Summary of Excavations at HP12

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Introduction

In 1989, the Small Housepit Testing Program was undertaken to find small housepits with simple stratigraphy, (i.e., single occupations), clearly definable floors, and, most importantly, floors that had Kamloops horizons. This was seen as necessary so as to permit comparisons between HP's 7, 3 and the other small housepits. Both HP's 7 and 3 were occupied last during the Kamloops horizon. It was desirable that the small housepits be contemporaneous to allow for interhousepit socioeconomic comparisons with regard to the goals of the FRICGA Project. HP 12 was selected from a sample of eight trenched small housepits for the reasons mentioned above and because a possible Kamloops projectile point preform was found in Stratum II (roof) during test trenching.

Housepit 12 is located on the northern edge of EeRl#7 within 25 m of the Ponderosa Pine treeline. HP 12 measures 8 m in diameter from rim to rim and is about 1 m deep from rim to the bottom of the housepit surface. A north/south transect of HP 12 would show that there is a colluvial flow originating from upslope (north) and flowing into the center depression in the housepit. The east, south and west rims are all higher than the surrounding surfaces around HP 12 and therefore no colluvium appears to have entered the housepit from these areas, unless derived from the rim material itself.

There are two medium sized housepits located to the north-northwest (10–15 m away) and to the south (5–10 m away). The housepit to the north-

northwest is located at the base of the knoll where the site datum is. None of its cultural materials could have entered HP 12 through colluvial action given the height of the rim deposits above the slope. The housepit to the south is downslope of HP 12 and could not contaminate HP 12.

A north-south line was established in HP 12 and eleven 2 x 2 m squares were marked out (**Fig. 1**). These squares were oriented so as to provide the greatest areal coverage of the floor of HP 12. The rim deposits were not targeted for excavation. The pithouse wall/floor interface was of interest to assist in determination of the amount of living floor space that could be used by the inhabitants. Our goals were to define discrete activity areas, especially on the floor, to estimate the number of families residing in the housepit and their probable sleeping or eating places, to determine what types of activities were being conducted (cooking, eating, sleeping, flint knapping, etc.), and to try and determine the socioeconomic status of the house during its last habitation. This last question or goal is more difficult to define than activity areas, since the data to support this goal is more elusive and intangible.

According to the Residential Corporate Group model (Hayden and Cannon 1982) the larger housepits in Keatley Creek are seen as the controllers of critical resources (salmon, trade, exotic lithics). Smaller, "poorer", housepits must either trade to acquire these resources (not having full access privileges or man (woman) power to complete the task) or do without them to some extent. If this is the case, then HP 12 should have cache pits that would be comparatively smaller per floor area than HP's 7 or 3. Also, if HP 12 was in this type of socioeconomic relationship we should expect comparatively lower frequencies of lithic debitage, although of

"poorer" quality since the housepits should be inhabited for the same time period. Only further quantitative studies will allow us to determine if HP's 12, 7, and 3 were operating at the same time in prehistory and in the same economic sphere. When analyzing cache pit volumes between housepits, one must ensure that only those cache pits in use during the time period in question are used in the comparisons. This may allow for relative measurements of storage capabilities (the analysis of auxiliary, external cache pits are beyond the scope of this paper).

Exotic lithic sources as evidence of resource control by the larger housepits may not be as good an indicator of "wealth" as was originally thought. The vitreous trachydacites, cherts, and chalcedonies appear to be more evenly distributed throughout the environment than was previously assumed (Vol. I, Chap. 11). With these sources being non-localized, control becomes difficult, and possibly, impossible. Other aspects were then considered for allowing us to delimit "poor" material culture in the record.

Spare time and energy expenditure may also reflect the socioeconomic status of a group. The amount of time a group does not spend in subsistence activities for survival may be used to produce "luxury" or artistic items. This may be a possible indicator of socioeconomic level. In this vein, ground stone objects and engraved bone or antler occurring in HP 12 could be indicative of this type of activity. Their absence could indicate that HP 12 was of lower status if there were relatively more abundant types of these material artifacts in HP's 3 and 7. Lack of these objects could also be related to short housepit occupation, and this factor should be taken into account.

Comparison of storage volume to housepit living floor area between housepits may provide some clues as to resource control. The inability to

control for external storage pits is a major problem, as well as defining only those pits in use during the last occupation.

Socioeconomic status may not be easy to define in HP 12 with these criteria including the artifact assemblage. However, it was attempted.

Matrix Descriptions: Pithouse Dynamics

To understand any type of possible cultural patterning occurring in HP 12, we must first begin with a look at the cultural and natural processes that acted upon the formation of the HP 12 deposits. This includes the excavation, construction, and collapse history of HP 12, as well as the natural geomorphological processes that occurred during the post-collapse period. Inherent in this discussion is the notion that we are dealing with a dynamic process. In fact, different processes may produce similar matrix development.

As Teit (1909) states, housepits were excavated into the sterile soil, and this matrix placed on the perimeter of the housepit (rim). In the case of HP 12, excavation into sterile varied from 30 cm in the south to 55 cm in the east. After excavation was finished, a roof superstructure was erected.

After the use-life period of the housepit ended, it appears that they were burned to rid them of vermin or possibly to ensure that others could not use them. If the pithouse was not re-excavated, as it appears was the case in HP 12, then natural colluvial changes began to occur with slopewash, aeolian silts, and soil formation processes beginning on top of the collapsed "roof" of the old pithouse. Groundwater transportation of sediments and associated artifacts would also have a major impact on the post-depositional history of the housepit.

The construction of HP 12 produced five general strata: surface, roof, floor, rim, and sterile (**Fig. 2**). Each reflects in its own fashion excavation, construction, abandonment, and post-depositional infilling that occurred here. The strata above all show some degree of variability across HP 12 and it is hoped that the following discussion can explain some of this variability.

Matrix Descriptions

Surface - Stratum IA: This matrix is localized in Squares D and E. It is a moderately compact, medium gray brown (10 YR 3/3) sandy silt with 50–60% granules. It averaged 8–10 cm in thickness in this area. The matrix appears to originate from rim and roof colluvium washing in from the eastern rim. The rim here rises fairly quickly and rainwater action and gravity would tend to concentrate the flow of granules downslope to the bottom of the housepit. Very little outside colluvium would be incorporated in this matrix.

Surface - Stratum I: This matrix is found covering the roof deposits at variable thicknesses across the entire housepit. It is a moderately compact medium gray brown (10 YR 3/3) sandy silt with 5–20% granules and 0–5% pebbles. The variability in depth of stratum is related to the origin of the colluvium producing this stratum. The stratum is at its deepest in the housepit center where there is a natural depression produced by a collapse of the thinner roof materials onto the housepit floor. In conjunction with this, there is a natural colluvial "path" where waterborne sediments can flow into HP 12 from the northern upslope hillside. Characteristic of this climatic zone is the occurrence of thundershowers which produce short term but high intensity rainfall patterns. This type of precipitation pattern will produce a water transport system with a high sediment carrying capacity.

Combine this with the change in ecosystem produced through overgrazing in recent years, and sediment deposition would naturally result in HP 12 of Stratum I (colluvium possibly of fairly recent origin). The sediment carrying capacity of the colluvial wash also carried in many of the small flakes from upslope found in Stratum I.

Near the pithouse rim to the east, west, and south the percentage of pebbles increases in Stratum I. This is due to the fact that the surface of HP 12 in this region is derived from aeolian deposition occurring on the roof surface and soil formation processes and colluvial wash from the *roof surface.* The surface of the roof becomes the originating matrix for the accumulation of Stratum I. Since the roof has a higher percentage of pebbles and granules than Stratum I, it is expected that those areas of the housepit where surface deposits originate from roof materials, higher counts of granules and pebbles will be present.

Roof (Stratum II)

Excavation of the roof in HP 12 was broken down into three arbitrary levels: 0–5 cm roof surface; roof fill, and; the last 5 cm above floor (roof bottom). It must be understood that these three levels are not reflective of the dynamic nature of the roof deposits. The original construction of the house, its occupation and collapse, as well as post occupation processes all interact to produce what we uncovered in our excavation of HP 12.

Faunal and lithic materials, either culturally dumped or naturally deposited, occur with variable frequency. The structural components of the housepit, i.e., beams, support members also occur in roof deposits. Gravity, colluvial action, and the non-uniform rate of house collapse (caused through

burning) represent dynamic, rather than static, formation processes in the roof. The arbitrary levels in our excavation were maintained, but *all* excavators were instructed to be alert to matrix changes within these arbitrary levels. Hopefully this will permit future study of roof dynamics. Only general observations will be undertaken here.

Stratum II, is moderate to fairly compact, dark gray brown, [grading to dark gray black in the center areas of the housepit (10 YR 4/2)] sandy silt. Clasts vary, but are generally in the range of 20% granules, 10–30% pebbles, and 0–5% cobbles. Interspersed in this matrix are beams of burnt wood and charcoal chunks.

The central roof area of HP 12 appears to be a dark gray black in color and averages about 15 cm in depth. This staining may be reflective of dumping of refuse on to the roof during occupation. The thinness of these deposits also conforms to Teit's description of central roof deposits (Vol. II, Chap. 2). Roof is easily distinguishable from surface deposits due to the increase in pebbles.

The edge of the pithouse where rim and roof come into contact produces a mixture of matrices. The roof/rim interface *may* be recognizable during initial construction of the house. However, during the variable rates of collapse during a pithouse burning, roof and rim deposits mix to a certain degree. This is the case along the perimeter in HP 12,. This is not a uniform process across the housepit; this mixing is most prevalent along the south and west walls. The east wall appears to be mostly composed of rim deposits along the perimeter due to the higher wall on that side. More materials from the original excavation may also have been dumped in these areas.

Along the perimeter of the house, within its walls, burnt wood, charcoal, and beams begin to occur at about 30–35 cm BS. These elements are parts of the structural components of the housepit and this may reflect the depth to which roof sediments were deposited.

Along the south wall/floor interface, it was noted that where burnt beams appeared to have fallen and bridged the space between the wall and floor, very fine, silty sediments collected below them. Above the beams the matrix appears more pebbly. This may be an example of "filter collapse" events occurring in the pithouse as the fine clasts filtered through the wood superstructure during the collapse and burn of HP 12, or it may be a case of fine sediments collecting under sleeping platforms against the wall.

In summary, HP 12 roof deposits are thin towards the center of the housepit and thicker near the walls (and more clastically different). To gain an accurate understanding of activities occurring on the roof, the collapse sequence of the housepit should be reconstructed.

Floor (Stratum III)

One of the primary reasons for excavating HP 12, was that it had an easily definable floor. The floor in HP 12 is moderately to fairly compact, mottled dark gray, black/yellow (10 YR 2/1 to 10 YR 6/2) sandy silt with 20–30% granules and 10–20% pebbles, and 0–1% cobbles. The compactness and mottling of the stratum allowed for easy visual delineation of the floor. An understanding of the floor in its cultural sense is also needed to define the stratum.

The floor of HP 12 is where the inhabitants lived, slept, cooked, ate, procreated, and engaged in other activities. It was a living floor and many of

the activities involved with living will be represented to a degree in the floor. Approximately 25–30 m^2 of floor area were excavated allowing for almost complete exposure of the HP 12 floor and associated features and postholes.

The mottled color of the floor is a consequence of "mixing" of the sterile substrate with the cultural debris produced through living. These turbative processes define the depth of organic staining that occurs. Staining depth is related to:

1) activities occurring on the floor e.g., high traffic vs. low traffic areas, cooking vs. sleeping;
2) differences in substrate composition and compaction on which the floor formed, and;
3) floor cleaning event intervals, and other similar activities.

The extent of organic staining into sterile reflects the depth to which the staining could penetrate due to the variables mentioned above. The actual surface of the floor is usually 2–4 cm above this and can be defined by several criteria:

1) just above the floor surface a matrix change often appears in the roof bottom deposits. This level is composed of fine clasts that appear to have been deposited on top of the floor during collapse. The matrix is soft and contains large quantities of small charcoal pieces. Once this matrix was encountered, one subjectively knew the floor was close;
2) flake sizes in the floor are smaller, relative, to the roof;

3) flakes and bone often lay horizontally on or in the floor. This is the only matrix where salmon bone is preserved well in HP 12, and;
4) the floor is generally more compact than the roof bottom, although floor compactness varies across the housepit.

Not all of these variables/criteria occur in each subsquare, nevertheless, excavators appeared to have no difficulties in delimiting floor. With this in mind, the floor appears more compact in the north and northeast and softer along the south and southwest walls. Whether this reflects activity areas or substrate differences (or other variables) is unknown. These areas do correspond to areas of low flake density (south and southwest) and to storage and high flake density areas (north and northeast). These are only subjective inferences at this time and further study will be needed to explain these perceived differences.

Stratum IV (Rim/Rim Slump)

This matrix is variable across the housepit rim and represents sterile till dug out of the original housepit as well as roof materials and colluvium. It is moderate to fairly compact, light yellow brown (10 YR 5/3) sandy silt with 20% granules, 30–40% pebbles, and about 5% cobbles. The rim typically overlies the original yellow brown silt (aeolian) paleosol that caps the sterile till matrix into which HP 12 was excavated.

The matrices deserving of more study are the components of the "roof". Understanding the processes affecting the artifacts on and in the roof during its history, will allow for better cultural inferences to be put forth. The surface and floor strata are easier to explain and understand in comparison to the roof.

Stratum IIIA (?Floor accumulation zone?)

Stratum IIIA occurs in the northeast corner of HP 12 forming a cone-shaped stratum which thins out to the south and west. This appears to be an area where cleaning events from the floor were dumped and mixed with rim sediments filtering down the wall. The accumulation deposits are less compact than the floor deposits they overlie.

Lithic Patterning in HP 12

Before entering into a detailed discussion of lithic patterning, it should be noted that this is only a preliminary, largely subjective analysis of the lithics recovered from HP 12. The most common debitage and tool lithic material in HP 12 is granular or moderately vitreous trachydacite (99%). Other lithic types noted are cherts (Hat Creek, Walhachin: red), chalcedony (pink-white), and quartzites (red-brown, yellow brown).

Debitage patterning on the floor is determined by cultural practices occurring during pithouse occupation (manufacturing events, cleaning/ sweeping events, possible accumulation zones underneath sleeping platforms, benches) and the techniques used for recovering the lithic debitage. Three areas of debitage accumulation in Stratum III (floor) were noted in HP 12 (plus another possible area):

- Area One is located in Square A, Subsquares 5, 6, 9, 10, 13, 14. Test trench A, produced quite a bit of lithics from the floor and the adjacent subsquares had a high occurrence also (Sq. A Ssq.'s 6, and 10 had 28 and 60 flakes respectively);
- Area Two, Square E, Subsquares 7, and 8, had 66 and 62 flakes respectively;

- Area Three, Square J, Subsquares 5, 9, and 13, and Square F, Subsquare 16 had higher flake counts.
- Area Four, Square C, Subsquare 14 had 25 flakes (see **Fig. 2**).

Not only do areas with high debitage accumulation need to be noted, but also those areas where little or no debitage occurs may be useful for delineating activity areas. The southeast, south, and southwest pithouse wall/floor interfaces all show little or no debitage on the floor. Also, all of Square I appears barren of lithic materials. Tentatively, it could be assumed that lithic reduction activity areas were not associated with the house edge that was excavated. Something different is happening in the northwest of HP 12 in Square I. It is markedly different in lithic flake density from any other squares. This may reflect an activity area of the house not associated with lithic reduction. The bone basketry needle in the floor of Square I (Ssq. 3), and the bone perforator/awl from Square I may reflect possible basket making or hide working areas.

Retouched Flakes (excluding projectile points)

Bifacially and unifacially retouched flakes appear to occur more frequently in roof deposits than in floor deposits. Retouched tools appear to be fairly evenly distributed throughout the entire excavated roof areas of HP 12, although Squares I, J, and F may contain slightly higher concentrations. These squares occur on the north and north-northeastern aspect of the HP 12 roof.

Retouched flakes also occur in Stratum III (floor) but to a much lesser degree. Only six are represented at this time and occur in : test trench Square A (uniface, biface); Square B, Subsquare 15 (biface); Square E,

Subsquare 15 (Scraper); Square I, Subsquare 1 (Scraper): and Square F, Subsquare 12 (Scraper). Cursorily, it appears that more scraper type unifaces occurred on the floor than other retouched flakes. No other spatial patterning of tools is evident at this time.

Projectile Points and Relative Age of HP 12

When dealing with socioeconomic models, the housepits involved in the analysis of a residential corporate group economy *should* be inhabited contemporaneously. A problem that will arise between HP 12 and HP's 3 and 7 is one of determining whether or not they were occupied at the same time. Projectile point dating provides a broad range of time during which HP 12 could have been occupied.

Projectile points were found in all three major strata (surface, roof, and floor) with the majority occurring in the roof. Discussion of projectile points will follow their occurrence through the natural strata of HP 12.

Three projectile points were found in the surface matrix. Square D, Subsquare 16, Stratum I contained a corner notched point indicative of a late Plateau occupation. Square J, Subsquare 10, Stratum I contained a late plateau/early Kamloops point fragment. Square F, Subsquare 12, Stratum I contained a corner notched late Plateau point.

Nine projectile points or identifiable fragments were found in the roof matrix. A possible Kamloops preform was found in test trench A in Square A, Subsquare 11, Stratum II, Level 2 a late Plateau corner notched point. Square C, Subsquare 8, Stratum II, Level 2 had a late Plateau corner notched point. Square I, Subsquare 5, Stratum II, Level 2 had 3 chert fragments of a small stemmed Shuswap projectile point. Square I, Subsquare 7, Stratum II, Level 4

contained a corner notched late Plateau point. Square I, Subsquare 8, Stratum II, Level 3 contained a late Plateau/early Kamloops point with notches continuing up the base towards the side. Square J, Subsquare 2, Stratum II, Level 2 contained a side notched, large early Kamloops point. Square E, Subsquare 2, Stratum II, Level 3 contained an early Kamloops side notched point.

Only one projectile point was found in association with the living floor in HP 12. In Square A, Subsquare 15, Stratum III, Level 1, a late Plateau/early Kamloops point was found. It is made of chalcedony and is long and thin. Notches are still corner notched, however, this style of projectile point appears to date to a transitional stage in Plateau prehistory between the Plateau and Kamloops horizon. Provisionally it suggests a date between 1300–1000 BP for the last occupation of the house.

Other Lithic Artifacts

Ground stone artifacts were not found at all in HP 12 (except for one chillum fragment). Any rounded rocks that were even suspected of having been modified slightly were kept and catalogued. A sandstone abrader fragment was the only abrading stone found in HP 12. It occurred in Square D, Subsquare 3, Stratum II, Level 3 (roof fill). Due to its very fragmentary nature, it may *not* even be an abrader.

Also of interest is a chillum pipe fragment encountered in Square C, Subsquare 13, Stratum II, Level 1 (roof surface). The fragment consists of part of the pipe stem. Although found in the roof, pipes are an item that involve an expenditure of energy and free time to make. It may have been discarded on the roof after breaking by either the inhabitants of HP 12 or following

abandonment, or it may have been brought to the house by children who scavenged the broken pieces from elsewhere nearby (Hayden and Cannon 1983:132). No patterning in flake distribution is apparent at this time. Lower flake counts correspond to partially excavated squares.

In the roof surface, Squares D, J, E have the highest numbers of flakes. These squares are located in the north and northeast of HP 12, with Square D being the closest to the center. Square I has the largest quantity of flakes in roof fill. Square I also has the most post occupational disturbance (associated with Feature 8) in comparison to other squares. Squares D and J contain the largest number of flakes in the roof bottom (see Table 1).

Fire Cracked Rock (FCR)

In HP 12, fire-cracked rock (FCR) was concentrated in Square I in the roof stratum. This appears to be associated with the higher frequency of faunal remains found in Square I (see following discussion). This may imply that the northwest roof area of HP 12 was used for more refuse disposal than other roof areas.

Faunal Remains Distributional Patterns

Faunal remains were recovered in all of the three main strata, as well as in certain storage features within the housepit. Except for antler remains, all the other faunal remains show patterning indicative of either localized dumping (cleaning) events or food preparation, consumption and storage activities.

Square J appears to be the area of the housepit where most of the salmon vertebrae and spines occur within floor context (Sq. J Ssq.'s 3, 4, 5, 7, 8, 9, 10, 12, 13). These subsquares surround Features 4, 5, and 7, which

appear to be either small storage pits, or after this function was finished, small refuse pits. Two subsquares in F, 12 and 16, that are contiguous with Square J, also show salmon bone on the floor. This area of the housepit may reflect food storage and consumption.

The preservation of the salmon spines and vertebrae in a floor context, argues against the possibility that this part of pithouse floor was in a high traffic/trampling zone. Many of the salmon remains occur in close proximity to the features mentioned above possibly implying that traffic near these features occurred infrequently.

There was some post-occupational deposition of ungulate remains in stratum I, (surface) in Square D, Subsquares 9, 10, 12, and 14. This is seen as a post-abandonment butchering event.

Although some mammal long bone fragments were encountered in the floor matrix the vast majority appear to occur in the roof surface/roof fill substrata of the roof (Stratum II). Localized dumping or cleaning events of burnt and unburnt mammal bone may be inferred in these substrata: Square D, Subsquare 14, Stratum II, Levels 1 and 2, a total of 23 bone fragments were found; in Square I, Subsquare 7, Stratum II, Levels 2 and 3, 35 bone fragments; and in Square I, Subsquare 2, Stratum II, Levels 2 and 3, 37 bone fragments were recovered. These major dump areas may have occurred around the central roof entrance of the housepit, if there was one.

The roof fill/surface and roof bottom substrata in Squares I and J show the highest occurrences of bone fragments throughout the housepit roof. It appears that the majority of bone refuse disposal occurred on the north side of the housepit roof.

Two bone artifacts were encountered in Square I. In Square I, Subsquare 3, Stratum III, Level 1 (floor) a bone basketry needle 8.2 cm in length, made from a mammal rib was found. The perforated proximal end broke upon removal but both pieces were recovered. A bone perforator (awl?) was also found in the north roof of Square I during profiling. These artifacts may reflect basketry activities that occurred in the housepit.

Antler preservation in HP 12 was variable, ranging from excellent to poor. An antler "wedge" (Sq. G, Ssq. 5, Stratum II, Level 1) and a large (20 cm in length) distal antler section, probably elk (Sq. E, Ssq. 3, Stratum II, Level 2), were both in excellent shape. The antler "wedge" had been ground to shape and the elk antler shows some slight proximal beveling. The remainder of the antler found was in fragmentary condition. A possible antler billet with distal crushing occurred in the roof of Square G, Subsquare 1, Stratum II, Level 3 and antler fragments were encountered in the roof of Square D, Subsquare 14, Stratum II, Level 2 . Two large pieces of antler were encountered in Square E, Subsquare 4, Stratum II, Level 3 and above feature 6, Square J, Subsquare 4, Stratum III, Level 1.

Differential preservation of faunal remains and perceived spatial patterning of these materials is affected by a number of cultural and natural transformations occurring in the pithouse environment:

1) differential preservation related to the specific matrix that faunal material is deposited in;
2) the type of faunal material; mammal long bone vs. antler vs. cranial bone, salmon vertebrae vs. salmon ribs/spines;
3) high vs. low traffic areas;
4) cleaning events of pithouse floor, and;

5) scavenging activities by canids.

All of these factors (and others) should be taken into account before final determinations are made concerning activity areas related to faunal remains.

Salmon Bone Recovery

In floor and pit fill deposits, faunal recovery, with regard to salmon ribs and spines, was noted to be unproductive in HP 12 when 8 mm screen mesh was used. Testing with 3 mm screen shows that the salmon ribs/spines also pass through the mesh since they appear to go vertically with screening. What is suggested is that when excavating floor or pit fill deposits thought to contain salmon bones, a sample should be taken and the approximate percentage noted that is represented by the sample of the whole deposit. These samples can then be compared to levels of occurrence characteristic of the flotation samples systematically taken from floor and pit deposits.

Other Fauna

Three beaver incisor fragments were also encountered during excavation. Since these incisors were often used for carving and engraving, their occurrence in HP 12 may be indicative of such activities. The fragments were found in Square E, Subsquare 3, Stratum II, Level 3; Square E, Subsquare 11, Stratum II, Level 3; and Square K, Subsquare 8, Stratum II, Level 3 (all roof fill).

Pithouse Construction: Archaeological Evidence

Through excavation of almost the complete floor area of HP 12, it may be possible to make some inferences concerning housepit construction.

These inferences are subject to reinterpretation in the future when more detailed analyses have been completed. (Features are discussed in a separate section following).

Four small (in diameter) postholes were spaced equidistantly along the excavated wall of HP 12. Their small size may reflect their use as small support posts or as support for benches/sleeping areas. In the house center, where one would expect to find main support posts according to Teit (1900), it is interesting to note that in HP 12, no real pattern of center postholes emerges. Four postholes are present with depths into sterile ranging from 9–17 cm. Housepits with central roof entrances and log ladders for entrances into them, usually would have four posts arranged in a rectangular pattern on the floor (Teit 1900). As this is not the case, there may have been a side entrance in the unexcavated northwest part of HP 12. The ground level in this area appears depressed, but this is probably more noticeable due to the post-occupational disturbances created by Feature 8 (see below). Any further queries related to entry to the housepit must await further excavation.

The subsquares against the southwest wall in Square B provided abundant corroboration of Teit's 1900 account dealing with housepit roof construction. In the roof fill/roof bottom of Stratum II collapsed roof support sections were uncovered displaying the process by which the roof was constructed to produce a tight seal. Roof beams with overlying cross members at right angles were covered by Douglas fir boughs and their needles (**Fig. 3**).

Although isolated areas of fire reddening were noted on the surface of the floor, none of them extended through and into the sterile matrix (most noticeably in Sq. I). This is most probably related to charcoal and wood

burning on the floor during collapse (this may indicate that this area of the pithouse remained standing longer than other areas of the house, allowing for the wood to burn and oxidize the floor). This being the only fire reddening in HP 12, it is safe to say that no evidence for a hearth was recovered. A hearth may occur in the areas of the housepit not yet excavated, but that appears unlikely since the vast majority of the floor surface was excavated with only a little left along the walls in the northwest and northeast sectors. Cooking may have occurred in other housepits close by, or external to HP 12. However, heat to warm the housepit was needed during winter occupation so one might assume, on the basis of little fire reddening and no hearth, that the housepit was not occupied intensively or for too long during its last occupation. The thin floor deposits may also indicate this. It must be remembered that the occupants of HP 12 lived there long enough to fill in a large salmon cache pit and create a hard, compact floor above it. None of these characteristics allow for easy statements of a definitive nature concerning length of house use.

Feature Descriptions

Feature 1 was a moderate sized pit encountered in Square A, Subsquares 10 and 14 and continued in Square I, Subsquare 1. It is an elongated shallow U-shaped pit about 100 cm north-south by 30–40 cm east-west with a depth below floor of 10 cm. The pit appears to be contemporaneous with the last housepit occupation, since Stratum III (floor), did not cover the pit fill. No artifacts or bone were recovered. Its function is unknown.

Feature 2 was a large bell shaped cache pit located in Square A Subsquares 7, 8, 11, and 12. It is roughly circular in plan view and is approximately 60 cm in diameter. It extends 70 cm below floor level. From 50–60 cm below floor level in the north of Feature 2, salmon vertebrae (articulated and non-articulated) and two mammal bone fragments were encountered. Pit fill was much looser and darker than surrounding floor deposits and would indicate use and infilling of the cache pit during the last occupation of housepit. The volume of this cache pit is about 0.189 m^3.

Feature 3 was a large bowl shaped cache pit located in Square D, Subsquares 10, 11, 12, 14, 15, and 16. The cache pit is ovate in plan view measuring 70 cm (east-west) by 65 cm (north-south). It extends about 35 cm below floor level (volume is about 0.129 m^3). Approximately 20 cm below the floor, ungulate and mammal bone was encountered along the southeast wall. At this level, a covering of rocks appeared to have been thrown in to fill the pit. Below the rocks were found about 60 salmon sections with articulated vertebrae columns arranged linearly along an east-west axis. The important aspect of this pit is that it was filled in and a floor established above it before the housepit was abandoned.

Features 4 and 5 will be described together as they are, to an extent contiguous. Both are found in Square, J, Subsquares 3, 7, and 11. Feature 4 is a shallow U-shaped pit with a lineal plan view. It is about 70 cm in length and 10 cm deep, varying from 15–20 cm in width. It joins Feature 5 at its northern end in Subsquare 11. Feature 5 is a deep U-shaped pit about 30 cm in diameter and 35 cm deep (volume is about 0.024 m^3) and is contemporaneous with the last occupation of the house. Both features

appear to have been filled in with refuse containing charcoal, salmon bones and small bone fragments.

Feature 6 is a moderate sized, shallow bowl shaped pit, located in Squares D, I, and J. It is roughly circular measuring 55 cm in diameter, and extending 15 cm below the floor (volume is about 0.04 m^3). It contained salmon bone, fire cracked rock, mammal bone flakes and charcoal. Since the floor capped Feature 6, as well as Feature 3, it is assumed that they were both filled in at the same time. It should be noted that the sterile till in the mentioned area (Feature 3, and 6) displays a basin shaped depression into which fill was deposited to produce a level floor. This occurred before the final house occupation.

Feature 7 occurs in Square J, Subsquares 4, and 8. It is an irregular basin shaped moderate sized pit. It is ovate in outline measuring 30 • 40 cm in diameter and extends 18 cm below floor level. It contained two mammal bone fragments, two salmon vertebrae and six flakes. It was probably originally used as a storage pit, then later as a refuse pit. It is contemporaneous with the last occupation of the housepit.

Feature 8 is an intrusive pit dug into the roof material after the abandonment of HP 12. The profile of the pit in the north and west walls of Square I suggest a pit about 3 m across. The pit appears to have been dug into the roof and possibly into sterile in the unexcavated section of HP 12. This then became the rim and roof of the small structure. A floor zone (Stratum IX) is covered by a layer of burnt wood (Stratum X). Over this, is a cap of "sterile" material (Stratum VIII) which is covered by re-deposited roof from HP 12 (Stratum VII). All of this is covered by surface colluvium (Stratum I). The floor/burnt wood strata may reflect an original use of this structure

with the sterile capping reflecting a later use (i.e., two functions, one at a later time). The small size of the structure may be used to infer that this was an external cache pit or possible menstrual hut associated with the two adjacent housepits. Further excavation may allow for a more certain interpretation (see Feature notes for a more complete description).

Feature 9 is located is Square K, Subsquares 4, and 8. It is a large, irregular U-shaped pit. It is about 90 cm north-south by 35 cm east-west, with a depth of 35 cm below the floor. This pit may have originally been used for storage but was filled in with cobbles. Feature 9 is located against the northern wall of HP 12.

Summary

Our preliminary objectives for the excavation of HP 12 were basically met. Most of the floor area was exposed, criteria for easy identification of the floor were defined, and occupation of the house appears to be within a 100–200 year range of the time that HP's 3 and 7 were occupied (1,080±70 years). Projectile points in association with the floor provide a date of 1300–1100 BP, Late Plateau/Early Kamloops. Any further inquiries into the socioeconomic status of HP 12 with respect to HP's 3 and 7 should wait until further analysis is undertaken. It is strongly recommended that further excavation be carried out in other small housepits so as to increase the sample size and the reliability and validity of any interpretations made.

After looking at the amount of living space in HP 12 (excluding storage areas) it is hard to imagine more than six to eight people living comfortably in the house. Food storage (in woven baskets), communal and sleeping areas would probably ensure that an extended family or two small families would

be all that could fit in HP 12. More ethnographic data needs to be explored with respect to house size (floor area) versus the number of individuals living in them. This is seen as integral to our understanding of how residential corporate groups may have been operating at Keatley Creek and specifically, how they relate to HP 12.

Estimating the length of occupation of a housepit, especially HP 12, is difficult at the best of times. Artifact patterning on the floor at the time of abandonment is only a general indicator of activity areas and may not be reflective of socioeconomic status. By themselves, the few flakes or bones on the floor may or may not indicate poor status. This appears to be too simplistic of an approach. It fails to take into account cultural and natural transformations that are occurring pre- and post-abandonment, as well as the recovery methodology employed. The amount of cultural staining in the roof deposits may be indicative of the amount of refuse incorporated into the roof materials. However, using organic staining as a subjective indicator of length of occupation is not quantifiable or useful if one does not know the refuse dumping interval, the amount and types of material discarded, the type of matrix it is occurring in, and other similar factors.

I see HP 12 as a short term occupational structure in relation to other large housepits (3 and 7 for instance). There, diagnostic artifacts can be used to separate overlapping floors, intersecting pits, etc. With HP 12, one can really only say that the *last* occupation of the house occurred during Late Plateau/Early Kamloops times. In conjunction with this, the divergent projectile points in HP's 3 and 7 from those in HP 12 lead me to believe the last occupation of HP 12 did *not* occur at the same time as the last occupations of HP's 3 and 7. The inhabitants were there for a short time

period, and may have been poor, but there is no reason to believe that they were involved economically with HP's 3 or 7.

Acknowledgements

I would like to thank those members of my excavation crew which allowed us to accomplish so much during this season: Mike Brand, Rick Schulting, Julia Morris, Cathy Davis, Diane Cargnelli, and Mike Rousseau. Special thanks to Gyles Iannone and Diana Alexander for useful help with the housepit excavations.

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Figures

Figure 1: Floor plan of HP 12, outlining the subsquares and north-south line.

Figure 2: A central section profile of HP 12.

Figure 3: Charred beam distribution in HP 12.

Table 1: Housepit 12. Lithic D, Flake Distribution According to Roof Substrata

(numbers approximate)

Square	Roof Surface	Roof Fill	Roof Bottom	Total	% of Sq. Excavated
A	60	90	90	240+	100%
B	15	20	5	40+	44%
C	50	150	20	220	100%
D	100*	60	100	260	100%
E	70*	100	80	250	56%
F	20	30	20	70	38%
G	30	100	35	165	50%
I	50	240	60	350	100%
J	80	50	110	240	100%
K	7	45	7	~60	13%
L	5	16	0	~20	13%

(+) Test Trench not included

Figure 1. Floor plan of HP 12, outlining the subsquares and north-south line.

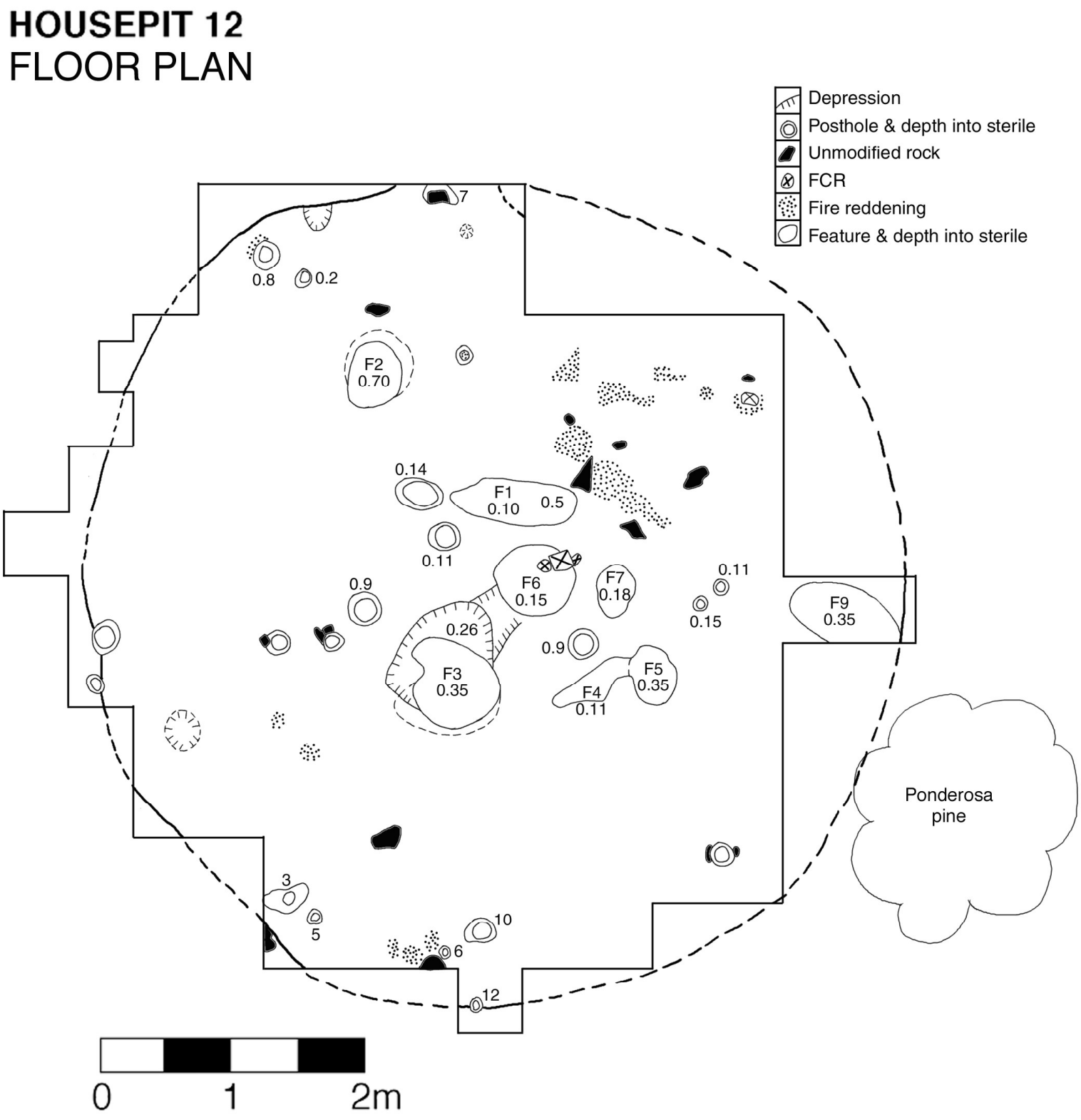

Figure 2. A central section profile of HP 12

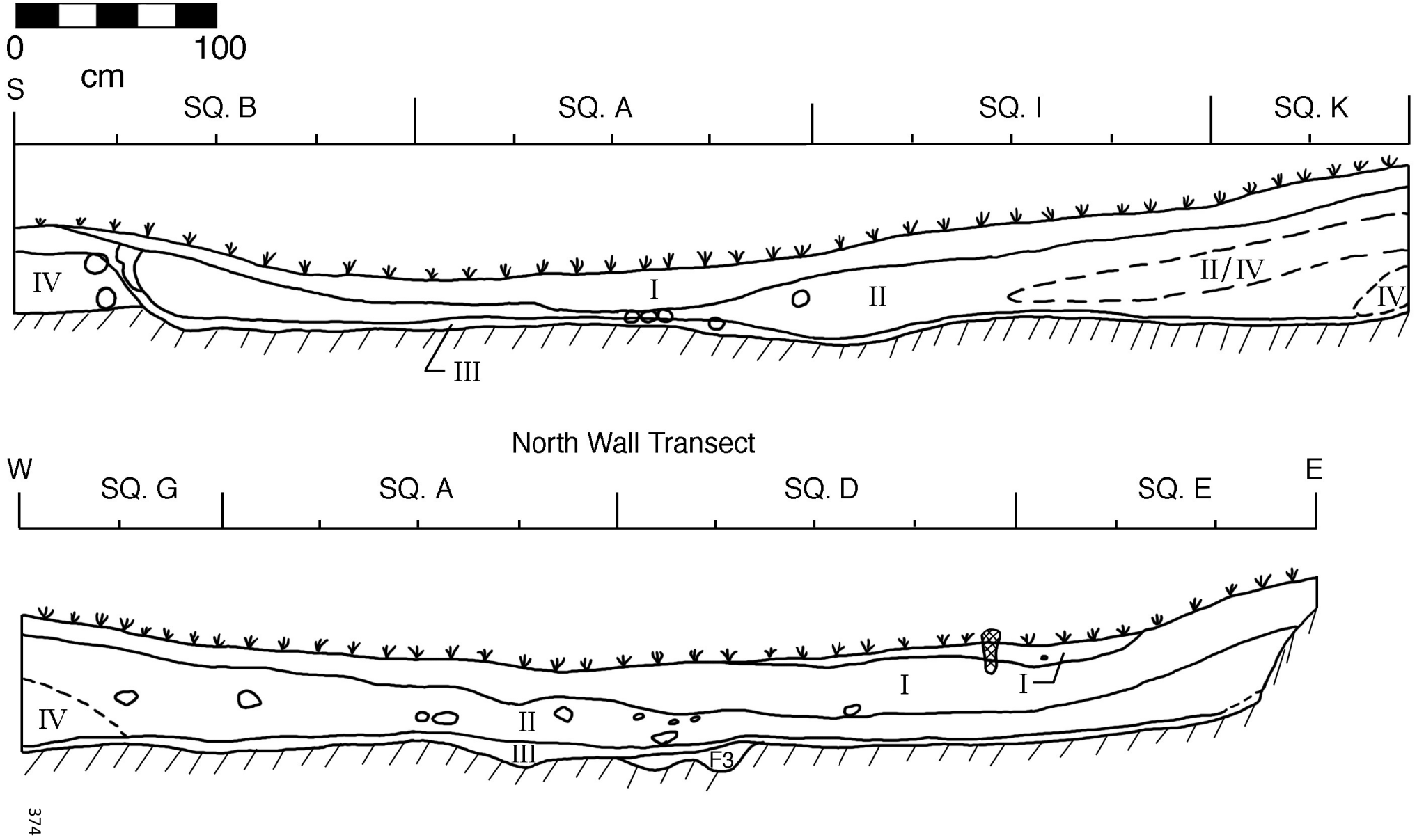

Figure 3. Charred beam distribution in HP 12.