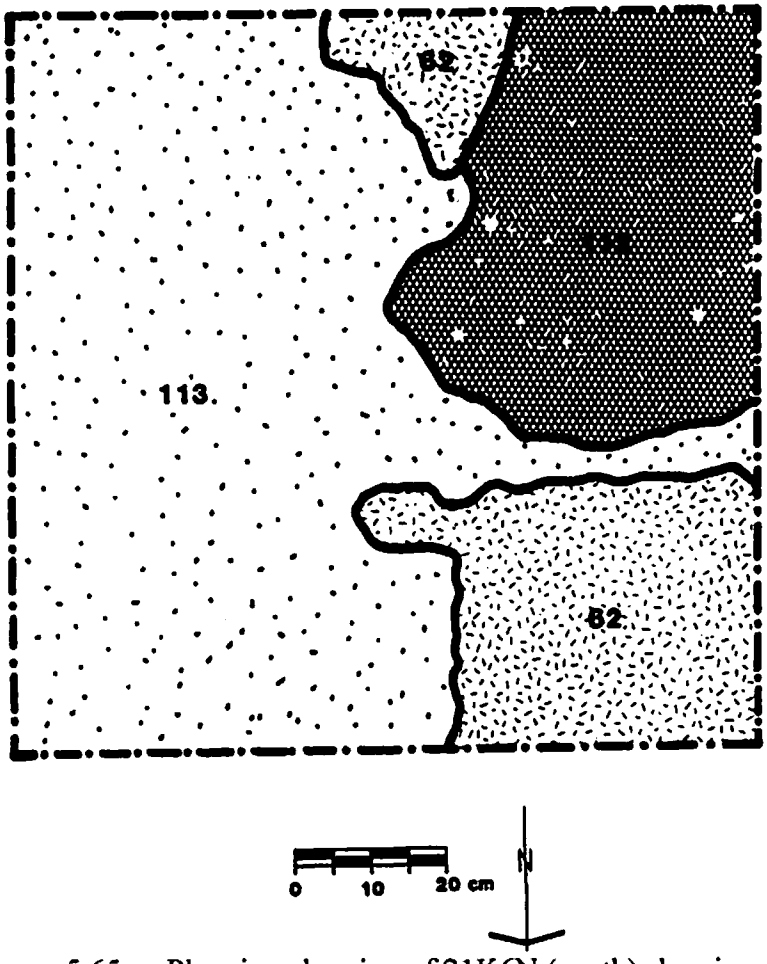


Figure 5.65 Planview drawing of 21K6N (south) showing concentration of ash and mortar (layers 112 and 113) associated with collapse of the fort-contemporary building (detail of Fig. 5.30). 62) 1826 flood deposited grey-brown silty clay; 112) ash concentration, 113) mortar concentration; DBS (railway fill) in centimetres. (Drawn by D. Elrick.)

5.5.4 Fort Gibraltar I: Midden, Hearth and Pit Features/ Possible Native Encampment Areas (ca. 1810-16 and 1816-26)

5.5.4.1 Introduction

Several midden-like, hearth-like and pit features were uncovered below the 1826 silty clay flood layers and above the pre-fort period tan clay both north and south of the structural area (Figs. 5.29, 5.30, B.1-B.38). Stratigraphically these features occurred at the same level as and appeared roughly contemporary with both each other and the fort-period structure (1810-16) in the south end of the Fort Gibraltar I site area. The artifacts recovered also suggest they were roughly contemporary with each other.

Each of the midden/hearth feature areas north and south of the structural area appeared to define a separate possible encampment area. The features to the north seemed to be part of a fort-contemporary and possibly fort-associated native encampment area (ca. 1810-16). Those to the south could be part of a slightly later encampment area (ca. 1816-26) established on top of and to the south of the structural area sometime after the fort-period structure burned and collapsed (1816) and before the 1826 flood silts were deposited.

The northern encampment area was 8.0-24 m. north of the structural area and was relatively free of any structural debris associated with it. The midden deposits (21K4B, 21K4K and 21K4R) tended to be thicker and more extensive than the midden-like concentrations of faunal material to the south (21K4X, 21K4Y and 21K6H). The northern midden areas contained 5.0-7.0 cm. thick concentrations of densely matted decomposing fish bone and dark black organic material, spiral-fractured large and small mammal bone, clam shell, and a mixture of both European and native artifacts (e.g., trade silver, seeds beads, worked bone, lithics, etc.).

The southern encampment area, on the other hand, was 3.0-6.0 m. south of the structural area and mixed in with and on top of structural debris associated with the burning and collapse of the building. In contrast to the northern encampment area, the southern encampment area contained no organic deposits, almost no fish bone, and almost no artifacts. There is little to suggest whether the southern encampment area was European or native in origin and its most striking contrast to the northern midden/hearth areas was the recovery of larger and more complete pieces of unburnt mammal bone.

At times during excavation in different parts of the Fort Gibraltar I site, it was difficult to distinguish ash and charcoal concentrations associated with scatterings of structural debris from those associated with more hearth-like features. The absence of mortar and the presence of midden-like deposits and fire-reddened soil were often used to separate hearth features from scatters of structural debris. Interrelationships between features and relative distances from the structural area also provided some control in determining what constituted a "hearth" feature.

One large midden area (layers 87 and 89), four distinct hearth features (layers 27, 28, 31, 87 and 94), two pit features (layers 11, 12 and 39), one charred wooden plank feature (layer 13), and several ash mounds (layers 29 and 90) were recovered from the north end of the site. The north midden area covered all of the 1.0 by 4.0 m. area excavated in 21K4B, the 1.0 by 1.0 m. area excavated in 21K4K, and the northeastern quarter of the 1.0 by 1.0 m. area excavated in 21K4R. This midden area appeared to be at least 5.0-6.0 m. in diameter and probably encompassed all areas in between the three units and the areas adjacent to the north and east of 21K4B and 21K4K. The midden deposits in 21K4B were the thickest and most productive and could represent the centre of the midden area. The deposits in 21K4K and 21K4R were thinner and less productive and may represent the southern and western edges of the midden area. The northern midden area

represented one of the most concentrated deposits of faunal material and artifacts uncovered and was responsible for a high proportion of all materials recovered.

The midden deposits in 21K4K and 21K4R were not as thick as those in 21K4B. In these units the deposits were excavated as part of the lowermost flood band (layer 9) within the layers 7-9 flood deposits.

Three of the four hearth features (layers 27, 28, 31 and 87) north of the structural area were uncovered in direct association with the midden deposits in 21K4B, 21K4K and 21K4R. The hearths were within 3.0 m. of one another and found in association with large mounds and pockets of ash (layers 29 and 90). The fourth hearth feature (layer 94) was uncovered in relative isolation in 21K4D, 11-15 m. northwest of the midden-associated hearth features and 4.0-5.0 m. southwest of the equally isolated pit (layers 11 and 12) and charred wooden plank (layer 13) features in 21K4J. A second pit feature (layer 39) was uncovered in 21K4T about 6.0-8.0 m. south of the midden areas in 21K4B and 21K4R and 2.0 m. north of the structural area. It was found in association with a concentration of what appeared to be structural debris (layer 38, charred wood). Given its proximity to the structural area, this pit may have served some structural related function rather than one associated with the encampment area.

One midden area (layer 121, 21K4X), one pit feature (layers 118 and 119, 21K4X), one hearth feature (layers 127 and 128, 21K4Y) and other smaller concentrations of large pieces of large mammal bone (21K4Y, 21K6C and 21K6H) were uncovered south of and just inside and on top of the structural area. The south midden area (layer 121) was approximately 5.0 m. south of the southwest corner of the structural area and 20 m. south of the midden deposits in 21K4B, 21K4K and 21K4R. Excavation in this unit appeared to have caught the eastern edge (about 0.50 to 0.75 m.) of a potentially much larger midden area located west and northwest of 21K4X (Fig. 5.77). Unlike the midden deposits in 21K4B, 21K4K and 21K4R north of the structural area, the midden deposit in 21K4X was found within (not as a discrete stratigraphie layer below) the ca. 1826 silty clay, mixed in with and above fragments of structural debris (ash, mortar, charcoal, charred wood and chinking), almost exclusively consisted of large nearly complete pieces of unburnt large mammal bone, contained no organic deposits or matted fish bone layer, and was almost completely artifact free. It was the only pit feature uncovered in association with a midden deposit at the Fort Gibraltar I area. Unfortunately, it was only discovered after it had been excavated and its function is not yet clear.

Three smaller concentrations of large pieces of unburnt large mammal bone were uncovered in 21K4Y and 21K6H 4.0-5.0 m. east and in the 21K6C cellar depression 7.0 m. northeast of the midden deposit in 21K4X. The mammal bone in 21K4Y was found in direct association with a hearth feature (layers 127 and 128) in the southeast corner of the unit. More mammal bone was recovered from the ca. 1826 silty clay layer in 21K6H about 1.0 to 1.5 m. south of this hearth feature and may be related to the bone concentration in 21K4Y. Neither the concentration in 21K4Y or 21K6H was extensive enough to be called a midden but it is possible that further excavation may reveal another midden-like deposit of faunal material both between and east of these units in the extreme south-eastern corner of the Fort Gibraltar I site area. The third concentration of mammal bone was recovered above the collapsed remains of the cellar feature in 21K6C and clearly postdated both the occupation and collapse of the fort-period structure. Almost no artifacts were recovered in association with any of these faunal concentrations in 21K4X, 21K4Y, 21K6C and 21K6H, or the hearth feature in 21K4Y. One unidentifiable fragment of colourless curved glass was recovered in association with the faunal material in 21K6H and one rectangular whetstone fragment was recovered from the silty clay layers (layers

41 and 62) near the faunal material inside the cellar feature in 21K6C.

The recovery of concentrations of faunal material above or at the same level as structural debris associated with the burning and collapse of the fort period structure would suggest the south encampment features may actually postdate the fort occupation and collapse. Certain features - such as the fireplace pad - may have been reused during this post-fort encampment. The layer of ash layers 59 and 63) above the fireplace pad was extraordinarily thick and may have resulted in part from the fireplace area being reused as a hearth. The two chert unifaces (end scraper), chert thinning flake, seed beads and lead shot recovered from this ash layer and the overlying ca. 1826 silty clay layer in 21K4U and 21K6L could have been deposited during an encampment reuse period. The fireplace remains were 1.0m. north of the small concentration of mammal bone inside the cellar feature in 21K6C and 7.5-8.0 m. northwest of the hearth feature and faunal deposits in 21K4Y. Only further excavation can clarify the nature of and temporal spatial interrelationships between the two possible encampment areas north and south of the structural area and the structural area itself. Details of the midden, hearth and pit features uncovered in each excavation area are described in the following sections.

5.5.4.2 21K4B: Hidden and Hearth Features

Unit 21K4B was a large 1.0 by 4.0 m. excavation unit located 10 m. north of the northeast corner of the structural area in the northeast portion of the site (Fig. 5.66). It was the first excavation unit to be established and represents an expanded excavation of features initially exposed by backhoe and shovel test-trench operations. Because of its size, the unit was excavated and is discussed in terms of two 1.0 by 2.0 m. areas respectively referred to as 21K4B (north) and 21K4B (south).

Approximately 5.0-7.0 cm. of midden-like deposits (layers 87 and 89) containing dark brown-black organic material, densely matted and extremely friable fish bone, large pieces of heat-treated and unburnt spiral-fractured mammal bone, some clam shell, ash, charred wood, charcoal and Fort Gibraltar I contemporary artifacts originally covered the entire 1.0 by 4.0 m. excavation area (Figs. 5.66, 5.67, 5.68). This midden layer and the ca. 1826 silty clay layer (layer 86) overlying it represented the densest concentration of artifacts and faunal material recovered from the Fort Gibraltar I area and were responsible for a significant proportion of all artifacts recovered. Most of the midden layer was relatively undisturbed. A 15-34 cm. wide (N-S) by 75 cm. long (E-W) and 50 cm. deep early railway trench (layer 88, ca. 1882-89) was the only feature that could have disturbed any midden deposits in the area (Fig. 5.8). It ran east-west across the middle of the unit and appears to have missed the areas containing the midden deposits.

Artifacts recovered from the north midden area (layer 89) included an in situ strand of 64 white glass seed beads (recovered within a very dark black organic layer mid-way along the west wall 105 cm. south of the north wall and 0-10 cm. east of the west wall), one incised red catalinite pipe fragment, one 13 mm. lead shot, one triangular piece of copper, one white glass seed bead, two turquoise glass seed beads (randomly recovered) and one fragment of unidentified body tissue (probably animal tissue such as bladder possibly from a container of some kind). One unidentified lead fragment was recovered from the layer 87 midden in 21K4B (south) along with two pearlware ceramic hollowware base fragments which were recovered from the layer 87 midden/ layer 87 ca. 1826 flood layer interface.

The ca. 1826 silty clay flood layer (layer 86) overlying the midden layers in 21K4B (north and south) contained charcoal, bits of charred wood, mammal bone fragments, fish bone, some clam shell, a few pieces of chinking and historic artifacts which were probably

flood disturbed artifacts from the midden feature itself. The flood layer overlying 21K4B (north) produced one dark olive-green glass bottle base, one cut fragment of trade silver, one complete bone hair pipe, one antler needle and one white glass seed bead. One chert shatter flake, three pearlware, hollowware base fragments (probably tableware), 14 unidentifiable iron metal fragments, one copper finger-sized band, one riveted one strip-strap fragment and one carved black horn comb fragment were also recovered from the overlying flood layer (layer 86) in 21K4B (south). The densest concentrations of mammal bone, fish bone and organic material were recovered here. The densest concentrations of ash in the midden area were recovered from 21K4B (north).

At least five separate ash mounds and innumerable pockets of ash (layer 90) were uncovered in this unit. They were contemporary with the midden deposits and were found within, above or below the midden layer. Large pieces of mammal bone (mostly unburnt), some clam shell and a few rocks were recovered from the top of or beside these ash mounds. Although artifacts were recovered from the surrounding midden layers and overlying ca. 1826 silty clay, no artifacts were recovered directly from the ash mounds.

Only one of the ash mounds recovered had a clearly hearth-like appearance. This feature was in the northwest corner of 21K4B (south) about 0-10 cm. east of the west wall. It was approximately 60 cm. (N-S) by 30 cm. (E-W) in size, 2.0-4.0 cm. in thickness, and was underlaid by carbon stained soil. A concentration of large pieces of mammal bone and one rock (20 cm. by 10 cm.) were recovered from the top of this feature (Fig. 5.67). The configuration of the bones and rock looked suspiciously like a marrow processing area.

None of the other ash mound features were recovered in association with carbon staining, charcoal concentrations or fire-reddened soil. All ash features, however, were only 2.0 m. east of a well-defined hearth feature (layers 27 and 28) in 21K4K. The largest ash mound uncovered in 21K4B was located in the southeast quarter of 21K4B (north). It was approximately 100 cm. (N-S) by 60-70 cm. (E-W) in size, 4.0-8.0 cm. thick, and continued further east past the edge of the excavated area. The next largest ash mound was uncovered in the northeast corner of 21K4B (north) (Figs. 5.68, 5.69). It was approximately 50 cm. (N-S) by 50 cm. (E-W) in size, 2.0-4.0 cm. thick, and truncated along the north side by an early railway post mould feature (layer 91, ca. 1889). The ash mound obviously continued further north and east of the excavated area.

Two other irregularly shaped 2.0-4.0 cm. thick concentrations of ash were also recovered from above the midden areas in the northeast corner of 21K4B (south) and the southwest corner of 21K4B (north). The former was 40 cm. long (E-VJ) by 5.0-20 cm. wide (N-S). The latter was about 70 cm. long (E-U) by 5.0-70 cm. wide (N-S) and continued west past the edge of the excavation unit.

Smaller pockets of ash averaging 12-20 cm. in diameter and 1.0-2.0 cm. thick scattered outwards around and away from the five main ash features with the densest clusters of ash occurring in 21K4K. A double row of circular dark black organic soil stains were found running roughly parallel to one another through the middle of 21K4B (south) to either side of a very narrow (5.0-0.0 cm. wide) strip of tan clay cross sectioning the midden area. These soil stains were very shallow (1.0-3.0 cm. in depth) and ranged from 10-15 cm. in diameter. Their function, if cultural, is not clear.

5.5.4.3 21K4K: Midden and Hearth Features

A 4.0-6.0 cm. thick midden deposit (layer 87) containing spiral-fractured bone, fish bone, clam shell and some thinly distributed dark brown organic material was found covering the entire 1.0 by 1.0 m. area excavated here. The concentration of faunal material forming this deposit was far more difficult to separate from the overlying ca. 1826 silty clay flood

layers than it was in 21K4B. In 21K4B, the thick distinctive deposit of organic and densely packed fish bone had enabled excavators to excavate the midden as a separate feature. In 21K4K the midden layer was distinctive only as a concentration of faunal material rather than a distinctive soil colouration. Consequently, this midden deposit was excavated as part of the lowermost band (layer 9) in the ca. 1826 silty clay flood layer. Artifacts recovered from this flood band included one chert thinning flake, one olive-green glass bottle finish, one red chert gunflint, one white glass seed bead, one polished longbone awl and a few pieces of chinking. All items were probably flood disturbed artifacts from the underlying midden deposits (layer 89) and associated hearth feature (layers 27 and 28). Another white glass seed bead, one iron metal fragment, one olive-green glass bottle body fragment, a few wood fragments and chunks of charcoal were recovered from the overlying layer 7 flood band.

The midden area was directly associated with a well-defined hearth feature consisting of a 1.0-2.0 cm. concentration of ash and charcoal chunks (layer 27) underlaid by 1.0-2.0 cm. of carbon stained and fire-reddened soil (layer 28) (Figs. 5.70, 5.71, B.10). This hearth feature was roughly 64 cm. (N-S) by 72 cm. (E-W) in size and covered most of the north half of the unit. Seven rocks averaging 6.0-8.0 cm. in diameter were found along the north and east edges of the hearth. A fair amount of relatively complete pieces of large mammal bone (some burnt, some unburnt) including ribs, longbones and a mandible were found on top of the hearth. The polished longbone awl was actually recovered from the north wall just north of and overlapping the top of this feature. The hearth-associated deposits clearly continued further north past the edge of the excavated area.

Another fairly deep ash pocket (layer 29) was also uncovered in the southwest corner of the unit just south of the hearth. This measured 16 cm. (E-W) by 8.0- 10 cm. (N-S), was 8.0-10 cm. thick, contained charcoal chunks, was surrounded by large pieces of mammal bone (e.g., rib fragments), and appeared to continue south and west beyond the edges of the unit. Like the hearth feature, the ash pocket was underlaid by carbon stained soil. However, there was no evidence of fire-reddened soil.

A 4.0-8.0 cm. wide rodent burrow (layers 25 and 26) filled with dark black organic material, ash, charcoal/ burnt wood and a mixture of surrounding soils was uncovered running east-west across the middle of the unit within layer 7 immediately above the midden and hearth areas. One blue glass seed bead and one grey-blue tubular glass seed bead were recovered from this rodent burrow (layer 25), which was the only overlying feature to affect the hearth and midden deposits. Both the charred wood and beads were probably from the underlying midden (layer 87) and hearth features.

5.5.4.4 21K4R: Midden and Hearth-Like Features

This midden layer (layer 87) was represented by a very thinly distributed organic layer and a small concentration of mammal bone just within and below the lowermost band (layer 9) of the 1826 silty clay flood layers in the northeast corner of the 1.0 by 1.0 m. excavated area (Figs. 5.72, 5.73, B.I, B.16). It was approximately 1.5 m. southeast of the deposits in 21K4B and 3.0 m. due south of the deposits in 21K4K and could have represented the southwestern boundary of a larger and only partially excavated midden feature encompassing 21K4B, 21K4K, 21K4R and all areas in between. The densely matted layer of fish bone and organic material characteristic of the midden deposits in 21K4B was absent in this unit.

These midden-like deposits were uncovered in direct association with and immediately adjacent to a hearth-like feature along the west wall of the unit. This feature (layer 31) was about 60 cm. (N-S) by 46 cm. (E-W) by 6.0-8.0 cm. in depth and occupied

most of the west wall of the 1.0 by 1.0 m. area excavated. It consisted of a dense concentration of charcoal and charred wood and was underlain by 1.0-2.0 cm. of ash along the west edge. The hearth continued further west past the edge of the excavation unit for an undetermined distance.

The hearth feature was underlaid by carbon stained soil and produced one white glass seed bead, a 3.0 mm. lead shot, a few pieces of chinking, and a few pieces of burnt and unburnt mammal bone. An almost complete unburnt large mammal scapula was found sitting on top of the southeast corner of the hearth. Six more white glass seed beads were recovered from the lowermost flood band (layer 9) immediately overlying the midden and hearth features. One ceramic pipe bowl fragment, a triangular iron metal projectile point, a triangular piece of copper (possibly used as a projectile point), three iron metal fragments, a 12 mm. lead shot, a white glass seed bead, a few pieces of chinking, and some fragments of mammal bone were recovered from the other two overlying flood layers (layers 7 and 8). A dark lense of organic material and charred wood was recovered 4.0-6.0 cm. above the hearth and midden features. This appeared to be a rodent burrow similar to that in 21K4K (layers 25 and 26). The charred wood recovered was probably from the underlying hearth feature. No other overlying features affected the hearth and midden deposits.

5.5.4.5 21K4D: Hearth Feature

This hearth feature (layer 94) was approximately 22 m. north of the northwest corner of the structural area, 10 m. northwest of the midden/hearth features in 21K4K, and 3.0 m. southwest of the fort-contemporary pit and charred wood features in 21K4J. It occurred at the same stratigraphie level as all of these features and appeared to be contemporary with them. The hearth feature consisted of concentrations of ash, charcoal and charred wood underlaid by fire-reddened/carbon stained soil. It was about 28 cm. (E-W) by 32 cm. (N-S) in size and 4.0 cm. thick, located in the southeast corner of 21K4D and occurred at the interface between the ca. 1826 silty clay (layer 7) and pre-fort period tan clay (layer 14). Small pockets of ash, charcoal, fire-reddened and carbon stained soil were found scattered around the hearth feature. The feature could have continued east of the excavated area (Figs. 5.74, B.I, B.4). Few materials were recovered from either the hearth feature or the overlying layer 7. Only a few fragments of mammal bone, chinking, a chert thinning flake, one chert core, a colourless glass bottle finish, two white glass seed beads, and one incised flat bone fragment (possibly a handle) were recovered in association with the hearth and the silty clay flood layer.

5.5.4.6 21K4J: Charred Wood and Pit Features

The charred wood and pit features uncovered here were located 24 m. north of the northeast corner of the structural area, 3.0 m. northeast of the hearth feature in 21K4D and approximately 11 m. due north of the midden/hearth features in 21K4K. The pit feature (layers 11 and 12) consisted of a shallow oval-shaped fort-contemporary pit approximately 30 cm. (N-S) by 15 cm. (E-W) in size and 10-12 cm. in depth (Fig. 5.75). It was found along the central east wall of the 1.0 by 1.0 m. excavated area about 60 cm. southeast of the charred wood feature (layer 13) and 25 cm, southwest of a much later railway period pit (layers 3 and 4) that began below the bottom of the railway fill (layer 1) and ended about 15 cm. into the pre-fort tan clay (layer 14). The fort-contemporary pit feature began below the ca. 1826 silty clay layers and above the pre-fort tan clay. It ended about 12 cm. into the tan clay, was filled with a mixture of layer 9 silty clay and layer 14 tan clay, and contained a 5.0 cm. thick lens of dark black organic charcoal-like material near the bottom

of the pit. The pit was only recognized as a feature after most of it had been excavated. Consequently, no artifacts (other than a quartzite cobble 4.0-6.0 cm. in diameter) were recorded as being in direct association with the pit. The pit feature had no clearly recognizable function and appeared to continue further eastward/ perhaps 10-15 cm., past the edge of the excavated area.

The segment of charred wood may be a piece of wooden planking or a log fragment about 40 cm. long (N-S), 4.0-8.0 cm. wide (E-W), and 1.0-2.0 cm. thick. It was identified as being "poplar" and found lying in a north-south direction across the northwest quarter of the 1.0 by 1.0 m. unit approximately 60 cm. west of the fort-contemporary pit feature immediately below the ca. 1826 silty clay. Like the pit feature, no artifacts were recovered directly in association with this charred wood feature. Only the overlying silty clay layers produced any fort-contemporary artifacts. These included one cut square-headed nail (actually from the edge of the layers 3 and 4 railway pit), one large glass seed bead and a few fragments of bone.

5.5.4.7 21K4T: Large Shallow Pit Feature

This large shallow oval-shaped pit (layer 39) was only 2.0 m. north of the northeast corner of the structural area (5.0-6.0 m. south of the midden area in 21K4R). It was found in association with a dense concentration of charred wood (layer 38) which seemed to be a scattering of structural debris rather than a hearth feature. Stratigraphically, the pit feature was contemporary with both the fort-period structural area and the midden/hearth areas. Although it was recognized as such during excavation, its exact outlines were difficult to discern due to the mixture of soil layers inside the pit fill. It would appear the excavated portion of the pit was approximately 40 cm. (E-W) by 40 cm. (N-S) and 20-32 cm. deep. It was located along the west wall in the west half of the 1.0 by 1.0 m. unit and apparently continued west of the excavated area for an undetermined distance (Figs. 5.63, 5.76). No artifacts were recovered from the pit. The overlying ca. 1826 silty clay layers (layers 32-36) produced only one window glass fragment, a few pieces of chinking, some limestone rock probably associated with the chimney collapse, a few fragments of wood (one sample identified as ash species), some mammal bone and two fragments of metal.

5.5.4.8 21K4X: South Midden Area and Pit Feature

The midden-like concentration of faunal material (layer 121) was located approximately 5.0 m. south of the southwest corner of the structural area, 4.0-5.0 m. southwest of the hearth feature in 21K4Y and 20-22 m. southwest of the north midden/hearth areas in 21K4R and 21K4B. The exact extent of this concentration was difficult to define during excavation but it appears to have been restricted to the western half, and particularly the northwest corner, of the 1.0 by 1.0 m. area excavated in 21K4X (Fig. 5.77). It covered roughly 0.5 square metres, was at least 5.0-7.0 cm. thick, occurred within the ca. 1826 layer 41 silty clay, was made up almost exclusively of large unburnt pieces of spiral-fractured large mammal bone, and appeared to continue further north and west beyond the edge of the unit (Fig. 5.78). It was found both below and approximately at the same level as a 2.0-3.0 cm. thick lens of probably flood deposited building related debris - an ash and mortar lense (layer 120), limestone rocks associated with the chimney collapse, and a piece of charred wood (layer 122). The densely matted organic fish bone layer characteristic of the midden deposits in 21K4B and 21K4K north of the structural area here.

Midden, hearth and pit features north of the structural area (21K4B, 21K4D, 21K4J, 21K4K and 21K4R) formed a separate feature area (possibly a native encampment

area associated with but outside of Fort Gibraltar I) physically distinct from the structural area and relatively free of any structural debris. The northern encampment features tended to be associated with an abundance of fish bone and artifacts which were both European and more native in nature. South of the structural area, midden/hearth features and concentrations of mammal bone mixed in with concentrations of structural debris and did not form a feature area physically distinct from the structural area. In fact, if the structure uncovered was part of Fort Gibraltar I and the front of the structure faced south as hypothesized so far, these south midden/hearth features would be located inside, not outside or around the fort compound.

Stratigraphically, both the north and south midden areas appeared to be roughly contemporary to one another with features in each area occurring at the interface between the flood layers and the pre-fort period tan clay layer (Figs. 5.29, B.I). Other evidence, however, seems to suggest the south midden/hearth features may have postdated the occupation and burning of the fort structure. The following factors could infer that it represents a later occupation or encampment established on top of the structural area (perhaps reusing certain features such as the fireplace rock pad as a hearth and the remaining cellar depression as a trash pit for large pieces of large mammal bone) sometime shortly after the building burned and collapsed and before or around the time the silty clay was deposited: faunal material recovered from the clay layer above the collapsed cellar feature in 21K6C, two chert unifaces and a thinning flake from the ash and post-fort period silty clay layers immediately above the fireplace pad in 21K4U, the thickness of the ash above the fireplace pad, and the occurrence of structural debris below and at the same level as the midden deposits in 21K4X. Unlike the north midden/hearth areas, the south areas and the silty clay layers overlying them contained almost no fish bone and hardly any artifacts. Deposits there were thinner and smaller but did contain larger and more complete pieces of large mammal bone than those from the north areas. Only further investigation can clarify if the structure uncovered was actually part of Fort Gibraltar I, if the north midden/hearth areas were part of a fort-contemporary fort-associated native encampment area, and if the south midden/feature areas were part of a brief post-fort period encampment established on top of the fort structural area rather than being contemporary with it.

The midden-like deposit of faunal material in 21K4X was recovered in association with and immediately above and around the edges of a small fort-contemporary U-shaped pit (layers 118 and 119, Fig. 5.78). The pit was located midway along the south wall, was roughly circular in shape, and appeared to continue south past the edge of the excavated area. It was discovered only after it had been excavated and the profile of the pit showed up clearly in the south wall. The portion of the pit excavated seemed to have been approximately 52 cm. in diameter and 24-28 cm. in depth. It began either just below or within the bottom few centimetres of the ca. 1826 silty clay and appeared to slightly predate most of the midden deposits found above and around it. It is unclear whether the pit dated to the Fort Gibraltar I period (1810-16) or to the apparently slightly later southern encampment period (ca. 1816-26). No artifacts were recorded as being in direct association with the pit feature. The overlying silty clay produced the midden-like concentration of faunal material (layer 121), lenses and scatterings of structural debris (layer 120 ash and mortar, layer 122 charred wood, layer 48 chimney collapse rocks, over 100 pieces of chinking, and scatterings of charcoal), and one brown chert gunflint.

5.5.4.9 21K4Y: Hearth Feature

This hearth feature was located about 3.5 m. south of the southeast corner of the building,

5.0 m. northeast of the midden and pit features in 21K4X, and 18 m. due south of the northern midden/hearth features in 21K4B. The feature consisted of a concentration of ash and charcoal (layer 128) underlaid by a layer of carbon stained/fire-reddened soil (layer 127). It was located in the southeast corner of the 1.0 by 1.0 m. area excavated, was about 65-80 cm. (N-S) by 45 cm. (E-W) in size, 2.0-4.0 cm. thick, and appeared to continue east and south past the edge of the excavation. The middle of the feature had been disturbed by the later picket post fence/trench line feature which ran north-south through the east edge of 21K4Y. This disturbed section of the hearth was approximately 20-25 cm. wide (E-W) and 52 cm. long (N-S). Since the fence line penetrated well below the hearth feature, all associated hearth deposits were completely obliterated in this area (Figs. 5.79, 5.80).

No artifacts were recovered directly in association with the hearth but the overlying silty clay (layer 41) and the area immediately surrounding the hearth produced several nearly complete unburnt pieces of large mammal bone, a few fragments of small mammal bone, one white earthenware flatware ceramic fragment, one unidentified (probably wrought) nail, one iron metal fragment, between 30 and 40 pieces of chinking, and several chunks of charcoal and charred wood. More large unburnt pieces of large mammal bone were also recovered from layer 41 in 21K6H approximately 1.0 m. south of the hearth feature in 21K4Y.

Although the concentrations of faunal material in 21K4Y and 21K6H were not as dense as the concentration found in 21K4X, further excavation may reveal another midden-like deposit in the areas east and south of 21K4Y and 21K6H in the extreme southeast corner of the Fort Gibraltar I site area. Like the midden and pit features in 21K4X, the hearth feature and concentrations of faunal material in 21K4Y and 21K6H were located in an area that was probably inside the fort compound (if the structure uncovered is that of Fort Gibraltar I) and may represent a brief post-fort occupation immediately postdating the burning and collapse of the fort structure and predating the deposit of the ca. 1026 silty clay.

Figure 5.66 Planview of fort-contemporary midden deposits (layers 87 and 89), ash mounds (layer 90) and hearth-like feature (layer uncovered in 21K4B. (Note: measurements in 21K4B north are approximate.) (Detail of Fig. 5.30; see Figs. 5.67-5.69). 14) pre- fort period tan clay under lying all fort-contemporary deposits; 87) midden deposit in 21K4B south consisting of dark black organic material, densely matted fish bone, ash pockets, large and small mammal bone, charcoal flecks and historic artifacts; a hearth-like feature is contained within this midden deposit in the north west corner of 21K4B south; early railway clay trench (ca. 1882-89); midden in deposit in 21K4B north consisting of dark black organic material, densely matted fish bone, ash and charcoal flecks, mammal bone and historic artifacts (including a strand of beads, a catalinite pipe and a musket ball); 90) ash mounds in 21K4B north; 91) early railway period post mould (ca. 1889) where it truncates an ash mound; DBS (railway fill) in centimetres. (Drawn by D. Elrick.)

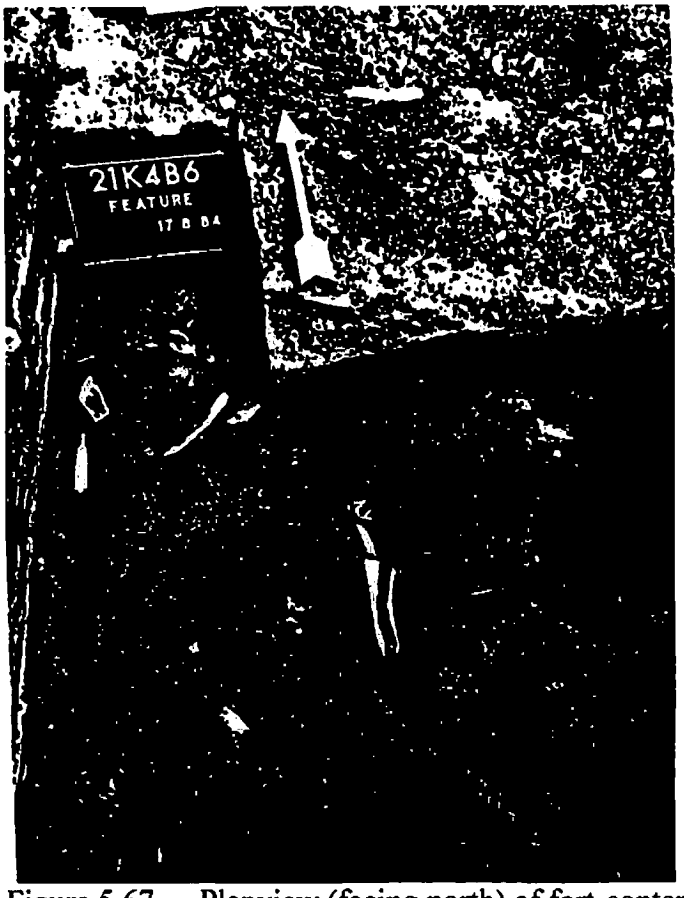


Figure 5.67 Planview (facing north) of fort-contemporary midden deposits (layer 87) in 21K4B south (see Fig. 5.66). Hearth-like feature is to the right of the trowel. The northeast corner of the unit was later excavated to the same level as the rest of the unit. (Photo by S.E. Bradford.)

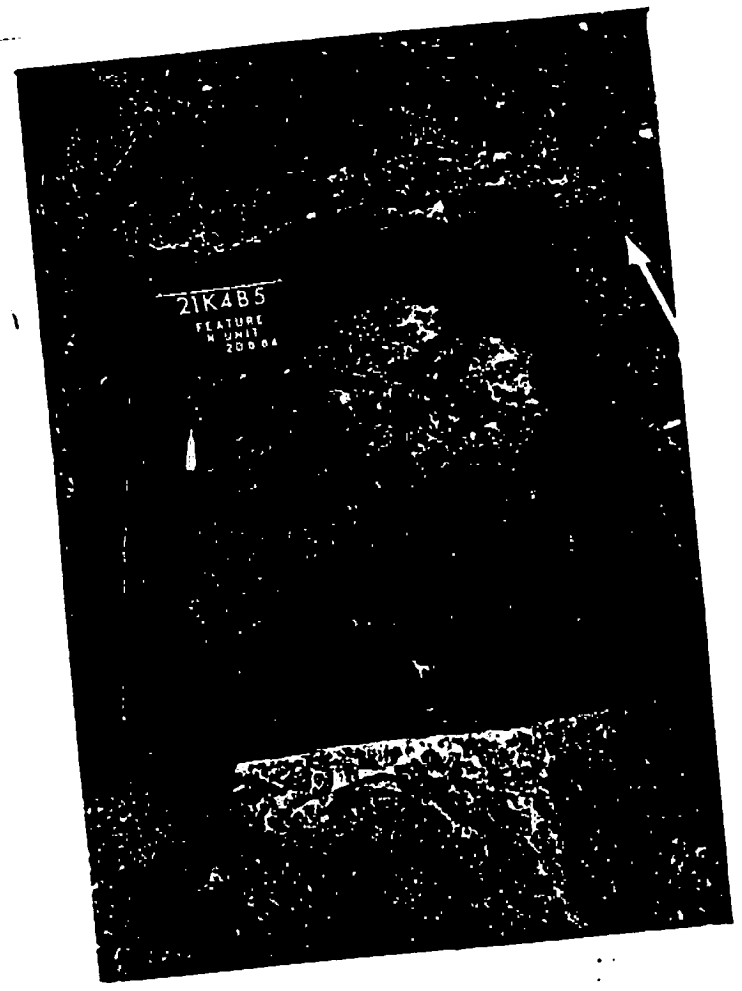


Figure 5.68 Planview (facing north) of fort-contemporary midden deposits (layer 89) and ash mound (layer 90) in north hall of 21K4B north (see Fig. 5.66). (Photo by S.E. Bradford.)

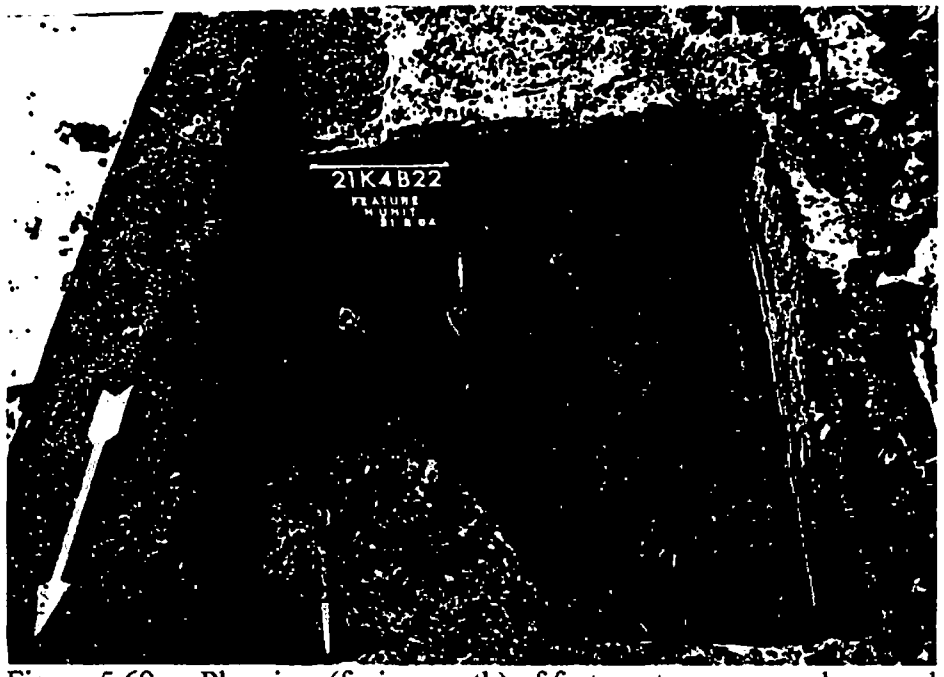


Figure 5.69 Planview (facing south) of fort-contemporary ash mounds and pockets (layer 90) after the organic/midden layer (layer 89) was removed in the north half of 21K4B north. The strand of seed beads was recovered from the dark organic layer overlying the ash deposit in the southwest corner. (Photo by S.E. Bradford.)

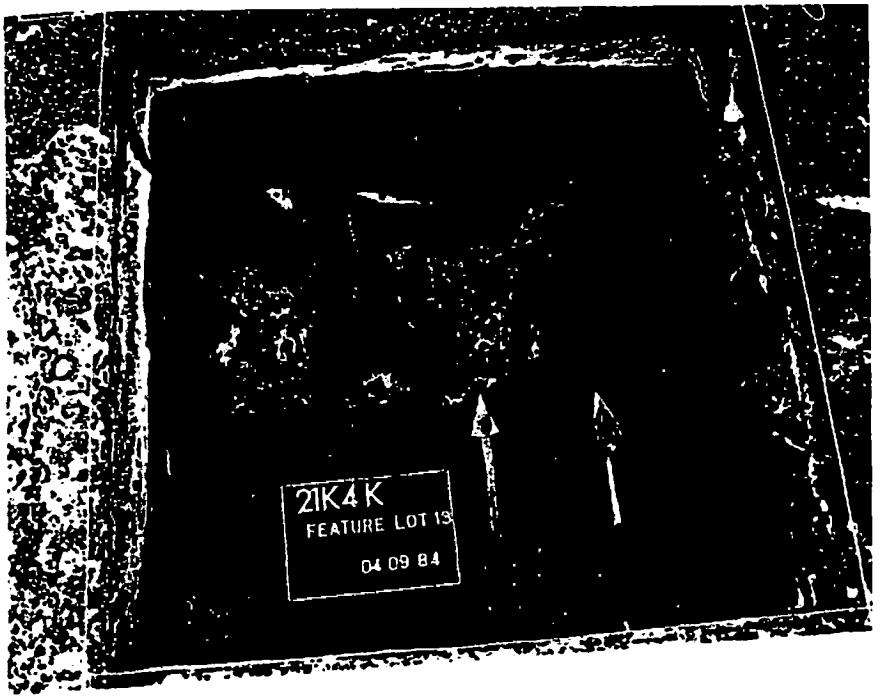


Figure 5.70a Planview of fort-contemporary hearth feature (layers 27 and 28) and midden-like deposits (layer 87) in 21K4K (south) (see Figs. 5.30 and 5.71); surface of the deposits. Pointed long bone visible in the middle of the north wall has been worked into an awl-like object, (Photo by S.E. Bradford.)

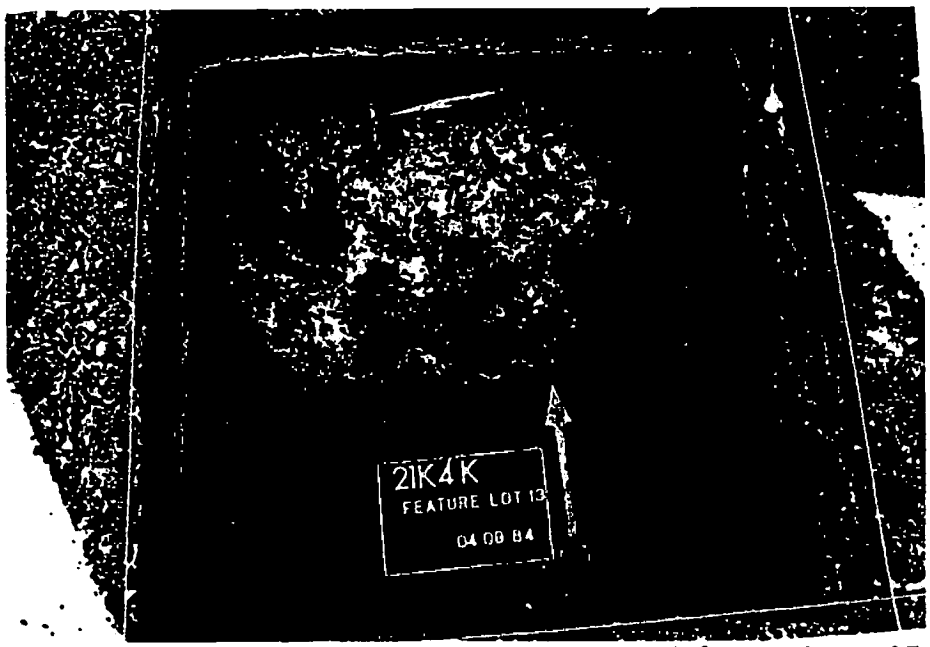


Figure 5.70b Planview of fort-contemporary hearth feature (layers 27 and 20) and midden-like deposits (layer 87) in 21K4K (south) (see Figs. 5.30 and 5.71}? hearth feature after organic and midden deposits have been removed. Pointed long bone visible in the middle of the north wall has been worked into an awl-like object, (Photo by S.E. Bradford.)

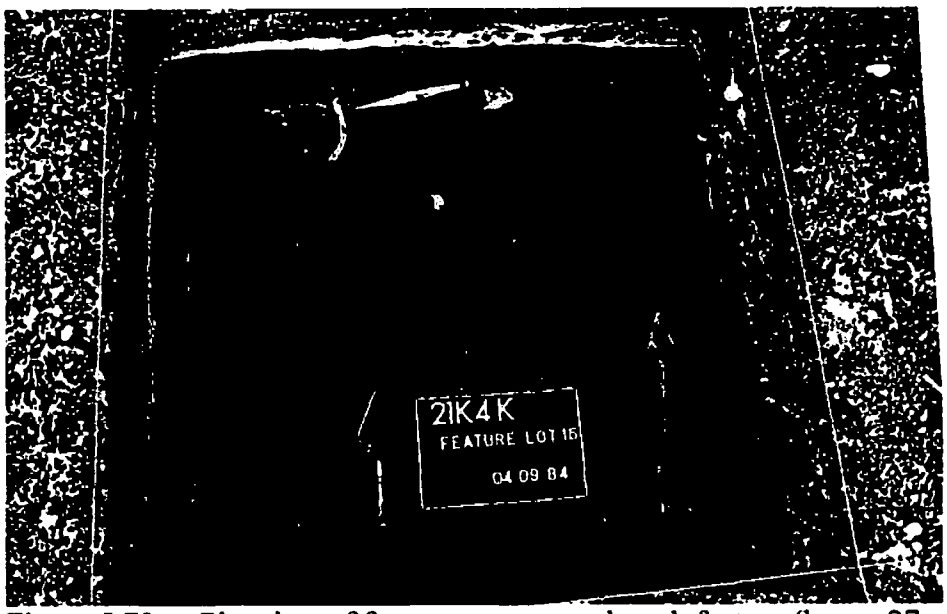


Figure 5.70c Planview of fort-contemporary hearth feature (layers 27 and 28) and midden-like deposits (layer 87) in 21K4K (south) (see Figs. 5.30 and 5.71); carbon stained soil under hearth feature after ash layer. Pointed long bone visible in the middle of the north wall has been worked into an awl-like object. (Photo by S.E. Bradford.)

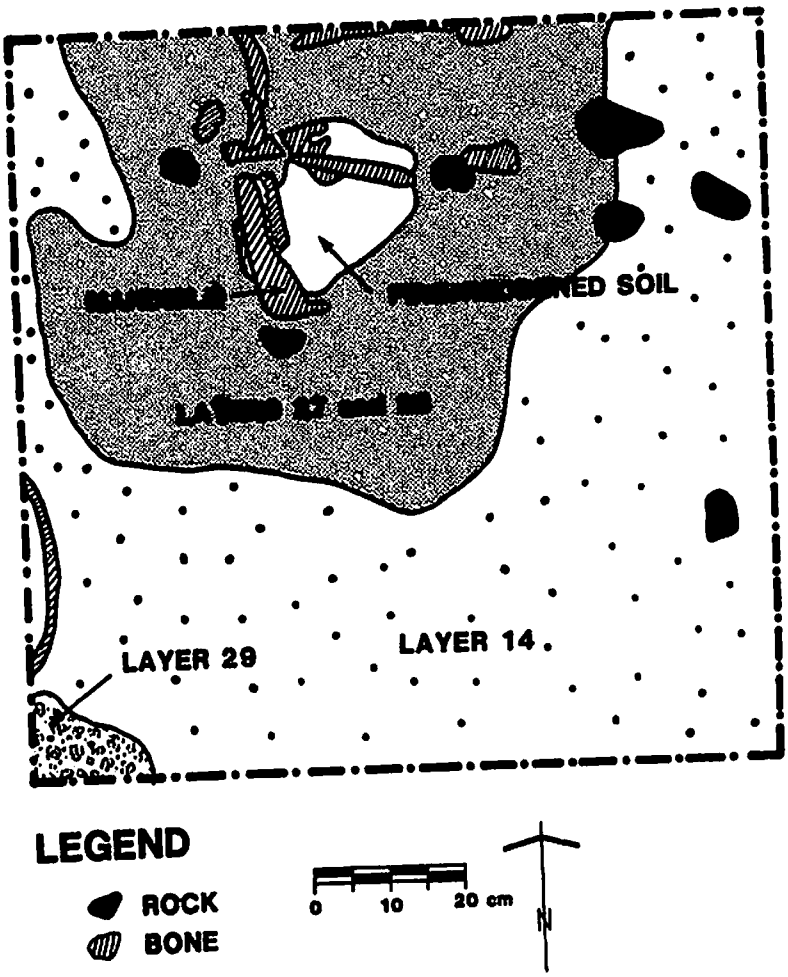


Figure 5.71 Planview of fort-contemporary hearth feature (layers 27 and 28) and associated faunal deposits in 21K4K (south) (see Figs. 5.30 and 5.70). Parts of the hearth feature and areas surrounding it were originally overlain by a 2.0-4.0 cm. thick organic/midden-like deposit (layer 87). 14) pre-fort period tan clay underlying all fort-contemporary deposits; 27 and 20) hearth feature consisting of ash and charcoal concentrations underlaid by fire-reddened/carbon stained soil; 29) ash pocket underlaid by carbon stained soil; 87) midden-like/organic deposit originally overlying the hearth feature and layer 14 tan clay; DBS (railway fill) in centimetres. (Drawn by D. Elrick.)

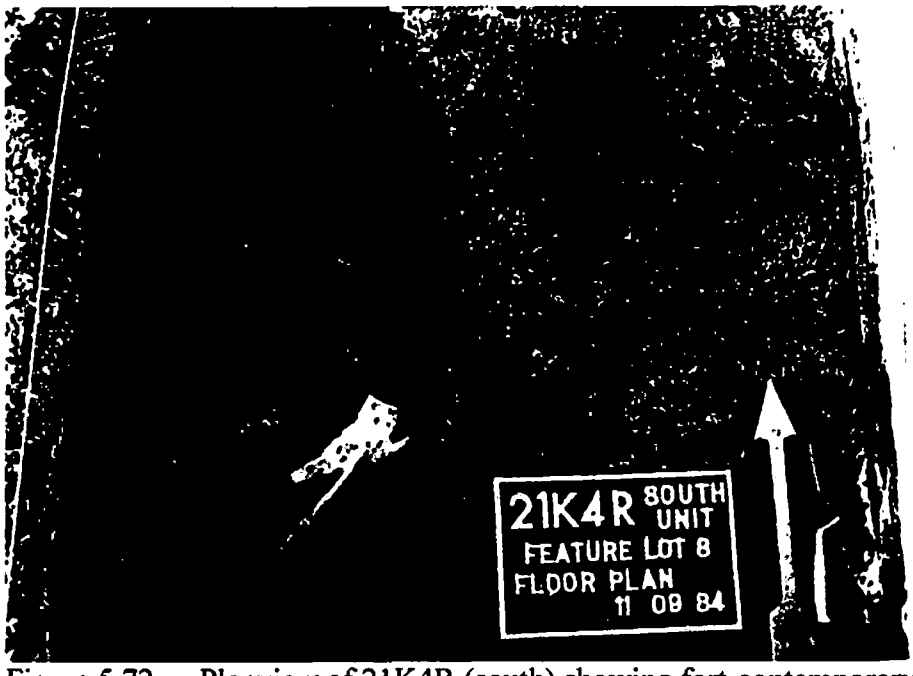


Figure 5.72 Planview of 21K4R (south) showing fort-contemporary hearth-like midden-like deposits of organic and faunal material (layer 87) (see Figs. 5.30 and 5.73). A large unburnt mammal scapula is visible on top of the hearth-like feature. The midden deposits are northeast of this feature (see Fig. 5.73). (Photo by S.E. Bradford.)

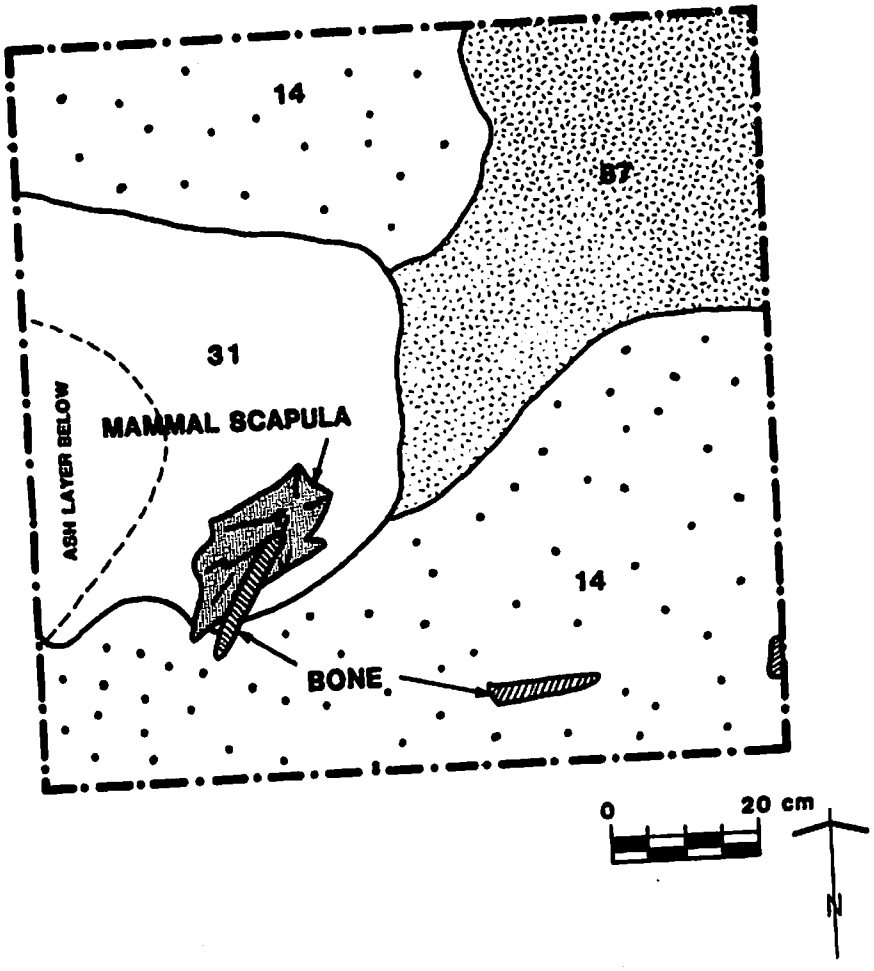


Figure 5.73 Planview drawing of 21K4R (south) showing fort-contemporary hearth-like feature (layer 31) and midden-like deposits (layer 87). 14) pre-fort period tan clay (ca?-1810); 31) hearth-like concentration of charcoal, charred wood, ash and fire-reddened soil underlain by carbon stained soil; 87) midden-like deposit of dark organic and faunal material? DBS (railway fill) in centimetres. (Drawn by D. Elrick.)

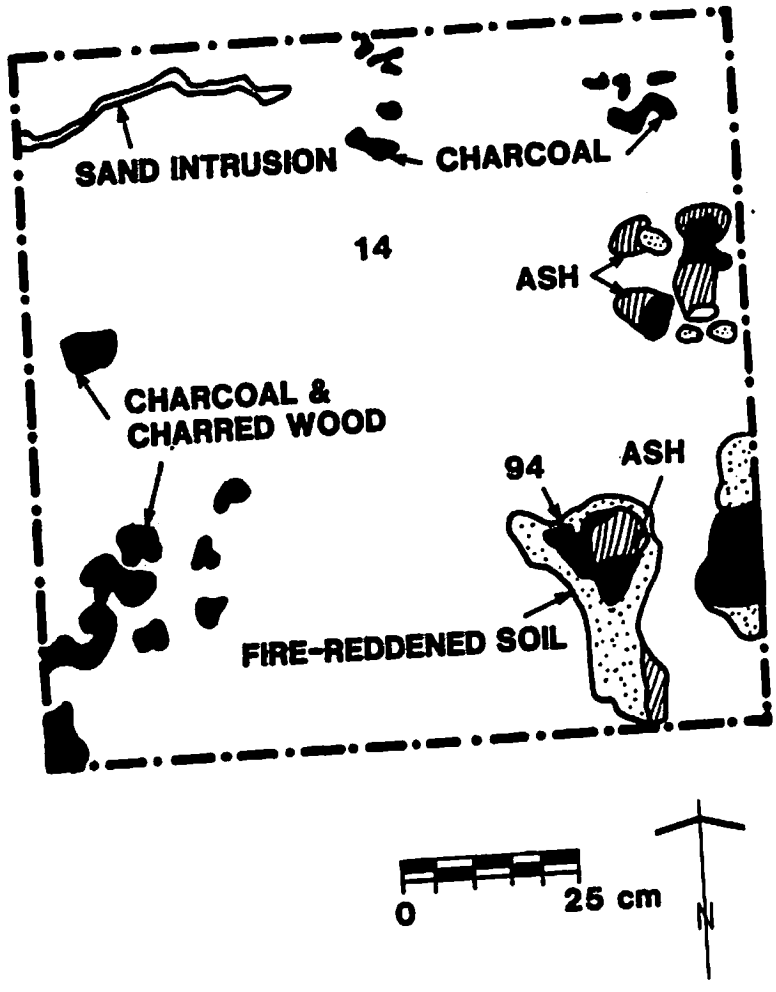


Figure 5.74 Panview of 21K4D (south) showing hearth-like concentration of charcoal, ash and fire-reddened soil (layer 94) and associated scatter of charcoal and charred wood 14) pre-fort period tan clay (1810); 94) hearth-like feature of charcoal, ash and fire-reddened soil; DBS (railway fill) in centimetres. (Drawn by D. Elrick.)

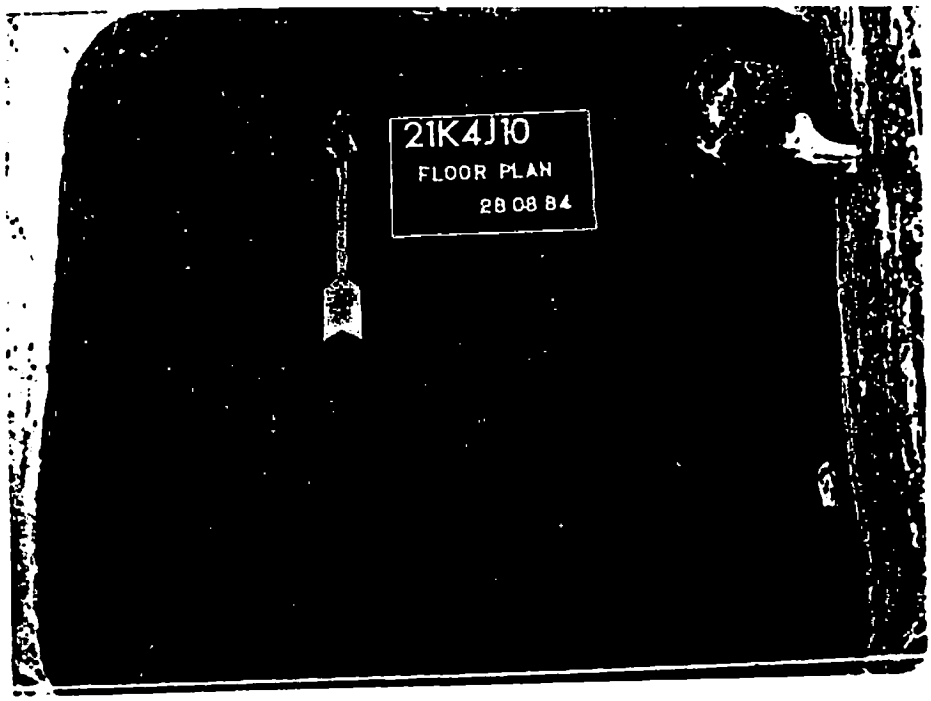


Figure 5.75 lanview of 21K4J (south) showing fort-contemporary charred wooden plank feature (layer 13) and pit feature (layers 11 and 12). Pit feature is along the east wall in the southeast corner 25 cm. south of a railway period pit (layers 3 and 4 where large boulder is located; see Fig. 5.14). The plank is 45 cm. below the railway fill and the pit 50 cm. below the railway fill. (Photo by L. Konotopetz.)

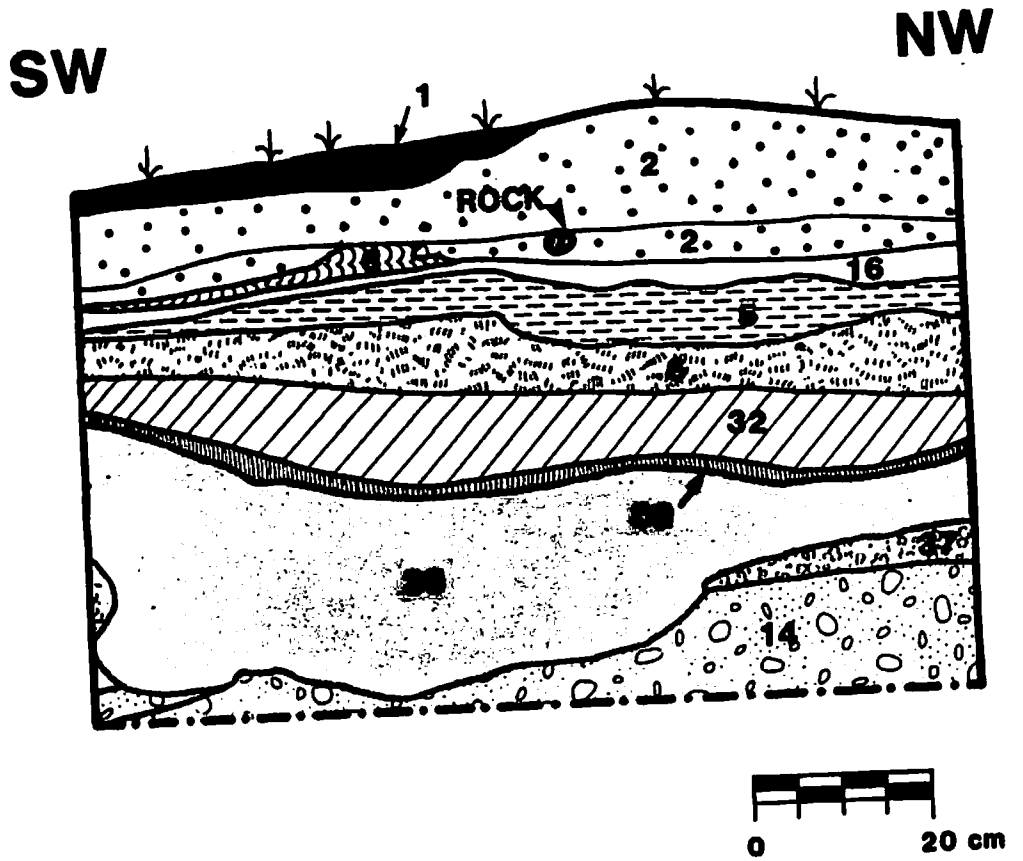


Figure 5.76 West wall profile of 21K4T (south) showing crude outline of large shallow pit feature (layer 39) contemporary with the fort period structure (see Fig. 5.63). 1) railway fill consisting of ash, cinders, sand and gravel remaining on the surface after backhoe removal; 2) early railway grey-brown silty clay flood layer (ca. 1882)? 16) pre-railway manure layer (ca. 1852-61); 5) dark brown flood sand (ca. 1852); 6) light brown marbled flood sand (ca. 1852); 32/33/37) alternating lighter and darker bands of immediate post-Fort Gibraltar I flood deposited grey-brown silty clay (ca. 1826), 39) fort-contemporary pit feature filled with a mixture of layers 34,36 and 37 grey-brown silty clay; 14) pre-fort period tan clay (1810). (Drawn by D. Elrick.)

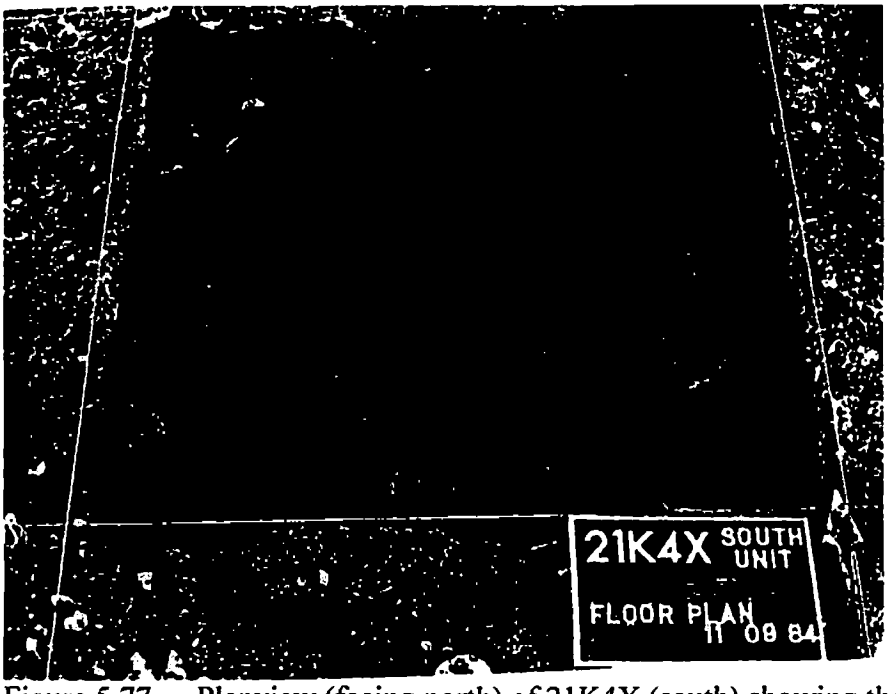


Figure 5.77 Planview (facing north) of 21K4X (south) showing the fort-contemporary faunal midden-like deposit (layer 121) in the north and west walls. Deposit consisted of large pieces of large mammal bone and covered all of the northwest corner and some areas along the north and west walls. (Photo by L. Konotopetz.)

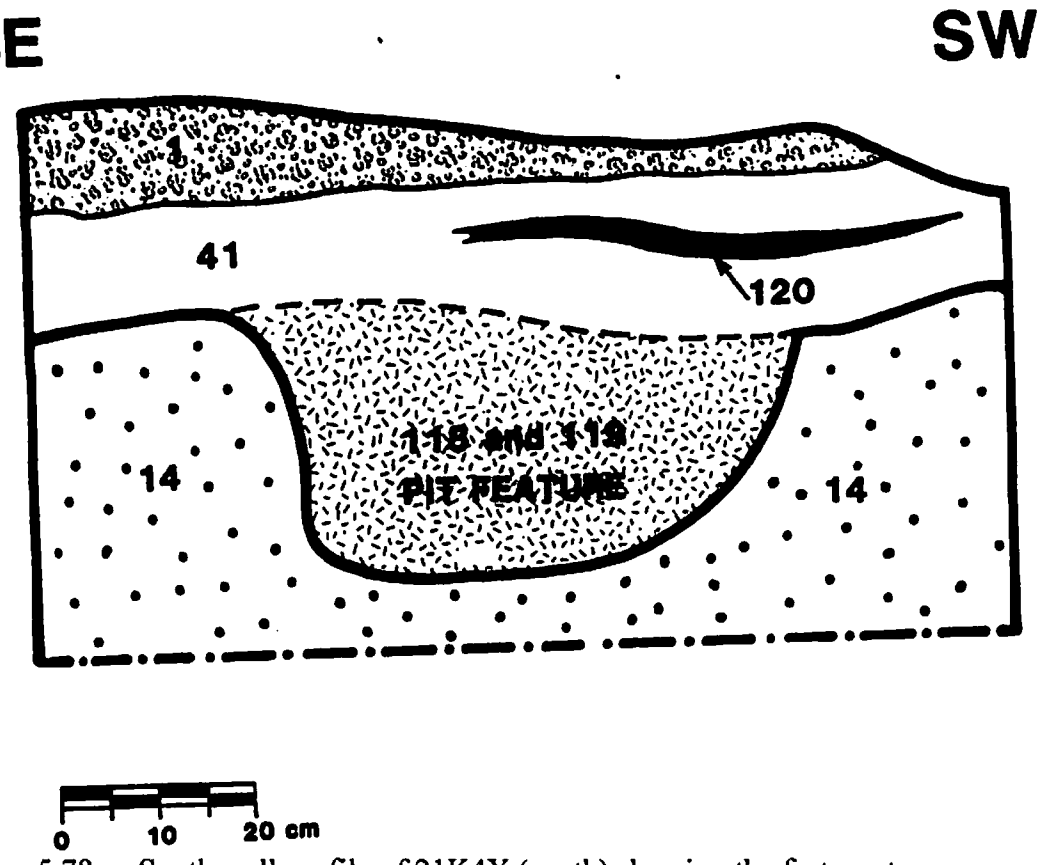


Figure 5.78 South wall profile of 21K4X (south) showing the fort-contemporary pit feature (layers 118 and relative to the scattering of structural debris above it (the layer 120 ash and mortar concentration). 1) railway fill (ca. 1889) consisting of ash, cinders, sand and gravel remaining on the surface after backhoe removal; 41) immediate post-Fort Gibraltar I flood deposited grey-brown silty clay (ca. 1826 flood) containing concentrations of large mammal bone (layer 121 midden-like deposit); ash and mortar concentration representing scattering of structural debris (ca. 1816-26); 118 and 119) fort-contemporary pit feature filled with grey-brown silty clay; 14) pre-fort period tan clay. (Drawn by D. Elrick.)

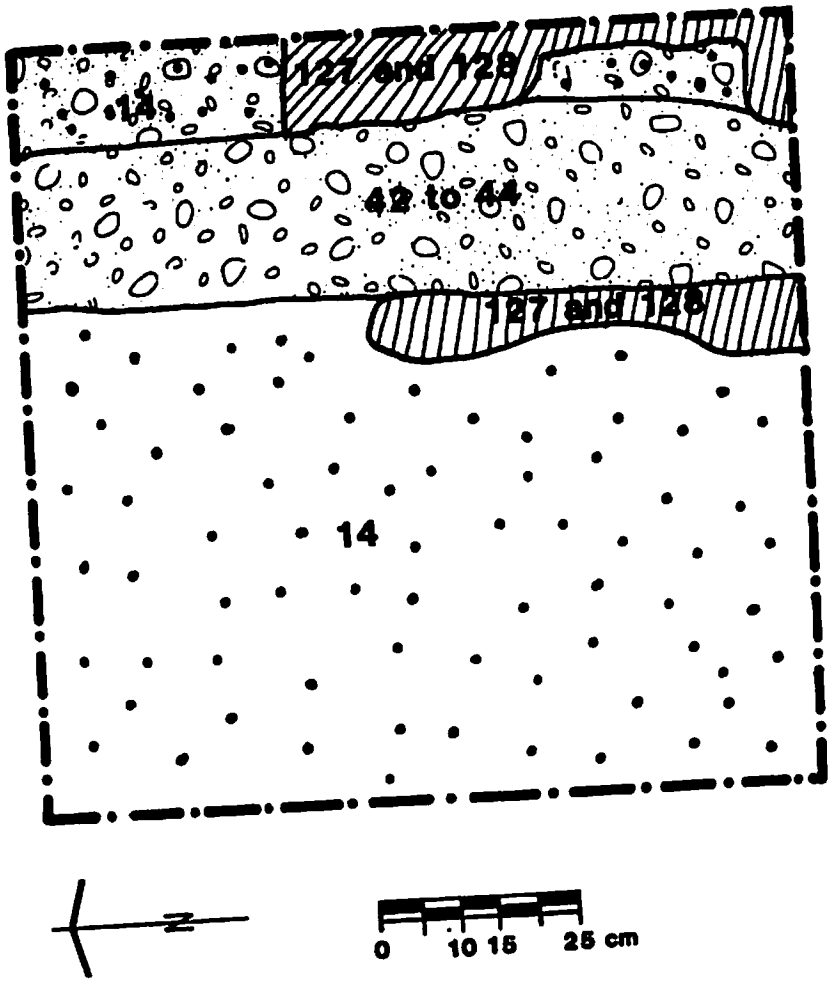


Figure 5.79 Planview (facing east) of 21K4Y (south) showing fort-contemporary hearth feature (layers 127 and 128) truncated by the post-fort period picket post fence/trench line feature (layers 42-44; ca. 1836-41). 14) pre-fort period tan clay; 42 to 44) pre-fort period picket post fence/trench line feature (ca. 1836-41); 127 and 128) fort-contemporary hearth feature consisting of ash and charcoal underlain by fire-reddened and carbon stained soil (ca. 1810-16). (Drawn by D. Elrick.)

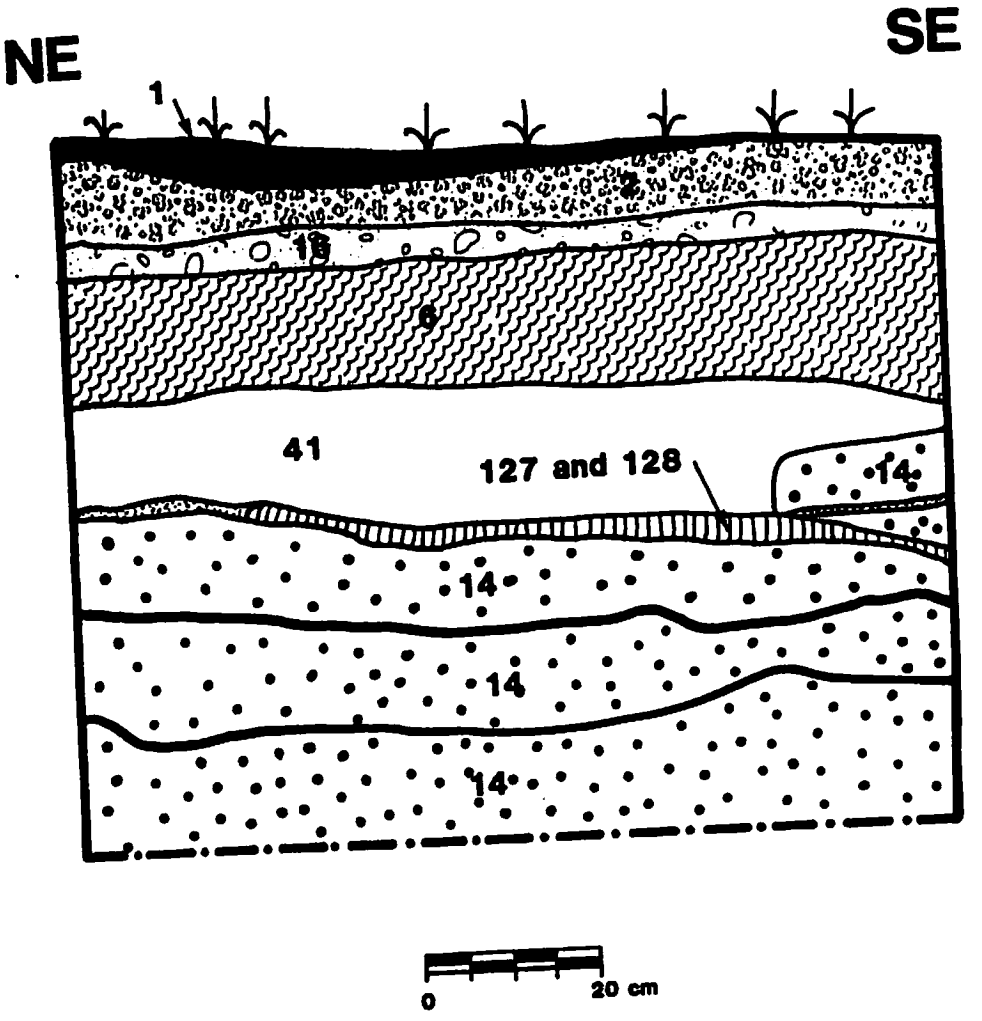


Figure 5.80 East wall profile of 21K4Y (south) showing relationship of fort-contemporary hearth feature (layers 127 and 128) to other stratigraphie layers. 1) railway fill (ca. 1889) consisting of ash, cinders, sand and gravel remaining on surface after backhoe removal; 2) early railway light grey-brown silty clay flood layer (ca. 1882 flood); 16) pre-fort manure layer (ca. 1852-61); 6) light brown cross bedded flood sand (ca. 1852; 41) immediate post-Fort Gibraltar I flood deposited grey-brown silty clay (ca. 1826); 127 and 128) hearth feature consisting of ash and charcoal underlain by fire-reddened/carbon stained soil (ca. 1810-16); 14) pre-fort period tan clay. (Drawn by D. Elrick.)

5.5.5 Fort Gibraltar I: Non-Feature Areas North and South of the Structural Area (ca. 1810-16)

Eight of the 20 excavation units north of the structural area (21K4C, 21K4E, 21K4F, 21K4G, 21K4H, 21K4L, 21K4M and 21K4N) do not contain features contemporary with Fort Gibraltar I (1810-16). A thin scattering of fort-contemporary artifacts and faunal material were recovered from the ca. 1826 silty clay layers, but these appear to be the result of flood mixing and random deposition or loss rather than being directly associated with any underlying or adjacent fort-contemporary features. All of these non-feature area units were more than 10 m. north of the structural area and no closer than 3.0 m. from the north midden area. Units 21K4C and 21K4F, however, were approximately 1.0 m. away from a small fort-contemporary hearth-like feature in 21K4D.

In addition to a few handfuls of mammal bone fragments, fish bone and clam shell recovered from the silty clay layers in these non-feature areas north of the structural area, a total of 33 artifacts were recovered. These include one green glass bottle body fragment, one ceramic pipe stem fragment, one pearlware ceramic bowl base fragment, three white earthenware ceramic fragments, three wrought nails, one triangular piece of copper, a looped fragment of copper wire, a copper or brass hawk's bell, a grey metal button, five fragments of a twisted copper wire bracelet, two cut copper fragments, one 10 mm. lead shot, two blue glass seed beads, seven white glass seed beads, two small bone beads, and one incised red limestone fragment.

Only one unit south of the structural area (21K6H) did not contain a clearly defined fort-contemporary feature of any kind (either structural collapse or hearth/midden features associated with the south encampment area). The over-lying silty clay in 21K6H did contain a small concentration of large pieces of large mammal bone but it was too small to be considered a feature. This concentration of mammal bone may be associated with the south encampment hearth feature (layers 127 and 128) and the faunal concentrations in 21K4Y 1.0 m. north of 21K6H. Only one unidentified colourless curved glass fragment was recovered from the silty clay layer in 21K6H in association with the large pieces of mammal bone.

5.6 Pre-Fort Gibraltar I Period (ca?-1810)

The pre-fort/pre-1810 period at the Fort Gibraltar I site was primarily represented by more than 2.0 m. of essentially artifact and feature-free tan-coloured clay (layer 14). The layer was universal to the site area and underlaid all fort-contemporary deposits or the ca. 1826 silty clay layers where fort-contemporary features were absent. The overall depth of the pre-fort tan clay layer is not known but it was at least more than 2.0 m. Between 0.5- 1.0 m. of this layer was excavated in almost all units except those containing pedestled structural features inside the structural area (21K4U, 21K4V, 21K6A, 21K6G, 21K6J, 21K6L, 21K6P and 21K6S) or those incompletely excavated due to lack of time (21K6R). Where excavation of the tan clay layer ceased, an auger was used to determine its overall depth. But the bottom of the layer was never encountered.

The pre-fort layer was characterized by 1.0-2.0 cm. thick bandings of dark black organic material spaced every 8.0-12 cm. in depth throughout the layer. Although the dark organic bandings may be a result of earlier flooding events and flood deposits and/or frost-varving, their exact origin is unclear at this time. Occasionally the uppermost organic bands contained ash and charcoal. Any artifacts found were recovered from either the uppermost organic band or the upper 5.0-10 cm. of the tan clay layer (Figs. 5.2, 5.84).

Units 21K4F and 21K4M 14-25 m. north of the northwest corner of the structural area and 21K4W, 21K4Y and 21K6C immediately south of the structural area all produced

about one handful of poorly preserved mammal bone fragments. Only two artifacts - one 7.0 mm. lead shot from 21K4V7 and one window glass fragment from 21K4Y - were recovered from the tan clay layer.

Two charred wooden planks were the only features recovered from the pre-fort layer. These were uncovered running roughly parallel to one another in a NEE-SWVJ direction approximately 8.0 m. apart across the southern end of the site (Fig. 5.19). One plank (layer 78) was uncovered in 21K6D about 0.5m. north of the fort-contemporary fireplace feature in 21K4U. The other plank (layer 129) was uncovered in 21K4Y about 3.0 m. south of the fort-contemporary structural area and identified as elm wood. Both planks were truncated by and found to the side of the picket post fence/trench line running north-south through 21K4Y and east-west through 21K6D. At first these planks appeared to be associated with the trench/fence line itself but closer investigation revealed they predated both the fence line and the fort-contemporary structure.

The plank in 21K6D was found about 40-48 cm. into the tan clay (Fig. 5.82). The plank in 21K4Y was found within the second dark organic band about 16 cm. into the tan clay (Figs. 5.84/ 5.85). Despite the difference in thickness of tan clay overlying the planks in each unit, the actual elevation of each plank feature was the same. It is not clear whether the plank features were if situ or flood deposited remains and if they represented the remains of an earlier pre-Fort Gibraltar I structure at the site (such as the 1781-82 fort belonging to Bruce and Boyers).

Both planks were recovered from the northwest corner of their respective units. The plank in 21K4Y was larger than that uncovered in 21K6D. It measured roughly 60 cm. long (NEE-SWW) by 15-20 cm. wide and was 2.0 cm. thick. It appeared to continue further west past the area excavated in 21K4Y. The portion of the plank feature visible in 21K6D was roughly the same width but a little thicker. This plank measured approximately 12 cm. long (NEE-SWW) by 10-12 cm. wide, was about 4.0 cm. thick, and also appeared to continue further westwards beyond the area excavated. It was found in association with another extremely thin piece of wood or bark measuring 48 cm. long by 4.0-5.0 cm. wide, 1.0 cm. thick and oriented NNW-SSE across the southwest corner of 21K6D. A number of other smaller orange-coloured stains and wood fragments were found in association with and directly above the wood or bark strip next to the charred plank. These stains and fragments seemed to represent a pile of sticks and/or leaves that decayed situ. No artifacts were found in association with the plank features in either 21K6D or 21K4Y.

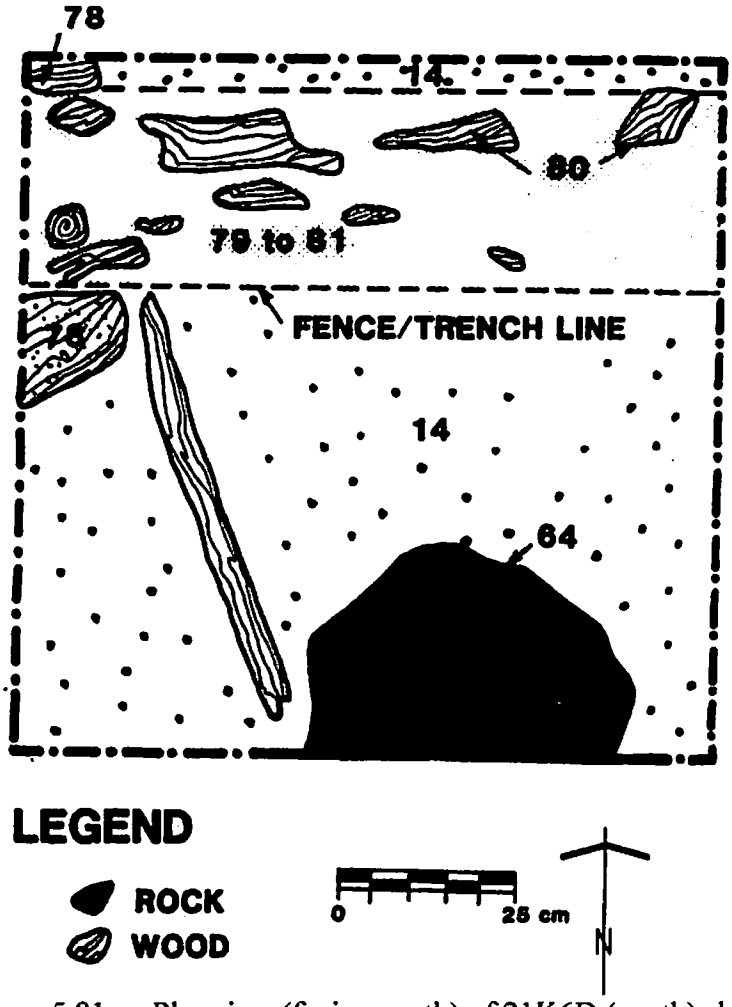


Figure 5.81 Plarwiew (facing north) of 21K6D (south) showing pre-fort period charred plank feature and strip of bark (layer 78) truncated by the post-fort period picket post fence/trench line feature (layers 42-44, ca. 1836-41) (see Figs. 5.28 and 5.83). 14) pre-fort period tan clay (1810); 64) large boulder forming the back of the fireplace hearth inside the fort-contemporary structure (ca. 1810); 78) pre-fort period charred plank truncated by fence/trench line; 79-81) post-fort period picket post fence/trench line (ca. 1836-41); DBS (railway fill) in centimetres. (Drawn by D. Elrick.)

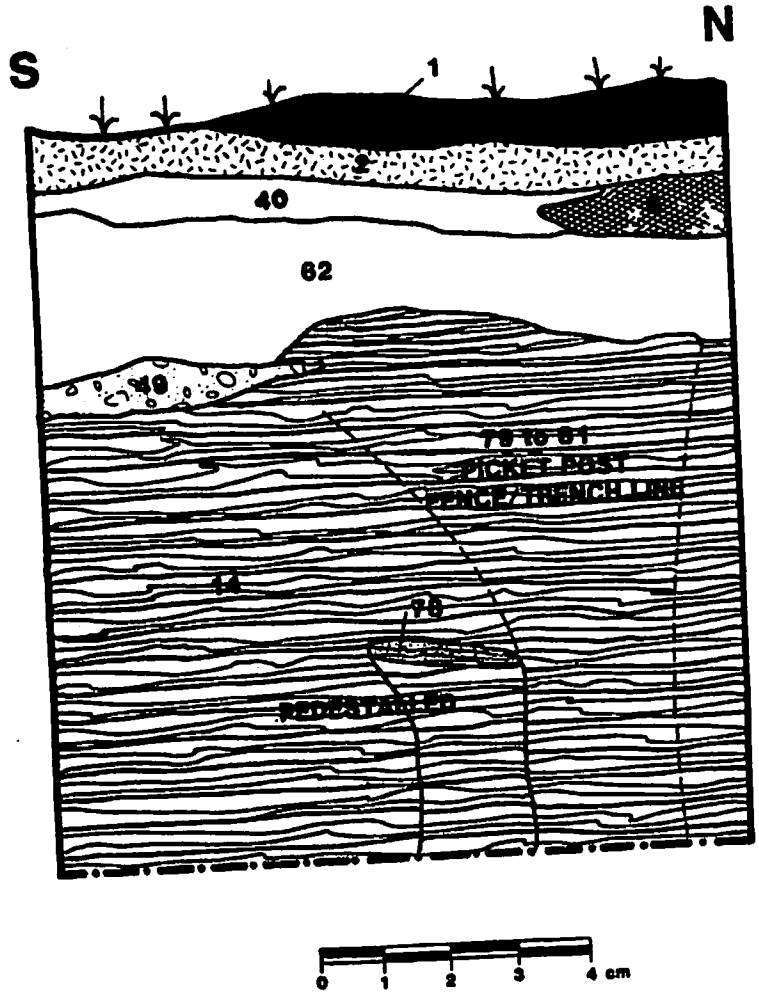


Figure 5.82 West wall profile of 21K6D (south) showing relationship of pre-fort charred plank feature (layer 78) to other stratigraphie layers (see Figs. 5.28 and 5.81). 1) railway fill (ca. 1889) remaining on surface after backhoe removal; 2) early railway light grey-brown silty clay flood layer (ca. 1882 flood); 40) pre-railway dark grey-brown silty clay flood layer (ca. 1861 flood); 6) light brown marbled flood sand (ca. 1852 flood); 62) immediate post-Fort Gibraltar I flood deposited grey-brown silty clay (ca. 1826); 49) ash layer found on top of fort-contemporary fireplace hearth (1810-16); 14) pre-fort period tan clay (1810); 78) pre-fort period charred plank feature truncated by fence/trench line; 79-81) post-fort period picket post fence/trench line feature (ca. 1836-41) filled with a mixture of layer 14 and layer 62 silty clay; DBS (railway fill) in centimetres. (Drawn by D. Elrick.)

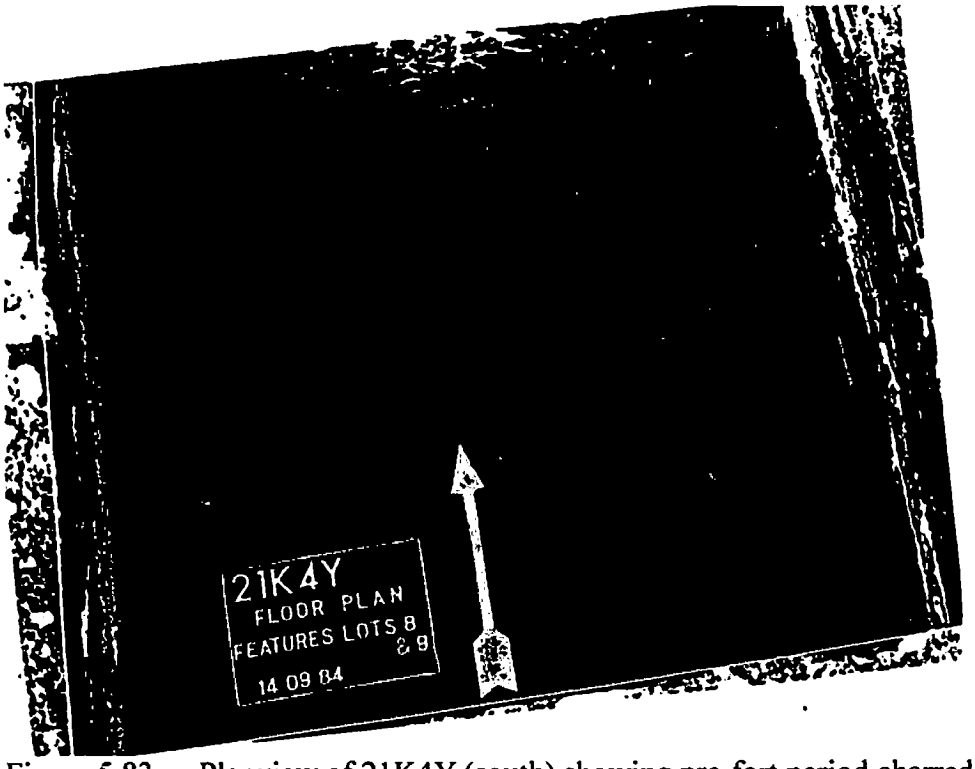


Figure 5.83 Planview of 21K4Y (south) showing pre-fort period charred plank feature (layer 129) truncated by post-fort period picket post fence/trench line feature (layers 42 to 44; ca. 1836-41). Fence line is to the right in the photo. (Photo by L. Konotopetz.)

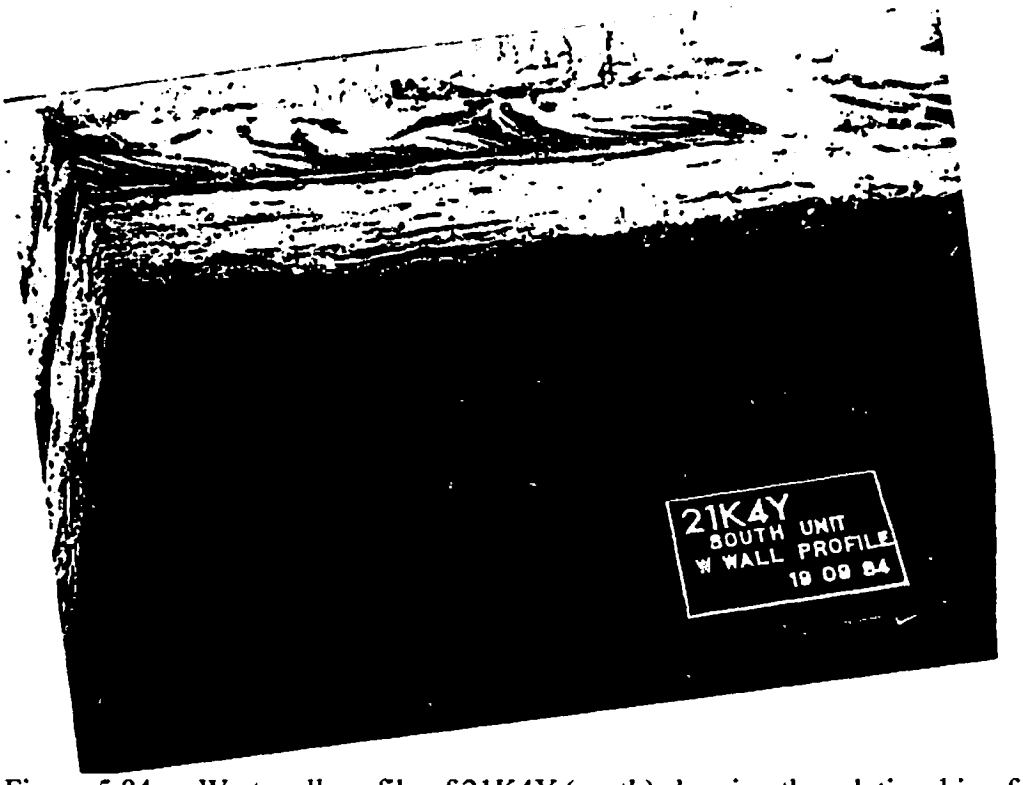


Figure 5.84 West wall profile of 21K4Y (south) showing the relationship of the pre-fort period charred plank feature (layer 129) to other stratigraphic layers (see Fig. 5.85). (Photo by A. Bell.)

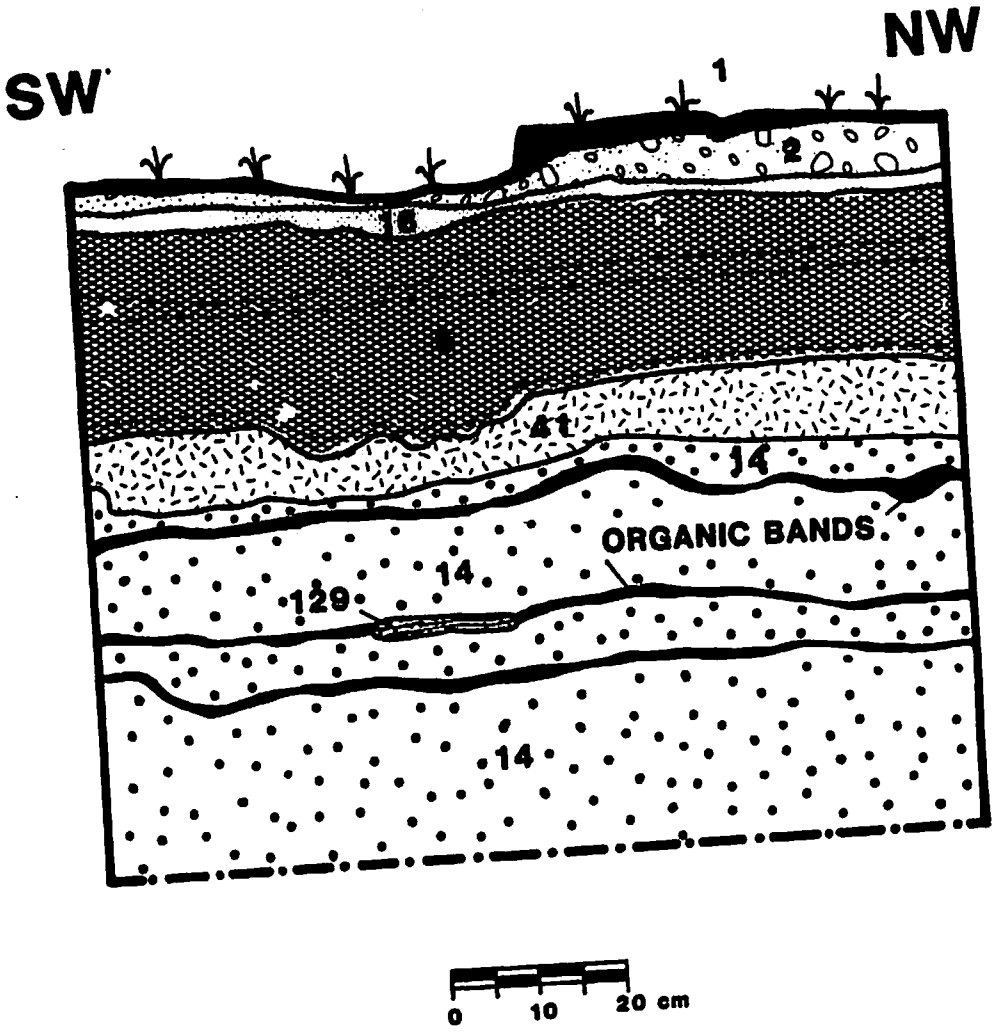


Figure 5.85 West wall profile drawing of 21K4Y (south) showing relationship of pre-fort period charred plank feature (layer 129) to other stratigraphic layers (see Fig. 5.84). 1) railway fill (ca. 1889) remaining on surface after backhoe removal; 2) early railway light grey-brown silty clay flood layer (ca. 1882 flood); 16) pre-railway manure layer (1852-61); 6) light brown crossbedded flood sand (1852 flood); 41) immediate post-fort Gibraltar I flood deposited grey-brown silty clay (1826 flood); 14) pre-fort period tan clay (1810); 129) pre-fort period charred plank feature. (Drawn by D. Elrick.)

5.7 Conclusions and Suggestions for Further Research at the Fort Gibraltar I Site

The most significant and/or most substantial pre-railway features found below the more than 2.0 m. of railway fill (layer 1) at Fort Gibraltar I were:

a) the charred remains of what appeared to be part of Fort Gibraltar I;
b) a fort-contemporary and possibly fort-associated native encampment midden area found north of the possible Fort Gibraltar I structural remains;
c) hearth, pit and midden features which appeared to be part of an immediate post-fort abandonment encampment area established immediately south of and on top of the possible Fort Gibraltar I structural remains; and/
d) a picket post fence/trench line feature possibly dating to the experimental farm period.

The fort-contemporary structural remains were uncovered in the south end of the site area and clearly extended past the easternmost edge of the 1984 excavations. Further excavation is needed to determine the easternmost extent, exact type and date of the structural remains partially uncovered. The portion of structure uncovered appeared to be part of a row-housing complex oriented east-west across the south end of the site. It consisted of a single room approximately 4.5 m. (N-S) by 7.0 m. (E-W) in size and appears to have been facing south with the entrance in the southeast corner.

If this structure continued much further east of the edge of the excavation area, there is a good possibility that the easternmost edge of this building - and any other buildings associated with it - may have been badly damaged by post-abandonment river erosion. Although it is difficult to determine the exact location of other possible fort-related structures on the basis of a single building, the orientation of the structural remains and fort-contemporary midden deposits uncovered suggest other fort structures may lie both south and east of this charred structural area. In such a case, river erosion and not the construction of later railway features (such as the railway roundhouse west of the structural area) more likely threatened the preservation of any surviving Fort Gibraltar I remains.

No recognizable remains of the fort palisade were uncovered. The absence of this type of information is unfortunate since locating the palisade would have allowed us to pinpoint the exact location of Fort Gibraltar I and helped verify the remains uncovered were in fact part of the fort. The remains of a picket post fence/trench line were found running north-south through the eastern edge of the site area but they are both too late in time (ca. 1836-41) and too unsubstantial to be part of the original fort palisade. An east-west section of what was initially believed to be an interconnecting part of this north-south picket fence line, however, should be further investigated to ensure this particular portion of fence line is not in fact part of the palisade. This east-west section of "fence line" was uncovered in 21K6D less than 1.0 m. away from the back (north) wall of the fort-contemporary structure. Its exact outlines were often difficult to discern during excavation but it was obviously much deeper and more substantial than the fence/trench line feature found running north-south through the south-east end of the site. The posts in 21K6D appear to have consisted of a double row of evenly spaced alternating posts while those in the north-south line consisted of a single row of evenly spaced posts. Further investigation to the east and west of this fence line in 21K6D may reveal the feature was in fact part of the palisade and does represent the northernmost extent of Fort Gibraltar I.

The fort-contemporary native encampment area found 8.0-24 m. north of the possible Fort Gibraltar I structural area was only partially excavated in 1984. The midden deposits and hearth features found in this northeast corner represent the richest artifactual, faunal and organic deposits uncovered. Like the fort-contemporary structure itself these

deposits clearly continue further east beyond the edge of the excavation area. All areas between, immediately surrounding and east of the units investigated (21K4B, 21K4K and 21K4R in particular) need to be further excavated. The temporal nature and spatial relationship of these midden/encampment deposits to the fort structural area and possible palisade wall feature in 21K6D also need to be further clarified.

Evidence at this time suggests the encampment is probably a fort-associated one located along the north edge of the fort. Artifacts and faunal material recovered suggest it is a historic native encampment.

Few other fort-contemporary features were found west of the midden deposits associated with the fort-contemporary encampment area and it is doubtful if further excavation in this area would reveal much more. Excavation to the east, northeast and southeast of the midden/hearth deposits uncovered in the north-east section of the Fort Gibraltar I site area, however, would probably reveal more encampment features. These would probably cluster along what now appears to be the north edge of the Fort Gibraltar I structural remains. Like the easternmost extent of the fort-contemporary structural remains, the easternmost features associated with this fort-contemporary native encampment area may also have been damaged or destroyed by river erosion. Again, it is river erosion and not the construction of later railway features that may prove the worst disturbance in this section of the site.

Concentrations of faunal material, hearth and pit features associated with what appears to be part of a slightly later post-Fort Gibraltar I encampment area established south of and apparently on top of the possible Fort Gibraltar I remains need much more investigation and clarification. Features associated with this potentially later encampment area were only partially uncovered by the units established in 1984. Not only were they difficult to isolate from scatterings of fort related debris but they were hard to isolate temporally in terms of the scattering and blending of deposits caused by post-fort flooding. It appears the 1984 investigations caught only the northernmost edge of this possible later encampment area.

Because this encampment appears to postdate the fort occupation, the location of associated features were probably not dictated by the location of the original fort structures (unlike the northern encampment area which seems to have been closely aligned with the northern edge of the fort structure). This means that features associated with this later encampment area could have been established south, east, west and/or on top of the original fort structural area. Concentrations of faunal material found in the extreme southwest corner of the site (21K4X) suggest deposits continue both further south and west in this area. Other concentrations of faunal material found around a hearth feature near the mid-southern edge of the site (21K4Y and 21K6H) may also continue further south and east under excavated portions of the site. In 1984 wheelbarrow access ramps were located in the southeastern corner of the site and prevented excavation of any potential features in this area. As a result, the features underlying the whole extreme southern edge of the site are very poorly known or understood.

More concentrated investigations of the entire south end of the Fort Gibraltar I site - as well as the areas south, west and east of the southernmost 1984 site excavation area - are needed to clarify the potential presence of other possible fort related structural remains south of the fort-contemporary structure, the extent and nature of possible later encampment features, and the temporal-spatial relationship between what appear to be post-fort encampment features and fort-contemporary structural features. Some features which now appear to represent possible post-fort abandonment reuse of surviving fort structural features (such as the reuse of the fireplace pad in 21K4Y as a hearth and the

cellar pit in 21K6C as a dumping area for faunal material) might be clarified by future excavation. Further investigations might also reveal some of the concentrations of ash and charred wood currently assumed to be scatterings of structural debris associated with the burning of the fort-contemporary structure are in fact features associated with a later encampment period. Since almost no artifacts was recovered from the post-fort encampment features in the south end of the site, it is impossible to say whether the encampment is native or European in origin. Continuing examination of this area may help to clarify these questions.

In conclusion, excavation is still needed in several parts of the Fort Gibraltar I area to clarify the nature of archaeological remains uncovered in 1984. These portions of the site include:

1) the northeast quarter of the site containing the fort-contemporary native encampment/midden features;
2) the entire south end of the site containing the fort-contemporary structural feature and possible post-fort encampment features;
3) the unexcavated areas east of the 1984 excavation area where more remains associated with the fort-contemporary structural feature and the fort-contemporary native encampment/midden areas may be uncovered;
4) the unexcavated areas south of the 1984 excavation area where more fort-contemporary structural remains and features associated with a possible post-fort encampment may be uncovered; and,
5) a small section immediately west of the extreme southwest corner of the 1984 excavation area where it appears more concentrations of faunal material associated with a post-fort encampment area may be uncovered.

Further excavation may also uncover evidence for a prehistoric and/or immediate pre-Fort Gibraltar I occupational component. Although no such evidence was uncovered in 1984, the area is known to have been used by various groups both prehistorically and immediately prior to the establishment of Fort Gibraltar I. Fortunately, as a result of this archaeology project, it is now known that a number of stratigraphie layers are almost universally present at the Fort Gibraltar I site. Some of these layers, such as the ca. 1862 crossbedded sand layer, are very distinct and should aid in subsequent interpretation of the site. Problems concerning how to handle the more than 2.0 m. of railway fill (layer 1) covering the site remain to be resolved. This fill layer is rich in both railway period artifacts and situ features. The fate of these artifacts and features can only be determined by the relative degree of importance assigned to them in the overall interpretative scheme for the site.

FORT GIBRALTAR II

6.1 Introduction

An assistant archaeologist and four excavators spent eight weeks investigating the Fort Gibraltar II area, 21K3. Initially, a backhoe was used to strip away the railway period overburden to a depth of 1.25-1.50 m. below present ground surface. An area of approximately 12 m. north to south, by 10 m. east to west was exposed (Fig. 6.1). A second area directly south of the first one was stripped by the backhoe later in the field season. The second area was approximately 4.0 m. north to south, by 9.0 m. east to west, and reached a maximum depth of 0.5 m. The railway era fill became thinner very rapidly on the south end of the investigation area.

In keeping with the research proposal, various areas and features of the 21K3 site were examined to evaluate, record and collect a representative sample of archaeological resources present.

Prior to controlled excavation of the exposed area, three features were noted. First, a large ash deposit was uncovered in the southeast corner. Second, wooden posts were seen in the floor and walls of the exposed area, and third, utility trenches and lines could be seen along the west side.

Preliminary excavation consisted of sub-operation 21K3A, a stratigraphic trench dug along the south wall (Fig. 6.2). Eleven 2.0 m. by 1.0 m., one 1.0 m. by 1.0 m.

and one 0.5 m. by 2.0 m. sub-operations were excavated. Each sub-operation was excavated to a sterile tan or grey-green lacustrine clay horizon or to a sterile flood deposited sand horizon. Unit 21K3F was an exception as it was excavated to a depth of 0.3 m. and then abandoned when it was discovered the wooden feature under investigation was a railway period boxed utility line containing a metal pipe.

Three fur trade related features were exposed and partially excavated. These consisted of a historic structure/cellar, a historic pit (no. 1), and the edge of a second historic pit (no. 2). The prehistoric features exposed have already been discussed in a previous chapter.

6.2 Historic Structure/Cellar

The historic structure/cellar remains were investigated in 21K3A, 21K3B, 21K3C, 21K3H, 21K3K, 21K3L, 21K3N and 21K3P. All sub-operations were dug in halves to facilitate recording of profiles and structural details.

This feature was a pit measuring approximately 3.4 m. wide by 2.9 m. long by 1.45 m. deep. It appears to have been cribbed using the post-in-ground type of Red River frame construction (Fig. 6.3). Fill in the collapsed pit consisted of burnt wood and chinking, mottled clay-silts, and ash.

The feature was rectangular in shape with vertical walls and square corners. Burned and reddish-brown decomposed logs remained in situ along the west wall (Fig. 6.4). Three horizontal logs had charred outer surfaces and decomposed cores. The lowest log measured 15.24 cm. in cross section. A fragment of wooden log abutted the cornerpost along the north wall. Brown stained decomposed wood comprised the remains of the north wall, northeast corner

and the undisturbed portion of the east wall. The northwest cornerpost was squared, and measured 15.24 cm. with a length of 0.72 m. It consisted of a decayed wooden post set into a posthole which was 0.3 m. wide and extended 0.33 m. below the bottom of the wall logs in the west wall.

Although there was no indication of a groove in the post or tenons present on the logs, it was probably of Red River frame construction. The posthole extended through the fill layers of the cellar pit. Charred wooden remains of the cribbed walls and/or the superstructure were found on the dirt floor of the cellar pit. There was no sign of there ever having been floorboards within the pit.

The outline of the historic cellar pit was disturbed along its east wall and southwest corner by a railway post on a wooden beam and its associated trenches. Charred wood samples were recovered from the lowest fill layer of each of the associated sub-operations. The wood and charcoal samples were examined by Parks Canada, Conservation Services who determined the sample to be birch, poplar, ash, eastern white pine and white oak (burr oak) (L. Laflèche, pers. com.) (see Appendix D for details).

The artifacts associated with the cribbed cellar remains were predominantly from the early to mid-19th century. They were recovered from the cellar fill (layer/event 9) and represented a series of layers deposited after the burning and collapse of the structure around 1852. From bottom to top, these were:

a) charred wood remains in a brown clay silt;
b) burnt chinking concentration;
c) greyish-green clay;
d) greyish-white ash with charcoal and chinking;
e) slightly mottled clay silt; and,
f) mottled clay silt with chinking and charcoal (Figs. 6.5, 6.6, 6.7).

The artifacts recovered from the fill layers included 53 glass fragments (window and bottle), 15 clay pipe fragments, 18 ceramic sherds of a pearlware bowl with "Arctic Scene" pattern design of an unknown origin, one sherd of white earthenware plate with "Bamboo and Flowers" pattern design (1820-30) (Sussman 1978:6) (Fig. 6.8a), two sherds of pearlware transfer-printed plate (Fig. 6.8b), 19 ceramic sherds of other unidentified patterns, 99 ferrous nails (88 [88.9%] hand wrought, six [6.1%] drawn, two [2%] machine cut, three [3%] unidentifiable), 32 other metal fragments, four glass trade beads, a shell button blank, two bone cups from a cup and pin game or rattle, and a black steatite pipe bowl and platform with an incised starburst design (Fig. 6.9).

6.3 Pit No. 1

In the southwest corner of the 21K3 backhoe pit, an oval pit (no. 1) was encountered (Fig. 6.10). Units 21K3A2 to 21K3A6, 21K3E and 21K3M were excavated as part of the investigation of this feature. It was partially disturbed due to the presence of a cribbed utility line and associated trench along its west side.

Pit no. 1 had two distinct fill layers which were designated layer/event 12. These were a grey/white ash deposit overlaying a dark grey clay silt stratum. The pit began at a depth of 0.92 m. below surface and varied from 0.18 m. to 0.35 m. in thickness. The dimensions of the excavated portion of the pit were 1.50 m. north to south and 1.40 m. east to west.

This feature had a shallow basin-like shape. There was no indication of there having been any cribbing present. The interpretation of its use presents two possibilities: it could either have been an uncribbed cellar or a pit used for refuse. The uncribbed cellar interpretation lacks

credibility since no structural indicators were found to the east and north of it. Its shallow depth also suggests a use other than a cellar.

The refuse pit interpretation of this feature is supported by the fact that few complete artifacts were recovered. The exceptions were trade beads and straight pins. This pit could represent either adjacent secondary refuse or secondary refuse (Schiffer 1972:163). Refuse pits were commonly found in fur trade posts either adjacent to buildings or within the compound enclosure.

This pit contained artifacts which date from the early to mid-19th century. These consisted of 36 flat glass sherds, two bottle sherds, one clear glass stemware foot sherd, three clear tableware sherds, 17 white earthenware sherds (including three sherds of a 13 cm. diameter Wedgewood bowl "Peony" pattern design dated 1807-(?) [Coysh 1972:94] [Fig. 6.11a]), four creamware sherds, nine sherds of Fulham/Lambeth wear, one red earthenware bowl sherd, two red earthenware cookingware sherds, 13 clay pipe fragments (one pipe bowl with "WM" within a cartouche and a heart on either side of the spur [Fig. 6.11b]), six lead shots (11 mm. to 15 mm. diameter), one Brown Bess forward ramrod pipe (Fig. 6.12), one ferrous metal lockplate with flash pan (Fig. 6.12), 96 ferrous nails (58 [60.4%] hand wrought, seven [7.3%] drawn, and six [6.3%] unidentifiable), 22 straight pins, four copper buttons, one pewter button, two thimbles, one copper finger ring retaining traces of gold plating, one copper pipe ferrule, one ferrous metal hafted awl, one ferrous barrel hoop (41 cm. diameter), two iron projectile points (Fig. 6.13), one large copper alloy lid (39 cm. diameter) with riveted handle (Fig. 6.14), one blue chert biface fragment, 128 glass trade beads (predominantly white and aqua blue), one bone button with a single centred hole, two bone combs, one ivory whistle (Fig. 6.15), one turned ivory fragment, one bone ornament, one bone tool

(possibly a pottery spatula), two bone handled ferrous cutlery pieces including a two-tined fork (Fig. 6.16), one red ochre piece and one slate fragment. A sample of wood associated with the ferrous barrel hoop was recovered and tentatively identified as eastern white pine.

Substantial faunal remains were recovered from pit no. 1. They were mainly fish bones but also included mammal rib bones as well as other skeletal parts.

6.4 Pit No. 2

A second pit, no. 2, was uncovered in the southwest corner of 21K3M adjacent to pit no. 1 (Fig. 6.17). It began at a depth of 1.12 m. below the surface and was 0.27 m. deep. Its dimensions and shape were not determined as only an edge of the feature was noted in the west wall profile of 21K3M. The pit fill, layer/event 14, consisted of a brown clay silt with burnt chinking and a thin ash lens within it. The associated artifacts were one sherd of flat window glass, one clasp head hand wrought nail and one incomplete hand wrought nail. Similar pits have been found in other fur trade sites: e.g., Fort George (Losey 1979) and Pine Fort (Hamilton 1979). The backfilling of cellars and pits with refuse from surrounding areas was a common practice during the fur trade era (Kidd 1970:33,42,43).

6.5 Stratigraphy

In addition to the features and their related artifact just described, several layers containing early 19th century and railroad era artifacts occurred everywhere except where interrupted by cellar or pit features. A resume of their composition and artifactual contents follows.

The railway period features and area fill have been assigned layer/event numbers 1 to 7. The associated artifacts were a chert core; a chert thinning flake; a chert

retouched flake; a chert endscraper; 473 glass sherds including 274 flat glass sherds, various bottle, tableware, lighting device and electrical insulator sherds; 86 ceramic sherds including one sherd of a "Brosely" pattern white earthenware plate probably manufactured by Copeland between 1818 and post-1847 (Sussman 1979:63); eight sherds of "Italian" pattern white earthenware plate also made by Copeland between 1816 to present (Sussman 1979:134); one sherd of an "Ivy" pattern white earthenware cup probably manufactured by Copeland between 1845 and post-1865 (Sussman 1979:135); two sherds of "Passion Flower Border Series" pattern manufactured ca. 1835 (Coysh & Henrywood 1982:277); two sherds of an "Italian Seaport" pattern white earthenware bowl dated 1830 to 1850(?) (Sussman 1978:50) (Fig. 6.18); various other white earthenware sherds, various other course earthenwares; a prehistoric ceramic body sherd; 22 clay pipe fragments (one pipestem with "IF" on spur attributed to John Ford, East London 1805-65 [Oswald 1975:136]); one pipestem fragment with "KENT ST." and "IAM[S]" in moulded relief, manufactured by John Williams, Borough of London, 1828-42 [Oswald 1975:148](Fig. 6.19); two modern ammunition pieces; 198 nails (130 drawn [65.7%], 55 hand wrought [27.8%], three machine cut [1.5%], and ten unidentified [5%]); 68 other metal fragments including wire, strapping, straight pins, buttons, scissors, twist tie, valve, and a brass bottling "cock" stamped with "MADE BY W. RUDDER" (Fig. 6.20); two metal container fragments; ten fasteners including nuts, bolts, screws and a wedge; 22 miscellaneous class artifacts including an amber glass bead, type If6* (Kidd & Kidd 1970); plastic fragments; a black steatite pipe bowl fragment; light bulb fragments; paint; asbestos; a shell button with four holes, and a cloth sample. Wood post no. 1 in 21K3D (Fig. 6.6) has been identified as cedar (Thuya spp.) (Lafleche: pers. com.).

Between the railway period features and the fur trade features was found a brown or grey-brown clay silt stratum

which was assigned layer/event 8. This was the second major stratigraphic layer encountered throughout the 21K3 area. The artifacts found in association with this horizon were as follows: 24 flat glass sherds, one dark olive-green bottle sherd, three clear lighting device sherds, one pressed yellow glass sherd, one burnt glass sherd, five clay pipe fragments, one white earthenware plate sherd with "NWICK CASTL" transfer-printed on base ca. 1835 (Coysh & Henrywood 1982:20,277) (Fig. 6.21), 14 nails (five [35.7%] drawn, eight [57.1%] hand wrought, one [7.2%] unidentified), three ferrous metal fragments, one wire fragment, and a 14 mm. diameter bone button with a single central hole.

Underlying layer/event 8 on the west side of 21K3 in 21K3M, four distinct stratigraphic layers were recorded and assigned layer/events 48 to 51. These layers were between the railway period and historic pit no. 1. The artifacts found in association with these layers were 11 flat glass sherds, one dark green alcohol bottle sherd, one clay pipestem fragment, one white earthenware plate sherd from "Passion Flower Border Series" (Fig. 6.21) ca. 1835 (Coysh & Henrywood 1982:277), two other white earthenware plate sherds, one creamware hollowware sherd, 12 nails (ten hand wrought, two unidentified), five fragments of ferrous metal strip/strap and one straight pin.

Underlying layer/event 51 and occurring during the fur trade era, a brown clay silt, layer/event 52, was noted again in 21K3M. This layer bound pit no. 1 but also underlaid it in the east half of the sub-operation. The associated artifacts were early to mid-19th century fur trade items. The recoveries included 11 flat glass sherds, one rimsherd of beveled mirror glass, one sherd of white earthenware blue transfer-print, one clay pipestem fragment with partial spur, one Fulham/Lambeth jar sherd, 37 hand wrought nails, one straight pin, five copper sheet metal fragments and one silver finger ring (Fig. 6.22).

The third major stratigraphical horizon at the Fort Gibralter II site area was a white/beige marbled sand natural stratum, layer/event 16. Three sherds of window glass and a lead bale seal were recovered (Fig. 6.23). "The bale seal, embossed "Mc---"and "&CO" and "--ONDON" may represent McTavish, Fraser and Company, a London-based agency and supplier of McTavish, Frobisher & Company, a partner firm of the Northwest Company. The agency, "McTF&Co", would act as a clearing house for goods sent overseas, providing quality and quantity control" (Douglas A. Birk, letter to Peter Priess, 12 December 1985; Steinbring 1980: Fig. 6.3).

The fourth major stratigraphic horizon was a brown-black or dark brown clay silt designated layer/event 17. A mixture of fur trade and later period artifacts included ten window glass sherds, one dark olive-green alcohol bottle sherd, two sherds of blue lamp globe, six sherds of clear curved glass, one ceramic sherd of pearlware flatware, three fragments of ferrous strip-strap, eight nails (three hand wrought, four drawn and one machine cut), and a chert flake.

The base of the historic cribbed cellar was dug into a dense tan clay stratum, layer/event 29. This horizon was deposited upon a series of clay horizons with alternating thin lenses of dark grey or black clay which represent pre-historic occupation floors.

The artifact recoveries from layer/event 29 were a mixture of prehistoric lithics and 19th century fur trade items. They included one Knife River Flint thinning flake, one Agate core, one 13 mm. lead shot, one ferrous metal fragment, one yellow metal coat-size flat button with wire alpha shank set into a high domed boss, one red ochre piece, four glass beads (types IIa33, IVa2, IIa12, IIa31 [Kidd & Kidd 1970]), five sherds of flat glass, one rimsherd of pearlware hollowware with overglaze painted a dark red

colour, and two hand wrought nails. The aboriginal artifacts recovered from the layer/event are discussed as part of prehistoric occupation 7 in Chapter 4.

In the northeast corner of 21K3H underlying layer/event 29 and adjacent to layers 27 and 25, a circular pit containing a random scatter of pieces of charred wood was uncovered. This feature was 0.42 m. east to west, and 0.52 m. north to south with a depth of 1.28 m. to 1.35 m. below datum. The lack of associated artifacts and its stratigraphic context would suggest this pit could be either prehistoric or historic in nature. It has been designated layer/events 55 and 56. A sample of the charred wood was collected and sent for species identification. Louis Lafleche (pers. com.) has identified it as being white oak which is also commonly called burr oak. Burr oak is common to the aspen parkland riverine environment of Manitoba and is found locally.

Underlying layer 29 in 21K3P, the southernmost excavation, were three natural stratigraphic horizons, layer/events 33 to 35, which were sterile. They were, from top to bottom: (1) brown sandy clay, (2) striated white sand and tan clay, and (3) a tan sandy clay. These horizons were not seen elsewhere in the 21K3 area.

A sand stratum, layer/event 30, represented the deepest layer of historic occupation as well as the sixth major stratigraphic layer of the site. As with layer 29, a mixture of prehistoric and historic artifacts were collected. Three sherds of flat glass, three hand wrought nails, six sherds of white earthenware (three of a plate with "Bamboo & Flowers" pattern design supplied by Robert Elliot, 1820-30 [Sussman 1978:6]), and one white/grey chert thinning flake were found. It is interesting to note the three sherds of "Bamboo & Flowers" pattern crossmend with a sherd

from layer/event 9. This suggests the historic artifacts in layer/event 30 may have originated from the historic cellar fill.

The remaining major stratigraphic layers were associated with prehistoric occupations and have been previously discussed.

The remaining stratigraphic layers shown in the layer/event diagram, Appendix A, were recorded along the riverbank or east side of the excavations as well as south of the cribbed cellar feature.

A tan clay and/or a brown sandy clay underlaid layer 1 along the east and south sides of the Fort Gibralter II site area. These have been designated layers 38 and 32 respectively. A single sherd of flat glass, six body sherds of Blackduck Manitoba corded ware, and faunal remains were recovered from these layers.

The remaining layers, 39 to 41, were sterile strata found along the east side of the site.

The artifacts whose proveniences were questionable or resulted from vandalism of sub-operations during the field season were designated 21K3Y. These artifacts included historic and prehistoric specimens and faunal remains.

Collected were chalcedony core, one chert flake, one sawn fragment of red catlinite, one clear lead glass medicine vile base (Carley 1981:19-35), one sherd of window glass, three nails (two hand wrought, one drawn), one copper tinkler, one ferrous wire fragment, one metal pencil fragment, five clay pipestem fragments, one clay pipe bowl with "TD" within a cartouche and "T" on the obverse side of the spur and "D" on the reverse, one Manitoba corded body sherd, two sherds of pearlware bowl with "Arctic Scene" pattern design (Coysh and Henrywood 1982:125), one sherd of pearlware flatware, three sherds of white cup "Bamboo and Flowers" pattern design (Sussman 1978:6), one sherd of white earthenware plate, one Fulham/Lambeth jar body sherd (Fig. 6.23), and large mammal bones.

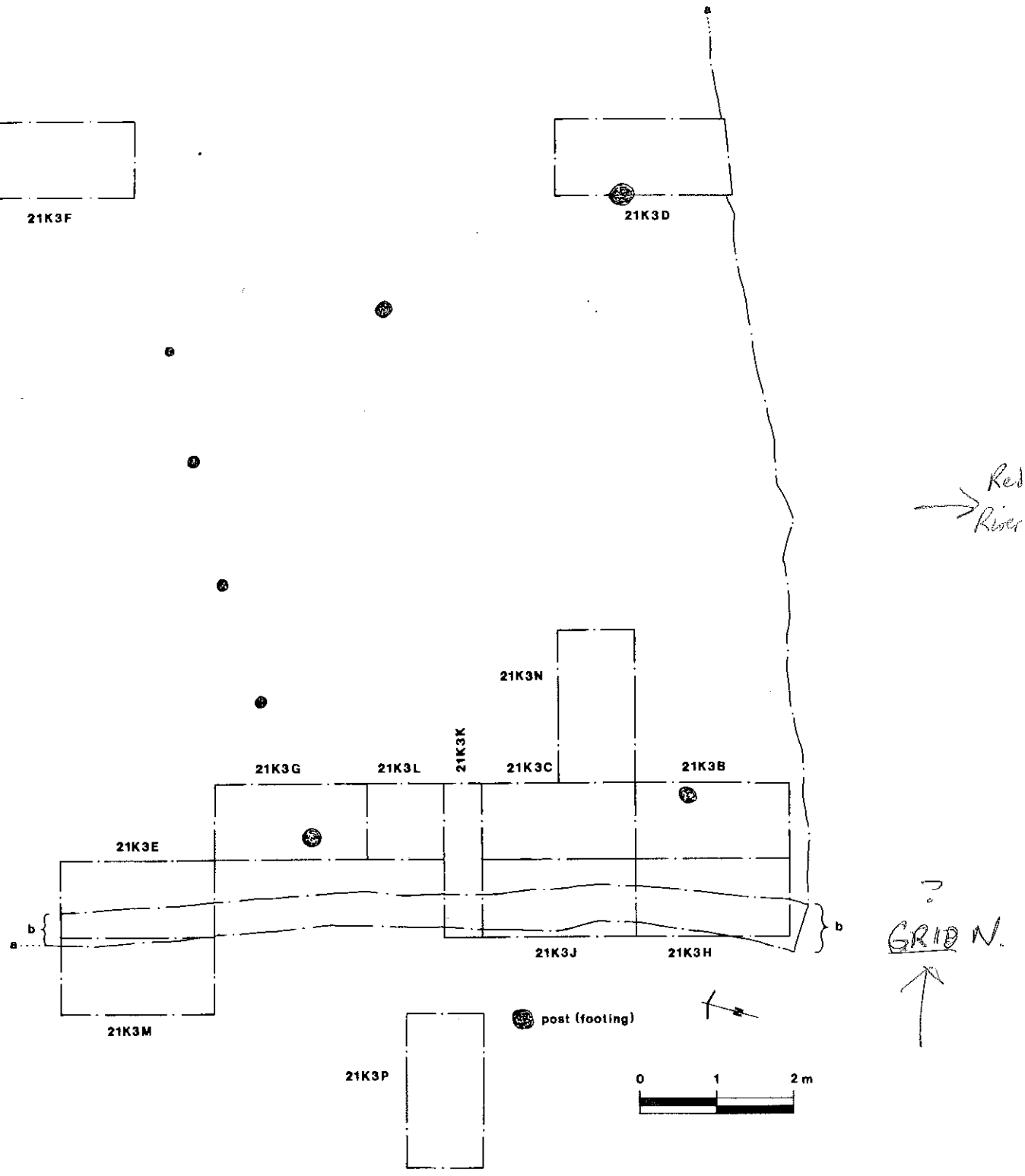


Figure 6.1 Site map of Fort Gibraltar II, 21K3: a) limits of backhoe excavation; (b) profile trench for backhoe excavation. (Drawn by D. Elrick.)

Figure 6.2 21K3A trench excavated to obtain stratigraphic cross section. (Photo by Peter Nieuwhof.)

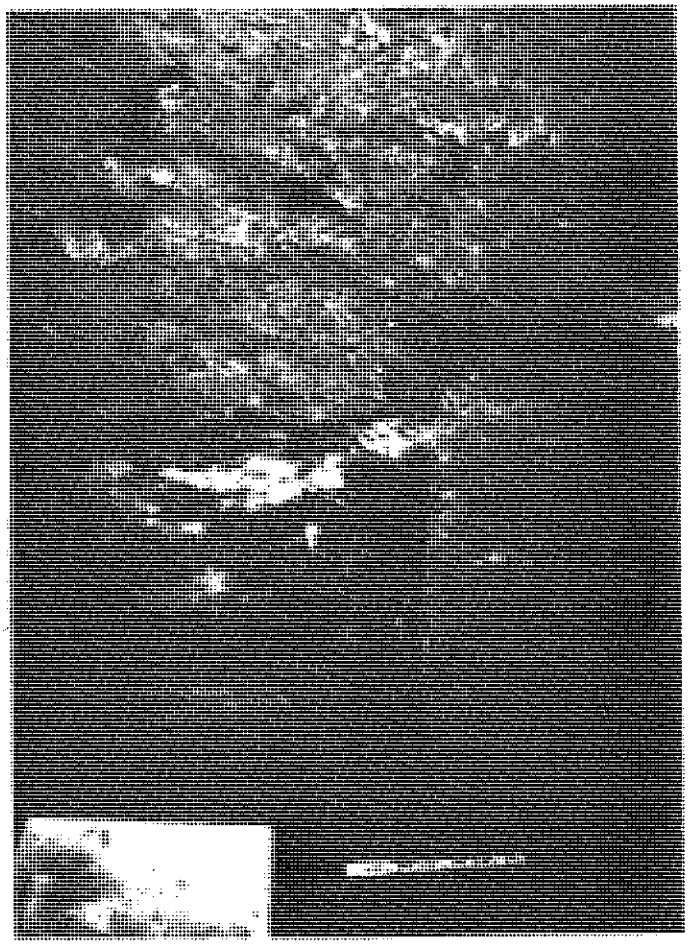


Figure 6.3 Red River frame post-in-ground construction, northwest corner of cellar cribbing. (Photo by Peter Nieuwhof.)

21K3K (N½) - westwall (grid west)

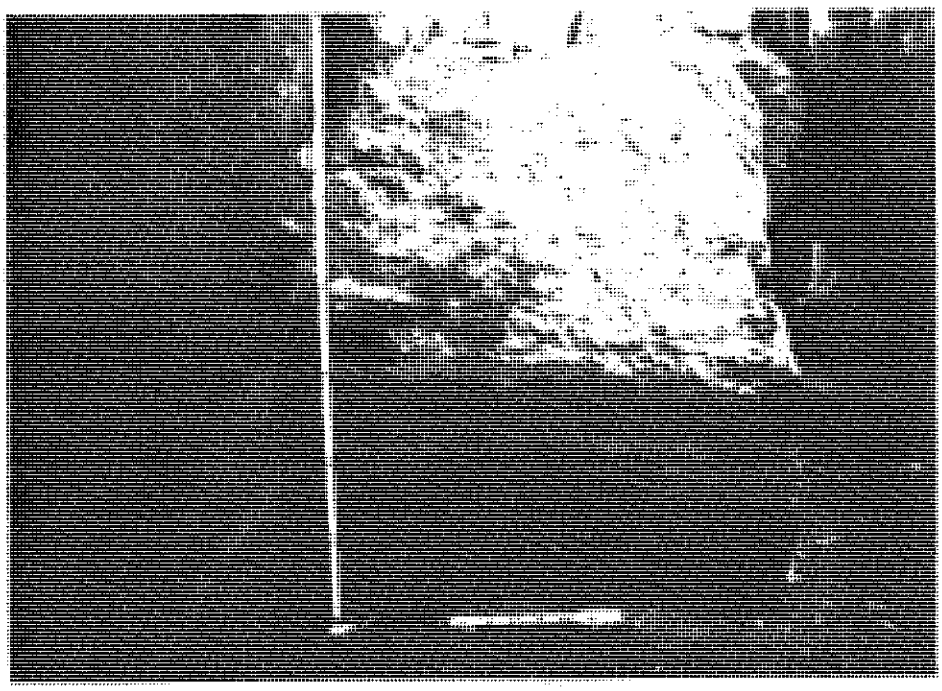


Figure 6.4 21K3K west wall; west wall of historic structural remains in situ. (Photo by Peter Nieuwhof.)

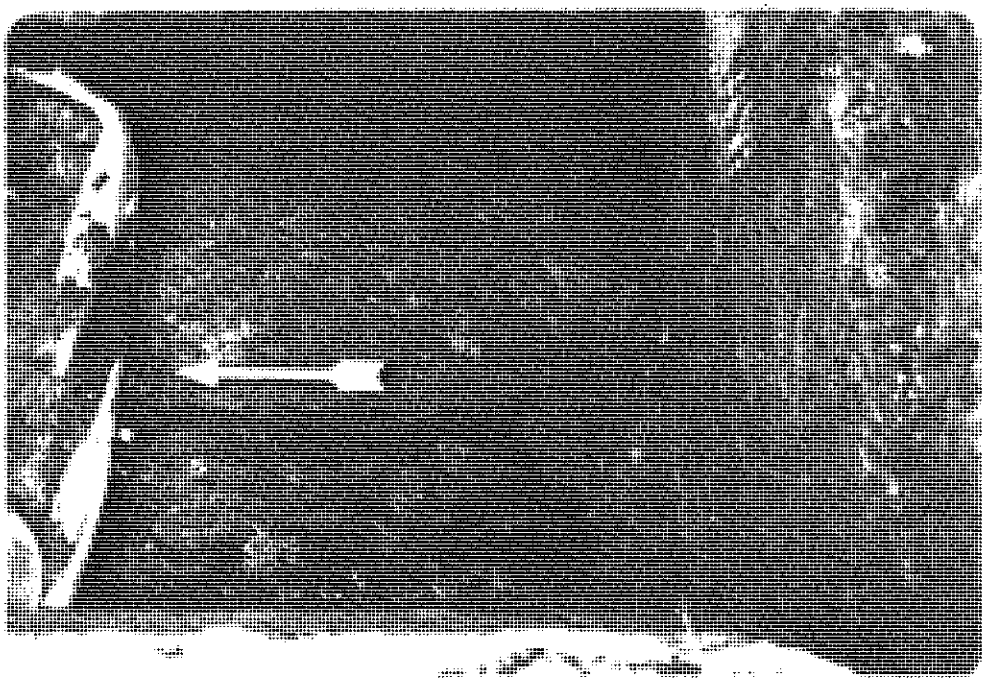


Figure 6.5 21K3H east wall of feature disturbed by railway posthole and trench feature. (Photo by Peter Nieuwhof.)

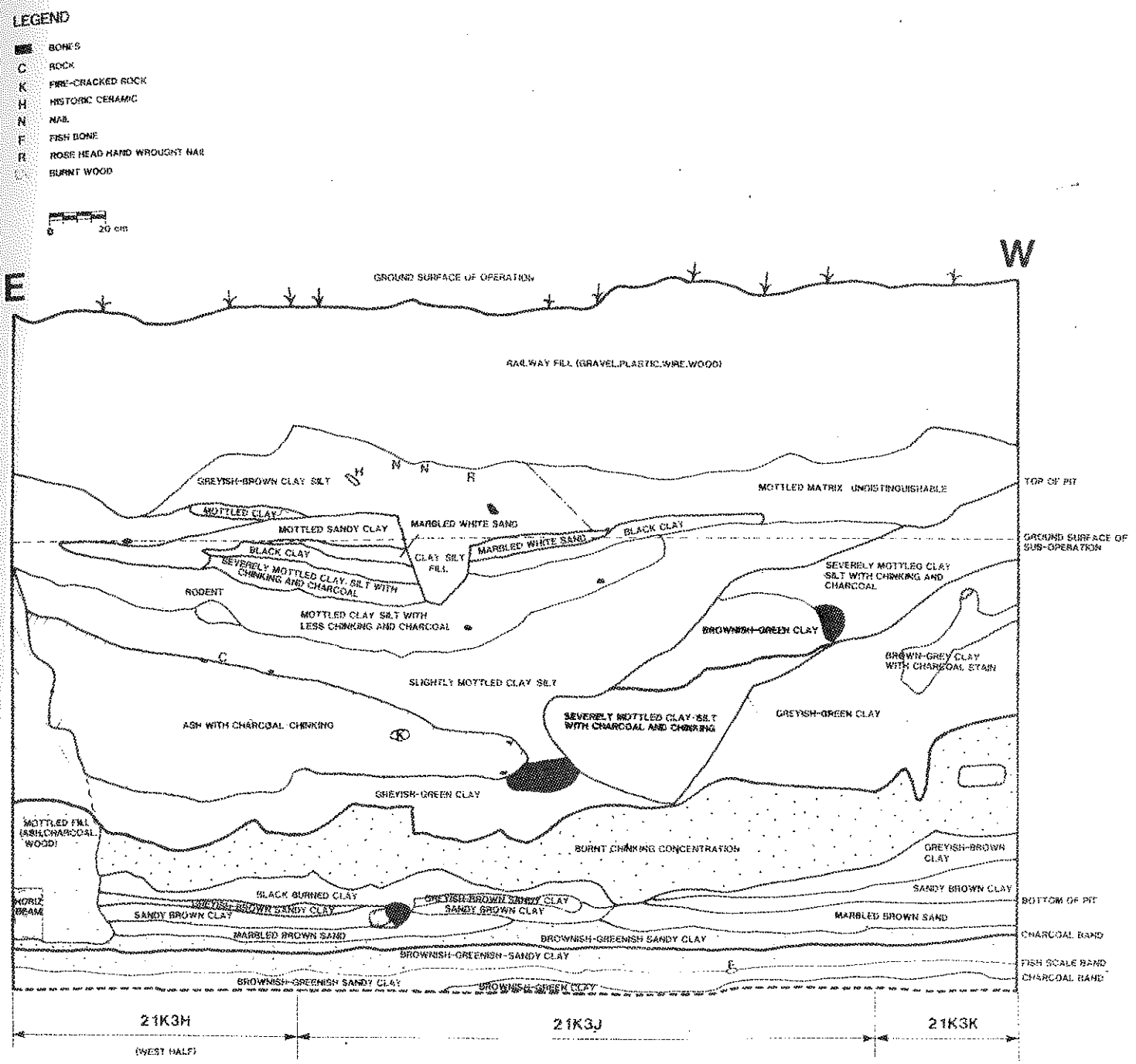


Figure 6.6 21K3H, 21K3J, 21K3K south wall profile showing historic structure/cellar and fill.

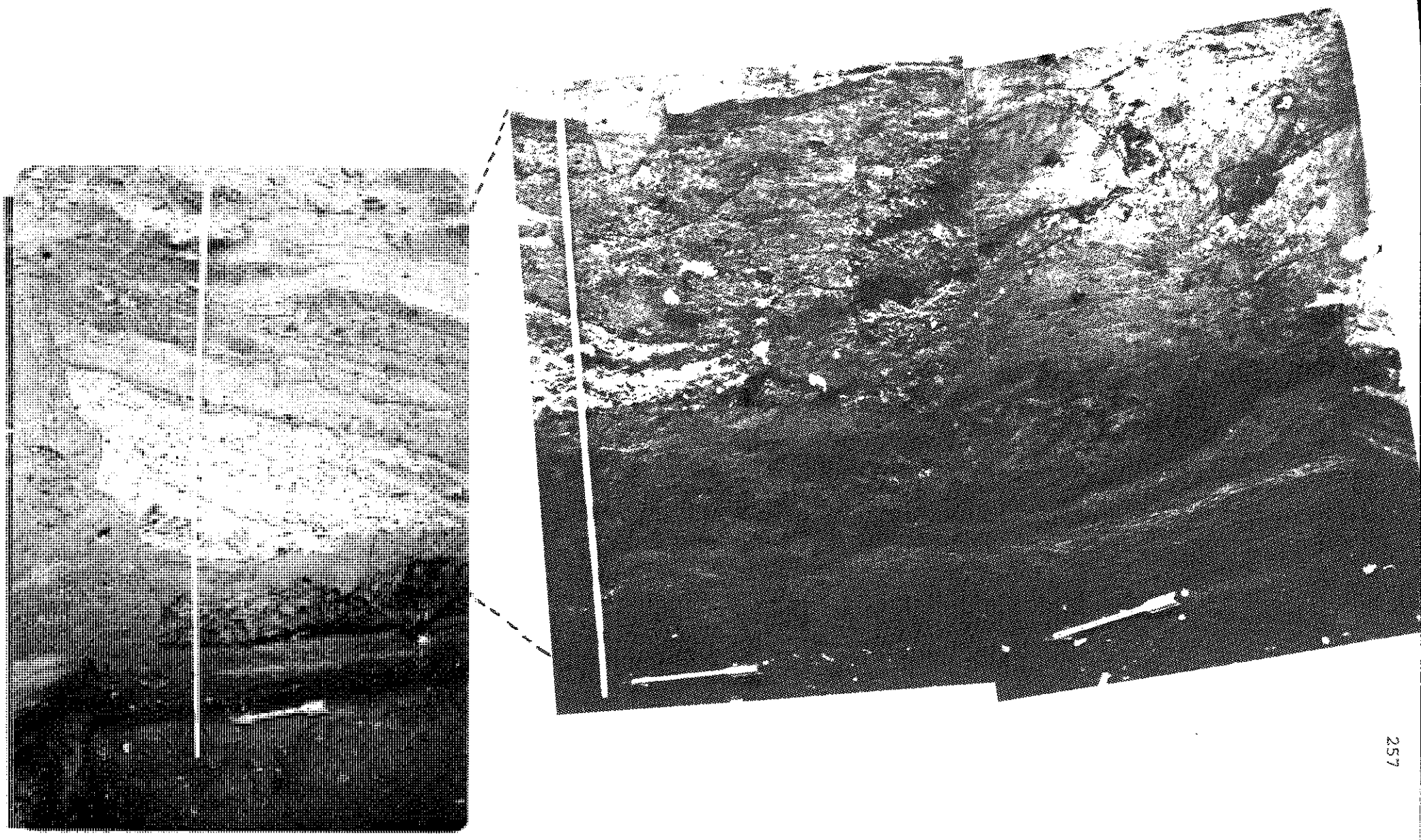


Figure 6.7 21K3H south wall showing the cribbed cellar fill. (Photos by Peter Nieuwhof.)

(a)

(b)

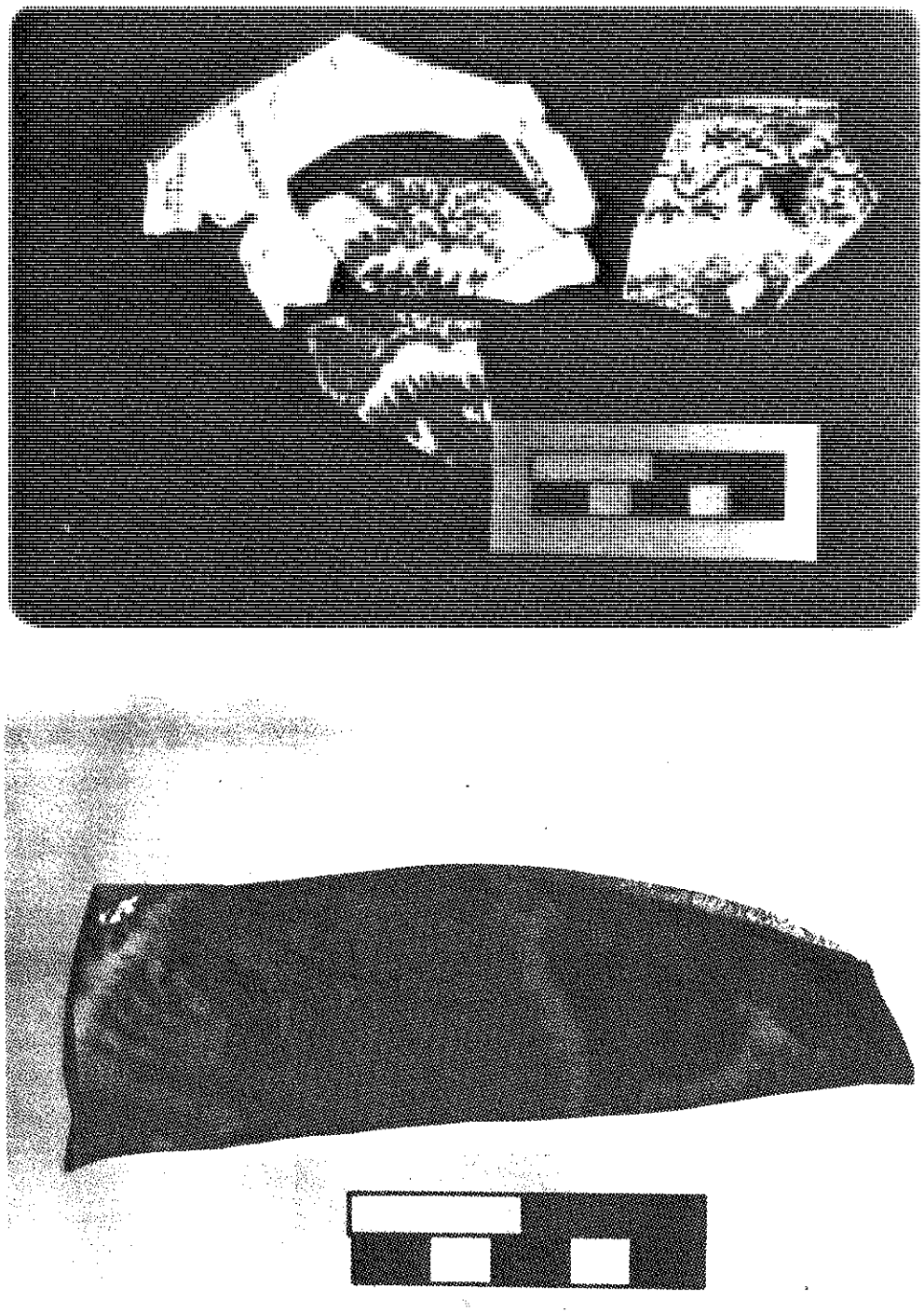


Figure 6.8 Pearlware and fine white earthware.
(a) Pearlware vessel fragments with "Arctic Scenes" pattern and fragments of a white earthware vessel with "Bamboo and Flowers" pattern.
(b) Pearlware plate with an unknown transfer pattern. (Photos by S. Biron Ebell.)

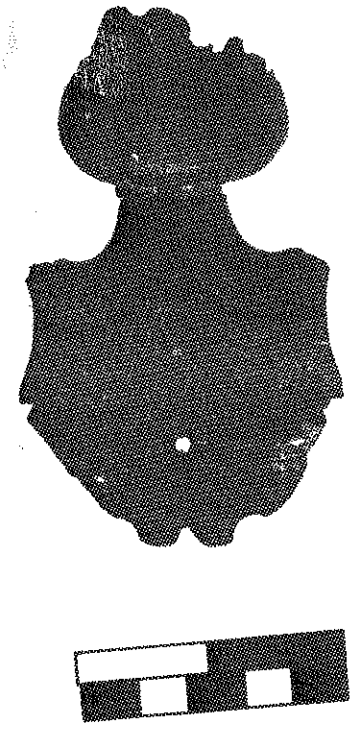


Figure 6.9 Smoking pipe manufactured from steatite. Note that bowl and platform were manufactured separately. (Photo by S. Biron Ebell.)

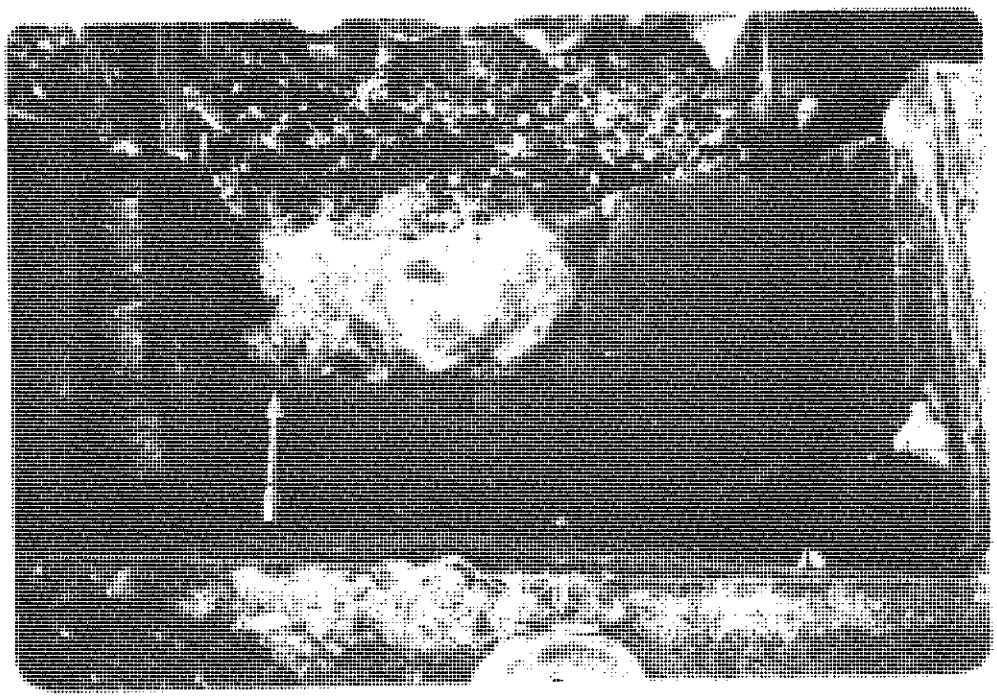
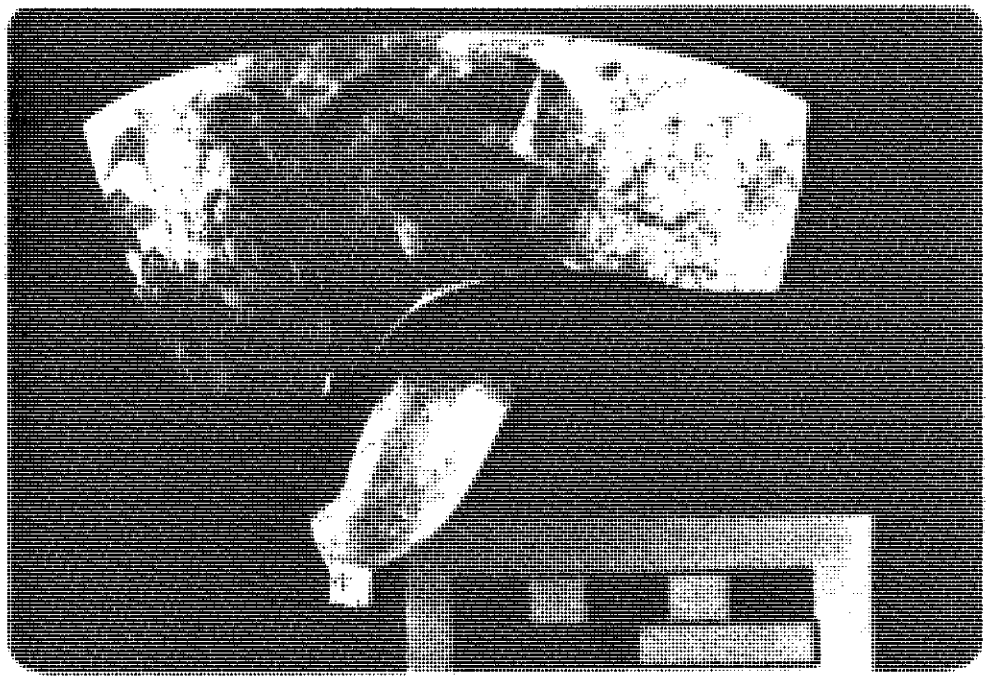
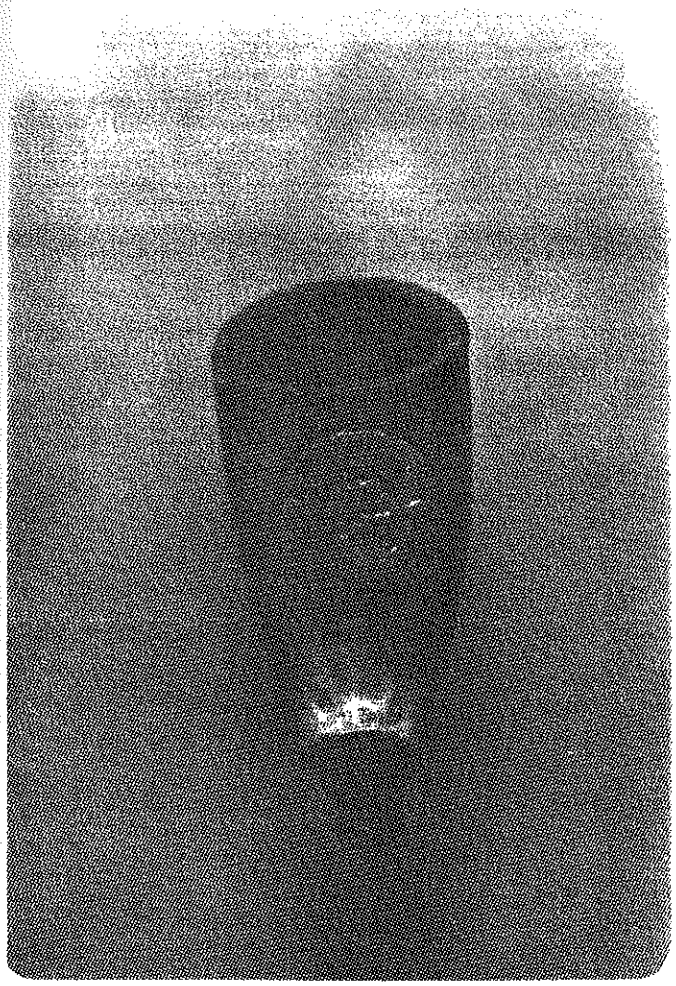


Figure 6.10 Refuse pit no. 1. Plank ends at left are part of housing for railway utility lines. (Photo by Peter Nieuwhof.)



(a)



(b)

Figure 6.11 Transfer printed bowl sherds and pipe fragment from refuse pit no. 1.
(a) Wedgewood bowl with "Peony" pattern and lateral view of pipe bowl.
(b) Detail of manufacturer's marks on the pipe bowl.
(Photos by S. Biron Ebell.)

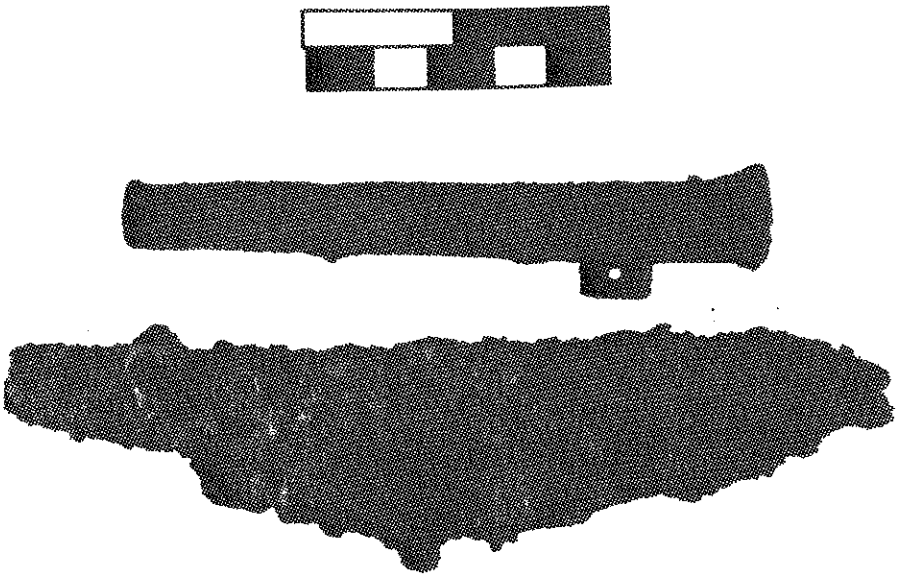


Figure 6.12 Lock plate and Brown Bess forward ramrod pipe. (Photo by S. Biron Ebell.)

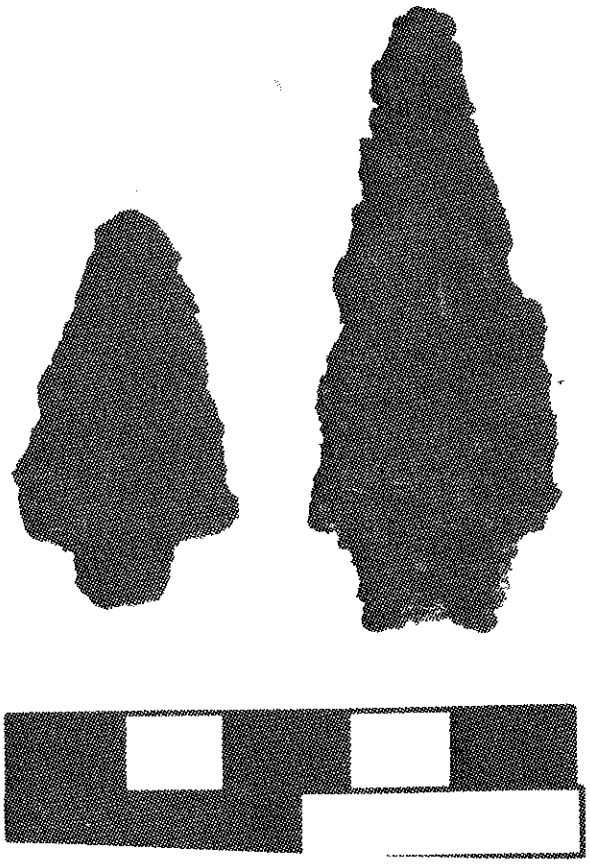


Figure 6.13 Iron projectile points. (Photo by S. Biron Ebell.)

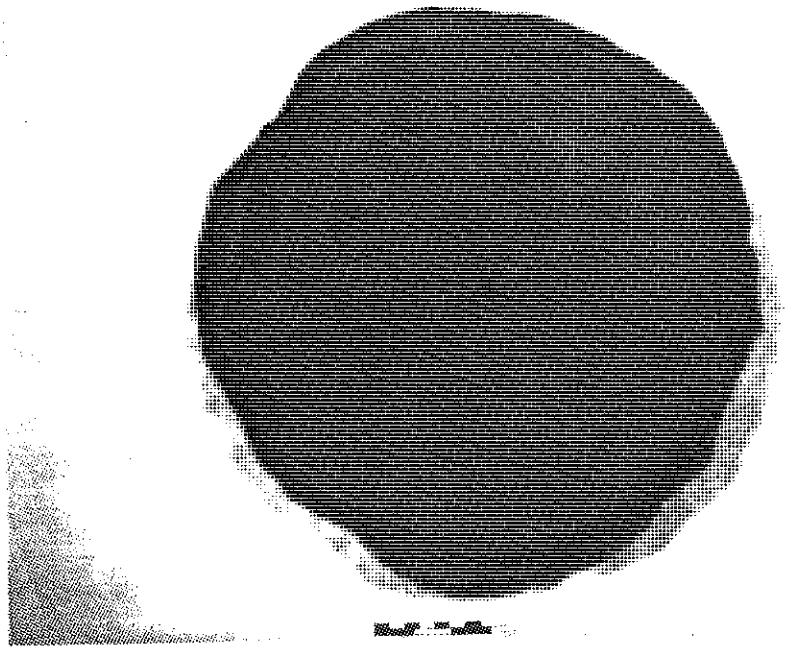


Figure 6.14 Copper alloy pot lid. (Photo by S. Biron Ebell.)

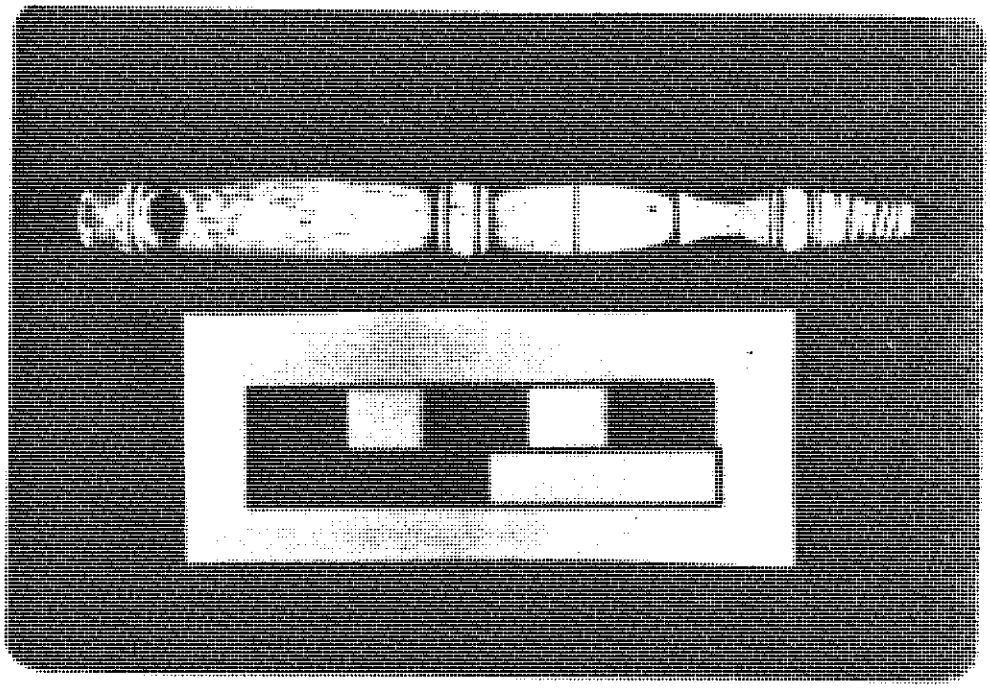


Figure 6.15 Ivory whistle. (Photo by S. Biron Ebell.)

Figure 6.16 Two-tined fork and bone knife handle. (Photo by S. Biron Ebell.)

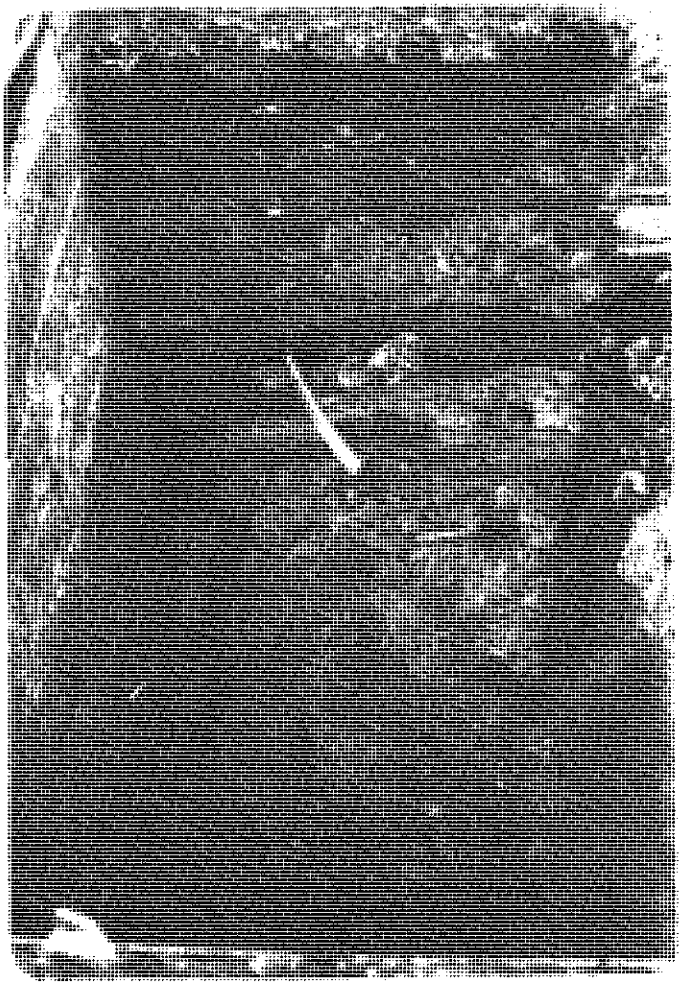


Figure 6.17 21K3M railway utility line cribbing, pit no. 1 and pit no. 2. Pit no. 1 is near bottom of profile (darker strata, containing rib fragment). Pit no. 2 is in bottom left hand corner of excavation. (Photo by Peter Nieuwhof.)

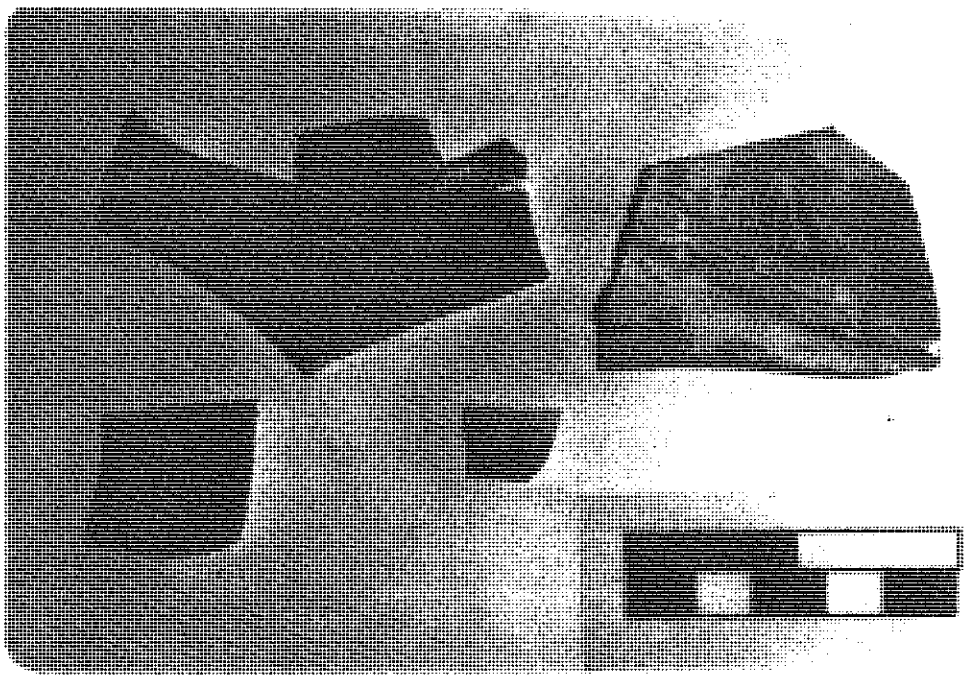


Figure 6.18 Ceramic sherds recovered from strata disturbed by the railroad. Pattern names are Italian, Broseley Italian Seaport, and Ivy. (Photo by S. Biron Ebell.)

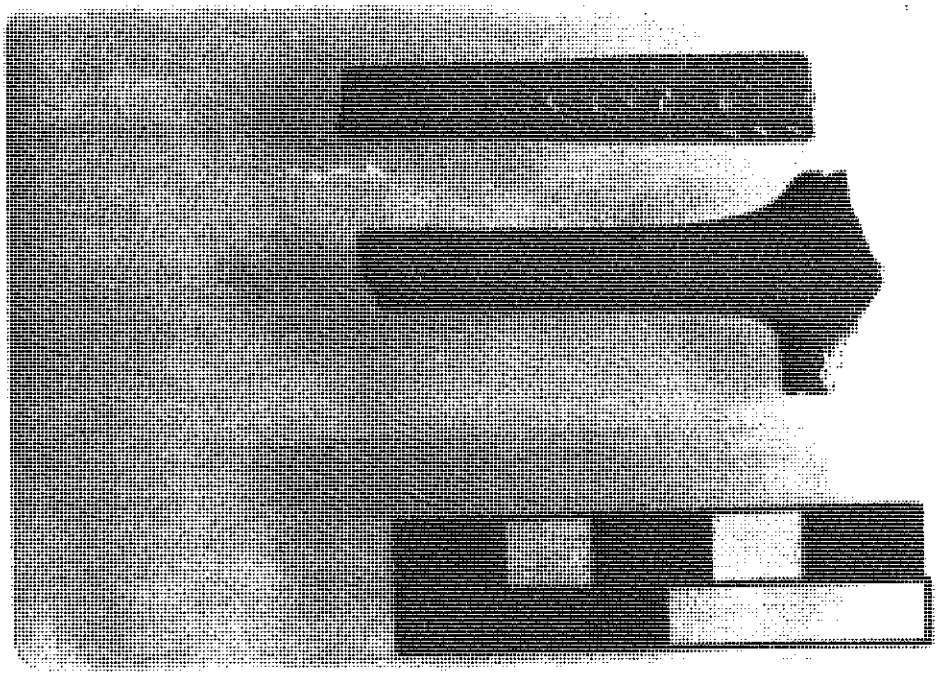


Figure 6.19 Clay pipe fragments. Upper specimen marked "Kent St" and "and" or "[Engl]and", between embossed floral pattern. Lower specimen marked "IF" on spur. (Photo by S. Biron Ebell.)

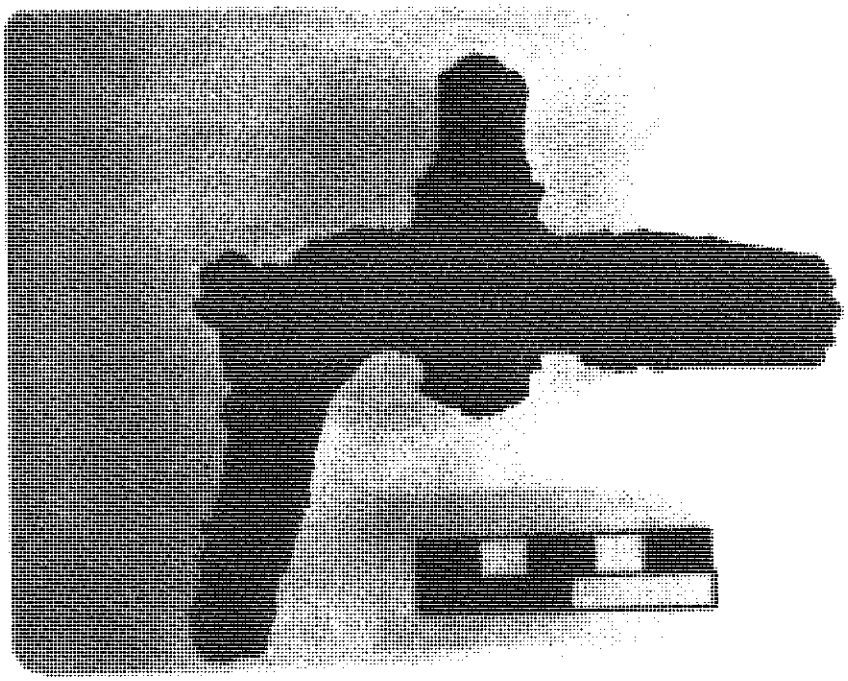


Figure 6.20 Bottling cock made by W. Rudder. (Photo by S. Biron Ebell.)

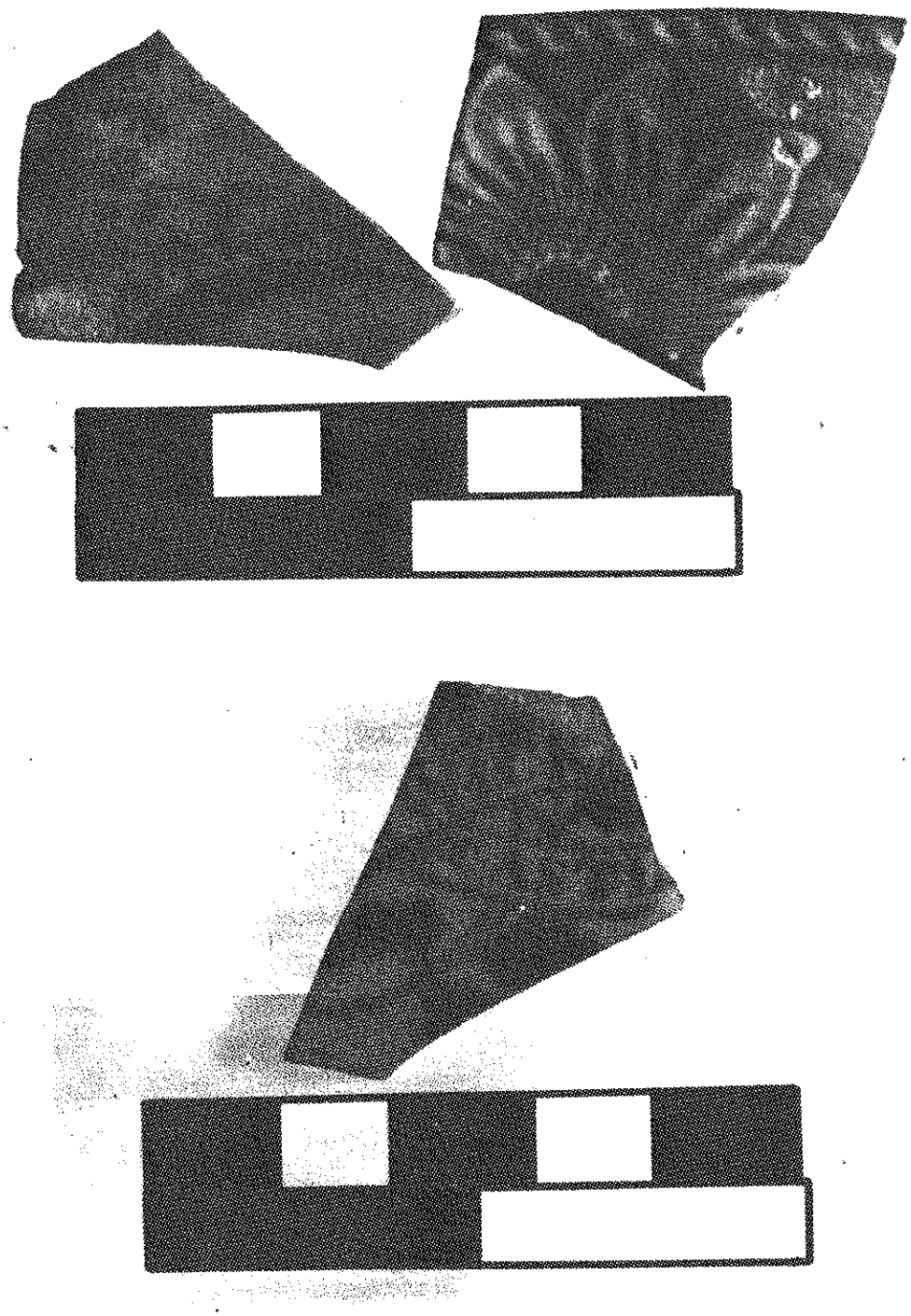


Figure 6.21 Fine white earthenware sherds showing the "Passion Flower" border pattern and "Alwick Castle" centre pattern. (Photo by S. Biron Ebell.)

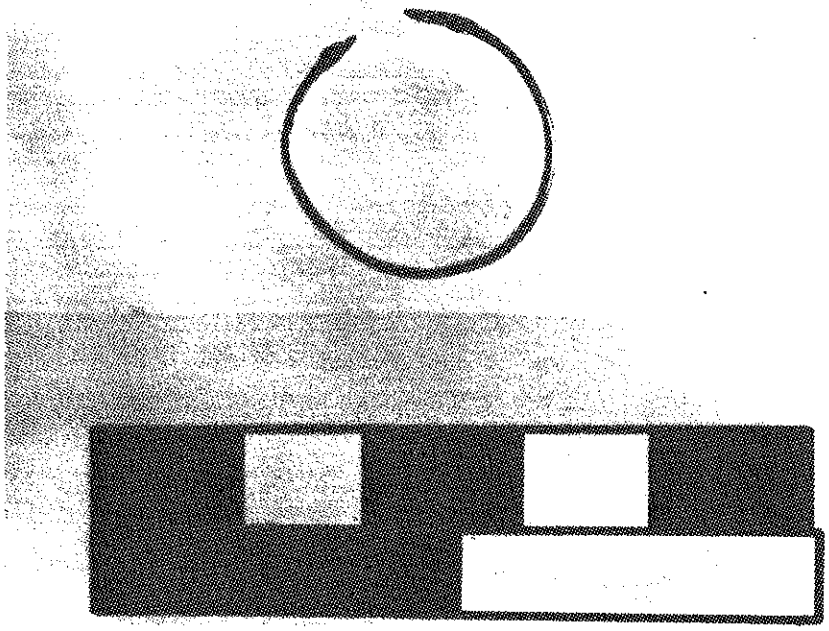


Figure 6.22 Silver finger ring. (Photo by S. Biron Ebell.)

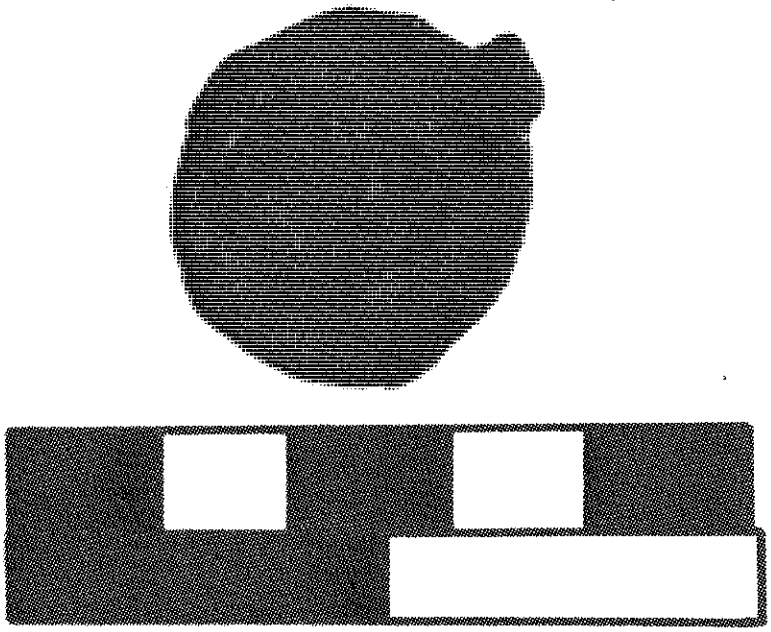


Figure 6.23 Bale seal embossed "Mc[___]& Co" and "[___]NDON". (Photo by S. Biron Ebell.)

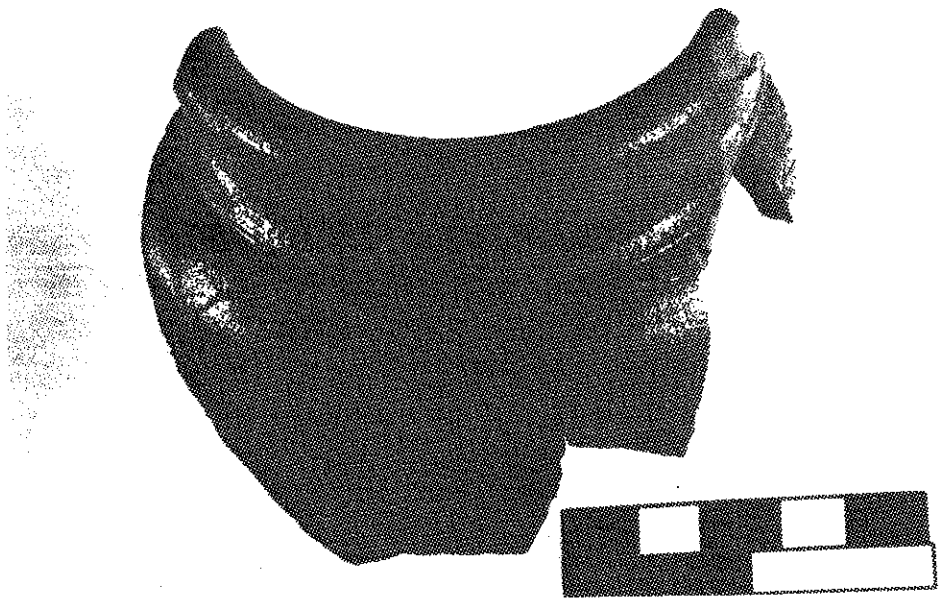


Figure 6.24 Fulham Lambeth jar fragments. (Photo by S. Biron Ebell.)

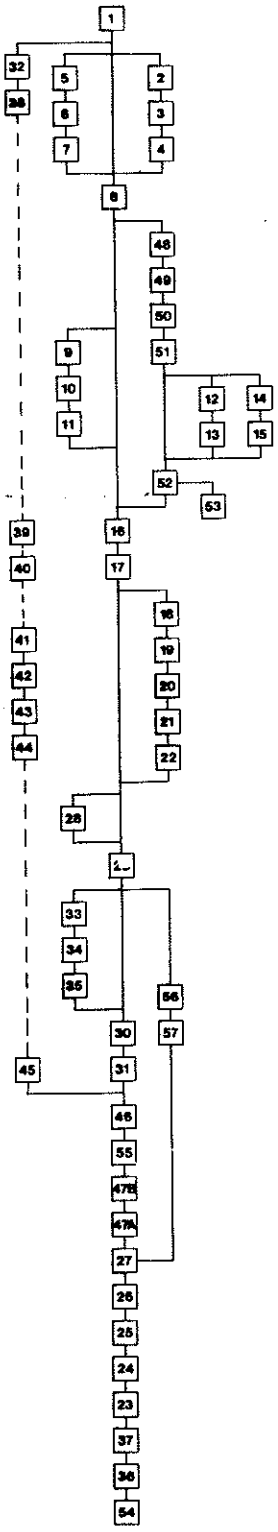


Figure 6.25 Layer/event chart for 21K3. (Drawn by Peter J. Priess.)

REMAINS OF THE RAILWAY

7.1 Introduction

After the construction of Upper Fort Garry, emphasis in activity shifted to that location and away from the immediate vicinity of the Forks and the west bank of the Red River. Fort Gibraltar I was already gone and Fort Garry carried on in a secondary role. An attempt at operating an experimental farm on the west bank downstream from the Forks struggled along for a few years but was abandoned in 1841. Fort Garry provided facilities for the experimental farm and later was used for residences. It was damaged by the flood of 1852 and at least one of its buildings may have been repaired after this flood. In general, however, there were no new developments in the area once Upper Fort Garry began operation.

Although development of railway facilities in the Forks area began in 1888, for several decades this consisted of a more linear arrangement extending from the Assiniboine River to Water Avenue and along Water to Main Street. A large portion of the land on the east side of Main Street remained unused as did the strip along the west bank of the Red River.

In addition to tracks for access to the station on Water Avenue near Main Street, other tracks provided access to the roundhouse and other maintenance functions. A second shop and roundhouse appear in plans from the early 20th century.

One of the problems of this area for railway use was its relatively low elevation with the consequent possibility of flooding. The area was often referred to as "the Flats". Guinn (1980c:140) notes that extensive filling took place in 1888 and 1889. In addition to depositing approximately 15,000 cubic yards of fill in the area of the terminal (on Water near Main), 100 carloads a day were being distributed in the yards. The total amount of fill involved in the latter activity is not specified. The identification and nature of these fills are discussed more extensively in the presentation on Fort Gibraltar I. Some of the fill removed by backhoe was undoubtedly the remains of these initial attempts to create a viable railway yard. Excavations also encountered structural remains of the railway in two areas.

7.2 Roundhouse

The first area chosen for excavation, north of the maintenance shop and west of the Fort Gibraltar I area (Fig. 2.1), was found to contain a section of stone foundation, interpreted to be a portion of the 1889 roundhouse. Once this interpretation was made, excavation in this area was discontinued. It was felt that since this structure was also known through documentary sources it would be more productive, in terms of locating and evaluating archaeological resources, to concentrate our efforts elsewhere. The relatively small area investigated had established presence, nature and condition of the remains of one feature. Continued excavation would provide additional detail but would not necessarily expose anymore major information on the feature. The excavated portion was cleaned by hand for recording of the feature and associated stratigraphy.

The feature was interpreted to be a portion of the foundation or wall of the roundhouse turntable. It consisted of a limestone foundation/wall set on a concrete foundation. The inside of this wall had a limestone and brick ledge for supporting a set of timbers which may have been floor joists. During the course of our stay on the site we were visited by a number of retired CN employees who shared some of their recollections of the earlier years of the railway operation. However, none of these had a personal recollection of the roundhouse beyond knowing of its existence and thus could not provide

us with any details.

The foundation/wall was constructed of irregular limestone blocks bonded with concrete. This was 0.65 m. to 0.78 m. thick with a remaining height of more than one metre. On the south or outside/ this wall stood on a concrete footing of unknown depth. Excavation only extended down to expose the beginning of the concrete. One railway employee suggested a possible depth of 30 feet.

On the north side the foundation had been extended with a 0.35 m. thick and 1.2 m. wide ledge to provide a base for placement of a series of horizontal beams, probably joists. This ledge was constructed of limestone with concrete mortar and had been built on a bed of gravel over rubble. The bed had been prepared on the natural silt deposits. There was no sign of the concrete footing which may thus be present only under the foundation itself.

Within the area excavated we found evidence of three beams set on the ledge mentioned above. A base had been prepared to place the end of each beam, by using bricks and a lime-sand mortar. A single course of brick had been placed along the line of each beam. In two instances the bricks were laid flat and in another case they were set on edge. In at least one instance a layer of mortar up to 2.0 cm. thick was present on top of the bricks. The overall impression is that bricks and mortar were used to level the beams.

The ends of these beams extended close to the foundation but not up to it. The distance between the end of a beam and the foundation varied from 3.0 cm. to 10.0 cm. Following placement of the beams the spaces between them and between them and the foundation had been filled with additional stonework to form a level surface approximately even with the upper surface of the beams (Fig. 7.2). Only the end of two of the beams remained, along with some of the supporting brick and intervening stonework. A portion of this construction appears to have been removed when the adjacent area was dug out.

The foundation was originally exposed by the backhoe digging, resulting in removal of some of the upper courses of stone. However, it appears to have extended close to the present ground surface, covered primarily by the present ground surface composed of 20 to 30 cm. of gravel.

The section of foundation exposed was not straight although it was not definite whether it was uniformly curved or whether, as it appeared to be, it was composed of a number of short straight sections arranged to approximate a curve.

Evidence relating to construction of this foundation was located only on its south side. To the north the area was completely filled with cinders to a depth beyond the bottom of our excavations. Stratigraphy on the south side showed an irregular builder's trench roughly 60 cm. wide and extending down to below the beginning of the concrete footing.

The trench and remnants of a wooden form indicate a builder's trench was dug to allow construction of a form for pouring the concrete footing (Figs. 7.3, 7.4). There is no indication the form extended to the bottom of the concrete. The builder's trench, in becoming narrower, suggests a complete form may not be present.

Location off this feature closely matched the location of the foundation of the roundhouse turntable, as known through historical sources. The curved section uncovered was then part of a circular structure. The beams or joists would have been on the inside of this circle, and since they appeared to be part of the original construction, would have been part of the turntable operation. The exact nature of the latter is now known.

At some time, presumably after use of the turntable had been discontinued and its machinery removed, the interior of the turntable foundation had been used for dumping cinders. This may have involved actually deepening the area or just filling a deep

depression which already existed due to the turntable design.

Stratigraphy on the inside of the foundation consisted primarily of cinders extending down beyond the bottom of our excavation, covered by up to 30 cm. of the gravel which constituted the present ground surface. The cinders contained sand lenses as well as scattered wood, coal and various artifacts.

Stratigraphy outside or south of the foundation was composed of much less cultural fill. The upper layer, up to 20 cm. thick, was the same gravel present throughout the area. Below this was a layer of cinders mixed with wood and artifacts to a depth of about 70 cm. The next deposit below the cinders was a 10-20 cm. thick layer of gravel, appearing to be the first deposit on the builder's trench fill and possibly representing a ground surface during roundhouse use. Below the gravel there were various layers of silt, most naturally deposited. The uppermost silt deposits were continuous with the builder's trench fill and were part roundhouse construction. Generally, the natural deposits on the south side of the foundation began to appear about 80 cm. below the present ground surface.

From plans of the roundhouse it is possible to determine that almost the entire turntable section is present within the initial boundary of the Parks Canada property. Further excavation would be able to expose most of the entire foundation. Further archaeology should, however, be directed first at investigating the nature of the turntable mechanism by excavating in the centre of the area enclosed by the foundation. It might also be established whether the inside ledge was a component of the turntable operation and whether the depth of the interior, now filled with cinders, was part of the original design or dug out later for disposal of cinders.

7.3 Fort Gibraltar II Area

Two railway related features were encountered here: a series of posts, probably representing a building; and a cribbed or boxed utility installation containing a number of water and sewer pipes. The installation of the former had destroyed part of the historic structure in the area and extended into the prehistoric zones. It appears that trenching for installation of the posts had removed all traces of the south side of the historic structure (Fig. 6.5).

7.3.1 Unidentified Structure

A probable structure was represented by a set of ten posts arranged roughly in a rectangle (Fig. 6.1). The posts were approximately 30 cm. in diameter, each stood on a rectangular timber 20 cm. by 46 cm. (8 in. by 18 in.) (Figs. 7.5) and was toe nailed to the timber by a wire nail.

The posts and timbers had been installed in trenches. It appeared as if each timber supported only two posts and the trenches had been dug in short sections to accommodate only the length of each timber.

In one instance the total length of a post was preserved, along with a short section of horizontal timber (Fig. 7.6). Elsewhere the tops of the posts had been removed by other construction and possibly some fell victim to our backhoe excavating. The remnant of horizontal timber suggests a framework connecting the tops of the posts.

7.3.2 Utilities

The west side of the 21K3 area as well as 21K5B contained a number of relatively recent water and/or sewer lines (e.g., Fig. 6.10). These had been installed in shallow trenches but had also been wrapped in insulation and enclosed in a wooden housing. Some of the pipes may have carried steam for heating so it is possible these were all-weather utilities.

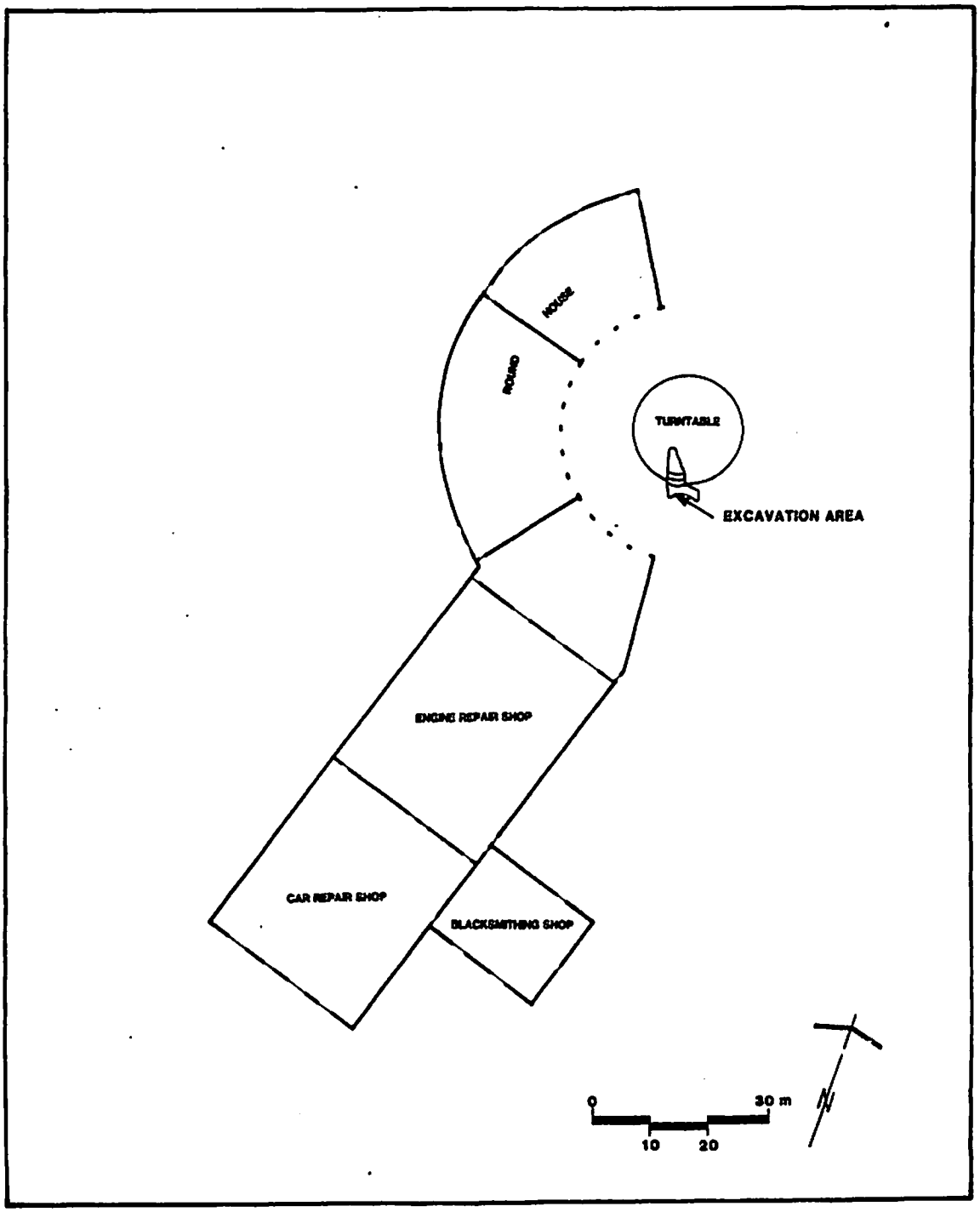


Figure 7.1 Plan of shops and roundhouse; indicating probable location of excavated foundation, (Drawn by D. Elrick.)

Figure 7.2 Roundhouse footing from inside of turntable area. (Photo by L. Konotopetz.)

Figure 7.3 Roundhouse footing from outside of turntable area. (Photo by L. Konotopetz.)

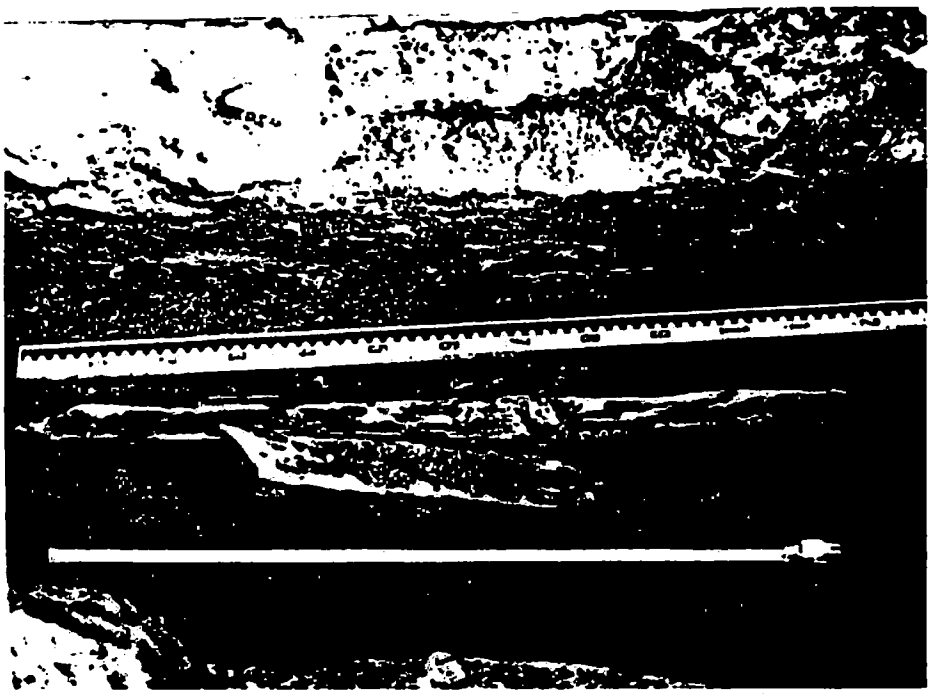


Figure 7.4 Roundhouse foundation, from outside; detail of bottom of limestone and top of concrete footing with remains of wood from concrete form. (Photo by L. Konotopetz).

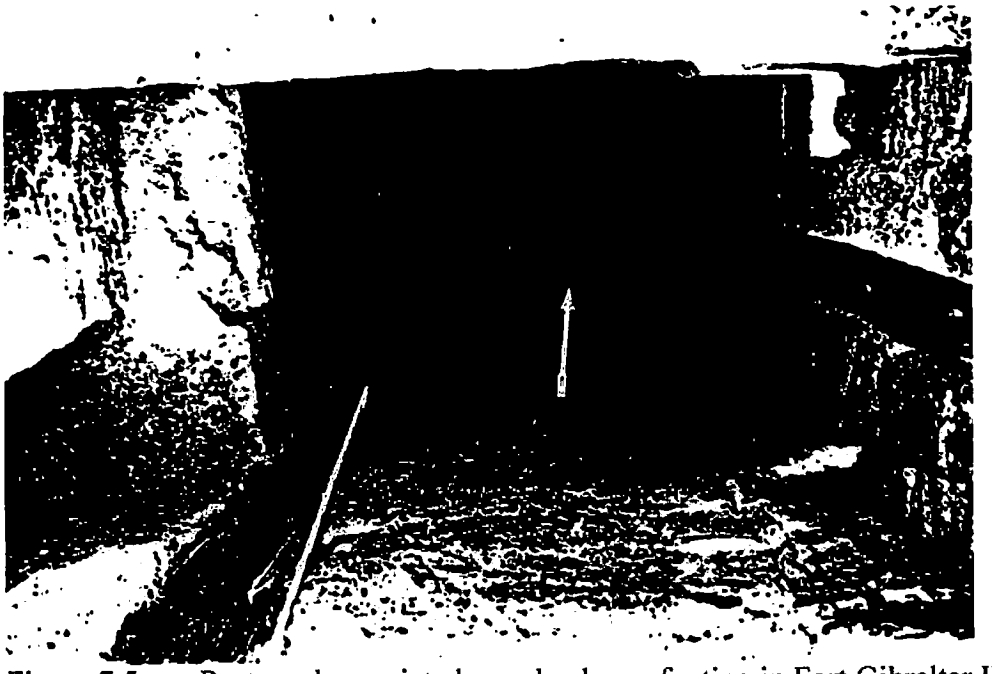


Figure 7.5 Posts and associated wooden beam footing in Fort Gibraltar II area. (Photo by P. Nieuwhof.)

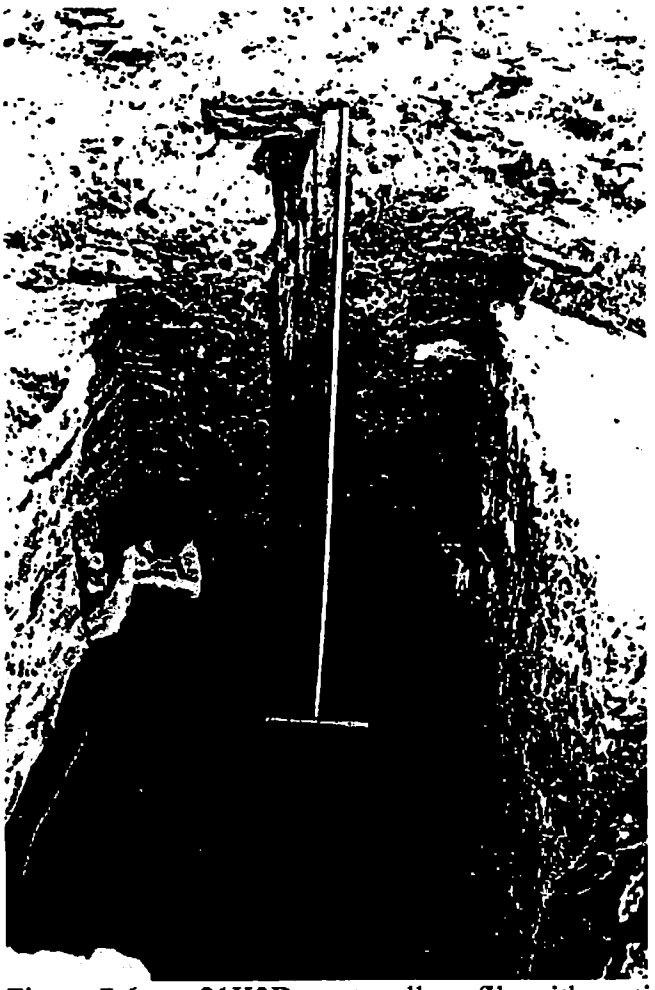


Figure 7.6 21K3D, east wall profile with vertical post on horizontal beam footing. (Photo by P. Nieuwhof.)

ACCOMPLISHMENTS AND FUTURE DIRECTIONS

8.1 Introduction

The two months of excavation succeeded in locating archaeological resources and recovering artifacts for interpretation and possible use in interpretive displays. Not all of the excavated remains have been identified specifically or in relation to known historic periods or events. Although the history of the Forks area is known through documentary sources, archaeology has now demonstrated the existence of a substantial prehistoric component.

The nature of archaeological resources at the Forks has been established and factors associated with archaeology of the area have been identified. However, the extent of these resources, their relationships to each other and their identify remain to be established. Excavations so far have only demonstrated that the area has an archaeological potential and suggested the extent of that potential. Answers to more specific questions on identity or relationships can only come through further archaeology.

There is no question that further archaeology would uncover more features and recover more artifacts which would in turn enhance the understanding of the area's history. Information on the prehistoric period has not been available previously except through comparative data from other sites.

8.2 Requirements For Further Archaeology

Does further archaeology, however, have a place in development for the Forks, even though the specific development is not known at the moment?

Archaeological investigations of the Forks can be considered from a number of perspectives. At one extreme of the continuum there is the ideal; all the work which would be done if there were no time or budget limitations. The other end of the continuum consists of the necessary; the work which must be done to comply with program policy.

8.2.1 Archaeology from an Ideal Perspective

The work to be considered here, organized according to sub-themes, addresses the questions which have been identified to date for which it is possible to find answers archaeologically. If all of the following work was actually carried out, much of the west bank of the Red River and both banks of the Assiniboine River at the Forks would be involved and ultimately a large portion of this area would be investigated.

The following discussions are also an ideal in not being limited to that part of the East Yards under the jurisdiction of Parks Canada. Many of the interests are best addressed through the examination of areas outside of the Parks Canada property.

Sub-theme A: The Junction and Pre-contact Aboriginal Trading Systems

The Forks should be considered in a broader perspective than trading systems during the pre-contact period. Trading may not have been the dominant feature of pre-contact use or occupation of the area.

A pre-contact presence at the Forks has already been established by archaeology. However, a number of the occurrences had been disturbed by more recent construction activities and it would be preferrable to conduct excavations in a less disturbed area to obtain a more complete record of cultural and natural stratigraphy.

An impression that needs to be confirmed by further archaeology relates to limited use of the area by pre-contact groups. Do the pre-contact deposits actually have a limited range of dates or did previous excavations only locate a portion of the pre-contact sequence? Is there any evidence of more sustained pre-contact occupation at any time in the cultural sequence or can all of the use be seen as short term and thus supportive of the hypothesis of the Forks as a pre-contact buffer zone or no man's land - used by various groups but not the exclusive territory of any one of them? How extensive are the pre-contact remains at the Forks - do they also extend to the south point? At least part of these investigations would have to be conducted beyond the Parks Canada property line.

Sub-theme B: Indian-Euro-Canadian Contact: The French Period, 1734-60

The major known feature of this period is Fort Rouge and the first requirement for archaeology would be to establish its location. Testing would be undertaken on the south bank of the Assiniboine River, in keeping with Guinn's argument on the its location (1980b:11). Should the fort actually be located by such testing, the investigations would then be extended to determine its extent and layout.

Structural information along with recovered artifacts would provide the basis for an archaeological interpretation of one part of the French period at the Forks. The remainder of the French period does not appear to have had any

major construction. Some or all of Fort Rouge may have continued in use for part of this time, but archaeological remains other than Fort Rouge may best be investigated if found during excavations associated with other areas or sub-themes. The amount of overburden in parts of the East Yards would make a testing program in search of evidence of the early French period impractical. Other than Fort Rouge such remains would likely be scattered and of little substance. They would, however, be important for the understanding and interpretation of this sub-theme.

Sub-theme C: Canadian-English Fur Trade Rivalry and Continental Expansion, 1760-1821

The initial part of this period probably has the same problem as part of the previous period; archaeological remains, if present, would likely be insubstantial and scattered and any attempt to locate them specifically by archaeological testing could be time consuming and unproductive. This would also apply to remains of the regular canoe brigade rendezvous beginning in 1800.

However, archaeological evidence of any activities prior to 1810 would be important because this period is not well documented elsewhere. Any remains located as part of other investigations should be pursued to allow for a more complete understanding of the period.

Specific questions to be addressed would concern the location, extent and layout of each of the Gibraltar forts. The identification of function for each building should be determined and the questions of more general land use in and around the fort should be addressed. Archaeology to date has already identified probable encampment areas associated with the period of the two forts. Further investigation would seek to establish a firmer dating and determination of relationship to either of the forts.

Evidence of activities prior to the construction of Fort Gibraltar I would be important since little about them is known through other sources. However, since specific location is not known for any such activities, the discovery of any associated remains would come through an extensive testing program or coincidentally through excavations for other objectives. As mentioned for a previous sub-theme, the former alternative could be time consuming, expensive and unproductive. A lack of results would, however, not mean an absence of remains.

Sub-theme D: The Hudson's Bay Company and the Northwest: The Junction Emerges as a Settlement Centre, 1821-50

From a structural perspective this is the period of change from Fort Gibraltar II to Fort Garry and the move from Fort Garry to Upper Fort Garry. In part archaeological interests would be a continuation of the excavations of Fort Gibraltar II. Occupation of this establishment by the Hudson's Bay Company in 1821 and enlargement of the facilities during the next five years should be investigated. The location and layout of Fort Gibraltar II should be supplemented by information on the location and extent of additions and renovations introduced by the Hudson's Bay Company prior to the flood of 1826. The presence of substantial flood deposits would assist in dating some of the remains and recognizing pre-1826 activities or construction.

The investigation of Fort Gibraltar II/Fort Garry also has the potential for providing information on the change from the North West Company to the Hudson's Bay Company in terms of structures, material culture or lifestyles. Investigations here would also provide an indication of continued use of Fort Garry after the shift of company operations to Upper Fort Garry.

The major archaeological interest within the context of the sub-theme would probably be the area of Upper Fort Garry. Excavations here would more likely contribute to an interpretation of the junction as a major settlement centre. Interpretation would involve identification and evaluation of the various fort buildings and analysis of the recovered material culture.

The site of Upper Fort Garry is also largely unaccessible. The major part of it lies under Main Street and some other areas have been disturbed by building construction and utility installation. Most of the area of Upper Fort Garry is outside of any possible East Yards development and thus beyond the scope of this discussion. The small part which lies east of Main Street could be investigated, initially to determine whether any archaeological evidence is still present.

Sub-theme E: The Hudson's Bay Company and the Struggle for Provincial Status, 1850-70

The major site associated with this theme and period is Upper Fort Garry and any investigations mentioned in the discussion of the previous theme would carry over to this theme as well. The East Yards did not appear to have had any occupations of consequence. Some evidence of activity in the East Yards may be located by testing or excavations on other structures.

Sub theme F: Winnipeg and the Junction: A Metropolis in the Making, 1870-87

Much of the activity associated with this period was taking place away from the area of the Forks. Upper Fort Garry continued to play a role but major emphasis was shifting away from the Hudson's Bay Company and consequently the area of the Forks.

The excavation of Upper Fort Garry, already identified, would also contribute to interpretation of this theme. Much of the evidence for the period would have to come from looking elsewhere in Winnipeg, in areas where such remains have already been severely disturbed or completely destroyed by almost a century of urban development.

Although the importance of Upper Fort Garry in the development of Winnipeg may have been waning during this period, the Hudson's Bay Company was creating various new facilities in the East Yards area to serve the growing population of the city. These facilities included warehouses, a mill and granary, all generally located along the north bank of the Assiniboine River between Upper Fort Garry and the junction. The same area is now basically occupied by the Johnson terminal building and the two 20th century railway stables.

An archaeological investigation would establish the location of these buildings and provide some information on their operation. The most interesting structure of this period may be the "No. 4" warehouse, now possibly located under the highline track bed and bridge footings. This structure was connected to the riverbank by a tunnel so cargo loaded off at the riverbank could be transported to a point under the warehouse with minimal effort. Such a feature, if it has survived and can be exposed by archaeology, would probably be of interest for a public display.

Sub-theme G: The Junction and the Advent of the Railway, 1888-1923

There may be less value in undertaking archaeological investigations of this period. Many of the railway activities are well documented and some of the early installations still exist. Archaeology could locate and

define the roundhouse associated with the extant B and B Building (1889). It could also locate and define the second roundhouse dating to the turn of the century. Whether these roundhouses would be better understood after an archaeological investigation is not known. The nature and operation of roundhouses may be better studied through an examination of company records and surviving examples of similar structures.

One aspect of the railway operation which is not likely to be well documented is the impact of the railway on landscape or topography. The introduction of fill for raising the ground level is a known fact but identification of the type or extent of filling is more likely to become known through archaeological excavations. Other aspects of railway land use are also likely to come to light through such investigations. One aspect of land use concerns the extent to which parts of the East Yards, especially those areas which had few if any tracks, were used for disposal and what effect this activity had on topography and location of the bank edge.

Although investigation of railway deposits would locate railway artifacts, the major component of excavation would be to create profiles and record stratigraphy. Such work could be carried out as a separate project but much of the same information would also come from excavations conducted for other purposes, archaeological as well as otherwise. Any archaeological investigation must first dig through the accumulation of railway fill.

Sub-theme H: The Junction and the Immigrant Experience

The investigation in this theme could be divided into two major interests: the immigrant sheds and the variety of facilities created by those immigrants who chose not to or

were unable to find shelter in the immigrants sheds. Both would be concerned with structural remains as well as evidence relating to living conditions and lifestyles. The overall objective would be an interpretation of the immigrants' experiences of a new life in another country.

The immigrant sheds were temporary facilities provided by the government for immigrants arriving by riverboat on their way to various parts of western Canada. Some immigrants also created temporary shelters, either by choice or out of necessity. Information on the living conditions in terms of both shelter and subsistence would provide a better understanding of life as an immigrant.

On at least one map, the location of one immigrant shed is shown to be south and west of the B and B Building. The construction of a second shed is known but no location is known for it at present. Locations for any of the temporary shelters are not known. Archaeology could readily investigate the location of the known shed, and if sufficient remains were present, a more complete excavation could be carried out. Investigations of the second shed and any of the temporary facilities would best be done if archaeological excavations for other purposes could first provide some indication of location.

Many residents of western Canada, and Canada generally, are the descendents of immigrants who arrived at the Forks during the 1870s and later. This period and their experiences were recorded to some extent and have been documented by various authors. The subject also exists in the tradition of the various ethnic groups who participated. The Forks may not be considered as a particularly important location for the overall experience, but it is recognized as having played a role. The archaeological investigation of the area and experience could have a number of consequences.

It would add to the data on the immigrant experience and thus enhance the understanding of it. There is also the possibility that some of the data will contradict the prevailing traditions or folklore.

Table 8.1: Archaeology from an Ideal Perspective.

Sub-theme	Objective
A. The junction and pre-contact aboriginal trading systems	1. complete stratigraphic sequence of pre-contact deposits in an area least disturbed by latter occupation/construction - complete range of dates - do the occupations indicate a limited time range? - can the no man's land hypothesis be supported? 2. how extensive are the deposits horizontal distribution? - do the remains extend to the south point?
B. Indian-Euro-Canadian contact: the French period, 1734-60	1. location of Fort Rouge 2. layout of Fort Rouge 3. identification of individual structures 4. evidence of land use in and around fort (lifestyles, etc.) 5. duration of use of Fort Rouge 6. evidence of other French use of the location - existence of facilities for St. Pierre's winter (1752-53)?

Continued...

Table 8.1: Continued

Sub-theme	Objective
C. Canadian-English fur trade rivalry and continental expansion, 1760-1821	1. evidence of fur trade use prior to construction of first fort 2. location of Fort Gibraltar I 3. layout of Fort Gibraltar I 4. identification of buildings of Fort Gibraltar I 5. use of area in and around Fort Gibraltar I - presence of native camping areas 6. location of Fort Gibraltar II 7. layout of Fort Gibraltar II 8. identification of individual buildings in Fort Gibraltar II 10. determine extent of riverbank erosion - determine effect on fort remains 11. analyse artifacts for study of North West Company lifestyles - (compare and contrast with Hudson's Bay Company material culture) 12. locate evidence of land use in and around Fort Gibraltar II - native encampments - activity areas - crafts, production - disposal
D. The Hudson's Bay Company and the Northwest: the junction emerges as a settlement centre, 1821-50	1. role of Fort Garry immediately after amalgamation (1821) 2. locate and identify additions and modifications to Fort Gibraltar II in the creation of Fort Garry 3. identify evidence of 1826 flood and its effects 4. differentiation between North West Company and Hudson's Bay Company 5. investigation of Upper Fort Garry - buildings - activities - material culture 6. evidence of continued use of Fort Garry after 1835 - type - duration - relationship to experiemental farm 7. evidence of experiemental farm - location - activities

Continued...

Table 8.1: Continued

Sub-theme	Objective
E. The Hudson's Bay Company and the struggle for provincial status, 1850-70	1. continued examination of Upper Fort Garry 2. evidence of use of the East Yards area
F. Winnipeg and the junction: a metropolis in the making, 1870-87	1. locate and investigate Hudson's Bay Company structures along north bank of Assiniboine River - location - size and layout - function/activities - associated artifacts - dock and tunnel from river
G. The junction and advent of the railway, 1888-1923	1. investigation of 1889 roundhouse - evidence for operation of turntable - locate other evidence of roundhouse 2. locate and investigate second roundhouse - location - layout - operation 3. investigate railway land use through investigation of cultural deposits (filling and disposal)
H. The junction and the immigrant experience	1. locate and investigate immigrant sheds - location - size - layout - activity areas - "lifestyles" - material culture - ethnic identity/association? 2. locate and investigate individual shelter or activity locals - location - nature - extent - activity/use - "lifestyles" - material culture - ethnic identity/association?

8.2.2 Archaeology from a Minimal Perspective

Any work to be proposed from this perspective centres on policy requirements and is based either on the requirement for resource protection or research to meet interpretation needs. The proposal cannot readily deal in absolutes or specifics because its contents are determined by the activities and needs of other functions within Parks Canada. Geographically the work would be limited to Parks property within the East Yards.

Resource protection seeks to assure that archaeological resources are not disturbed or destroyed by any activities required for site development. This includes any activity which involves digging. Resource protection can take a number of forms. Initially archeology should be included in discussions on design so that, where possible, activities that would disturb the ground can be identified and then eliminated or kept to a minimum. Much of the digging is necessary, for such things as footings or utility installations and the role of archaeology would be to assure that the amount of disturbance is no greater than necessary.

Where ground disturbance is unavoidable it is also the responsibility of archaeology to carry out excavations in the affected areas to investigate the presence of archaeological remains. If no such remains are present, the work of others can proceed. If, however, archaeological remains are found to be present, a number of options are available. A design change to avoid areas of archaeological remains is the preferred option. If resource protection cannot be accomplished by a design change it becomes necessary to carry out a more complete archaeological excavation to assure that the remains are investigated, recorded and analyzed before they are lost. This option does not provide for the continued existence of the remains <u>in situ</u> but allows them to exist as an archaeological record.

Resource protection should be considered as one component or requirement of site development, and the time required for consultations or on-site investigations should be included in development scheduling. Sufficient time should be allowed to complete an investigation of resources which are to be disturbed or destroyed.

Archaeology as a component of research for adequate interpretation is another aspect of archaeology as a service function within Parks. The identification of questions or needs would likely come from outside of the archaeology function and would be concerned with items for which inadequate information exists and for which archaeology can potentially provide some of the information. The types of issues to be raised would depend on the needs of others which would then be dependent on the type of development and interpretation to be presented.

Archaeology as an essential component of adequate interpretation would have to concern itself with the first four themes because the time periods involved are either inadequately known or virtually unknown through other resources. The pre-contact period, for instance, can only become known through archaeology.

8.3 Archaeological Potential for Theme Interpretation

Interpretation of the Forks has only limited on-site resources to work with. Since the railway activities of the past century have obliterated all signs of earlier activities and occupations, the remains of the railway are now the only on-site resources for development of interpretation. Interpretation of other periods of the area's varied history must be based on sources and resources from elsewhere. These include documentation and illustrations as well as comparative data from other similar or related sites. To some extent, archaeology is one of these sources, using resources still remaining on site but not apparent.

Two months of archaeological testing established the existence of an archaeological potential for the area. The work has contributed cultural data as well as demonstrating the nature of some of the problems associated with archaeological investigations of the site. In the light of information available after an initial investigation and assessment, what is the potential for archaeological input to site interpretation? This can be considered within the sequence of sub-themes approved for the site and which will presumably provide a basis for an interpretive structure.

There is a single approved theme for the Forks: the Red/Assiniboine junction and the transformation of the Canadian West. The junction is seen as being "one of the major crossroads in the movement of people, culture and resources throughout the North American interior from the prehistoric trade routes and assembly points of aboriginal populations to the establishment of contemporary communication networks". This main theme is divided into eight sub-themes which for the most part reflect the chronology of events and activities at the Forks from pre-contact times to the early 20th century.

Although not stated specifically, this theme has a post-contact bias. It emphasizes movement - the importance of the rivers as a means of transportation without really knowing if this was the way the rivers and the junction were perceived in pre-contact times. It is possible, if not probable, that the rivers were an important means of travel during the pre-contact period but it is also possible that the rivers, and especially the junction, were more important as a food source. This does not fit the movement component of the overall theme and may only marginally fit the "assembly points of aboriginal populations" component.

Sub-theme A: The Junction and Pre-contact Aboriginal Trading Systems

The emphasis on trading systems may be inappropriate because these may not be the main basis for a pre-contact presence in the area. Archaeological interpretations initially are more likely to be concerned with cultural affiliation, activity and date. Comparative analysis of pre-contact remains would put the location into a broader context, and among other interpretations identify or suggest trading systems.

The archaeology to date has established the presence of evidence for pre-contact use. This evidence indicates cultural affiliation and date as well as a type of food procurement activity - namely fishing. This much evidence has come from a relatively small investigation and it appears likely that the site, even within the limits of Parks property, has a high potential for contributing data to this theme. Archaeology is the major source of data for this theme and is the only source for the period prior to the protohistoric.

Sub-theme B: Indian-Euro-Canadian Contact: The French Period, 1734-60

The major European facility created during this period was Fort Rouge which, according to a recent examination of the evidence, was located on the south bank of the Assiniboine River and thus off the present Parks holdings. If this fort was built somewhere on the south point there is a good chance of locating its remains through an archaeological testing program. Much of the area appears to be undisturbed by railway use and other parts are under railway track embankments or bridge approaches.

There are also a number of references to native groups stopping or camping in the area. The remains of such activity may be somewhat scattered, but if found by archaeological excavation they could probably be identified or dated through the presence of some early European goods.

In general the archaeological potential for this sub-theme is medium or higher. There should be some evidence for Fort Rouge if its location can be established and there may be evidence of native activities. The potential for the Parks component of the area is lower because the major European developments may have been located elsewhere. Archaeology is probably still a major data source for this sub-theme because European and native activities are not that well documented.

Sub-theme C: Canadian-English Fur Trade Rivalry and Continental Expansion, 1760-1821

The early part of this period is similar to the previous sub-theme. There are few records for the Forks area and there appears to have been limited use of the area. Archaeological remains may be present and these may be located during archaeological testing. The archaeological potential seems to be no better than medium. Any archaeological evidence actually located would, however, be significant because it would be a major source of information for use of the Forks.

The final two decades of this time period are another matter. With the beginning of regular use of the Forks by the North West Company and the later construction of two forts (Gibraltar I and II) the area became more important in the fur trade and better known through documentary sources.

However, the structural or physical details of either fort are still not well-known. For Fort Gibraltar I there is an indication of the palisade and the function and size of a number of buildings. But its location, layout and construction style of its buildings are not recorded. Archaeological investigations could provide much information in these areas. Fort Gibraltar II appears on some drawings but physical and structural details are relatively scarce and archaeology must be relied on for much of such data.

Archaeological remains from both of these forts have probably already been discovered with a very high potential for finding more. It is also probable that some portion of each fort is located off the Parks property. Railway fill may have obscured the remains but at the same time has also protected them.

Sub-theme D: The Hudson's Bay Company and the Northwest: The Junction Emerges as a Settlement Centre, 1821-50

This is another case of part of a sub-theme being represented on the Parks property and part of it being represented on adjacent areas. For the period that Fort Gibraltar/Fort Garry remained the headquarters for Red River to 1835, activities were concentrated in the junction area and thus at least partly on Parks property. With the construction of Upper Fort Garry, emphasis and activity shifted from the junction area with Fort Garry and vicinity being of secondary importance. Usable buildings would likely have continued in use.

The potential for archaeological resources in the Fort Gibraltar II area is still high but it is questionable whether the reduced level of activity is also reflected by

the quantity of archaeological remains. Whatever remains, the association is less likely to be with the major activities of the period. The potential for archaeological evidence is high but its potential contribution to this sub-theme appears to be less.

Sub-theme E: The Hudson's Bay Company and the Struggle for Provincial Status, 1850-70

As with the previous theme, the focus of activity was around Upper Fort Garry. If the remains of Fort Garry were substantially damaged by the 1852 flood the amount of activity immediately at the junction would have been reduced even further, thus reducing the potential for archaeological remains.

If Fort Garry no longer remained the focus of attention in the immediate vicinity of the Forks, activity could have been located elsewhere. Knowledge on the location of Fort Garry would not provide an indication for location of any later activities, thus the chance of locating archaeological evidence of any such activities is reduced.

The potential for the existence of archaeological resources related to this sub-theme within the limits of the Parks property is probably low. The chance of locating archaeological remains of this period also appears relatively low.

Sub-theme F: Winnipeg and the Junction: A Metropolis in the Making, 1870-87

Except for the end of this period, Upper Fort Garry would be one of the major locations during this period. The areas along the riverbanks were also the location of other Hudson's Bay Company facilities such as warehouses, a mill

and granary, all of which are located off the Parks holding. The general potential for archaeological remains is high but within the limits of Parks property the potential is low, with one exception to be discussed under another sub-theme.

Sub-theme G: The Junction and the Advent of the Railway, 1888-1923

Investigations to date have established that evidence of the railway era abounds. The roundhouse turntable foundation (1889) may exist completely within the Parks property and excavations in the Fort Gibraltar I area have revealed other railway remains. The latter may not be associated with the major railway developments but does provide an indication of railway land use.

The potential for archaeological input to this theme is probably high. Within the Parks property the archaeological input may be limited to the roundhouse and some aspects of land use/land filling.

The area of Fort Gibraltar II contains a variety of railway remains. Most are part of a number of smaller outbuildings and associated utilities which may all postdate 1923.

Sub-theme H: The Junction and the Immigrant Experience

The development of facilities for this activity is known. At least two immigrant sheds were constructed during the 1870s and there is the possibility that individuals or groups established their own informal temporary shelters or facilities. A number of maps suggest that one of the sheds was located in the same general area as the slightly later maintenance shop and roundhouse. Construction of the latter

may have disturbed or removed evidence of the shed. There is the chance that remains of one of the immigrant sheds could be within the Parks property. Locations for any informal or temporary facilities are not known, but if discovered by archaeology their investigation could be a major contribution to the study and understanding of the immigrant experience, especially its personal or less official aspects.

The chances of locating archaeological evidence associated with this sub-theme may be no more than medium. Railway activities may have obliterated some or all of the remains, much may be located off the Parks property and some aspects may be difficult to locate. However, should any remains be located, the potential for an archaeological contribution to an understanding of the immigrant experience would be high.

8.4 Archaeology as an Interpretive Device

The junction of the Red and Assiniboine rivers has been recognized for the role it played in the exploration and development of Red River and western Canada. In the 1920s the Historic Sites and Monuments Board of Canada recognized the historic importance of the major fur-trade posts which had existed in the area, and in 1974 the Board broadened the scope of its decision by recognizing the importance of the location itself, regardless of what historic resources may exist.

The importance of this location is also recognized by many individuals but most have probably never seen the location itself. They may have seen illustrations but possibly few have actually walked across the ground and tried to envisage the various activities that took place there over the centuries. The Forks may be located in the midst of a

city but it has also been characterized as "the loneliest place in Winnipeg" (Dafoe 1985:41). After a century of use as a railway yard and other industrial activities, the citizens of Winnipeg have lost contact with the location which played a major role in the history of their city. The area of the Forks is now most familiar to the railway employees and the few people who by necessity or choice find a home along the riverbanks. Neither group is there because of the area's historic importance and neither may give much thought to its long and varied past.

The lengthy use by the railway has obscured any signs of earlier history. A walk through the East Yards will provide views only of a multitude of tracks, a number of buildings no longer in their prime and various pieces of railway stock on an extended holiday. The slope of the riverbank and the lower terrace are now largely covered with trees so there is no view of the river from the East Yards and little hint of a railway yard when viewed from the river. Even the topography has been substantially altered so one has difficulty envisaging the area as it was for the early fur traders or the natives who used it for centuries previously.

The long term railway presence has, however, had a positive effect in preventing any dense urban development. The areas on both sides of the Assiniboine River are still open and accessible. When standing at the Forks the city appears more in the distance and its sounds cannot be heard. The development of railway facilities on a flood plain also meant the addition of materials more than their removal, so the ground has been disturbed less than it would have been by most other developments. Tracks require solid beds, not ground loosened by excavation. The advantage of the long term railway presence is clear: archaeological resources have been covered and protected rather than disturbed or destroyed.

Much of the history of the Forks is already known. Archival sources deal with much of the 19th century fur trade and early railway period (e.g., Guinn 1980a, 1980b, 1980c). However, the fur trade of the 18th century or the immigration period during the 1870s and 1880s are less well known. The general activities may be understood but what role the Forks actually played and what facilities were created is not as well documented. In the absence of any previous archaeology the pre-contact period is not directly known at all. Work at other nearby sites can provide some indication of probable activities prior to the arrival of any Europeans.

Archaeological investigation of the Forks area should be able to recover information on many aspects of the site's history, in some instances supplementing other sources but in others being the major or sole source. The pre-contact period is the most obvious of the latter situation. The potential area for investigation is large. Consequently the amount of archaeology required for a thorough investigation is also extensive and not likely to be approved.

There is a need for further archaeology, either for purposes of research or resource protection, both which are supported by Parks policy. Continued research would provide general and specific information for periods and activities which are not recorded elsewhere and details to supplement existing archival sources. An understanding of the Forks would be enhanced by such information as would the interpretations presented to the public.

Further archaeology could, however, be considered and conducted in more practical terms if were to become a component of the interpretive program. That is, the excavations and related activities would be carried out while the site was open to visitors and laid out in such a way as to

be relatively accessible. Such an undertaking would be spread over a number of years and become part of a regular review and update of interpretations and displays.

Such a program would consist of a series of annual field seasons with subsequent analysis and report writing during the winter or off-season period. One requirement which is not always part of the field component of a project would be to have an artifact processing operation on site so as to present a more complete picture of archaeological activities to the public.

The program would have three objectives or areas of activity: research, resource protection and education. Research concerns itself with the discovery, analysis and reporting of data. In this instance it would involve investigation of selected areas to obtain information about use of the area since pre-contact times. The research component would also be a response to program policy that research precede development and interpretation be based on all available information.

Resource protection is concerned with the proper management of nonrenewable resources, in this instance archaeological remains. Development activities which disturb the ground and thus have the potential for disturbing or destroying archaeological information should not be undertaken before that area is evaluated by archaeologists. From an archaeological perspective it is preferrable to locate developments required for site interpretation away from areas with a good potential for containing archaeological remains. The Forks, however, has had a long and varied use so many parts of the area probably have a potential for archaeological remains and any development has a good chance of disturbing them.

Education may be considered the ultimate purpose for conducting archaeology projects. Some in the archaeology profession have pointed out that since the public is the

source of funding for most projects it is the profession's responsibility to report to the public. The public should be informed of what it is supporting. It has been contended that if archaeology remains a closed shop the public may lose interest and the profession will lose its support. Archaeology, as any other research-oriented activity, has always maintained the culmination of any research project should be a report so results can be shared and evaluated by others. More often this has been seen as a responsibility of reporting to peers but it is being realized that it also involves reporting to the public.

The educational aspect of the project would be carried out during the summer field season period and would be directed at persons visiting the site and specifically visiting the excavation area. Any archaeological project conducted under the eye of the public quickly realizes there is interest in the excavations and other archaeological activities. This is not a universal interest and consists of various levels of interest. Some ignore the archaeology entirely. Depending on the situation and location some comment on treasure hunting or grave digging. There is, however, a minority of individuals who pass by with a more serious interest. The general impression is that those who make joking comments are not really interested in serious responses and those who make serious comments or ask serious questions are prepared to take the time to listen to a serious explanation. Any public program would be directed primarily at those who have some interest or in whom some interest can be generated. This would also apply to school groups which usually contain a few students who have some interest.

A public interpretation/education program would deal with the program, the process and the products.

The program is not so much the specific archaeology program as the Environment Canada, Parks Program. Explanations would be provided on the purpose and objectives of Parks and the various interacting functions which carry out the program. In the context of an archaeological project, explanation would emphasize the role played by archaeology in carrying out the program mandate and policy. This would include information on research and resource protection and identify the contribution of archaeological data to interpretation and understanding. The latter would not be an attempt to overemphasize the role or importance of archaeology but to foster an awareness of how archaeology contributes to an interpretation or display. At the same time, the limitations of archaeological data should also be recognized.

The explanation of process is concerned with the doing of archaeology. Although many people have some familiarity with or understanding of archaeological activities there is also misunderstanding of what is involved in carrying through a project. Working slowly with small tools has to be related to the need to observe and record. Archaeology has to be seen as more than an artifact gathering activity, and artifact collecting should be viewed as more than an interest in the exotic, the precious and the interesting. Archaeology also has to be seen other than just excavation. Archaeologists traditionally calculate three days of lab work for one day of fieldwork. Yet this lab work is largely unknown to the public and people often cannot imagine what archaeologists do when they are not in the field. By locating a lab on site during the excavations it would be possible to provide a demonstration of artifact processing (sorting, cleaning and recording).

The products to be presented to the public would be the excavated features and artifacts and the interpretations

of them. The public would be able to come close enough to the excavations to see excavated remains left in situ. Limited access to the artifact processing lab would allow examination and explanation of the excavated materials. A display of more noteworthy items could also be created.

Explanations for each of the three areas would naturally overlap. The explanation of an excavated feature would also touch on the archaeological process - how the feature is exposed and how an interpretation is achieved - and the role of archaeology in the program and its contribution to the overall site interpretation.

A variety of technical factors would have to be considered in undertaking such a public archaeology project. An initial requirement is for safe access to the site by the public. This would involve appropriate hardware to allow public access and movement, possibly providing some shelter from the elements but also providing security for the site. Although the public must be able to get close to the site, the site itself must be protected and public access controlled.

There must also be interpretive facilities, both in the form of displays and staff. The latter would offer explanations of the project, updated as the work progressed, as well as provide control and security. A public archaeology project requires additional staff, either as full-time interpreters or as part-time excavators.

Presence of the public and its consequent requirement for facilities (hardware) increases the time required to set up and dismantle a field operation and reduces the flexibility of location of excavations. The amount of time required to relocate facilities would restrict or eliminate the possibility of relocating the excavations from one area of the site to another. Presence of the field lab operation would be an additional requirement for facilities (hardware).

Archaeology continuously under the public eye and carried out partly as a public education device must give constant consideration of the public's presence and needs. Any excavations should be left open for continuing observation and therefore must be kept relatively neat and clean. Usually this is not a requirement on an excavation and some excavations may be filled in as attention shifts to another area. The requirement for continuing neatness or presentability would probably slow down the rate of excavation and reduce the size of an area investigated in any one season.

A number of advantages can be suggested for a public archaeology project. These can also be seen in terms of the Parks mandate and policy of research, resource protection and interpretation (education). The project would be a new source of data to expand and improve interpretations (including displays) developed through other sources. The project would be an added attraction, responding to the interests of some persons already on the site for other reasons and providing an incentive for visitation by school groups. It would also provide an opportunity for interpretation of Parks generally. Interpretations of the archaeology process would address the interest in archaeology already present in a minority of the public and address the misconceptions about archaeology held by some individuals.

The existence of an archaeology project would implicitly recognize the importance of archaeological resources and lead to resource protection. Disturbance of archaeological resources should be a less likely occurrence and investigation by an archaeology project would result in a greater realization of the potential of the resources.

Although a public program of archaeology has its "entertainment" value, this should never be taken as the major purpose for the project and should not be used to

rationalize the work or gain approval for the project. Entertainment is a component of archaeology conducted under the public eye but the archaeology should always be justifiable in terms of program needs and program policy.

A public archaeology project also has disadvantages. The existence of archaeological resources has already been determined but a contribution to understanding and interpretation is a probability, not a sure thing. Although considered highly unlikely that no new information would come from further excavations, it cannot be guaranteed that there would be new findings or that they would be of a quantity or quality to assure the value of the project.

A multi-year undertaking is a major expense, in this instance not only for the staff requirements but also for the hardware and personnel required to operate under the public eye. Any archaeology project is an expense as is any part of a development or interpretation project. Cost cannot be a basis for withholding approval.

Such an archaeology project is not likely to be able to make a major contribution to interpretation or reinterpretation after any individual field season. This would come only after an accumulation of data from two or more seasons. In other words, there would not be immediate large scale results. There would, however, be immediate and continuing results in the area of public relations and public education.

What are the consequences of not proceeding with such a project? A saving of resources comes to mind almost immediately, but since costs should not be the major or only basis for deciding, this consequence cannot be considered either as an advantage or disadvantage. Lack of support for such a project does not mean there will be no archaeology. Archaeology for resource protection in association with specific development activities will still have to be

undertaken. However, this type of archaeology is more likely to involve areas of limited archaeological potential. Major developments for interpretation of a historic area should not be situated in areas of historic importance because of the probability of disturbing archaeological remains. Archaeology as resource protection in association with development will produce a limited return of cultural information and thus a limited contribution to understanding and interpretation.

The absence of further archaeology beyond what is required for resource protection will mean the absence of archaeological data for interpretations. As indicated previously, interpretation of some periods of the area's history can be accomplished with existing data. But some periods are not well represented in available sources and the pre-contact period is not represented at all except via comparative sites and sources.

Although an interpretive program could be developed it would not comply with the policy requirement for use of best available information. The archaeological potential of the location has already been demonstrated although the exact nature of available data is largely unknown at the moment.

Staff requirements for a public archaeology program would consist of a year-round project director, a term lab supervisor, a field crew (excavators) of at least three and a lab crew (cataloguer) of at least one. The field season should be for three months and could be as long as four or five months. The field season should include some part of the school year to allow for class tours.

The field operation should consist of all activities associated with excavation and initial processing of artifacts (field lab). The latter would include sorting, cleaning and recording. The project director would supervise the excavations and prepare reports on the findings. The lab

supervisor would be responsible for field artifact processing, making sure all artifacts had been recorded and an inventory of them was prepared. The artifact data would be part of the information included in the project director's analysis and report. If the size of the project is enlarged, the lab supervisor should become a full-year position with responsibility for artifact analysis and reporting.

The archaeology project discussed here has basically considered its educational possibilities for the public. Any such project is also an educational experience for some of the staff. Labourers with little or no previous experience in archaeological techniques gain such expertise through working on a project. This educational component can be formalized to some extent with the possibility of increasing the size of the project - staff or amount of work done in a season - or reducing costs to Parks. The university practice of operating a field school with its associated registration fees is an example of a formalized education experience.

The idea of co-operative arrangement should be considered. This would likely be with a local university and be an undertaking whereby the outside agency provided some of the field staff (excavators) in exchange for an opportunity to use the field season as a teaching facility with the excavators being evaluated on their contribution and gaining credits within their educational program. Tuition fees paid by such excavators would go to the university, but any artifacts and other archaeological data would remain the property of Parks. Any formal teaching would be the responsibility of the university. Data and artifacts from such an undertaking could be used for subsequent research papers or even theses.

Such an agreement would take considerable discussion and negotiation to arrive at terms acceptable to all parties concerned. It should not be assumed that an acceptable arrangement will be achieved. Questions of authority, recognition, responsibility and funding would have to be considered. A number of possibilities come to mind. The arrangement could be for a field school operation in which case a university would provide the students and some of the instruction and supervision. Tuition fees would go to the university but the data and collections would remain with Parks. If the participants were to get credits in an academic program for their work on site, content of the on-site program would have to meet academic requirements.

If funding was less of a problem than person years, would it be possible to consider an arrangement of providing funds to a university which would then undertake to provide staff for the site? This would assure employment for some archaeology students who otherwise have to compete with non-archaeologists for the few Parks positions in archaeology. The project would thereby be assured of a crew of excavators with some knowledge of and interest in archaeology and would contribute to the advancement of an archaeological career for some members of the crew.

APPENDIX A. LAYER/EVENT DESCRIPTIONS FOR FORT GIBRALTAR II AREA (21K3).

The following descriptions are supplementary to the abbreviated layer/event identifications which accompany the profile illustrations and text descriptions. This series is entirely separate from the layer/event numbers for the Fort Gibraltar I area.

Layer/Event	Description
1	gritty black clay silt with wood, gravel, cinders, glass, metal fragments and chinking; top stratigraphic layer throughout the site; postdates early railway features 1888-1920s
2	dark grey gritty, pebbly soil; utility trench fill; C.N.R. railway; early 20th century
3	C.N.R. utility pipes and wooden cribbing placed in trench
4	C.N.R. utility trenches dug
5A	mottled black clay silt with tan clay and ash/charcoal deposits
5B	grey clay with calcium carbonate deposits
5C	dark brown sandy clay with sand intrusions
5D	dark brown to grey clay with charcoal flecks and calcium carbonate deposits; layers 5A to 5D represent the fill layers on the north end of the 21K3 site area; other associated postholes and trenches in the south end had fill composed of stratigraphic soils relating to the natural stratigraphy in their particular location; C.N.R. period post-1890s to 1920s

Layer/Event	Description
6	C.N.R. posts with wooden footings placed in holes and trenches; 1890s-1920s
7	C.N.R. postholes and trenches excavated
8	brown or grey-brown clay silt; natural stratum; predates historic features; second major stratigraphic layer
9	historic cribbed cellar fill layers; 1852-80s
9A	brown clay silt severely mottled with chinking and charcoal
9B	brown clay silt mottled with chinking and charcoal
9C	brown clay silt slightly mottled
9D	greyish-white ash with charcoal and chinking
9E	greyish-green clay; heavier
9F	burnt chinking concentration
9G	brown clay silt with charred structural remains and decomposed wood remains
10	historic cribbed cellar and structure burnt and collapsed; 1852
11	historic cellar dug and structure built; 1817-35(?)
12	historic refuse pit 1 or uncribbed cellar fill
12A	greyish-white ash
12B	dark grey clay silt
13	historic refuse pit 1 or uncribbed cellar excavated
14	brown clay silt with chinking concentration; historic refuse pit 2 fill
15	historic refuse pit 2 excavated
16	sand, white-beige marbled sand; natural stratum; third major stratigraphic layer; predates historic features

Layer/Event	Description
17	dark brown to brown-black clay silt; natural stratum, fourth major stratigraphic layer
18	whitish-grey ash with charcoal pieces and staining; prehistoric Blackduck culture in ground hearth associated deposit; A.D. 650-1650; west of historic structural remains
19	brownish-grey (sticky) clay with sand lenses and rust, brown clay lens; prehistoric Blackduck remains associated with hearth; underlies layer 18; A.D. 650-1650
20A	rust-orange clay; compacted and fine-grained; fired from use of area as a hearth
20B	clay burnt with charcoal and charred wood, associated with prehistoric Blackduck hearth
20C	rust-orange tinted sand on west side; pink tinted sand on east side; prehistoric hearth affected strata
21	white-beige sand with brown clay silt lenses; predates prehistoric hearth affected strata west of historic structural remains
22	brown clay; heavy; clay silt lensing; natural stratum underlying layer #21 west of historic cribbed cellar remains
23	grey clay; heavy; calcium carbonate flecks and yellow staining; sterile natural stratum underlying layer 24 (compacted fish remains)
24	dark grey clay with compacted fish remains; thin; prehistoric Blackduck culture occupation floor; C-14 age of 1105±160 B.P.; underlies historic structure area
25	tan clay with calcium carbonate flecks; natural stratum; overlies layer 24
26	black or dark grey clay; thin lens; white ash; prehistoric faunal remains; overlies layer 25
27	striated sand and clay; natural strata interface; overlies layer 26
28	prehistoric, "posts", saplings placed in ground; beneath the base of the historic cellar remains

Layer/Event	Description
29	dense tan clay; natural stratum; underlies the historic cribbed cellar excavation; mixed historic and prehistoric remains
30	sand; natural stratum; underlies layer 29 throughout historic structure area
31	gleyed clay, grey with charcoal and calcium carbonate flecks
32	yellow sandy clay; natural stratum; underlies layer 1 south end of 21K3 and similar to layer 38
33	brown sandy clay; natural stratum; underlies layer 29 south end of 21K3
34	striated white sand and tan clay; natural stratigraphic interface; underlies layer 33
35	tan sandy clay; natural stratum; underlies layer 34
36	tan clay; sticky; natural stratum; underlies layer 23
37	thin band of dark grey clay; overlies layer 36; possible prehistoric occupation floor
38	tan and/or sandy brown clay; natural stratum; underlies layer 1 along east side of 21K3 adjacent to riverbank
39	light coloured sand; natural stratum; underlies layer 38 along east side of excavation area; riverbank side
40	sandy clay; natural stratum; underlies layer 39
41	sand; natural stratum; underlies layer 40
42	tan clay; natural stratum; underlies layer 41
43	ash with charcoal; hearth deposit; prehistoric Blackduck culture ceramics and faunal remains A.D. 650-1650
44	tan clay with calcium carbonate flecks; natural stratum; underlies layer 43

Layer/Event	Description
45	light brown sand; natural stratum; late prehistoric Blackduck occupation; A.D. 650-1650; underlies layer 44
46	black or dark grey clay; thin lens; natural stratum
47A	grey clay with calcium carbonate flecks; natural stratum; overlies layer 27
47B	black or dark grey clay; thin lens; natural stratum; overlies layer 47A
48	light brown stained sandy silt; natural stratum; underlies layer 8 on the west side of 21K3 site area
49	light brown sand; natural stratum; underlies layer 48
50	mottled brown-black clay silt with charcoal; underlies layer 49
51	white-grey mortar; historic deposit; postdates fur-trade era; underlies layer 50
52	brown clay silt; natural stratum underlies layer 51
53	brown clay silt with charcoal; contained within layer 52; late prehistoric hearth
54	mixed tan clay/light brown sand; natural horizon; underlies layer 36; deepest stratum excavated at 21K3
55	grey clay with brown stains and calcium carbonate flecks; natural stratum; underlies layer 46
56	brown sandy clay; pit fill; charred wood
57	hearth or wood burning pit dug; association unknown

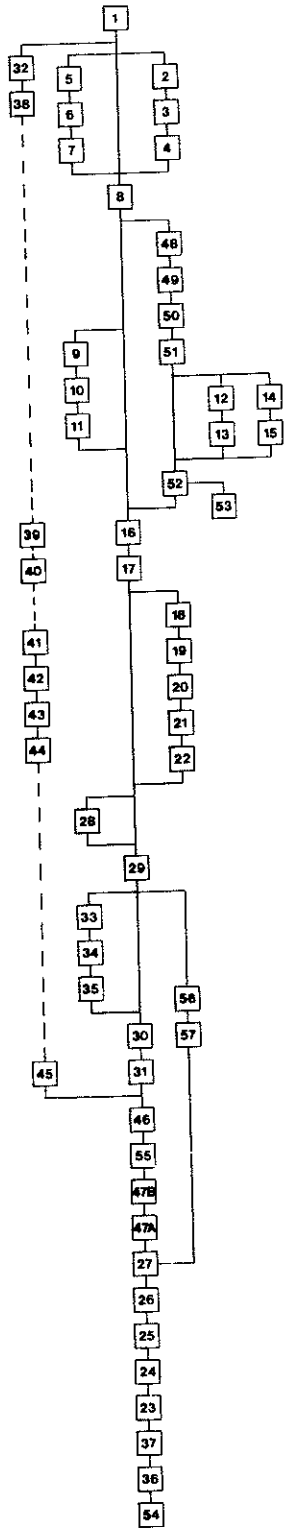


Figure A.1 Layer/Event Diagram for Fort Gibraltar II Site Excavation Area (21K3). (Drawn by P.J. Priess.)

APPENDIX B. LAYER/EVENT DESCRIPTIONS FOR FORT GIBRALTAR I AREA (21K4 and 21K6).

Layer/event numbers were assigned to individual features and stratigraphie layers at Fort Gibraltar I as a means of standardizing descriptions and establishing a chronological sequence of events for the site. Figure B.I presents the overall layer/event diagram for the entire Fort Gibraltar I site area. Figures B.2-B.38 present the layer/event diagrams for each individual unit excavated. The descriptions below can be correlated with the layer/event numbers on all of these diagrams and with layer/event number discussed in the text. This series is entirely separate from the layer/ event numbers for the Fort Gibraltar II area.

Layer/Event	Description
1	Modern surface deposition and railway fill layer (ca. 1889-1984): - an approximately 1.5-2.0 m. thick layer of uncompacted sand, gravel and cinders removed from the site area by backhoe and consisting of two distinct periods of deposition (a) modern deposition (ca. 1950-84); - 20-40 cm. of uncompacted surface sand, gravel, lime, mortar and building debris associated with the Building Products installations (b) railway fill layer (ca. 1889-1950); - 1.0-1.5 m. of uncompacted sand, gravel, cinders, ash, coal and coal dust containing railway related artifacts - contained several different railway features dating to different periods of use, all considered part of layer 1.
2	Early railway flood deposited charcoal-flecked grey-brown silty clay (1882 flood): - 4.0-24 cm. of light grey-brown silty clay with swirled patchy appearance; may occur as a multi-banded layer of up to three bands of lighter and darker grey-brown silty clay - almost universal to Fort Gibraltar I site area - contains turn of the century artifacts which are probably the result of both flood mixing and later surface mixing
3 and 4	Early railway pit feature (ca. 1882-89) in 21K4J (south): layer 3 - pit filled with layers 1 and 2 soil layer 4 - pit excavated through layers 5-10 and 14
5	Pre-railway/pre-manure layer dark brown flood sand (1852 flood): - 4.0-20 cm. thick layer usually occurring in association with and above the layer 6 lighter brown flood sand resulting from the same flood event
6	Pre-railway/pre-manure layer light brown marbled flood sand (ca. 1852 flood).
7 to 10	Immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layers (1826 flood) containing fort-contemporary artifacts.
11 and 12	Fort-contemporary pit feature (ca. 1810-16) in 21K4J possibly associated with a native encampment area north of fort structure: layer 11 - pit filled with layers 9 and 10 silty clay

Layer/Event	Description
	layer 12 - pit excavated
13	Fort-contemporary charred wooden plank (ca. 1810-16) in 21K4J possibly associated with feature native encampment area north of the fort structure.
14	Pre-fort period tan clay layer (1810) containing 1.0-2.0 m. thick bandings of dark organic material spaced every 8.0-12 cm. throughout the layer (possibly the result of flood and/or frost varving).
15	Pre-railway/pre-manure layer flood deposited feature (1852 flood) in 21K4H.
16	Pre-railway/post-flood sands (layers 5 and 6) manure layer (ca. 1852-61): - restricted primarily to areas overlying fort-period structure and north central section of site - occurs either as a single band directly below layer 2 or a double-banded layer embedded in layer 40
17 and 18	Immediate post-Fort Gibraltar I flood deposited dark grey-brown silty clay (1826 flood).
19 and 20	Early railway domestic refuse pit (ca. 1889) in 21K4K (south): Layer 19 - filled with layer 1 cinders, ash, gravel and domestic refuse. Layer 20 - pit excavated within bottom 4.0 cm. of layer 1 railway fill (ca. 1889 fill).
21 and 22	Pre-railway/post-ca. 1852 flood sands post mould feature (ca. 1852-61) in 21K4K (south): layer 21 - post either removed or disintegrated and post mould filled with manure (ca. 1852-61) layer 22 - 5.0 cm. wide pointed post driven 16 cm. into the ground (before layer 16 manure deposited and after 1852 layers 5 and 6 flood sands deposited)
23 and 24	Pre-railway/post-1852 flood sands pit-and-post feature (ca. 1852-61) in 21K4K (south): layer 23 - pit containing post filled with tan coloured silty clay layer 24 - pit excavated and vertical piece of wood placed in it (before the layer 16 manure was deposited and after the 1852 layers 5 and 6 flood sands had been deposited)
25	Immediate post-Fort Gibraltar I (ca. 1816-26) rodent disturbance in 21K4K (south).
26	Immediate post-Fort Gibraltar I (ca. 1816-26) possible rodent disturbance in 21K4K (south), underlies layer 25 disturbance within layer 7 post-fort flood layer
27 and 28	Fort-contemporary/possible north native encampment area hearth feature (ca. 1810-16) in 21K4K (south): layer 27 - thick ash lense and charcoal concentration layer 28 - thick fire-reddened and carbon stained soil underlying layer 27
29	Fort-contemporary/possible north native encampment area ash pocket (ca. 1810-16) in 21K4K (south).

Layer/Event	Description
30	Immediate post-Fort Gibraltar I possible rodent burrow or flood mixed deposit of char red wood and organic (ca. 1816-26) in 21K4R.
31	Fort-contemporary/possible north native encampment area hearth-like feature (ca. 1010-16) in 21K4R (south): - underlain by carbon stained soil - occurs below layers 8 and 9 and is contemporary with layer 87 midden deposit in 21K4R
32 to 34	Immediate post-Fort Gibraltar I charcoal and chinking flecked grey-brown silty clay flood layers (1826 flood) in 21K4T (south): - layers 32 to 34 combine with layers 36 and 37 to make a multi-banded flood layer in 21K4T - layer 32 - dark grey-brown with some sandy patches and clay streaking - layer 33 - dark grey-brown without patching or streaking - layer 34 - medium-dark grey-brown
35	Immediate post-Fort Gibraltar I charred wood and organic lense (1826 flood) in 21K4T: - recovered between layers 34 and 36 ca. 1826, silty clay flood layers and is probably a flood deposited feature
36 and 37	Immediate post-Fort Gibraltar I charcoal and chinking flecked grey-brown silty clay flood layers (1826 flood) in 21K4T: - occur together with layers 32-34 in 21K4T to make multi-banded flood layer
38	Fort Gibraltar I (ca. 1816) scattering of structural debris during burning and collapse of the fort-contemporary building (charcoal/ charred wood concentration) in 21K4T
39	Fort Gibraltar I-contemporary pit feature (ca. 1810-16) in 21K4T: - more likely structural related feature than a north encampment feature
40	Pre-railway/post-1852 flood sands charcoal-flecked deposited dark grey-brown silty clay (1861 flood): - tends to be restricted to areas overlying the fort-contemporary structure - in 11 units occurred in direct association with layer 16 manure - in 21K6D layer 40 occurred alone
41	Immediate post-Fort Gibraltar I charcoal and chinking flecked grey-brown silty clay flood layer (1826 flood).
42 to 44	Post-Fort Gibraltar I/pre-1852 flood sands (ca. 1826-52) picket post fence/trench line feature (possibly from the experimental farm period ca. 1836-41): layer 42 - trench with pickets filled with a dark grey-brown silty clay layer 43 - picket posts placed in trench and in places supported by rocks taken from piles of fort building chimney collapse layer 44 - trench for picket posts excavated

Layer/Event	Description
45	Fort Gibraltar I (ca. 1816) structural collapse (chinking and chinking stained sand above charred floor) in 21K6A and 21K6J.
46	Fort Gibraltar I (ca. 1816-26) structural collapse (dark brown sand above charred floor) in 21K6A, 21K6J and 21K6Q: - thick layer of dark brown sand on top of chinking collapse and fire-reddened sand and charred flooring - presence is an anomalie but NNW-SSE orientation suggests may be associated with the layer 48 chimney collapse
47	Fort Gibraltar I (ca. 1816) structural collapse (chinking and chinking stained/fire reddened sand above charred floor) in 21K6A, 21K6J (south), 21K6L and 21K6Q: - probably represents wall collapse
48	Fort Gibraltar I later chimney rock collapse (ca. 1826 flood): - rocks tend to be recovered within the 1826 flood layers, indicating a chimney collapse in a NNW-SSE direction across the inside of the fort structure - often recovered in association with ash, mortar and charcoal lenses
49	Fort Gibraltar I charred wooden flooring (ca. 1816).
50	Fort Gibraltar I structure built (ca. 1810): - flooring laid, rock fireplace pad established, walls of structure built
51	Fort Gibraltar I ground prepared and cellar dug (ca. 1810): - chinking coloured clay pad prepared for rock fireplace pad, cellar excavated, rocks placed for support under northwest corner and along underside of north wall beam
52	Fort Gibraltar I (ca. 1816) structural collapse (dark brown sand above charred floor) in 21K6A: - presence is an anomalie
53	Fort Gibraltar I (ca. 1816) structural collapse (chinking, charcoal, wood, fire-reddened sand from wall collapse) in 21K6A: - probably structural/wall collapse
54	Fort Gibraltar I (ca. 1816) structural collapse (chinking concentration from wall and chimney collapse above floor).
55	Fort Gibraltar I (ca. 1816) structural collapse: charred beams or timber on top of floor in 21K6L and charred wood (possibly floor joist) in 21K6Q.
56	Fort Gibraltar I (ca. 1816) structural collapse (ash and chinking surrounding layer 55 at floor level) in 21K6L and 21K6Q (north).
57	Fort Gibraltar I (ca. 1816) structural collapse (ash and clay mixture at flooring level) in 21K6L.
58	Fort Gibraltar I earlier chimney rock collapse (ca. 1816) above fireplace in 21K6L.
59	Fort Gibraltar I (ca. 1816) structural collapse (charred beams on top of floor) in 21K6Q, (ash chinking and mortar above fireplace) in 21K4U; and (ash above back of fireplace) in 21K6D.

Layer/Event	Description
60	Fort Gibraltar I (ca. 1816) structural collapse (creamy coloured ash containing a 46 seed bead concentration at floor level) in 21K6Q.
61	Fort Gibraltar I (ca. 1816) structural burning and collapse (charcoal/carbon staining where floorboards appear to have burnt away) in 21K6Q.
62	Immediate post-Fort Gibraltar I charcoal and chinking flecked grey-brown silty clay flood layer (1826 flood).
63	Fort Gibraltar I occupational use of fireplace area (ca. 1810-16) in 21K4U and 21K6D.
64	Fort Gibraltar I fireplace hearth/rock pad built (ca. 1810) in 21K4U, 21K6D and 21K6L.
65	Fort Gibraltar I (ca. 1810-16) occupational use of fireplace hearth (fire-reddening of clay pad under rock pad as a result of use) in 21K4U.
66	Modern utility trench (ca. 1950) filled with dense, wet olive-grey clay.
67	Post-Fort Gibraltar I building collapse (ca. 1816-26) tan clay lensing in 21K6C.
68	Fort Gibraltar I structural collapse/slumped flooring (ca. 1816) along west side of cellar feature in 21K6C: - building and floor burnt, then floor collapsed
69	Fort Gibraltar I charred flooring level where floor appears to have burnt away (ca. 1816) in 21K6C.
70 to 72	Post-Fort Gibraltar I structural collapse, cellar fill and slumping events (ca. 1816-26) in 21K6C: layer 70 - mottled dark brown silty clay containing charred wood, charcoal and chinking layer 71 - layer 14 tan clay (ca. 1816-26) slumped in from the sides of the uncribbed cellar over, under and around portions of the slumped flooring layer 72 - dark grey-brown silty clay heavily mixed with charcoal, charred wood and chinking and containing dense concentrations of chinking and charred beams
73	Fort Gibraltar I (ca. 1816) structural collapse (chinking) into cellar feature in 21K6C.
74	Fort Gibraltar I (ca. 1816) structural collapse (charred beams) into cellar feature in 21K6C.
75	Post-Fort Gibraltar I burning and collapse/pre-cellar wall collapse concentrations of frog bones (ca. 1816-26) in the 21K6C cellar feature.
76	Pre-fort period (1810) lensing of drier, more compacted layer 14 tan clay in 21K6C.
77	Pre-fort period (1810) lensing of lighter coloured, sandier layer 14 tan clay in 21K4Y, 21K6C and 21K6H.
78	Pre-fort period (1810) charred wooden plank feature in 21K6D: - truncated by the post-fort period picket fence/trench line feature (ca. 1836-41)

Layer/Event	Description
79 to 81	Post-Fort Gibraltar I/pre-1852 flood sands (ca. 1826-52) east-west picket post fence/ trench line feature (possibly from experimental farm period ca. 1836-41) in 21K6D: layer 79 - trench with pickets filled with a dark grey-brown silty clay layer 80 - picket posts placed in trench layer 81 - trench for picket posts excavated
82	Pre-railway/possible post-1852 flood sands post mould feature (ca. 1852-61) in 21K6F.
83	Post-Fort Gibraltar I 1826 flood scattering of structural debris (ash and charcoal) in 21K4S.
84	Fort Gibraltar I (ca. 1816) structural collapse (ash and charcoal concentration) in 21K4W: - ring-like configuration with charcoal in centre surrounded by a ring of ash and underlain by carbon stained soil
85	Early railway flood deposited charcoal-flecked dark-brown sandy silt layer (1882 flood) in 21K4B.
86	Immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay (ca. 1826 flood) containing fort-contemporary artifacts in 21K4B.
87	Fort Gibraltar I contemporary/possible north native encampment area (ca. 1810-16) midden deposits in 21K4B (south), 21K4K and 21K4R: - midden deposits in 21K4B (south and north), 21K4K and 21K4R together form the largest and densest concentration of faunal material recovered at the site
88	Early railway trench feature (ca. 1882-89) in 21K4B (south): - truncates midden area in 21K4B
89	Fort Gibraltar I contemporary/possible north native encampment area (ca. 1810-16) midden- like deposits in 21K4B (north): - contemporary with and an extension of the layer 87 midden deposits in 21K4B south and contains several ash mounds
90	Fort Gibraltar I contemporary/possible north native encampment area (ca. 1810-16) ash mound features in 21K4B (north) and 21K4B (south).
91	Early railway post mould feature (ca. 1889) in 21K4B (north).
92	Pre-railway/pre-manure layer dark brown flood sand (1852 flood) in 21K6A, 21K6F and 21K6J.
93	Early railway pit feature (ca. 1882) in 21K4D (south).
94	Fort Gibraltar I contemporary/possible north native encampment area (ca. 1810-16) hearth feature in 21K4D (south): - surrounded by scatterings of charcoal, ash and pockets of fire-reddened and carbon stained soil
95	Pre-fort period (7-1810) dark black organic lensing within layer 14 tan clay (P-1810) in 21K4D and 21K4P.
96 to 98	Early railway large refuse pit (ca. 1882-89) in 21K4E: layer 96 - pit filled with dark grey silty clay and rubbish

Layer/Event	Description
	layer 97 - pit lined with bark layer 98 - pit excavated
99	Early railway pit feature (ca. 1882-1889) in 21K4E.
100	Early railway pit feature (ca. 1882-1889) in 21K4E.
101	Post-Fort Gibraltar I (1826 flood) scattering of structural debris (ash lensings) in 21K4Q (south).
102	Fort Gibraltar I (ca. 1816) scattering of structural debris (ash lense) in 21K4P.
103	I (ca. 1816) structural wall beam collapse of fire-in 21K4V and 21K6G.
104	Fort Gibraltar I (ca. 1816) structural collapse/possible original location of outer west wall beam in 21K4V and 21K6G: - suggests a wall beam running N-S along the western edge of 21K4V and 21K6G
105	Fort Gibraltar I (ca. 1816) structural collapse (linear chinking concentrations representing west wall collapse) in 21K4V.
106	Pre-railway/pre-manure layer flood sand deposited wood feature (ca. 1852 flood) in 21K4V.
107	Fort Gibraltar I (ca. 1816) structural collapse/possible original location of outer west wall beam in 21K4V.
108	Fort Gibraltar I (ca. 1816) structural collapse (linear chinking concentration representing west wall collapse) in 21K6G.
109	Fort Gibraltar I (ca. 1816) structural collapse (decayed unburnt wood in northwest corner of building) in 21K6G.
110	Fort Gibraltar I (ca. 1816) structural collapse (fire-reddened/chinking coloured powdery clay near west wall) in 21K6G.
111	Post-Fort Gibraltar I possibly flood deposited silty clay (ca. 1826) in 21K6G.
112	Post-Fort Gibraltar I (ca. 1816-26) scattering of structural debris (ash) in 21K6N.
113	Post-Fort Gibraltar I (ca. 1816-26) scattering of structural debris (mortar) in 21K6N.
114	Post-Fort Gibraltar I/pre-1826 flood (ca. 1816-26) charcoal-flecked light brown silty sand lense in 21K6N.
115	Post-Fort Gibraltar I/pre-1826 flood (ca. 1816-26) dark grey-brown silty clay lense in 21K6N.
116 and 117	Fort Gibraltar I (ca. 1816) structural collapse (charcoal concentration underlain by fire-reddened soil) in 21K6N.
118 and 119	Roughly Fort Gibraltar I contemporary (ca. 1810-26) pit feature associated with the southern encampment/midden area in 21K4X: layer 118 - pit filled with grey-brown silty clay layer 119 - pit dug well into layer 14
120	Fort Gibraltar I (ca. 1816-26) structural collapse (ash and mortar) in 21K4X.
121	Roughly Fort Gibraltar I contemporary/possible southern encampment area (ca. 1816-26) midden- like deposit in 21K4X.
122	Fort Gibraltar I (ca. 1816) structural collapse (charred wood) in

Layer/Event	Description
	21K4X (south).
123	Post-Fort Gibraltar I (ca. 1816-26) scattering of structural debris (ash and mortar concern traction mixed with silty clay underlying layer48 chimney collapse) in 21K6E.
1214	Post-Fort Gibraltar I (ca. 1816-26) scattering of structural debris (ash and mortar below layer 23 ash-clay mixture) in 21K6E.
125	Fort Gibraltar I (ca. 1816) structural collapse and burning (concentration of chinking and charred wood representing outer south wall) in 21K6E.
126	Post-Fort Gibraltar I/pre-1852 flood sands (ca. 1826-52) picket post fence/trench line feature (ca. 1836-41) in 21K4Y, 21K6E and 21K6H (posts disintegrate and fill with sand/
127 and 128	Roughly Fort Gibraltar I contemporary/slightly later southern encampment area (ca. 1810-16) hearth feature in 21K4Y: layer 127 - ash and charcoal concentration layer 128 - fire-reddened/carbon stained soil underlying ash/charcoal layer
129	Pre-Fort Gibraltar I (?-1810) charred wooden plank feature within the layer 14 in 21K4Y.
130	Post-Fort Gibraltar I (ca. 1826) scattering of structural debris (charcoal) in 21K6R.
131	Fort Gibraltar I (ca. 1816) structural collapse (chinking concentration perhaps from outer north wall collapse) in 21K6R.
132	Fort Gibraltar I (ca. 1816) structural collapse (chinking stained/fire-reddened sand above charred floor) in 21K6P.
133	Fort Gibraltar I (ca. 1816) concentration of structural debris (chinking, ash and charcoal above the charred floor) in 21K6P and 21K6S.
134	Fort Gibraltar I (ca. 1816) structural collapse (black organic lense) in 21K6P.
135	Fort Gibraltar I (ca. 1816) structural collapse (chinking stained/fire-reddened sand) in21K4P.
136	Fort Gibraltar I (ca. 1816) structural burning and collapse (charred floor joist) in 21K6P.
137	Fort Gibraltar I (ca. 1816) structural burning and collapse (carbon stained flooring level) in 21K6P and 21K6S.
138	Fort Gibraltar I (ca. 18 16) structural burning and collapse (charred inside wall beam) in 21K6P and 21K6S.
139	Early railway wood feature (ca. 1882) in 21K4T (south).
140	Early railway rubble-filled pit feature (ca. 1889) in 21K6R: - fill consists of bricks, ash, cinders

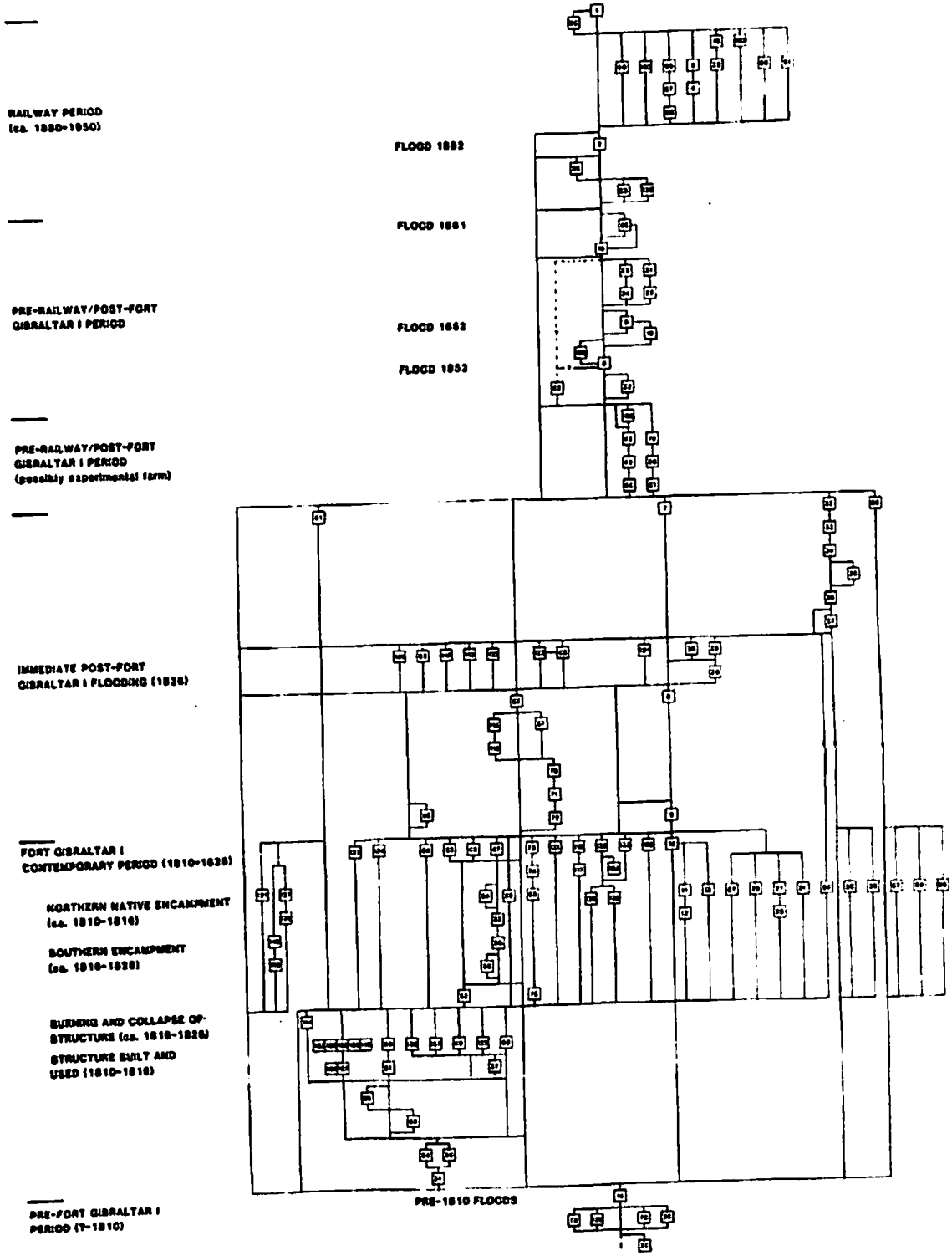


Figure B.I Layer/event diagram for the Fort Gibraltar I site excavation area (21K4 and 21K6).

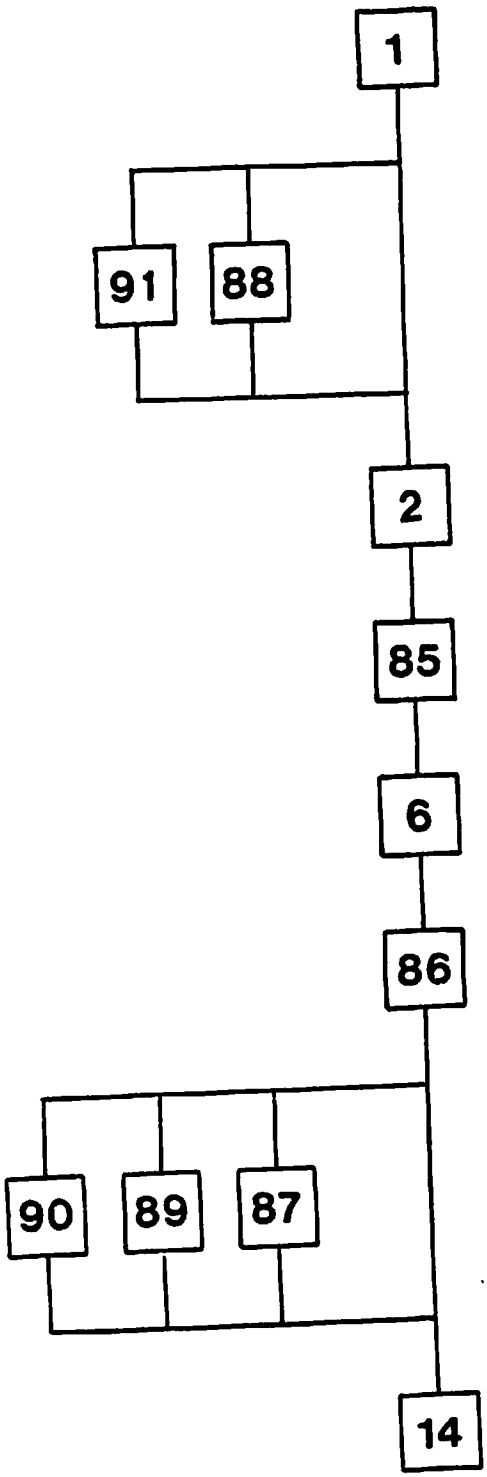


Figure B.2 Layer/event diagram, 21K4B.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (ca. 1882);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852); 14) pre-fort period tan clay (?-1810) ;
85) sandier version of layer 2 early railway silty clay flood layer (1882);
86) immediate post-Fort Gibraltar I grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts;
87) Fort Gibraltar I contemporary/ possible native encampment area (ca. 1810-16) midden deposits in 21K4B (south); contains hearth-like feature and pockets of ash;
88) early railway trench feature (ca. 1882-89) mid-unit;
89) Fort Gibraltar I contemporary/ possible native encampment area (ca. 1810-16) midden deposits in 21K4B (north);
90) Fort Gibraltar I contemporary (ca. 1810-16) ash mounds within and associated with the layers 87 and 89 midden deposits;
91) early railway post mould feature (ca. 1889) in 21K4B (north).

NOTE; 21K4B is a 1.0 m. by 4.0 m. excavation unit; each 1.0 m by 2.0 m. is referred to as 21K4B "north" or "south".

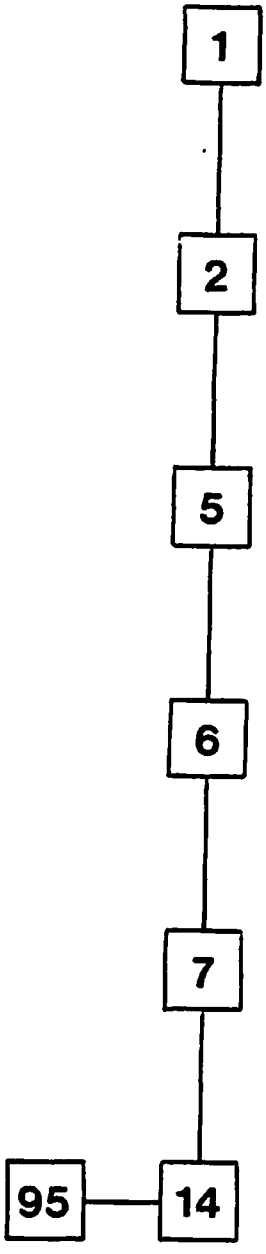


Figure B.3 Layer/event diagram, 21K4C.
1) railway fill (ca. 1889-1950)remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
5) pre-railway/post-Fort Gibraltar I dark brown flood sand (1852);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
7) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts;
14) pre-fort period tan clay (?-1810);
95) uppermost dark black organic lense within layer 14 tan clay.

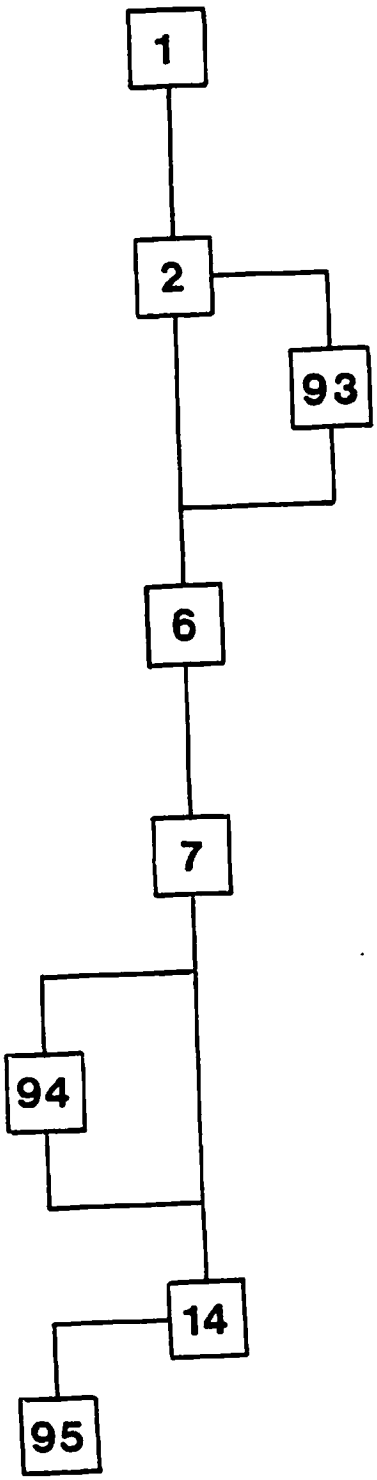


Figure B.4 Layer/event diagram, 21K4D.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
7) immediate post-Fort Gibraltar charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts ;
14) pre-fort period tan clay (?-1810);
93) early railway pit feature (ca. 1882);
94) Fort Gibraltar I contemporary/possible native encampment area (ca. 1810-16) hearth feature;
95) uppermost dark black organic band within the pre-fort layer 14 tan clay.

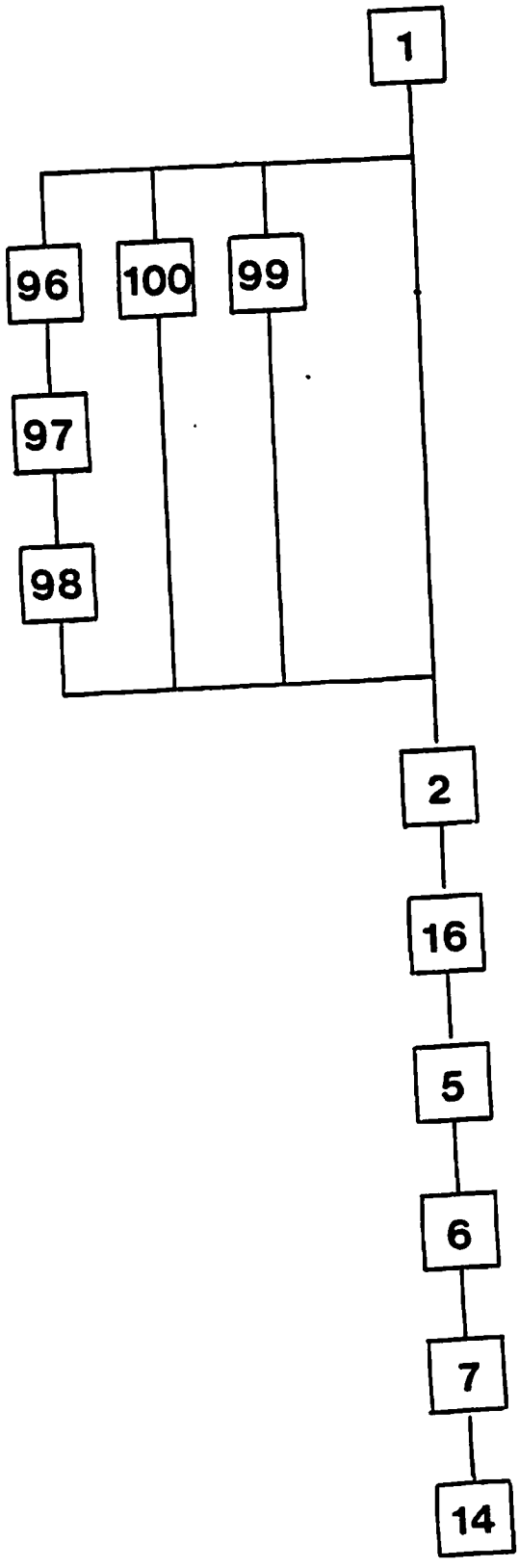


Figure B.5 Layer/event diagram for 21K4E.

1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;

2) early railway grey-brown silty clay flood layer (1882);

5) pre-railway/post-Fort Gibraltar I dark brown flood sand (ca. 1852)

6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);

7) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts

14) pre-fort period tan clay (?- 1810);

16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61);

96 to

98) early railway large refuse pit (ca. 1882-89):

layer 96-pit filled with dark grey silty clay and rubbish;

layer 97-pit lined with bark;

layer 98-pit dug;

99) early railway small pit feature (ca. 1882-89);

100) early railway small pit feature (ca. 1882-89).

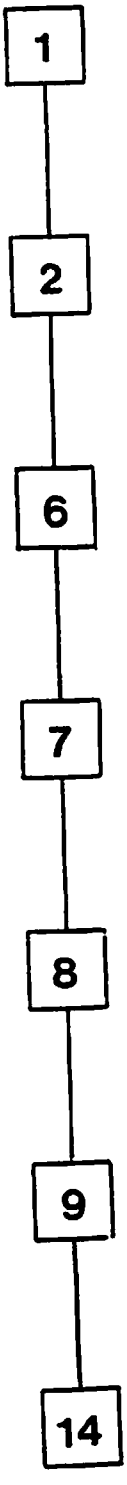


Figure B.6 Layer/event diagram, 21K4F.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
5) pre-railway/post-Fort Gibraltar I dark brown flood sand (1852);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
7 to
9) immediate post-Fort Gibraltar I grey-brown silty clay flood layers (1826) containing fort-contemporary artifacts layer 7-dark grey-brown band; layer 8-lighter grey-brown band;
layer 9-medium grey-brown band;
14) pre-fort period tan clay (?-1810) .

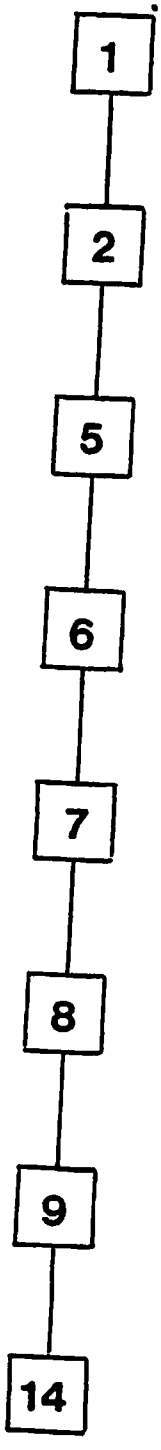


Figure B.7 Layer/event diagram, 21K4G.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
5) pre-railway/post-Fort Gibraltar I dark brown flood sand (1852);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
7 to
9) immediate post-Fort Gibraltar I grey-brown silty clay flood layers (1826) containing fort-contemporary artifacts:
layer 7-dark grey-brown band;
layer 8-lighter grey-brown band ;
layer 9-medium grey-brown band;
14) pre-fort period tan clay (?-1810) .

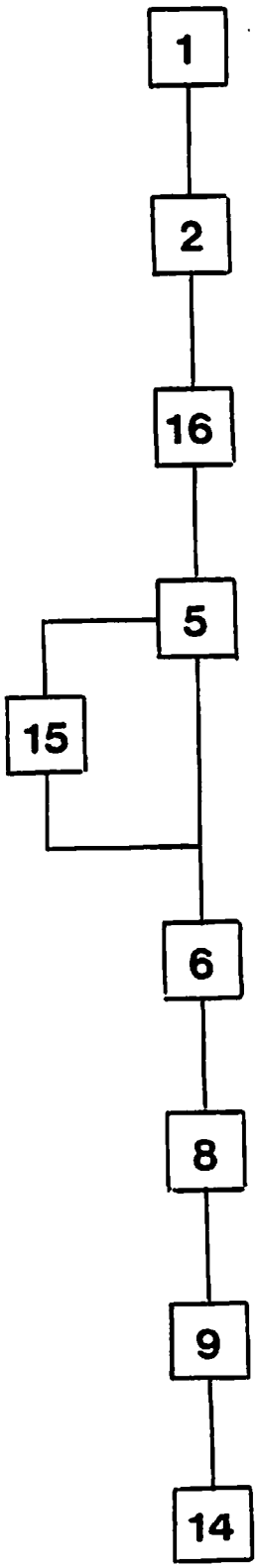


Figure B.8 Layer/event diagram, 21K4H.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
5) pre-railway/post-Fort Gibraltar I dark brown flood sand (1852);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
8 to
9) immediate post-Fort Gibraltar I grey-brown silty clay flood layers (1826) containing fort-contemporary artifacts:
layer 8-lighter grey-brown band ;
layer 9-medium grey-brown silty clay;
14) pre-fort period tan clay (?- 1810) ;
15) pre-railway/pre-manure layer (layer 16) flood deposited wooden palette with four wrought nails; within layer 5 flood sand (ca. 1852);
16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61).

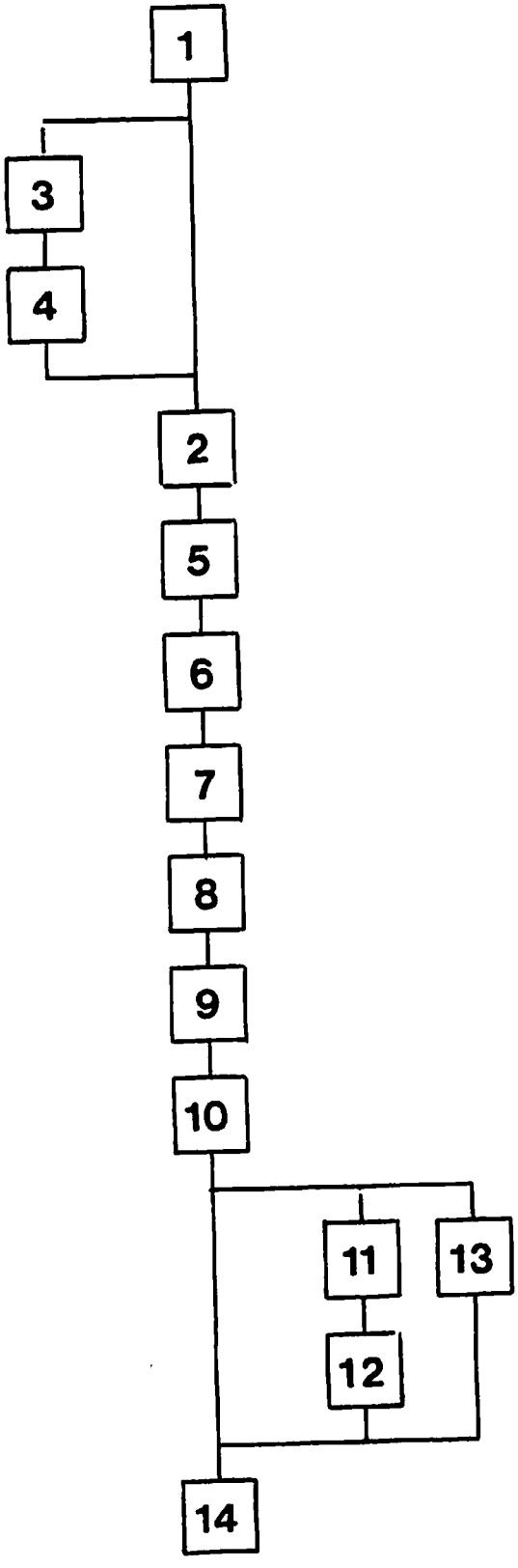


Figure B.9 Layer/event diagram, 21K4J.

1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;

2) early railway grey-brown silty clay flood layer (1882);

3 and

4) early railway pit feature (ca. 1882-89):

layer 3-pit filled with cinders, grey-brown clay and some rubbish;

layer 4-pit dug;

5) pre-railway/post-Fort Gibraltar I dark brown flood sand (1852);

6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);

7 to

10) immediate post-Fort Gibraltar I grey-brown silty clay flood layers (1826) containing fort-contemporary artifacts:

Layer 7-dark grey-brown silty clay;

layer 8-lighter grey-brown band ;

layer 9-medium grey-brown band ;

layer 10-light grey-brown silty clay;

11 to

12) Fort Gibraltar I contemporary/ possible native encampment area (ca. 1810-16) pit feature:

layer 11-pit filled with grey- brown silty clay;

layer 12-pit excavated;

13) Fort Gibraltar I contemporary/possible native encampment area (ca. 1810-16) charred plank feature ;

14) pre-fort period tan clay (?- 1810).

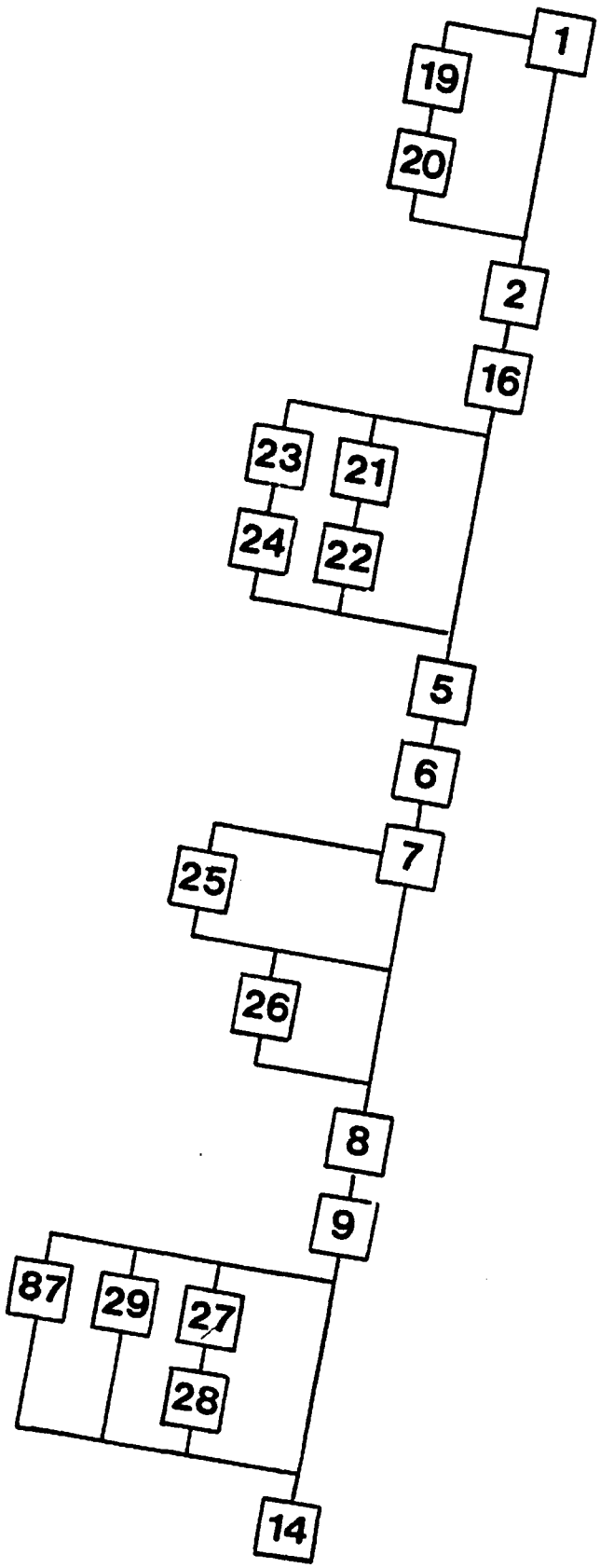


Figure B.10 Layer/event diagram, 21K4K.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
5) pre-railway/post-Fort Gibraltar I dark brown flood sand (1852);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
7 to 9) immediate post-Fort Gibraltar I grey-brown silty clay flood layers (1826) containing fort-contemporary artifacts :
layer 7-dark grey-brown silty clay;
layer 8-lighter grey-brown band;
layer 9-medium grey-brown band;
14) pre-fort period tan clay (7-1810)
16) pre-railway/post-ca. 1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61)
19 & 20) early railway domestic refuse pit (ca. 1889): layer 19-pit filled with cinders, ash, gravel and domestic refuse;
layer 20-pit dug
21 & 22) pre-railway/post-ca. 1852 flood sands (layers 5 and 6) post mould feature (ca. 1852-61):
layer 21-post removed and hole filled with layer 16 manure (ca. 1852-61);
layer 22-pointed post driven into ground;
23 & 24) pre-railway/post-1852 flood sands (layers 5 and 6) pit-and-post feature (ca. 1852-

61):
layer 23-pit with post filled with tan coloured silty clay;
layer 24-pit dug and post placed in pit;

25) immediate post-Fort Gibraltar I (ca. 1816-26) rodent burrow disturbance consisting of ash, charcoal and dark brown sand;

26) immediate post-Fort Gibraltar I (ca. 1816-26) possible rodent burrow disturbance consisting of charred wood fragment and organic material;

27 & 28) Fort Gibraltar I contemporary/possible native encampment area (ca. 1810-16) hearth feature:
layer 27-ash and charcoal concentration;
layer 28-underlying fire-reddened and carbon stained soil;

29) Fort Gibraltar I contemporary/possible native encampment area (ca. 1810-16) ash mound/pocket underlain by carbon stained soil;

87) Fort Gibraltar I contemporary/possible native encampment area (ca. 1810-16) midden deposits.

Figure B.ll Layer/event diagram, 21K4L.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
5) pre-railway/post-Fort Gibraltar I dark brown flood sand (1852);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
7) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts ;
14) pre-fort period tan clay (?-1810);
16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61).

Figure B.12 Layer/event diagram, 21K4M.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
5) pre-railway/post-Fort Gibraltar I dark brown flood sand (1852);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
7) immediate post-Fort Gibraltar I charcoal—flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts
14) pre-fort period tan clay (?-1810);
16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61)

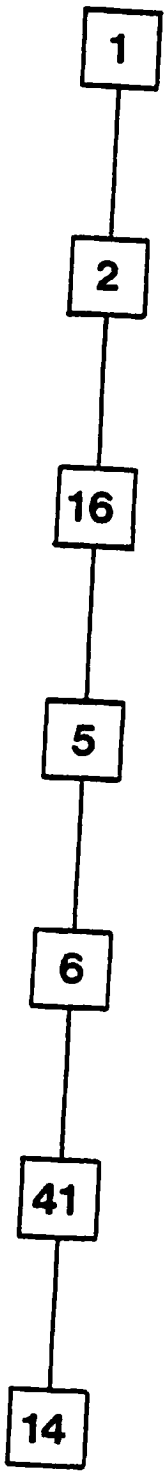


Figure B.13 Layer/event diagram, 21K4N.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
5) pre-railway/post-Fort Gibraltar I dark brown flood sand (1852);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
14) pre-fort period tan clay (?-1810)
16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts.

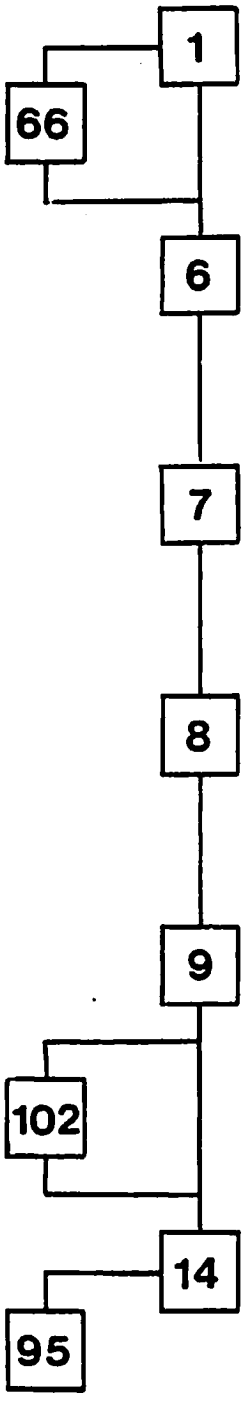


Figure B.14 Layear/event diagram, 21K4P.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
7 to
9) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts:
layer 7-dark grey-brown silty clay;
layer 8-lighter grey-brown silty clay;
layer 9-medium dark grey-brown silty clay;
14) pre-fort period tan clay (?- 1810);
66) modern utility trench (ca. 1950) filled with dense wet clay;
95) uppermost dark black organic lense in pre-fort layer 14 tan clay;
102) Fort Gibraltar I (ca. 1816) scattering of structural debris (ash lense).

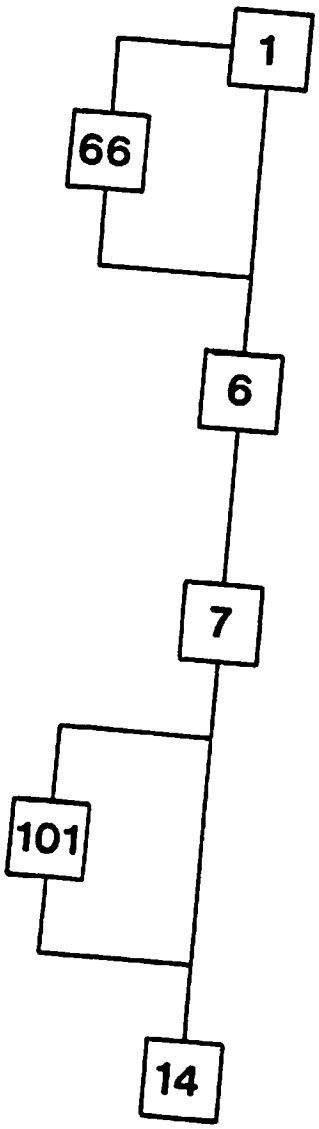


Figure B.15 Layer/event diagram, 21K4Q.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
7) immediate post-Fort Gibraltar charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts:
14) pre-fort period tan clay (?- 1810);
66) modern utility trench (ca. 1950) filled with dense wet clay;
101) post-Fort Gibraltar I flood scattered structural debris (ash lensings) (ca. 1826 flood).

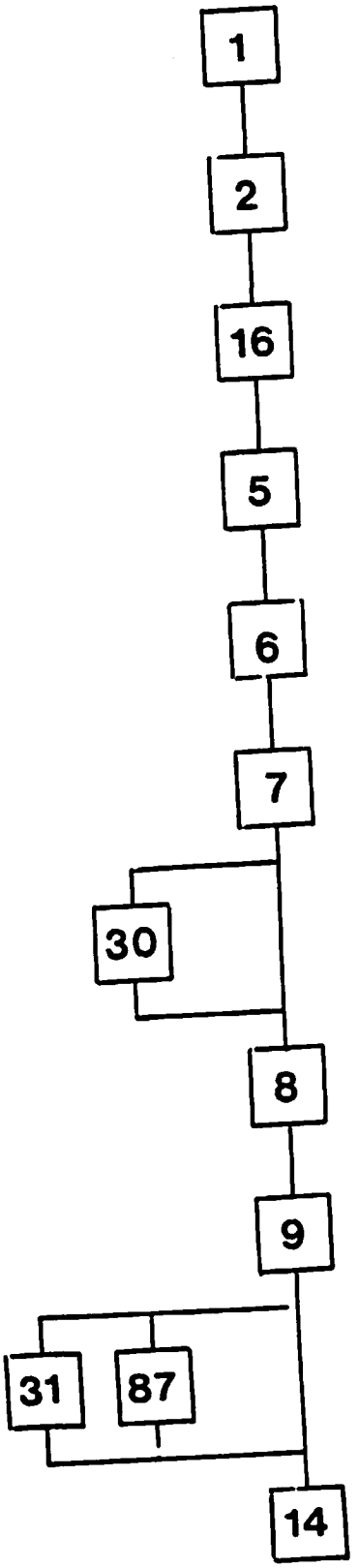


Figure B.16 Layer/event diagram, 21K4R.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
5) pre-railway/post-Fort Gibraltar I dark brown flood sand (1852);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
7 to
9) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts:
layer 7-dark grey-brown silty clay;
layer 8-lighter grey-brown silty clay;
layer 9-medium dark grey-brown silty clay;
14) pre-fort period tan clay (?- 1810)
16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61);
30) immediate post-Fort Gibraltar I either flood mixed burnt wood and organic lense or possible rodent burrow (within layers 7 to 9);
31) Fort Gibraltar I contemporary/possible native encampment area hearth feature (ca. 1810-16);
87) Fort Gibraltar I contemporary/ possible native encampment area midden deposits (ca. 1810-16).

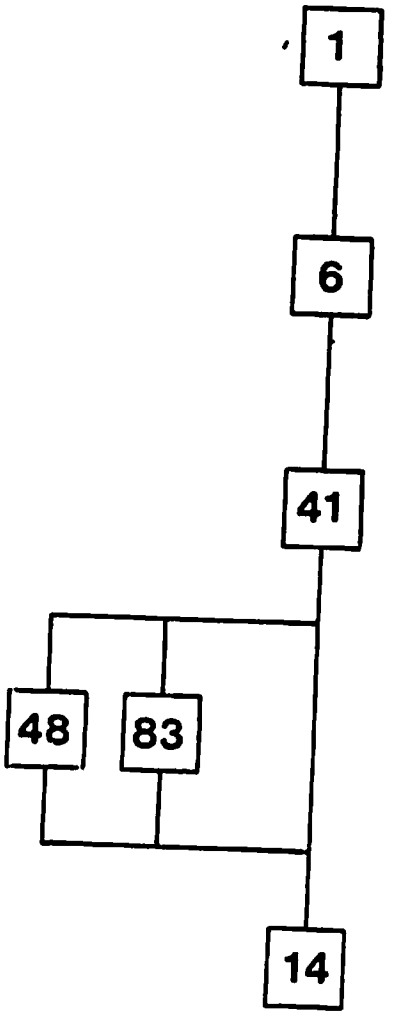


Figure B.17 Layer/event diagram, 21K4S.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
14) pre-fort period tan clay (?-1810);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (ca. 1826) containing fort-contemporary artifacts;
48) random rocks probably associated with the Fort Gibraltar I later chimney rock collapse; within ca. 1826 layer 41 silty clay;
83) post-Fort Gibraltar I flood-scattered structural debris (ash and charcoal) (ca. 1826 flood).

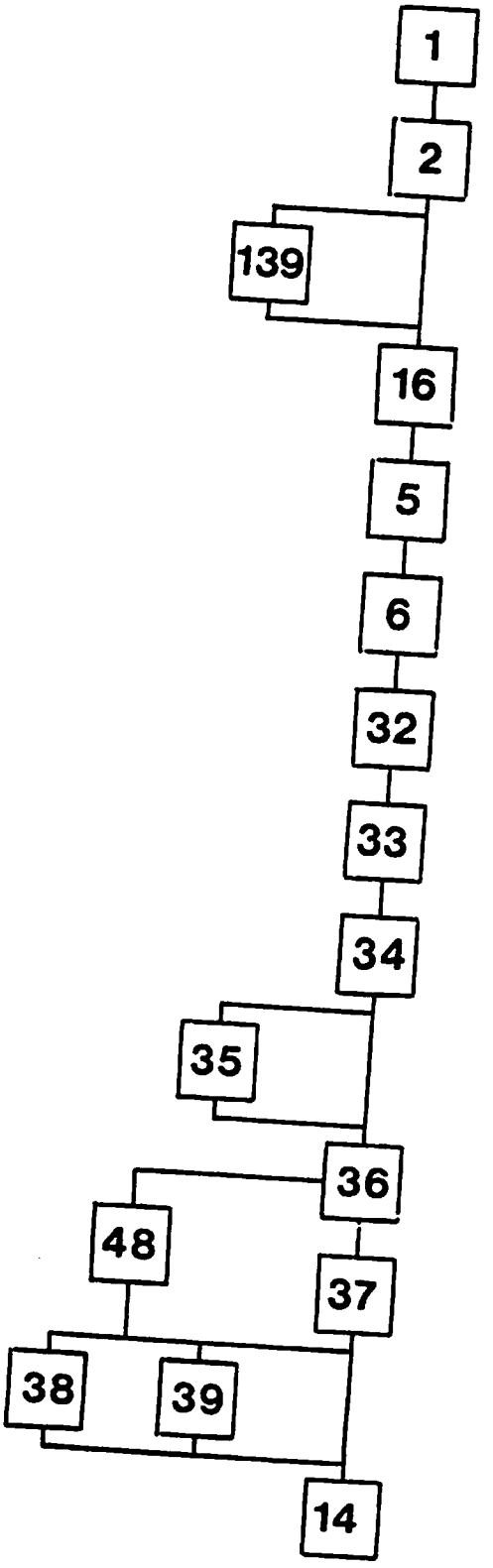


Figure B.18 Layer/event diagram, 21K4T.

1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;

2) early railway grey-brown silty clay flood layer (1882);

5) pre-railway/post-Fort Gibraltar I dark brown flood sand (1852);

6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);

14) pre-fort period tan clay (7-1810);

32 to 34) immediate post-Fort Gibraltar I charcoal-flecked silty clay flood layer (1826) containing fort-contemporary artifacts:

layer 32-dark grey-brown silty clay with streaking of lighter and darker clay;

layer 33-dark grey-brown silty clay without streaking;

layer 34-medium-dark grey-brown silty clay;

35) immediate post-Fort Gibraltar I charred wood and organic lense within 1826 flood layers; probably flood deposited (ca. 1826);

36 & 37) immediate post-Fort Gibraltar I charcoal-flecked silty clay flood layer (1826) containing fort-contemporary artifacts:

layer 36-dark grey-brown silty clay?

layer 37-light grey-brown silty clay;

38) Fort Gibraltar I contemporary (ca. 1816) scattering of structural debris (charred wood and charcoal concentration) probably during ca. 1816 burning of building;

39) Fort Gibraltar I contemporary (ca. 1810-16) large shallow pit feature possibly structure related;

48) random rocks probably associated with the Fort Gibraltar I later chimney rock collapse; within ca. 1826 silty clay (ca. 1826 flood);

139) early railway uncharred wood feature (ca. 1882) (veneer thin fragment).

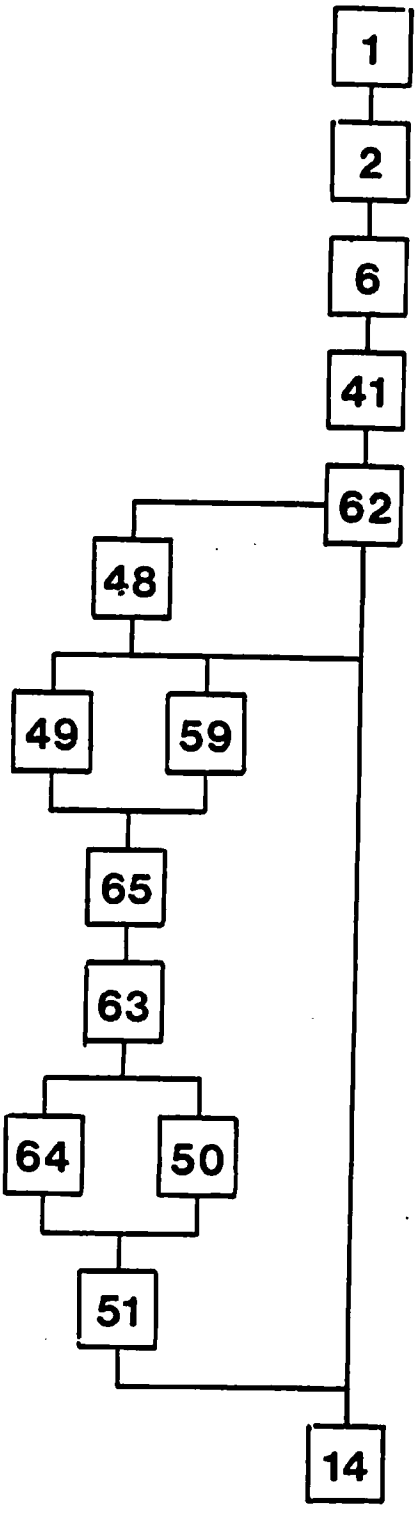


Figure B.19 Layer/event diagram, 21K4U.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (ca. 1852);
14) pre-fort period tan clay (?-1810);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts
48) Fort Gibraltar I later chimney rock collapse on top of and near fireplace pad within ca. 1826 layers 41 and 62 silty clay (ca. 1826 flood);
49) charred wooden plank flooring/ flooring level of Fort Gibraltar I contemporary structure (ca. 1816 burning);
50) Fort Gibraltar I structure built ca. 1810 (flooring laid, fireplace pad built);
51) Fort Gibraltar I ground prepared ca. 1810 (chinking coloured clay pad prepared prior to rock fireplace pad being built);
59) Fort Gibraltar I structural collapse (chinking, ash and mortar concentrations) ca . 1816
62) immediate post-Fort Gibraltar I charcoal flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts ;
63) Fort Gibraltar I occupational use of fireplace (hypothetical sub-division of ash layer above fireplace) ca. 1810-16;
64) Fort Gibraltar I fireplace rock pad built (ca. 1810) ;
65) Fort Gibraltar I occupational use of fireplace (fire-reddened soil; fire-reddening of clay under hearth) ca. 1810-16.

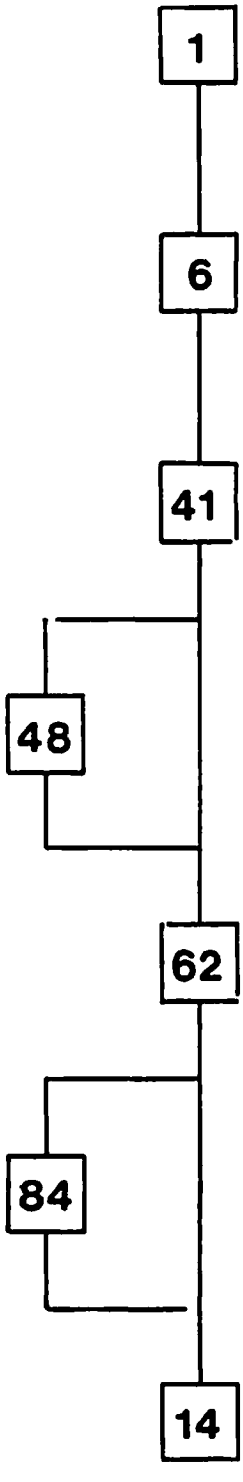


Figure B.20 Layer/event diagram, 21K4V.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
5) pre-railway/post-Fort Gibraltar I dark brown flood sand (ca. 1852)
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
14) pre-fort period tan clay (?-1810);
16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61);
40) pre-railway/post-1852 flood sands (layers 5 and 6) charcoal-flecked grey-brown silty clay flood layer (1861);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts;
48) random rocks probably associated with Fort Gibraltar I later chimney rock collapse within ca. 1826 layer 41 silty clay (ca. 1826 flood);
50) Fort Gibraltar I structure built (outer west wall built) ca. 1810;
51) Fort Gibraltar I ground prepared ca. 1810 (hypothetical) ;
66) modern utility trench (ca. 1950) filled with dense wet clay;
103) Fort Gibraltar I (ca. 1816) structural collapse (outer west wall collapse represented by chinking stained/fire-reddened sand to west of wall beam layers 104 and 107); see also 21K6G;
104) Fort Gibraltar I (ca. 1816) structural collapse/original location of west wall beam (linear band of charred wood concentrations within chinking stained/fire-reddened sand), same as layer 107; see also 21K6G;
105) Fort Gibraltar I (ca. 1816) west wall beam/structural collapse (very dense linear concentrations of fire-reddened chinking to east of layers 104/107), same as layer 108 in 21K6G;
106) pre-railway/pre-layer 16 manure flood deposited wood with wrought nail; within ca. 1852 layers 5 and 6 flood sands ;
107) Fort Gibraltar I (ca. 1816) structural collapse/original location of west wall beam (represented by linear band of charred wood concentrations within chinking stained/fire-reddened sand), same as layer 104.

NOTE: See Figure B.29 for layer/event in 21K6G the northward extension of the west wall area uncovered in 21K4V.

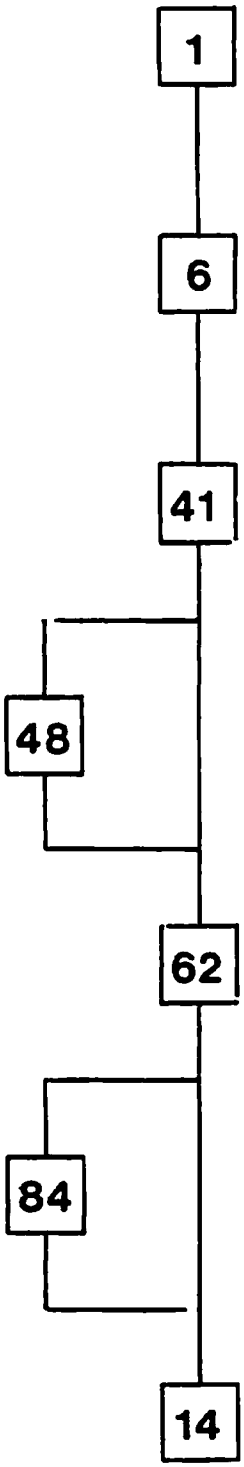


Figure B.21 Layer/event diagram, 21K4W.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
14) pre-fort period tan clay {?-1810);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts ;
48) random rocks probably associated with the Fort Gibraltar I later chimney collapse (ca. 1826 flood) within layer 41 ca. 1826 flood deposited silty clay;
62) immediate post-Fort Gibraltar I charcoal flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts;
84) Fort Gibraltar I (ca. 1816) structural collapse (concentration of ash, charcoal, chinking stained and carbon stained soil).

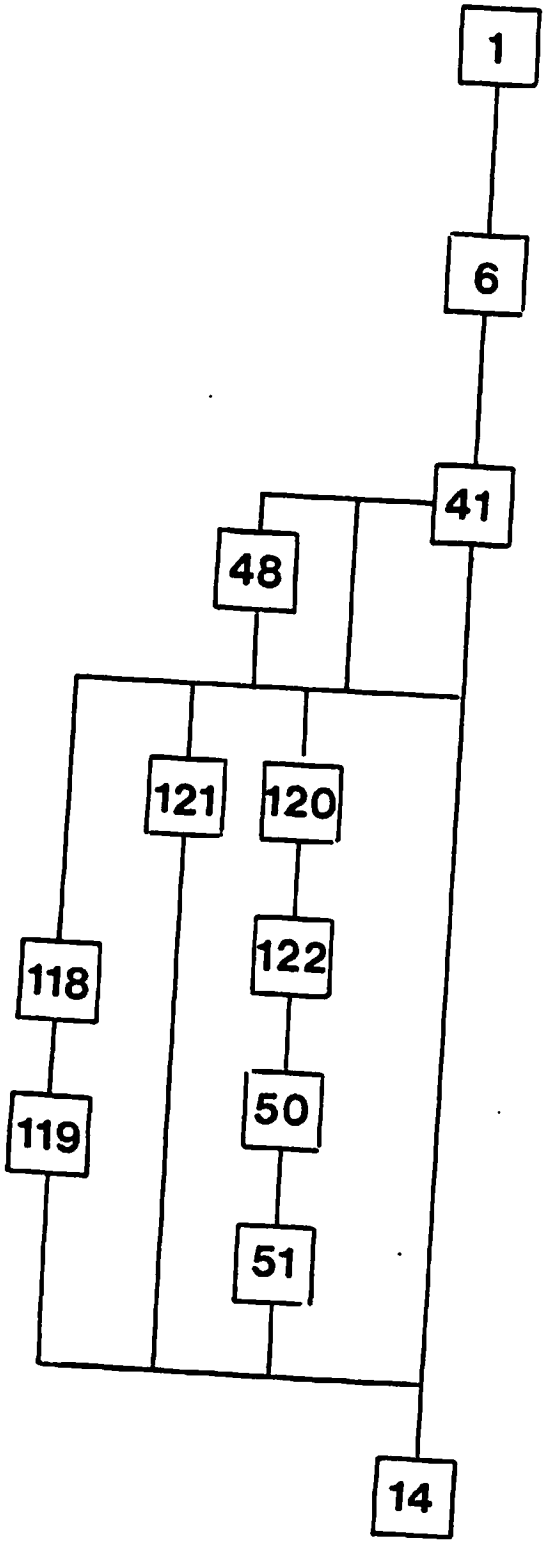


Figure B.22 Layer/event diagram, 21K4X.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
14) pre-fort period tan clay (?-1810);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts ;
48) random rocks probably associated with the Fort Gibraltar I later chimney collapse (ca. 1826) within the layer 41 ca. 1826 flood deposited silty clay;
50) Fort Gibraltar I structure built ca. 1810 (hypothetical);
51) Fort Gibraltar I ground prepared for building ca. 1810 (hypothetical) ;
118
& 119) roughly Fort Gibraltar I contemporary (ca. 1810-26) pit feature found below layer 121 midden deposits, unclear whether dates to the fort period (1810-16) or the slightly later southern encampment (ca. 1816-26)
120) Fort Gibraltar I (ca. 1816-26) structural collapse (ash and mortar concentration);
121) roughly Fort Gibraltar I contemporary/possible southern encampment area (ca. 1816-26) midden deposits consisting primarily of large pieces of large mammal bone;
122) Fort Gibraltar I (ca. 1816) structural collapse (charred wood fragment) below ca. 1826 layer 41 silty clay.

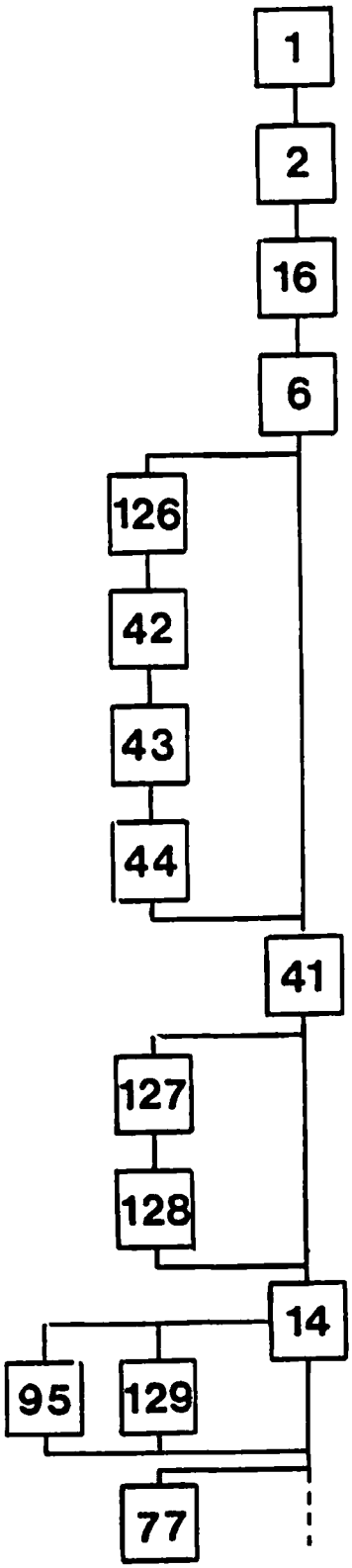


Figure B.23 Layer/event diagram, 21K4Y.

1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;

6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);

14) pre-fort period tan clay (?-1810);

16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61);

41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts

42 to

44) post-Fort Gibraltar I/pre-1852 flood sands (layers 5 and 6) picket post fence/trench line (possibly from experimental farm period ca. 1836-41):

layer 42-trench with posts filled with grey-brown silty clay;

layer 43-picket posts placed in trench ;

layer 44-trench for fence line dug;

77) pre-fort period (?-1810) lensing of lighter coloured, sandier layer 14 tan clay;

95) uppermost dark black organic lensing within the pre-fort period layer 14 tan clay (ca.7-1810);

126) post-Fort Gibraltar I/ca. 1852 flood sands; picket post in experimental farm period picket post fence/trench line (layers 42 to 44) removed or disintegrated and filled with ca. 1852 light brown flood sand ;

127

& 128) roughly Fort Gibraltar I/slightly later southern encampment area (ca. 1816-26) hearth feature :

layer 127-ash and charcoal concentration;

layer 128- fire-reddened/carbon stained soil underlying concentration;

- in association with midden-like scattering of large pieces of large mammal bone;

129) pre-Fort Gibraltar I (7-1810) charred wooden plank feature recovered 16 cm. below surface of layer 14 tan clay.

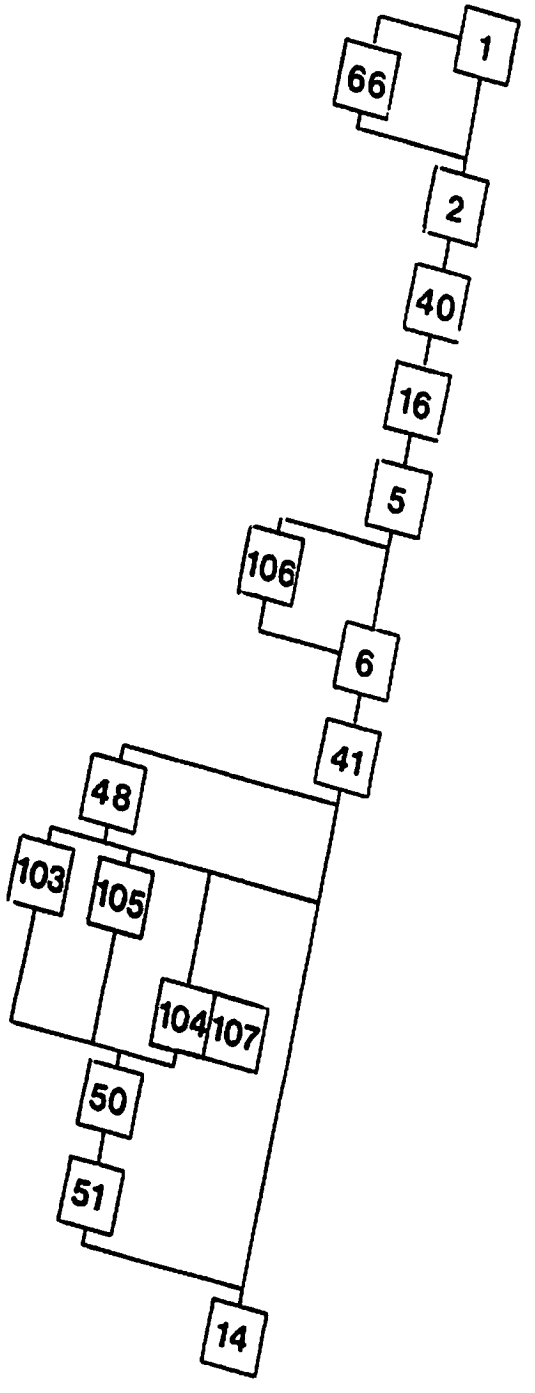


Figure B.24 Layer/event diagram, 21K6A.

1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;

2) early railway grey-brown silty clay flood layer (1882);

6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);

14) pre-fort period tan clay (7-1810);

16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61);

41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts;

42 to

44) post-Fort Gibraltar I/pre-1852 flood sands (layers 5 and 6) picket post fence/trench line (possibly from experimental farm period ca. 1836-41):

layer 42-trench with posts filled with grey-brown silty clay;

layer 43- picket posts placed in trench;

layer 44- trench for fence line dug;

45) Fort Gibraltar I (ca. 1816) structural collapse (chinking and chinking stained sand above charred floor);

46) Fort Gibraltar I (ca. 1816-26) probable structural collapse related deposit (dark brown sand found on top of layer 45 collapse and on top of charred floor); presence is an anomalie; may be associated with layer 48 chimney rock collapse;

47) Fort Gibraltar I (ca. 1816) structural collapse (chinking and chinking stained/fire-reddened sand at same level as layer 45);

48) concentrations/piles of rocks associated with the ca. 1826 Fort Gibraltar I rock chimney collapse; within layer 41 ca. 1826 silty clay;

49) Fort Gibraltar I charred wooden plank flooring (ca. 1816 burn event);

50) Fort Gibraltar I structure built (ca. 1810); flooring laid, walls built;

51) Fort Gibraltar I grounds prepared (ca. 1810) (hypothetical) ;

52 Fort Gibraltar I (ca. 1816) probably structural collapse deposit (dark brown sand

similar to layer 46 sand found on top of charred floor and below layer 45) ; presence is an anomalie;

53) Fort Gibraltar I (ca. 1816) structural collapse (chinking, charcoal, charred and uncharred wood and carbon stained/fire-reddened/chinking stained sand above charred floor) .

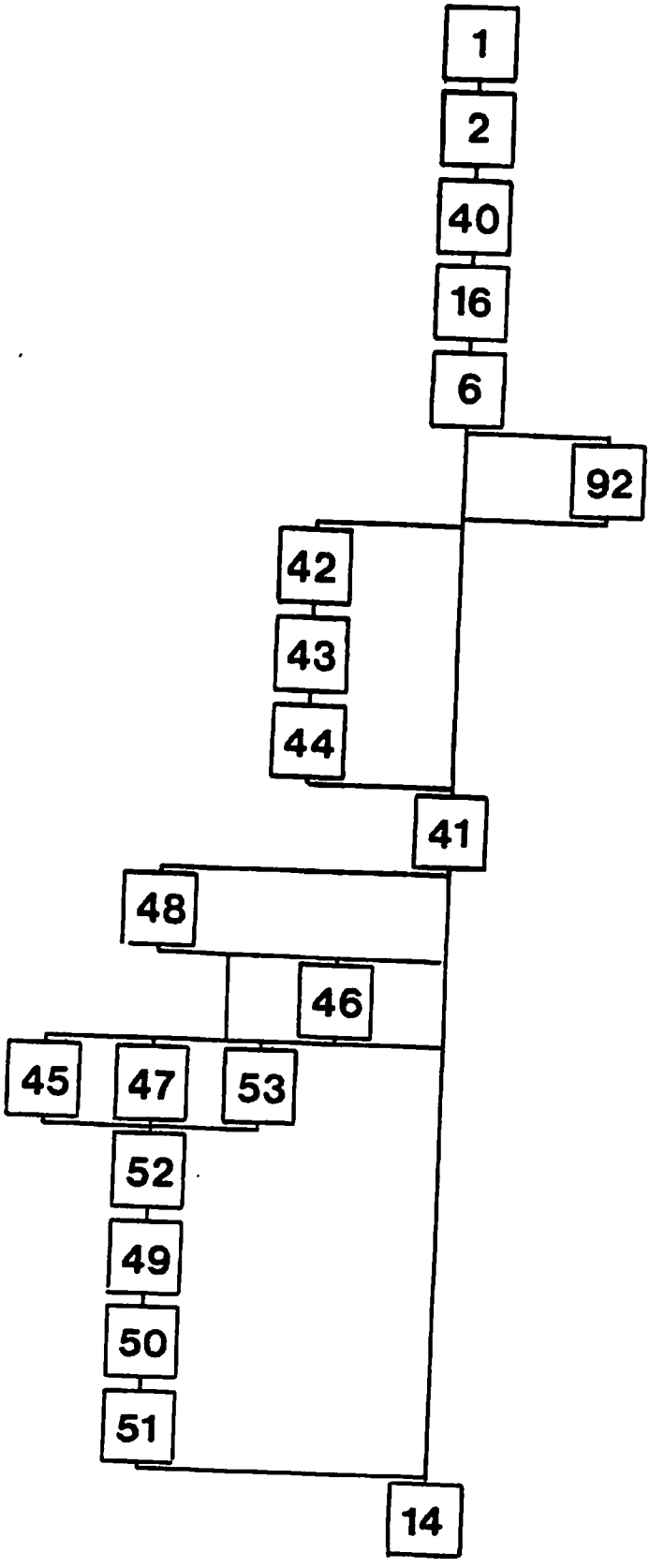


Figure B.25 Layer/event diagram, 21K6C

1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;

2) early railway grey-brown silty clay flood layer (1882);

6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);

14) pre-fort period tan clay (?-1810); 16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61);

40) pre-railway/post-1852 flood sands (layers 5 and 6) charcoal-flecked grey-brown silty clay flood layer (1861);

41) immediate post-Fort Gibraltar I charcoal-flecked grey- brown silty clay flood layer (1826) containing fort-contemporary artifacts;

48) random rocks probably associated with the ca. 1826 Fort Gibraltar I rock chimney collapse;

49) Fort Gibraltar I charred wooden plank flooring (ca. 1816 burn event) ;

50) Fort Gibraltar I structure built (ca. 1810); flooring laid;

51) Fort Gibraltar I grounds prepared (ca. 1810) cellar dug ;

62) immediate post-Fort Gibraltar I charcoal flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts;

66) modern utility trench (ca. 1950) filled with dense wet clay;

67) tan clay lensing (drier, more compact than layer 14) found at flooring level;

68) Fort Gibraltar I (ca. 1816) structural collapse/slumped flooring along west side of cellar;

69) Fort Gibraltar I (ca. 1816) carbon stained, charcoal-chunked flooring level where floorboards appear to have burnt away;

70 to 72) post-Fort Gibraltar I cellar fill and slumping events (ca. 1816-26); uncribbed cellar feature inside fort-contemporary structure:

layer 70-mottled dark brown silt containing charred wood, chinking and structural debris overlying slumped flooring above cellar; probably result of ca. 1826 flood;

layer 71-layer 14 tan clay that has slumped in from the uncribbed cellar walls under and around the slumped flooring inside the cellar (ca. 1816-26) ;

layer 72-dark grey-brown silty clay mixed in with and overlying ca. 1816 structural collapse (e.g., layer 74 charred beams); appears to be the result of ca. 1826 flooding;

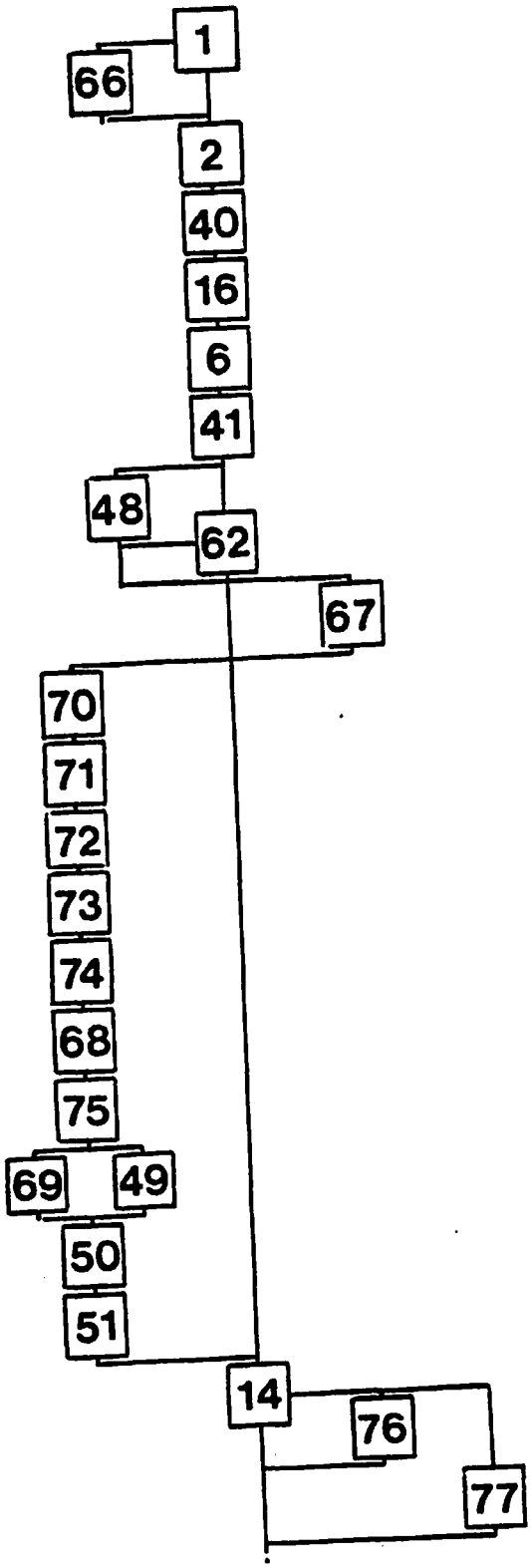


Figure B.25 Continued
73) Fort Gibraltar I (ca. 1816) structural collapse (dense chinking concentration) inside cellar; on top of layer 74 charred beams and below layer 72 cellar fill;
74) Fort Gibraltar I (ca. 1816) structural collapse (large charred support beam fragments) in bottom of cellar;
75) post-Fort Gibraltar I burning and collapse/ pre-cellar wall collapse concentrations of unburnt frog bones inside cellar (ca. 1816-26);
76) pre-Fort Gibraltar I (?-1810) lensing of drier, more compacted layer 14 tan clay approximately 60 cm. below top of layer 14;
77) pre-Fort Gibraltar I (7-1810) lensing of lighter coloured sandier layer 14 tan clay approximately 80 cm. below the top of layer 14.

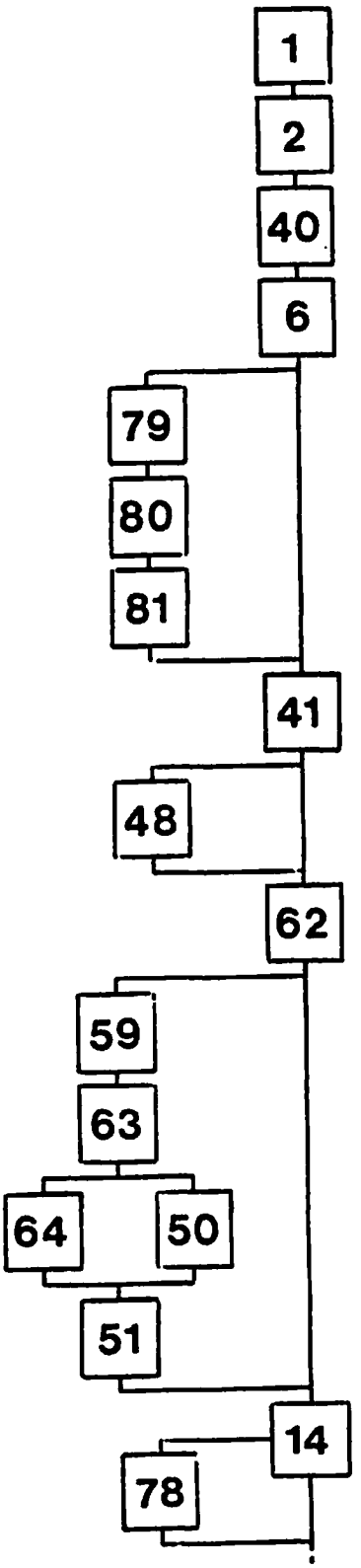


Figure B.26 Layer/event diagram, 21K6D.
1) Railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
14) pre-fort period tan clay (?-1810);
16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-1861);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts;
48) rocks associated with Fort Gibraltar I later chimney rock collapse (ca. 1826 flood);
50) Fort Gibraltar I structure built ca. 1810 (flooring laid, walls built, fireplace pad built, etc.);
51. Fort Gibraltar I ground prepared ca. 1810 (chinking coloured clay pad under fireplace rock pad laid down);
59) Fort Gibraltar I (ca. 1816) structural collapse (hypothetical subdivision of ash layer overlying back of fireplace hearth);
62) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) continuing fort-contemporary artifacts;
63) Fort Gibraltar I occupational use of fireplace (hypothetical subdivision of ash above fireplace) ca. 1810-16;
64) Fort Gibraltar .1 fireplace rock pad built (ca. 1810);
78) pre-Fort Gibraltar I (?-1810) charred wooden plank feature 40-48 cm. below the top of layer 14 tan clay;
79 to
81) post-Fort Gibraltar I/pre-1852 flood sands (layers 5 and 6) picket post fence/trench line (possibly from experimental farm period ca. 1836-41):
layer 79-trench with pots filled with grey-brown silty clay;
layer 80-picket posts placed in trench;
layer 81-trench for fence line dug.

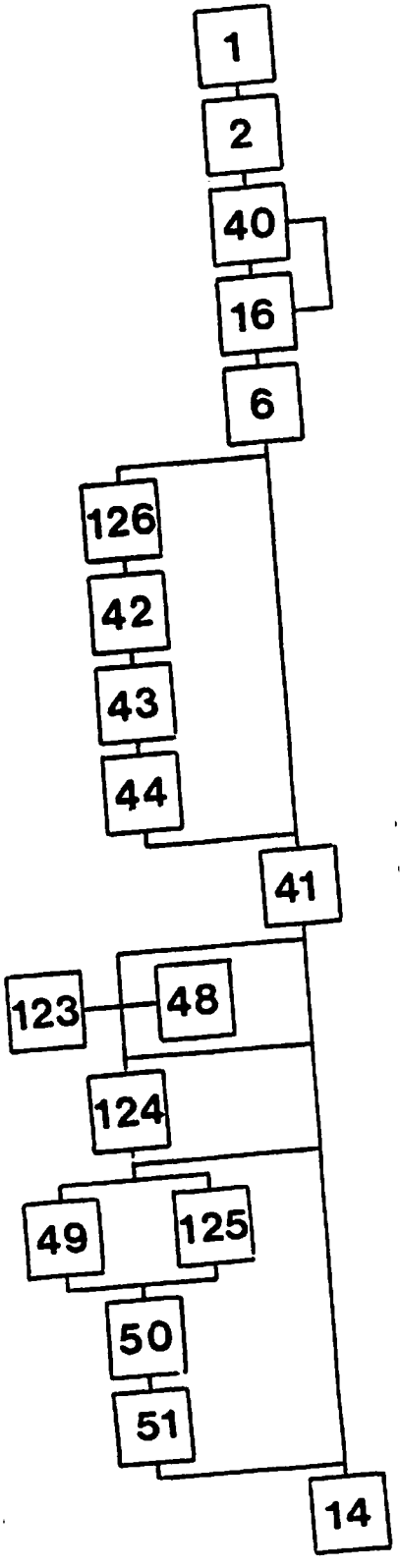


Figure B.27 Layer/event diagram, 21K6E.
1) Railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
14) pre-fort period tan clay (7-1810) 16) pre-railway/post-ca. 1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61);
40) pre-railway/post-1852 flood sands (layers 5 and 6) charcoal-flecked grey-brown silty clay flood layer (ca. 1861);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts;
48) concentrations of rocks associated with Fort Gibraltar I later chimney rock collapse (ca. 1826);
49) Fort Gibraltar I charred wooden plank flooring (ca. 1816 burn event);
50) Fort Gibraltar I structure built (ca. 1810); flooring laid, walls built;
51) Fort Gibraltar I grounds prepared (ca. 1810) (hypothetical);
123) post-Fort Gibraltar I (ca. 1816-26) scattering of structural debris (ash and mortar lense under limestone rocks associated with layer 48 chimney collapse);
124) post-Fort Gibraltar I (ca. 1816-26) scattering of structural debris (ash and mortar lense below limestone rocks associated with layer 48 on other side of layers 42 to 44 picket fence) ;
125) Fort Gibraltar I (ca. 1816) burning and structural collapse (charred wood and dense chinking remains representing outer south wall beam);
126) 1852 flood sands; post in experimental farm period fence line (layers 42 to 44) disintegrated or removed and post mould filled with ca. 1826 flood sand (layers 5 and 6).

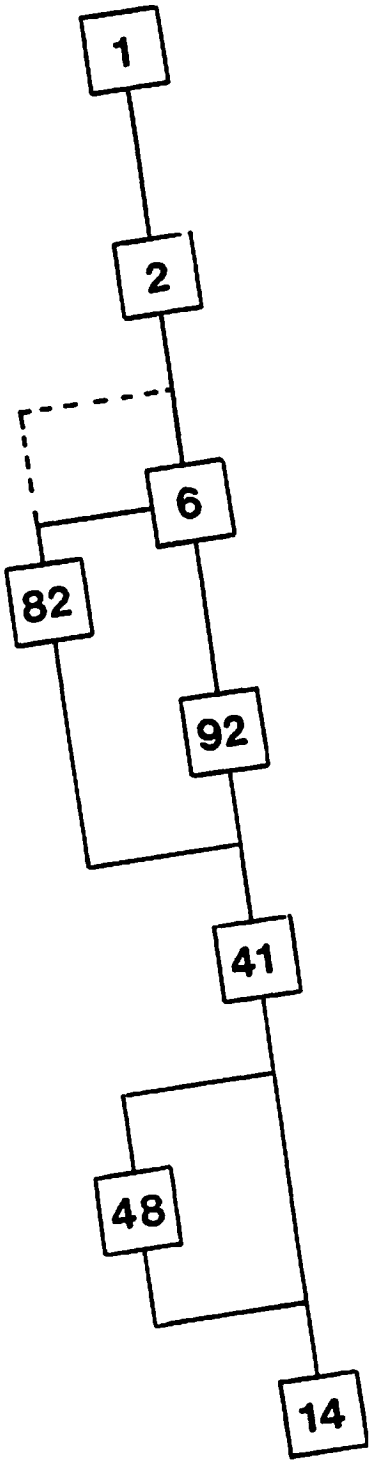


Figure B.28 Layer/event diagram, 21K6F.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
14) pre-fort period tan clay (7-1810);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts;
48) random scatter of rocks associated with Fort Gibraltar I later chimney rock collapse (ca. 1826);
82) pre-railway/possible post-ca. 1852 flood sands post mould feature; chronologically unclear; found just within and filled with ca. 1826 layer 6 flood sand;
92) pre-railway/pre-manure (layer 16) dark brown flood sand (1852) contemporary with layers 5 and 6.

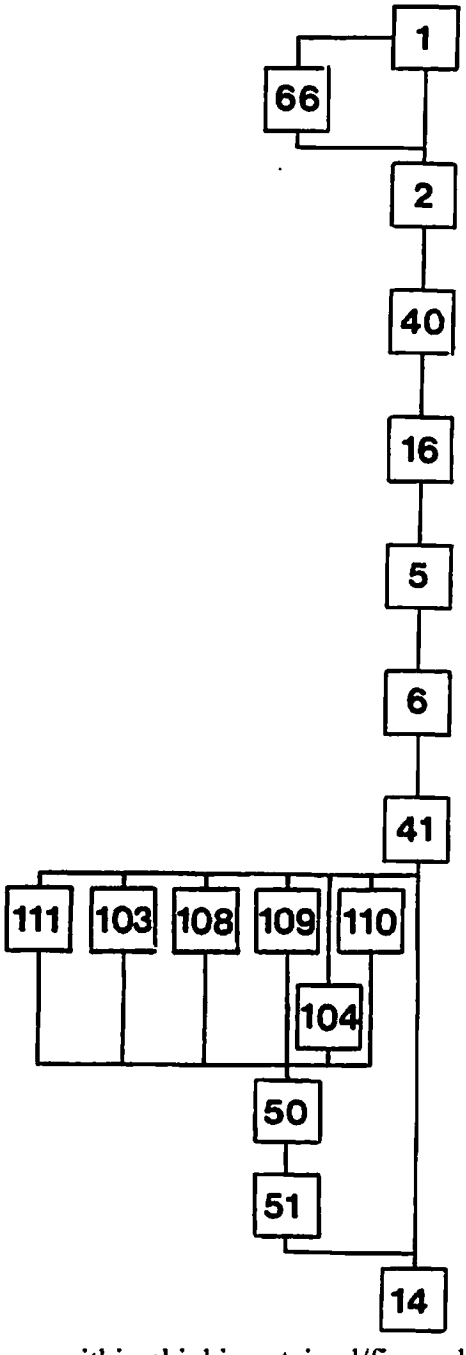


Figure B.29 Layer/event diagram, 21K6G.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
5) pre-railway/post-Fort Gibraltar I dark brown flood sand (1852);
6) pre-railway/post Fort Gibraltar I light brown marbled flood sand (1852);
14) pre-fort period tan clay (7-1810);
16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-1861);
40) pre-railway/post-1852 flood sands (layers 5 and 6) charcoal-flecked grey-brown silty clay flood layer (ca. 1861);
41) immediate post-Fort Gibraltar I charcoal-flecked grey- brown silty clay flood layer (1826) containing fort-contemporary artifacts;
50) Fort Gibraltar I structure built (ca. 1810); west wall built;
51) Fort Gibraltar I grounds prepared (ca. 1810) (hypothetical); rocks placed under northwest corner of building;
66) modern utility trench (ca. 1950) filled with dense wet clay;
103) Fort Gibraltar I (ca. 1816) structural collapse (outer west wall collapse represented by chinking stained/fire-reddened sand to west of wall beam layers 104 and 107); also designated in 21K4V;
104) Fort Gibraltar I (ca. 1816) structural collapse/original location of west wall beam (linear band of charred wood concentrations within chinking stained/fire-reddened sand), same as layers 104 and 107 in 21K4V;
108) Fort Gibraltar I (ca. 1816) west wall beam/structural collapse (wall collapse represented by linear concentrations of dense fire-reddened chinking east of layers 104/107 wall beam area); same as layer 105 in 21K4V;
109) Fort Gibraltar I (ca. 1816) structural collapse (decayed unburnt wood concentration in vicinity of where north and west wall beams appear to meet);
110) Fort Gibraltar I (ca. 1816) structural collapse (pocket of fire-reddened/chinking coloured powdery clay below layer 103);
111) post-Fort Gibraltar I possibly flood deposited grey- brown silty clay (ca. 1826 flood) deposited on top of and around wall beam in northeast corner.

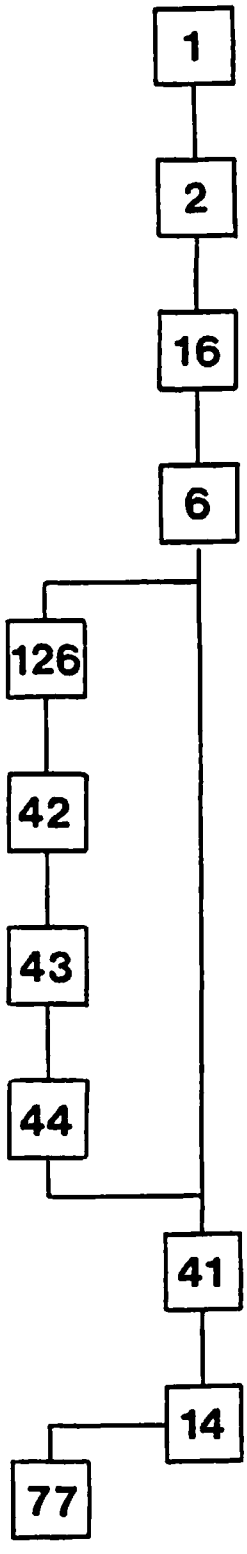


Figure B.30 Layer/event diagram, 21K6H.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
6) pre-railway/post Fort Gibraltar I light brown marbled flood sand (1852); 14) pre-fort period tan clay (7-1810);
16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61); 41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts ;
42 to
44) post-Fort Gibraltar 1/ pre-1852 flood sands (layers 5 and 6) picket post fence/trench line (possibly from experimental farm period ca. 1836-41) :
layer 42-trench with posts filled with grey-brown silty clay;
layer 43-picket posts placed in trench;
layer 44-trench for fence line dug;
77) pre-fort period (ca.7-1810) lensing of lighter coloured, sandier layer 14 tan clay within pre-fort layer 14; 126) post-Fort Gibraltar 1/1852 flood sands; post in experimental farm period picket post fence line (layers 42 to 44) removed or disintegrated and post mould subsequently filled with layer 6 flood sand.
126) POST-Fort Gibraltar I/1852 flood sands; post in experimental farm period picket post fence line (layers 42 to 44) removed or disintegrated and post mould subsequently filled with layer 6 flood sand.

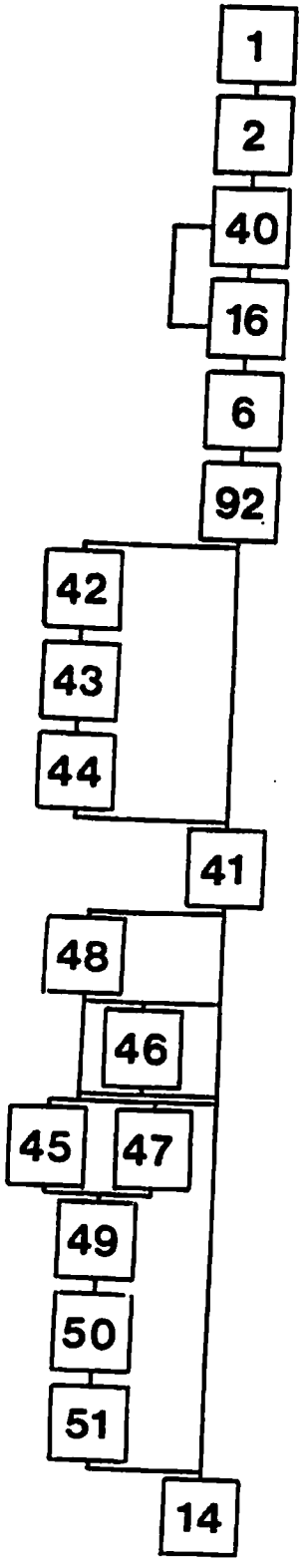


Figure B.31 Layer/event diagram, 21K6J.
1. railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
6) pre-railway/post-Fort Gibraltar I light brown, marbled flood sand (1852);
14) pre-fort period tan clay (?-1810);
16) pre-railway/post-1852 flood sands (layer 5 and 6) manure layer (ca. 1852-1861);
40) pre-railway/post-ca. 1852 flood sands (layers 5 and 6) charcoal-flecked grey-brown silty clay flood layer (1861);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (ca. 1826) containing fort-contemporary artifacts;
45) Fort Gibraltar I (ca. 1816) structural collapse (chinking and chinking stained sand above charred floor);
46) Fort Gibraltar I (ca. 1816-26) probable structural collapse related deposit (dark brown sand found on top of layer 45 chinking stained sand and on top of charred floor); presence is an anomalie; may be associated with layer 48 chimney rock collapse;
47) Fort Gibraltar I (ca. 1816) structural collapse (chinking and chinking stained/fire-reddened sand at same level as layer 45);
48) concentrations of limestone rocks associated with the ca. 1826 Fort Gibraltar I chimney collapse;
49) Fort Gibraltar I charred wooden plank flooring (ca. 1816 burn event);
50) Fort Gibraltar I structure built (ca. 1810); flooring laid;
51) Fort Gibraltar I ground prepared (ca. 1810)(hypothetical).

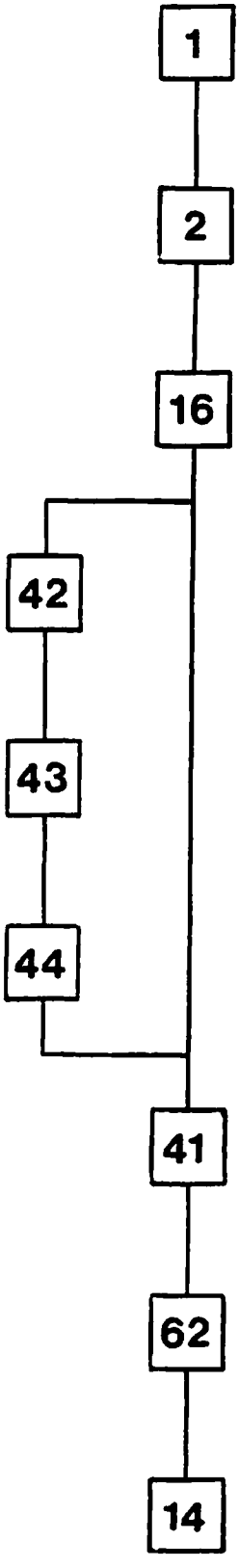


Figure B.32 Layer/event diagram, 21K6K.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
14) pre-fort period tan clay (?-1810);
16) pre-railway/post-1852 flood sands (layer 5 and 6) manure layer (ca. 1852-61);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts ;
42 to
44) post-Fort Gibraltar 1/ pre-1852 flood sands (layers 5 and 6) picket post fence/trench line (possibly from experimental farm period ca. 1836-41);
layer 42-trench with posts filled with grey-brown silty clay;
layer 43-picket posts placed in trench;
layer 44-trench for fence line dug
62) immediate post-Fort Gibraltar I charcoal flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts.

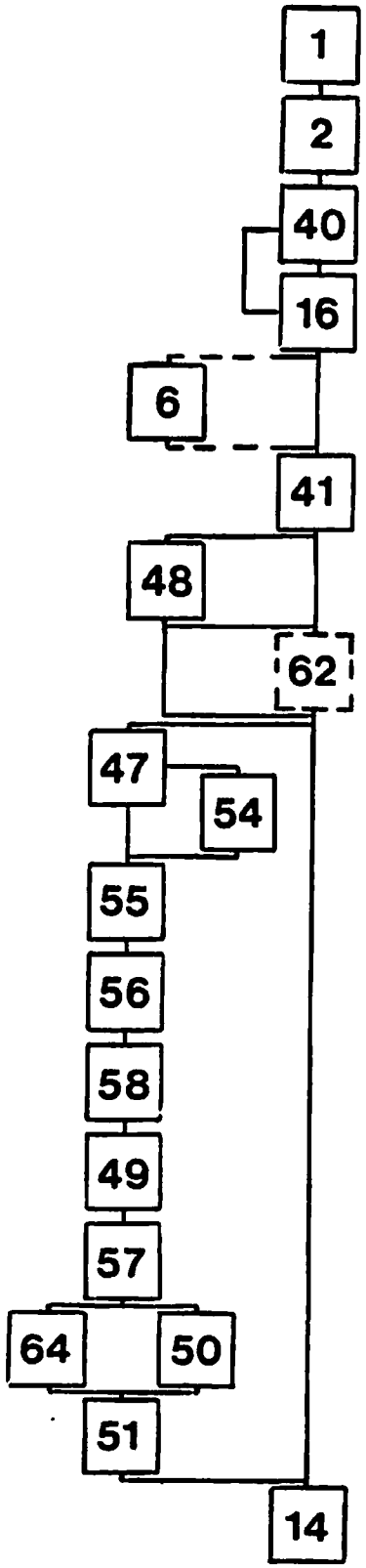


Figure B.33 Layer/event diagram, 21K6L.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852); very thin deposit in wall profile;
14) pre-fort period tan clay (7-1810); 16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61);
40) pre-railway/post-1852 flood sands (layers 5 and 6) charcoal-flecked grey-brown silty clay flood layer (1861);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts;
47) Fort Gibraltar I (ca. 1816) structural collapse (chinking and chinking stained sand above charred floor);
48) concentrations of limestone rocks associated with the ca. 1826 Fort Gibraltar I later chimney collapse;
49 Fort Gibraltar I charred wooden plank flooring (ca. 1816 burn event) ;
50 Fort Gibraltar I structure built (ca. 1810); flooring laid;
51 Fort Gibraltar I ground prepared (ca. 1810); clay pad built under fireplace rocks;
54 Fort Gibraltar I (ca. 1816) structural collapse (chinking concentration below layer 47 and above charred floor);
55) Fort Gibraltar I (ca. 1816) structural collapse (charred beams or timbers, possibly roof supports, on top of charred floor);
56) Fort Gibraltar I (ca. 1816) structural collapse (ash and chinking concentration below charred timbers on top of charred floor);
57) Fort Gibraltar I (ca. 1816) structural collapse (ash and clay layer at flooring level);
58) limestone rocks on top of and near fireplace which are associated with an earlier ca. 1816 Fort Gibraltar I chimney collapse;
62) immediate post-Fort Gibraltar I charcoal flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts;
64) Fort Gibraltar I (ca. 1810) fireplace rock pad built.

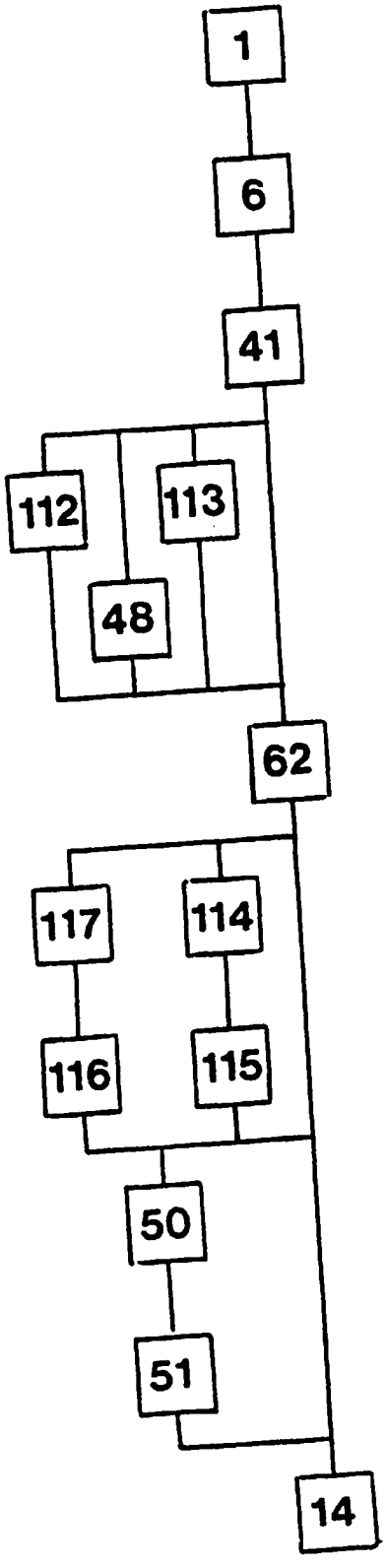


Figure B.34 Layer/event diagram, 21K6N.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
6) pre-railway/post-Fort Gibraltar I light brown, marbled flood sand (1852);
14) pre-Fort period tan clay (?-1810);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts ;
48) limestone rocks probably associated with the ca. 1826 Fort Gibraltar I later chimney collapse;
50) Fort Gibraltar I structure built (ca. 1810); (hypothetical);
51) Fort Gibraltar I ground prepared (ca. 1810); (hypothetical)
62) immediate post-Fort Gibraltar I charcoal flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts;
112) post-Fort Gibraltar I (ca. 1816-26) scattering of structural debris (large ash and mortar concentration);
113) post-Fort Gibraltar I (ca. 1816-26) scattering of structural debris (large mortar concentration) ;
114) post-Fort Gibraltar I/pre-1826 flood (ca. 1816-26)charcoal-flecked light brown silty sand lense above layer 115 and layers 116-117 feature;
115) post-Fort Gibraltar I/pre-1826 flood (ca. 1816-26) dark grey-brown silty clay lense below layer 114 and above layers 116 and 117;
116
& 117) Fort Gibraltar I (ca. 1816) structural collapse; charcoal/charred wood concentration (layer 116) underlain by fire-reddened soil (layer 117).

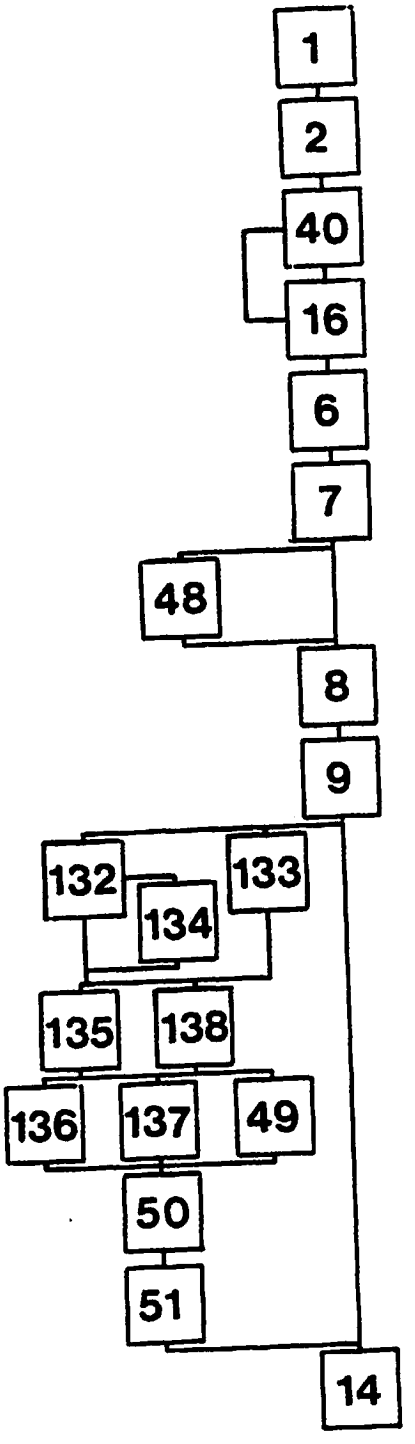


Figure B.35 Layer/event diagram, 21K6P.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (ca. 1852);
14) pre-fort period tan clay (7-1810);
16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852 61);
40) pre-railway/post-1852 flood sands (layers 5 and 6) charcoal-flecked grey-brown silty clay flood layer (1861);
48) limestone rocks probably associated with ca.1826 Fort Gibraltar I later chimney rock collapse;
49) Fort Gibraltar I charred wooden plank flooring (ca. 1816 burn event);
50) Fort Gibraltar I structure built ca. 1810; flooring laid;
51) Fort Gibraltar I ground prepared ca. 1810 (hypothetical) ;
132) Fort Gibraltar I (ca. 1816) structural collapse (chinking stained/fire-reddened sand containing unburnt birch bark above charred floor; probably wall collapse);
133) Fort Gibraltar I (ca. 1816) concentration of structural debris (chinking, ash and charcoal concentration probably representing wall collapse on top of the charred floor) ;
134) Fort Gibraltar I (ca. 1816) structural collapse (dark black organic lense within layer 14 chinking stained sand;
135) Fort Gibraltar I (ca. 1816) structural collapse (chinking stained/fire-reddened sand above charred floor at same level as layer 138 chinking collapse);
136) Fort Gibraltar I (ca. 1816) structural burning and collapse (charred wooden floor joist);
137) Fort Gibraltar I (ca. 1816) structural burning (carbon stained flooring level where floor has burnt away);
138) Fort Gibraltar I (ca. 1816) structural burning and collapse (charred remains of possible inner wall; charred beam and chinking concentration).

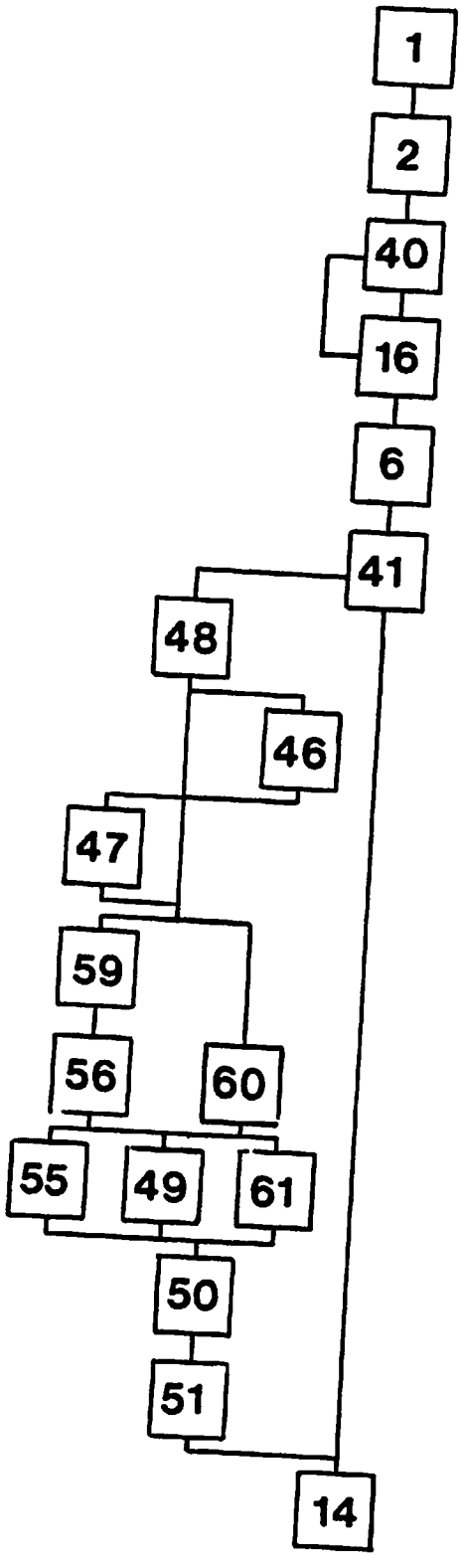


Figure B.36 Layer/event diagram, 21K6Q.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
14) pre-fort period tan clay (7-1810);
16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61);
40) pre-railway/post-ca. 1852 flood sands (layers 5 and 6) charcoal-flecked grey-brown silty clay flood layer (1861);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts;
46) Fort Gibraltar I (ca. 1816-26) probable structural collapse related deposit (dark brown sand on top of charred floor); presence is an anomalie; may be related to the layer 48;
47) Fort Gibraltar I (ca. 1816) structural collapse (chinking and chinking stained/fire-reddened sand above the charred floor);
48) concentrations of limestone rocks associated with the ca. 1826 Fort Gibraltar I later chimney rock collapse;
49) Fort Gibraltar I charred wooden plank flooring (ca. 1816 burn event);
50) Fort Gibraltar I structure built ca. 1810; flooring laid ;
51) Fort Gibraltar I ground prepared ca. 1810 (hypothetical);
55) Fort Gibraltar I (ca. 1816) structural collapse (charred wood, possibly a continuation of the floor joist, at the charred floor level)
56) Fort Gibraltar I (ca. 1816) structural collapse (ash and chinking concentration containing layer 55 charred wood at floor level);
59) Fort Gibraltar I (ca. 1816) structural collapse (charred beam fragments, possibly support beams, on top of the charred floor);
60) Fort Gibraltar I (ca. 1816) structural collapse (creamy coloured, very soft powdery ash containing a concentration of 45 seed beads on top of the charred floor);
61) Fort Gibraltar I (ca. 1816) structural burning (charcoal chunked, carbon stained soil underlying layer 60 and probably representing floor level where flooring burnt away).

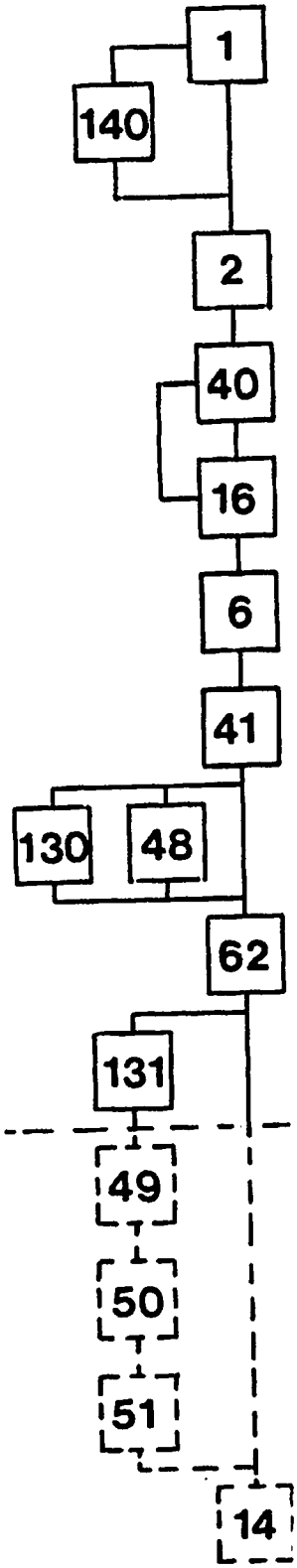


Figure B.37 Layer/event diagram, 21K6R
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
14) re-fort period tan clay (7-1810);
16) re-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61);
40) pre-railway/post-1852 flood sands (layers 5 and 6) charcoal-flecked grey-brown silty clay flood layer (1861);
41) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts;
48) random rocks associated with the ca. 1826 Fort Gibraltar I later chimney collapse; within layer 41;
62) immediate post-Fort Gibraltar I charcoal-flecked grey-brown silty clay flood layer (1826) containing fort-contemporary artifacts ;
130) post-Fort Gibraltar I (ca. 1826) flood scattering of structural debris (charcoal patch within layers 41 and 62 flood silts);
131) Fort Gibraltar I (ca. 1816) scattering of structural debris (chinking concentration below layers 41 and 62) ; unit not excavated below this level;
140) early railway rubble-filled refuse pit feature (ca. 1889) containing bricks, ash and cinders.

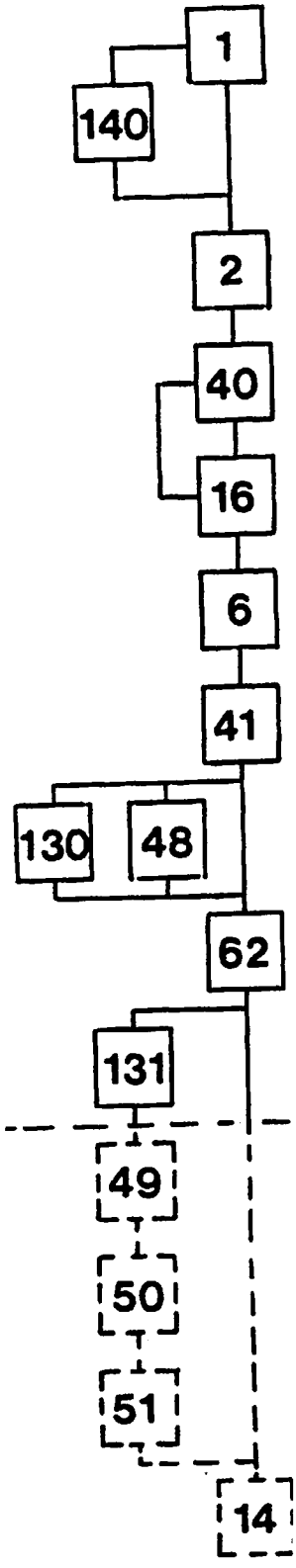


Figure B.38 Layer/event diagram, 21K6S.
1) railway fill (ca. 1889-1950) remaining on surface after removal by backhoe;
2) early railway grey-brown silty clay flood layer (1882);
6) pre-railway/post-Fort Gibraltar I light brown marbled flood sand (1852);
7) immediate post-Fort Gibraltar I charcoal-flecked dark grey- brown silty clay flood layer (1826) containing fort-contemporary artifacts;
14) pre-fort period tan clay (7-1810);
16) pre-railway/post-1852 flood sands (layers 5 and 6) manure layer (ca. 1852-61);
40) pre-railway/post-1852 flood sands (layers 5 and 6) charcoal-flecked grey-brown silty clay flood layer (1861);
49) Fort Gibraltar I charred wooden plank flooring (ca. 1816 burn event);
50) Fort Gibraltar I structure built (outer west wall built) ca. 1810; flooring laid;
51) Fort Gibraltar I ground prepared ca. 1810 (hypothetical);
133) Fort Gibraltar I (ca. 1816) concentration of structural debris (chinking, ash and charcoal concentration probably representing wall collapse on top of the charred floor);
137) Fort Gibraltar I (ca. 1816) structural burning flooring level (carbon stained soil where floor appears to have burnt away);
138) Fort Gibraltar I (ca. 1816) structural burning and collapse (charred remains of possible inner wall; charred beam and chinking concentration).

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APPENDIX C. RESULTS OF SOIL TESTING

The materials following are the borehole logs for the 24 auger tests carried out by National Testing Laboratories Ltd. (see Fig. 3.1).

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 25, 1984 | JOB NO. G021 | TH 1

Wp – □ W – ○ Wl – △ WATER CONTENT %

DRILL TYPE: 400mm auger

DATUM

SURFACE ELEVATION 230.2m

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE	OTHER TESTS
0		FILL – sand & gravel				
1		FILL -topsoil, sand, gravel – bricks, cobbles – wood, metal – broken bottles, glass – ceramic tile, concrete				
2						
3		FILL – clay & silt, soft				
4		FILL – soft, moist to wet – ash like deposits – light grey – some clay & silt – dark grey at 4.1m				
5		FILL – sand & gravel – dark grey to black				
6		CLAY – firm, brown, silty				
7		SAND & CLAY – wet, firm to soft				
8		End Hole at 7.2m				

Fig. C.1. Borehole log, 21K1A1.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 25, 1984 | JOB NO. G021 | TH 1

DRILL TYPE: 400mm auger

OTHER TESTS:

DATUM

SURFACE ELEVATION 230.2m

Wp – □ W – ○ Wl – △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE
0		FILL – sand & gravel			
1		FILL –topsoil, sand, gravel – bricks, cobbles – wood, metal – broken bottles, glass – ceramic tile, concrete			
2		FILL – clay & silt, soft			
3		FILL – soft, moist to wet – ash like deposits – light grey – some clay & silt – dark grey at 4.1m			
4					
5		FILL – sand & gravel – dark grey to black			
6		CLAY – firm, brown, silty			
7		SAND & CLAY – wet, firm to soft			
8		End Hole at 7.2m			

Fig. C.1. Borehole log, 21K1A1.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 25, 1984 | JOB NO. G021 | TH 2

Wp - □ W - ○ Wl - △ WATER CONTENT %

DRILL TYPE: 400mm auger

OTHER TESTS

DATUM

SURFACE ELEVATION 230.1m

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE
0		FILL - sand & gravel			
		FILL - cinder, black			
1		FILL - cinder - red			
2		- some black coal lumps			
3		SAND - fine, silty - brown to tan			
4		SILT - soft to firm - clayey, sandy - stratified			
5		- very sandy at 3.4m			
		End Hole at 5.2m			
6					
7					

Fig. C.2. Borehole log, 21K1A2.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 25, 1984 | JOB NO. G021 | TH 3

DRILL TYPE: 200mm auger

DATUM

SURFACE ELEVATION 230.0m

Wp - □ W - ○ Wl - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE	OTHER TESTS
0		FILL - sand & gravel, rootlets				
		FILL - cinder - black				
1						
		SILT - soft to firm - clayey - tan to brown - some sand - wet at 3.4m				
2						
3						
		End Hole at 3.4m				
4						

Fig. C.3. Borehole log, 21K1A3.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 25, 1984 | JOB NO. G021 | TH 4

Wp - □ W - ○ Wl - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION (DATUM; SURFACE ELEVATION 226.7m)	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE	DRILL TYPE: 50mm hand auger; OTHER TESTS
0		SILT - brown, some clay				
		CLAY - firm, brown - silt inclusions at 0.6m 50mm thicklayer of clay glass & wood, black				
1		SILT - clayey 12mm thick ash like layer - sandy, stratified - oxidized stains - gypsum inclusions				
2		50mm thick ash like layer SILT - brown to tan - soft to firm - clayey				
3		End Hole at 3.1m				

Fig. C.4. Borehole log, 21K1A4.

BOREHOLE LOG

The National Testing Laboratories Ltd.

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 25, 1984 | JOB NO. G021 | TH 5

DRILL TYPE: 50mm hand auger

OTHER TESTS

Wp - □ W - ○ WI - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION (DATUM; SURFACE ELEVATION 226.5m)	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE
0		SILT - tan, moist - clayey			
		TOPSOIL - black, organic			
1		SILT - clayey, sandy - organic inclusions - firm to soft more clay - stratified			
2		SAND - brown, silty - some rootlets			
		SILT - clayey, soft			
3		End Hole at 2.74m			

Fig. C.5. Borehole log, 21K1A5.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 25, 1984 | JOB NO. G021 | TH 6

Wp - □ W - ○ Wl - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION (DATUM; SURFACE ELEVATION 230.8m)	SOIL SAMPLE: CONDITION / TYPE / PENETRATION RESISTANCE	DRILL TYPE: 400mm auger / OTHER TESTS
0		FILL - sand, gravel - some topsoil		
1		FILL - ash like deposit - light grey to black, bricks - some hard mortar lumps - organics		
2		SILT - firm - clayey, rootlets - sandy, tan to brown		
		SAND - silty, brown - moist		
3		End Hole at 3m		

Fig. C.6. Borehole Log, 21K1A6.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 25, 1984 | JOB NO. G021 | TH 7

Wp - □ W - ○ WI - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION (DATUM; SURFACE ELEVATION 230.5m)	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE	DRILL TYPE: 200mm auger; OTHER TESTS
0		FILL - sand, gravel				
		FILL - cinder, black				
		SAND - brown, moist - fine to medium				
1		SILT - firm to soft - some organic - oxidized stains				
2		- clayey, sandy - stratified - wet & soft at 4.12m				
3		--- grey, wet sandy silt				
4		End Hole at 4.12m				

Fig. C.7. Borehole log, 21K1A7.

BOREHOLE LOG

The National Testing Laboratories Ltd.

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 25, 1984 | JOB NO. G021 | TH 8

Wp - □ W - ○ WI - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION (DATUM; SURFACE ELEVATION 230.7m)	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE	DRILL TYPE: 200mm auger / OTHER TESTS
0		FILL - sand, gravel				
		FILL - cinder, red				
		SILT - firm, clayey - sandy, stratified				
1						
		SAND - fine, brown - moist				
2						
		SILT - clayey, sandy - stratified - firm to soft				
3						
		End Hole at 3m				

Fig. C.8. Borehole log, 21K1A8.

BOREHOLE LOG

The National Testing Laboratories Ltd.

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 25, 1984 | JOB NO. G021 | TH 9

Wp - □ W - ○ WI - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION (DATUM; SURFACE ELEVATION 230.5m)	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE	DRILL TYPE: 200mm auger / OTHER TESTS
0		FILL - sand, gravel				
		FILL - cinder - black				
1		SILT - firm to soft - clayey, sandy - stratified - tan to brown				
2		- moist				
3		End Hole at 3.2m				

Fig. C.9. Borehole log, 21K1A9.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 25, 1984 | JOB NO. G021 | TH 10

DRILL TYPE: 200mm auger

OTHER TESTS:

Wp – □ W – ○ Wl – △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION (DATUM; SURFACE ELEVATION 230.1m)	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE
0		FILL - sand, gravel, clay - topsoil, bricks, - broken rock			
1		FILL - sand - brown to red - some cinder			
2		SILT - clayey, sandy - stratified - oxidized stains - sand layers at 2m - clay pockets at 2.6m - soft to firm			
3		End Hole at 3m			

Fig. C.10. Borehole log, 21K1A10.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 25, 1984 | JOB NO. G021 | TH 11

DRILL TYPE: 200mm auger

Wp - □ W - ○ Wl - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION (DATUM; SURFACE ELEVATION 230.7m)	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE	OTHER TESTS
0		FILL - sand, gravel - silt, bricks - trace of organics				
1						
2		FILL - cinder - red - some sand & gravel - wet at 3m - saturated at 3.7m				
3						
4		SAND - brown - fine to medium				
5		End Hole on soft clayey silt at 4.3m				

Fig. C.11. Borehole log, 21K1A11.

BOREHOLE LOG

The National Testing Laboratories Ltd.

PROJECT CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 25, 1984 | JOB NO. G021 | TH 12

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SOIL SAMPLE: CONDITION / TYPE / PENETRATION RESISTANCE	DRILL TYPE / OTHER TESTS
		DATUM SURFACE ELEVATION 230.9m		200mm auger
0		FILL - sand, gravel - organics		
1		FILL - cinder - black, 50mm thick red layer at 1m, some coal		
2		SILT - firm to soft - clayey, sandy - stratified		
3				
4		End Hole at 3.6m		

Wp - □ W - ○ WI - △
WATER CONTENT %

Fig. C.12. Borehole log, 21K1A12.

BOREHOLE LOG

The National Testing Laboratories Ltd.

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD. WK | Date of Investigation July 27, 1984 | JOB NO. G021 | TH 13

Wp - □ W - ○ WI - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE	DRILL TYPE / OTHER TESTS
		DATUM SURFACE ELEVATION 226.7m				DRILL TYPE: 50mm hand auger OTHER TESTS
0	3	TOPSOIL - organic				
		SILT - clayey, sandy - stratified - tan to dark brown - moist, soft				
1		- - - rootlets at 1.52m				
		- - - sandy at 1.83m				
2						
3		End Hole at 3m				

Fig. C.13. Borehole log, 21K1A13.

BOREHOLE LOG

The National Testing Laboratories Ltd.

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 27, 1984 | JOB NO. G021 | TH 14

DRILL TYPE: 50mm hand auger

DATUM

SURFACE ELEVATION 226.0m

WATER CONTENT % (Wp - □ W - ○ Wl - △)	DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE	OTHER TESTS
	0		TOPSOIL - organic				
			SILT - soft to firm - clayey, stratified - soft black clay				
	1		SAND - 75mm thick				
			SILT -soft - clayey, sandy - stratified - organic inclusions				
	2						
	3		End Hole at 3m				

Fig. C.14. Borehole log, 21K1A14.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. WK | CKD WK | Date of Investigation July 27, 1984 | JOB NO. G021 | TH 15

DRILL TYPE: 50mm hand auger

OTHER TESTS

DATUM

SURFACE ELEVATION 226.0m

Wp - □ W - ○ Wl - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE
0		SILT - organic			
		SILT - soft to firm - clayey, sandy - stratified			
1		- - - organic inclusions at 1.3m			
		- - - sandy at 1.52m			
		- dark brown to black			
2					
		End Hole at 2.5m			
3					

Fig. C.15. Borehole log, 21K1A15.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. GL/WK | CKD WK | Date of Investigation Aug 3/84 | JOB NO. G021 | TH 16

DRILL TYPE: 400mm Auger

OTHER TESTS:

DATUM

SURFACE ELEVATION 231.0m

Wp - □ W - ○ Wl - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE
0		FILL - sand & gravel			
		FILL - wood layer			
1		- 0.3m thick fine to medium brown sand - wood layer - clay, silty - cinder, metal pieces - wire, glass			
2		- some chinking-like deposits - some charcoal - some ash like deposits			
3		SAND & SILT - brown - moist - compact - fine to medium			
4		End Hole at 3.75m			

Fig. C.16. Borehole log, 21K1A16.

BOREHOLE LOG

The National Testing Laboratories Ltd.

PROJECT: CN EAST YARDS

Logged/Dwn. GL/WK | CKD WK | Date of Investigation Aug 3/84 | JOB NO. G021 | TH 17

Wp - □ W - ○ Wl - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE	DRILL TYPE / OTHER TESTS
		DATUM SURFACE ELEVATION 231.0m				400mm Auger OTHER TESTS
0		FILL - sand, gravel - cinder, glass - brick, silt - concrete pieces - clay - 25mm thick ash-like layer at 1.52m - wood				
1						
2		SILT - soft to firm, clayey				
		End Hole at 2.13m				
3		NOTES 1) This test hole was drilled 0.3m west of original location where a railway track was encountered at 150mm from grade. 2) Prior to drilling at the final location, a 2nd attempt was made 0.6m east of original location. In this case, auger refusal on unknown object at 0.3m.				
4						

Fig. C.17. Borehole log, 21K1A17.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. GL/WK | CKD WK | Date of Investigation Aug 3/84 | JOB NO. G021 | TH 18

DRILL TYPE: 400mm Auger

OTHER TESTS:

Wp - □ W - ○ WI - △ WATER CONTENT %

DATUM

SURFACE ELEVATION 230.7m

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE
0		FILL			
	X	- sand & gravel			
		- wet lime at 1.2m			
	X	- plastic bag,			
		- broken bottle			
1	X	- wood, metal pieces			
		Auger refusal at 1.37m on unknown object			
2		NOTES			
		1) Artifact like materials picked up by Parks Canada on site representative.			
		2) One additional hole drilled 0.6m east of TH 18; auger refusal again at 1.37m			
3					
4					

Fig. C.18. Borehole log, 21K1A18.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. GL/WK | CKD WK | Date of Investigation Aug 3/84 | JOB NO. G021 | TH 19

Wp - □ W - ○ WI - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION (DATUM; SURFACE ELEVATION 231.2m)	SOIL SAMPLE: CONDITION / TYPE / PENETRATION RESISTANCE	DRILL TYPE: 400mm Auger / OTHER TESTS
0		FILL - sand & gravel		
		FILL - cinder - coal - broken glass - piece of oxidized copper - some silt - wood pieces		
1				
2		SILT - sandy - firm		
		SAND, brown		
		End Hole at 2.6m		
3				
4				

Fig. C.19. Borehole log, 21K1A19.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. GL/WK | CKD WK | Date of Investigation Aug 3/84 | JOB NO. G021 | TH 20

Wp - □ W - ○ WI - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION (DATUM; SURFACE ELEVATION 230.7m)	SOIL SAMPLE: CONDITION / TYPE / PENETRATION RESISTANCE	DRILL TYPE: 400mm Auger / OTHER TESTS
0		FILL - sand & gravel - some cobble to 100mmØ		
1		FILL - 50mm thick sand layer at 0.4m - black cinder at 1.5m - sand & silt		
2		SAND - brown, moist		
		SILT - firm to soft - clayey		
3		End Hole at 2.74m		
4				

Fig. C.20. Borehole log, 21K1A20.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. GL/WK | CKD WK | Date of Investigation Aug 3/84 | JOB NO. G021 | TH 21

Wp - □ W - ○ Wl - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION (DATUM; SURFACE ELEVATION 229.7m)	SOIL SAMPLE: CONDITION / TYPE / PENETRATION RESISTANCE	DRILL TYPE: 400mm Auger / OTHER TESTS
0		FILL - sand & gravel		
1				
		FILL - broken shale		
2		FILL - silt - wet - soft, tan		
3		SAND -- caving at 2.9m - brown - grey at 3m, seepage at 3.35m		
4		SILT - clayey - soft - dark grey		
		End Hole at 4.57m NOTE Test hole caved in to 3.35m from grade on completion.		

Fig. C.21. Borehole log, 21K1A21.

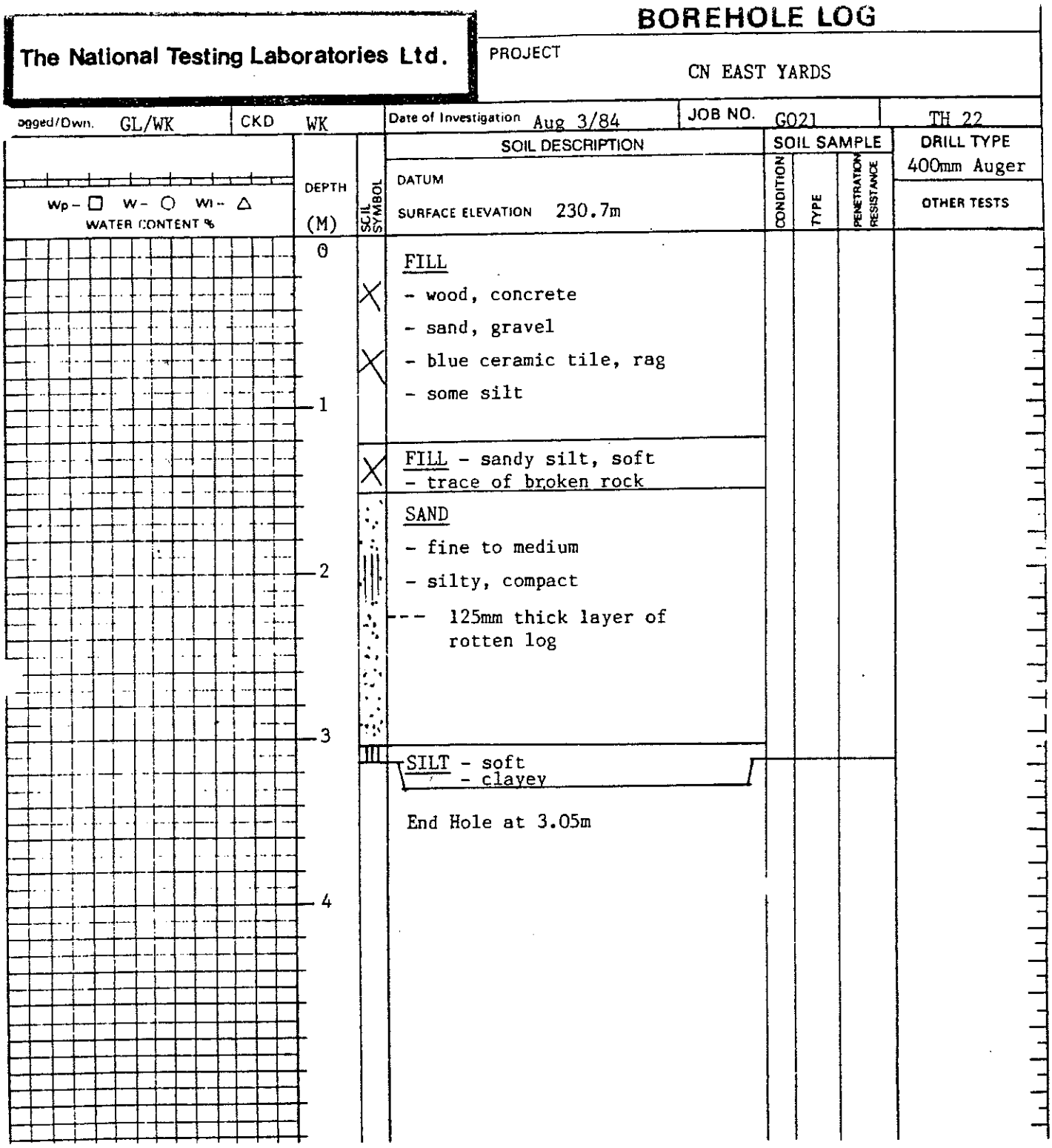

Fig. C.22. Borehole log, 21K1A22.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. GL/WK | CKD WK | Date of Investigation Aug 3/84 | JOB NO. G021 | TH 23

DRILL TYPE: 400mm Auger

Wp - □ W - ○ Wi - △ WATER CONTENT %

DATUM

SURFACE ELEVATION 230.7m

OTHER TESTS

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE
0		FILL - sand & gravel - concrete pieces			
		FILL - silt - some clay			
1		SILT --- caving at 1.37m - sandy - brown - soft to firm			
2					
3					
		End Hole at 3.2m			
4					

Fig. C.23. Borehole log, 21K1A23.

The National Testing Laboratories Ltd.

BOREHOLE LOG

PROJECT: CN EAST YARDS

Logged/Dwn. GL/WK | CKD WK | Date of Investigation Aug 3/84 | JOB NO. G021 | TH 24

DRILL TYPE: 400mm Auger

DATUM

SURFACE ELEVATION 230.8m

Wp - □ W - ○ Wl - △ WATER CONTENT %

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SOIL SAMPLE: CONDITION	SOIL SAMPLE: TYPE	SOIL SAMPLE: PENETRATION RESISTANCE	OTHER TESTS
0		FILL - gravelly sand - some concrete & cobble				
1		FILL - sandy - wood, cinder, silt --- abundance of fish bones - shells, charcoal, chinking-like deposits				
		SAND				
2		--- caving between 1.68 & 2.22mm SILT - soft to firm - tan - sandy				
3						
4		End Hole at 4.27m NOTE Hole caved to 3.35m from grade on completion				

Fig. C.24. Borehole log, 21K1A24.

Table C.1 Depth and nature of fill materials in the auger tests of the upper terrace at the Forks 1984.

Auger Test No.	Depth (m)	Nature
21K1A1	5.50	random
21K1A2	2.40	railway related
21K1A3	1.10	railway related
21K1A6	2.00	random
21K1A7	0.60	railway related
21K1A8	0.30	railway related
21K1A9	0.80	railway related
21K1A10	1.45	railway related
21K1A11	4.00	railway related
21K1A12	1.35	railway related
21K1A16	2.45	random (see note a)
21K1A17	1.85	random (see note b)
21K1A18	at least 1.37	random (see note c)
21K1A19	1.85	random (see note d)
21K1A20	2.00	railway related
21K1A21	2.75	sand, gravel, shale, silt
21K1A22	1.50	random (see note e)
21K1A23	1.00	random
21K1A24	1.25	random (see note f)

Notes

a) At 21K1A16 (Fig. C.16) chinking-like deposits and some charcoal which could be related to previously burned log structures were encountered.

b) At 21K1A17 (Fig. C.17) three attempts had to be made before the fill thickness could be verified by augering. A railway track was encountered at the 150 mm. depth in the first attempt. Auger refusal was experienced at 0.3 m. on an unknown object in the second attempt.

c) At 21K1A18 (Fig. C.18) drilling was attempted at two alternate locations. At both locations, the base of the fill could not be reached. Auger refused on an unknown object at 1.37 m. from the grade. Artifacts were recovered by Archaeology assistant.

d) 21K1A19 was relocated approximately 3.0 m. east of the original location, due to the possible existence of a waterline running in the north-south direction.

e) At 21K1A22 (Fig. C.22) a 125 mm. thick layer of rotten log which could be related to a log structure was encountered at about 2.25 m. from the grade.

f) At 21K1A 24 (Fig. C.24) an abundance of fish bones, some shells, charcoal and chinking-like deposits were encountered between depths of 0.7 m. and 1.3 m. from the grade.

The alluvial deposits (i.e. sand, silty clay, clay silt) which were located below the fill were relatively weak, stratified and with varying relative densities and/or consistencies. The sand and the clay silt/silty clay were usually loose and soft respectively. These deposits tended to increase their moisture contents from moist to wet near the depths of 3.0 to 4.0 m. from the grade.

APPENDIX D. WOOD SAMPLE IDENTIFICATION

Table D.1 Wood sample identification

Sample Number	Identification	Association
21K3C4-99-30-1	birch (Betula spp.)	painted wood fragment in cribbed cellar fill
21K3C4-99-30-2	poplar (Populus spp.)	collapsed and burnt wood in cribbed cellar
21K3C5-99-138-2	ash (Fraxinus spp.)	collapsed and burnt wood in cribbed cellar
21K3C5-99-138-4	eastern white pine (Pinus strobus) clothing chest or workman's chest	collapsed and burnt wood in cribbed cellar
21K3D9-99-33-0	cedar (Thuya spp.)	railway post no. 1 on wooden footing
21K3E3-99-25-4	probably eastern white pine (Pinus strobus)	ferrous barrel hoop in pit no. 1
21K3H15-99-332-0	white oak (Quercus spp.)	
21K3H16-99-319-2	eastern white pine (Pinus strobus)	base of historic cribbed cellar
21K3H22-99-310-0	white oak (Quercus spp.)	fire pit with charred wood fragments
21K3J4-99-232-0	maple (Acer. spp.)	collapsed and burnt wood in cribbed cellar
21K3J4-99-231-0	white oak (Quercus spp.)	collapsed and burnt wood in cribbed cellar
21K3K4-99-336-0	white oak (Quercus spp.)	collapsed and burnt wood in cribbed cellar

Table D.1 Continued

Sample Number	Identification	Association
21K3L5&6-99-353-2	ring porous hardwood-sample too small for genus and species identification	charcoal from prehistoric hearth
21K3L6-99-353-2	probably ash (Fraxinus spp.)	charcoal from prehistoric hearth
21K3N15-99-417-2	softwood, sample size too small for identification	charcoal from prehistoric hearth
21K4E4-99-125-1	probably oak bark	railway period pit
21K4J9-99-451-1	poplar (Populus spp.)	charred wood from northwest corner, layer 13
21K4K3-99-133-2	bark fragment, too degraded	manure layer
21K4K6-99-159-1	degraded hardwood	possible pit containing vertical wood
21K4T8-99-112-4	ash (Fraxinus spp.)	grey clay with early 19th century artifacts
21K4T13-99-210-0	poplar (Populus spp.)	charred wood concentration, layer 38
21K4U5-04-90-1	white oak (Queracs spp.), hand wrought roofing nail	structural area, layer 62
21K4W3-99-215-2	probably chestnut (Castanea spp.), too degraded	brown clay silt with historic artifacts chinking, charcoal and rocks, layer 41
21K4X4-99-226-0	elm (Ulmus spp.)	charcoal lenses in tan clay
21K4Y4-99-143-2	birch (Betula spp.)	historic period layer
21K4Y9-99-252-2	probably oak (Quercus spp.), too degraded	tan clay layer west of picket trench

Table D.1 Continued

Sample Number	Identification	Association
21K4Y10-99-275-0	probably elm (Ulnus spp.), too degraded	same as above
21K6A7-99-237-1	poplar (Populus spp.)	possibly picket from trench feature which cuts historic structural area
21K6C8-99-241-2	ash (Fraxinus spp.)	chimney collapse (after cellar filled and building burnt), with layers 41 and 48
21K6C10-99-14-0	poplar (Populus spp.)	flooring level, layers 49, 68 and 69
21K6C10-99-269-1	ash (Fraxinus spp.)	same as above
21K6C14-99-340-1	probably ash (Fraxinus spp.), too degraded	cellar fill in bottom of feature
21K6C15-99-326-0	poplar (Populus spp.)	collapsed beams in bottom of cellar area, layers 72-75
21K6D7-99-287-2	possibly ash (Fraxinus spp.), too degraded	picket posts in trench feature at the back of the hearth area
21K6E26-99-422-0	poplar (Populus spp.)	grey-brown silty clay in structure area
21K6E27-99-423-0	white oak (Quercus spp.)	chinking concentration in structure area
21K6N2-99-362-1	chestnut (Castanea spp.)	fort cultural layer with mortar
21K6N4-99-370-2	not charcoal; could be solidified ash	same as above
21K6N6-99-373-1	ash (Fraxinus spp.)	sand deposit in historic structure area
21K6P8-99-375-0	most probably paper birch bark (Betula papyrifera)	brown sand above flooring
21K6Q8-99-385-0	birch bark	layer 55, fort cultural level

APPENDIX E. RADIOCARBON DATES

1) **Weighted Mean Calculation:** $\bar{Y} \pm s.d.\bar{y}$

$$\bar{Y} = \frac{\frac{1}{\sigma_1^2}(Y_1) + \frac{1}{\sigma_2^2}(Y_2) + \frac{1}{\sigma_3^2}(Y_3)}{\frac{1}{\sigma_1^2} + \frac{1}{\sigma_2^2} + \frac{1}{\sigma_3^2}} = \frac{\frac{1}{(160)^2}(1225) + \frac{1}{(165)^2}(1440) + \frac{1}{(160)^2}(1105)}{\frac{1}{(160)^2} + \frac{1}{(165)^2} + \frac{1}{(160)^2}}$$

$$= \frac{\frac{1}{25,600}(1225) + \frac{1}{27,225}(1440) + \frac{1}{25,600}(1105)}{\frac{1}{25,600} + \frac{1}{27,225} + \frac{1}{25,600}}$$

$$= \frac{0.047851562 + 0.052892561 + 0.043164062}{.000039062 + .00003673 + .000039062}$$

$$= \frac{0.143908185}{.000114854} = 1252.966244 \text{ years B.P.}$$

$$s.d.\bar{y} = \frac{1}{\sqrt{\frac{1}{\sigma_1^2}\ \frac{1}{\sigma_2^2}\ \frac{1}{\sigma_3^2}}} = \frac{1}{\sqrt{\frac{1}{25,600} + \frac{1}{27,225} + \frac{1}{25,600}}}$$

$$= \frac{1}{\sqrt{.000039062 + .000036730 + .000039062}}$$

$$= \frac{1}{\sqrt{.000114854}} = \frac{1}{.01071} = \pm 93.30973103$$

$\therefore\ \bar{Y} + s.d.\bar{y} = 1253 \pm 93.3$ years B.P. (A.D. 697 ± 93.3 years)

Fig. E.1 Radiocarbon dates. (Drafted by D. Elrick.)

APPENDIX F. ARTIFACTS FROM FORT GIBRALTAR II AREA

TOTAL ~ 2500 artifacts

The following is an inventory of the artifacts recovered from 21K3. The lists consist of artifacts associated with the various layer and/or events identified in the excavations. Preliminary archaeological analyses of these appear in chapters 4 and 6 of this volume.

Table F.1 Artifacts from Fort Gibraltar II Area

Soil Description	Artifact	No. in Sample	Comments
RAILWAY FILL & DISTURBED LAYERS LAYER/EVENTS 1-7	LITHICS (01)		
Gritty, black clay with wood, gravel, cinders and chinking. Railway post holes and trenches dug, posts placed and trenches refilled. Layer/event 1 includes lots: 21K3A1, 21K3D1, 21K3J1, 21K3K1, 21K3M1, 21K3N1 and 21K3P1	1) core	1	Selkirk chert; several blade-like flakes have been removed
	2) decortication flake	1	Selkirk chert
	3) secondary decortication flake	1	Cathead chert; some use(?) retouch along one lateral edge
	4) end scraper	1	thin tabular flake of grey and white chert
	TOTAL	4	
Layer/event 2, railway water line trench fill includes lots: 21K3E4 (west), 21K3F2 and 21K3M2 (west)	GLASS (02)		
Layer/event 5, railway post hole and trench fill, includes lots: 21K3B3, 21K3B6, 21K3D2, 21K3D7, 21K3D10, 21K3D12, 21K3G2, 21K3G6, 21K3G7 (east), 21K3G3, 21K3G4 (west), 21K3H7 and 21K3P4	1) flat window glass	274	light green
	2) lighting device	7	manganese tinted (light purple) chimney or globe
	3) lighting device	2	red chimney or globe fragments marked "CNX"
	4) unidentified		
	(a) clear	15	
	(b) opaque white	37	
	(c) manganese	14	
	(d) green-yellow	1	
	5) bottle		
	(a) clear	57	
	(b) amber	1	flask base manufactured by Consumers Glass May-June 1965 or 1975(?)

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
RAILWAY FILL & DISTURBED LAYERS LAYER/EVENTS 1-7 - continued	GLASS (02)		
	5) bottle (continued)		
	(c) amber	8	body sherds
	(d) green-yellow	1	
	(e) turquoise	2	
	(f) manganese	5	
	6) lighting device	3	clear, curved, unmarked
	7) lighting device	1	as above, with "CNX" and "made in USA" embossed on it
	8) clear bottle	1	portion of "Workers' and Farmers' Co-operative Association, Ltd." embossed mark probably manufactured between 1928-38
	9) burned		
	(a) clear curved	1	
	(b) green curved	1	
	10) curved glass	1	silvered-may be part of a lighting device
	11) glass sherds-yellow green	1	probable stained glass window sherds - mends with sherd from layer/event 8

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
RAILWAY FILL & DISTURBED LAYERS LAYER/EVENTS 1-7 - continued	GLASS (02)		
	12) insulator base-green	1	
	13) soft drink bottle	1	Wynola bottle
	14) curved-light green	1	
	15) flask sherds-clear	6	liquor container, base embossed with reversed "23"
	16) bottle glass-clear	1	"T" embossed on side
	17) bottle glass-dark green	3	liquor bottle
	18) insulator rim-dark green	1	
	19) bottle glass-dark blue	1	probably patent medicine, e.g., Alka Seltzer
	20) pressed glass-clear	2	
	21) curved glass-clear	1	etched
	22) medicine vial base-clear	1	lead glass, pontil mark on base
	23) clear glass	8	lead glass
	24) tumbler-clear	1	
	25) lighting device-opaque white	5	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
RAILWAY FILL & DISTURBED LAYERS LAYER/EVENTS 1-7 - continued	GLASS (02)		
	26) window glass-frosted floral pattern	4	
	27) food jar-clear	3	
	TOTAL	473	
	CERAMICS (03)		
	1) W.E.W.* shallow bowl sherd	2	Spode/Copeland Broseley Pattern 1818 post-1847, light blue transfer print
	2) W.E.W. hollow ware sherds	1	probable child's cup. Pattern in red underglaze transfer shows children playing
	3) W.E.W. flatware and hollow ware sherds	9	Copeland Italian Pattern 1816 to present, blue transfer print
	4) creamware sherds	2	
	5) brick	1	
	6) porcelain insulator fragment	1	
	7) W.E.W. cup or pitcher handle fragment	1	probably Copeland Ivy pattern 1845 post-1865, light purple underglaze transfer print
	*W.E.W.-White earthenware		

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
RAILWAY FILL & DISTURBED LAYERS LAYER/EVENTS 1-7 - continued	CERAMICS (03)		
	8) W.E.W. Saucer	1	red, black & yellow underglaze floral pattern, rim is gilded
	9) bone china cup sherds	3	underglaze lithographed pattern in green and black; a gilded band occurs on the rim and inside the lip. Second cup-underglaze polychrome floral pattern
	10) W.E.W. cup base	1	
	11) W.E.W. plate(?) sherd	5	light blue underglaze transfer print; pattern and manufacturer unidentified
	12) pearlwear sherd	1	
	13) W.E.W. cup	3	blue underglaze print; pattern and manufacturer unidentified
	14) pearlwear cup	1	"Arctic Scene" pattern; manufacturer unknown
	15) W.E.W. plate	2	"Passion Flower Border Series" ca.1835, manufacturer unknown

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
RAILWAY FILL & DISTURBED LAYERS LAYER/EVENTS 1-7 - continued	CERAMICS (03)		
	16) W.E.W. flatware sherd	1	
	17) crock sherd	1	improved North American white glaze
	18) tea pot(?) lid	1	buff earthenware
	19) red earthenware	1	probable flatware sherd
	20) W.E.W. preserve jar rimsherd	1	
	21) W.E.W. sherd	2	Willow pattern
	22) W.E.W. sherd	1	burned
	23) Electrical insulator fragment	1	
	24) W.E.W. bowl	2	rural scenes-like pattern; underglaze blue transfer print pattern; manufacturer unknown
	25) W.E.W. bowl	2	"Italian Seaport" underglaze blue transfer print pattern; manufacturer unknown

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
RAILWAY FILL & DISTURBED LAYERS LAYER/EVENTS 1-7 - continued	CERAMICS (03)		
	26) Prehistoric ceramic body sherd	1	
	27) Stoneware jar	2	Fulham-Lambeth
	28) W.E.W. hollow ware	3	
	29) W.E.W. sherd	1	probably from a screw top jar
	30) W.E.W. plate	1	"Alnwick Castle" pattern; marked "-wick Castle--"; probably part of the "Passion Flower Border series"
	31) W.E.W. cup handle	1	
	32) W.E.W. plate sherds	8	plain
	33) coarse stoneware	1	unidentified
	34) clay pipe stem segments	17	
	35) clay pipe bites	2	
	36) clay pipe bowl sherds	1	
	37) clay pipe stem and spur	1	"I-F" on spur; manufactured by John Ford, London, between 1805-65

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
RAILWAY FILL & DISTURBED LAYERS LAYER/EVENTS 1-7 - continued	CERAMICS (03)		
	38) clay pipe stem	1	embossed floral pattern and "Kent St" and "---IAMS" John Williams, Kent Street 1828-42
	TOTAL	87	
	NAILS (04)		
	1) wrought	55	
	2) cut	3	
	3) drawn	130	
	4) unidentified	10	
	TOTAL	198	
	FASTENERS (05)		
	1) ferrous bolt, incomplete	1	
	2) ferrous nut	3	
	3) ferrous wedge	1	
	4) screw	3	
	5) screw	1	truss, countersunk slotted head
	6) large bolt	1	probably railroad bolt
	TOTAL	10	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
RAILWAY FILL & DISTURBED LAYERS LAYER/EVENTS 1-7 - continued	OTHER METAL (08)		
	1) wire fragments		
	a) ferrous	4	
	b) yellow metal	3	
	2) metal fragments		
	a) ferrous	21	
	b) yellow metal	1	
	3) reinforcement strap	2	
	4) valve seal	1	
	5) paper fastener-brass	2	
	6) ferrous-unidentified	1	
	7) brass bottling cock	1	made by "W. Rudder"
	8) strip/strap		
	a) ferrous	13	
	b) copper	1	
	9) copper ring	1	oval, wire
	10) straight pin	3	2 of these have wrapped heads
	11) brass button	1	Alpha shank brazed an interior
	12) brass twist tie	1	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
RAILWAY FILL & DISTURBED LAYERS LAYER/EVENTS 1-7 - continued	OTHER METAL (08)		
	13) scissors-ferrous	5	
	14) button-ferrous	1	
	15) unknown-yellow metal	1	flanged fitting, threaded inside
	16) lead fragment	1	
	17) round file fragment	1	
	18) strap hinge	1	
	19) pen nib	1	
	20) pail fragment-copper	1	
	TOTAL	68	
	ARMS & AMMUNITION (12)		
	1) 8.0 mm. buckshot	1	
	2) .46 short cartridge case	2	one is driven inside of the other
	TOTAL	3	
	METAL CONTAINERS (14)		
	1) aluminum pull tab	1	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
RAILWAY FILL & DISTURBED LAYERS LAYER/EVENTS 1-7 - continued	METAL CONTAINERS (Continued)		
	2) Ferrous slip-lid closure	1	
	TOTAL	2	
	MISCELLANEOUS (99)		
	1) pencil lead fragment	1	
	2) wall board sample	1	
	3) shell 4-hole shirt button	1	
	4) ivory fragments	2	
	5) leather/cloth sample	1	
	6) light bulb fragments	10	
	7) asbestos tube fragments	1	
	8) amber glass bead	1	lf6 in Kidd's designation
	9) steatite pipe bowl fragment	1	possibly machine made
	10) asbestos sample	1	
	11) paint sample	1	
	TOTAL	22	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
LAYER/EVENT 8 Brown or grey/brown clay silt, consists of lots 21K3E1, 21K3F1, 21K3G2, 21K3L1 and 21K3M2 (east)	GLASS (02)		
	1) flat glass	24	light green-window
	2) alcohol bottle sherd	1	dark olive green
	3) lighting	3	clear glass
	4) burned	1	
	5) pressed glass-amber	1	probable stained glass sherd-mends with sherd from layer/event 1
	TOTAL	30	
	CERAMICS (03)		
	1) clay pipe bowl fragments	2	
	2) clay pipe stems	3	
	3) W.E.W. plate sherd	1	blue transfer print-sherd marked "---wick" and "Castl--". Pattern is "Alnwick Castle" centre in the "Passion Flower" border series manufacturer unknown (Coyish & Henrywood 1982)
	TOTAL	6	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
LAYER/EVENT 8 Continued	NAILS (04)		
	1) drawn-incomplete	2	
	2) drawn	3	
	3) wrought	8	
	4) unidentified	1	
	TOTAL	14	
	OTHER METAL (08)		
	1) metal fragment-ferrous	3	
	2) wire fragment	1	
	TOTAL	4	
	MISCELLANEOUS (99)		
	1) bone button	1	(diameter 14 mm.) single central hole
	TOTAL	1	

Unit Description	Artifact	No. in Sample	Comments
HISTORIC CELLAR FILL LAYER EVENTS 9, 10 & 11 Ash, burned chinking, charcoal, mottled brown clay silt. Layer/ event 9, the historic cellar fill, includes lots 21K3A2, 21K3A3, 21K3B1, 21K3B2, 21K3B4, 21K3B5, 21K3B7, 21K3B19, 21K3C1-21K3C7, 21K3H1, 21K3H2, 21K3H5, 21K3H7, 21K3H12, 21K3J1, 21K3J2 (west), 21K3J3, 21K3J4, 21K3J7, 21K3K2, 21K3K3, 21K3K4, 21K3K5, 21K3L1, 21K3L3, 21K3L11, 21K3N3 (north), 21K3N4, 21K3N5, 21K3N6, 21K3P3, 21K3P8-21K3P11.	GLASS (02)		
	1) flat glass	32	
	2) bottle glass-dark olive green	6	
	3) lamp globe-dark blue	1	rimsherd-rim is ground
	4) curved glass-clear	7	
	5) bottle sherds-clear	4	
	6) bottle-amber	3	
	TOTAL	53	
	CERAMICS (03)		
	1) W.E.W. flatware sherds	5	
	2) pearlwear plate	2	unidentified blue underglaze oriental scene; manufacturer unknown
	3) pearlware-flatware	2	
	4) W.E.W. tableware	2	
	5) stoneware sherd	1	Fulham-Lambeth ware
	6) pearlware bowl sherds	18	"Arctic Scenes" pattern; manufacturer unknown

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC CELLAR FILL LAYER EVENTS 9, 10 & 11 continued	CERAMICS (03)		
	7) W.E.W. plate or saucer	1	"Bamboo and Flowers" pattern. Real pattern name and manufacturer are unknown.
	8) W.E.W. hollow ware	2	
	9) unidentifiable	1	
	10) preserve(?) jar	7	Fulham-Lambeth ware
	11) W.E.W. bowl sherds	3	
	12) pearlware bowl sherds	2	
	13) clay pipe stem fragments	8	
	14) clay pipe bowl fragments	7	
	15) clay pipe bowl & spur	3	rouletted cartouche on bowl back, "W" or "M" on one side of spur
	16) Manitoba horizontal rim	1	prehistoric ceramic, probably slump from historic cellar wall
	TOTAL	65	
	NAILS (04)		
	1) wrought	88	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC CELLAR FILL LAYER EVENTS 9, 10 & 11 continued	NAILS (04)		
	2) drawn	6	
	3) cut	2	
	4) unidentified	3	
	TOTAL	99	
	OTHER METAL (08)		
	1) ferrous kitchen knife	1	
	2) strip/strap		
	(a) ferrous	7	
	(b) yellow metal	1	
	3) copper ring	1	probably a seal or ferrule
	4) straight pins	6	
	5) needle	1	broken across the "eye"
	6) metal fragments		thin sheet copper cut-one
	(a) yellow metal	4	piece has a cotton thread
	(b) yellow metal misc.	4	stuck to its surface
	(c) ferrous	4	
	7) pintle-ferrous	1	
	8) wire fragment-ferrous	1	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC CELLAR FILL LAYER EVENTS 9, 10 & 11 continued	OTHER METAL (08)		
	9) brass button	1	alpha shank
	TOTAL	32	
	ARMS & AMMUNITION (12)		
	1) gun flint	1	blade type, heavily burned
	TOTAL	1	
	MISCELLANEOUS (99)		
	1) glass trade beads		
	(a) olive green (11A21)	1	
	(b) redwood/clear (1VA2)	1	
	(c) light aqua (11A3)	1	
	(d) white (11A13)	1	
	2) pipe stem fragment	1	amber or synthetic
	3) button blank	1	mother of pearl
	4) slate fragments	2	
	5) tapered bone tube	2	possibly part of a cup-and-pin game
	6) green cloth fragment	1	
	7) wooden pencil fragment	1	pointed black lead had a circular horizontal cross section. Pencil point cut with a knife.

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC CELLAR FILL LAYER EVENTS 9, 10 & 11 continued	MISCELLANEOUS (99)		
	8) two part steatite pipe	1	probably commercially made "Mic-Mac" (Algonquin) style tulip pipe. Bowl and base made separately but held together by lead inlay, now missing. Elaborate starburst pattern on platform and bowl. Bowl and platform made from different lithic.
	9) painted wood fragment	1	wood is Betula spp. (birch) covered by 20 different paint layers
	10) charred wood	1	poplar (Populus spp.)
	11) wood	1	ash (Fraxinus spp.)
	12) wood and charred wood	1	eastern white pine (Pinus strobus) possibly a fragment from a clothing or workman's chest
	13) charred wood	1	maple (Acer spp.)
	14) charred wood	2	white ash (Quercus spp.)
	TOTAL	20	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC REFUSE PIT #1 LAYER EVENTS 12 & 13 Ash, burned clay, grey brown clay silt. Layer/event 12, the historic refuse pit #1 fill, includes lots 21K3A6, 21K3A7, 21K3E2, 21K3E3, (21K3M6, 21K3M7, 21K3M8) east (21K3M8, 21K3M10, 21K3M11) west	GLASS (02)		
	1) flat-green		
	- ash layer	6	
	- clay silt layer	23	
	2) flat-clear		
	- clay silt layer	1	
	3) stemware foot sherd		
	- clay silt layer	1	folded foot, lead glass, ca 1780-1810(?)
	4) tableware sherds		
	- ash layer	1	
	- clay silt layer	2	
	5) bottle sherd		
	- clay silt layer	1	dark green, probably liquor
	6) bottle sherd-clear		
	- clay silt layer	1	
	Total in Ash Layer	7	
	Total in Clay Silt Layer	29	
	TOTAL	36	
	CERAMIC (03)		
	1) W.E.W. tableware		
	- clay silt layer	3	
	2) W.E.W. bowl		
	- clay silt layer	2	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC REFUSE PIT #1 LAYER EVENTS 12 & 13 Continued	CERAMIC (03)		
	3) cream ware bowl/cup		
	- clay silt layer	4	rouletted waffle pattern, underglaze yellow and alternating brown, tan, blue & green stripes
	4) W.E.W. bowl		
	- clay silt layer	3	Wedgewood Peony pattern 1807-?
	5) Fulham-Lambeth sherds		
	- ash layer	2	
	- clay silt layer	7	
	6) red earthenware bowl		
	- clay silt layer	1	transparent glaze over bands of white slip, wheel turned; glazed one side
	7) W.E.W. hollow ware		
	- clay silt layer	1	burned; blue transfer print
	8) W.E.W. flatware		
	- ash layer	1	
	- clay silt layer	2	
	9) red earthenware		
	- clay silt layer	1	transparent glaze one side only, wheel turned
	10) red earthenware		
	- clay silt layer	1	black opaque glaze, both sides

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC REFUSE PIT #1 LAYER EVENTS 12 & 13 Continued	CERAMIC (03)		
	11) W.E.W. cup sherds - clay silt layer	4	
	12) W.E.W. hollow ware - clay silt layer	1	
	13) pipe stem fragment - clay silt layer	1	red paint
	14) pipe bowl fragment - clay silt layer	1	embossed pattern; carbon deposits inside bowl
	15) pipe bowl - clay silt layer	1	"WM" on cartouche on back of pipe bowl. An embossed heart occurs on both sides of the spur. Possibly manufactured by William Morgan in Liverpool ca.1803 or William Murray & Co., Glasgow, 1830-61.
	16) pipe stem fragments - ash layer - clay silt layer	1 3	
	17) pipe stem bite & bowl fragment - clay silt layer	1	stem tapered, possibly to to accomodate a reed stem
	18) pipe bowl fragments - clay silt layer	2	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC REFUSE PIT #1 LAYER EVENTS 12 & 13 Continued	CERAMIC (03)		
	19) pipe spur		
	- clay silt layer	1	
	20) pipe stem & spur fragment		
	- ash layer	1	
	21) pipe bite		
	- clay silt layer	1	
	Total in Ash Layer	4	
	Total in Clay Silt Layer	42	
	TOTAL	46	
	NAILS (04)		
	1) wrought		
	- ash layer	5	
	- clay silt layer	78	
	2) drawn		
	- clay silt layer	8	
	3) unidentified		
	- clay silt layer	5	
	Total in Ash Layer	5	
	Total in Clay Silt Layer	91	
	TOTAL	96	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC REFUSE PIT #1 LAYER EVENTS 12 & 13 Continued	OTHER METAL (08)		
	1) metal fragments		
	(a) lead - clay silt layer	3	
	(b) copper - clay silt layer	3	
	(c) ferrous- clay silt layer	11	
	2) strip/strap		
	(a) copper - clay silt layer	2	
	(b) ferrous- clay silt layer	6	
	3) straight pins		
	- ash layer	1	
	- clay silt layer	21	
	4) buttons		
	(a) pewter(?)		
	- clay silt layer	1	
	(b) yellow metal		
	- clay silt layer	4	
	5) wire		
	(a) twisted		
	- clay silt layer	2	
	(b) white metal		
	- clay silt layer	1	
	(c) ferrous wire		
	- clay silt layer	1	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC REFUSE PIT #1 LAYER EVENTS 12 & 13 Continued	OTHER METAL (08)		
	6) thimble - clay silt layer	2	
	7) copper finger ring - clay silt layer	1	retains traces of gold plating
	8) copper ferrule - clay silt layer	1	probably from a smoking pipe
	9) unidentified-ferrous - clay silt layer	2	
	10) pot hook-ferrous - clay silt layer	1	
	11) awl-ferrous - clay silt layer	1	
	12) barrel hoop-ferrous - clay silt layer	1	
	13) projectile points-ferrous - clay silt layer	2	
	Total in Ash Layer	1	
	Total in Clay Silt Layer	66	
	TOTAL	67	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC REFUSE PIT #1 LAYER EVENTS 12 & 13 Continued	ARMS & AMMUNITION (12)		
	1) forward ramrod pipe yellow metal - clay silt layer	1	from a "Brown Bess" musket
	2) 11 mm. lead ball - clay silt layer	1	
	3) 12 mm. lead ball - clay silt layer	2	
	4) 13 mm. lead ball - clay silt layer	1	
	5) 14 mm. lead ball - clay silt layer	1	
	6) 15 mm. lead ball - clay silt layer	1	
	7) lock plate and flash pan - clay silt layer	1	
	Total in Clay Silt Layer	8	
	TOTAL	8	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC REFUSE PIT #1 LAYER EVENTS 12 & 13 Continued			
	METAL CONTAINERS (14)		
	1) pot lid-yellow metal - clay silt layer	1	lever lid with riveted handle
	Total in Clay Silt Layer	1	
	TOTAL	1	
	MISCELLANEOUS (99)		
	1) ochre sample - clay silt layer	1	
	2) slate fragment - clay silt layer	1	
	3) bone button - clay silt layer	2	single hole
	4) bone, fine tooth comb - clay silt layer	2	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC REFUSE PIT #1 LAYER EVENTS 12 & 13 Continued	MISCELLANEOUS (99)		
	5) turned ivory fragment - clay silt layer	1	may be the proximal end of a crochet hook
	6) turned ivory fragment - clay silt layer	1	
	7) drilled bone piece - clay silt layer	1	
	8) bone ornament - clay silt layer	1	tapered at both ends and drilled
	9) bone tool - clay silt layer	1	highly polished-function not known. Has a tiny quartz crystal and biotite fragments pressed into the polished end. May be a pottery spatula.
	10) bone handled knife fragment - clay silt layer	1	
	11) bone handled ferrous fork - clay silt layer	1	
	12) beads (Kidd & Kidd 1970) (a) light aqua - 11A33 - ash layer	12	
	(b) white/white - 1VA20* - ash layer	5	*new designation

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC REFUSE PIT #1 LAYER EVENTS 12 & 13 Continued	MISCELLANEOUS (99)		
	12) beads (continued)		
	(c) white/white 111A13		
	- ash layer	5	
	(d) white W1B2		
	- ash layer	1	
	(e) ivory/white 1VA21*		
	- ash layer	1	
	(f) white 1A5		
	- ash layer	61	
	(g) dark rose brown 11A61		
	- ash layer	5	
	(h) light aqua 11A3		
	- ash layer	20	
	(i) olive green 11A21		
	- ash layer	2	
	(j) dark rose brown W1C5		
	- ash layer	1	
	(k) white W1C1		
	- ash layer	4	
	(l) redwood clear 1VA2		
	- ash layer	6	
	(m) rose wine 11A60		
	- ash layer	1	
	(n) curlean blue 11A44		
	- ash layer	3	
	(o) inlayed aquamarine W 111b		
	- ash layer	1	abstract white, red and yellow floral pattern; probably manufactured in Venice

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
HISTORIC REFUSE PIT #1 LAYER EVENTS 12 & 13 Continued	MISCELLANEOUS (99)		
	13) wood sample - ash layer	1	eastern white pine (Penus strobus)
	Total Beads in Ash Layer	128	
	Total Other in Ash Layer	1	
	Total in Clay Silt Layer	13	
	TOTAL	142	
	LITHICS (01)		
	1) blue chert biface fragment - ash layer	1	
	Total in Ash Layer	1	
	TOTAL	1	

Soil Description	Artifact	No. in Sample	Comments
HISTORIC REFUSE PIT #2 LAYER/ EVENTS 14 & 15 Brown clay silt with chinking	GLASS (02)		
	1) flat glass	1	green tinged
	NAILS (04)		
	1) wrought	2	
LAYER/EVENT 16 White-biege marbled sand, consists of lots 21K3E4 (east), 21K3E5 (west), 21K3G2 (west), 21K3G5 (east), 21K3K6, 21K6L2, 21K6M12, 21K6P5 and 21K6A5	GLASS (02)		
	1) flat glass	3	light green
	OTHER METAL (08)		
	1) lead bale seal	1	embossed "Mc...." and "& Co", and "--NDON".. May be McTavish, Frobisher & Co. or McTavish, Fraser & Co. However, these identities are by no means certain.

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
LAYER/EVENT 17 Brown-black or dark brown clay silt consists of lots 21K3A4, 21K3E3 (east), 21K3G3, 21K3G4 (east), 21K3J5, 21K6M9 and 21K6L4	LITHICS (01)		
	1) chert flake	1	
	TOTAL	1	
	GLASS (02)		
	1) window glass	10	light green
	2) bottle glass - olive green	1	probable liquor bottle
	3) lamp globe - dark blue	2	
	4) bottle glass - clear	6	
	TOTAL	19	
	CERAMICS (03)		
	1) pearlware - flatware	1	
	TOTAL	1	
	NAILS (04)		
	1) drawn	4	
	2) wrought	3	
	3) cut	1	
	TOTAL	8	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
LAYER/EVENT 17 Continued	OTHER METAL (08)		
	1) strip/strap ferrous	3	
	TOTAL	3	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
PREHISTORIC OCCUPATION 8 LAYER/EVENT 18, 22 and 43 Ash, brown to black silt, heat stained clay, charcoal consists of lots 21K3G9 (east), 21K3L5, 21K3K9 (north), 21K3G5 (west), 21K3G8 (east), 21K3L6, 21K3L8, 21K3G12 (east), 21K3L13, 21K3K10 (north), 21K3K11 (north) and 21K3N15	LITHICS (01)		
	1) Knife River flint flakes	1	
	2) chert flakes	28	
	3) quartz flakes	6	
	4) chert uniface fragment	1	
	TOTAL	36	
	CERAMICS (03) (Aboriginal)		
	1) Manitoba horizontal sherds	20	
	2) Blackduck brushed sherds	16	
	3) Manitoba corded body sherds	313	
	4) unidentified	3	
	TOTAL	352	
	NAILS (04)		
	1) drawn-common	1	
	TOTAL	1	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
PREHISTORIC OCCUPATION 8 LAYER/EVENT 18, 22 and 43 Continued	MISCELLANEOUS (99)		
	1) bone awl	1	
	2) red ochre fragment	1	
	3) charcoal	1	ring porous hardwood, unidentified species, C-14 age is 1440±165 years B.P.
	4) charcoal	1	probably ash (Fraxinus)
	5) charcoal sample	1	unidentified species, soil is 1440±165 years B.P.
	TOTAL	5	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
PREHISTORIC OCCUPATION 1 LAYER/EVENT 23 and 24 Grey clay containing calcium carbonate flecks and compact lenses of fish bone: includes lots 21K3B26, 21K3C11, 21K3H20, 21K3J10, 21K3K9 (south), 21K3K13 (north), 21K3L14, 21K3N27, 21K3B25, 21K3C10, 21K3H19, 21K3J9, 21K3N26	LITHICS (01)		
	1) Knife River flint uniface	1	made on a decortication flake
	2) chalcedony flakes	5	
	3) chert flakes	1	
	TOTAL	7	
	CERAMICS (03) Aboriginal		
	1) Manitoba horizontal	1	
	2) Blackduck brushed	2	
	3) Manitoba corded body sherds	60	
	TOTAL	63	
	MISCELLANEOUS (99)		
	1) charcoal sample	1	C-14 age is 1105±160 years B.P., type of wood is unknown
	TOTAL	1	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
PREHISTORIC OCCUPATION 2 LAYER/EVENT 26 and 27 Dark grey clay with ash, consists of lots 21K3B23, 21K3C9, 21K3H23, 21K3N24, 21K3B22 and 21K3H17	LITHICS (01)		
	1) pièces esquillées	1	white and tan chert, bifacial battering occurs on two opposite ends
	TOTAL	1	
	CERAMICS (03) (Aboriginal)		
	1) cord marked body sherd	1	
	TOTAL	1	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
PREHISTORIC OCCUPATION 5 LAYER/EVENT 45 Light brown sand, consists of lots 21K3D16, 21K3D17 and 21K3D19	CERAMICS (03) (Aboriginal)		
	1) Manitoba corded body sherds	18	
	2) Manitoba horizontal	3	
	3) Manitoba herring bone	5	
	4) unidentified body sherds	2	
	5) unidentified neck sherd	1	
	TOTAL	29	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
PREHISTORIC OCCUPATION 6 LAYER/EVENT 31 Grey clay with charcoal, consists of lots 21K3D13 and 21K3N18	CERAMICS (03) (Aboriginal)		
	1) Manitoba corded body sherds	18	all but two of these mend to form a section of the bottom of a globular vessel
	TOTAL	18	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
PREHISTORIC OCCUPATION 7 LAYER/EVENT 29 Tan clay, consists of lots 21K3B21, 21K3C8, 21K3D8, 21K3H16, 21K3J8, 21K3K7 and 21K3N16			The natural soil layer containing prehistoric artifacts and 16 post moulds were found intact in only two of the seven sub-operations excavated. Early historic building construction has disturbed the natural strata in the other sub-operations excavated. This accounts for the presence of historic artifacts in this stratum.
	LITHICS (01)		
	1) uniface fragment	1	Made from agate a flake of Knife River Flint.
	2) core	1	
	TOTAL	2	
	GLASS (02		
	1) flat glass	5	light green
	TOTAL	5	
	CERAMICS (03)		
	1) pearlware	1	dark red overglaze paint on rim. Probable toy spitoon.
	2) Manitoba corded body sherds	17	
	TOTAL	18	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
PREHISTORIC OCCUPATION 7 LAYER/EVENT 29 Continued	NAILS (04)		
	1) wrought	2	
	TOTAL	2	
	OTHER METAL (08)		
	1) metal fragment-ferrous	1	
	2) button-yellow metal	1	undecorated high domed brass with alpha shank
	TOTAL	2	
	ARMS & AMMUNITION (12)		
	1) 13 mm. lead shot	1	
	TOTAL	1	
	MISCELLANEOUS (99)		
	1) red ochre sample	1	
	2) glass trade beads		
	(a) light aqua blue 11A33	1	
	(b) redwood/clear 1VA2	1	
	(c) turquoise 11A3	1	
	(d) oyster white 11A12	1	
	3) wood with iron nail	1	wood identified as eastern white pine (Pinus strobus)
	TOTAL	6	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
LAYER/EVENT 30 Sand, consists of lots 21K3B18, 21K3D11, 21K3H15, 21K3J6, 21K3K8 and 21K3N17	LITHICS (01)		
	1) grey chert flake	1	
	TOTAL	1	
	GLASS (02)		
	1) flat glass	3	light green
	TOTAL	3	
	CERAMICS (03)		
	1) W.E.W. unidentified	1	
	2) W.E.W. cup sherd	1	underglaze transfer print
	3) W.E.W. cup Willow pattern	1	
	4) W.E.W. plate "Bamboo & Flowers"	3	Crossmends with sherd from layer/event 9
	TOTAL	6	
	NAILS (04)		
	1) wrought	2	clasp head

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
LAYER/EVENT 30 Continued	NAILS (04)		
	2) wrought	1	rose head
	TOTAL	3	
	MISCELLANEOUS (99)		
	1) charred wood	1	white oak (Quercus spp.)
	TOTAL	1	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
PREHISTORIC OCCUPATION 10 LAYER/EVENT 32 & 38 Tan clay or sandy brown clay, consists of lots 21K3B8, 21K3D3, 21K3D4, 21K3H3, 21K3H4, 21K3H6, 21K3N7, 21K3N8, 21K3N10 and 21K3P2	GLASS (01)		
	1) flat glass	1	green
	TOTAL	1	
	CERAMICS (03) (Aboriginal)		
	1) Manitoba corded body sherds	6	Cording and interior striations and texture as well as body fabric strongly resemble others recovered in good stratigraphic context from prehistoric occupation 8. However there are vertical differences of more than 50 cm. between the two occupations.

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
LAYER/EVENT 52 Brown clay silt consists of lots 21K3N4 (east) and 21K3M7 (west)	GLASS (02)		
	1) flat glass	11	light green
	2) bevelled mirror fragment	1	
	TOTAL	12	
	CERAMICS (03)		
	1) W.E.W. plate	1	blue underglaze transfer print
	2) clay pipe stem and spur frag.	1	
	3) Fulham-Lambeth jar	2	
	TOTAL	4	
	NAILS (04)		
	1) wrought	37	
	TOTAL	37	
	OTHER METAL (08)		
	1) straight pin	1	
	2) copper fragments	5	
	3) silver finger ring	1	
	TOTAL	7	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
LAYER/EVENT 48 to 51 48-light brown sandy silt 21K3M3 (west) 49-light brown sand 21K3M4 (west) 50-brown-black clay silt 21K3M5 (west) 51-white-grey mortar 21K3M3 (east) and 21K3M6 (west)	GLASS (02)		
	1) flat glass	11	light green tint
	2) liquor bottle sherd	1	dark olive green
	TOTAL	12	
	CERAMICS (03)		
	1) W.E.W. plate	1	Passion Flower border series ca. 1835
	2) W.E.W. plate sherd	2	
	3) pipe stem fragments	1	
	4) creamware hollow ware	1	
	TOTAL	5	
	NAILS (04)		
	1) wrought	10	
	2) unidentified	2	
	TOTAL	12	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
LAYER/EVENT 48 to 51 Continued	OTHER METAL (08)		
	1) strip/strap-ferrous	5	
	2) straight pin	1	
	TOTAL	6	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
PREHISTORIC OCCUPATION 9 LAYER/EVENT 53 Brown clay silt with charcoal, consists of lot 21K3M5 (east)	LITHIC (01)		
	1) pointed biface	1	white Selkirk chert, probably a projectile point (triangular)
	TOTAL	1	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
UNPROVENIENCED ARTIFACTS 21K3Y Recoveries made from present ground surface, spoil piles, excavation wall collapse and vandalized excavations	LITHICS (01)		
	1) chalcedony core	1	
	2) chert flake	1	
	TOTAL	2	
	CERAMICS (03)		
	1) clay pipe stem fragments	5	
	2) Manitoba corded body sherd	1	aboriginal ceramics
	3) pearlware bowl sherds	2	"Arctic Scenes" pattern
	4) clay pipe bowl	1	"TD" in cartouche and on spur
	5) Fulham-Lambeth sherd	1	
	6) W.E.W. cup sherd	3	"Bamboo and Flowers" pattern
	7) pearlware sherd	1	
	8) W.E.W. sherd	1	plate rim with blue underglaze print
	TOTAL	15	
	NAILS (04)		
	1) wrought	1	
	2) drawn	1	
	TOTAL	2	

Table F.1 Continued

Soil Description	Artifact	No. in Sample	Comments
UNPROVENIENCED ARTIFACTS 21K3Y Continued	OTHER METAL (08)		
	1) pencil fragment	1	
	2) ferrous wire fragment	1	
	3) copper tinkler	1	
	TOTAL	3	
	MISCELLANEOUS (99)		
	1) red catlinite fragment	1	possibly a stone pipe "blank", it has saw and file marks on it
	TOTAL	1	