

**Beyond Holes, Goals, and Roles:
Summary of Excavation in Housepit 3**

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Introduction

The major goals of the Fraser River Investigations into Corporate Group Archaeology (FRICGA) project are to:

- 1) obtain information concerning the development of complex hunter-gatherers and of the rise of socio-economic differentiation, and
- 2) gain information related to the presence of Residential Corporate Groups in the Mid-Fraser region of the Canadian Plateau.

Part of the reason for asking such questions stems from the presence of various sized pithouses at the Keatley Creek site (EeRI 7). It is important to explain why differential house size occurs at this site, and how these houses interacted as an active community. In the first four years, methodologies were developed in efforts to obtain the types of data best suited to achieving the projects' outlined goals. In dealing with such questions the field archaeologist is often left with very select evidence to recover and assess. It was decided that the best method for researching the goals of the project would be to excavate contemporaneous houses of all size classes (small, medium, and large), with special attention being paid to contemporaneous house floors. It was felt that by comparing these floors and their material culture remains, one would best be able to deal with the apparent socio-economic differentiation at the site. Housepit 3 was excavated as part of this program.

Many intermediate objectives of the 1987 season of excavations were aimed at understanding the processes which created the archaeological record at Keatley Creek. At all times, excavators were required to be alert to

variability in the sediments in the immediate sampling area, around the housepit, and in other excavated portions of the site. Uncovering large floor areas, it was hoped, would reveal patterning of artifacts and features which could be used to infer:

- 1) discrete activity areas,
- 2) the range of activities carried on in the house,
- 3) family areas, and
- 4) areas associated with high status.

As well, wide area excavation would facilitate the objective of assessing the range of variability of floor sediments and the possibility of contamination of living space contexts by sediments from earlier times. In the process of achieving the above objectives, more would be learned about the design, construction, functioning, and decay of pithouses, the extent to which sediments were used to insulate pithouses, and the locations of activity areas on the roof surfaces. The eventual reconstruction of social organization within each pithouse requires the analyses of storage, cooking, and other features, as well as the distribution of faunal and artifactual remains.

Housepit 3 and Excavation Goals

The reasons for choosing HP 3 for excavation included

- 1) its moderate size (it fit into the sampling scheme of excavating large, medium, and small houses),
- 2) testing proved that HP 3 was uncomplicated in terms of stratigraphy
- 3) its floor dated to the time period under question (Kamloops Horizon 1,200–200 BP), and

- 4) the fact that its floor was recognizable, which is a prerequisite if one is going to successfully compare contemporaneous house floors.

Housepit 3 is located approximately 80 m due west from HP 7 (Vol. III, Preface, **Fig. 1**). Both of these houses contain contemporaneous floor deposits dating to $1,080 \pm 70$ BP. Housepit 3 is oval in shape, with an east-west rim crest to rim crest measurement of 16 m, and a corresponding north-south measure of 13 m. The north-south baseline for the site runs through the western portion of the house. Outside of HP 3, the rim slopes gradually away from the house, leaving moderate to sharp slopes around the entire housepit.

The major goal of the excavations was to expose the entire floor deposit. Although this goal was not achieved in all areas, it was felt that the vast majority of the floor had been uncovered, and that the small sections of floor left unexcavated would have probably provided only minimal additional information. Altogether, approximately 68 m² (1986–1989) were excavated, with the rim/floor interface being reached in the northeast, northwest, and southwest of the house (**Fig. 1**). The southeast portion of the house failed to be excavated back to the interface, but excavation exposed a rising floor, which generally had very little in the way of material cultural remains. Square U in the north and Square W in the west may still contain limited amounts of valuable floor, but time constraints did not permit their complete excavation.

Along with this major goal of excavating floor deposits a secondary goal was implemented during the 1989 field season. In the ongoing quest to identify socio-economic differentiation, the roof was seen to hold some valuable clues in the form of outside activity areas, as well as in terms of interior roof storage activities. Even so, no strong methodology had been developed for extracting the data from these deposits. Initially the methodology related to excavating this stratum entailed excavating three

arbitrary levels. Level 1 consisted of the top 5 cm of roof materials. It was felt that this would reflect any activity areas which were on the roof at the time of its active use. Level 2 encompassed all remaining roof sediments, except for the last 5 cm above the floor. These last 5 cm were excavated separately in hopes of obtaining any materials which may have been stored inside the house in the roof beams during the occupation of the house.

Upon examining this methodology, Iannone set about to develop a stronger, more reliable excavation procedure. It must be recognized that the roof is an active layer not only in the systemic context, but also during the collapse, and prior to final collapse. If one expects to derive any information concerning artifact patterning in the roof matrix, one must take these situational actions into account. The developed methodology was aimed at getting as much out of the roof as possible by treating it as a dynamic deposit. At this time it must suffice to outline the general excavation procedures implemented during this field season.

In looking at the roof matrix in HP 3, it soon became evident that a more sophisticated methodology could be developed to deal with the roof. First and foremost, based on the fact that the rim slopes away from the HP 3 on all sides, no foreign materials are able to enter the housepit itself. This leaves one with various forms of reworked roof deposit, without the influx of foreign colluvial sediments. Secondly, in looking at exposed profiles, it was noted that within the roof stratum there were at least three naturally separable sub-strata. It was felt that if one could deal with these deposits as separate entities, and monitor their horizontal and vertical changes across space, one could establish some viable conclusions as to how these sub-strata were formed and more importantly how artifacts moved about within and between them. Based on these factors the following excavation scheme was developed relating to the roof.

The roof stratum was excavated in two arbitrary levels, and three natural sub-strata, with varying forms of this scheme occurring based on the thickness of deposits and the number of sub-strata present. The top 5 cm of the roof was excavated as an arbitrary level (Stratum IIa/Level 1). If this arbitrary level cross-cut two natural sub-strata this was noted in the square record but the entire 5 cm was treated as an individual entity in terms of artifact recovery. The next level was a natural deposit which was removed until the next natural sub-stratum was reached. Excavation of this natural sub-stratum continued until one reached the final, naturally defined sub-stratum. This last sub-stratum was excavated as an entity until it was perceived that approximately 5 cm of roof was remaining above the floor. At this point the level was discontinued, and the last of the roof came off as one 5 cm arbitrary level (Roof Bottom). As with the initial 5 cm level, if this last 5 cm level encompassed more than one sub-stratum deposit this was noted in the square records. As is mentioned above, various forms of this excavation procedure were implemented based on the thickness and types of sub-stratums present in each particular subsquare. Further and more explicit observations pertaining to this scheme are outlined in the following stratum descriptions.

Stratum Descriptions

(Munsell colors represent dry sediments)

Stratum I—Surface

Stratum I (**Fig. 2**) consisted of a loosely consolidated 2.5 Y 4/2 (dark grayish brown) sandy silt with approximately 15% pebbles, 30% granules, and 15% organics. Percentages of clasts and munsell color designations vary slightly depending on which portion of the house one is dealing with. This is due to the fact that slope angles vary horizontally across space, as do parent materials. This parent material (roof sediment) cannot be viewed as a

homogeneous matrix to begin with. Roof deposits must be viewed as an accumulation of different materials deposited during roof construction, roof maintenance, and cultural activities. Thus, any deposit derived from this matrix will also reflect the variability inherent in the parent deposit. As was mentioned previously, all materials above the floor in HP 3 (with the exception of rim spoil and rim slump) must be viewed as varying forms of roof sediments. Admittedly some foreign materials must have entered the house as aeolian additions, but it is felt that these sediments are limited and they are thus deemed minor in regards to the depositional sequence of this housepit. For the most part, this surface matrix is high in root and rootlet content. Lithic debitage and artifacts are often of small size (1–2 cm), the majority of which display some form of patina. These data indicate slow burial of these artifacts. Bone and organic materials are rarely encountered in this deposit. Overall, Stratum I is found across the house, and was formed as erosional processes moved roof materials throughout the house in the form of fine colluvium. In regards to excavation, this stratum was removed in one level (Stratum I, Level 1).

Stratum II—Roof

The roof stratum makes up the majority of the depositional matrix overlying the floor. This stratum is broken up into three natural substratums. To reiterate, the roof's heterogeneity in terms of clast size and color dictate that any deposit derived from this matrix will also vary across space. Thus the following Munsell designations and clast percentages must be viewed as averages rather than constants.

Sub-stratum IIa

Roof Surface

Roof surface is made up of moderately compact 2.5 Y 4/2 (dark grayish brown) sandy silts with less than 5% cobbles, 15–20% pebbles, at 20–30% granules. For the most part this sub-stratum is similar to the colluvial materials found in Stratum I, minus the roots and rootlets. This slight difference accounts for the rise in compaction. Lithic artifacts more often than not display a patina similar to Stratum I. Again very little in the way of bone or organics occur in this deposit. Basically, it is solely the lack of roots and rootlets which increases compaction. Thus it is this factor which determines the separation between Stratum I and Sub-stratum IIa. In regards to excavation procedures, the initial 5 cm of this deposit were removed as Statum IIa/Level 1, with the remainder of the matrix coming off as Statum IIa/Level 2 (except where the first 5 cm exhausted the IIa Sub-stratum, in which case the next recognized deposit became Level 2 of Stratum II).

Sub-stratum IIb

Roof Fill

Roof fill is made up of loose to moderately compact 5 Y 2.5/2 (black) sandy silts with 5–10% cobbles, 30–50% pebbles, and 20–30% granules. This sub-stratum represents the type of materials which would have been found on the roof in its systemic context, or in other terms during the time that there was an “active roof.” This contrasts with how the term “roof fill” is used in other houses where all roof materials between the upper and lower 5 cm arbitrary levels are described as “roof fill.” Lithic artifacts are abundant and for the most part lack the patina found in Stratum I and IIa. This indicates rapid burial of materials. On average flakes are larger in size than in the above deposits, and the overall percentage of flakes is also higher. Furthermore, the roof fill matrix appears to display the highest percentage

of exotic lithic materials. This is probably due to the fact that as a systemic roof deposit it contained artifacts from various occupations and building episodes. It is felt that the majority of exotic lithics found in this deposit may represent earlier (e.g., Plateau) occupations, although this is only a tentative conclusion. Bone and organic materials are found in moderate to low percentages in the roof fill deposit.

As part of the collapse process this deposit would have undergone a number of depositional transformations including some massive movements vertically and horizontally. Also, sorting out of fines would have occurred during and after the collapse sequence. The reduction of these fines along with the remaining overall large clast size combine to create the lack of consolidation in this deposit. The degree of sorting resulting from this pre-collapse filtering is closely tied to individual collapse events. That is to say, in each house collapse, a number of localized collapse events and processes lead up to the final roof collapse. Therefore, no two areas of the house will necessarily display the same events to the same degree. These events may be viewed as a system, with each individual collapse event initiating responses in various others. It is important to piece together these individual collapse events to fully understand the roof deposits. If this can be done one should gain a stronger understanding of artifact patterning in this deposit. In regards to excavation methodology this entire sub-stratum was removed as Stratum IIb/Level 3 (or the corresponding level one had reached for the overall roof Stratum II).

Sub-stratum IIc

Filtered Collapse

Filtered Collapse is made up of moderately compact 2.5 Y 3/2 (very dark grayish brown) sandy silts with 5% cobbles, 20% pebbles, and 40% granules. This sub-stratum represents a deposit formed during the collapse sequence,

prior to terminal collapse, when thinner portions of the roof structure were burning though permitting some of the earth on the roof to filter through and fall on the top of the floor together with pieces of burned roof. It invariably contains sections of burnt structural features. Some of these may be small (<10 cm), others may run across excavation squares. The matrix is enriched by the previously mentioned fines which filtered out of the Stratum IIb roof deposit. Thus, this matrix represents its parent material, yet takes on its own identity due to the sorting/filtering process. Commonly, filtered collapse is dark and rich in organics. The lithic materials uncovered resemble those found in Stratum IIb, although impressionistically average flake size seemed smaller, and overall flake percentage declines. Lithic artifacts found in this sub-stratum which are not derived from IIb are large flakes which may have been stored in the roof beams during active house use. Such artifacts would inevitably be deposited during filtered collapse formation. Concentrations of these flakes were sometimes empirically recognized some 10–15 cm above the floor deposit. Some bone and organics were found in small percentages in the filtered collapse matrix. Commonly, filtered collapse grades from coarse to quite fine as one moves towards the floor. This is an expectable observation as the depositional sequence entails a gradation from fine filtering to less discriminating filtering as larger and larger holes are burned through the roof structure. This process often leads to a very fine, greasy, sandy silt deposit in the last 3–5 cm above the floor. Undoubtedly this represents the initial fine filtering deposition as the roof structure begins to shift. Small to large sections of structural features and bench components are often found within this fine material, laying directly on or just above the floor. These data rule out the idea that one is actually dealing with a floor deposit. It must be stated that one should not expect to find the same form of filtered collapse in all instances. This is due to the fact that filtered collapse is formed during the pre-collapse sequence, thus it will undoubtedly reflect the individual collapse process related to the particular

area of the house one is excavating. This ultimately leads to the differential depth, coarseness, and compactness found in any particular filtered collapse deposit. For these reasons filtered collapse is extremely useful for piecing together house collapse events. In regards to excavation, the initial level of filtered collapse was removed as Stratum IIc/Level 4 (or the corresponding level one had reached for the overall roof Stratum II). The last 5 cm of this matrix was excavated separately as Stratum IIc, Level 5 (or again, the corresponding roof level one had reached).

Spatial Variability of Roof Sediments

One object of our excavations was to observe evidence of differential use of the roof surface, with the hypothesis that the sunny south side would be more likely to exhibit evidence of activities carried out on the roof. Although excavations in the northwest of HP 3 did not extend as close to the rim as in the southwest for a precise comparison to be made of the variability in lithic debitage, one major difference was encountered—fire-cracked rock and heavily charcoal-stained (very dark) sediments were predominant in the northern roof deposits, while browner sediments and little fire-cracked rock occurred in the south. One inference which might be made from this is that the southern part of the roof was not used as a dump for exhausted heating rocks and charcoal. If only a portion of the roof was used for dumping refuse, some other use of the remaining area might be implied.

Relatively abundant debitage in the 1–10 cm range and simple retouched tools were found higher in the roof deposits, representing, it is thought, refuse which collected on the surface of the roof during the occupation phase. The subjective field impression of the use of the southwestern portion of the roof as a lithic workshop was supported by more detailed analysis (see Vol. I, Chap. 14).

Roof Thickness

An elliptical area in the center of HP 3 appears to contain little if any sediments from the roof. Aeolian surface fines and very small (i.e., 1–2 mm) angular gravel, the result of slopewash, predominate above the floor in the central area. Some of the possible explanations for such a void are:

- 1) The sediments heaped on a conical roof may have slid toward the rim, creating roof deposits, which are thin near the apex and thick near the rim. In the collapse phase (whether collapse was deliberate or not), this would result in relatively shallow deposits nearest the center of the house.
- 2) As is ethnographically reported, people may have left and entered through a hole at the apex of a conical roof. In this case, the lack of roof sediments at the center would be expectable. Depending on the actual sequence of collapse, the lack of sediments where the hole was would translate into a lack of roof sediments on the ground.
- 3) The inhabitants may have exposed the roof timbers prior to collapse, in order to scavenge usable wood for new construction or for fuel for fires, a lack of roof sediments in the center would likely be the result.

A compelling choice from these possibilities will likely continue to elude us until more such “holes” have been examined.

Near the perimeter of the floor, roof deposits thicken. They thin out again toward the top of the rim. This is what one would expect given the construction and re-use sequence illustrated in Volume I, Chapter 17. An area of charred wood and fire-reddened sediments is visible in profile (**Fig. 2**) about half way up the rim, just above Stratum IV at about 85 m south. This is precisely the position where the roof beams are believed to have been anchored. Here, roof sediments are thickest. The thickest deposits would naturally occur at this point, both because the sediments on the roof are likely to be thickest directly over the footings of the roof, and because

gravity would encourage those sediments higher up on the rim to slump to this point during collapse and immediately afterward.

Roof Discussion

The picture that evolved from the excavation of roof sediments is that they are as variable as those on the floor. Clearly, they are the product of both cultural and non-cultural transformations occurring during and after occupation. Distinguishing them from floor and surface accumulations depends on the understanding that most of the sediments which occur above the floor must be roof covering material. The only composition of the roof material which allows positive visual definition of the roof is the structural component. Wood was used throughout for support and cover. Everything else occurring in roof deposits must have been placed on top of the wood, with the possible exception of items stored in the roof beams and left when the pithouse was abandoned.

Clastic Variability

During the occupation, when it was necessary to replace a roof, usable structural elements were probably removed and the remaining elements burned in place to facilitate removal. The charcoal and organic-rich collapse debris and earlier occupation floor were then removed prior to rebuilding. These deposits would be preferentially placed on the new roof. Such fertile sediments (versus "sterile" till) would encourage the rapid growth of vegetation, and consolidate and stabilize the sediments against most forms of erosion, as well as insulate the living space within. Thus, we should expect the roof materials to be high in cultural and culturally-modified sediments of all kinds, and to be as variable, spatially, as floor deposits. For example, if the north of the roof was used to dump exhausted fire rocks and charcoal, the likeliest place for that material to be employed in the rebuilding of the roof would be the same part of the roof. Presumably, if roof sediments are

being moved from the house depression to the rim in preparation for a new roof, the rim-top closest to the area being stripped would be the preferred destination for the debris. Likewise, floor sediments, which are being stripped along with the debris from the roof collapse, should come to rest on the rim or on the roof nearest to where they were removed from. Therefore, the clastic composition of a given part of the roof should mirror artifact patterning in the floor and roof-top deposits, and would tend to concentrate such material through successive occupation episodes. This seems to be the case in HP 3. All the sediments comprising the roof collapse debris are very dark due to their high organic content. They contain high levels of fire-cracked and fire-reddened rock of all sizes (0.5–25 cm) in spatially variable concentrations (Vol. I, Chap. 14), some of which can be interpreted as individual dumping episodes.

Charcoal is found throughout in variable concentrations, and charred and partly charred wood can be found near the contact with the floor, generally around the perimeter of the floor. This is as one would expect: roof sediments are deepest at that point, and would have acted to deter scavenging for fire-wood which might have occurred closer to the center of the house where the collapse debris would have been more accessible. Equally plausible, is the idea that the depth of the sediments would have acted to smother a fire upon collapse nearer the rim, while this might not have been the case closer to the center where they were not so thick or may not have even been present. The perimeter location of partially burnt remnants of much of the wood found in HP 3 (**Fig. 3**) tends to support the latter notion, but the two possibilities can be compatible.

Near the floor/rim interface wood can be found which is several centimeters above the observable floor. Beneath, there is a soft, loamy deposit, which thickens toward the rim. These are some of the best sorted deposits encountered in HP 3 and are what we refer to as “filtered collapse.”

Sections of roof coming to rest slightly above the floor probably allowed fine roof sediments to pass around them and through cracks, while larger clasts would be trapped above. Alternatively, many fine elements may have gradually filtered into the thick bed of pine needles that generally covered the roofing poles while the roof was functional. When the roof burned, these pine needles would be the first elements to be consumed and any sediments trapped in the pine needle layer would be the first to fall onto the surface of the floor. We expect that any airspaces between the collapsed roof and the floor would be filled in this manner. The differential downward transport of fine sediments helps to explain an equally anomalous layer which occurs above the wood in these areas: a completely unconsolidated lense of small gravel (i.e., 1–2 cm range) containing almost no fine sediments. These kinds of deposits are found in both the excavated south and north rim/floor interface in HP 3. It seems very unlikely that either stratum—well sorted fine vs. coarse lenses—could have been created by cultural activity given that they have undergone a collapse event. Collapse would act to mix, rather than to preserve any sediments which were on the roof. Reworking by groundwater and gravity seems to be the most likely agent for the production of the anomalous strata described above.

Stratum III—Floor

Recognizing Floor Deposits in Housepits

Because no single characterization of floor sediments is possible each excavator was forced to consider the processes which likely contributed to the formation of strata in each area excavated, *while excavating*. This method was critical for the optimal recovery of data pertinent to the short, medium and long-term goals of the FRICGA project.

Excavations at HP 3 support the intuitive and ethnographically reported occurrence of rebuilding episodes involving the removal of previous pithouse collapse and floor sediments and their disposal on the perimeter of the rim prior to reconstruction. The newly-exposed substrate of "sterile" glacial till then became the new floor, and was subject to the various processes, outlined below, which result in a discernible floor.

Inspection of cleaned profiles everywhere in HP 3 revealed a quite variable boundary between those sediments we identified as "floor" and those termed "sterile." This uneven boundary does not, in all likelihood, represent an original surface on which the observable "floor" sediments had been deposited. Some observations which clarify the origins of the floor/sterile boundary are:

- 1) That very small (i.e., 1–2 mm diameter), well-preserved fish bone were noted occurring at the boundary, suggesting that they were below the level where trampling would have destroyed them. Most such fragile organics would not likely have survived long in the trampling zone. Indeed, such fine clasts are almost totally absent nearer the living surface. Trampling and reworking of original sediments, resulting in transport downwards, probably account for their presence here; and their rarity elsewhere suggests that such clasts were not normally preserved in this manner.
- 2) Organic staining was also deeper around certain large clasts at the boundary between "sterile" and floor sediments, and especially where the sediments in the substrate are less consolidated (apparently part of their natural variability). In these latter areas, staining can even be observed under large clasts, which do not appear to have been placed there purposely, while in areas where "sterile" sediments are more compact, even large clasts which protrude into the floor are not surrounded by dark staining. This suggests that the presence of

organically stained sediments does not necessarily define the original surface of the floor nor does it represent the actual depth of active human turbation. Rather, it represents the maximum depth to which organics have penetrated the substrate.

- 3) Organically stained "sterile" sediments are deeper at floor level in the vicinity of post-holes and other intrusive features, such as storage pits. Loosening of once-compacted sediments around such features during their construction, resulting in deeper penetration by organics during occupation, logically explains the presence of these anomalous depressions of variable topography around intrusive features.
- 4) Whereas larger refuse is often found within floor sediments, as well as on the floor surface, only very small objects (i.e., less than 2–3 mm) are regularly found at the "contact" between the floor and the substrate.
- 5) If color difference alone were used to define the bottom of the floor, a curious picture of the formation of the floor deposits would emerge. The "contact" between the "sterile" substrate (yellowish) and the darker sediments above is quite uneven, with undulations of variable amplitude and frequency. This argues for an uncomfortable walking/living surface at the commencement of occupation. However, if the "contact" were created as a living surface, trampling should have erased the undulations, leaving a relatively smooth boundary. Thus, some other explanation must be sought for the observable "contact."

These characteristics of the observed floor/sterile "boundary" argue strongly for a microstratigraphical, *in situ* transformation of once-pristine substrate, resulting in what appears to be the base of the "floor deposits." This belief is strengthened by the observation that, in many places, and especially where floor deposits are thin and color differences imperceptible, such as in the center of the house, portions of the floor can be distinguished from the overlying strata only by the presence of unmodified (i.e., not

fire-reddened or cracked—though organically stained) rocks and gravels which appear identical to those comprising the till underneath.

The original floor surface, created when the debris of a collapsed pithouse was removed prior to rebuilding, probably began as pristine (or nearly so) glacial till. Because of organic staining, as described above, stripping the interior down to “sterile” may have removed 1–3 cm of what had previously been “sterile” sediments, along with those floor sediments which had collected during the span of occupation. Successive occupations would act to produce the sometimes deep, sub-surface house depressions observed at Keatley Creek and other sites in the region. In the case of HP 3, it would appear that relatively few such episodes occurred, since the “sterile” at the center of the housepit is only 20 or so centimeters below the observed original land surface. If, as seems plausible, HP 3 had seen occupation over the past 1,500–2,200 years, then it also seems possible that HP 3 was only desultorily occupied during that time. Continuous occupation over millennia would likely have created a much deeper depression, like that of HP 7 (see Vol. III, Chap. 5). This agrees with the expectations of Hayden and Gargett 1987, that the housepit locations of lesser ranking families would go through periods of abandonment, or changes of hand, due to variables relating to the ability of a given group to exert ownership privileges.

Pithouse reconstruction, to reiterate, probably involved “scraping” the sediments from the previous occupation down to “sterile,” leaving little or no debris on the new floor. If cultural material had been left after “scraping,” then a gradual buildup of floor deposits over successive construction phases should have resulted, and older cultural material would occur in the floor. However, this does not seem to be the case in HP 3, where the thickness of the floor (1–3 cm), much of which can be attributed to organic staining in many parts of the house, argues against palimpsests of occupation. Furthermore, the relative abundance of cultural material in roof

and rim deposits, which do in fact represent the accumulation of more than one occupation as a rule, also argue for the floor deposits being the result of transformations of previously pristine sediments during a single construction/occupation/collapse sequence.

Thus, it appears that the most recent occupation of HP 3 began with the stripping out of previous cultural debris, leaving a "sterile" surface. Trampling and other kinds of disturbance created a permeable layer, 1–3 cm deep, into which artifacts and organic refuse (e.g., grease, bone, charcoal, ash) were mixed. These deposits, because of the sediments on which they occur, and because of their particular formation processes, are distinguishable from other deposits with different origins, such as those comprising the roof.

Clastic Variability

Based on field observations, some of the hypotheses concerning variability in clastic composition of the floor are:

- 1) In high traffic areas, such as entryways and communal activity areas, the substrate would be continually scuffed and reworked, with large clasts removed when they become loosened and obnoxious. These areas should also be expected to exhibit the thinnest deposits, resembling the substrate most closely, because there is less chance for deposition.
- 2) Where less energetic activities occurred, such as in sleeping areas, and generally where traffic was light, fine sediments would be expected to compose a larger fraction of the deposits. Less movement of air and less trampling would encourage deposition, and such places would probably always be the ultimate resting place for allochthonous fine sediments introduced, for example, with fuel, bedding material, on feet and clothing, and on the fur of animals (domestic and commestible), as well

as sands and silts blown in from outside, sediments spalling off interior house walls, plus dumping of material from pit cleanings.

- 3) Depending on the kind and locus of activities and storage, certain clastic components should occur differentially in the floor sediments. Charcoal, ash, meso- and micro-debitage, decayed organics, bone, faeces, fat and fire-cracked rock of all sizes would all be represented to a greater or lesser extent in different areas.

Floor deposits were, in fact, thinnest in HP 3's central area. Here, the floor resembled the sub-floor glacial till most closely in terms of particle size and rounding, but large clasts were absent or rare. However, closer to the rim in the north, large clasts (part of the glacial deposits) were present, even when their tops intruded into the living floor (see **Fig. 1**). This can either be attributable to differential removal of obtrusive large clasts from the high traffic areas, or to variability in the substrate. However, the area which is devoid of large rocks coincides with an area of low artifact density (discussed below), and suggests that the clear area is the result of human behavior (see Hayden 1982; Hayden and Cannon 1982, 1983).

The process of continual removal of sediments from the floor, through sweeping, and differential removal of large clasts may also explain the basin-shaped cross section of the floor in the central area. Presumably, if the inhabitants had begun with a horizontal surface—a plausible assumption—the floor would eventually take on the shape of a bowl due to displacement and sorting of clasts in the high traffic central areas, possibly within the generation or so that each occupation episode lasted.

Floor deposits are thicker nearer the rim and contain more fine sediments resulting from less energetic activities: sleeping and relaxing, for example. More cultural debris of all kinds was found in the peripheral areas, and although discernible patterning was elusive and difficult to validate in the field stage of research, differential removal and deposition is indicated.

Thickness of Floor Deposits

Variability in thickness of floor sediments is (obviously) due to different regimes of deposition and erosion—deposition of both reworked autochthonous sediments and allochthonous sediments, and erosion due to trampling or occasional house-cleaning. For example, in the sleeping area, where, presumably, new bedding material (e.g., fir boughs) was being introduced as old material decayed, and no removal of fines occurred' for reasons explained previously, net deposition would result. Conversely, the entryway and high traffic areas would tend to be areas of net erosion. Close to the rim, we might expect to see more fine sediments and hence thicker deposits on the floor. There, fines might even trickle through the roof/rim interface and be carried downslope by gravity, unnoticed by the occupants. Larger clasts might also find their way into the living space by the same route, but they would more than likely be monitored by the inhabitants and continually removed. In this way, it is speculated, an initially steep floor/rim interface might become more gradual. In fact, there was evidence of rim slump along inside walls of HP 3 and HP 7.

To summarize, although not uniform throughout, the characteristics of floor sediments can be described in relation to their location in the housepit, as follows:

- 1) Those nearer the center are thin (less than 2 cm), and are composed of organically stained glacial till which has probably been reworked by trampling. Larger clasts (i.e., greater than 5–10 cm) are absent, probably due to maintenance of a comfortable living surface. Very little bone, lithic debitage or other recognizable organic refuse occurs in this area.
- 2) Closer to the rim, all kinds of debris increase in frequency (e.g., lithics, bone, and charcoal). The fine fraction also increases, with the inclusion of more silts, sands and decomposed organics. These sediments are

more compact and darkly stained. Moreover, floor thickness in some areas is between 5 and 10 cm.

Considering all the above factors, it is clear that a single, simple, characterization of floor sediments, for the purpose of distinguishing the floor from other strata in a housepit, will remain elusive. Overall, variability in clastic composition, coupled with variable rates of deposition, renders the search for a single definition futile. However, given a knowledge of the most important formation processes, such as intensity of activity, differential removal of certain size classes, and likelihood of differential rates of deposition, it is clearly possible to identify floor deposits in most areas. Excavators must keep in mind the depositional, erosional and turbational possibilities for each stratum being investigated, with visible changes assessed as to whether they represented real variability within a stratum or, indeed, different strata.

Whereas it is not always possible to distinguish roof from floor deposits on the basis of color or texture, other kinds of evidence proved useful. Cultural material on the floor lies horizontally. This has been observed repeatedly in excavations at Keatley Creek. Objects which appear to be standing vertically or sub-vertically, at or near the floor, can be easily attributed to roof deposits. Leftovers from the collapse of the pithouse, such as fire-cracked rock, charcoal, sticks and beams, were useful indicators of the floor/roof contact. There is a point during excavation when typical roof sediments (i.e., gravels, wood, charcoal, flakes, etc.) can be observed to "flick" off the floor when trowelled. The level at which the larger roof clasts cease to occur defines a horizontal plane. Beneath that point, far fewer of the sediments typical of the roof such as charcoal and larger lithics are found.

In sum, there are a number of criteria for determining the floor/roof boundary, some or all of which may be present in a given area.

- 1) Although usually subtle, and not always perceptible, color differences due to organic staining can be useful.
- 2) Roof sediments are in general less compact than those which have built up on the floor near the perimeter.
- 3) Near the perimeter of the floor, roof and floor sediments have quite similar clastic composition. Texture is a better indicator nearer the center, where the floor is mainly reworked glacial till.
- 4) In most places, charred roof beams and fallen posts can be assumed to lie directly on the floor. However, this may not be the case at the floor/rim interface, where airspaces, filled with fine sediments, can occur beneath the structural remains.
- 5) Artifacts, bone, and lithic debitage are usually found in a horizontal attitude on the floor. Articulated animal bone could only occur if it had been on the floor at the time the roof collapsed.
- 6) Variable quantities of fire-cracked rock and fire-reddened gravels occur in roof sediment, while (usually) less is apparent in the floor.
- 7) Charcoal flecks (whether from fires or roof collapse), and fire-altered rock in the roof can be seen to “flick” off the floor. This is probably due to the difference in compactness between the two deposits.

Rarely would all of the above be used in the field in one subsquare to recognize floor contexts. Likewise, it would not be prudent to employ only one. Although the characteristics of the floor/roof boundary are unique in each excavation unit, distinguishing floor from roof is made possible by the knowledge of clastic variability gained during the excavations at Keatley Creek.

The observed composition of floor stratum was made up of highly compact 10 YR 4/3 (brown/dark brown) sandy silts with 10–20% pebbles, and 30–50% granules. The floor in HP 3 was quite thin, averaging between 1 and

2 cm in depth. It would appear that prior to the last occupation (re-roofing event) the entire house (except for a small area in Sq. O) was cleared down to sterile. From this point the floor built up as occupational sediments were trampled into the sterile sub-strata. This eventually led to various forms of yellow/brown mottled floor surfaces. Superficial fire reddening was present in some areas, but it was almost always associated with sections of burned structural features. Thus this reddening probably resulted during the house burning, rather than during house occupation.

By removing the last 1–2 cm of filtered collapse deposits with a whisk broom one was able to successfully uncover numerous horizontal artifacts which indicated that one had reached the top of the floor. Common artifacts included lithic debitage of all sizes, and various retouched tools. Trachydacite was the dominant material for lithics found on the floor. Exotic materials were quite rare. This scenario may support the idea that the majority of exotic lithics found in the roof fill belong to the earlier Plateau horizon. Hammerstones, both fragmentary and whole, along with abraders were encountered in some instances. In terms of fauna, concentrations of ungulate remains as well as both articulated and disarticulated salmon bones were recovered from the living surface. In regards to excavation methodology the first 5 cm of the floor was excavated as Stratum III, level 1. Any remaining floor (which was a rare occurrence) was removed as Stratum III, level 2.

Stratum VII—Geological Substrate (sterile till)

This was a highly compact glacial till deposit with a high percent of cobbles, pebbles, and granules. It's Munsell designation was 10 YR 4/4 (dark yellowish brown). Upon reaching this stratum excavations were terminated.

Stratum VIIIa—Dump Events

This stratum was a medium compact 10 YR 3/4 (dark yellowish brown) sandy silt with 7% pebbles, and 30% granules. Stratum VIIIa was only found in Squares I and Q. It would appear that it had been deposited on a previous floor, and hence became an occupational surface. This was demonstrated in Square Q where the initial floor interfaced with the dump. At this point a section of articulated salmon was found laying on both the dump and the floor deposits. At this time we feel that this dumped material may have been swept off the floor, thus incorporating sterile and cultural materials. On the other hand, it is equally plausible that the dump is derived from pit or post construction. In either case, it was dumped near the wall, and from that point was treated as a living surface. This stratum was excavated as VIIIa, Level 1.

Stratum IX—Rim Slump (previously "IV")

This is a medium consolidated 10 YR 5/4 (yellowish brown) sandy silt with 15–25% pebbles, 10% granules, and <5% cobbles. It is only found in the southern portion of Square O, and in previously excavated neighboring squares by Gargett in 1986 and 1987. The matrix is quite high in organic content. It appears to represent rim material which slumped into the house. As a result of this process the living floor was covered over, and a new floor built up over the top of the slump. During excavations this stratum was removed as one level, (Stratum IX/Level 1).

Observed Artifact Patterning

Lithics

As might be expected, the surface stratum reflected no lithic patterning. An important observation from this layer relates to the abundance of

patinated flakes. This observation suggests slow burial. These same non-patterned but patinated observations also hold true for Stratum IIa.

Although it is difficult to predict abundance of such things as lithic waste, it seems unlikely that so little debris as that found in floor contexts, would have accumulated in HP 3 in the generation or so postulated for one pithouse occupation as estimated from its last reroofing event. Clearly, regular removal of debris from floors is in evidence. Where the garbage goes may be revealed by future, more extensive excavation. It could be that certain kinds of refuse are dealt with differently, as noted by Schiffer (1972, 1976), and Hayden and Cannon (1983) in the Maya region. The heavy, bulky, fire-cracked rock may have been heaped along the edge of the roof near the rim, as opposed to being dumped directly on the roof, but still became incorporated in the roof surface materials during and after collapse. The lighter, day-to-day floor refuse may simply have been dumped outside, near the entry-way or along the rim. Patterns of refuse disposal may be difficult to distinguish from patterns of activity in roof/surface accumulation contexts. However, presence of some tool preforms on the roof seem to argue against the possibility that they were the result of dumping. It seems much more likely that these result from manufacturing activities, and that this is an example of hypothesized activity on the roof. Such an interpretation seems supported by Spafford's more detailed analysis of roof artifacts (Vol. I, Chap. 14).

In terms of field observations on the roof, the following details are of interest. Stratum IIb contains the highest percentage of lithic materials. These artifacts are fairly "clean" in appearance, thus indicating rapid burial. Impressionistically, flake size appears substantially larger in Stratum IIb than in any other roof stratum. In looking at the patterning of flakes only two concentrations were encountered. In the southwest (Sq. O), roof fill (IIb) had higher percentages of lithic materials than usual. By far, the largest

concentration of lithics was in the north (Sq. U), in the Stratum IIb roof fill. Over 300 flakes were recovered in two of the southwestern sub-squares. Other than these two concentrations, lithic patterning was not observed in the field (Vol. I, Chap. 14). Based on the fact that these two areas also have quite high lithic densities on their immediate floors, it seems plausible that the high densities in the roof fill deposit reflect rebuilding events which incorporated materials from the activity areas associated with the aforementioned floor deposits. This scenario indicates that these portions of the house were related to intensive lithic activities over the long term occupations of this house structure. Stratum IIc displayed no lithic patterning whatsoever, except for the occurrence of levels containing unusually large horizontal flakes. It is highly plausible that these flakes represent lithic materials, which were stored in the roof rafters. Observations during excavation indicated the presence of these flakes between 10 and 15 cm above the floor. This pattern is not seen across the house, but was recognized in some instances, particularly in the northeast corner of the housepit.

In regards to the floor, a detailed analysis of lithic artifacts is provided in Volume II, Chapter 11. In addition, field observations indicated that higher than usual concentrations of flakes were found in the north in Squares VV, V, U, and in the south in Square O. Moderate numbers of flakes were seen along the west wall of the house, and moderate to low percentages were found along the east wall. For the most part these frequencies declined as one moved towards the center of the house. Cores were randomly scattered across the floor, and rarely corresponded with areas high in flaked stone. In terms of hammerstones, we found concentrations of four whole and two fragmentary pieces in the northeast of the house (Sq.'s Q and II). These hammerstones were not found in areas high in lithic debitage. Due to the

lack of correspondence of flakes, cores, and hammerstones, one must be cautious in defining any lithic manufacturing areas.

Housepit 3 produced an abundance of lithic tools relating to game hunting and processing. The non-diagnostic materials included spall tools for hide scraping, a worn cobble (presumably for hide softening), retouched unifaces and utilized flakes, as well as a palette fragment which could have been used for preparing pigments for hunting ceremonies as indicated by Romanoff (1992), although this interpretation is speculative. These materials were found in living floor contexts, and combined with the diagnostics discussed below seem to suggest a special focus on hunting for the last occupants.

In terms of projectile points (presented in detail in Vol. I, Chap. 3), HP 3 contains far more than any other excavated house. This occurrence would appear to back up the tentative assumption that this structure was inhabited by a hunter. By far the most dominant point style is that of the Kamloops side-notched point (1,200–200 BP). Altogether, 79 points of this type, were recovered during excavation (1986–89 inclusive). Thirteen of these points were recovered from floor contexts (thus dating the last house occupation), one from a post-hole (thus dating this depression), three from pit feature HP 3—89:2 (thus dating this storage structure), and 62 from various roof deposits (reflecting various rebuilding episodes during the Kamloops horizon).

Three interesting Kamloops side-notched points were found in the deposits of HP 3. These were very well made, equilateral, concave based points with very small auxiliary notches skillfully removed from the tang margins immediately below the hafting notch (Figure 4). This stylistic variation has not been noted on any other Kamloops horizon point from the Canadian Plateau (M. Rousseau, personal communication 1987). It is interpreted as being the stylistic mark of an individual knapper. The

presence of several such points in surface and roof deposits is an argument for the use of the rooftop, either as a workshop or as a dump for refuse. However, the maker may have lived in the house before the last rebuilding episode.

Other point types which were encountered were of Plateau horizon style (2,400–1,200 BP). Altogether 17 Plateau style points were recovered from this Housepit (1986–89 inclusive). Three small Plateau corner-notched points (1,500–1,200 BP) were recovered from floor contexts, and fourteen from various roof deposits (reflecting previous rebuilding episodes). One lone Shuswap horizon (3,500–2,400 BP) point was recovered from the HP 3 rim. This may indicate initial use of this housepit during Shuswap times.

Abraders were found near the periphery of the floor in the east (Sq.'s Q, I), north (Sq.'s V, U, EK), and west (Sq.'s X, N). Thus, they appear to be evenly distributed around the housepit. Tannone does not believe that these areas reflect separate domestic groups, but individual families most likely did utilize separate work stations for distinct activities. In 1987, more ochre was recovered from the northern portion of the floor. Fewer artifacts, and less refuse in general, were recovered from the central portion of the floor, although the post-cranial skeleton of a juvenile dog was found there.

Interestingly, a shaft smoother was found in a concentration of projectile points and lithic debitage in the south, while most of the ochre was found in the north, where a piece of carved antler (possibly a gaming piece) was found. It is tempting to think that more non-subsistence, possibly ceremonial and artistic activities were carried on in the northern part of the house, or that it was reserved for specialized families, while more mundane activities occurred on the other side of the house. However, it is also possible that the northern part of the house was reserved for sleeping or other sedentary activities. The south, it is thought, should have been the warmest part of the

house, and may therefore have been the preferred area, thus being assigned to the highest ranking individual or family.

Status Items

Excavation of HP 3 produced moderate amounts of status/wealth items, the majority of which came from the northern portion of the house. Altogether, this area of the house contained one small bead (in the roof), one piece of carved antler, the working edge of a nephrite adze (in the roof), two bowl sections from one or two soapstone pipes (in the roof), two sections of incised bone (in the roof—one is perforated to form a pendant, the other may also be a pendant fragment or possibly a gaming piece), one perforated clam shell pendant (in the roof), and one large piece of graphite (on the floor). The southern portion of the house produced far less in terms of status items, but did contain one perforated bone fragment (in the roof), one possible soapstone pipe fragment (in the roof), and one small fragment of native copper (in the roof).

Faunal

In general faunal remains were absent in Stratum I, and Sub-stratum IIa. Stratum IIb exhibited low frequencies of ungulate remains, with little or no salmon bone present. This pattern is reflected in the Stratum IIc deposit as well. The floor (Stratum III) contained moderate frequencies of both ungulate and salmon bone. For the most part, the highest concentration of faunal remains were in the north and western portions of the house, (near the wall) with the east showing comparatively less. Detailed distributions of faunal remains in the roof and floor are discussed in Volume II, Chapter 7.

Importantly, in the eastern side of the house, a few fully articulated sections of salmon were recovered from the floor area adjacent to the wall. This data indicate an area where little or no trampling took place, possibly a bench area. In fact, this observation is backed up by the presence of

numerous sections of burned bench plank which were found near the floor/rim interface throughout the northeast portion of the house (**Fig. 1**). It also probably indicates very late deposition of these salmon, since even if they were in a low traffic zone one would not expect them to remain articulated for a great deal of time. Numerous sections of partially articulated salmon were also recovered near the wall in the western house zone. Again this indicates an area of low trampling action, possibly a bench area or other form of activity area which limited the movement of persons.

Features and Post-holes

Features

Only three features were discovered during the 1989 excavation season. Feature 87-I-16-1 from Square II was a continuation of Feature 16-1 from Square I. This feature turned out to be a storage pit, (110 x 72 cm in width, 57 cm in depth) with a few salmon vertebrae being recovered. In terms of dating this feature, it was felt that it was related to an earlier Plateau occupation. This was due to the presence of a Plateau point found in the initial 1987 excavations in Square I.

Feature 89:1 (Sq. M) was a moderate sized (42 x 45 cm in width, 23 cm in depth), basin-shaped pit. The contents included two worked antler pieces, faunal remains (salmon and mammal), and a few flakes. This feature appears to be a storage pit. In terms of dating this feature it was noted that it was probably in use prior to the last roof construction. This assessment was based on the fact that a post-hole which contained a section of burnt post was dug into this feature. This basically rules out any chance of this being an active feature during the time of the final occupation.

Feature 89:2 (Sq. MM) (116 x 104 cm in width, 74 cm in depth) was a large, deep, bowl-shaped storage pit. This pit contained both ungulate and salmon

bones, as well as some ochre. No floor overlay this feature, and it appears as though it was not completely filled in, as the top 20 cm contained Stratum IIc filtered collapse materials. It is most probable that this was a storage pit which was in use during the final occupation of the house. Three Kamloops points found in the pit fill support this interpretation. Pit feature 87-F was 44 cm deep and contained 1,200 salmon vertebrae plus some freshwater shell in its bottom (see Vol. I, Chap. 10, Appendix III). This was a remarkable concentration.

Post Holes and Roof Construction

An examination of the plan of post-holes excavated in HP 3 (**Fig. 1**) reveals evidence for repeated occupation episodes and the likelihood that successive occupations employed similar construction methods. Four obvious clusters of postholes are visible in the north, east, south, and west of HP 3. It is clear from excavations that they were not all used during the last occupation. Differences in size, and the different depths to which they extend below the floor argue against contemporary use. Furthermore, many were deliberately filled with large rocks and other sediment. Some of the fill was darkly stained near the top, suggesting that they were either filled with floor sediments or became stained deeply by organics penetrating from above. Some contained bone, lithics and other refuse near the top. Five were found to contain the unburnt, rotten remains of wood with grain standing vertically, suggesting that these were the remains of posts left in the ground or broken off after house collapse. One, approximately 30 cm long and 10 cm in diameter, and two other, less substantial examples were found. Interestingly, with one exception, each was found in a different posthole cluster, suggesting that they may have been in use during the last occupation.

Two important large post-holes were encountered in Square M. These two post-holes were side by side, about 8 cm from each other. The eastern

hole went down 45 cm into till, whereas the western hole reached only 39 cm into the substrate. The most important factor concerning those two post-holes is that they contained burned remnants of structural posts. Thus they probably relate to the very last occupation of the house. Other small (10 x 10 cm) post-holes were encountered as one neared the floor/rim interface. It is probable that these reflect the small posts utilized as bench supports during the occupation of the house.

The limit of detectable roof sediments and the orientation and size of the charred wood (likely roof beams) recovered (see Fig. 3) suggests that construction methods and architecture details may be inferred (see Vol. II, Chaps. 2 and 15). The pattern of burned wood fragments in HP 3 indicates that some parts of the roof support structure may have collapsed intact (or nearly so). Ethnographically, pithouses were entered through holes in conical roofs. However, Richards and Rousseau (1987) have observed side entrances archaeologically. Elongation of the area which had no discernible roof sediments points to the possibility of an entrance in the westernmost part of the perimeter, where the rim is low. However, the excavation of more housepits, and the continuation of work in HP 3 is necessary to determine if in fact a side entrance was used in this or other cases.

At present, it appears that the ethnographic cross-section of a Lillooet house published by Teit (1900) is likely to represent the prehistoric construction pattern of medium-sized housepits at Keatley Creek.

Hearths

Only one small (50 cm x 60 cm) central hearth was encountered in HP 3. It is thus postulated that this feature was utilized by all occupants of the house.

Communal Areas

The central area of the house yielded fewer artifacts, less cultural debris, fewer and thinner fire-reddened areas, only a few, small, shallow features, and no storage features. There seem to be at least three possibilities for this lack of evidence for cultural activity:

- 1) this area was little used;
- 2) high traffic and/or high maintenance continually stripped the area of sediments and debris;
- 3) high traffic inhibited its use for cooking, storage, or other activities.

It seems illogical that such a (relatively) large area could have been devoid of activity to the extent that no cultural debris accumulated there. If the central area saw little activity, it might then have been a logical place for storage, sleeping, or other non-disruptive activity, and would still have resulted in more cultural debris being incorporated in the sediments. Thus, it would seem that high traffic is most likely responsible. This may have resulted from a central roof entrance.

Communal activities, such as dancing and other rituals and maintenance of the area for such activities, could result in the differential removal of all kinds of cultural sediments from the area, and the reduced likelihood of finding food debris, storage features and other personal or familial correlatives. If the hypothesis that several families co-existed in a pithouse is correct, such an area may have been kept clear of individual families' possessions and food remains, much in the way that central communal areas were kept clear at !Kung open-air encampments, and among other tribal groups such as the Mandan and Huron. Stryd (1973) argues that the central area was one of central importance because it contained the hearth. However, at Keatley Creek hearths are rarely encountered in the house center.

Summary and Conclusions

Some promising observations were made in the excavations at Keatley Creek. The ability to distinguish discrete depositional contexts in the stratigraphically complicated housepits continues to be refined. Opening a large area within a housepit has produced evidence that different areas of both floor and roof may have been used for different purposes—a major first step for investigations of social inequality through spatial analysis.

Postulated roof-top activity areas received some interpretive support, with clearly different sediments excavated from the north and the south. Segregation of, at least, refuse on the roof appears to have been the case. That activities occurred on the roof seems to be indicated.

Housepit 3 has played a major role in understanding site formation processes, as well as artifact patterning. It has especially lent itself to the fuller understanding of the roof deposits. It is hoped that this will eventually allow for a better conceptualization of how artifacts move within the roof.

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Figures

Figure 1: Plan view of the HP 3 excavation. Individual grid squares are shown in the inset.

Figure 2: Wall profiles of Housepit 3.

Figure 3: A plan view of charred beams found in Housepit 3.

Figure 4: Kamloops style projectile points from HP 3 with arrows pointing to unique notching.

- Intense hearth-like reddened area
- Superficial fire-reddening
- Charred planks
- Most recent pit feature
- Depth below floor (in centimeters)
- Older (capped) pit feature
- Rock
- Most recent posthole
- With in situ post remains
- Depth below floor (in centimeters)
- Earlier posthole
- Possible posthole

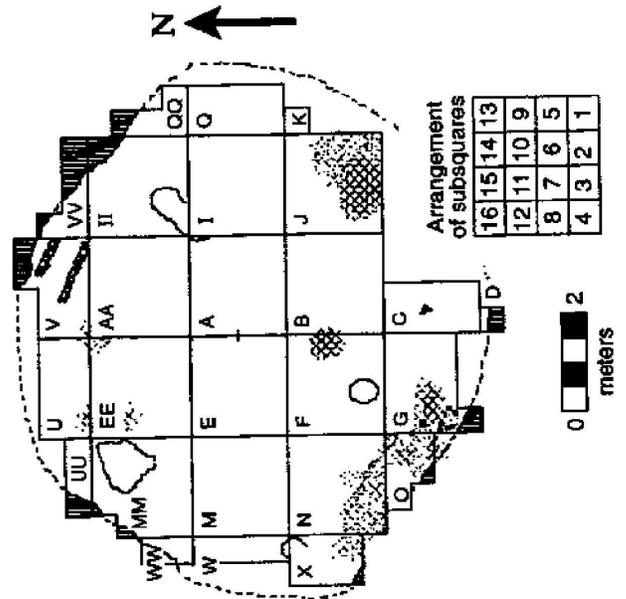
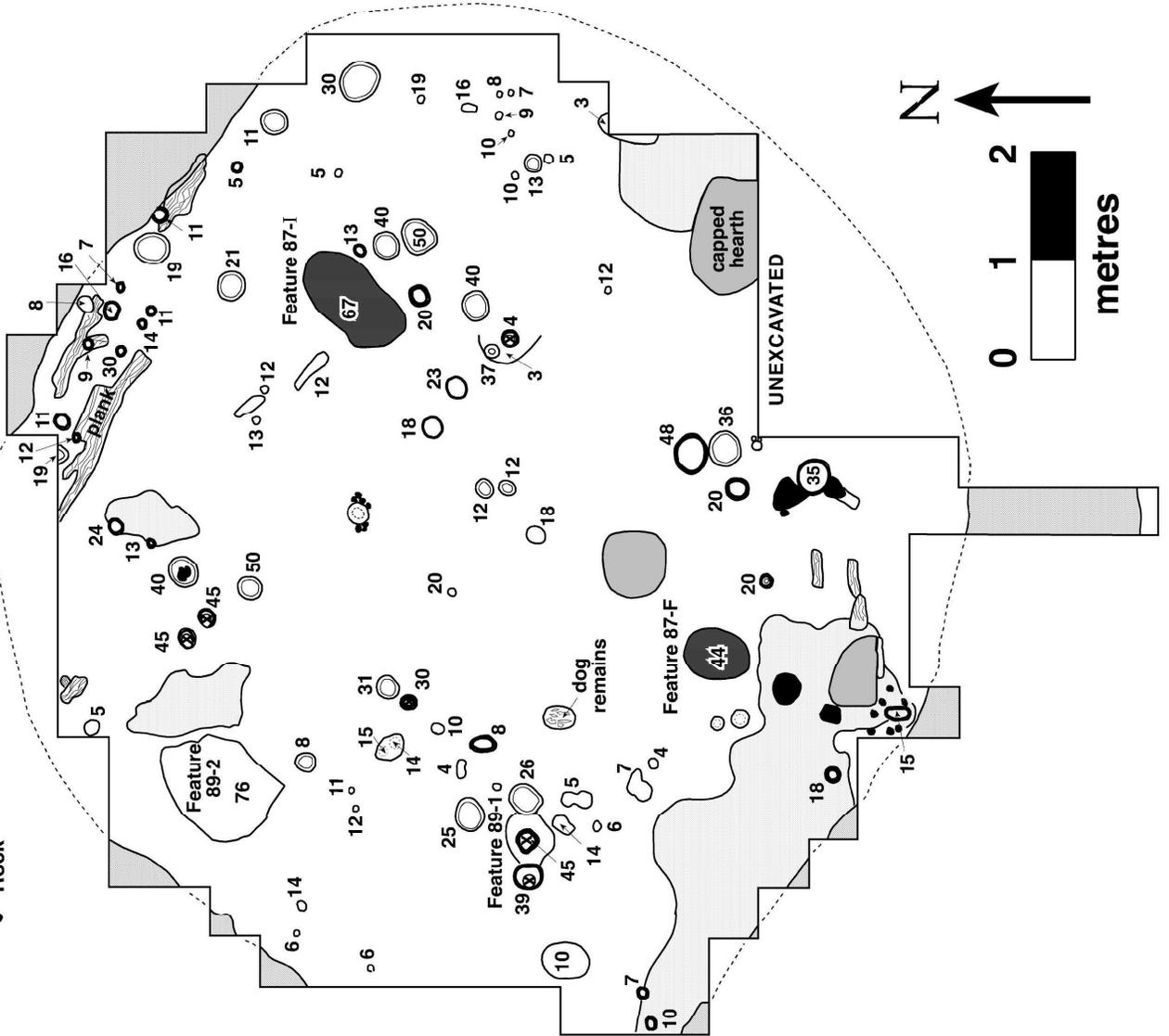


Figure 1. Plan view of the HP 3 excavation. Individual grid squares are shown in the insert.

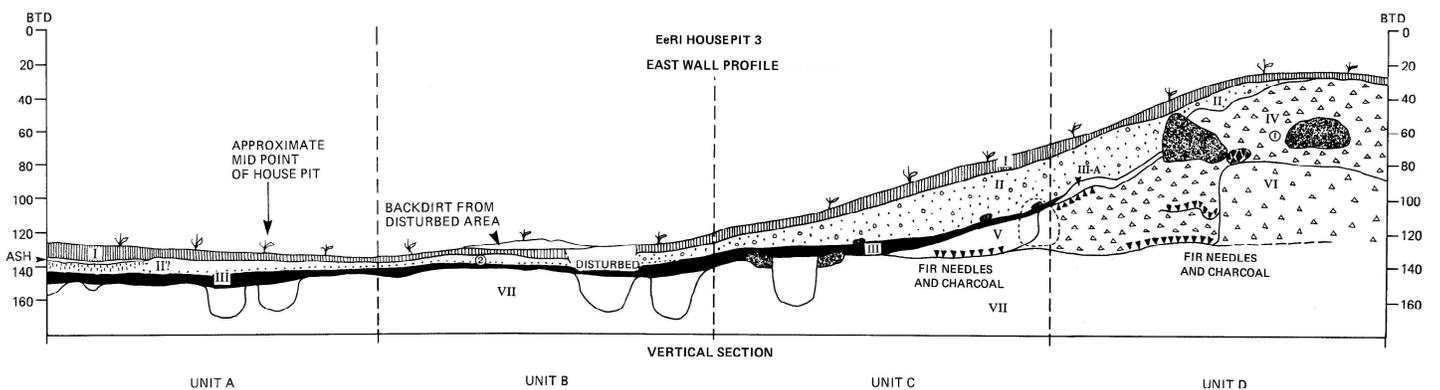
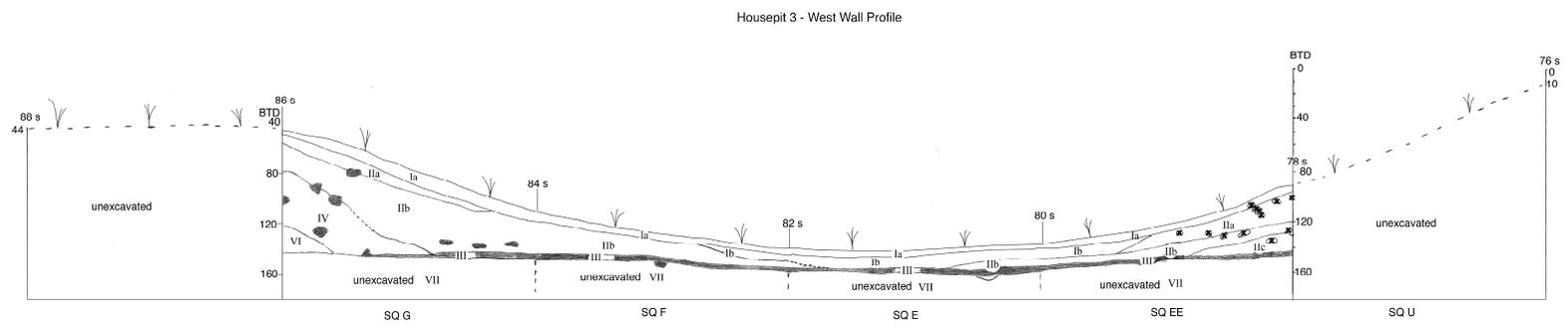
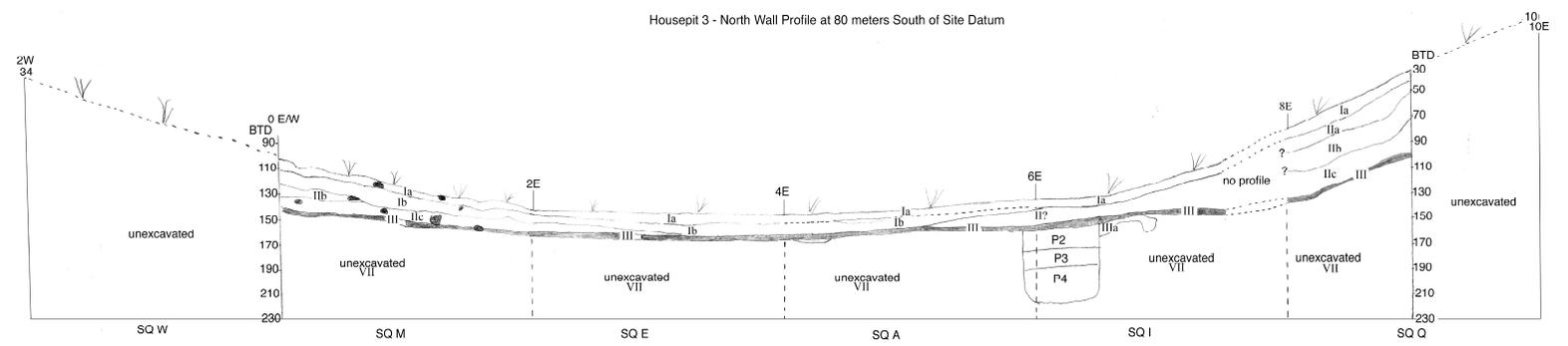
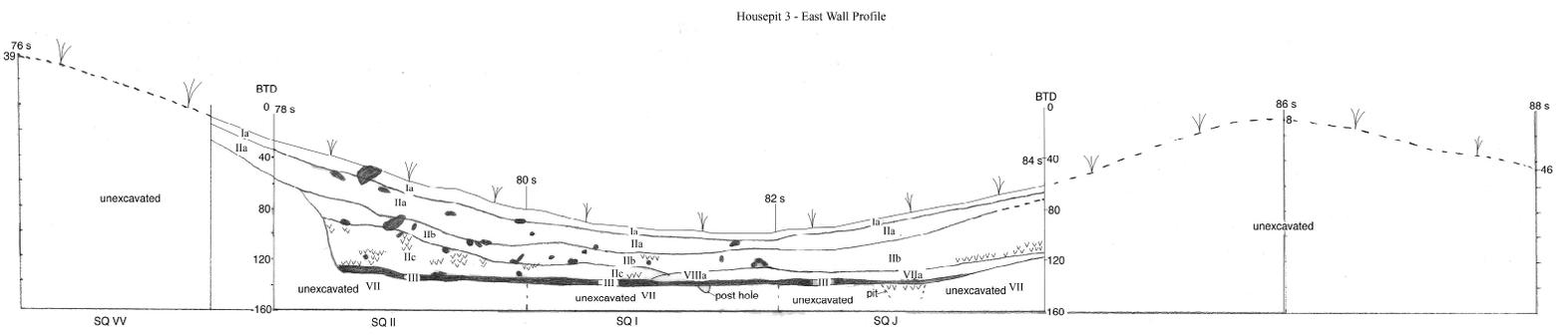


Figure 2. Wall profiles of Housepit 3.

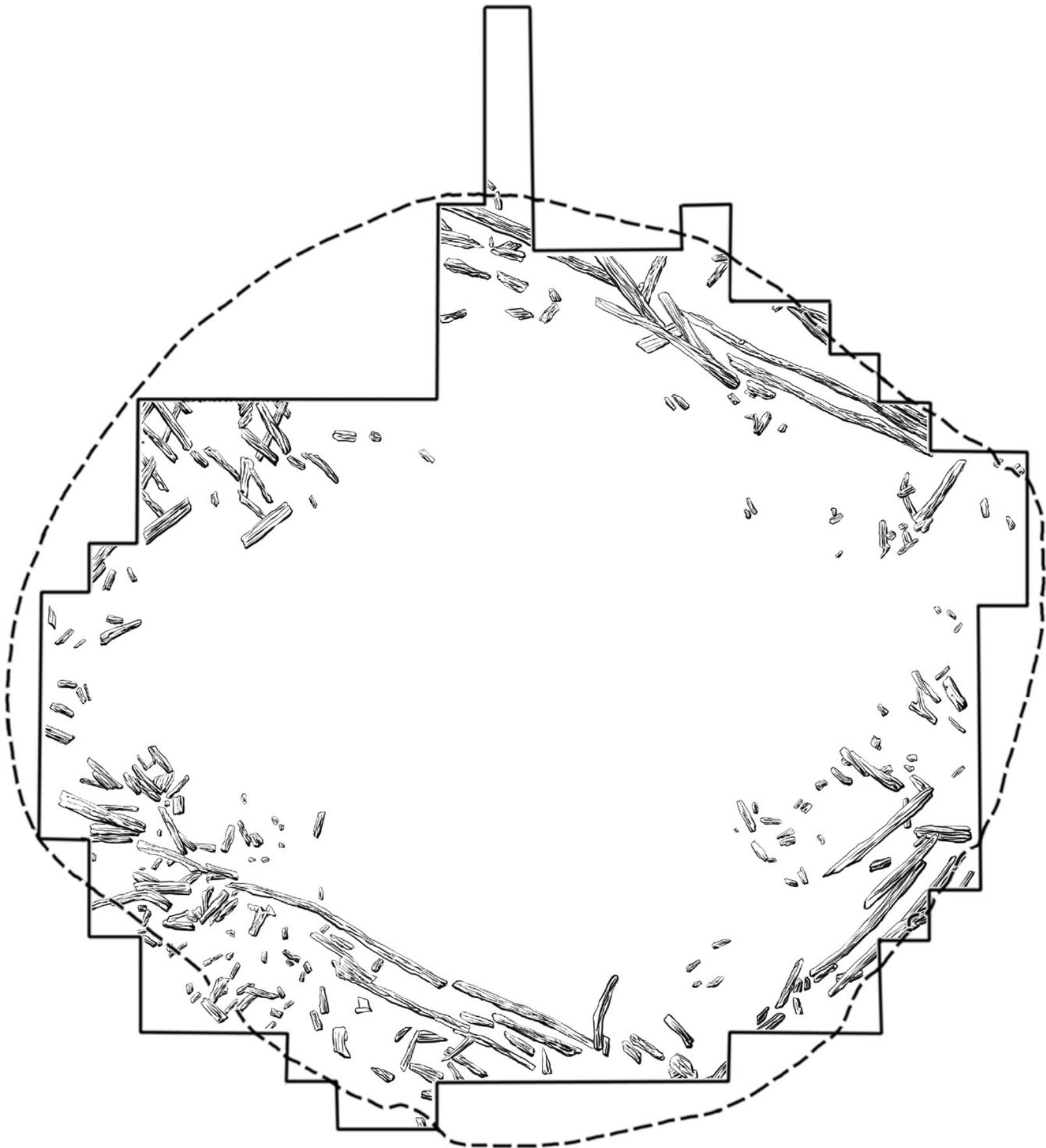


Figure 3. A plan view of charred beams found in Housepit 3.

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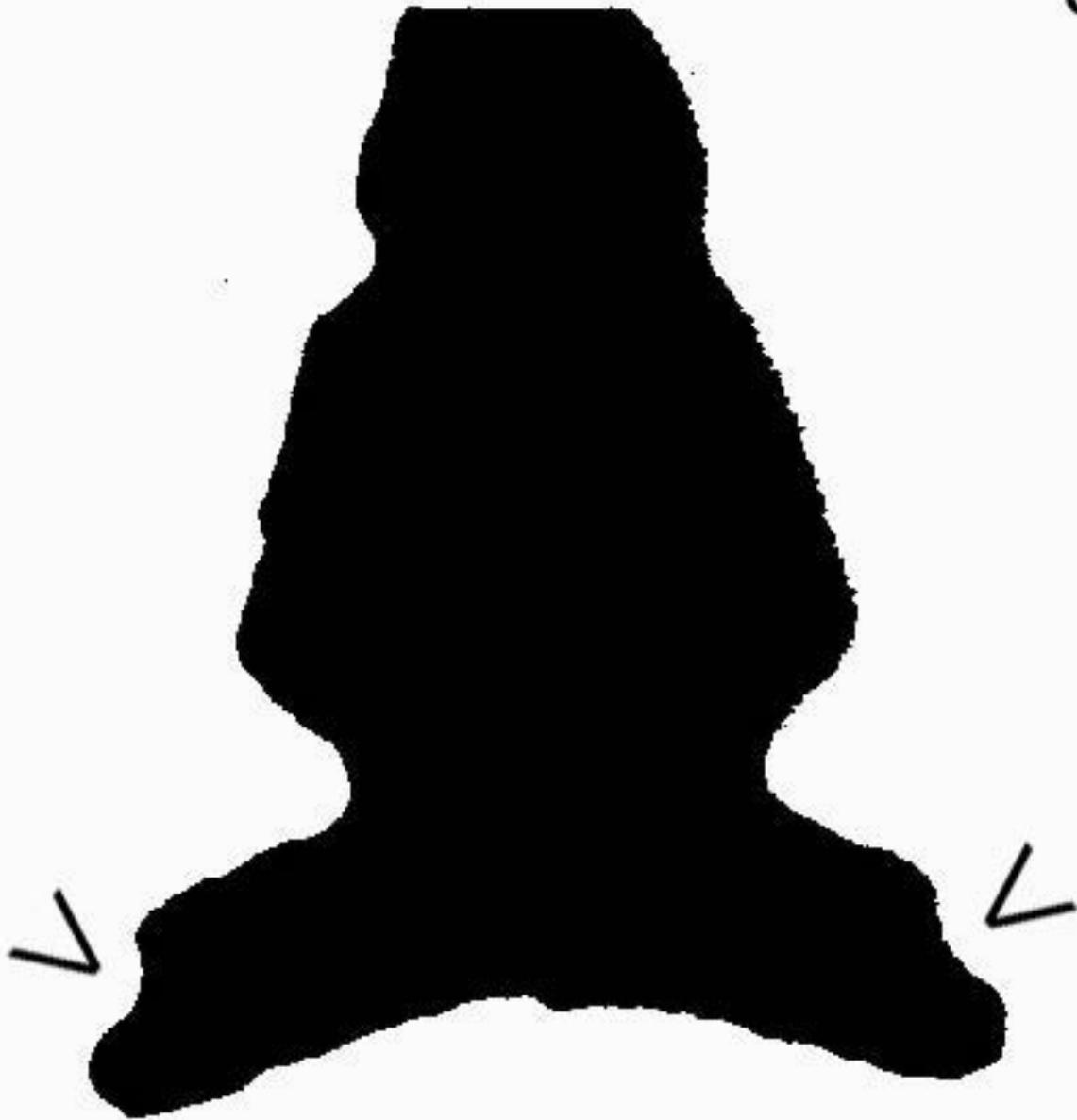


Figure 4. Kamloops style projectile points from HP 3 with arrows pointing to unique notching. ¹⁸⁸