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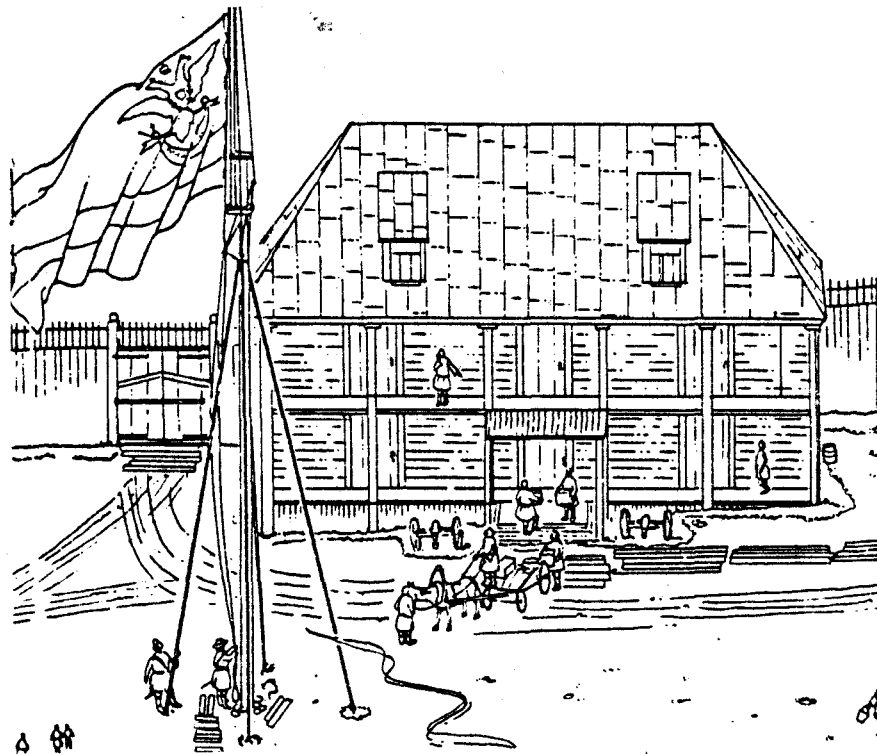
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ARCHAEOLOGY OF THE OLD "MAGASIN" AT ROSS COUNTER, CALIFORNIA

BY

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CALIFORNIA DEPARTMENT OF PARKS AND RECREATION



SECOND INTERNATIONAL CONFERENCE ON RUSSIAN AMERICA

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ABSTRACT

For archaeologists dealing with the historical remains of the Russian-American Company, Krepost' Ross is an important site. The relatively limited time span of its occupation (1812-1841) places it firmly in the middle period of the activities of the Company. This paper will focus on the investigation into the Fur Warehouse or Old Magasin at Fort Ross. The evidence compiled in our plans for reconstructing this building include the physical evidence found in the excavation, the invaluable descriptions and plan view found in the 1817 map discovered by Dr. Svetlana Fedorova, and the inventories for sale at the time of departure. Comparisons to certain warehouse structures in Sitka and Kodiak seem pertinent in our reconstruction. Dendrochronology on a timber found in the site suggests a major refurbishing in the 1830s which is believed to have changed the facade of the building and may be reflected in comparable reconstruction in other parts of Russian-America.

INTRODUCTION

As part of the reconstruction of the Russian settlement at Fort Ross, Sonoma County, California, the Department of Parks and Recreation is pursuing plans to rebuild the Russian Old Warehouse (also known as the "Fur Warehouse" or "Old Magasin"). As a first stage in this process, an archeological excavation and historical research was undertaken by the Cultural Resources Management Unit of DPR under the direction of the author. Results of this research will help to

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Finally, I would like to reserve special appreciation for the thoughts, comments, and enthusiasm of Eloise Barter, Sherry Crownhart-Vaughan, Robert Edwards, David L. Felton, Julia Hunter-Blair, Quinton Jones, John C. McKenzie, David Rickman, Michael Sampson, Jeanette K. Schulz, Mercedes Stafford, Bryn Thomas, F. Kaye Tomlin, Valerie Tumins and the thousands of tourists to Fort Ross whose endless questions kept me constantly re-evaluating my views on the project. David W. Rickman prepared the wonderful reconstructed illustrations found on the cover and figure 22 which go so far to make the results of the research come alive.

define the location, dimensions, and construction features of this building. In addition, some suggestions of prototype structures from Alaska which may provide models for the building superstructure will be discussed.

The 1981 excavations were to be the final archeological examination prior to the rebuilding of the Old Warehouse. Therefore, in the interests of preserving as much data as possible, as well as obtaining the fullest view of the ground structure of the building, the complete building area (19 m long and 12 m wide) was excavated. It must be borne in mind that despite the number of references to the building cited, most are vague and could only be validated by the archeological record combined with historical analogy from other Russian-American Company sites.

HISTORICAL BACKGROUND

Fort Ross (Fig. 1) was constructed in 1812 by a party sent by the Russian-American Fur Company. The settlement was variously called Colony Ross (*Selenie Ross*) or Fort Ross (*Krepost' Ross*), although the latter has become the more commonly used. The founder and first commandant was Ivan Kuskov who supervised the initial construction of the settlement in 1812-14. Over the course of the next 30 years, Fort Ross served as the headquarters of the California branch (Counter) of the Russian-American Fur Company. Its functions were two-fold. First, it was a base for fur-hunting expeditions seeking the sea-otter and fur seal which were found in large numbers along the coast of California. These fur-hunters met opposition from the Spanish authorities in California. In fact, the missions of San Rafael (1817) and San Francisco Solano (Sonoma) (1823) were founded to establish a Spanish/Mexican presence in that part of coastal California north of the San Francisco Bay with the intention of limiting further Russian incursions.

Second, the colony at Ross was meant to be a supply base for the Alaskan colonies providing food and manufactured goods. Therefore, warehouses were high-priority structures and were built both at Bodega Bay and at Fort Ross. As the sea-otter and fur seal populations along the California coast were rapidly decimated by the early 1820s by the hunters, the agricultural and manufacturing supply functions of Fort Ross became increasingly dominant. The colonists engaged in a variety of manufacturing enterprises including metal-working, brick-making, and even a short-lived ship-building industry. Their expertise in metal working was much appreciated by their Mexican neighbors. The friars of Sonoma purchased nails and the soldiers sent their weapons to the Russians for repair. Mariano Vallejo was sent to Fort Ross in April 1833 to purchase "200 rifles, 150 cutlasses, 200 saddles, etc." (Archives of California n.d.) A number of scientists and other round-the-world voyagers from various nations visited Fort Ross for varying lengths of time. Perhaps the most important of these was the Russian, I.G. Voznesensky who stayed there in 1840-1841 and made many invaluable collections of natural and ethnographic items from California.

A combination of poor climate (especially the summer fogs), agricultural inexperience, and political pressure from Mexico, the United States and Great Britain made the colony at Ross both a financial and political burden to the Company. In 1841 it was sold to John Sutter of New Helvetia. Actually, Sutter bought only the chattels and movable goods (including the buildings), but had no clear title to the land which was claimed by the Mexican authorities. He therefore sent several representatives including John Bidwell and William Benitz

to oversee the dismantling of whatever was useful to be sent to the fledgling settlement of Sutter's Fort (New Helvetia) at the confluence of the American and Sacramento Rivers (Fig. 2). By 1845 Fort Ross had been taken over by Sutter's last agent, a German immigrant by the name of William Benitz who operated the land as a farming and cattle venture. He was succeeded by the partnership of Fairfax and Dixon, a lumbering company. In turn, they were replaced by George W. Call who bought the property in 1873. Call and his family farmed and ranched and, in 1878, an hotel was established. In 1906 the land and buildings comprising the Fort Ross stockade area were deeded over to the State of California and have since been included in the State Park System.

HISTORICAL REFERENCES TO THE OLD WAREHOUSE

Possibly the earliest mention of the Old Warehouse appears in a description by a Spanish officer (Lieutenant Gabriel Moraga) who visited Fort Ross in July 1814, two years after construction had begun. He describes the buildings within the fort square as follows:

Dentro del cuadro hay un galeron hermoso con divisiones--lo usan de cuarteles, y su alto de almacen. En otro, crea, trabajan los artesanos--una gran casa en q^e (que) viven el comand^{te} (comandante) y el piloto--muy decente--llena de vidrieras--abajo es el almacen de caldos, y aún arriba puede tener algo (Arguello 1814).

Within the square is an attractive roofed shed with partitions the lower part is used as a barracks; the upper as a storehouse. In another [shed] the artisans work--a large house in which live the commandant and the pilot--very good condition--filled with windows--on a lower floor is the food storehouse; other things can be kept upstairs.

Since he appears to be speaking of the two major two-story structures in the fort, these should coincide with the Fur Warehouse and the Kuskov House. The latter building described above is clearly the Kuskov House, which leads to the conclusion that the first building is the Fur Warehouse. The main value of this description is the information that in 1814 the lower floor was being used as quarters and the upper story as a storehouse. The use of the unusual term *galeron* is interesting here. I have translated it according to Mexican usage. It may have been a term applied to strictly wooden buildings by a man accustomed to adobe construction. Alternatively, a Chilean acquaintance, Juan Romero, informed me that *galeron* could refer to a large wooden building with a *galeria* or veranda-like porch. The term *galeria* appears again in the inventory listing of 1841. In the same description Moraga calls another large building set down in the Fort Ross cove by this same term.

The first plan map of the fort showing a building in the northwest section of the square is the 1816 Chucano map (Estudillo 1816) of Fort Ross (Fig. 3). This map, prepared by a Spanish officer from information provided by a Russian deserter, mentions a "clothing warehouse" in that area but gives no further details. The term "clothing warehouse" appears often in the Spanish documents. It is often differentiated from food warehouse. The Chucano map is of little or no aid in precisely locating the Fur Warehouse or even determining its shape.

The most valuable of the early descriptions dates from 1817 when a map of

Fort Ross was prepared as part of a report to calm the fears of the Spanish government as to Russian intentions. A detail of the buildings in the stockade enclosure (Fig. 4) shows a plan view of the "two story storehouse, built of logs containing two storerooms on lower floor and three above" (Fedorova 1973: 359).

The lucrative fur-hunting at the fort had generally tapered off by the 1820s because of the rapid decimation of the fur-bearing animals (Klebnikoff 1976:108; Gibson 1969: 210). The storage warehouse would have been used increasingly for supplies rather than furs.

A drawing dating to 1828 done by August Bernard Duhaut-Cilly (1929:326) shows the fort as seen from a hill to the east. The roof of the Fur Warehouse is shown here, but the stockade wall obstructs a view of the walls of the building. The roof is shown with a hip roof design with a pair of dormer windows on the east side, facing the center of the fort (Fig. 5). Although the detail on this drawing is not so clear, it does not appear to have a front balcony or "gallery" at this time. This will be discussed further below.

In 1833 the fort was visited by Baron Ferdinand von Wrangell who commented on the dilapidated condition of the stockade wall and buildings. He stated that they would soon "need repairs, or they will have to be replaced by new structures" (Gibson 1969:207). Mariano Vallejo also made a visit in 1833 and similarly mentions the "decrepit" condition of the fort (Vallejo n.d.).

It appears that Alexander Rotchev, the last commandant of Fort Ross, undertook a series of improvements to the existing structures in the years following his arrival in 1836. This contention is borne out by descriptions of various buildings being "new" in the 1841 inventories of sale (e.g., "new warehouse, new kitchen, new house in orchard") (Sutter 1841; Vallejo 1841). Since the Russian-America Company was considering leaving California as early as the beginning of the 1830s, it seems strange that it would have invested any more funds in maintaining the settlement. But, we know that they set about establishing outlying ranchos in the 1830s under managers Kostromitinov and Rotchev. Another factor may have been the social position of Rotchev and his wife, the Princess Helena Gagarina. For instance, it appears they built a summer house with four rooms and a separate kitchen in the orchard to which they could repair in hot weather, or simply rise above the fog, as necessary (Cf. Temko 1960: 85; LaPlace 1854: 143). Rotchev may well have undertaken various enterprises for his own satisfaction and to keep the resident population busy. Sutter at one point commented on the firm discipline Rotchev exercised over his men. Keeping them busy with reconstruction projects would have helped a great deal.

When the Russians decided to sell their holdings in Fort Ross, they prepared two "inventory of sale" documents for the two major potential buyers, Mariano G. Vallejo and John A. Sutter. The first was in Spanish and contained the following description:

Almacen (viejo) dos altos de madera grueso [sic, grueso] larga 8 brazas, ancho 4 braz., tiene una galeria abierta sostenida (Vallejo 1841).

Warehouse (old) two stories of thick logs, length 8 brazas [56 feet--GJF], width 4 braz. [28 feet--GJF], has a supported open gallery.

When Vallejo demurred, Rotchev made an offer to John Sutter. The accompanying inventory was in French:

Le vieux magasin à deux étages fait de poutres long [eur] 8 t. [toises] [56 feet--GJF] larg [eur] 4 t. [28 feet--GJF] entouré de péristyles (Sutter 1841).

The old storehouse two stories made of beams [logs] length 8 fathoms, width 4 fathoms surrounded by peristyles [gallery with columns--GJF].

A second French document, prepared by French diplomat Eugene Duflot de Mofrès in 1841, states:

Un magasin ancien à deux étages avec une galerie extérieure construite en madriers, sur 16 mètres de front et 8 mètres de profondeur (Duflot de Mofrès 1842: 15).

An old storehouse of two stories with an exterior gallery constructed of thick planks, 16 meters in front [long] and 8 meters in depth [width].

The composite picture drawn from these three descriptions confirms the 1817 description of a log construction with two stories. However, it adds the dimensions of the structure as well as the description of the building as having an open, exterior gallery supported by columns. Such buildings have been pictured in both Sitka and Kodiak, Alaska (Khlebnikoff 1976: 8-9, 74-75; Blomkvist 1972: 117) in the former Russian settlements there (Fig.s 6 and 7). Since the builders who constructed Fort Ross were sent out from Sitka (Khlebnikov 1976:107), it seems probable that the one shown there may have been a prototype for the Fort Ross building. If the Old Warehouse at Fort Ross did have an open side, it would have been on the east side (actually facing ESE) which would have protected it from the prevalent winter (rainy season) winds.

About the same time these inventories were prepared, there were at least two drawings made of the fort by I.G. Voznesenskii (Blomkvist 1972: 105-108). One was a watercolor painted from the perspective of the hills northeast of the fort (O'Brien et al. 1980: 21-22). In looking at the Warehouse building, we see the north end. It is interesting that there seem to be three rooftops shown in a row (Fig. 8). We may presume that the hindmost is that of the Rotchev House (New Commandant's Quarters) and that the middle one is the Old Warehouse. However, the northernmost (nearest) roof is puzzling. It may possibly be an addition to the north end of the Old Warehouse. This will be discussed further when we get to the 1878 sketch combined with the archaeological work done by Cabrillo College. A note of confusion derives from an unfinished drawing, reputedly Voznesenskii's, which shows a view from the south (Fig. 9). This drawing fails to show the Rotchev House, although it may simply be masked by the Officials' Quarters in the foreground. It does show a building which is meant to be the Old Warehouse. But immediately to the north, rather than having a contiguous building lined up with it, we see a detached, east-west running structure in line with the Kuskov House.

One further item indicated by the Voznesenskii watercolor is the presence of metal roofs on some of the buildings within the fort. These are shown as painted red in the watercolor (Blomkvist 1972: 106). The type of metal is not

stated in the article, however, the red color suggests that iron roofing material was used. This would have been similar to the use of iron on roofs in Sitka during this same period* (Cf. Von Wrangell 1839: 9). Other buildings at Fort Ross at the time of the Voznesenskii watercolor (ca. 1840) which were said to have had metal roofs were: the two blockhouses, the chapel, the barracks (along the eastern stockade wall), and the Kuskov House (Blomkvist 1972: 106).

During the years 1842-1845, following the Russian departure, four men were sent by Sutter to oversee the transfer of the moveable items to Sacramento. These men were: Robert Ridley, John Bidwell, Jack Rainsford, and William Benitz (Dillon 1967: 118, 133, 142, 201). Among their other activities, these men dismantled many of the buildings including the Kuskov House. However, it appears that the Fur Warehouse was left intact. Ernest Rufus examined the buildings in 1845 and is reputed to be the source of the following description:

On the west side of the northern angle there was a two-story building, twenty-eight by eighty feet in dimensions. This was a roughly constructed building, and was doubtless used for barracks [sic] for the men of the garrison. The framework of all the buildings was made of very large, heavy timbers, many of them being 12 inches square. The rafters were all great, heavy, round, pine logs, many of them being six inches in diameter (Munro-Fraser 1880: 365-366).

It is difficult to be sure if the past tense employed in the description is meant to imply a situation which existed in 1845 or one found there circa 1880. The description of a building there a map done in 1892 by a man named Veasey gives these same dimensions (28' x 80').

A drawing dated September 1878 shows two different buildings joined into one structure (O'Brien et al. 1980: end cover illustration). There is also a photo which shows the same structure, but the date on this is uncertain (Fig. 10). A survey made of the buildings on the Call Ranch by Frank B. Veasey in 1892 shows the building in that location to be 80 feet in length and 28 feet in width. However, in another photo of the building (circa 1890s) shows the northern addition to be missing (Fig. 11). Unfortunately, the Veasey map (Fig. 12) was made after the dismantling of most of the stockade walls, so it is hard to be sure of the measurements for the location of the building. This extension of 22 feet to the north would nicely coincide with a set of postholes and wooden timbers unearthed during the 1975-77 Cabrillo College excavations.

The Old *Magasin*, by now in the guise of a dancehall for the Fort Ross Hotel was used until the early 1920s when it was dismantled by the Ranger in charge of Fort Ross. Unfortunately, there seems to be no verbal or photographic description of the dismantling now extant.

*Fast alle Gebäude der Kompanie sind mit Eisen gedeckt. (Nearly all the company buildings were covered with iron).

ARCHAEOLOGY

PREVIOUS ARCHEOLOGICAL WORK

The first archaeological work undertaken on this site was done by State Park Ranger and Curator of the Fort Ross Museum, John C. McKenzie. McKenzie mentions finding "a rather great timber" (see McKenzie log, Fig. 13) "buried 58'7" (N46.01) from the east [north] corner of the Commandant's [Rotchev] House and at right angles to the stockade." This was apparently our feature 18 (Fig. 14) (McKenzie, personal communication 1981). He also mentions finding a heavy stone footing or wall 60 feet north (N46.5) of the Commandant's House and at right angles to the stockade wall (see McKenzie wall, Fig. 13). This wall was "about three feet thick and lay between 15 [W47.43] and 39 [W40.11] feet from the [west] stockade line. Northward extensions at each end of the stone wall suggest that it supported a rather heavy building" (McKenzie-Kishbaugh 1963). This "wall" seems to have been part of the rocky fill on the lower parts of the warehouse area.

During the summers of 1975, 1976, and 1977, field classes sponsored by Cabrillo College of Aptos, California, under the overall direction of Professor Robert Edwards, did some test excavations which were of invaluable assistance in the present project. The relative positions of their units to our excavation is shown on figure 12. As part of Cabrillo's project, a field map was produced by Gary Breschini and Richard E. Carter which detailed not only the excavation units and their major finds, but also provided a contour map of the surface of the area using 10 cm (4 inch) elevation intervals. Numerous points were re-checked during the current project using a transit allowing us to closely relate our work to theirs.

In the course of Cabrillo College's excavations, a number of postholes were identified as well as remnants of redwood sills. These latter included what was interpreted to be remnants of the north, east, and west wall sills of the old warehouse. However, the current project has dictated a re-evaluation of their findings. What they appear to have found is the north end of the later, American period (post-1846) 80 foot long structure which seems to have been superimposed on the earlier 58 foot long structure. The north wall which the Cabrillo class discovered was, in fact, situated 22 feet north (N70.3/W48.7) of the northwest corner (Feature 4) found during the 1981 excavation (Fig. 13). A review of the 1817 map helped pinpoint the Russian structure (see historical background discussion and Fig. 4). Study of the photos and descriptions of the American period building further helped establish its location, particularly with the help of the 1892 Veasey map.

METHODOLOGY

The first step in the archaeological work on the Old Warehouse was to re-establish the metric grid first worked out for the fort as a whole in 1975 by archaeologists from DPR. The orientation of this grid uses a project or grid north which is actually 26.5 degrees east of true north (and currently 8 degrees east of magnetic north). The center of this grid is a brass-capped USGS bench mark located near the southern gate to the fort (Fig. 12).

The grid location for the Old Warehouse was pinpointed using a transit and a 60 m tape. The next step was to relocate the excavation units dug by Cabrillo College in 1975-1977. These were marked off, but generally not excavated as it was felt that the earlier excavation notes were sufficient. However, where re-excavation appeared likely to yield valid information, this was done. The correlation of the new grid with the old was surprisingly good, with no more than a 3 cm variation in the north lines and a 1-3 cm variation in the west lines. All of the excavation work fell in the northwest quarter of the fort grid area; therefore, all unit designations will appear with an N (north) and a W (west) followed by a metric unit showing the distance from the bench mark central datum point (example, N62/W44). Since Cabrillo College had done so much work in the north end of the overall area, it was decided to begin the current excavation work immediately south of their Units 12 and 15 (Fig. 12) so as to follow the apparent remnants of the east and west wall lines.

Tools employed in the excavation work included: picks, shovels, trowels, ice picks, whisk brooms, screens (1/8 inch), and dust pans. In addition, we used a Sears 16 gallon home-and-shop vacuum cleaner. This was perhaps our most valuable tool, especially in working around rocks. All of the earth excavated was sifted through a 1/8 inch mesh screen.

Photographs were taken of all units excavated in both color slides and black and white prints. Many of these were taken using a high stepladder to allow for an overhead view. On the last day of excavation, Larry Felton was hoisted up on a 50 foot crane to take some overall site photos. As appropriate, 50 mm, 28 mm (wide-angle), and 135 mm (telephoto) lenses were used. The excavated unit levels and features were recorded on departmental forms. A daily log was maintained by the project director.

The excavation was usually done in 2x2 meter units, with some exceptions. Artifacts were collected by unit and by level or feature when appropriate. Lot numbers were assigned to each unit of excavation and were listed in a lot register. A feature register was also utilized. Following excavation, the artifacts were taken back to the Cultural Resources Management Unit's Archeology Laboratory in West Sacramento for cleaning, cataloguing, analysis, and storage.

ARCHAEOLOGICAL FINDINGS

The piece of land on which the Old Warehouse was erected slopes approximately 1 meter from the north end of the foundation to the south end, a distance of 18 meters (59 feet). Toward the north-central portion of the area, there is an extensive bedrock outcrop which runs pretty much east-west across the site. In the area to the south (downslope), there is a noticeable accumulation of rocks, 15-30 cm (6-12 inches) in diameter, which appear to be part of an artificial fill. This would have the effect of raising somewhat the southern end to bring it closer to the level of the bedrock. It would further seem to be useful in providing a more substantial base for the building than would the clayey subsoil common to the area. An additional quality of the rocky fill would be drainage which then, as now, must have been a point of concern. Early in the excavation project when we were still experiencing rain, it was quite noticeable how the pits we had dug down to the clayey subsoil retained water. In Von Wrangell's description (ca. 1833) of the fort he comments that it was built on "flat,

clayey ground" (Gibson 1969: 207). Today, most of the area is covered with at least several inches of loam.

North of the bedrock outcropping (upslope), there is a noticeable lack of rock fill except for the distinctive northwest corner feature of rocks (Feat. 4) placed into an L-shaped excavated trench (see below for further discussion). This would appear to argue more for a support/leveling function for the southerly rock fill than for its use as a drainage device. It is further conceivable that such a rocky fill base would allow the timber structure better purchase on the slope than if it were placed directly on the clayey (and, when wet, slippery) subsoil. Such "purchase" would be less needed in the area upslope from the bedrock outcrop since this outcrop would have provided its own support for the northern portion of the building. At the time of excavation, the bedrock and the rocky fill were often exposed already or were covered with a very thin veneer of soil (1-5 cm).

ARCHAEOLOGICAL FEATURES

The various archeological features revealed by the excavations will be discussed in the following order: beginning at the northwest corner, then east across the north end of the structure, then south along the east wall, then west along the south wall, then north along the west wall and finally the interior features.

Northwest Corner

Perhaps the most important feature discovered was an L-shaped placement of stones (Feat. 4, Figs. 13 and 14) which had filled a pit of the same shape dug into the earth. Its grid location is N61.68-63.72, W47.3-48.7 (Fig. 13). This appears to be a foundation for the northwest corner of the original Russian structure. Immediately overlying part of the western portion of the feature is a 3 inch thick, 10.6 inch wide redwood board which is lying on the line of the west (or rear) wall. Whether this board truly dates back to the Russian period is uncertain. It most probably is derived from the later American structure which extended the original Russian building. It appears to be the remnant of a sill supporting the timber structure of the building.

A strong argument in support of this feature having underlain the northwest corner of the original Russian building is based on the fact that when the 1817 map detail is placed over a base map of the fort, the northwest corner of the Old Warehouse therein pictured lies directly over Feature 4.

North Wall Line

East of the northwest corner feature and running in line with it is a crude assemblage of large (ca. 30-40 cm diameter) stones (Feat. 17) found in the area N63.15-63.70, W42.0-44.13 (Fig. 13). The stones are sitting relatively high, being pedestaled on the loamy soil rather than sitting on the clay subsoil. The surface of this line of rocks is a foot (31.5 cm) above the rock level of the northwest corner rock feature. It seems unlikely that it is associated with the original Russian structure. More likely, it is part of a later, extended building constructed over the earlier one. The higher level implicit in this line of stones would be more in keeping with a higher floor level dictated by the upslope end of the 80 foot building.

Northeast Corner

The northeast corner of the building (Fig. 15) would be expected to be found in Unit N62-64, W40-42. This Unit was excavated by Cabrillo College (Unit 15 on Fig. 12) in 1977. They found large rocks including three tooled ones on which lay remnants of wood. A somewhat puzzling factor was the discovery of other redwood fragments oriented north-south which lie 80 cm to the west of the apparent wall line of the east side of the building. These fragments are on line with other redwood fragments to the north of the warehouse building line.

East Wall of Building

Typically, an outer wall of a building functions as a trash gathering barrier. It is, therefore, reasonable to assume that the former placement of a now-missing wall will be defined by a differential accumulation of debris. The accumulation in this case falls along a line approximately W40.30 and runs from at least N46 to N64. The preponderance of this debris appears to be from the latter part of the 19th century.

The soil immediately along the wall line was generally not hard-packed. However, in one area, from N62-64, the earth to the east of the wall line was extremely compact and had to be excavated with a pick. This area extended to the east approximately 1.5-2.0 meters. When excavated, it was found to contain a large quantity of artifacts datable to the late 19th century. It may be that this area formed the entrance to the large double door of the later 19th century (Fig. 11) structure and was not associated with the Russian structure.

Wooden "Sleepers"

Lengths of wood laid in the ground to support structural members have been termed "sleepers." Feature 1 (Fig. 16) is a remnant of redwood set in an east-west direction overlying bedrock with large stones placed on its north and south sides. These latter are presumably for the purpose of bracing a wooden block or "sleeper." It would appear that the wooden piece may have extended about 50 cm (18 inches) although only 24 cm (9.5 inches) remained at the time of excavation. The wooden remnant is currently 15 cm (6 inches) wide although it may have been 19 cm (7.5 inches) wide if it filled the space between the supporting rocks. The east edge of the bedrock underlying the wood lies at W40.14, and the width of the supporting stones is 25 cm (10 inches). The distance from the northeast corner of the building to the middle of feature 1 is 3.44 meters (11.3 ft.). The supporting stone on the south side of the wood has a flat surface. It is interesting to note that the level varies by only 1 inch (3 cm) from this surface while on line to the south 3.85 meters (12.6 feet) is a bedrock outcropping with a height only 1/2 inch (1.5 cm) lower, for an overall variation of only 4.5 cm (under 2 inches).

This bedrock outcropping extends from N55.8 to N57.2. If one measures the distance between Features 1 and 3, the figure comes to 7.7 meters, half of which would be 3.85 meters (12.63 feet). The intermediate point is thus at N56.25 which falls directly on this bedrock outcropping. The bedrock could have replaced the need for a sleeper. Incidentally, this point on the outcropping is almost directly in line with an X marked into the rock as a reference point by archaeologist William Pritchard in 1972 (Fig. 13).

Feature 3 (Fig. 17) is a redwood board 1.2 meters (47 inches) long by 36 cm (14 inches) wide and 10.5 cm (4 3/8 inches) thick. This is oriented east-west and lies in what appears to be a purposely-constructed trough in the rocky fill. The board lies within the parameters N52.21-52.63, W39.96-41.20. The shape is somewhat curious. Although it has a fairly straight cut across the west end, its east end has a long diagonal cut combined with a notch. This piece was discovered to be in remarkably good condition which made it quite different from most of the rest of the wood found in the site. This is apparently due to a pitch material which coats the two cut ends to a thickness of about 1 cm. An initial impression that the pitch might have been applied was corrected by Mr. Emmet Crisp, a veteran log worker, who suggested that the wood had been cut and laid in "green" and the coating was an exudation from the wood itself. When the elevation was measured for the east and west ends of this sleeper, it was found that the east end was 7 cm (3 inches) lower than the west end. This would be acceptable given the hypothesis that the board was used to support a vertical column of the gallery which is said to have occupied the east side of the structure. Presumably, the extra weight on the east end resulted in that end being lower. The center of what I believe to be the load-bearing portion of the log is at N52.4.

Recently, Lester White, a dendrochronologist, has taken a sample from this specimen and suggested a cutting date of around 1834-1836 (White and Farris n.d.). This would fit with the hypothesis that there was rebuilding and reconstruction on this building going on in the mid-1830s.

Feature 5 is an apparent trough in the rock fill which is similar to the trough in Feature 3 except that there are only a few fragments of redwood remaining in place. This trough also runs east-west, parallel to Feature 3. Its northern midpoint is at N49.1. It is, therefore, 3.3 meters (10.83 feet) south of Feature 3. In turn, it is 3.1 meters (10.17 feet) north of the south end of the building.

At the south end of the building, there is another wood feature which may well be related to the later 19th century structure. This is designated Feature 18 and lies at N46.0-46.18, W38.68-40.17. I believe it was the footing support for a short set of stairs leading to a door on the southeast side of the building (Fig. 11). The piece was originally about 5 inches (13 cm) square in cross section and about 5 feet (1.49 meters) long.

South Wall Line

Two features (13 and 21) were found along the line of the south wall (Fig. 13). These are north-south running troughs in the rock fill containing redwood logs or fragments. In both cases, the southern end of the redwood lies at or close to N46, the southern end of the building. Feature 13 is made up of a trench some 103 cm (40.5 inches) in length by 33 cm (13 inches) in width. Its placement is N45.92-46.95, W45.46-45.79. The cavity contains at least a half dozen redwood knots suggesting the former presence of a timber. Feature 21 involves a shorter trough and section of redwood. The trough is 80 cm (31.5 inches) north-south and 50 cm (18 inches) east-west. The actual wood is 48 cm (18.9 inches) north-south and 15 cm (6 inches) east-west. The grid placement of the feature is N46.1-46.9, W41.5-42.0. Unfortunately, there seems to be no regular spacing of these two features in terms of the southwest and southeast corners. Even so, they could have functioned to support the southern sill of

the building.

West Wall

Immediately south of Feature 4, there were only scattered rocks in the soil for over 2 meters. At that point, one encounters the ragged edge of the disintegrating bedrock base. Somewhat further south is found the rocky fill. From approximately N58 down to N50.5 there seems to be a higher ledge of rock in what would be the inside of the building, which then drops off to the west to form a lower layer of stone rubble which follows the actual sill line.

The wall line is best identified again by differential deposits of refuse. This line seems to fall at W48.70. The debris is typified by quantities of nails (mostly cut), window glass, bottle glass, and the remains of telegraph or telephone insulators. These were associated with a telegraph line installed first about 1872.

Feature 6 (Fig. 18) is composed of fragments of redwood oriented east-west extending from W47.9-48.9 and N51.35-51.8. One section of the redwood is overlain by clay in a 3/4 circle. The clay 3/4 circle is specifically located at W48.05-48.40. This would place it within the line of the west wall which appears to be between W48.2-48.7. The center of this feature is 5.23 meters (17.14 feet) north of the south end of the building. The feature is lain into a trough in the rock fill similar to those seen in Features 3, 5, 13, 14, 15, and 21. However, it does not directly line up with any features on the east wall. It may simply represent an independent support for the rear wall (west) sill due to the drop in the ground level of approximately 40 cm (16 inches) from the foundation stones at the northwest corner (Feat. 4).

In the Cabrillo College unit 16 (Fig. 12) there was found some fragments of east-west oriented redwood. This may have formed another sleeper. It is located approximately 3 meters (10 feet) south of Feature 6 (Fig. 13).

Central Building Area

Feature 7 (Fig. 19) is a sandstone boulder, the east side of which has been chipped off vertically. It appears to form the space for a center post. The feature is located with its center at N54.3, W44.5. The chiseled face is 26 cm (10.2 inches) high. This should indicate the full depth of the presumed post since the lower part of the boulder below this point was not chipped away and currently forms a lip. The area of the posthole is 35-40 cm (14-16 inches) in diameter. The midpoint of this posthole is also the midpoint of the east-west dimension of the building. However, in terms of north-south dimensions, the posthole is somewhat south of center. The distance from the north end of the building is 9.3 meters (30.5 feet) while the distance from the south end is 8.3 meters (27.23 feet). This difference might be explained if the center post is linked to a central stairway, possibly supported by timbers lying in features 15 and 16.

Features 15 and 16 (Fig. 20) are the remnants of redwood timbers set in apparent troughs in the rock fill. The channel in Feature 15 is 120 cm (47 inches) long by 28 cm (11 inches) wide. The remaining wood is 109 cm (42.9 inches) long by 13 cm (5.1 inches) wide but is in a fairly poor state of

preservation. The channel in Feature 16 is 101 cm (39.8 inches) long by 25 cm (10 inches) wide. The remaining wood is about 80 cm (31.5 inches) long by 15 cm (6 inches) wide, though in fragments. These parallel redwood sleepers are about 1.9 meters (74.8 inches) apart. It is difficult to discern their purpose, although there is the possibility that they supported the lower portion of a central stairway. Such a stairway, entering from the centrally located door on the east side, would have been analogous to the central stairway of the Kuskov House, but more narrow. Assuming that the supporting sleepers were longer than the supported stair, I would suggest an even figure of about 1 "arshin" (28 inches). The fact that feature 15 was longer would be consistent with its being the base support while feature 16 may have supported the mid part of the stairs. The location of this lower support would place the bottom stair about 18 inches (50 cm) inside the door. But then doors on warehouses normally open outwards.

Another peculiar feature (Feat. 14) is a roughly circular clearing in the rocky fill in which fragments of wood are found running primarily east-west but some running north-south. The diameter of this feature is approximately 73 cm (2.4 feet). It is shallow, being no more than 21 cm (8.4 inches) below the ground surface. Although it may also have held some supporting wood for a purpose similar to the sleepers, it is not constructed in the same elongate pattern of the sleepers. In the middle of this feature was found the remains of an olive oil bottle which probably does not date earlier than the 1890s.

Other Features

Several other "features" were so designated during excavation but are less definite in meaning in terms of defining the structural pattern of the Fur Warehouse. Among these are: Feature 8--an apparent sleeper channel running east-west located at N51-52, W44-46. Although the channel lines up with Feature 6 to the west, it lacks any discernible wood remnants. Feature 9--an unusual, though still small, quantity of sawn cow bone fragments and wood knots in the area N56.73-58.4, W44-46. These formed no clear pattern, however. Features 10, 11, and 12 were simply fragments of redwood which seemed to be lined up either east-west or north-south and may have been remnants of former boards or sills supporting the floor structure.

SUMMARY OF ARCHEOLOGICAL/HISTORICAL FINDINGS

Various details of the Old Warehouse derived from the combination of historical references and archeological excavation provide the following composite of the size, shape, and placement of the building.

An important aspect of the project was to define the precise location of the building within the stockade walls. An additional benefit was to allow us to properly relocate the west sally port which had been erroneously set in the reconstructed wall. The measurements of 56 feet by 28 feet (8 *sazhens* by 4 *sazhens*) found in the inventories were refined to a more precise 17.6 meters (57' 9") by 8.43 meters (27' 8") based on the excavation findings. Historical documents told us that the building was two stories high, constructed of redwood timbers, 12 inches square with pine rafters 6 inches in diameter. There was a hip roof with two dormer windows on the east side. The building had an exterior colonnaded gallery. There were two rooms on the lower floor and three rooms

above. There were probably three entrances on the east side ground floor, one to a central doorway and one each to the two rooms. In addition, there was apparently a central post, perhaps flanked by the interior wall and a central stairway leading to the second floor. The building may have had an iron roof, painted red. This, along with the outside gallery, is believed to have been an addition of the mid-1830s. The building would have probably looked quite similar to warehouses in Kodiak and Sitka. Based on the archaeological and historical findings, historical illustrator David Rickman has prepared an artist's conception of the Old Magasin (fig. 23) which is currently our best guess. However, we plan to be able to refine our image of the building before the final working drawings are prepared.

RUSSIAN ERA ARTIFACTS

Unfortunately, few of the artifacts recovered from the Old Magasin can be confidently dated to the Russian occupation. The image of a warehouse conjures an exciting list of artifacts to be found. But, of course, unless the warehouse is destroyed with its complement of goods, the more likely occurrence is that it will be swept clean before abandonment. The existence of a good wooden floor further minimizes the likelihood of finding artifacts (Cf. Oswalt 1980: 19).

Bead Distribution

Having said this, I would like to point out one likely artifact type which probably dates to the Russian occupation. It is particularly worthy of mention because of its interesting spatial distribution. A remarkably large number of colored glass trade beads (Fig. 23) were found in the north-central area. Although a persistent scatter had been found at some points along the periphery of the building, as well as in the southern portion, the overwhelming majority were found concentrated in an area 10 meters long (N-S) by 4 meters wide (E-W). The general parameters were N54-64, W42-46 (Fig. 22). The highest concentrations within the area were toward the center. Over 220 beads were recovered from this area of 40 m². What is particularly interesting is the likelihood that the distribution of the beads may help to define the room in which they were being stored within the Fur Warehouse. Assuming there were two rooms, a north and a south room divided about the line N54, then the beads were apparently stored in the north room. They were small enough to have sifted through the floorboards of even a fairly tight floor. The beads are also useful in confirming the north end of the Russian period structure as only one bead was found north of the apparent north wall line during the Cabrillo College excavations which carefully dug ten 2x2 meter units to the north of the building. However, Cabrillo recovered 4 beads from units within the area of the Russian Fur Warehouse, an area in which they had dug only five 2 x 2 meter units (or 34% of their total excavation).

Bricks

Only seven fragments of "Russian" bricks (and no whole ones) were found. These bricks are distinguishable in part by their larger size, particularly the width dimension (Fig. 24). This is usually 5 1/4 to 6 inches (13-15 cm). These were mostly concentrated at the extreme northeast corner of the building and seem to be only rubble fill, not structural of themselves. Von Wrangell tells

us that there had been brick kilns at Fort Ross up until about 1833 when the operation was moved to Bodega Bay (Gibson 1969: 207).

Nails

Other artifacts which are probably from the Russian period are some large, tapering wrought iron nails. These Russian nails are generally differentiated from the American "square" nails because when they were hammered out they taper to a point on all four sides, rather than only two. One good example recovered was 15 cm (6 inches) long. There was also a type of brass nail which is formed of a square stock and a hammered head (Fig. 25). These resemble closely ones found in Sitka at the Russian Bishop's House which were said to have come from a sheet of iron found nailed to the wall of the layman's room (National Park Service 1982: 100; 194 fig. L).

Other Artifacts

The ceramic pieces were generally too tiny to be adequately dated. There were, however, several pieces of Chinese export porcelain, British creamware and pearlware which probably dated to the Russian occupation. Also, certain pieces of hardware such as a brass candle-stick holder ring (Fig. 26), and some wrought iron latches may have been from the Russian era. Since the Russians at Fort Ross were getting their manufactured goods mainly from English and American traders, it is rare to find a true Russian artifact. In fact, most of the artifacts found at Fort Ross hardly differ from ones found at California's Spanish mission sites of the same era. The truly Russian element to the site was, therefore, the building itself; its *sazhen* dimensions and its wooden construction.

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 California Department of Parks
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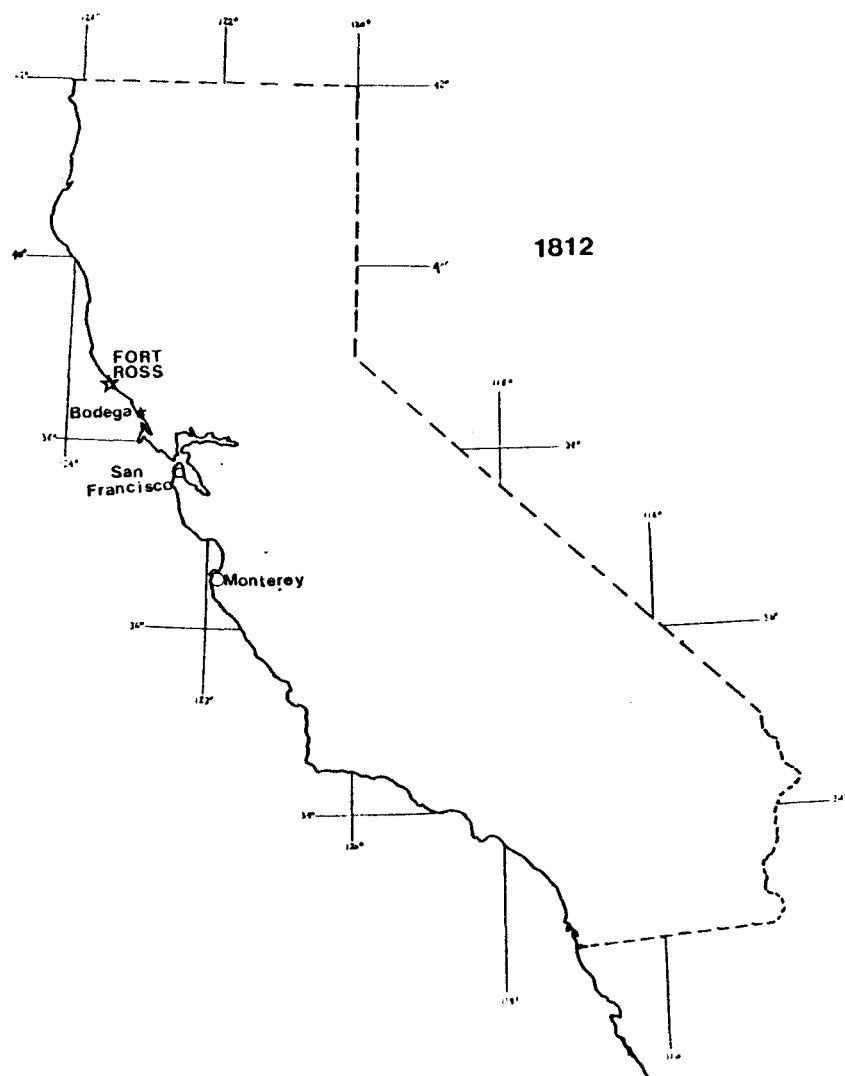


Figure 1. Fort Ross Location Map--1812

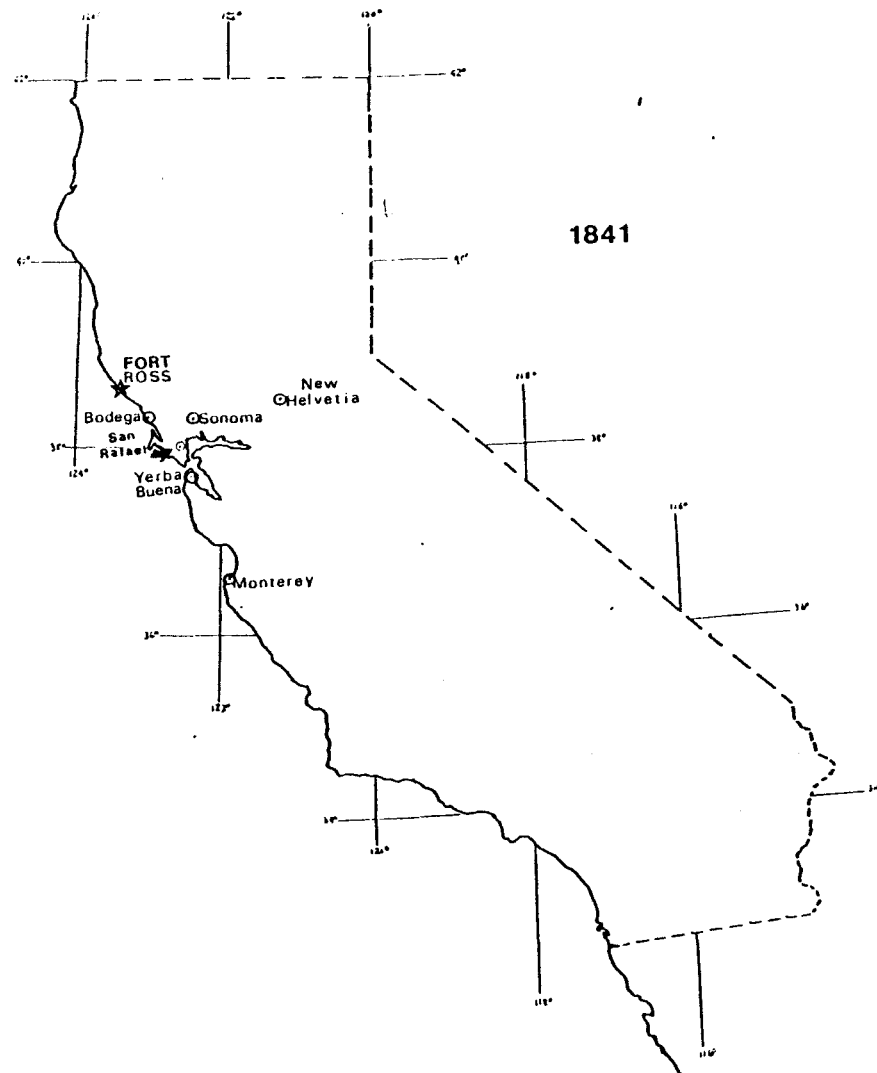


Figure 2. Fort Ross and neighboring settlements in 1841.

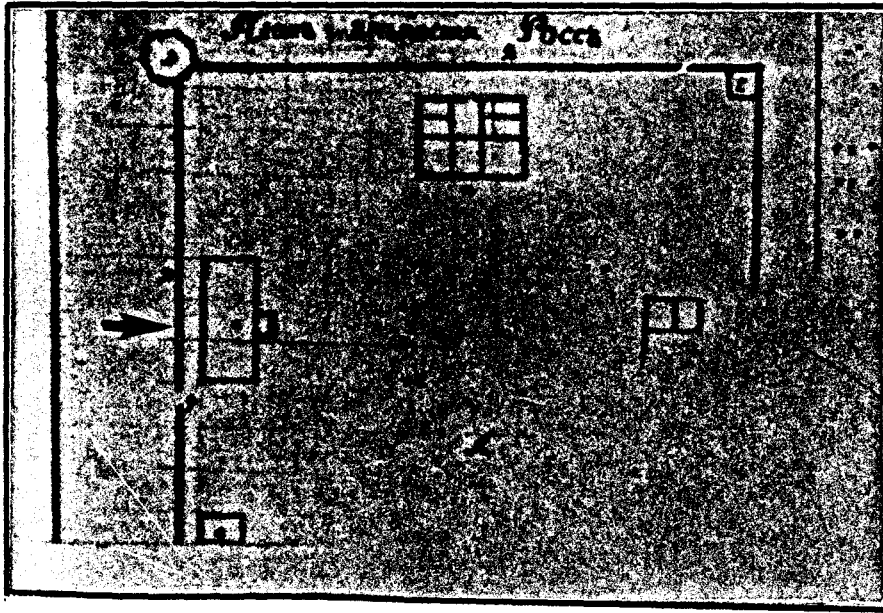


Figure 4. Detail of fort interior from 1817 map (Fedorova 1973) (copy courtesy Nicholas Rokitiensky donation to California Parks).

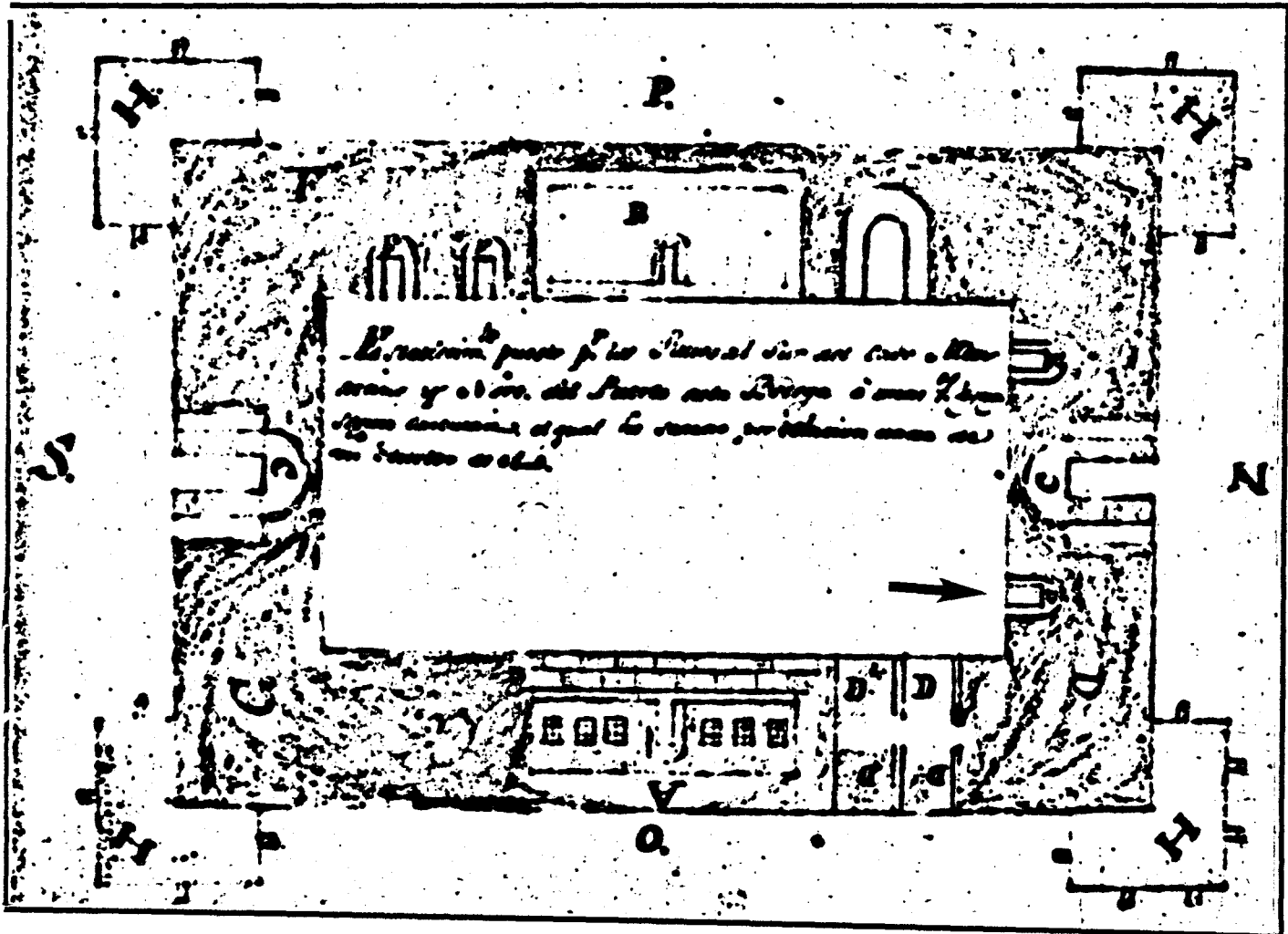


Figure 3. Chucano drawing of Fort Ross, 1816 (Courtesy, Bancroft Library, Berkeley)



Figure 5. Detail of DuHaut-Cilly drawing of Fort Ross Showing Old "Magain".

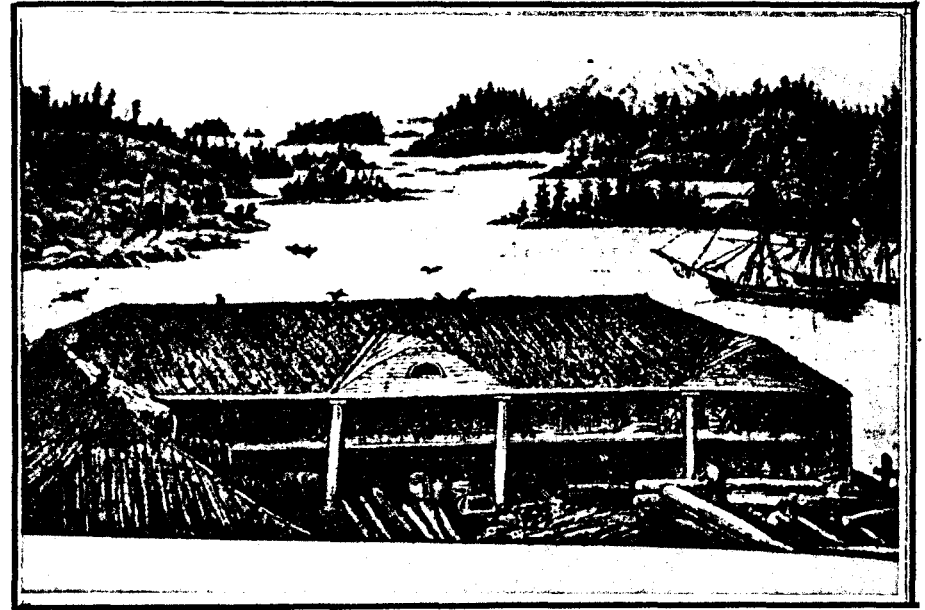


Figure 6. Warehouse in Sitka circa 1827 (Lutke 1835-36).

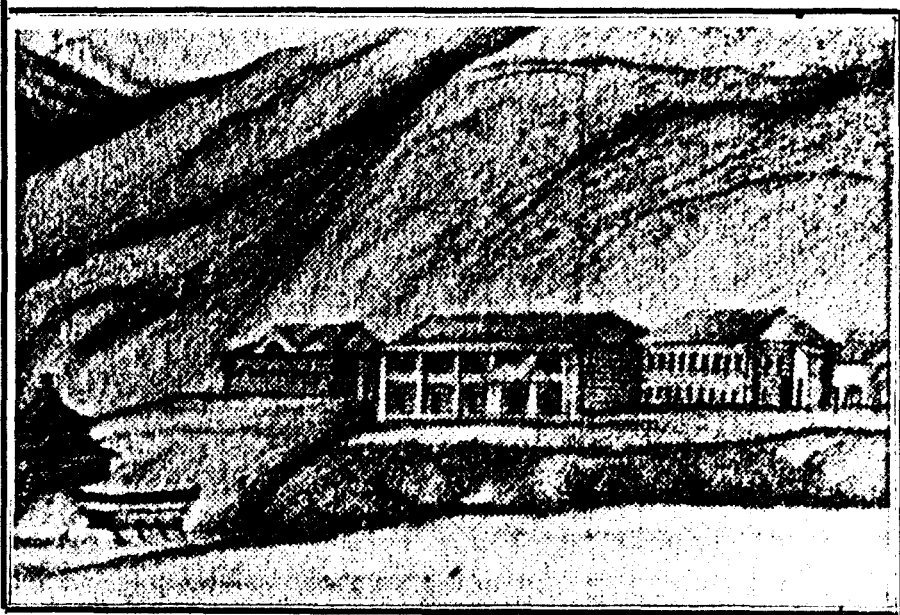


Figure 7. Warehouse in Kodiak, ca. 1842-43 (after Khlebnikov 1976: 8-9).

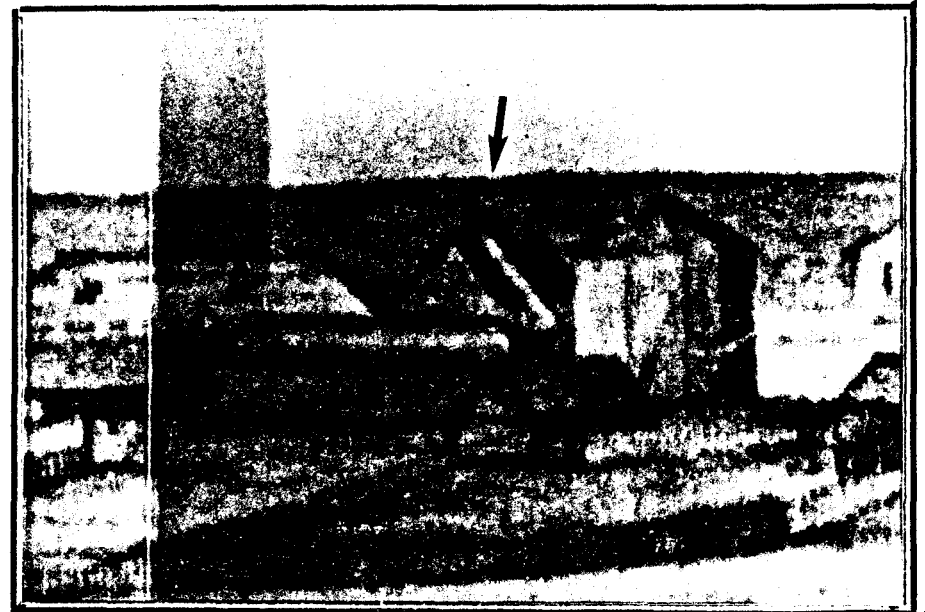


Figure 8. Detail of Voznesenskii watercolor of Fort Ross, ca. 1841.

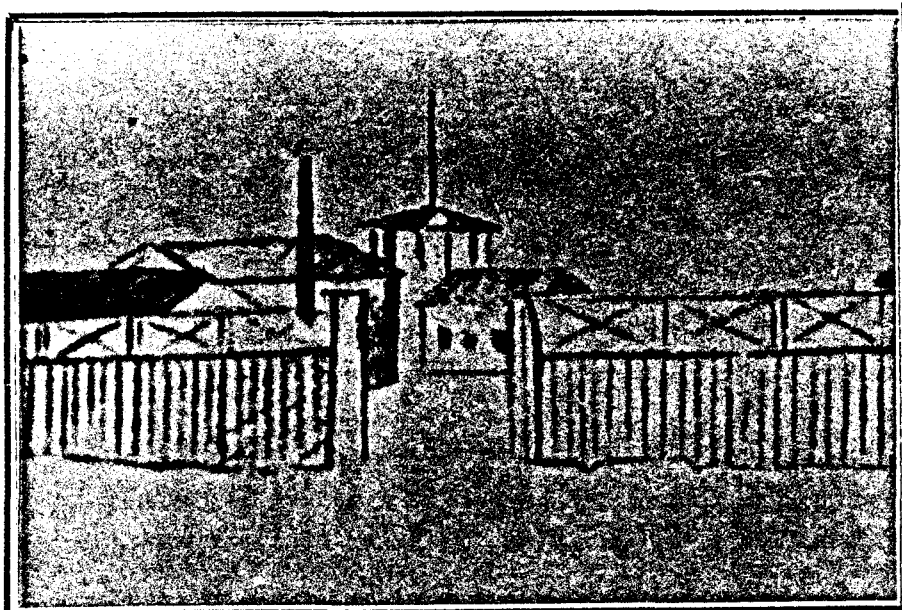


Figure 9. Second Voznesenskii drawing of Fort Ross seen from south side (Khlebnikov 1976)

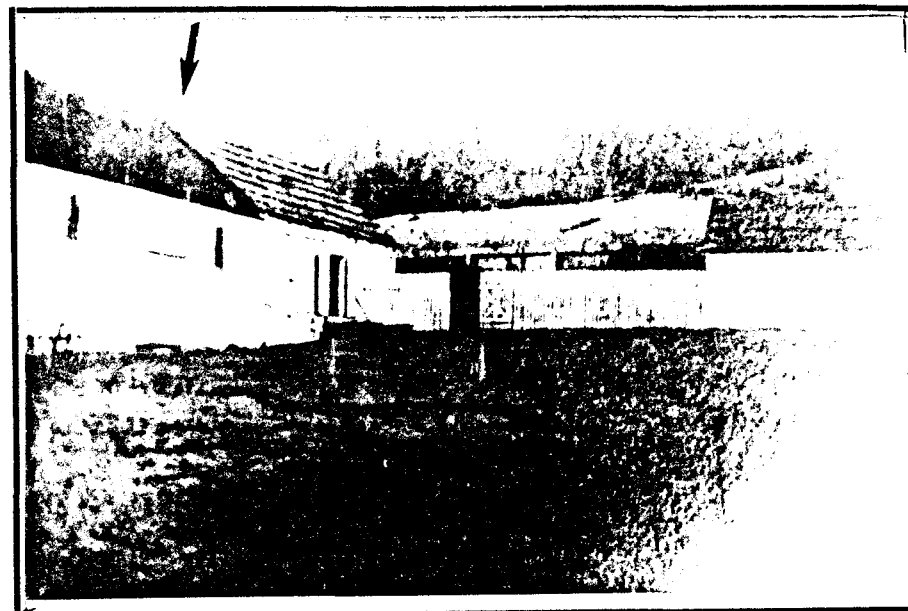


Figure 10. Photo of Dance Hall and shed circa 1878-1890s.



Figure 11. Photo of Dance Hall/Barn without shed--post-1892.

NW BLOCKHOUSE

NORTH STOCKADE WALL

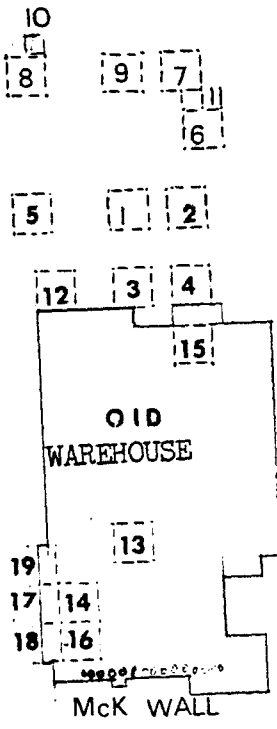
N90

N70

N50

N30

N10



FORT ROSS OLD WAREHOUSE 1981 EXCAVATION PROJECT

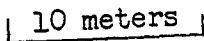
KEY:

Numbered squares are Cabrillo College excavation units—1975, 1976, 1977

Solid line encompassing the old Warehouse shows 1981 excavation area

BM=USGS Bench Mark

SCALE: 1 inch=10 meters



G. Farris
8/29/81

Figure 12. Location of excavations done on the Old Magasin by DPR and Cabrillo College.

BM

W10

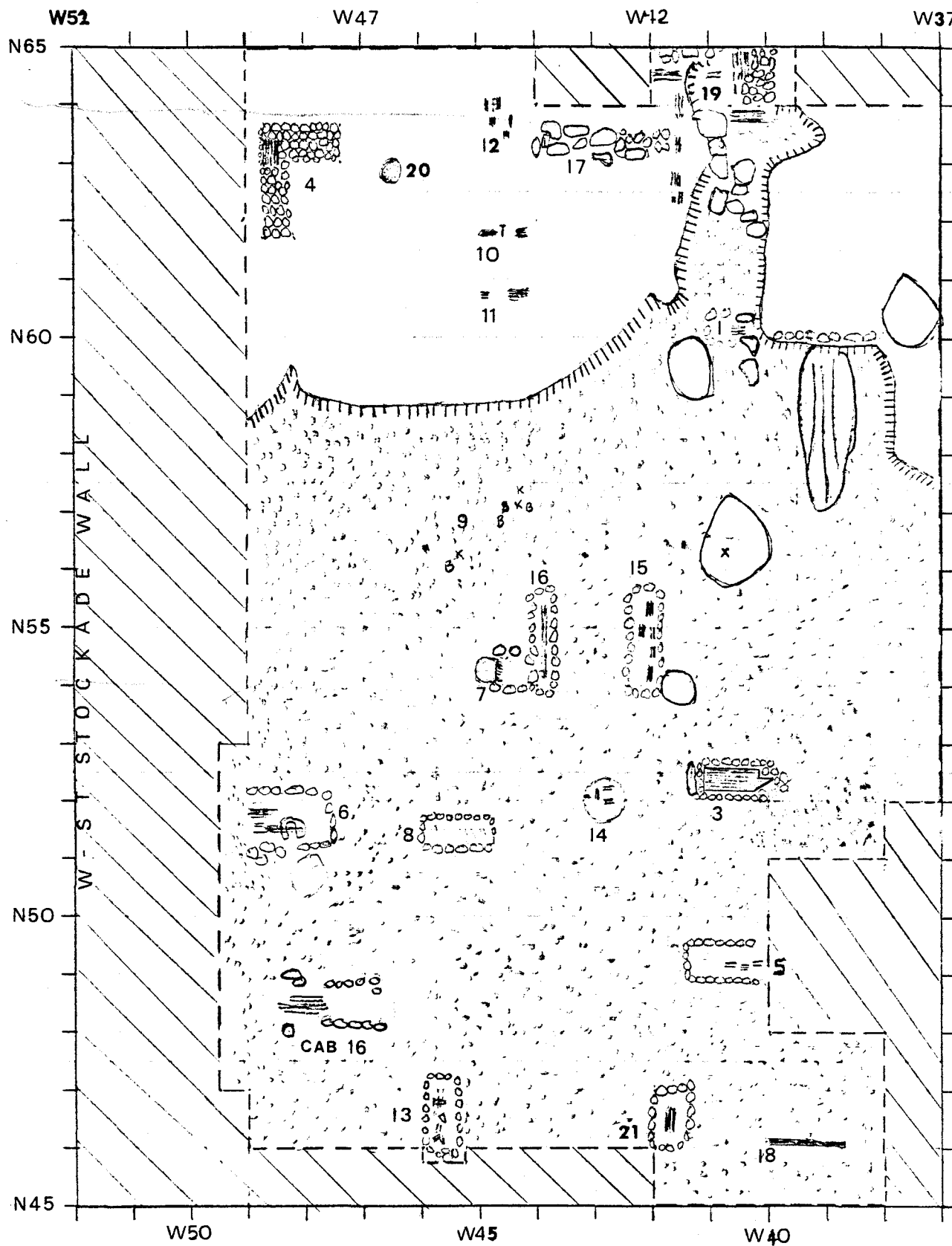
E10

W50

W30

22

FORT ROSS OLD WAREHOUSE



KEY

- | | | | |
|----------------|---|---------------------------------|-----|
| rocks | ○ | wood | ≡ |
| rocky fill | ⋯ | unexcavated area | /// |
| feature number | 6 | limit of rocky fill and bedrock | |



SCALE

1 M

G. FARRIS

8-28-81

Figure 13. Site Map of 1981 Old Warehouse Excavations.



Figure 14. L-shaped footing for NW corner of the Old Magasin (Feature 4).

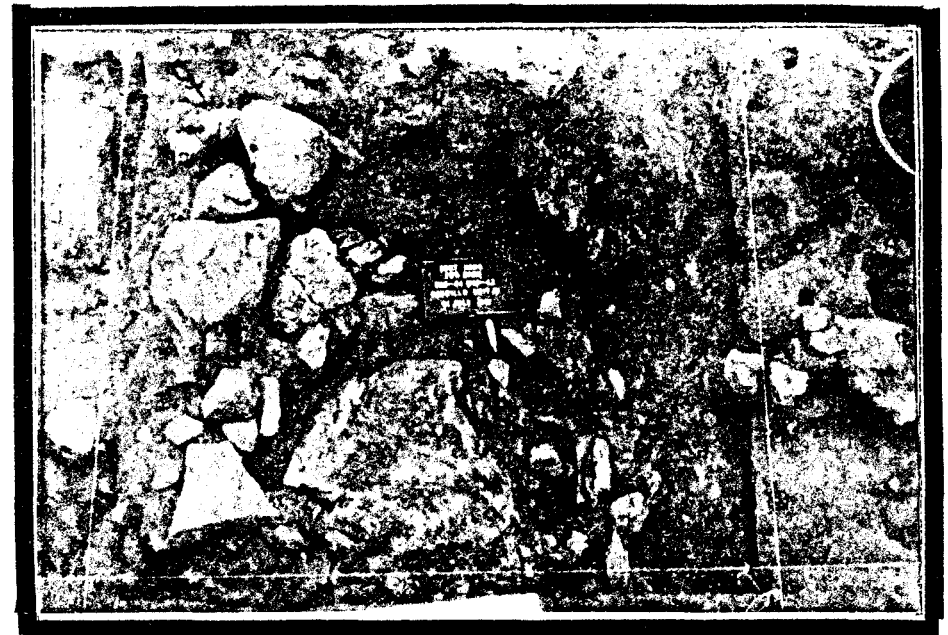


Figure 15. Northeast Corner of Old Warehouse (Cabrillo College Unit 15).



Figure 16. Rock and wood alignment for support of east side gallery (Feature 1).



Figure 17. Wooden "Sleeper" along east wall line (Feature 3).



Figure 18. Feature 6, a clay circle superimposed on redwood planking (west wall).



Figure 19. Sandstone boulder chipped off for a posthole (Feature 7) (Trowel points north).



Figure 20. Features 15 and 16, two stone-lined troughs holding redwood planks (North is to right).

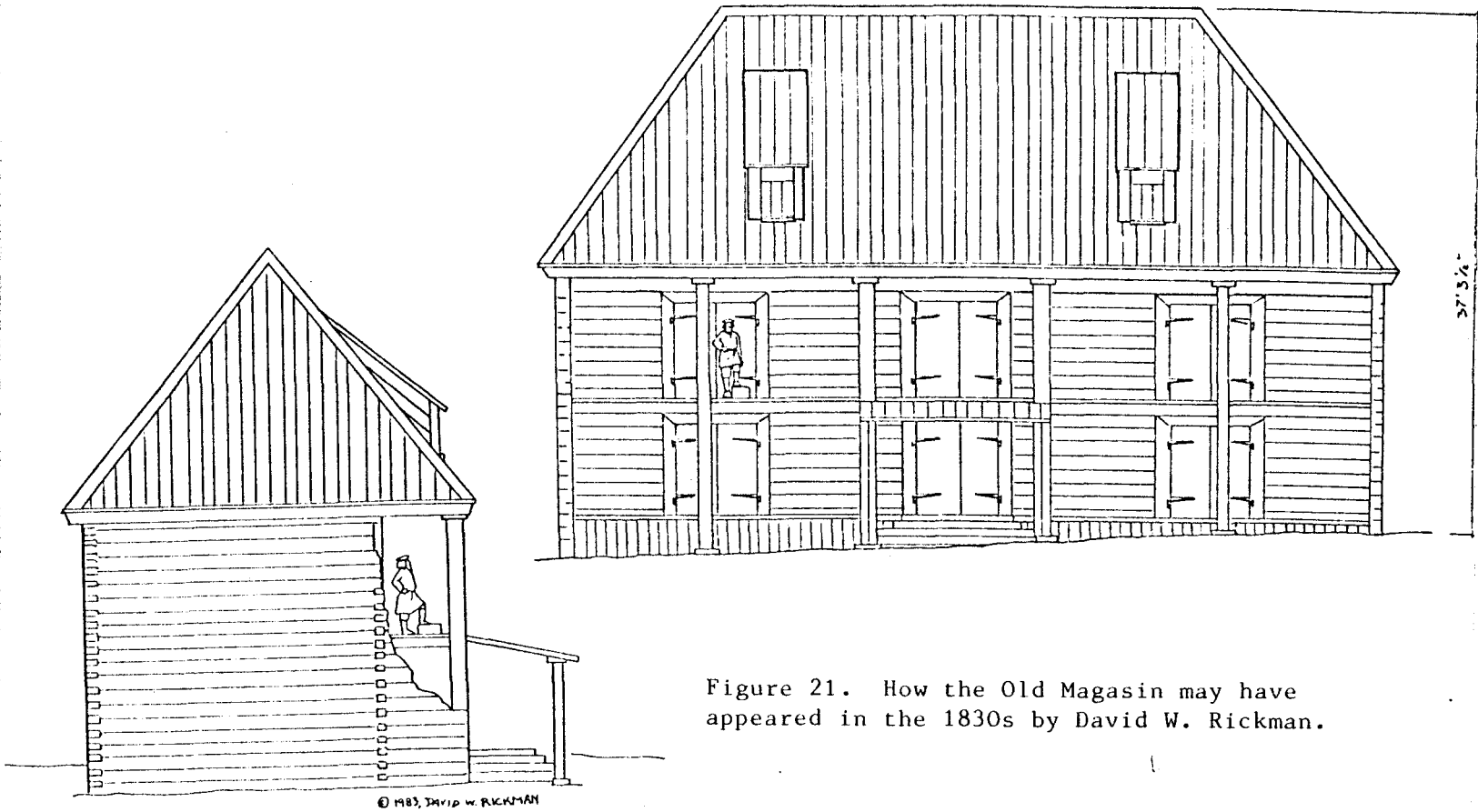


Figure 21. How the Old Magasin may have appeared in the 1830s by David W. Rickman.

FORT ROSS OLD WAREHOUSE

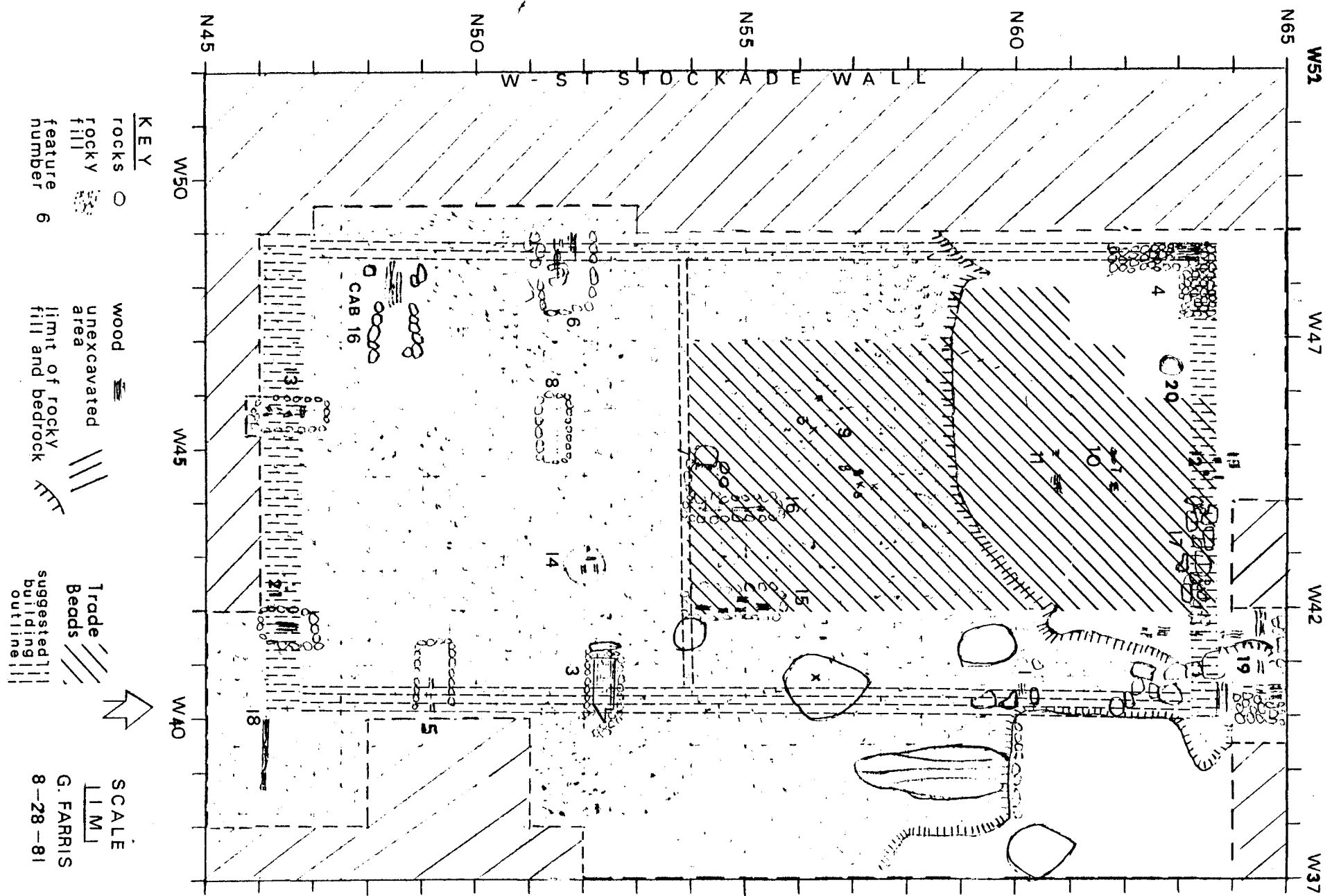


Figure 22. Plan Map of the 1981 Excavations showing bead concentrations and a projected outline of the building boundaries.

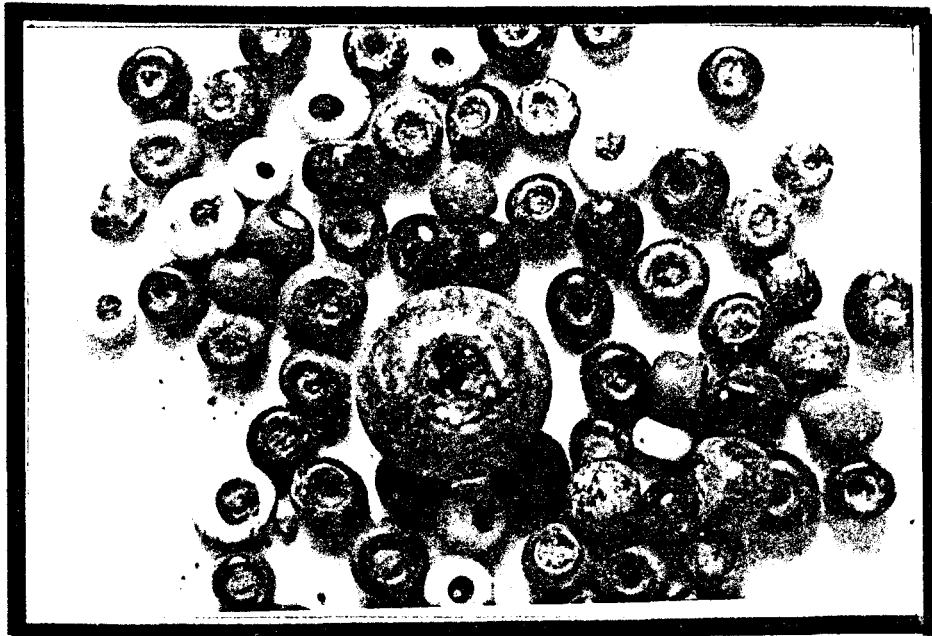


Figure 23. Sample of trade beads found at the Old Magasin site.

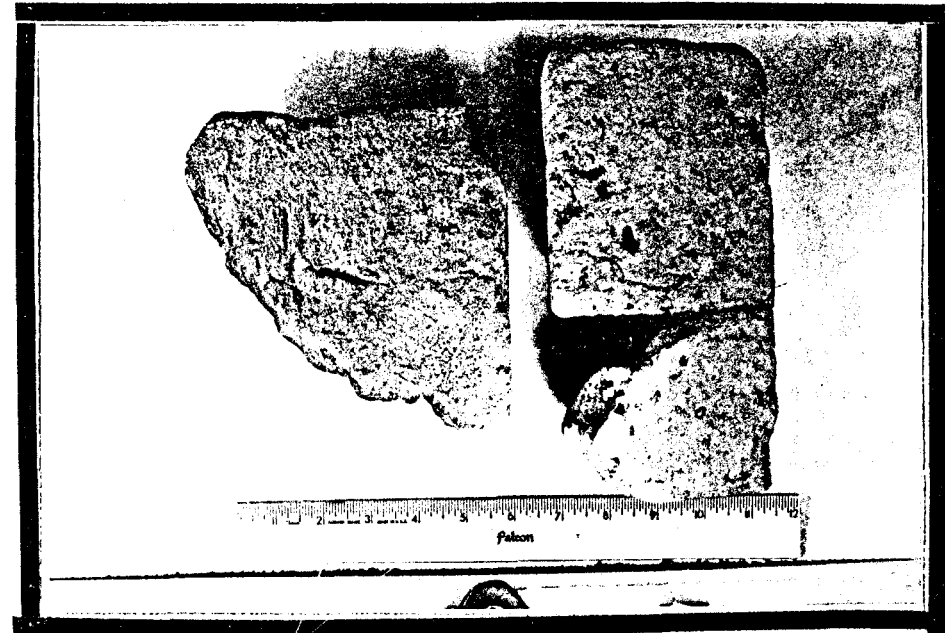


Figure 24. Two bricks recovered from the site. On left is a "Russian" brick; to right is "American" size.

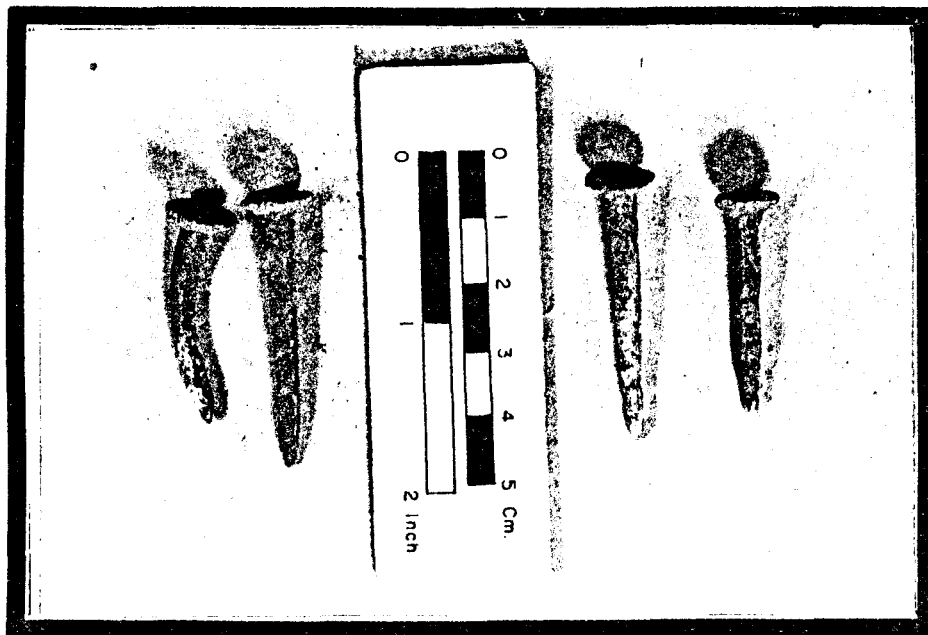


Figure 25. Four brass/copper nails from the site. Similar to ones from Sitka Bishop's House.

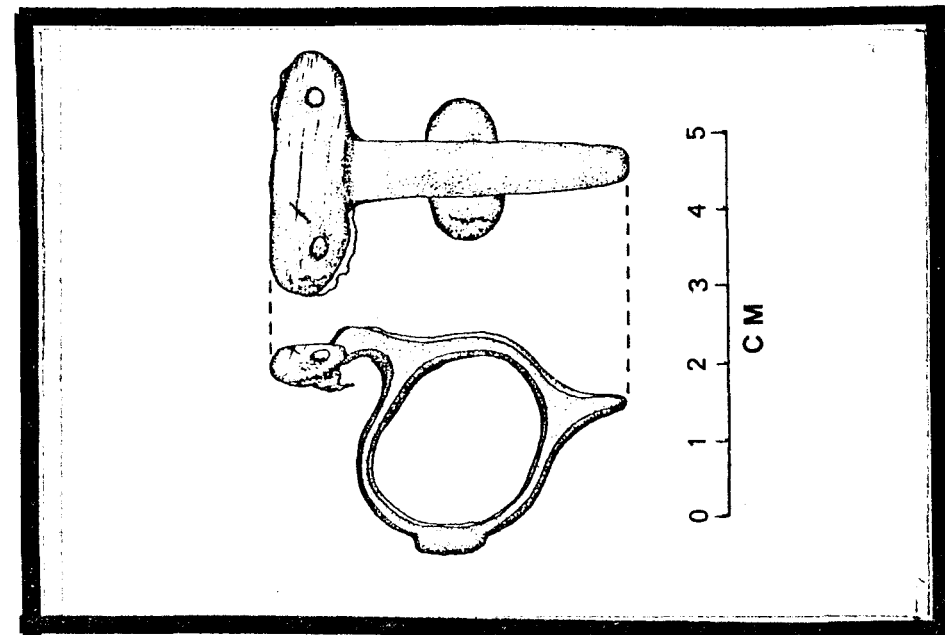


Figure 26. Brass holder for candlestick with thumb-holder and base rest. (drawing by Thad Van Bueren)