

**TABLE OF CONTENTS**

**2. FIELD INVESTIGATIONS** *Eric J. Feiler, Michael D. Metcalf, and Stanley A. Ahler* .....

Field Methods.....

Surface Collection.....

Testing.....

    City Block S1011 .....

    City Block N1011.....

    City Block S910 .....

    City Block N910.....

    City Block S89 .....

    City Block N89.....

Controlled Excavations .....

    Excavation Block 1.....

    Excavation Block 2.....

    Excavation Block 3.....

    Excavation Block 4.....

    Excavation Block 5.....

    Excavation Block 6.....

    Excavation Block 7.....

Monitoring and Related Excavations .....

    Street Light Placements.....

    Backhoe Trenches .....

    Grading.....

## 2. FIELD INVESTIGATIONS

Eric J. Feiler, Michael D. Metcalf, and Stanley A. Ahler

On June 24, 1998 construction activities on the First St. NE Improvement Project, City of Mandan, North Dakota, unearthed archeological remains during the course of routine activities. Construction in the vicinity of the archeological remains was halted, and the project prime contractor Kadrmas, Lee and Jackson contacted both the State Historical Society of North Dakota (SHSND) and the North Dakota Department of Transportation (NDDOT) and scheduled an on-site inspection. On the following day, representatives from both agencies met on-site with the contractor and confirmed that significant archeological remains were present in the construction right of way (ROW) in a three block area from 8th Ave. NE to 11th Ave. NE along First St. NE. The archeological materials exposed in this area included a low density scatter of bone, bone tools, chipped stone flaking debris, stone tools, charcoal, ash and fire-cracked rock. Several apparent midden deposits or features, expressed as surface concentrations of those same artifact types, were also noted. The most dense concentration of archeological materials was located along the north side of First St. NE between the intersections of 9th and 10th Avenues NE.

A considerable amount of construction had already taken place along First St. NE prior to the discovery of archeological materials. Specifically, within the three block area mentioned above the entire construction ROW had undergone substantive alteration. The old street surface and sub-street fill had been removed, a new sewer main had been placed below street grade and connected to all houses, new water and gas mains were installed and connected to most houses, and subgrade fill material had been placed and compacted in preparation for the pouring of the new street, curbs, and gutters (Figure 2.1). In the area where the new city sidewalk and retaining walls were to be placed, the pre-construction ground surface had been modified by the removal of sod, shrubs and most trees, leaving a surface that was scraped smooth and devoid of vegetation. This area included an approximate 20 foot strip of land between the City property boundary and the location of the new street curbing (Figure 2.2).

Given the location as well as types of materials encountered it was determined that the construction activities had exposed the remains of Scattered or Crying Hill Village which was previously recorded in official site files as site 32MO31. Representatives of NDDOT, in consultation with the SHSND, determined that Scattered Village should be considered significant under the criteria for listing to the National Register of Historic Places. Because Federal funding was involved in the Mandan First St. Improvement Project, NDDOT directed that the negative effects of the construction activities must be mitigated through a data recovery program. Given the advanced state of construction in the street area proper (see above), a decision was made that no archeological work would take place in that particular portion of the site. Instead, the data recovery program would focus on the area between the new street curbing and the City property boundary. Subsequently, representatives of the NDDOT developed, and submitted for approval to the SHSND, a data recovery plan to guide all work at Scattered Village. A copy of this data recovery plan as well as amendments made to it during the course of work can be found in Appendix A.



Figure 2.1. First Street NE immediately after the discovery of archeological materials.



Figure 2.2. The sidewalk right of way on First Street NE.

The field portion of the mitigation program that was ultimately developed was divided into three phases. The first phase of the program included moderately intensive surface collection and subsurface testing. The goal was to locate and assess the extent of intact cultural remains for the purpose of planning intensive controlled excavations. Testing and surface collection methods are discussed in the sections of this report dealing specifically with those aspects of the project.

The second phase of the project, constituting the majority of the fieldwork effort at Scattered Village, included controlled excavations in eight localities. These included small to medium size block excavations within four separate refuse middens, three earthlodges, and one area on the village periphery. Each of the eight individual block excavations is described in detail in the section of this report entitled "Controlled Excavations".

The third and last phase of the project consisted of monitoring construction activities. This phase of the project involved primarily monitoring the final grading of the sidewalk right of way on the north side of First St. NE between 9th and 10th Avenues NE. Also included in monitoring activities were the placement of concrete piers for street light posts and minor work related to gas line installations.

Archeological work at Scattered Village began on July 13th, 1998 and continued until September 11, 1998. Over the duration of the project crew size ranged from 11 to 18 individuals. Four thousand eight hundred seventy six person-hours were needed to complete the fieldwork portion of the mitigation program at the site. A total of 61.66 cubic meters was excavated from eight excavation blocks, and the seventeen features encountered during monitoring.

Three separate contracts have governed the work at Scattered Village. Work associated with the surface collection and testing phase was administered under a contract between Kadrmas, Lee and Jackson (KLJ), and Metcalf Archeological Consultants (MAC). The majority of fieldwork, including all mitigation and monitoring activities, was conducted under a separate contract between the City of Mandan and MAC, with support coming in part from Federal Highway funds made available to the NDDOT and the City of Mandan. All laboratory work was conducted under a separate contract between the City of Mandan and PaleoCultural Research Group (PCRG) beginning September 1, 1998. During fieldwork, two employees of PCRG acted as field supervisors under an agreement between PCRG and MAC.

### **Field Methods**

The following discussion outlines procedures that were standard for the majority of the work conducted during this project. Deviations from the methods discussed below occurred when site context, scheduling, or other unforeseen circumstances necessitated adjustment to standard procedures. These deviations are noted in the text describing specific work tasks. A Munsell color chart was not used in the field, and as such, soil/sediment color descriptions are subjective and are not technically accurate.

Provenience for all material recovered during work at Scattered Village was recorded within the project area using one of three methods. The first, and least specific in terms of resolution, used city block designations in conjunction with a north or south assignment. A provenience designation of N89 would mean the sample came from the north side of First St. NE between 8th and 9th Avenues NE. A designation of S910 would mean the sample came from the south side of First St. NE between 9th and 10th Avenues NE. This type of designation was used primarily for uncontrolled surface collection artifacts when a more specific provenience could not be obtained.

The second technique employed during the project used the above city block designation and added an additional, more specific designation that was linked to the segments between concrete joints in the newly poured street curb. The exact locations of these joints were known based on the construction plans developed by the City of Mandan. For project purposes, segments demarcated by concrete curb joints were numbered sequentially starting at zero and running from west to east. Each block of First St. NE received its own numbered series. An example provenience using this technique might be S910-19, meaning that the sample came from segment 19 on the south side of First St. NE between 9th and 10th Avenues NE. A provenience designation of N1011-11/12 meant that that a sample came from an area in both segment 11 and 12 on the north side of First St. NE between 10th and 11th Avenues NE. This technique was used primarily during the testing phase of the project and to some extent during the monitoring phase. Specifically, this technique was used to identify the locations of controlled surface collection units, strip trenches, shovel tests, and exploratory pits, and to identify the relative location of curb face trenches before their exact location within the site grid was recorded using a total station (see below). This technique was also used to locate features during the final monitoring phase, when the total station was no longer in use.

The majority of work conducted at Scattered Village used a 1 x 1 m grid system to record provenience. The grid was established using the north edge of the newly poured concrete curb on S910 as an arbitrary east-west baseline. A station point for total station use was established by placing a nail in the expansion joint at the western end of the curb (the joint demarcating segment 0 from segment 1). The station point was given the arbitrary grid coordinates of 500.00 m north, 500.00 m east, and an arbitrary elevation of 100.00 m. A 1 x 1 m grid was then established over the entire project area using the station point and its grid coordinates as a reference. Individual 1 x 1 m units were identified using the grid coordinates of the southwest corner of the unit, the corner nearest the origin of the grid. Some features, curb-face trenches, and piece-plots were also mapped using the total station. KLJ engineers eventually recorded the location of the station point so that all provenience information recorded during archeological work at Scattered Village could be placed on a base map produced by KLJ.

Vertical depth within the site was recorded using either the total station directly or more often by using a line level and string line attached to a local datum stake. Datum depths were then recorded as centimeters below this local datum. The exact string height of all local datums was recorded using the total station so that datum depths from local datums across the site could be standardized relative to the elevation of the station point. In some block excavations multiple local datum stakes were established for recording vertical depth. However, when this occurred all string heights were established at the same elevation so that datum depths from multiple 1 x 1

units within a single block excavation would be the same regardless of which local datum was used.

With the exception of six exploratory pits excavated during the testing phase, all excavation units measured 1 x 1 m in size. The actual depth of levels excavated within a unit varied depending on location within the site and the objectives behind the excavation of a specific unit. In general, excavation units were dug in arbitrary 5 cm levels inside earthlodges, 10 cm levels in midden areas, and 15 cm levels within features such as large pits. Where possible, particularly in earthlodge contexts, units were excavated by following natural stratigraphy or horization (for example -- roof fall).

A provenience-based field catalog was kept on site and individual catalog numbers were assigned to spatially defined areas concurrent with their excavation. Individual catalog numbers were given to each excavated level (either feature or general), constant volume float sample, surface collection unit, piece-plotted artifact, or other area (i.e. curb-face trench fill). Each catalog number recorded the sample's location within the site grid, sample type (i.e. general level, feature level, botanical float, etc.), recovery method, depth below datum or surface, the excavator's name, and the date.

If during excavation unusual items were encountered they were often piece-plotted. Piece-plotted artifacts were assigned individual catalog numbers that recorded artifact type, the location of the artifact to the nearest centimeter within the site grid, and the artifact's elevation within the site. Artifact location and elevation were recorded using the perceived center of the artifact as the plotted point. No strike or dip measurements were recorded for piece-plotted artifacts.

Excavation forms were completed for each feature or general level as excavation of each level was concluded. A variety of information was recorded on these forms that would allow reconstruction of the excavation process in the lab. Information recorded on excavation forms included the grid coordinates identifying the sample, the starting and ending datum depths of the level, date(s) of excavation, recovery method(s), catalog numbers of samples associated with the form (i.e. waterscreened level fill, float sample), and the roll and frame numbers of any photographs taken of material(s) or features associated with the form. Also included was text that described the excavation process, any changes in the character of the sediment, new features encountered, and the types and distribution of any artifacts encountered. A plan view map of the level was drawn on the back of the form once excavation of the level was completed. Included on the map are the location of any piece-plotted artifacts, features, and changes in the character of the sediment. Starting and ending datum depth are also indicated on the map.

Work at Scattered Village was documented with both color and black and white photography. In general, if something was photographed, both color slides and black and white prints were taken. A catalog was kept documenting the roll number, frame number, and description of all photographs as they were taken. If appropriate, these numbers were also documented on field excavation forms.

The artifact recovery methods for each phase of the project differed greatly. During the testing phase, when the focus of project activities was on rapid identification and exposure of intact cultural deposits, and when much of the fill being excavated was known to be disturbed, artifact recovery was minimized and involved either selective collection without screening or use of 1/4-inch dryscreening (see the section on Testing for details). During the controlled excavation and monitoring phases of the project artifact recovery was accomplished using a 1/16-inch waterscreen system that was constructed on-site. All excavated matrix from each level of excavation (either feature or general level) was placed in a wheelbarrow along with a linoleum tag bearing all catalog information for that specific provenience. The material was then transferred to the waterscreening station for processing (Figure 2.3). All material retained on the screen after washing was laid out on canvas cots to dry (Figure 2.4). When dry, materials were bagged by catalog number in paper bags, boxed, and eventually shipped to the laboratory for sorting and analysis. No sorting of waterscreened site matrix occurred in the field.

A barrel flotation device using a non-aerated, active water flow was operated on site (Figure 2.5). Light fraction material was captured in a 0.5 mm nylon mesh, and the heavy fraction was captured in a 16 per inch nylon mesh. Constant volume samples, and occasionally whole contexts, were processed through the field flotation device. Constant volume botanical float samples were generally collected from each excavated general or feature level. Each sample was assigned a catalog number separate from the waterscreen portion of the general or feature fill in the same context. The float sample usually measured 20 x 20 cm x the depth of the level (either feature or general) being excavated. Other samples of different dimensions were occasionally floated, including postmold fill during the early part of the project, some hearth fill, and a few discrete, highly organic layers defined as features. All samples to be floated were placed in a paper grocery bag, separate from waterscreen material, and were transferred to an on-site float barrel for processing. During processing float materials were separated into a heavy and light fraction, were dried on-site, and then boxed and shipped to the laboratory for analysis.

### **Surface Collection**

The surface collection at Scattered Village was implemented in three stages. During the first stage Fern Swenson and Paul Picha of the State Historical Society of North Dakota, and Jeannie Borchert, Bob Christensen and Kent Good of the North Dakota Department of Transportation conducted an initial surface collection on June 25 and on at least one occasion thereafter. The purpose of the surface collection was to locate and collect time diagnostic artifacts (i.e. rim sherds) as well as stone and bone tools before they were removed by site visitors. A simple cataloging scheme was developed to track the position of artifacts as they were collected. As artifacts were located and collected a nail with a plastic collar was placed in the location of the artifact. Written on the plastic collar were the initials of the individual collecting the artifact and a number that corresponded to that artifact alone. Each artifact was placed in a separate plastic bag, and the same information was recorded on the bag. When this methodology was developed, it was assumed that the location of each pin would be recorded with a total station and tied into the site grid. This stage of the surface collection focused on the area between 8th and 11th Avenues NE. However, a few artifacts were collected from the



Figure 2.3. The on site waterscreening station.



Figure 2.4. Waterscreened material drying on canvas cots.





Figure 2.5. The on site flotation barrel.

surface by Bob Christensen (NDDOT) in the course of monitoring construction activities in other areas of the site west of 8th Ave NE.

The second stage of surface collection occurred on July 13 and 14. By this time it was clear that considerable surface disturbance had occurred throughout the site, and consequently, most surface artifacts were no longer in context. Therefore, it was decided that point-plotting of surface artifacts, which was the original intent of the methodology developed during the first stage of surface collection, was not needed. A more general collection procedure was used with collection units based on the city block and sidewalk segment designations as discussed in “Field Techniques”. Each unit was demarcated by the curb joint markings and extended from the curb face to the city property line (either to the north or south depending on which side of the street the unit was on). Using this technique, thirty-two collection units on each side of each block were created for the area between 8th and 11th Avenues NE.

A crew of three people examined the surface in each unit, and all diagnostic artifacts and pieces of modified bone and stone were collected. Additionally, the nails placed during the first stage of surface collection were collected. All these materials were assigned a catalog number specific to the collection unit and placed in a paper bag. Eventually, the pins representing artifacts recovered during the first stage of collection were replaced with the actual artifacts.

The third and final stage of the surface collection occurred throughout the project. Specifically, during the course of day to day work on the site, artifacts were collected from the

surface by the crew and occasionally by visitors to the site. If the location was known the artifact was placed with those surface artifacts from the same provenience, but collected during stages one or two. However, many times the artifact could only be identified as coming from the north or south side of First St NE within a given city block (e.g., N89 or S1011). Catalog numbers, with appropriate provenience information (if available), were assigned to these artifacts as they were collected. Some artifacts for which specific provenience could not be identified were also collected from the surface of the site. These items were identified as general surface collection artifacts and were all assigned a single catalog number (1502).

After consultation with the SHSND it was decided that in-depth analysis of surface-collected artifacts was not necessary. The rationale behind this decision was based on the fact that most surface-collected artifacts were out of context, and a larger, more meaningful dataset will be developed from controlled excavations. Therefore, surface artifacts were simply quantified by material type, tool type (if applicable), and provenience. Table 2.1 presents these data for stages one and two of surface collection. Table 2.2 presents the same data for the third stage.

### Testing

The testing phase at Scattered Village was designed to rapidly locate intact cultural materials as well as locate and assess the amount of historic disturbance within the designated project area. Given the urban setting of the project it was known that significant landscaping, road and house construction, and utility trench work had likely disturbed a large portion of the site. Therefore, several strategies were developed that could quickly test and expose large horizontal or vertical exposures of subsurface sediments. Artifact recovery was not an overriding concern during this phase of the project since it was known that a large, controlled excavation effort would follow the testing phase and that much of what was excavated was already disturbed. Artifact recovery during the testing phase consisted mainly of collecting diagnostic artifacts (i.e. rim sherds, projectile points), large identifiable vertebrate remains, stone tools, and modified bone as they were encountered from unscreened, rapidly excavated fill. When screening was employed during the testing phase, 1/4-inch dryscreens were used. Locations where dryscreening was employed are identified individually in the text.

The testing phase at Scattered Village began on July 13, 1998 and continued for ten days. Five techniques were employed to quickly locate and assess the extent of intact cultural deposits: shovel tests, exploratory pits, curb face trenches, strip trenches, and profile trenches. Specific descriptions of these techniques and the situations in which they were used are found below.

**Shovel tests** were used only minimally during the testing phase at Scattered Village. Before the excavation of the shovel test, an area measuring approximately 1 x 1 m over the area to be tested was stripped of historic overburden. The shovel test was then placed in the center of this stripped area. These tests were ca. 30 cm diameter holes excavated in approximate ca. 15 cm depth increments. Material removed from an individual level in a shovel test was assigned its own catalog number and was screened over a 1/4-inch dryscreen. In general, shovel tests did not exceed 65 cm in depth.

Table 2.1 Artifact type and count by provenience, surface collection stages 1 and 2, site 32MO31.

Street	Sidewalk Segment	Artifact Count	Artifact Descriptions
S89	5	1	1 Le Beau cord-impressed sherd.
	6	4	1 Knife River finger-impressed sherd; 1 decorated body/neck sherd; 1 plain body/neck sherd; 1 unclassifiable lip sherd.
	7	5	1 Le Beau tool-impressed sherd; 2 plain body/neck sherds; 1 unclassifiable lip sherd; 1 stage 3-4 KRF biface fragment.
	8	1	1 Le Beau cord-impressed sherd.
	13	1	1 Le Beau cord-impressed sherd; 1 decorated body/neck sherd.
	16	2	1 Knife River cord-impressed sherd; 1 plain body/neck sherd.
	17	2	1 Knife River cord-impressed sherd; 1 Le Beau plain sherd.
	18	1	1 silicified wood stage 3 biface fragment.
	19	1	1 Le Beau cord-impressed sherd.
	20	13	3 Le Beau cord-impressed sherds; 4 plain body/neck sherds; 1 exotic chert stage 2 biface, 1 KRF stage 3 biface; 1 burned KRF stage 3 biface; 1 bison rib spatula; 1 exotic chert flake; 1 silicified wood utilized flake.
	21	7	1 Knife River cord-impressed sherd; 2 plain body/neck sherds; 1 unclassifiable lip sherd; 1 bison rib-knife handle; 1 bone awl fragment; 1 KRF end-scraper.
	22	7	1 Knife River cord-impressed sherd; 1 Le Beau cord-impressed sherd; 1 Le Beau plain sherd; 4 plain body/neck sherds.
	23	2	1 scapula hoe; 1 modified bone fragment.
	24	2	1 Le Beau tool-impressed sherd; 1 moss agate flake.

Table 2.1. Artifact type and count by provenience, surface collection stages 1 and 2, site 32MO31, continued.

Street	Sidewalk Segment	Artifact Count	Artifact Descriptions
	28	2	1 Le Beau cord-impressed sherd; 1 Le Beau trailed/incised sherd.
	29	1	1 quartzite flake.
N89	1	3	1 Knife River cord-impressed sherd; 2 Le Beau cord-impressed sherds.
	2	1	1 silicified wood utilized flake.
	5	1	1 Knife River cord-impressed sherd.
	10	2	1 Knife River cord-impressed sherd; 1 bone spatula.
	14	5	1 Le Beau cord-impressed sherd; 3 plain body/neck sherds; 1 smooth Tongue River silicified sediment (SMTRSS) flake.
	15	3	1 Le Beau cord-impressed sherd; 1 Le Beau plain sherd; 1 heat-treated KRF stage 4 biface fragment.
	16	1	1 stage 5 KRF biface.
	18	2	1 Le Beau cord-impressed sherd; 1 Le Beau pinched sherd.
	21	1	1 KRF end-scraper.
	22	2	1 bone spatula; 1 unidentified incisor.
	24	2	1 Knife River Fine cord-impressed sherd; 1 modified bone fragment.
	29	1	1 Le Beau cord-impressed sherd.
S910	1	2	1 Le Beau plain sherd; 1 small unidentified chert side-notched projectile point.
	5	2	1 Le Beau plain sherd, 1 silicified wood end-scraper.
	8	1	1 unclassifiable lip sherd.
	12	1	1 Transitional cord-impressed sherd.
	13	1	1 piece of modified bi-valve shell.
	21	2	1 KRF flake; 1 heat-treated KRF stage 4-5 biface fragment.
	22	3	1 Le Beau plain sherd; 1 clay bead; 1 KRF end-scraper fragment.
N910	0	6	1 Le Beau cord-impressed sherd; 1 Le Beau plain sherd; 1 burned KRF end-scraper fragment; 1 KRF stage 2-3 biface; 1 exotic chert flake; 1 moss agate end-scraper.
	1	1	1 Knife River plain sherd.

Table 2.1. Artifact type and count by provenience, surface collection stages 1 and 2, site 32MO31, continued.

Street	Sidewalk Segment	Artifact Count	Artifact Descriptions
N910	2	4	1 Le Beau finger-impressed; 1 modified bison rib; 1 SMTRSS stage 3-4 biface; 1 gastropod shell.
	4	11	3 Knife River cord-impressed sherds; 3 Le Beau cord-impressed sherds; 1 Le Beau finger-impressed sherd; 1 KRF end-scraper; 1 modified bone fragment; 1 clear-gray chalcedony stage 3 biface; 1 small SMTRSS side-notch projectile point.
	5	1	1 Knife River cord-impressed sherd.
	6	1	1 KRF stage 2 biface fragment.
	7		1 Knife River cord-impressed sherd; 1 Le Beau plain sherd; 1 decorated body/neck sherd; 1 unclassifiable lip sherd; 1 KRF stage 3 biface fragment.
	8	5	1 Knife River Fine cord-impressed; 1 Le Beau cord-impressed; 1 KRF stage 3 biface fragment.
	9	1	1 KRF bipolar core.
	10	1	1 modified antler tool (pressure flaker?).
	11	1	1 small KRF triangular stage 5 biface.
	12	2	1 Le Beau cord-impressed; 1 plain body/neck sherd.
	13	1	1 Le Beau cord-impressed.
	14	1	1 Le Beau trailed/incised sherd.
	17	1	1 decorated body/neck sherd.
	18	1	1 exotic chert flake.
	19	7	1 Le Beau pinched sherd; 2 heat-treated biface fragments; 1 exotic chert end-scraper; 1 KRF end scraper; 1 burnt KRF flake; 1 KRF stage 5 biface (knife).
	20	6	1 Knife River cord-impressed; 1 Knife River Fine cord-impressed sherd; 1 Transitional cord-impressed; 3 plain body/neck sherds.
	20/21	15	1 Knife River cord-impressed sherds; 2 Le Beau cord-impressed sherd; 1 decorated body/neck sherd; 3 plain body/neck sherds; 2 unidentified fish bones; 1 unidentified vertebrate tooth; 1 heat-treated KRF stage 4 biface fragment; 1 KRF utilized flake; 1 SMTRSS utilized flake; 2 silicified wood flakes.
21	17	2 Knife River cord-impressed sherds; 3 Le Beau cord-impressed sherds; 9 plain body/neck sherds; 1 unclassifiable lip sherd; 1 unmodified chert nodule; 1 piece modified elk antler (pressure flaker?).	
22	3	1 Knife River cord-impressed sherd; 1 Bison rib spatula fragment; 1 SMTRSS notched-biface fragment.	

Table 2.1. Artifact type and count by provenience, surface collection stages 1 and 2, site 32MO31, concluded.

Street	Sidewalk Segment	Artifact Count	Artifact Descriptions
N910	23	6	4 Le Beau cord-impressed sherds; 1 Transitional cord-impressed sherd; 1 unidentified vertebrate bone.
	24	2	1 Knife River cord-impressed sherd; 1 Knife River Fine cord-impressed sherd.
	25	3	1 Knife River cord-impressed sherd; 2 decorated body/neck sherds.
	26	1	1 Le Beau cord-impressed sherd.
	28	3	1 Transitional cord-impressed sherd; 2 scapula hoe fragments.
N1011	23	1	1 burned moss agate flake tool.

Table 2.2. Artifact type and count by provenience, surface collection stage 3, site 32MO31.

Provenience	Artifacts
N67	1 quartzite hammerstone.
N78	1 modified bison rib (rib-knife handle?).
S910	1 large piece modified limestone (possible maul blank).
N910	1 burned KRF end-scraper; 1 KRF end-scraper; 1 modified rib fragment; 1 bone awl; 1 bison rib spatula fragment; 1 scapula hoe fragment; 1 silicified wood stage 2-3 biface fragment; 1 piece modified bivalve shell.
N1011	1 silicified wood flake tool.
Cat. No. 1502 *	2 Knife River cord-impressed sherds; 2 Transitional cord-impressed sherds; 2 Le Beau cord-impressed sherds; 1 Le Beau finger-impressed sherds; 1 Le Beau tool-impressed sherds; 1 decorated body/neck sherds; 4 plain body/neck sherds; 1 unclassifiable lip sherds; 3 KRF end-scrappers or end-scraper fragments; 1 burned KRF end-scraper; 2 chert end-scrappers; 1 silicified wood end-scraper; 1 STRSS end-scraper; 1 quartzite hammerstone; 1 KRF stage 2 biface; 2 stage 5 STRSS biface fragments; 1 chalcedony stage 5-6 biface fragment; 1 heat-treated KRF stage 4-5 biface; 1 small heat-treated chert side-notched projectile point; 1 burned KRF bipolar core fragment; 2 KRF utilized flakes; 2 pieces modified bone; 4 scapula hoes or hoe fragments; 1 modified vertebrate tooth; 1 bison rib knife handle; 1 bone flesher; 1 historic glass bottle-stopper.

\* catalog number 1502 refers to all items collected from the surface of the site but that had no additional provenience.

**Exploratory pits** were 1 x 3 m or 1 x 2 m trenches excavated rapidly to a depth between 60 and 70 cm. These were designed to rapidly expose and cross-section a large area of subsurface sediments. Exploratory pit fill was not screened. However, to confirm the vertical distribution of artifacts within the pit, a 30 cm square column from the north wall of each pit was

excavated in 15 cm arbitrary levels with each level assigned its own catalog number. The fill from individual levels in the columns was screened through a 1/4-inch dryscreen.

**Curb face trenches** were used to expose a relatively long and deep vertical section of subsurface sediments. These trenches were excavated parallel to the newly constructed concrete curb. They were placed 20 to 30 cm from the curb in an attempt to define the lateral extent of disturbance associated with the widening of First St NE while at the same time hopefully exposing intact sediment outside the limit of disturbance (see Figure 2.2). The dimensions of these trenches were variable, ranging between 3-10 m in length, 30-60 cm in width, and 60-100 cm in depth. In some cases an additional section of trench, identified as a T-trench, was excavated perpendicular to the curb-face trench to more fully explore subsurface deposits away from the street proper. Curb face trenches were excavated without screening the material removed from the trench. However, several classes of artifacts were collected if encountered during the excavation of curb face trenches. These included rim sherds, stone and bone tools, and large identifiable vertebrate remains. Curb face trenches were initially identified by the sidewalk segments they spanned (i.e. N89-21/22). After the establishment of a site grid, the location of each curb face trench was recorded within the grid using a total station.

In general, every attempt was made to space individual curb face trench segments evenly down the length of the block. However, existing trees and construction debris piles sometimes meant that the spacing between trenches was at times not exactly even. Additionally, existing utility trenches had to be avoided, necessitating further adjustment in the spacing between trenches. Project utility maps were used to identify these locations. Curb face trenches were also occasionally placed in locations where surface concentrations of artifacts indicated that intact subsurface deposits might occur.

**Strip-trenches** were relatively shallow trenches oriented perpendicular to the street and were usually excavated to a depth that did not exceed 10 cm. Strip-trench dimensions did not exceed 1 m in width and 5 m in length. These trenches were used to ascertain the depth of historically disturbed sediment over known areas of artifact concentrations or to more fully define the lateral extent of a known artifact concentration or feature. The material from some strip trenches was screened through a 1/4-inch dryscreen and assigned its own catalog number.

**Profile trenches** were excavated perpendicular to the street and were used to reveal deep vertical exposures of sediments along the north side of First St NE, between 9th and 10th Avenues. The landform in this area was elevated above other areas of the site to the west, south, and east, and sloped down to the street level from the private property line to the north. Aside from exposing subsurface sediments to assess cultural content, profile trenches were excavated to significant depths to determine if the slope was naturally occurring or was the result of historic processes.

Testing work began on City Block S1011 with the excavation of numerous shovel tests. Work then shifted to N1011, and over the next ten days progressed to the west, with excavations completed in one city block before commencing in the next block to the west. City Block 1011 contained no significant intact cultural material (see below) and quickly received clearance for continued construction work. Significant cultural remains were discovered on both City Block

910 and 89 (see discussions below and discussions of controlled excavations). Neither of these blocks received clearance for continued construction work until very near the end of the field portion of the project. Discussions of testing results from each city block can be found below.

### **City Block S1011**

City Block S1011 had undergone significant alteration prior to the commencement of archeological testing. All existing vegetation had been removed. Earthmoving activities had already been completed and the surface topography had been leveled to the proper grade. Therefore, when archeological work began the landform was extremely flat. Prehistoric artifacts, although sparse, were visible on the surface of the newly graded surface. Even though construction was nearly complete in this area of the site, it was felt that testing was necessary to determine if the surface artifacts came from intact subsurface cultural deposits.

Ten shovel tests were used to explore the south side of First St NE between 10th and 11th Avenues. The shovel tests were placed at 10 m intervals down the block in a line parallel with the curb and within the sidewalk ROW (Figure 2.6). When necessary the location of an individual shovel test was moved if its 10 m placement encountered roots or the remnants of old sidewalks. Much of this area was obviously disturbed as many historic artifacts were evident in the surface sediment. Therefore, before a shovel test was excavated an approximately 1 x 1 m area was cleared of obvious historic overburden. This depth ranged between 30–45 centimeters. The shovel test was then excavated from the center of this stripped area. The test measured approximately 35 cm in diameter and all material from the unit was processed through a 1/4-inch dryscreen. Table 2.3 lists the depth of historic overburden, the depth of excavation, type of sediment encountered, and artifacts recovered for each shovel test.

Two separate sediment packages were encountered during the excavation of shovel tests. As can be seen in Table 2.3 the first five shovel tests exposed alternating layers of lighter and darker silty alluvium interpreted as overbank deposits. The easternmost five shovel tests exposed a massive, black, clayey silt that has been interpreted as oxbow fill or some other type of slackwater deposit.

Very few artifacts were recovered from the shovel tests in this portion of the site, and it is likely that it was on the village margin. Given that the shovel tests and their associated stripped areas exposed either historically mixed deposits or intact natural deposits, it is not likely that significant archeological materials exist in this portion of the site. Therefore, no additional work was recommended or conducted in this area.

### **City Block N1011**

City Block N1011 was in an identical stage of construction as City Block S1011. As with City Block S1011, prehistoric artifacts were also visible on the surface, and archeological testing proceeded to determine if the archeological materials were coming from intact subsurface deposits.



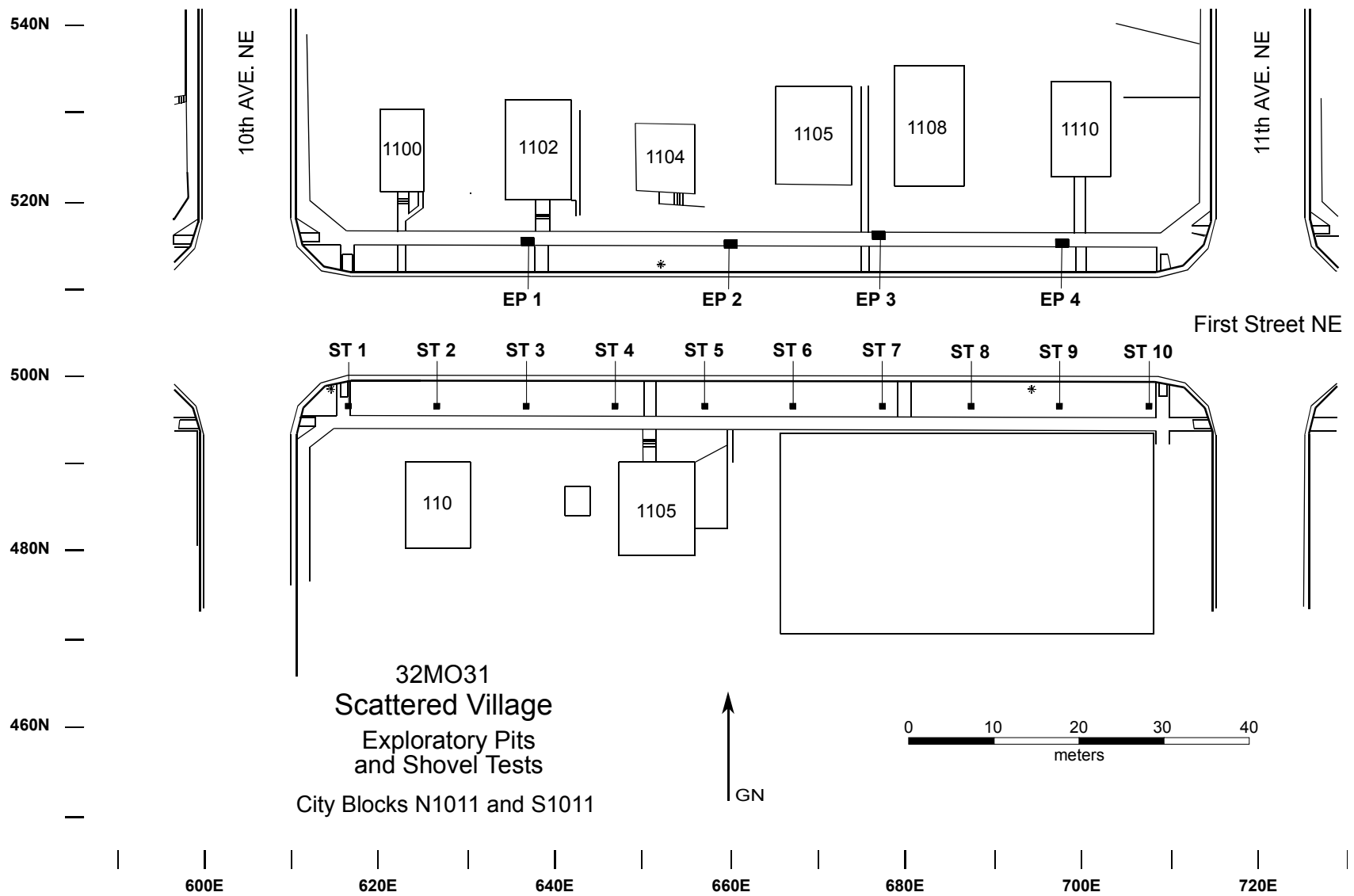


Figure 2.6. Location of shovel tests and exploratory pits, City Block 1011, Scattered Village, site 32MO31.

Table 2.3. Summary information, shovel tests, Block S1011, site 32MO31.

Test #	Depth of Stripped Overburden (cmsd)	Excavated Depth (cmsd)	General Sediment Description	Artifacts
1	40	40-102	Alternating bands of brown and tan silt (alluvium)	2 unidentifiable bone fragments
2	38	38-103	Same as # 1	1 nail, 1 unidentifiable bone fragment
3	40	40-102	Same as # 1	1 Knife River flint flake
4	42	42-98	Same as # 1	2 unidentifiable bone fragments
5	33	33-93	Same as # 1	no artifacts
6	40	40-100	Black clayey silt, gradually lightens with depth.	2 unidentifiable bone fragments
7	32	32-96	Same as # 6	no artifacts
8	33	33-94	Same as # 6	2 unidentifiable shell fragments
9	34	34-97	Same as # 6	no artifacts
10	45	45-100	Same as # 6	no artifacts

Four exploratory pits were excavated on the north side of First St NE between 10th and 11th Avenues (Figure 2.6). Pits were numbered 1 through 4 from west to east. Three of these pits measured 1 x 3 m and one (No. 3) measured 1 x 2 m. All exploratory pits were excavated without screening, and each pit revealed a massive layer of dark brown clayey silt with no visible horization. This layer extended from 45 to 55 cm below surface and overlay intact layers of brown and yellow-brown silt. A small number of historic and prehistoric artifacts were recovered during the excavation of the pits. In general, excavators noted that historic artifacts such as concrete and pieces of ceramic sewer pipe occurred throughout the uppermost dark clayey silt unit. To better clarify the stratigraphic relationship of historic and prehistoric artifacts a 30 x 30 cm column was excavated from the north wall of each exploratory pit. These columns were excavated in 15 cm levels and matrix screened through a 1/4-inch dryscreen with each level cataloged separately. Table 2.4 presents summary data relative to each exploratory pit, including location, depth of excavation, and artifact type and count by level from screened columns.

As illustrated in Table 2.4, historic material occurs in almost every level of each exploratory pit. The only exceptions were two levels in pit 4 (30-45 cm; 45-60 cm). The ubiquity of historic material at all depths within the exploratory pits clearly demonstrates the disturbed nature of these deposits. In general, the deposits exposed on N1011 are similar to those on S1011, and for the same reasons no additional work was conducted in this portion of the site.

Table 2.4: Summary data including depth of excavation, artifact type and count. Exploratory pits, City Block N1011, site 32MO31.

Exploratory Pit	Depth (cmsd)	Hist. Metal	Hist. Ceramics	Slag/ Coal	Concrete	Glass	Prehistoric Ceramics	Modified Stone	Bone	Shell
N1011-7 Pit 1	0-15	2			6	2			1	1
	15-30	2	1							
	30-45	2								
	45-60				1					
N1011-15 Pit 2	0-15	5	6		62		7	2		1
	15-30	1		2	2		1		1	
	30-45			1	1		1	1		1
	45-60				3					
N1011-20 Pit 3	0-15			2	1		1	2	1	1
	15-30	1		6	2					1
	30-45			5			1			
	45-60	1		2			1		1	
N1011-27 Pit 4	0-15							1		
	15-30	6				14			5	
	30-45									
	45-60									
	60-70		1		1					

### City Block S910

Nine curb face trenches were originally excavated on the south side of First St NE between 9th and 10th Avenues (Figure 2.7). One earthlodge and one potential midden deposit were exposed in these trenches. The discovery of the earthlodge prompted the expansion of three of the curb face trenches in an attempt to define the earthlodge limits. Consequently, these three curb face trenches were connected and are treated as a single trench (CF S910-18/19/20/21/22/23). Table 2.5 presents summary data on all test trenches excavated on S910, including dimensions, grid location, elevation, and a general description of exposed sediments. Table 2.6 presents simple weight data on all artifacts recovered from curb face trenches on City Block S910. Figure 2.8 illustrates a composite cross section of curb-face trenches on City Block S910.

#### *Summary of Testing Results: S910*

Significant intact cultural remains were identified on this side of City Block 910 during the testing phase. However, significant areas of historic disturbance were also identified. Curb face trenches S910-2/3, S910-5/6/7, and S910-9/10/11 exposed intact cultural deposits of relatively great depth in the western portions of S910. These deposits are similar in character to the cultural deposits exposed in the eastern portion of S89 (see below -- CF S89-28), suggesting continuity between the two areas. There is an apparent lack of significant cultural remains immediately east of this deposit (see CF S910-12/13/14). However, just east of CF S910-12/13/14, the remains of an earthlodge and several additional features were exposed (see CF S910-18/19/20/21/22/23). Significant amounts of historic disturbance were identified east of the

earthlodge all the way to the end of the block (see CF S910-25/26/27 and S910-28/29). This disturbance apparently continues east into the next city block (see discussion of City Block S1011). Excavation Block 3, used to investigate the earthlodge remains and associated near-lodge areas, was the only excavation block planned for this portion of the site.

Table 2.5. Summary data, curb face trenches, City Block S910, site 32MO31.

Trench No.	Length (m)	East End Grid Location	East End Elev.	Max. Depth (cm)	Description of Exposed Sediments
CF S910-2/3	3.82	509.23	99.64	85	25-35 cm of bioturbated (earthworm) gray silt overlays 50-60 cm of gray-brown silt with artifacts. Numerous large bison elements and layers of ash and charcoal are present. Similar deposit to that seen in CF S89-28, but this deposit contains more artifacts.
CF S910-5/6/7	5.84	520.67	99.83	108	Similar to CF S910-2/3. An obvious historic veneer (ca 15 cm) caps bioturbated gray-brown silt. Cultural deposit below the bioturbated silt thins noticeably to the east. The previllage A horizon is absent, but undisturbed bedded silts are present in the bottom of the trench.
CF S910-9/10/11	5.40	532.18	99.67	72	25-30 cm of bioturbated gray silt over 40-65 cm of yellow-brown silt. The yellow-brown silt contains numerous pieces of bone and fire-cracked rock. Artifact density is less in eastern part of trench. No undisturbed natural sediments exposed.
CF S910-12/13/14	3.94	540.73	99.48	91	30-40 cm of historic fill over 20-25 cm of dark, gray-brown silt interpreted as possibly disturbed. A 12-30 cm lens of gravel occurs directly below the gray-brown silt. A medium-brown, clayey-silt comprised the remaining exposure. Both the gravel and the clayey-silt below it are interpreted as undisturbed natural sediments. Few artifacts were encountered in trench.

Table 2.5. Summary data, curb face trenches, City Block S910, Scattered Village, site 32MO31, concluded.

Trench No.	Length (m)	East End Grid Location	East End Elev.	Max. Depth (cm)	Description of Exposed Sediments
CF S910-18/19/20/21/22/23	13.57	571.07	99.29	81	10-15 cm of historic fill laying directly on the previllage soil. Horizontally-bedded silts occur below the previllage A horizon. An additional buried A horizon is just visible in the bottom of the profile in sidewalk segment 21 and 22. Several cultural features are also exposed. An earthlodge central hearth, inset into previllage A horizon, is visible in sidewalk segment 22. Three pits were visible in the profile, one at the boundary between sidewalk segment 19 and 20, one at the boundary between segments 21 and 22, and one in the middle of segment 23. All pits apparently originated at the top of the previllage soil.
CF S910-25/26/27	4.96	581.98	99.39	70	45-50 cm of historic fill apparently deposited in several episodes. Immediately below the historic fill 20-25 cm of horizontally-bedded silts are visible. Bedded-silts are interpreted as undisturbed. Potential buried A horizon (dark brown/black silt) at 60-65 cm surface depth.
CF S910-28/29	3.73	589.60	99.396	113	Entire exposure of trench is historic fill. Historic artifacts were encountered to a depth of 1.13 meters.

### City Block N910

The area of the site on the north side of First St between 9th and 10th Avenues is located on a slightly different landform than other portions of the site. Specifically, this area is raised between one and two meters above the surrounding areas to the south, west, and east, and has been interpreted as the toe of an alluvial fan that originates from a drainage directly to the north of the site. The area in the sidewalk ROW has a pronounced slope that begins at the private property to the north and grades down to street level on the south. To determine if the slope was a naturally occurring landform, testing methodology was modified for this area of the site. Instead of excavating curb face trenches, a combination of strip trenches and profile trenches was used to explore the subsurface deposits in this area. This change in methodology exposed several cross sections of the slope in this part of the site. Two profile trenches and four strip

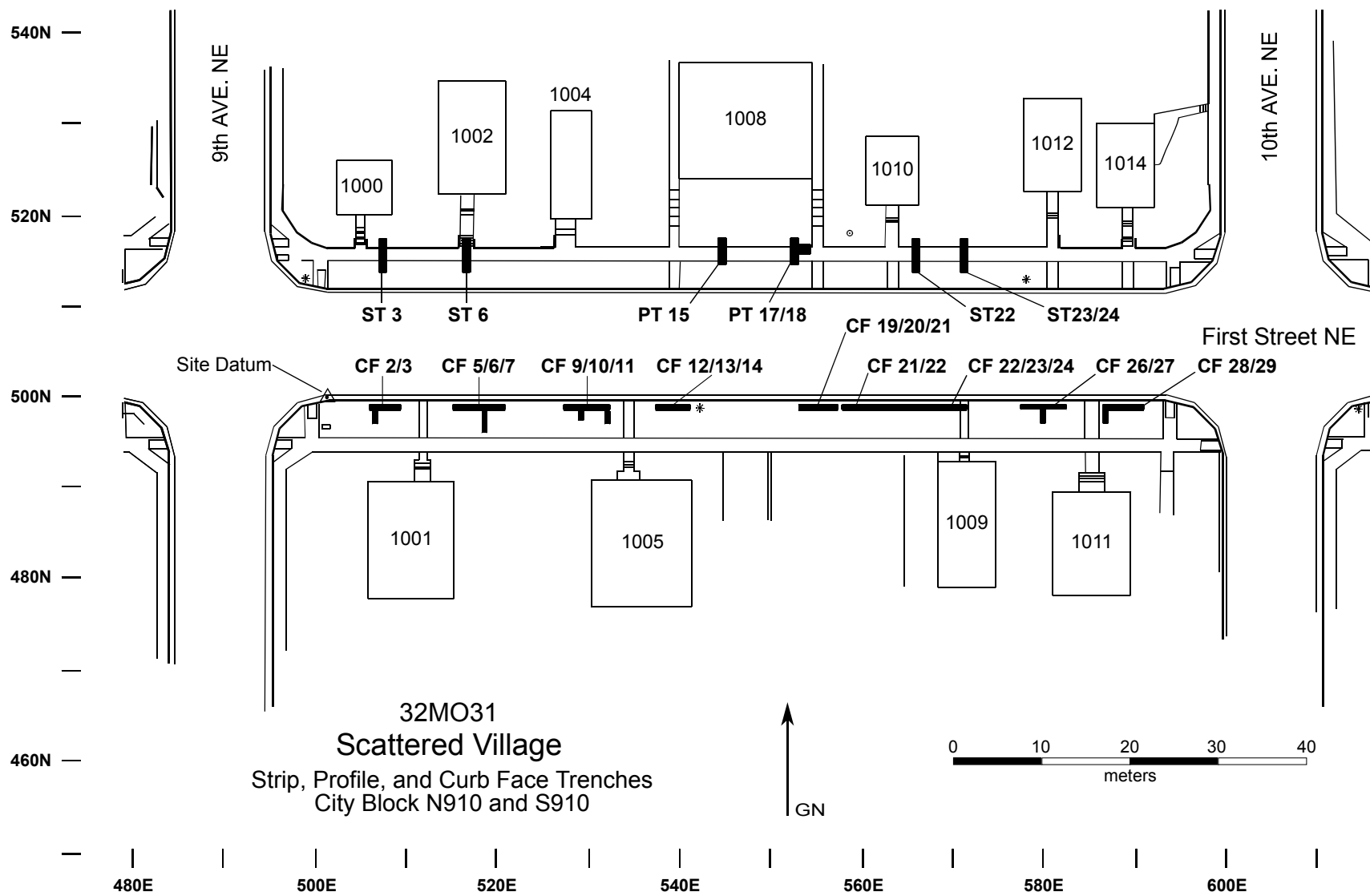


Figure 2.7. Location of curb face, strip and profile trenches, City Block S910 and N910, Scattered Village, site 32MO31.

10th Ave. NE

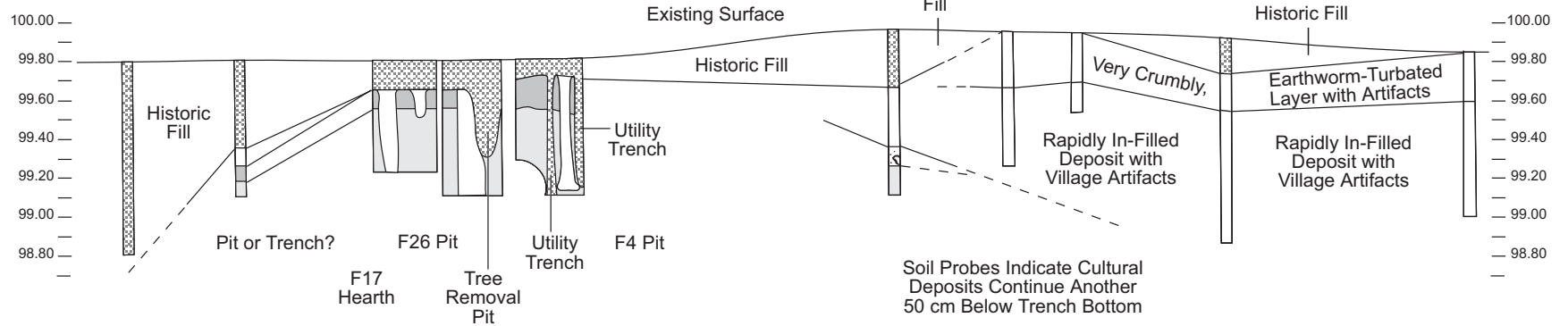
East

9th Ave. NE

West

Elevation from Site Datum (m)

Elevation from Site Datum (m)

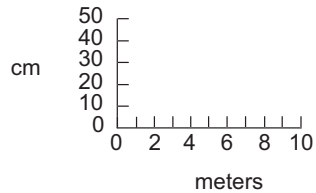


32MO31

### Scattered Village

City Block S910

Composite Profile From Curb Face Trenches








-  Historic fill
-  Village cultural deposits
-  Gravel
-  Previllage A horizon, dark gray silt loam
-  Yellowish brown silt loam

Figure 2.8. Composite cross section from curb face trenches, City Block S910.

Table 2.6. Recovered artifacts by weight, testing trenches, City Block S910, Scattered Village, site 32MO31.

Trench	Recovery	Material	Weight (g)
CF S910-2/3	Unscreened	Bone	1035
		Shell	15
		Pottery	230
		Modified stone	100
		Other Stone	125
CF S910-5/6/7	Unscreened	Bone	1060
		Shell	40
		Pottery	50
		Modified stone	30
		Other stone	90
CF S910-9/10/11	Unscreened	Bone	720
		Shell	20
		Pottery	185
		Modified stone	15
		Other stone	340
CF S910-12/13/14	Unscreened	Bone	300
CF S910-18/19/20/21/22/23	Unscreened	Bone	635
		Shell	10
		Pottery	170
		Modified stone	25
		Other stone	40
CF S910-28/29	Unscreened	Modified stone	10

trenches were excavated in City Block N910 (Figure 2.7). Table 2.7 provides length, width, depth, and a general description of exposed sediments for each trench excavated. Table 2.8 presents simple weight data on artifacts recovered from City Block N910. Specific grid locations for each trench are not available, and therefore each trench location is identified by sidewalk segment locations (i.e. N910-3).

*Summary of Testing Results: N910*

When archeological materials were initially discovered during construction, City Block N910 exhibited the highest density of surface artifacts of any other block of First St. Subsurface testing confirmed that the density of surface artifacts reflected the presence of significant subsurface cultural materials. Every trench that was excavated on N910, with the exception of PT N910-17/18 that was inadvertently placed in an historic utility trench, exposed intact cultural materials. The densest deposits were exposed in PT N910-3 and ST N910-23/24, both of which were placed near extremely dense surface concentrations of artifacts. Profile trenches showed



Table 2.7. Summary data for testing trenches, City Block N910, site 32MO31.

Trench No.	Length (m)	Width (cm)	Max. Depth (cm)	Figure No.	Description of Exposed Sediments
PT N910-3	5	100	50	17	A dense midden deposit in the northern 3.00 m of trench. Sediment is a light to medium brown silt with heavy concentrations of ash and other cultural debris. The southern 2.00 m exhibit lower artifact density until a utility trench is exposed in southern 60 cm of trench.
PT N910-6	5	100	16	18	Historic fill exposed in northern 1.25 m of trench floor. A midden deposit (medium brown silt containing numerous artifacts) is exposed in the remainder of the trench with the exception of the southern 60 cm where a utility trench is visible. An additional utility trench is partially exposed in the western part of trench.
PT N910-15	4	100	71	19	Historic utility trenches exposed in all of the western third of the trench, and in the southern 1.00 m. A midden deposit is visible in all other areas of the trench. Sediment is a light brown silt containing fire-cracked rock, bone and charcoal. A large concentration of ash is visible in the center of the trench floor.
PT N910-17/18	4	70	110	20	Historic utility trench exposed in all of original trench. A lateral trench, 80 cm from north end of the original trench, was excavated 1.20 m to east to investigate the eastern limits of utility trench. The lateral trench exposed significant historic disturbance to 65 cm surface depth. Below the disturbance a yellow-brown silt and edge of cache pit were exposed.
ST N910-23/24	5	100	3-5	22	A dense midden was exposed in northern 3.30 m of the trench floor. Two layers of midden are visible. The northern 1.60 m is a yellow-brown silt charged with artifacts. The next 1.70 m was a dark gray-brown silt, also contains numerous artifacts. The previllage A horizon is visible just below the dark gray-brown silt. Light yellow-brown silt is exposed below the previllage A horizon until it was truncated by a utility trench that occupies the southern ca. 60 cm of the trench floor.

that the gradual slope that characterized this part of First St. was not natural. Instead most subsurface material (both cultural and natural) was generally horizontally-bedded and was truncated by the slope. Therefore, the slope is likely the product of historic construction and/or landscaping activities. Based on these results two excavation blocks were placed in this part of First St NE Excavation Block 1 was placed over the midden deposit exposed in ST 910-23/24 and Excavation Block 2 was placed over the midden deposit exposed in PT N910-3.

Table 2.8. Recovered artifacts by weight, testing, City Block N910, site 32MO31.

Trench	Recovery	Material	Weight (g)
PT N910-3	Unscreened	Bone	35
	1/4-inch dryscreen	Entire sample	10100
PT N910-6	Unscreened	Bone	315
		Shell	5
		Pottery	75
		Modified stone	5
		Other stone	5
PT N910-17/18	Unscreened	Bone	55
		Shell	35
		Pottery	110
		Modified stone	195
		Other stone	550
ST N910-22	Unscreened	Bone	90
		Pottery	35
	1/4-inch dryscreen	Entire sample	7400
ST N910-23/24	1/4-inch dryscreen	Entire sample	15400

### City Block S89

Nine curb-face trenches and two strip trenches were excavated on the south side of First St NE between the intersections of 8th and 9th Avenues (Figure 2.9). Curb-face trench S89-19/20/21 was the only curb face trench on this block that was specifically placed to investigate the potential subsurface expression of a surface concentration of cultural material. This trench was placed adjacent to a relatively dense surface scatter of bone, ash, charcoal, and fire-cracked rock occurring in the sidewalk ROW within sidewalk segments 19/20/21. Two strip trenches were excavated on either edge of this particular curb face trench with the purpose of investigating the lateral extent of this artifact concentration and determining the depth, if any, of historic overburden and/or disturbance. The remaining curb face trenches were spaced ca. 10 m. apart down the length of the block, while at the same time avoiding the locations of known utility trenches. Table 2.9 below provides size, location, depth, and a brief description of exposed sediments for all testing excavations on City Block S89. Table 2.10 provides summary data on all recovered artifacts. Figure 2.10 illustrates a composite cross section of curb face trenches on City Block S89.

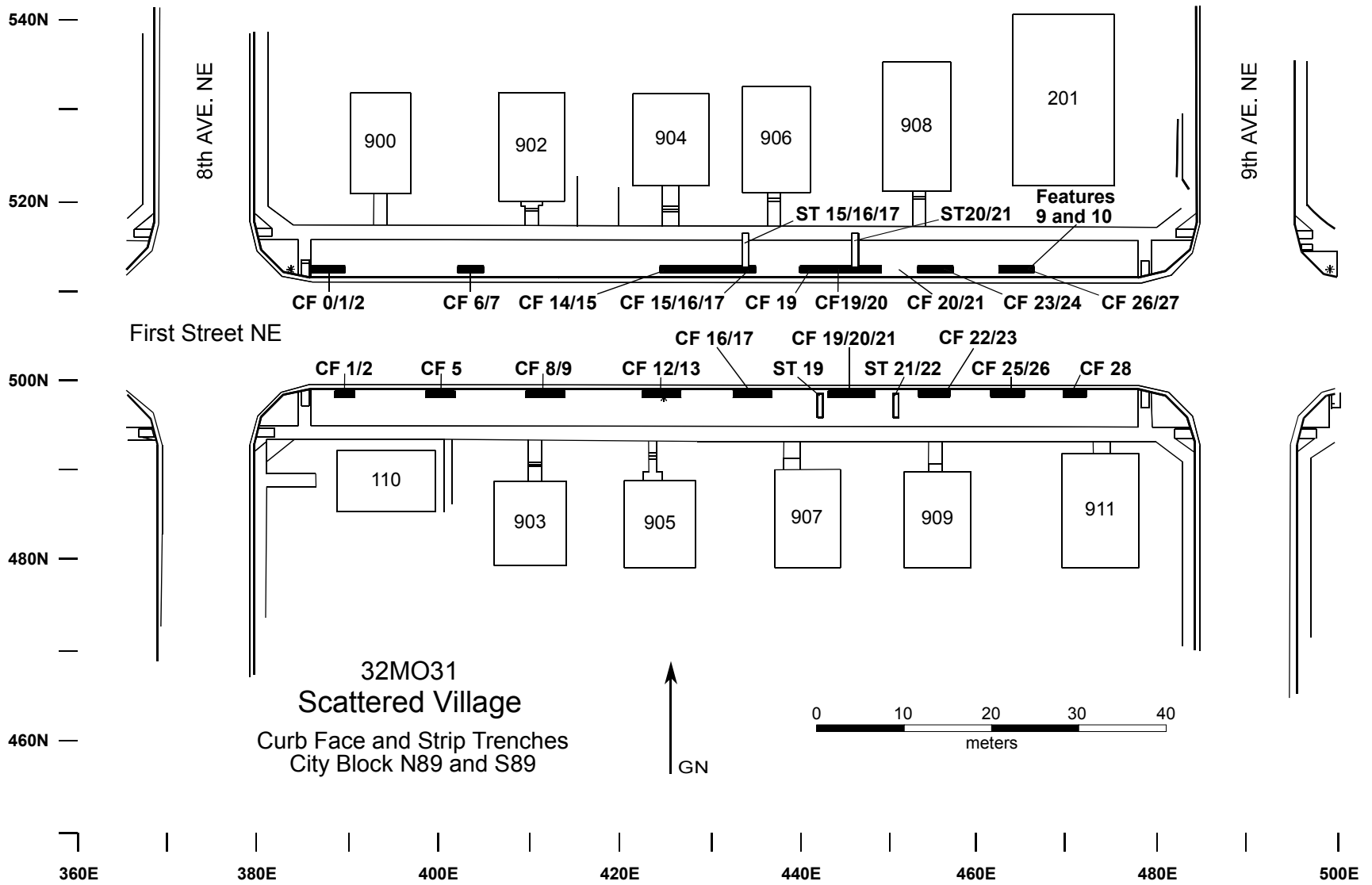


Figure 2.9. Location of curb face and strip trenches, City Block 89.

9th Ave NE

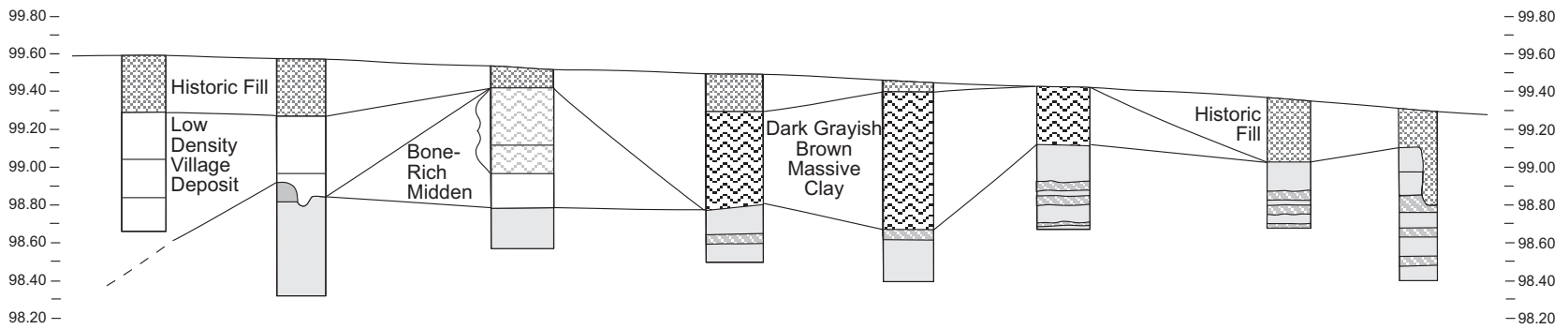
8th Ave NE

East

West

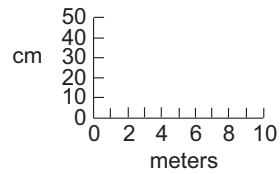
Elevations (m)  
Site Datum

Elevations (m)  
Site Datum



**32MO31**  
**Scattered Village**  
**City Block S89**

Composite Profile From  
 Curb Face Trenches










-  Historic fill
-  Bone-rich midden
-  Dark grayish brown massive clay
-  Yellowish brown silt loam
-  Dark gray humic bands
-  Previllage A horizon, dark gray silt loam
-  Village cultural deposits

Figure 2.10. Composite cross section of curb face trenches, City Block S89.

Table 2.9. Summary data, test excavations, City Block S89, site 32MO31.

Trench No.	Length (m)	East End Grid Location	East End Elev.	Max Depth (cm)	Description of Exposed Sediments
CF S89-1/2	2.22	392.07	98.45	90	Historic age (?) gray clay for the first 20 cm in eastern trench, for the first 50 cm in the west. Historic sediments truncate brown to dark brown bedded silts (10-15 cm thick) below. Possible buried A horizons (dark brown to black silt) at 35, 66, and 82 cm surface depths.
CF S89-5	2.91	403.26	98.59	72	Historic age sediments for the first 20-30 cm. Historic sediments overlay light, yellow-brown to medium-brown bedded silts (5-15 cm thick). Possible buried A horizons (dark brown to black silt) at 22, 24, and 38 cm surface depths.
CF S89-8/9	4.06	415.09	98.63	75	Similar to both trenches described above. Possible buried A horizons at 50, 57, and 70 cm surface depths.
CF S89-12/13	3.42	427.71	98.89	110	Massive organic, dark brown, clay-rich sediment from 80-110 cm thick. A thin historic veneer (max 10 cm) overlays the massive clay unit. Massive clay unit truncates yellow-brown to medium-brown, bedded silts. A distinct boundary between the clay unit and the silts is visible, but it is variable in depth. A possible buried A horizon occurs at ca. 75 cm surface depth. Many large pieces of bone are in the clay unit. An historic utility trench was exposed in the center of the trench
CF S89-16/17	4.09	437.96	99.06	105	Similar to CF S89-12/13, above. The massive clay unit ranges from 30-70 cm in thickness. The historic veneer ranges from 5-20 cm in thickness. A possible buried A horizon occurs at ca. 65 cm surface depth. The buried A horizon dips noticeably in eastern part of trench.

Table 2.9: Summary data, test excavations, City Block S89, site 32MO31, continued.

Trench No.	Length (m)	East End Grid Location	East End Elev.	Max Depth (cm)	Description of Exposed Sediments
CF S89-19/20/21	4.23	449.48	99.30	100	A thin historic veneer (ca 10 cm thick) overlays 90 cm of horizontally-bedded cultural sediment. Cultural sediments are divided into four distinct layers. A gray-brown silt with high concentration of ash and charcoal occurs from 10-40 cm surface depth. A gray-brown silt with large quantities of bone, ceramics and fire-cracked rock occurs from 40-65 cm surface depth. Dark brown silt, with some clay, containing smaller amounts of bone and ceramic occurs from 65-85 cm surface depth. A yellow-brown silt, with few artifacts is exposed from 65-100 cm surface depth.
CF S89-22/23	3.47	457.92	99.34	110	A thin historic veneer (5-10 cm thick) over 75-80 cm of cultural sediment. Cultural sediments horizontally bedded and divided into two layers. A gray-brown silt with numerous discrete ash lenses and artifacts is exposed from 10-50 cm surface depth. A dark, gray-brown silt with fewer artifacts occurs from 60-90 cm surface depth. Undisturbed yellow-brown silt is exposed from 90-110 cm surface depth.
CF S89-25/26	3.22	465.86	99.54	125	10-20 cm of historic fill over 70 cm of moderately complex cultural stratigraphy. A gray-brown silt with ash, charcoal and bone occurs from 10-25 cm surface depth. At 25 cmsd a 15 -30 cm thick gray-brown silt with bone and sparse artifacts is exposed. This unit lays directly on top of the previllage soil in the western portion of the trench and over a thin (10 cm) yellow-brown silt in the eastern part of the trench (the yellow-brown silt lays on previllage soil). Three cultural features were also exposed. A pit in the easternmost part of the trench appears to have originated at the top of the previllage A horizon. The two remaining features are basin-shaped and are inset in to the previllage A horizon.

Table 2.9: Summary data, test excavations, City Block S89, site 32MO31, concluded.

Trench No.	Length (m)	East End Grid Location	East End Elev.	Max Depth (cm)	Description of Exposed Sediments
CF S89-28	2.54	473.16	99.59	95	12-25 cm of historic fill over 70-80 cm of cultural fill. A dark gray-brown silt with moderate artifact density occurs from 25-60 cm surface depth. A yellow brown silt with low to moderate artifact density is exposed from 60-80 cm surface depth. A dark brown/black silt (likely the top of the previllage A horizon) occurs from 80-90 cm surface depth. A hearth is exposed in east end of trench at ca. 75 cm surface depth, and a pit or shallow depression occurs in the base of trench (eastern half).
ST S89-19	2.85	NA	NA	11	Confirmed 5-10 cm of historic overburden over midden west of CF S89-19/20/21.
ST S89-21/22	4.25	NA	NA	10	Confirmed 5-10 cm of historic overburden over midden east of CF S89-19/20/21.

CF= Curb face trench; ST= Strip trench

*Summary of Testing Results: S89*

Testing of the south side of First St NE between 8th and 9th Avenues revealed areas with little cultural material, areas containing significant historic deposits, and areas containing significant, intact, village-age cultural deposits. A layer of gray clay 10-50 cm thick, interpreted as historic fill, was identified as the top strata in every curb face or strip trench. Significant historic disturbance has apparently taken place in the western one-third of this block, and prehistoric cultural materials are essentially absent and/or out of context in this area (trenches CF S89-1/2, 5, and CF S89-8/9). Cultural features and materials are present in varying concentrations in the remaining two-thirds of the block. Curb-face trenches S89-12/13 and 16/17 revealed a massive, organic, clay-rich sediment that was initially thought to be the remains of a fortification ditch. Excavation Block 7 was placed in this area to further explore this possibility. A dense, bone and fire-cracked rock-rich midden was exposed just east of the massive, organic clay deposit in CF S89-19/20/21. Excavation Block 5 sampled this deposit. Deep cultural deposits were exposed in curb-face trench S89-28 at the very eastern end of the block. Excavation Block 4 sampled this deposit.

Table 2.10. Recovered artifacts by weight, testing, City Block S89, site 32MO31.

Trench	Recovery	Material	Weight (g)
CF S89-1/2	Unscreened	Bone	350
CF S89-5	Unscreened	Bone	20
		Shell	5
		Pottery	10
CF S89-8/9	Unscreened	Bone	30
		Shell	30
		Pottery	5
		Other stone	155
CF S89-12/13	Unscreened	Bone	3985
		Shell	5
		Pottery	335
		Other stone	735
CF S89-16/17	Unscreened	Bone	1845
		Pottery	40
		Modified stone	5
		Other stone	270
CF S89-19/20/21	Unscreened	Bone	11915
		Shell	25
		Pottery	1197
		Modified Stone	120
		Other Stone	1160
CF S89-22/23	Unscreened	Bone	15295
		Shell	75
		Pottery	2245
		Modified stone	290
		Other stone	2572
CF S89-25/26	Unscreened	Bone	920
		Shell	5
		Pottery	30
CF S89-28	Unscreened	Bone	355
		Pottery	45



## City Block N89

Nine curb face trenches and two strip trenches were excavated along the north side of First St NE between 8th and 9th Avenues (Figure 2.9). Two specific areas were avoided when locating curb face trenches. The first was the area between sidewalk segments N89-8 and N89-13. At one time a large concrete driveway had covered this area, and its removal for the construction project appears to have disturbed the underlying sediments. The second area was between sidewalk segments N89-28 and N89-30. This area was avoided because, at the time curb face trenches were excavated, a large amount of construction debris occupied this area.

During the excavation of curb face trenches between sidewalk segments N89-13 and N89-23 the remains of a burned earthlodge were discovered. At this point the curb-face trenches in this area were expanded to explore the extent of the burned lodge as well as near lodge areas. The expanded trenches eventually were connected creating two long composite trenches in this area. Composite trench one was created when curb face trenches N89-14/15 and N89-15/16/17 were connected. Composite trench two was created when curb-face trenches N89-19, N89-19/20 and N89-20/21 were connected. Table 2.11 provides summary information for all test trenches excavated on N89, including dimensions, grid location, elevation, and a general description of exposed sediments. Table 2.12 provides summary data on all recovered artifacts. Figure 2.11 illustrates a composite cross section of curb face trenches on City Block N89.

Table 2.11. Summary data, test excavations, City Block N89, site 32MO31.

Trench No.	Length (m)	East End Grid Location	East End Elev.	Max. Depth (cm)	Description of Exposed Sediments
CF N89-0/1/2	3.40	Not Available	Not Available	75	20-25 cm of yellow-brown historic overburden (mostly clay) over 50 cm of undisturbed, horizontally-bedded, predominately yellow-brown silts. Two possible buried A horizons (dark brown/black silt) are visible, one at 35-45 cm surface depth, and one at 55-60 cm surface depth.
CF N89-6/7	4.40	Not Available	Not Available	85	Essentially the same as CF N89-0/1/2 above. Two possible cultural features are also exposed. A possible postmold is visible in the western end of trench originating immediately below the historic overburden at 20 cm surface depth. A possible pit feature is exposed in the center of trench, also immediately below historic overburden.

Table 2.11. Summary data, test excavations, City Block N89, Scattered Village, site 32MO31, continued.

Trench No.	Length (m)	East End Grid Location	East End Elev.	Max. Depth (cm)	Description of Exposed Sediments
CF N89-14/15/16/17	10.45	438.12	99.21	82	10-25 cm of historic overburden over the western edge of a burned earthlodge and associated near-lodge features. Outside of the lodge to the west, historic overburden directly overlays the previllage soil. Inside the lodge perimeter historic overburden overlays 10-15 cm of burned roof fall. A midden-filled basin truncates the previllage soil and underlying sediments in the western trench. A postmold is also visible in western trench. A pit feature is visible immediately inside house perimeter in eastern part of trench.
CF N89-19/20/21	8.88	451.84	99.47	113	Continuation of stratigraphy exposed in CF N89-14/15/16/17 above. Burned roof fall and near lodge features are present under ca. 25 cm of historic overburden. The roof fall lays directly on top of earthlodge floor, which in turn lays directly on top of thin (ca. 10 cm) midden-like deposit. The previllage soil and underlying sediments are visible below the thin midden-like deposit. The earthlodge perimeter is visible in eastern part of trench where burned roof fall stops. Two shallow, midden-filled basins truncate the previllage soil in easternmost part of trench.
CF N89-23/24	4.01	460.31	99.62	107	15-20 cm of historic overburden over a ca. 20 cm medium gray silt containing artifacts. The previllage soil occurs immediately below the gray silt. The A horizon of the previllage soil is very thick in this location (ca 40 cm). Two pits, both originating at the top of the previllage soil, are visible in trench, one in the east, one in the west. A small area of burned earth is adjacent to, and is truncated by, the western pit.

Table 2.11. Summary data, test excavations, City Block N89, site 32MO31, concluded.

Trench No.	Length (m)	East End Grid Location	East End Elev.	Max. Depth (cm)	Description of Exposed Sediments
CF N89-26/27	4.12	468.97	99.78	90	Massive deposit of historic overburden from 0-65 cm surface depth. The previllage A horizon is absent from profile, although undisturbed silts occur below historic overburden (65-90 cm surface depth).
ST N89-16/17	4.55	Not Available	Not Available	20	Trench located near eastern end of CF N89-14/15/16/17. The trench was excavated perpendicular to curb face trench to define northern limit of burned roof fall and establish house perimeter. Burned roof fall continues for ca. 1.60 ms north of curb face trench.
ST N89-21/22	4.5	Not Available	Not Available	25	Trench located ca. 30 cm east of the end of CF N89-19/20/21. The trench was excavated perpendicular to curb face trench and used to define extent of midden deposit just east of burned earthlodge. Approximately 2.5 m of cultural material was exposed on trench floor north of curb face trench.

*Summary of Testing Results: N89*

The results of testing on N89 were in many ways similar to the results from S89. The western third of this contains little cultural material. This is demonstrated in CF N89-0/1/2 and 6/7 where almost no cultural material was recovered and the previllage soil is apparently absent. In the center of N89 significant intact cultural remains occur, mirroring the pattern seen on S89. In this case the cultural materials encountered were the remains of a burned earthlodge as well as several pits and refuse deposits (see CF N89-14/15/16/17 and CF N89-19/20/21). Unlike S89, where cultural materials occur east until the block ends, the eastern portion of N89 has apparently undergone significant historic disturbance and cultural materials are absent or no longer in context.

Based on the results of testing, two excavation blocks were placed on the north side of City Block 89. Excavation Block 6 was used to investigate the remains of the burned earthlodge and associated near-lodge features. In Block 8 we investigated the possibility that the fortification ditch believed to occur on S89 was also present on the north side of the street. The excavation block was placed directly opposite (north) of the massive layer of organic clay thought to represent the remains of a fortification ditch on S89.

Table 2.12. Recovered artifacts by weight, testing, City Block N89, site 32MO31.

Trench	Recovery	Material	Weight (g)
CF N89-0/1/2	Unscreened	Bone	555
		Shell	35
		Pottery	345
		Other Stone	595
CF N89-14/15/16/17	Unscreened	Bone	295
		Shell	35
		Pottery	75
		Modified stone	50
		Other stone	475
CF N89-19/20/21	Unscreened	Bone	2520
		Shell	90
		Pottery	335
		Modified stone	85
		Other stone	595
CF N89-23/24	Unscreened	Bone	3220
		Shell	55
		Pottery	190
		Modified stone	37
CF N89-26/27	Unscreened	Bone	5
		Shell	35
		Pottery	60

### Controlled Excavations

Controlled excavations at Scattered Village began on July 22 and continued until September 4, 1998. Inclement weather halted work for a total of only two days. Crew size varied throughout this period from 14 to 20 individuals. At any given time three, four, or rarely five crew members worked at the waterscreen and float station, with the remainder on block excavations or other necessary project activities such as photography and mapping. No more than four block excavations were in progress at any one time. The most critical step in the block excavation process was drying of artifacts after waterscreening since drying space was limited and drying time varied depending on the weather.

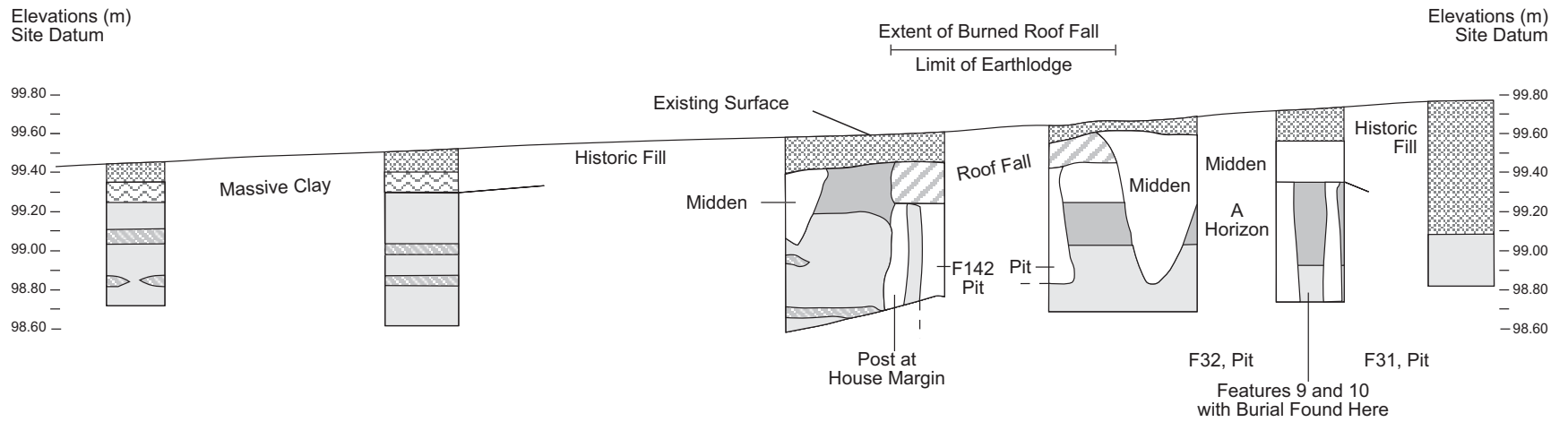
Controlled excavations were designed to sample a diversity of deposits across the site. Work during the testing phase of the project had identified the remains of at least two earthlodges and four refuse middens. Additionally, at least one area believed to be near the village periphery showed evidence of the possible remains of a fortification ditch. Based on these findings controlled excavations were conducted in eight separate areas. Locations of all excavation blocks are shown in Figure 2.13 and Figure 2.14. Excavation Blocks 1, 2, 4 and 5

10th Ave NE

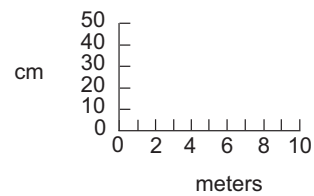
9th Ave NE

West

East



**32MO31**  
**Scattered Village**  
**City Block N89**  
 Composite Profile From  
 Curb Face Trenches



- Historic fill
- Village cultural deposits
- Burned earth
- Massive clay
- Previllage A horizon, dark gray silt loam
- Yellowish brown silt loam
- Dark gray humic bands

Figure 2.11. Composite cross section of curbside trenches, City Block N89.

were placed to sample midden deposits. It was hoped that by sampling midden deposits in spatially separate areas of the site, stratified refuse would be encountered and the maximum amount of time depth for the village would be reflected in the recovered artifacts. Excavation Blocks 3 and 6 were designed to investigate the remains of earthlodges, one of which had burned (Block 6). Additionally, part of the strategy for Block 6 was to sample a midden directly outside the earthlodge perimeter. This was the only midden deposit that was clearly spatially related to an earthlodge, and it was hoped that material differences between it and other accumulations not clearly related to earthlodges would be evident. Excavation Blocks 7 and 8 were initiated as backhoe trenches intended to clarify the possible presence of a fortification ditch on the western or southwestern village periphery. We anticipated opening block units of small size near these backhoe trenches. As work progressed on Blocks 7 and 8, this strategy was modified when it became clear that the fortification ditch was not present in Block 7, and the backhoe trench intended for Block 8 exposed a third earthlodge, also destroyed by fire. The changes in work strategy for these two blocks are discussed in detail below.

A sampling strategy was implemented in Flagstaff for two reasons: 1) It became apparent, after processing of waterscreened material was well underway, that full processing and complete study of all artifacts recovered would not be possible within the existing funding and time limits in place for the project, and 2) It was apparent that carefully selected sub-samples, partially from middens and certain pit features, could be excluded from analysis without any serious loss of information bearing on overall site interpretation. Following discussions with personnel from NDDOT, it was agreed the carefully selected proveniences would be excluded from analysis. Therefore, all proveniences within excavation blocks were given a sort priority number based on a three-tiered system: **Priority 1** proveniences were completely processed and sorted. **Priority 2** proveniences were processed and sorted if time allowed, or if additional data was required from a particular provenience. **Priority 3** proveniences were not processed or studied in the Flagstaff lab. Discussions of block excavations below include a brief section that describes the sampling strategy applied to the materials excavated from that particular excavation block. Included in this discussion are the reasons for sampling choices and a list of proveniences subsequently identified as Priority 1.

### **Excavation Block 1**

Excavation Block 1 was near the eastern end of the elevated landform that characterized City Block N910. Prior to excavation, the area where Block 1 was placed had experienced considerable modification through landscaping and construction activities and was scraped clean of vegetation. The landform at this point also had a pronounced slope, dropping over a meter from the highest point on the north (at the edge of the private property lines) to street level on the south (Figure 2.14). It was clear from strip trenches excavated during testing that the slope did not reflect the original landform and was likely a product of landscaping and construction activities. Geologic studies indicate that this elevated landform is best interpreted as an alluvial fan. The origin of the sediment is likely the drainage originating in the bluffs directly north of the site. Block 1 was intended to sample the midden deposit represented by a dense surface concentration of artifacts at the highest point of the slope on the elevated area in the eastern

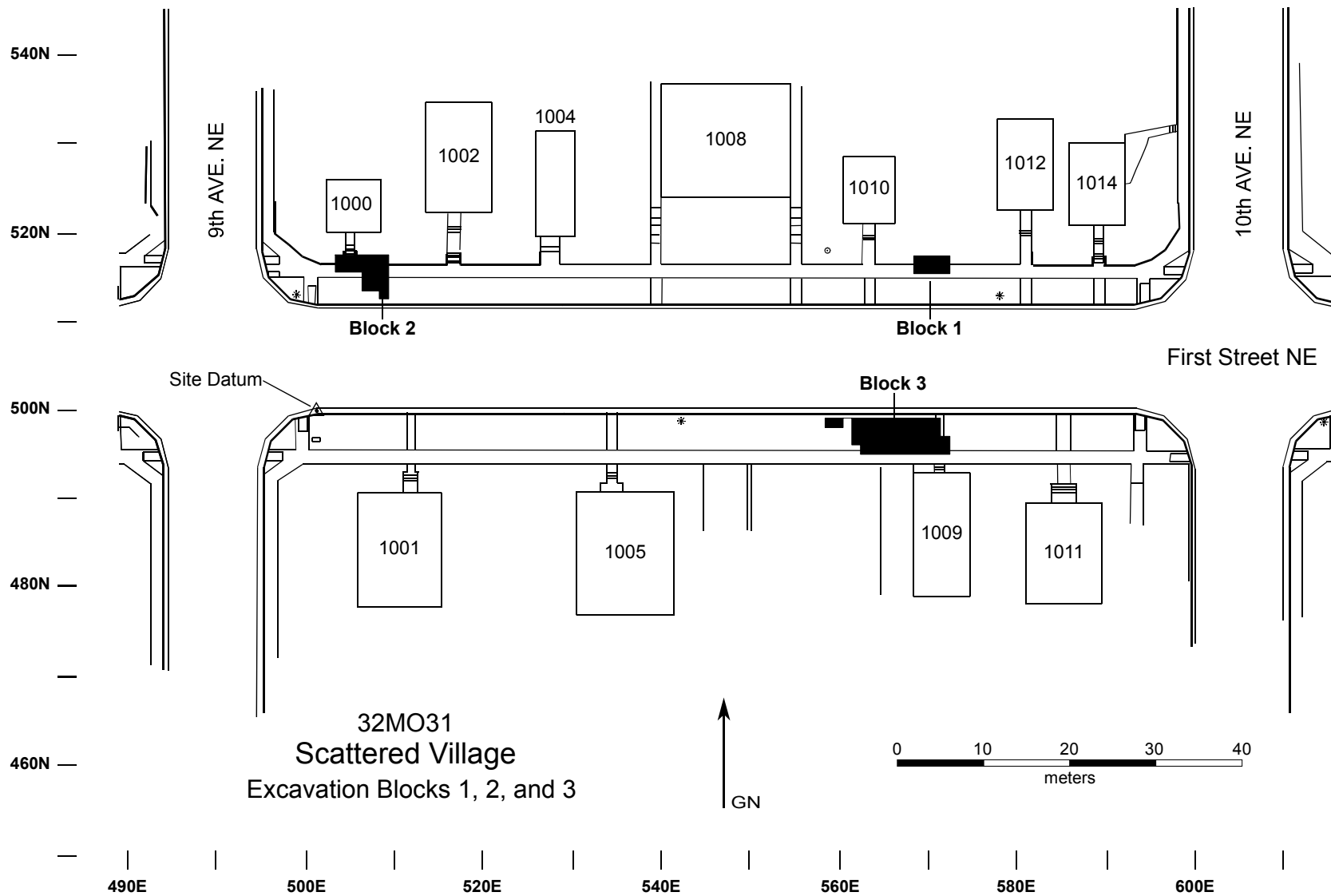


Figure 2.12. Location of excavation Blocks 1, 2, and 3, City Block 910.

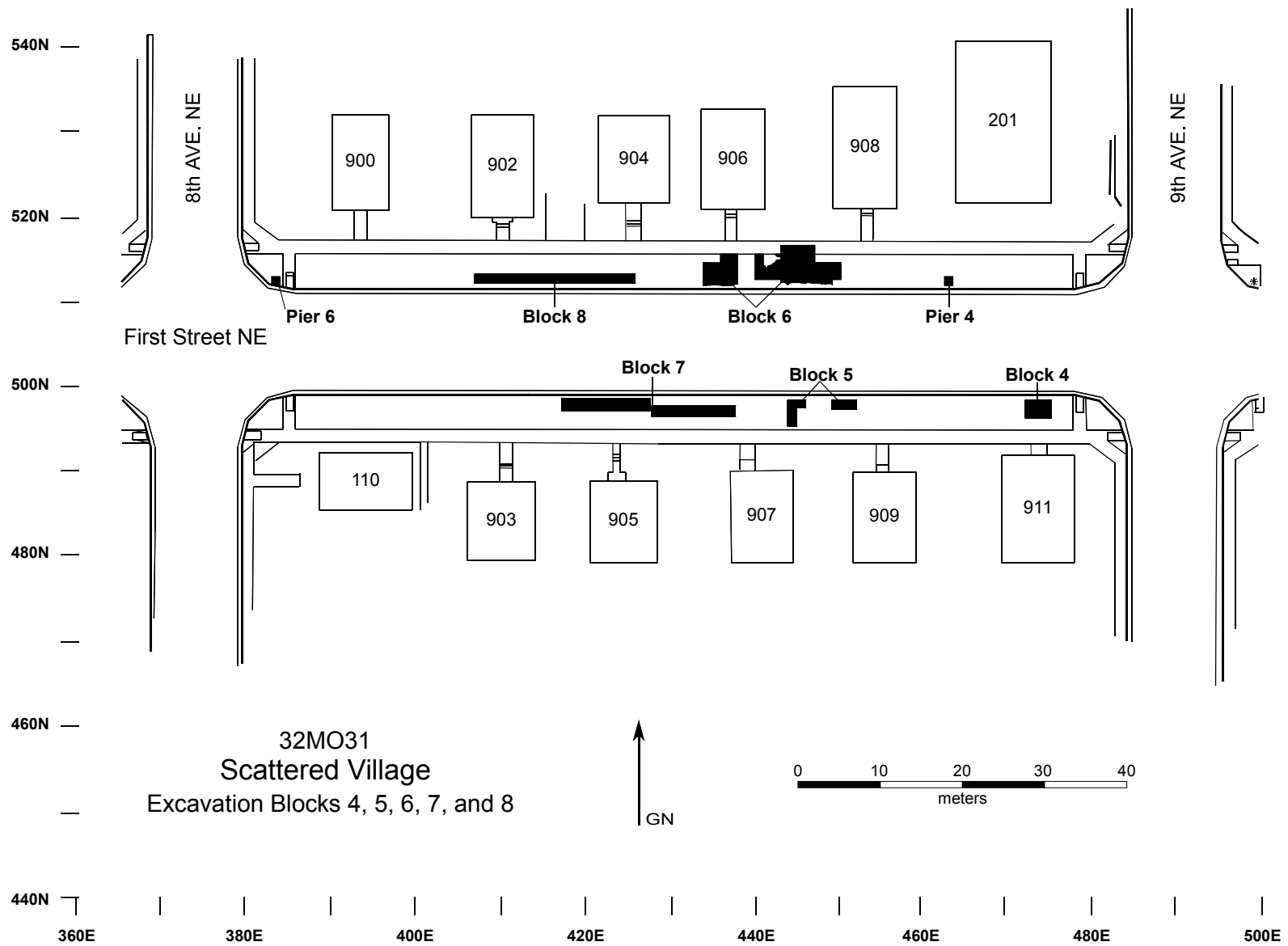


Figure 2.13. Location of excavation Blocks 4, 5, 6, 7 and 8, City Block 89.



portion of City Block N910. Block 1 measured 2 x 4 m, encompassing eight square meters, and included squares 516NE568 through E571 and 517NE568 through E571.

Controlled excavations within Block 1 began on the afternoon of July 22 and continued until August 12. No more than two crew members were involved with excavation in Block 1 at any given time. A total 9.45 cubic meters of sediment was excavated from all general level contexts and the five features identified in Block 1. Figure 2.15 illustrates Block 1 excavated depths and the distribution of priority 1 squares.

Excavation was initiated in the northern row of squares in Block 1 using a strategy of alternate square excavation. Each square was excavated to a depth of 98 cm below datum, at which point the buried A horizon, previously identified as the previllage soil during testing, was encountered in the eastern half of the block. Work was then initiated in an adjoining square until the entire row of squares was excavated to the same level. After the four most northern squares in Block 1 were excavated to this depth, the same excavation strategy was applied to four southern squares beginning with squares 516NE569 and 516NE570.

When all of Block 1 was excavated to the common level of 98 cmdd excavation ceased and the floor of the block was scraped clean, mapped (Figure 2.15), and photographed. At this point it was apparent that the previllage soil was exposed only in the eastern one-third of Block 1, and either dipped to the west or had been removed by some unknown process in the western two-thirds of Block 1. The boundary between these two areas was in the center of squares 516NE570 and 517NE570 and can clearly be seen in a plan view map of the floor of Block 1 at 98 cmdd (Figure 2.15). At this point excavation ceased in squares where the previllage soil was exposed in the entire floor of the square, specifically squares 516NE571 and 517NE571. In the remaining squares excavation continued, but only where the midden deposit was still present. Excavation by natural levels was initiated in square 517NE569 beginning where the midden deposit contacted the previllage soil. As excavation proceeded in this area, it appeared as if several pit or basin-shaped features were present, potentially explaining the apparent absence of the previllage soil in this area. Excavation continued in square 517NE569 in what were thought at the time to be these shallow features.

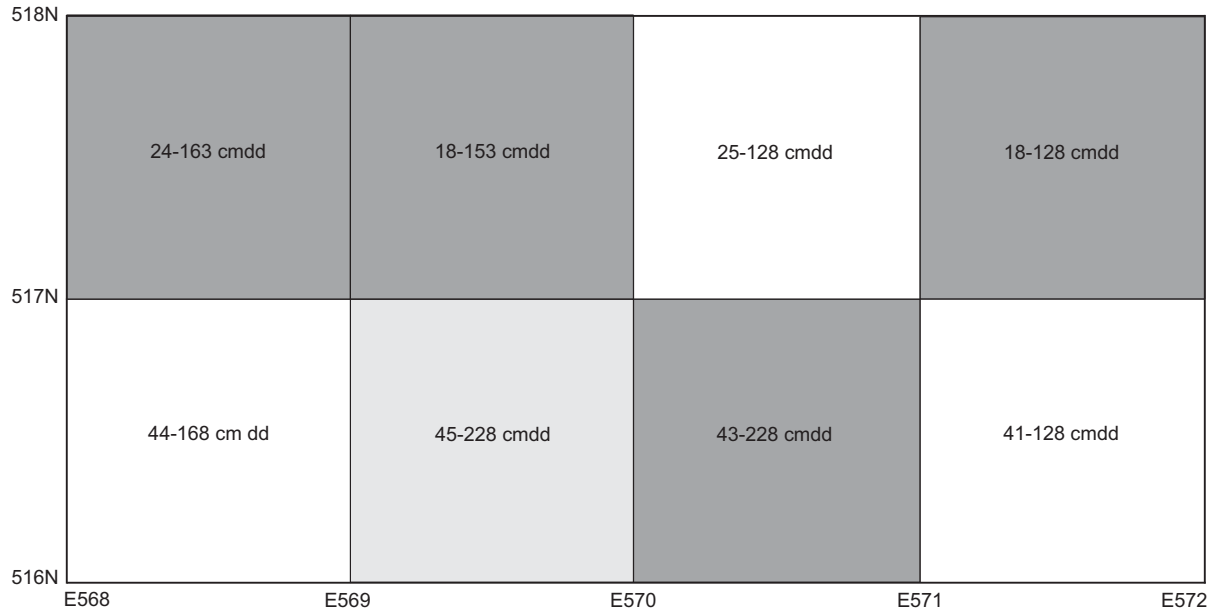
With continuing excavation, it was eventually realized that these were in fact not discrete features but were simply shallow, interlocking depressions excavated through the previllage soil and into the intact sediments below. A strategy of excavation by natural levels following the contact with these intact sediments was then employed in all squares to the south and west where cultural material still remained. After excavation in the western half of Block 1 was completed it was evident that the previllage soil was absent from this entire area. The midden deposit in this portion of the block filled a large basin-shaped area, containing numerous smaller internal depressions. It had been excavated through the previllage soil and into the intact, yellow-brown sediments that normally occurred below it. This basin-shaped area can clearly be seen in the mapped profiles of the north and south walls of Block 1 (Figure 2.16 and 2.17, respectively). The deepest area within the basin was 164 cmdd, 66 cm below the average depth of contact with the previllage soil. As can be seen in Figures 19 and 20, this basin continues to the west and outside the boundaries of Block 1.



Figure 2.14. The location of Excavation Block 1, City Block N89.

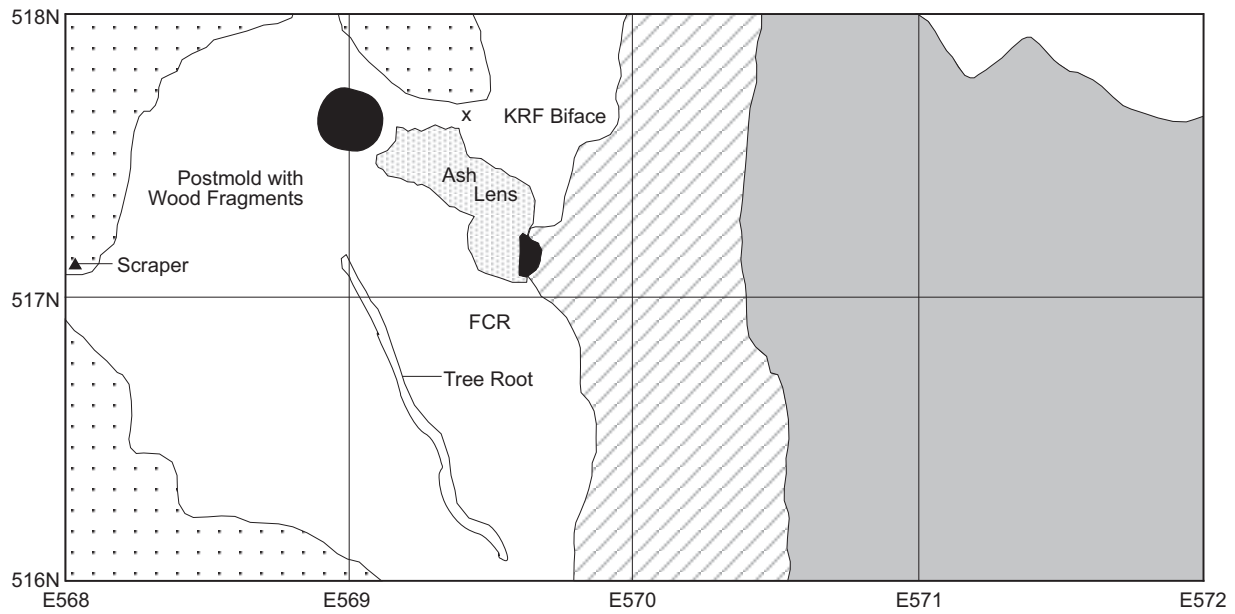
Two squares in the southern half of Block 1 (516NE569 and 516NE570) were excavated below the previllage soil to a final depth of slightly over two meters below the highest surface (228 cmdd). Excavation below the previllage soil in these squares was used to investigate the possibility of earlier cultural components and to more fully understand site stratigraphy and formation processes. Intact sediments containing little cultural material were exposed below the level of the previllage soil, and below the midden-filled depression in the western portion of Block 1. These sediments were characterized by alternating bands of yellowish-brown silt and dark gray to black humic zones (Figure 2.17).

Excavations in Block 1 reached slightly over two meters in depth, measured from the north wall of the excavation block. Depending on location in Block 1, between 50 and 120 cm of cultural midden was exposed. Given that a portion of the midden was likely removed through construction and landscaping activities, these depths represent a minimum range of the actual depth of cultural materials that once existed in this area. The midden was evidently deposited directly onto the previllage soil, and in some areas the cultural materials were also placed into depressions that had been excavated into and through the existing landscape surface (see Figure 2.16-2.18). The processes that formed these depressions are unidentified, but it is likely that the depressions represent borrow areas where soil was removed for earthlodge construction or other purposes.

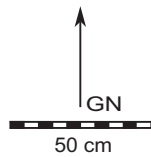


**Block 1 Plan and Excavated Depths**

- Entire square studied in lab (Priority 1)
- Studied from 168-228 cmdd (Level 14 - to bottom)



**32MO31**  
**Scattered Village**  
**Block 1 Floor Plan**  
**at 98 cmdd**



- Highest concentration of artifacts
- Main midden deposit
- Ash
- Light brown silt, cultural with artifacts
- Previllage A horizon, dark gray silt loam

Figure 2.15. Excavated depths, distribution of priority 1 squares, and plan view of Excavation Block 1, 98 cmdd, Scattered Village, site 32MO31.

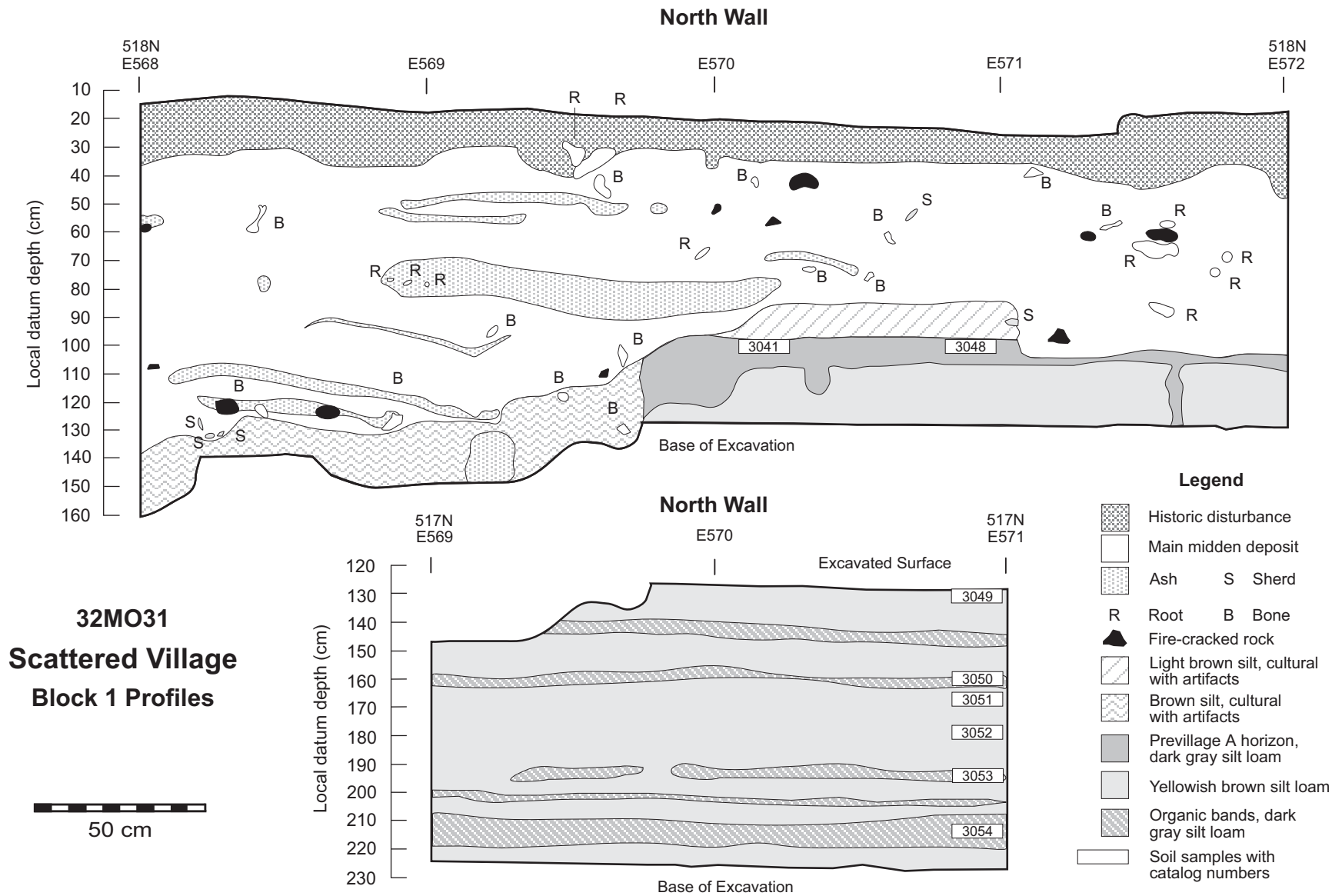


Figure 2.16. North wall profile, Excavation Block 1, Scattered Village, site 32MO31.

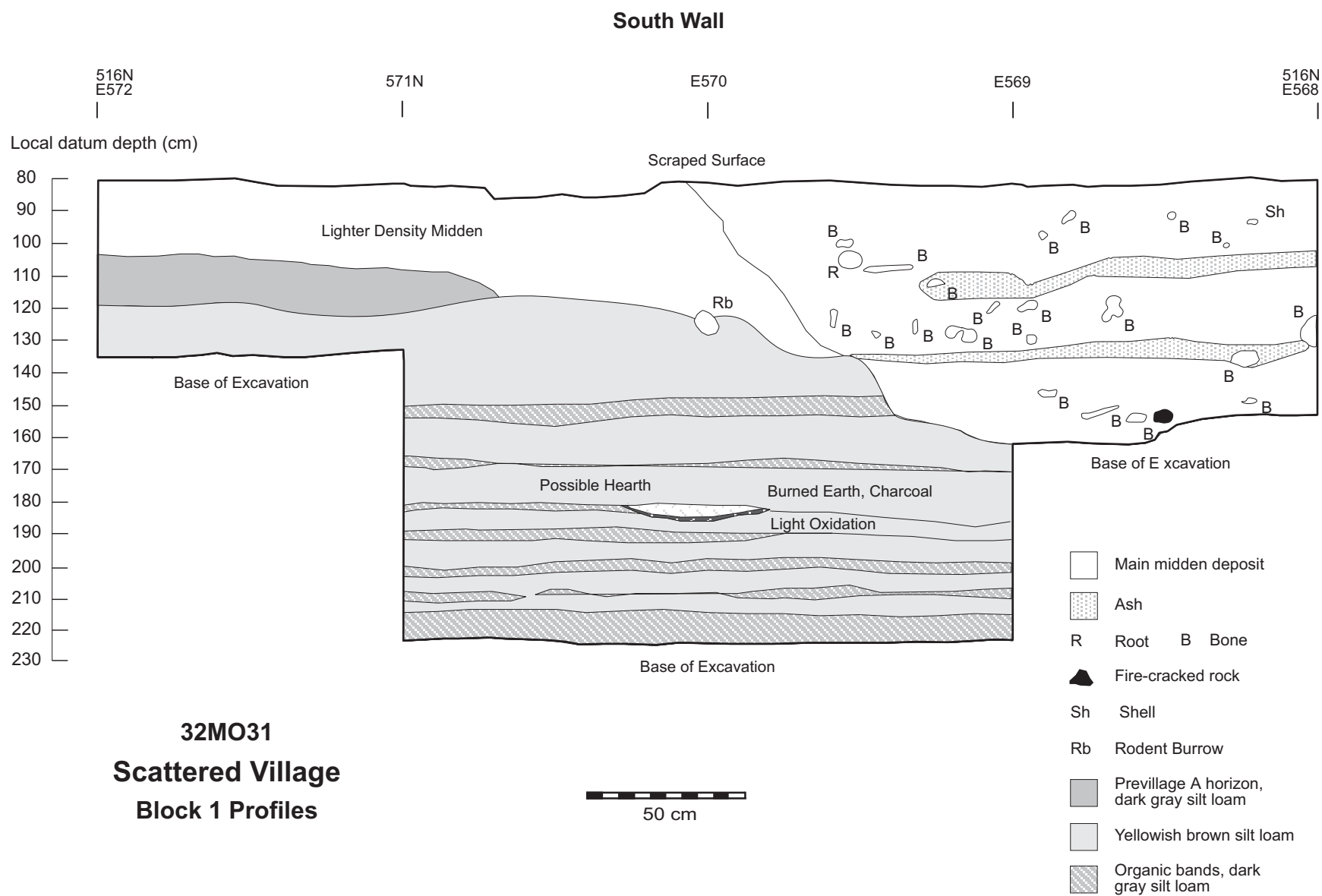


Figure 2.17. South wall profile, Excavation Block 1, Scattered Village, site 32MO31.

Large stratigraphic layers within the midden were not recognized during excavation in Block 1, something that is confirmed by the stratigraphic profiles of the excavation block completed after excavation. However, a few smaller, discrete lenses or layers of ash, charcoal and burned organic debris can be seen in profile and clearly represent discrete depositional events (a few of these lenses, or layers, were recognized during excavation and were treated as features during the excavation process--see below). Discrete layers or lenses of cultural material within the main midden deposit can best be seen in the south, west, and western portion of the north wall of Block 1 (Figure 2.16-2.18). They are conspicuously absent from the east wall profile as well as the easternmost portion of the north wall profile. Whether this represents different depositional processes in the northeastern portion of Block 1, or disturbance by the multitude of roots in this area is unknown. An obvious stratigraphic boundary, marking two different depositional events, was recorded in the south wall profile (Figure 2.17). This boundary indicates a truncation of older cultural deposits and the subsequent deposition of younger material. Any evidence of a similar sequence of events is absent from both the north and west walls of the block. If this boundary can be projected from south to north across the block, it suggests that deposits from top to bottom in the eastern two squares represent a fill unit younger in age than the full segment in the westernmost four squares in Block 1.

Five features were identified during the excavation of Block 1. This included three concentrations of charcoal and charred botanicals, one artifact concentration, one hearth, and one postmold. Table 2.13 below provides summary data on all excavated features.

*Feature 13* is an ash lens in square 516NE568 at a depth of 68 cmdd. It is roughly oval in shape (ca. 80 x 100 cm) and continued into both the north and west walls of the square. Charcoal and charred botanicals, as well as numerous pieces of bone were present within the lens of ash, which averaged 3 cm in depth. The entire feature contents were floated.

*Feature 48* is a small (ca. 20 cm diameter) concentration of charred organic debris averaging about 3 cm in thickness. The feature was located at 98 cmdd on the boundary between squares 517NE569 and E570, approximately 50 cm north of the southern wall of the squares. Botanical items visually identified in the field were corn, beans and unidentified grass florets.

*Feature 52* is a dense concentration of ceramics and bone in square 517N E568 (Figure 2.19) that filled almost the entire 1 x 1 m square. The eastern and southern boundaries of the feature correspond almost exactly to those same square boundaries. The feature continued into the northern and western walls of the square. Sediment surrounding the artifacts within the feature was carefully removed and the feature was photographed (Figure 2.19). The 1 x 1 m square was divided into four 50 x 50 cm quadrants, and the feature was excavated by removing each quadrant separately. Feature fill was waterscreened and a float sample was collected from the NE quadrant.

*Feature 58* is a relatively thin concentration of ash and burned organic debris that spanned several excavation squares. Initially encountered in square 517NE569, continued excavation in the western portion of Block 1 eventually revealed that this feature was also present in squares 517NE569, 516NE569 (Figure 2.20). Figure 2.20 is a composite map of the

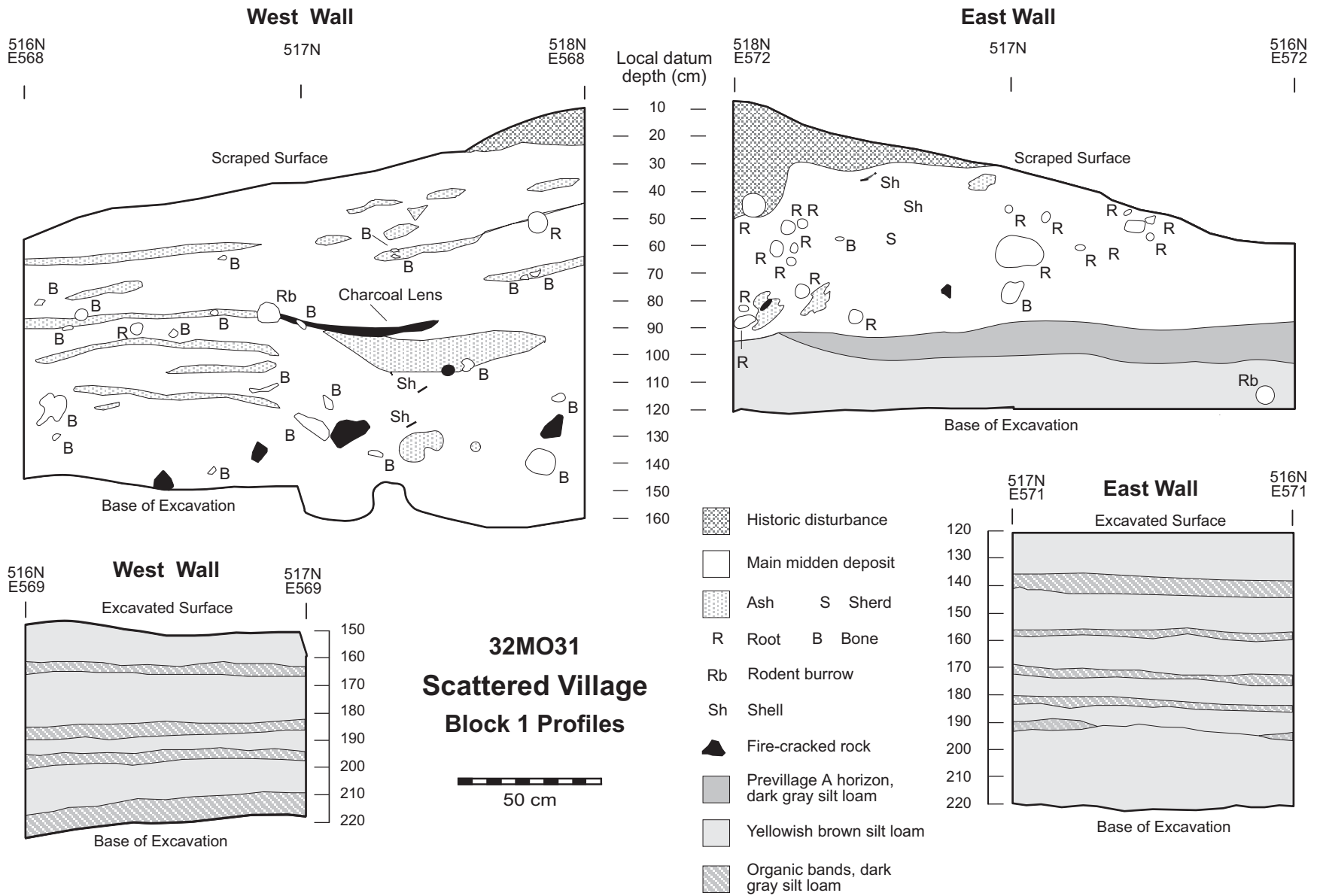


Figure 2.18. East and west wall profiles, Excavation Block 1, Scattered Village, site 32MO31.

Table 2.13. Summary data, excavated features, Block 1, site 32MO31.

Feature Number	Feature Type	Northing	Easting	Depth (cmdd)	Excavated Volume (m <sup>3</sup> )
13	Ash Lens	516	568	68-71	.019
46	Borrow Area/ Natural Level	517	571	98-108	.018
48	Charcoal/ Botanical Concentration	517	569	108-118	.002
51	Borrow Area/ Natural Level	517	570	108-118	.010
52	Artifact Concentration	517	568	108-118	.103
56	Borrow Area/ Natural Level	516	570	98-118	.076
58	Charcoal/ Botanical Concentration	517	569	118-132	.075
66	Borrow Area/ Natural Level	516	569	128-153	.207
181	Hearth	516	569	183-188	.002
183	Postmold	517	568	98	NA

feature since the entire feature was never exposed at any one time. While creating the composite map it became clear that F58 was probably also present in square 516NE568. However, the feature was not recognized in the field during excavation of this square. Feature 58 was encountered at a depth of 108 cmdd, ranged between 3-10 cm in thickness, and dipped to the west, somewhat mirroring the topography of the basin that holds the midden deposit (see above). Individual portions of the feature were excavated within each of three squares as it was encountered. All feature fill was bagged and returned to the lab for flotation.

*Feature 181*, apparently a small hearth, was the single cultural feature that was encountered during excavation that went below the previllage soil in squares 516NE569 and 516NE570. The feature continued into the southern wall of the block and is visible in profile as a small basin-shaped area (50 cm long, 5 cm thick) of charcoal-stained earth overlying a thin rind of oxidized earth (see Figure 2.17). Several small pieces of granite were also recovered from the vicinity of the feature. The profile shows the hearth is inset into one of the numerous humic bands below the previllage soil. Unfortunately, the hearth was not identified as a feature during excavation and was removed with the general level fill. A portion of the feature extended into square 516NE570 and was recovered with the constant volume float sample taken for the general level. That sample is processed as part of the feature. Additionally, once the feature was recognized in profile, it was removed from the wall before backfilling occurred, bagged, and returned to the laboratory for flotation. Charred plant material from this wall sample has been submitted for AMS dating.





Figure 2.19. Feature 52, Excavation Block 1, Scattered Village, site 32MO31.

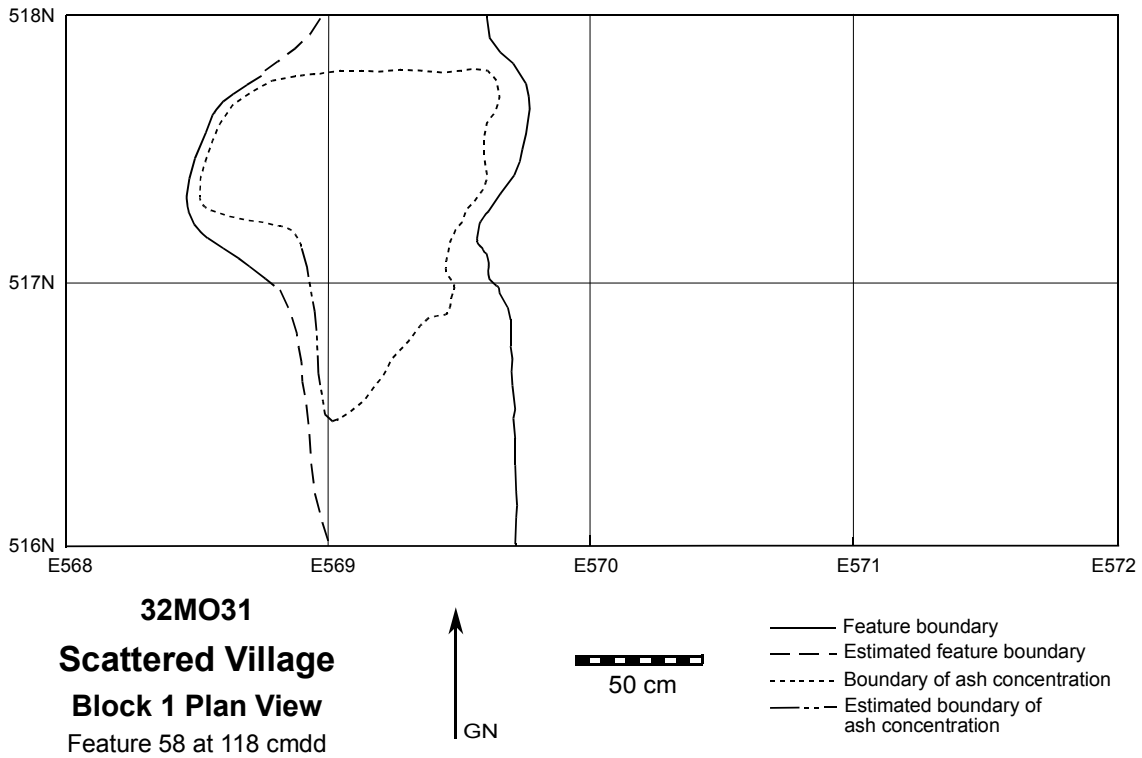


Figure 2.20. Plan view of Feature 58, Excavation Block 1, Scattered Village, site 32MO31.

*Feature 183* is the only postmold identified during excavation of Block 1 (Figure 2.15). Unfortunately, the postmold was inadvertently removed with the general level fill before it could be excavated as an isolated feature. Therefore, no number was assigned for this feature. However, its location was mapped prior to its inadvertent removal. The postmold was 20 cm in diameter and was identified at a depth of 98 cmdd, 60 cm north of the south unit wall on the boundary between squares 517NE568 and E569.

### *Borrow Areas*

In almost the entire western-half of Block 1 the previllage soil had been removed by the prehistoric excavation of a large basin-shaped area. This large basin is interpreted as a borrow area where village occupants excavated soil for various needs. Three parts of this basin area were excavated as separate features (F46, F51, F56, and F66). Feature 46 was just barely exposed in square 517NE571. Features 51 and 56 were identified in squares 516NE570 and 517NE570 and represent the eastern extent of the basin complex that truncated the previllage soil. Feature 66 was identified in square 517NE569 at a depth of nearly 128 cmdd, well below the previllage A horizon, and represents two smaller, circular depressions within the larger borrow area.

### *Sampling Strategy*

Four squares and part of a fifth excavated in Block 1 were assigned priority 1 for laboratory processing. Figure 2.15 illustrates squares assigned priority 1, as well as depth of excavation in all squares within Block 1. Squares 517NE568 and E569 were chosen to obtain a stratigraphic sample from the deepest portion of the basin-shaped depression in the western portion of the block. Square 517NE571 was chosen to provide a contrastive sample to the two squares indicated above. Square 516NE570 was chosen to provide a sample of the material outside of the basin-shaped depression in the southern part of the block (and based on stratigraphic profiles, is presumably older than the material in the depression). Finally, the material from square 516NE569, from level 14 to the base of the square, was chosen to look for materials associated with the hearth-like feature exposed in the south wall of Block 1 well below the previllage soil.

## **Excavation Block 2**

Excavation Block 2 was in the extreme western portion of City Block N910 on the same elevated landform as Block 1 (see Figure 2.12). The existing surface of Block 2 sloped down from north to south in the same way as the surface in Block 1, although the slope was much more gradual. Additionally, Block 2 was at the western limit of the elevated landform (at the street corner) and as such there was some degree of slope to the west. During the testing phase of the project, strip trench N910-3 exposed significant intact cultural remains in this area. The surface expression of cultural debris in this area suggested that approximately 25 square meters of cultural deposit remained intact.

A substantial amount of construction activity had occurred in the location of Block 2 prior to the initiation of excavation. The ground surface had been scraped clean of vegetation

and several centimeters of sediment had been removed. Stratigraphic profiles completed after the excavation of Block 2 revealed that most of the sediment removed during construction activity was historic in origin (Figure 2.21 and Figure 2.22). However, it should be noted that some amount of landscaping activity had occurred in this area prior to the First Street Improvement Project. It is therefore likely that a significant amount of cultural material had been removed and/or disturbed at some time in the past.

The initial excavation plan was for excavation to occur in a 12 square meter area, with at least two 1 x 1 m units excavated to two meters in depth to sample site geologic stratigraphy and investigate the possibility of previllage cultural components. Not knowing the precise location of the most productive deposits, we did some excavation in 16 squares that overlay areas of greater depth in Block 2 (Figure 26). We eventually narrowed this to 11 squares that penetrated the previllage A horizon, with one of the squares excavated well into previllage sediments. All told, 13.42 cubic meters of site matrix was excavated.

Work in Block 2 began on July 23 and was completed on August 16. Three crew members worked on Block 2 at all times, except for a period of one and a half days when the crew was reduced to two. The first work in Block 2 was the production of a detailed plan map of the existing ground surface (Figure 2.24). Initially, an area four meters wide and six meters long encompassing the majority of the exposed cultural material was scraped clean of loose soil. Visible concentrations of artifacts or areas containing potential features were left undisturbed. A few patterned tools were encountered, mapped and collected during this cleaning process. The surface within this area was then gridded into 1 x 1 m squares. Surface elevations using a local datum were recorded for every intersection point within the 1 x 1 m grid, and artifact concentrations as well as changes in sediment color and quality visible on the ground surface were mapped in detail (Figure 2.24).

Excavation in Block 2 took place in three phases. The first involved excavation along the southern and western periphery of the visible cultural deposit. This included work in squares 514NE508, 515NE506 through E508, 516NE503 through E508, and 517NE503 through E504 (see Figure 2.23). Throughout most of this area individual squares were continuously excavated to a level of 70 cmdd at which point work ceased and excavation began in an alternate or diagonal square. Using this strategy, most squares in the southern portion of the block were excavated to a common level of 70 cmdd before excavation continued to deeper levels. In the western portion of the block squares were initially excavated to a common level of 80 cmdd before continued excavation took place.

During the second phase of work excavation was halted in several squares farthest to the south and west (squares 514NE508, 515NE506, 516NE503, 517NE503, and 517NE504), but continued in an L-shaped arrangement of squares (516NE504 to 516NE508, 515NE507, and 515NE508). The previllage soil was encountered at a depth of approximately 120 cmdd in these seven squares. Six of these squares were excavated to 140 cmdd, and one square (516NE506) was excavated to 220 cmdd to sample previllage deposits. The third phase of excavation focused on the remaining four squares in the northeast portion of the block, specifically in squares 517NE505 through E508 (Figure 2.23). The row of four contiguous squares was excavated from the existing surface to a final depth of 140 cmdd.

Discussion of stratigraphy in Block 2 can be broken into two parts: sediments in the primary village deposits, and the subvillage sediments. Village age or village derived sediments were laid down in relatively broad, uniform horizontal layers on the nearly flat-lying, very dark A horizon which marked the previllage surface in this part of the site (previllage soil). This village sediment package was about 65-70 cm thick throughout most of Block 2, and was capped by a 30-50 cm thick layer of disturbed historic-age fill (Figure 2.21 and Figure 2.22). The upper surface of the village sediment unit is truncated in this area, at the base of the historic fill unit, and it is unclear how great the original thickness of village midden might have been in this part of the site, prior to historic disturbance.

During excavation, the massive village age sediment package appeared almost devoid of internal stratification, except for an occasional thin lens of ash or a thin band of sediment reddened by in situ burning. In profiles visible after the block was excavated, the north and east walls of the block reveal that the primary village sediment package can be divided vertically into four subunits differing from each other slightly in color (Figure 2.21 and Figure 2.22). When excavation was begun in Block 2, the surface-most layers contained relatively large amounts of artifacts, and it was thought that the entire excavation might penetrate a midden rich in artifacts. As it turned out, artifact density dropped off dramatically as soon as an ashy layer high in the deposit was penetrated (at about 50 cmdd, Figure 2.21); the lower 60 or so cm of village deposit in the block contained a very sparse artifact deposit.

A large number of postmolds were discovered in the block that were simply cavities, only partially filled with sediment. This strongly suggested that the depositional rate in Block 2 was very high, sealing over the butts of posts which had rotted/broken off at the ground. The low artifact density indicates that sedimentation was probably by colluvial and alluvial mechanisms. We can suggest that village deposits here derived from rapid wash and infilling from topographically higher ground just to the north and east, from places higher on the alluvial fan landform on which the village is located. Despite the large number of postmolds found in this block (see discussion following), there is no indication that the area we excavated lay within one or more earthlodge structures during its history. Given that Block 2 apparently lies in an outside-house location, it is therefore also possible that sediments in Block 2 washed in from roof coverings on nearby earthlodges.

The horizontally layered village sediment package in Block 2 was punctuated by a fairly large number of features that originated at different elevations in the deposits, as will be discussed below. These included a large number of posts originating at many different elevations, a few large pits which originated near the base of the village sediment package (F68 and F178 in Figure 2.21; and F97 and F57 in Figure 2.22) and other pits (in some cases superimposed on older pits) that originated at high elevations now truncated by historic disturbance (F67 in Figure 2.21).

The previllage A horizon, 10 to 20 cm in thickness, uniformly underlies the village age sediment package in Block 2 and represents the ground surface on which the village was established. This A horizon is actually the uppermost part of a separate, natural sediment package that predates the village occupation (Figure 2.21). The squares that were excavated to

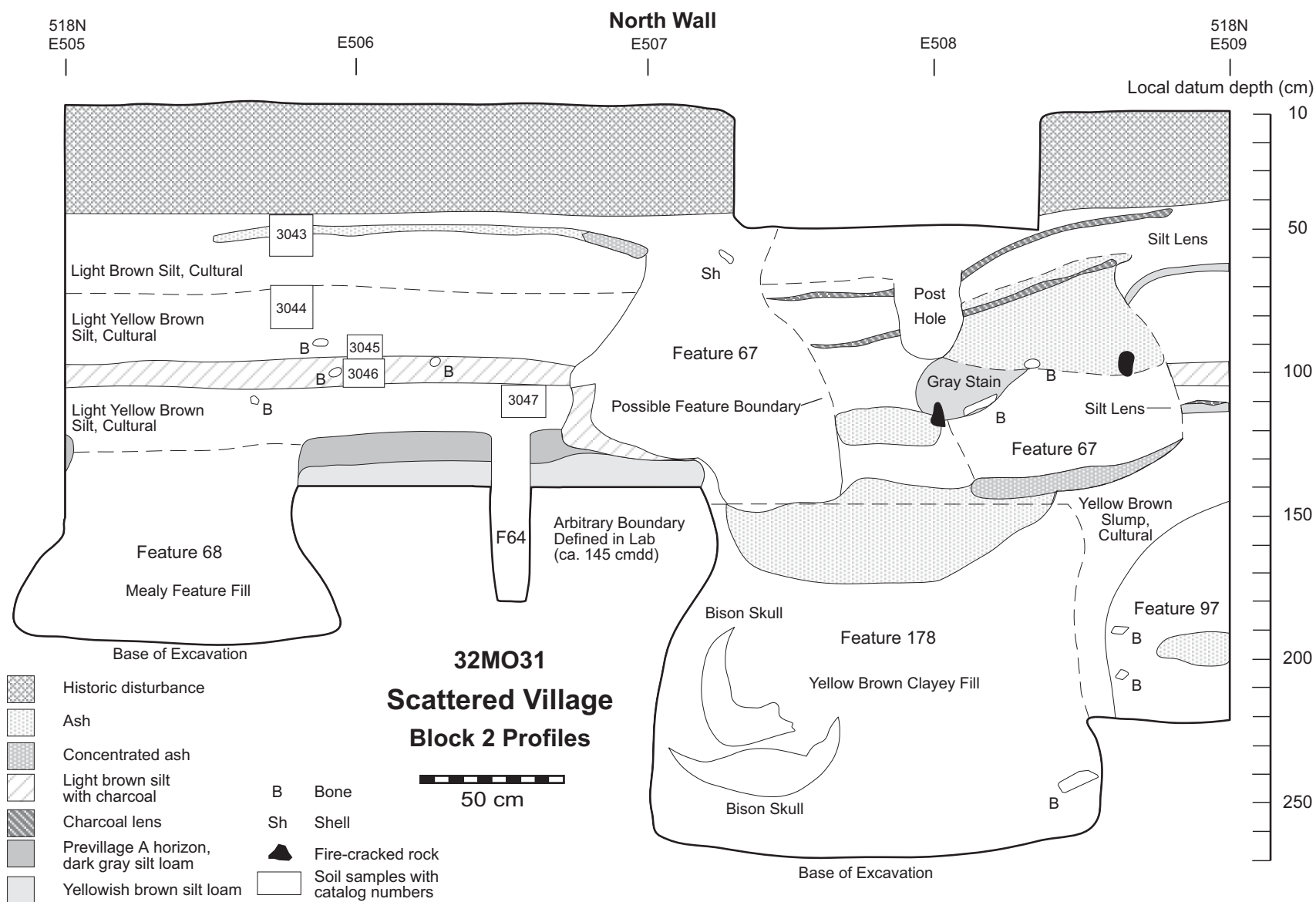


Figure 2.21. North wall profile, Block 2, Scattered Village, site 32MO31.

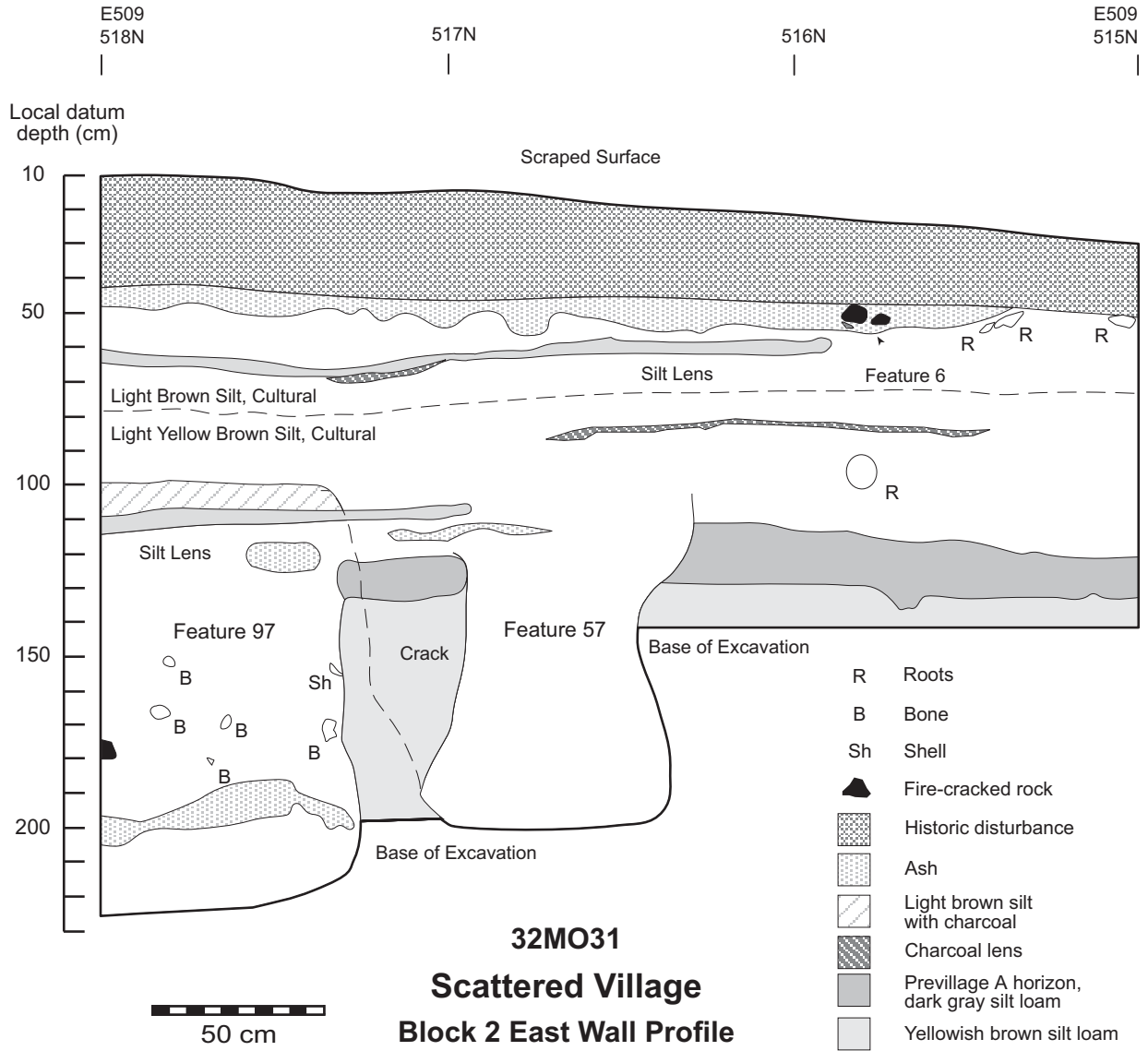


Figure 2.22. East wall profile, Block 2, Scattered Village, site 32MO31.

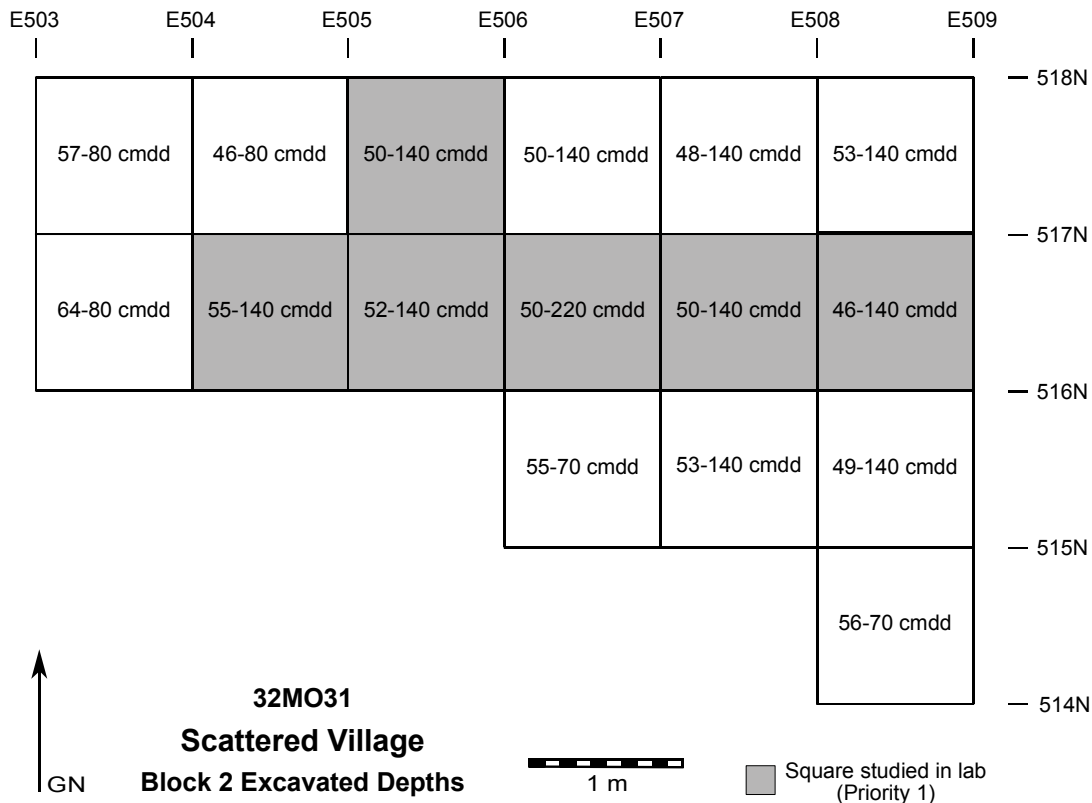
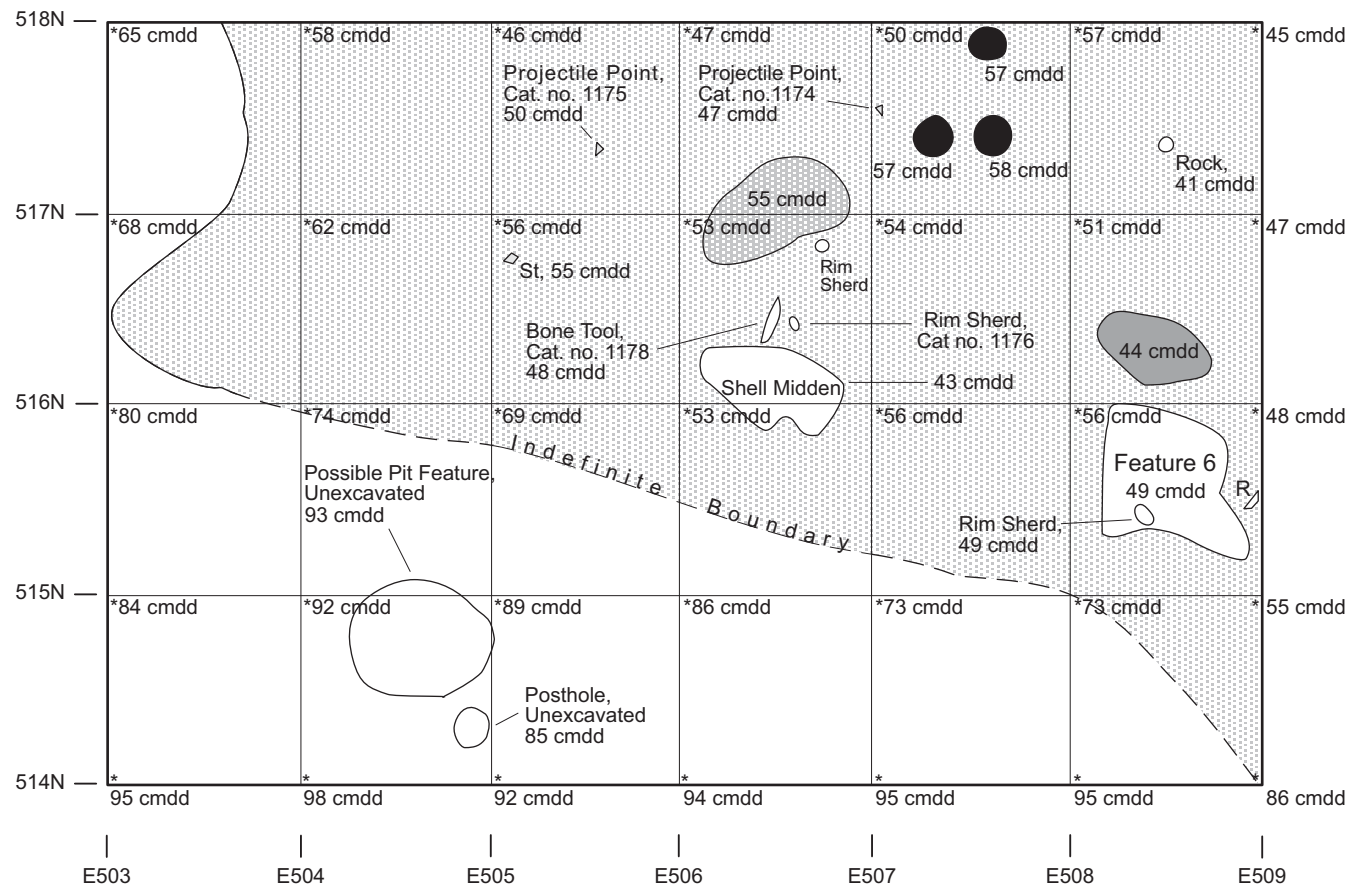


Figure 2.23. Block 2 excavated depths and priority 1 squares, site 32MO31.

140 cmdd in Block 2 penetrated this A horizon and entered a yellowish brown silty clay that underlies it throughout the block. One excavation square, 516NE506, penetrated an additional 80 cm into the subvillage natural sediments. In the walls of this square, three alternating sets of dark grayish brown and light yellowish brown sediment layers were exposed (Figure 2.25). We interpret the dark layers to reflect three successive and briefly stable ground surfaces on which vegetation grew and organic matter began to accumulate, each overlain by a rapidly infilled sediment unit made up of the lighter colored deposits. Counting the previllage soil, our excavations revealed four cycles of infilling and stabilization, with the latest or uppermost dark horizon reflecting the most lengthy period of stability and soil development prior to village occupation. During excavation, very few artifacts were noted in the subvillage deposits, which was one reason that a second excavation square originally planned to penetrate these deposits was not excavated.

The features identified in Block 2 included over thirty postmolds, several pits, two hearths, and one artifact concentration (fire-cracked rock). The northeast corner of Block 2 was by far the most stratigraphically complex containing numerous discrete as well as superimposed pit features (see Figure 2.21). Table 2.14 provides summary data for all Block 2 features including sort priority. The reader is referred to Figure 2.27 for a plan view of feature distribution.



**32MO31**  
**Scattered Village**  
**Block 2 Pre-Excavation Plan**



- |  |  |    |                                     |
|--|--|----|-------------------------------------|
|  | Area of concentrated cultural material | R  | Root                                |
|  | Concentrated ash                       | B  | Bone                                |
|  | Black stains                           | St | Stone tool                          |
|  | Dark brown stain                       | *  | Surface depth at grid intersections |

Figure 2.24. Surface of Block 2 prior to excavation, Block 2, Scattered Village, site 32MO31.



Table 2.14. Summary Feature data, Block 2, site 32MO31.

Feature Number	Feature Type	Square Northing	Square Easting	Excavated Volume, m <sup>3</sup>	Sort Priority
6	FCR Concentration	515	508	.048	1
12	Hearth	516	506	.003	1
14	Pit	515	507	.838	**1
18	Postmold	516	504	.024	3
22	Postmold	516	507	.003	3
23	Postmold	516	507	.008	3
24	Postmold	516	507	.050	3
30	Pit	515	508	.070	*1
33	Postmold	516	508	.064	3
34	Postmold	516	505	.008	3
35	Postmold	516	508	.001	3
36	Postmold	516	504	.012	3
37	Postmold	516	504	.012	3
38	Postmold	516	508	.006	3
39	Postmold	516	508	.004	3
40	Postmold	515	508	.015	3
41	Postmold	515	508	.014	3
42	Postmold	515	508	.024	3
43	Postmold	516	505	.012	3
44	Postmold	516	506	.023	3
45	Postmold	516	507	.020	3
49	Postmold	516	507	.007	3
50	Postmold	516	505	.016	3
53	Postmold	515	507	.011	3
54	Postmold	516	508	.005	3
57	Pit	516	508	.153	*1
59	Postmold	517	506	.010	3
61	Postmold	517	506	.003	3
62	Postmold	517	506	.011	3
63	Postmold	517	506	.019	3
64	Postmold	517	506	.025	3
65	Hearth	517	505	.026	1
67	Pit	517	508	.112	*1
68	Pit	517	505	.196	*1
69	Postmold	517	505	.020	3
71	Postmold	516	506	.003	3
72	Postmold	516	506	.024	3
77	Postmold	516	506	.014	3

Table 2.14. Summary Feature data, Block 2, site 32MO31, concluded.

Feature Number	Feature Type	Square Northing	Square Easting	Excavated Volume, m <sup>3</sup>	Sort Priority
80	Postmold	517	507	.004	3
81	Postmold	517	507	.012	3
97	Pit	517	508	.179	*1
178	Pit	517	508	.958	***1

\*indicates only waterscreen samples listed as priority 1. Heavy fraction float samples from the same level were assigned priority 3.

\*\*Levels 1 and 3 selectively sorted for pottery and trade materials only; levels 2, 4, 5 sorted completely.

\*\*\*Level 1-4 selectively sorted for pottery and trade materials only; levels 5-8 sorted completely.

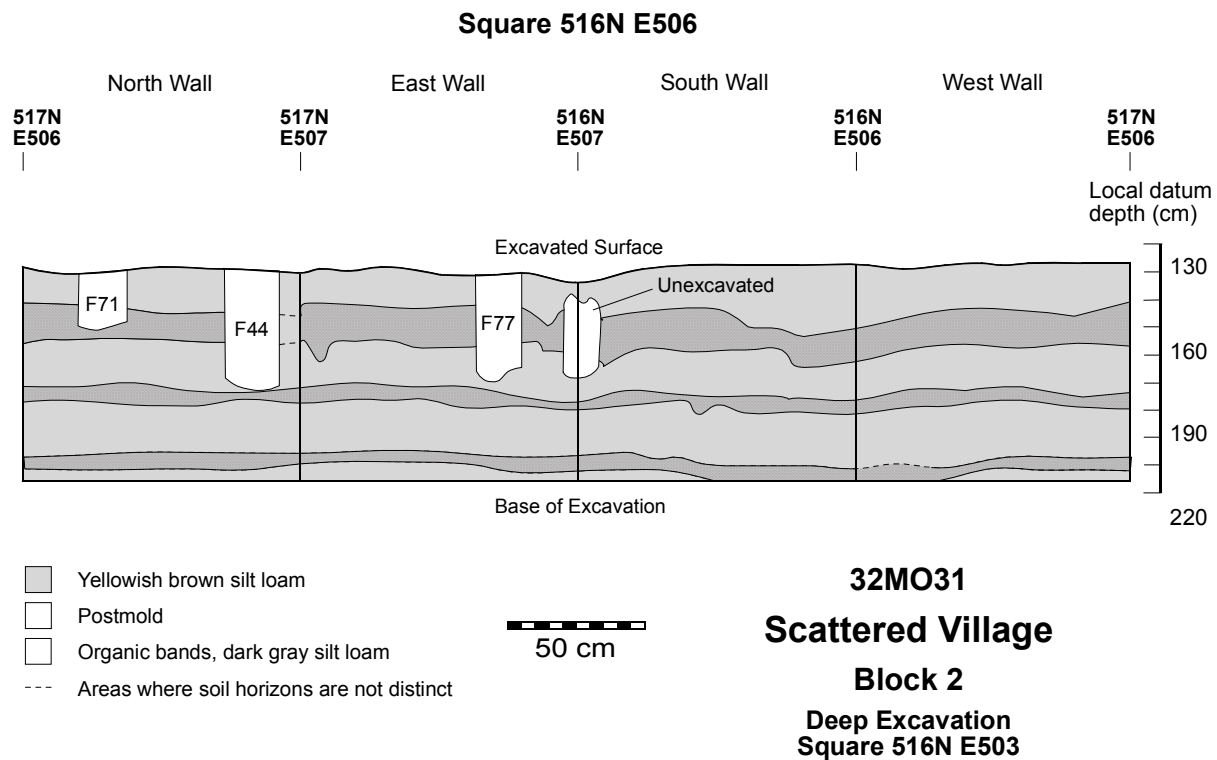


Figure 2.25. Profile of deep excavation square 516NE503, site 32MO31.

## *Postmolds*

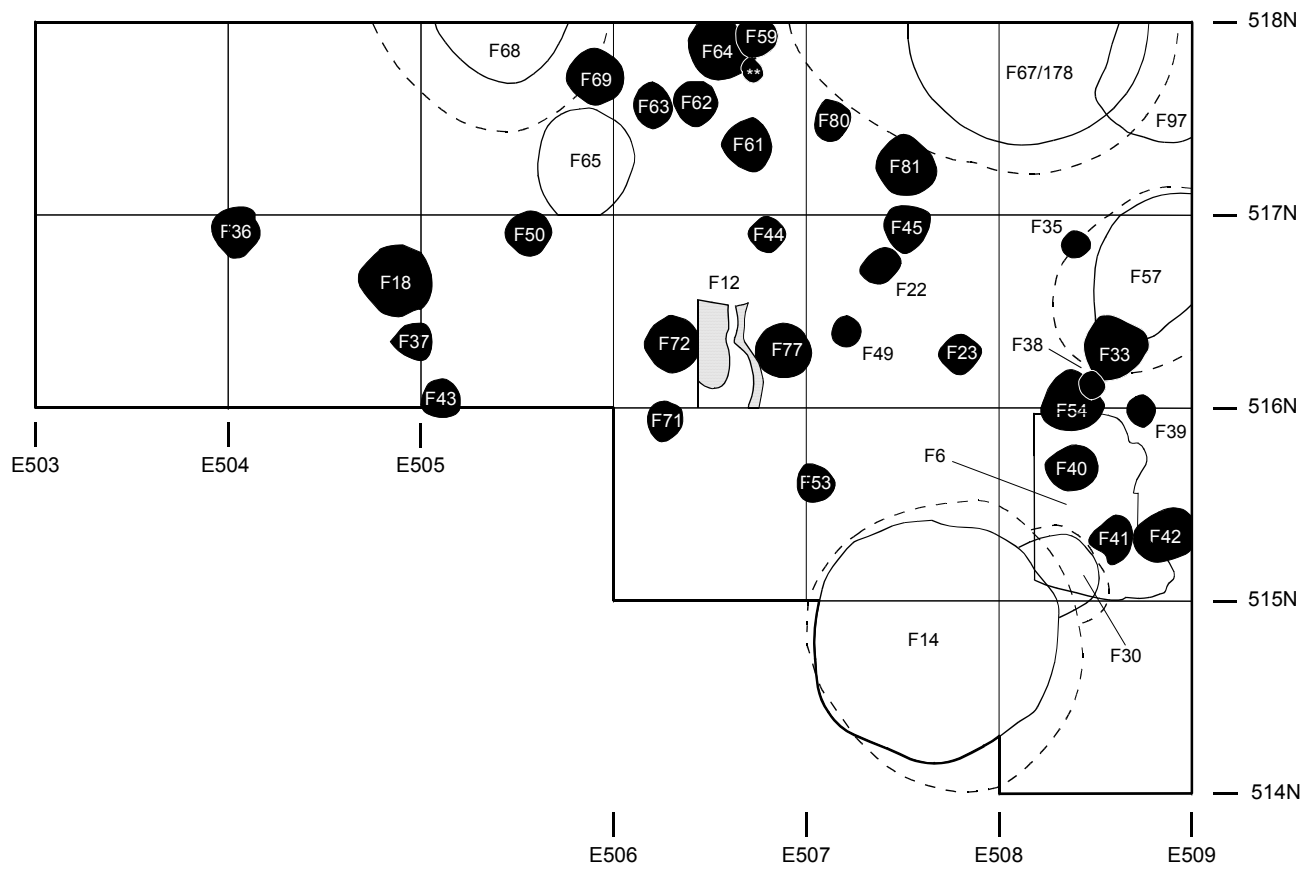
Postmolds were the most common feature encountered during excavation of Block 2. Thirty-one were identified, originating at depths ranging from 80 to 160 cmdd. In general, postmolds were excavated as they were encountered, with all fill removed as a unit regardless of the point of origin. Excavated fill was then waterscreened. Figure 2.26 illustrates the distributions of all posts within Block 2 regardless of the depth they originated. Table 2.15 presents summary data for postmolds in Block 2 including location, diameter, and starting and ending depths.

Postmolds in Block 2 are generally distributed in a wide swath that runs from the southeast to the northwest. However, it is likely that this pattern is related more to the distribution of pits within Block 2, than to the actual placement of structures (see Figure 2.26). Also, there are no obvious horizontal spatial patterns in postmold distribution that suggest the presence of a structure such as an earthlodge. The possible exceptions are F18 and F33 which originated at the same depth, and are the proper diameter and distance apart to be considered perimeter posts of a circular earthlodge (see discussion of Hidatsa and Mandan earthlodge architecture in "Excavation Block 3"). However, there are no other lines of evidence, such as roof-fall or an obvious floor, to suggest that the posts are associated with an earthlodge. Instead, it is more likely that Block 2 was an outside-house activity area where temporary shelters, drying racks, or other structures requiring posts were constructed. If grouped by the depth at which they originate, several discrete groups of postmolds become apparent suggesting that some posts were used contemporaneously. Figure 2.27 maps those posts that originated at 80, 90 and 100 cmdd; Figure 2.28 maps posts originating at 110 and 120 cmdd; and Figure 2.29 those originating at 130, 150 and 160 cmdd. Note that it is unlikely that posts identified below the level of the previllage soil, or ca. 115 cmdd, actually originated at these depths. It is more likely that they originated much higher and for whatever reasons were unrecognized as features until well below the previllage soil.

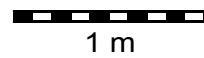
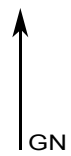
## *Pits*

Seven pits were encountered in Block 2. Four pits (F57, F68, F97, and F178) originated at or near the top of the previllage soil, indicating that they were in use during an earlier period of village occupation. The remaining two pits originated much higher in Block 2 sediments, indicating that they relate to a later period of occupation. One of these pits (actually at least two pits that were excavated as a single feature, F67---see Figure 2.21) were superimposed over a much deeper pit (F178). Feature 14, located in the southern portion of the block, intruded into the previllage soil but originated much higher, although the upper portion of this pit was truncated sometime in the past.

*Feature 14* is a cache pit in the southern portion of Block 2. The feature was large, measuring ca. 1.3 m in diameter, extending into four squares, and was 65 cm deep (Figure 2.30). The pit outline was clear just below the starting point of excavation in this area, at a depth of 70 cmdd, and it terminated just below the previllage soil (ca. 135 cmdd) which it intruded into. The profile of the pit was only slightly undercut (Figure 2.31). Given the shallow nature of the pit

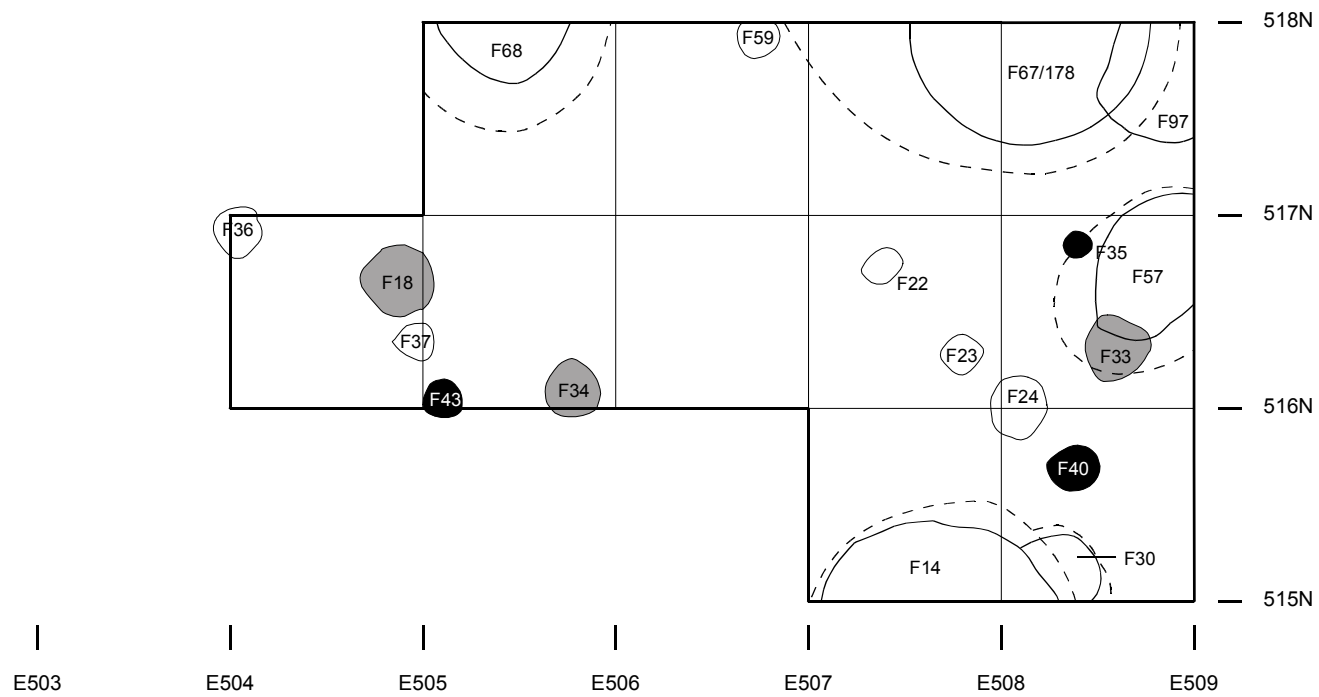


**32MO31**  
**Scattered Village**  
**Block 2 Feature Distribution**



- \*\* No feature number
- Postmolds
- Base of pit
- Orifice of feature

Figure 2.26. Feature distribution, Block 2, Scattered Village, site 32MO31.



**32MO31**  
**Scattered Village**  
**Block 2 Postmold Distribution**  
**Map 1**

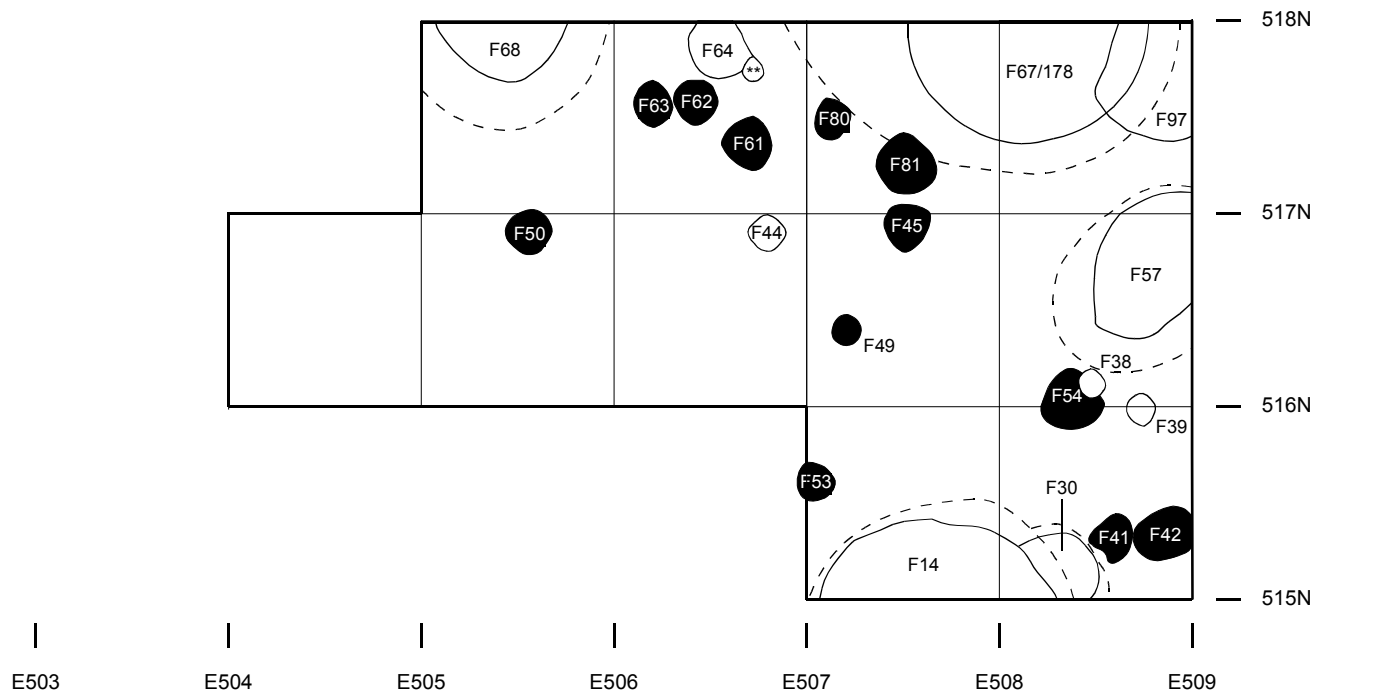
1 m

GN

**Depth postmold first mapped**

□	80 cmdd
■	90 cmdd
■	100 cmdd

Figure 2.27. Postmold distribution 80, 90, 100 cmdd, Block 2, Scattered Village, site 32MO31.



**32MO31**  
**Scattered Village**  
**Block 2 Postmold Distribution**  
**Map 2**

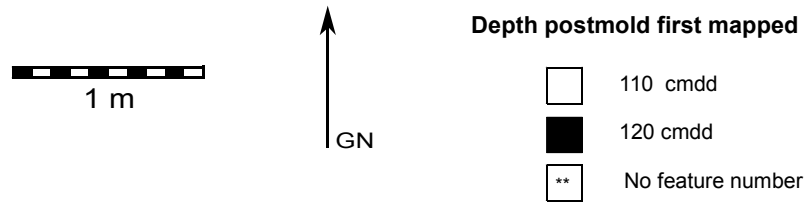


Figure 2.28. Postmold distribution 110 and 120 cmdd, Block 2, Scattered Village, site 32MO31.



Figure 2.29. Postmold distribution 130, 150, and 160 cmdd, Block 2, Scattered Village, site 32MO31.

Table 2.15. Summary data on postmolds, Excavation Block 2, site 32MO31.

Feature Number	Unit Northing	Unit Easting	Average Diameter (cm)	Local Datum Depth
18	516	504	34	090-132
22	516	507	20	080-094
23	516	507	22	080-122
24	515	508	20	080-136
33	516	508	34	090-180
35	516	508	14	100-113
36	516	504	22	080-147
37	516	504	18	103-146
38	516	508	14	110-142
39	516	508	16	110-139
40	515	508	24	100-154
41	515	508	26	120-148
42	515	508	30	120-154
43	516	505	20	100-147
44	516	506	20	110-182
45	516	507	24	110-155
49	516	507	16	120-153
50	516	505	22	120-155
53	515	507	20	116-151
54	516	508	32	120-138
59	517	506	20	080-110
61	517	506	26	120-125
62	517	506	22	120-150
63	517	506	26	120-150
64	517	506	26	120-183
69	517	505	28	130-168
71	516	506	22	150-160
72	516	506	30	150-184
77	516	506	26	160-183
80	517	507	20	120-134
81	517	507	28	120-155

relative to its large diameter it is probable that the upper portion of the pit was truncated and removed historically, leaving only the bottom part of the pit intact. Feature fill contained large quantities of charcoal, fire-cracked rock, ceramics, bone, and modified stone. At least two potential trade items were seen during excavation: an unusual, large glass bead and a small piece of copper. Additional trade items were isolated in the lab in Flagstaff. An additional feature (F30, a large postmold or small pit) was visible in the northeastern wall of F14, and was removed after excavation of F14 was complete.

*Feature 30* is identified as a small pit, but could also be a large postmold. The feature was not located in plan view but instead was identified in profile in the northeast wall of F14 after excavation of that feature was complete. It could not be determined if F30 intruded into or



was intruded by F14. The pit orifice measured nearly 50 cm in diameter, although the feature narrowed considerably as depth increased. Final excavated depth of the feature was 86 cm, although an unknown amount of the upper portion was likely truncated historically. Pit fill consisted of the usual Plains Village debris.

*Feature 57* is a cache pit in squares 516NE508 and 517NE508. An unexcavated portion of the pit continued into the east wall of the block. The feature was first recorded in excavation at a depth of 140 cmdd, although, as can be seen in the east wall profile of Block 2, F57 likely originated near the top of the previllage soil at ca. 115 cmdd (Figure 2.22). The pit measured ca. 60 cm in diameter at its orifice and was nearly 90 cm deep. The pit had a bell-shaped profile measuring nearly 75 cm in diameter at its bottom. Artifact content in the pit was quite rich and included fire-cracked rock, several pieces of modified bone, squash seeds, stone tools, modified shell, and abundant pieces of ceramics.

*Feature 67* and *Feature 178* are undercut pits in the northeastern portion of Block 2 (see Figure 2.21). The feature complex was quite large, spanning squares 517NE506 through E508. It also extended into the north wall of the block. F67 was originally identified at a depth of 100 cmdd. At this depth the diameter of the pit was mapped and excavated at less than a meter, but can be seen in the north wall profile to be 165 cm (Figure 2.21). The feature was excavated to a final depth of 266 cmdd. Although originally identified and excavated as a single feature, review of the stratigraphic profile of the north wall of Block 2 shows that F67 was in fact a conglomeration of at least two separate pits superimposed over a third even deeper pit (see Figure 2.21). Additionally, the profile shows that both of the higher pits originated well above the 100 cm depth at which the feature was identified in the field. The higher pits originated at approximately 60 cmdd and were intrusive into the lower pit to a depth of at least 145 cmdd. Based on stratigraphic profiles a decision was made in the lab to separate the fill from “F67” into two parts for analysis. Material from 100 cmdd down to 145 cmdd is believed to be a mixture of fill from the upper two pits visible in profile. Feature number 67 was kept for this material. Material from 145 cmdd to the bottom of F67 (266 cmdd), as excavated, was treated as fill from a single discrete feature not associated with F67. This lower material was assigned a new feature number (F178) in the lab. Artifact content in all of these pits was typical of that seen in other pits: fire-cracked rock, ceramics, bone, and chipped stone flaking debris. The exceptions were two large, almost complete bison skulls removed from near the bottom of F178 (Figure 2.21).

*Feature 68* is a cache pit in square 517NE505 (Figure 2.22). A portion of the pit remained unexcavated in the north wall of Block 2. Feature 68 was first identified at a depth of 130 cmdd and extended to 193 cmdd. The north wall profile of Block 2 shows that F68 originated at the top of the previllage soil, ca. 10 cm above where it was recognized in the field. It had a bell-shaped profile with an orifice diameter of approximately 80 cm and a bottom diameter of 105 cm. Artifact content was typical of other pits and included ceramics, fire-cracked rock, flaking debris, stone tools, and bone.

*Feature 97* is a cache pit in the northeast corner of square 517NE508 (see Figures 25 and 26). Only about 25% of this feature was excavated as the majority of the feature continued into both the east and north walls of the block. The feature was recognized at a depth of 150 cmdd,



Figure 2.30. Feature 14 after excavation, Block 2, Scattered Village, site 32MO31.

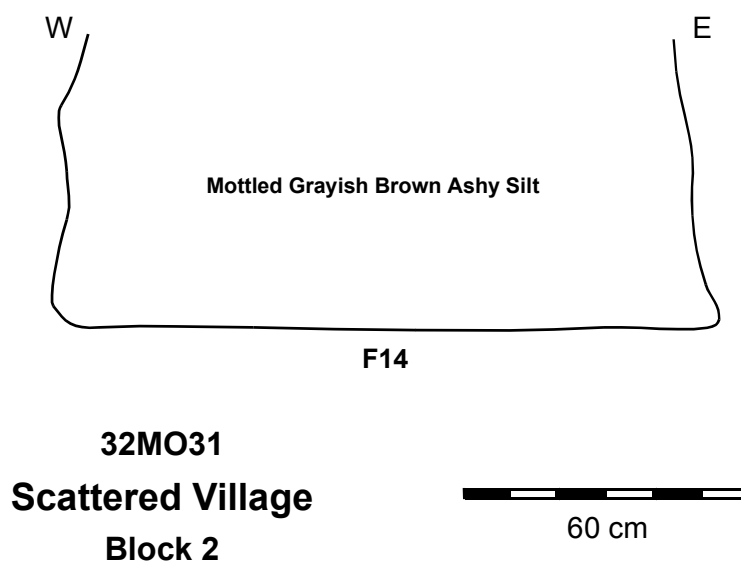


Figure 2.31. Cross section of Feature 14, Block 2, Scattered Village, site 32MO31.

well below the level of the previllage soil. The feature was not recognized at a more shallow depth since excavations did not intersect the pit orifice. Instead, excavations intersected a deeper section of the pit, after it had belled-out below the previllage soil. Artifact content was similar to other pits in Block 2 (i.e. fire-cracked rock, ceramics, bone, and modified stone).

### *Hearths*

*Feature 12* is an area of ash and burned earth in the southeastern quarter of square 516N E506 encountered at 67 cmdd (Figure 2.26). It is tentatively interpreted as a hearth, and if so, is one of two hearths encountered in Block 2. The dimensions of the entire feature are unknown since all of the western portion and a small amount of the northern portion of the feature were inadvertently excavated with general level fill leaving only the eastern portion intact. The feature may have extended into square 515NE506 to the south, although it was not recorded as a discrete feature there. What remained of the feature was a shallow (6 cm) basin-shaped area containing a layer of ash over a charcoal rich layer. A small rind of oxidized earth underlies the charcoal and ash. The feature was removed as a unit and field floated.

*Feature 65* is a shallow, basin-shaped hearth in squares 517NE505 and 517NE506 (Figure 2.26). It measured 50 cm in diameter and was filled with a maximum of 15 cm of ash and charcoal. The hearth was recognized as a feature at a depth of ca. 115 cmdd. However, after reviewing excavation forms it is evident that the feature likely originated at a depth of 110 cmdd. The feature was excavated in halves to allow the hearth to be profiled (Figure 2.32). A moderately thick rind (ca. 4-5 cm) of oxidized earth surrounding the hearth was apparent after excavation was completed. Given the small size of the hearth, and the lack of house-related features in Block 2 (see discussion above---Postmolds), it is most likely that the feature is an outside-house hearth. The entire contents of the hearth were floated.

### *Other Features*

*Feature 6* is a concentration of fire-cracked rock present on the existing surface of square 516NE508 (Figure 2.26). The feature was recorded and excavated prior to excavation of the first general level in this square. Feature 6 was one meter long, 50 to 70 centimeters wide and nine centimeters deep. No discoloration or oxidation was evident below the feature, suggesting that the fire-cracked rock and other materials associated with the feature were discarded in this location. The majority of fill from the feature was processed through the waterscreen, and a float was taken from the feature fill.

### *Laboratory Sampling Strategy*

Approximately 50% of Block 2 materials were given a priority “1” designation for study in the laboratory. The study sample includes all general levels from six of 14 squares in the block (Figure 2.23), and some or all materials from the six pits in the block. Contents of postmolds were not included in the study sample. The six squares were chosen based on the absence of larger features within the squares and the depth of cultural deposit that the square sampled (i.e. squares placed in deeper sections of the block were chosen). All of F57, F67, F68, and F97 were studied. In F14 all of levels 2, 4 and 5 were studied, while only pottery and trade

material was sorted and studied from levels 1 and 3. Feature 178 was studied in its entirety from level 5 through 8; only pottery and trade items were sorted and studied from levels 1-4.



Figure 2.32. Feature 65 with south half removed, Block 2, Scattered Village, site 32MO31.

### **Excavation Block 3**

Excavations in Block 3 investigated the remains of one or possibly two earthlodges on the south side of City Block 910 (Figure 2.12). During the testing phase of the project several cultural features were exposed in curb face trenches excavated east of sidewalk segment S910-18. These included at least two cache pits and what appeared to be a central hearth of an earthlodge (Figure 2.33). Two exploratory pits were also excavated south of the curb face trenches to determine the amount of historic overburden occurring in the area where the earthlodge was believed to be (see section on Testing, City Block S910). In one of the exploratory pits a possible postmold was exposed, further confirming the likelihood of earthlodge remains. The south side of First Street in this area was nearly flat and was approximately one meter below the highest portion of the elevated landform on the north side of the street. Prior to the beginning of archeological work, construction had commenced and most of this area had been scraped clean of vegetation, an unknown amount of sediment had been removed, and several piles of clearly out-of-context sediment (presumably from the areas scraped clean of vegetation) had been scattered along the area between the street and the private property on the south.

Archeological work in Block 3 commenced on July 23 with the removal of disturbed historic overburden from an approximate 60 square meter area believed to contain what might remain of the earthlodge. Several centimeters of historic sediment were skimmed from this area using a backhoe mounted with a toothless bucket (Figure 2.34), with this stripping process being monitored. After clearing most of the potential intact lodge area, bounded on the east and west by waterline trenches, backhoe operation was terminated upon the exposure of what appeared to be human remains in the western portion of the scraped area. After consultation with the SHSND, hand excavation of this feature (Feature 8, see below) began immediately while the remainder of the area was gridded into 1 x 1 meter squares. The surface was then cleaned of loose sediment using trowels and flat-bladed shovels. During this process an additional central hearth was exposed, superimposed over the hearth that was visible in the curb face trench profile. Full-scale excavation of Block 3 then commenced with a crew that ranged in size from four to six members. A total of 14.53 cubic meters of sediment were excavated from a 40 square meter area (Figure 2.35). Work in Block 3 was completed on September 1.

The excavation strategy employed in Block 3 focused on exposing and identifying the architecture of the earthlodge as well as identifying any subfloor or near-lodge features. Full-scale work in Block 3 began with the excavation of Feature 4 (a cache pit exposed in one of the initial curb-face trenches, west of the main part of the excavation block), the partial excavation of F7 (one of the central hearths), and excavation by 5 cm general levels of several squares in the central and west portion of the block. Within these squares the culturally sterile previllage A horizon was encountered at a depth of 25-30 cmdd, usually only a few centimeters below the starting point of excavation. No obvious house floor was encountered during this process, suggesting that it may have existed at a slightly higher elevation and may have been removed by historic disturbance and/or our backhoe clearing operation. However, several features (mostly postmolds) were identified and were clearly visible as areas of lighter fill against the much darker previllage soil. Excavation then continued in the remaining squares west of the central hearths, and ultimately the entire area west of the central hearths was excavated to a uniform elevation of 35 cmdd. Squares 495NE561, 498NE563, and portions of squares 495NE565 and 496NE561 were not excavated due to the presence of historic disturbances. The first was a utility trench that originated on the street, partially intersected F8, and then expanded to the east to include portions of squares 496NE561 and 495NE562. Another area of obvious historic disturbance was a fiber optic phone line that occupied a ca. 20 cm wide trench in the northern portion of all squares along the 495N grid line. The final area of obvious historic disturbance was a large circular area of chipped wood presumably associated with the removal of a tree stump and its associated root mass. This disturbance occupied portions of squares 498NE563 and E564, and intersected the western one-third of F26.

Excavation in Block 3 east and south of the central hearth revealed that the near-surface sediment was very different from that to the west. The previllage A horizon, clearly visible in most of the western portion of the block, was apparently absent in most squares east and south of the central hearths. The division between that portion of Block 3 where the previllage soil was present and that portion where it was absent formed an arc cutting across the block (Figure 2.35).



Figure 2.33. Central hearth (F17) exposed in curb face trench, Block 3, Scattered Village, site 32MO31.



Figure 2.34. Backhoe stripping overburden from Block 3, Scattered Village, site 32MO31.

### Feature Distribution

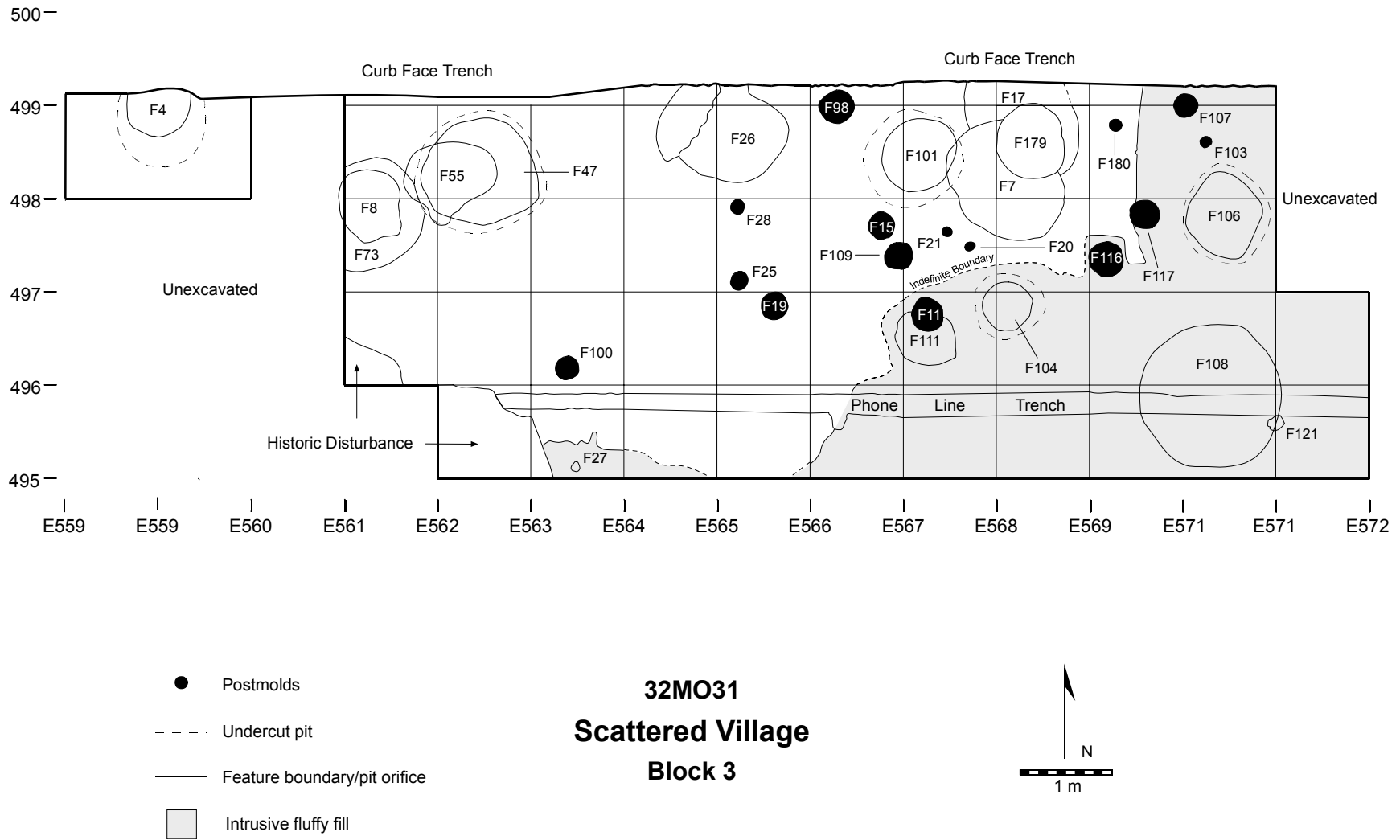


Figure 2.35. Feature distribution, Block 3, Scattered Village, site 32MO31.

Sediment in the area where the previllage soil was removed was singularly distinctive. Described in the field as “fluffy,” this sediment was very soft, homogenous, brown, unconsolidated silt with a moldy feel and with widely scattered artifacts. As work proceeded and the first few centimeters of this sediment were removed, both historic and prehistoric artifacts were encountered. This suggested that the sediment might be intrusive, filling an unidentified disturbance that had removed part of the eastern half of the earthlodge.

To better understand the nature of this deposit several additional levels were excavated from squares 495NE569 through E571. Squares 495NE569 and E570 were excavated to 80 cmdd, and 495NE571 to a final depth of 105 cmdd. The northern 40 cm of these squares was not excavated due to the presence of the phone line trench that traversed them. The general level fill removed from these squares was monitored closely at the waterscreen station for the presence of historic artifacts in an attempt to determine if fill was in fact historic in origin. Historic artifacts were identified in all of these squares at the waterscreen. However, no historic artifacts were identified below 35 cmdd in square 495NE569, below 40 cmdd in square 495NE570, or below 50 cm in square 495NE571. This attempt to clarify the age of the fluffy fill was complicated by the presence of a large pit, F108, that took up most of the squares 497NE569 and 495NE570. This pit was also filled with the “fluffy” sediment.

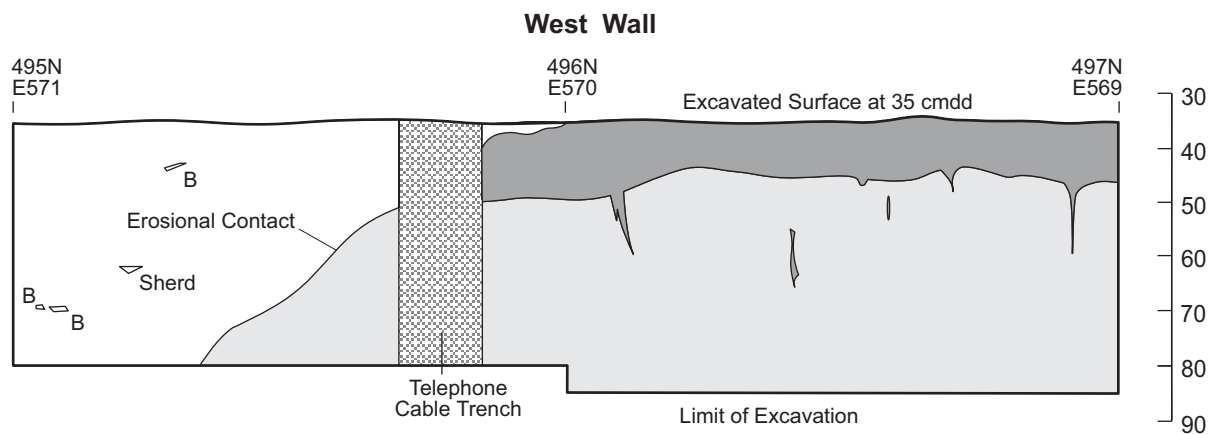
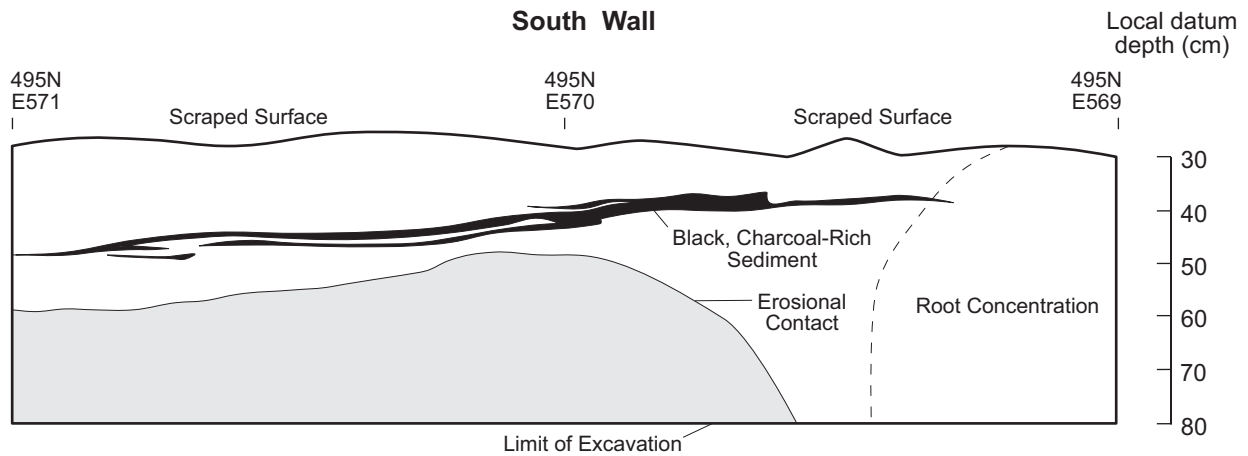
The deeper investigations in the eastern portions of Block 3 clearly revealed that a large portion of the original cultural and natural sediments in the area had been removed and replaced with the massive fluffy-brown sediment with dispersed artifacts described above. By following the contact between the fluffy fill and the previllage sediments below, it was learned that the erosional surface sloped down to the east and south from the contact with the previllage soil directly east and south of the central hearths (Figure 2.36). At the conclusion of work in Block 3, it was unknown how far the fluffy fill continued to the east since no excavation east of the E572 grid line occurred. Because the fluffy fill continued into and completely filled F108 with no obvious breaks in stratigraphy, this suggested F108 and the surrounding area were likely filled rapidly and at the same time. Based on these findings it appeared likely that the basin (and its occupying fill) was prehistoric in age.

Another bit of evidence indicating that the fluffy sediment is prehistoric in age is the presence of F121, a small, dense cluster of mussel shells that were suspended within the fill (Figure 2.36). These shells were almost certainly village rather than historic in origin, and the encapsulating sediment must also be of that age.

Ultimately, we were unable to fully resolve the origin and age of the fluffy sediment unit in the field. We must therefore rely on lab data to help resolve these questions.

As work neared its end an effort was made to identify remnants of architectural features not completely removed by the cut-fill episode that obliterated part of the house floor. This effort focused on squares 497NE569 and E570 and squares 498NE569 and E570 where measurements suggested main support posts for the earthlodge might have existed. Truncated lower portions of five additional features were identified including four postmolds and one cache pit (see Figure 2.35). All features were visible as areas of darker sediment intruded into the





**32MO31**  
**Scattered Village**  
**Profiles in Southeast**  
**Part of Block 3**

50 cm

- Fluffy deposit
- Previllage A horizon, dark gray silt loam
- Yellowish brown silt loam
- B** Bone

Figure 2.36. Profiles of squares in the southeast part of Block 3 showing the stratigraphy of the cut-and-fill sequence that characterized the “fluffy fill”.

yellow-brown previllage sediment package that lay at the base of the artifact bearing, fluffy layer.

Numerous features were exposed in Block 3 including 15 postmolds, 11 cache pits, two hearths, one stone tool cache, and one concentration of shell. Table 2.16 provides summary data on all excavated features in Block 3. Figure 2.35 illustrates the distribution of all features.

Table 2.16. Summary data for features in Block 3, site 32MO31.

Feature Number	Feature Type	Square Northing	Square Easting	Excavated Volume, m <sup>3</sup>	Sort Priority
4	Pit	499	559	.227	*1
7	Hearth	498	567	.171	1
8	Pit/Burial	497	561	.058	1
11	Postmold	496	567	.059	1
15	Postmold	497	566	.042	1
17	Hearth	499	567	.090	1
19	Postmold	496	565	.018	*1
20	Postmold	497	567	.002	3
21	Postmold	497	567	.003	3
25	Postmold	497	565	.064	1
26	Pit	498	564	1.020	**1
27	Lithic cache	495	563	NA	1
28	Postmold	497	565	.004	1
47	Pit	498	562	.748	*1
55	Pit/Burial	498	561	.179	1
73	Pit	497	561	.341	*1
98	Postmold	498	566	.077	1
100	Postmold	496	563	.005	3
101	Pit	498	567	.509	*1
103	Postmold	498	570	.001	3
104	Pit	496	567	.479	*1
106	Pit	497	570	.183	*1
107	Postmold	498	570	.012	1
108	Pit	496	569	3.383	***1
109	Postmold	497	567	.023	3
111	Pit	496	567	.138	*1
116	Postmold	497	567	.020	1
117	Postmold	497	569	.039	1
121	Shell concentration	495	570	.014	1
180	Postmold	498	569	.002	3

\*Indicates only waterscreen samples listed as priority 1; heavy fraction float samples from the same level were assigned priority 3.

\*\*Priority 1 included only the west half of F26.

\*\*\*Priority 1 includes all material below 1 meter pit depth and the upper 1 meter in the south half of the pit.

### *Hearths*

Two large basin-shaped hearths were found in Block 3. Based on their size it is likely that both are earthlodge central hearths. The two hearths were partially superimposed indicating that two earthlodges had been constructed at different times in the same approximate location.

*Feature 7* is the second of two hearths exposed in Block 3. It measured ca. 1.5 m in diameter, was clearly basin-shaped, and was filled with ca. 20 cm of ash, silt, and burned/oxidized silt. The plan of this area after floor cleaning indicated that F7 and F17 intersected one another; after excavation of its west half, it was apparent that F7 was superimposed on F17, with F7 being the younger of the two hearths. A large, circular historic intrusion (F179, see below) occurred in the northeastern part of F7 and center of F17. Feature 7 was divided into quarters and two natural levels were excavated from each quarter. The west half was excavated first, the hearth was profiled, and the eastern half was excavated.

*Feature 17* is a hearth originally identified in curb face trench S910-22/23. Feature 17 was the older of the two central hearths in Block 3. The feature was basin shaped, measured 1.3 m in diameter, and was ca. 20 cm deep in its center. Feature 7, the other central hearth was superimposed into the southern portion of F17, and a significant portion of the hearth was disturbed by an historic intrusion (F179, see above discussion of F7) and approximately the northern one-quarter was removed during the excavation of curb face trench S910-22/23 (see Figure 2.35). After the material in F179 was isolated and removed (see below), F17 was excavated in two natural levels. A small area of burned/oxidized earth was apparent at the bottom of the basin that formed the hearth.

*Feature 179* was a circular historic intrusion into both F7 and F17. An enthusiastic but inattentive fieldworker mistakenly dug out the majority of this intrusion along with most of what remained of F17, the older of the two hearths. The lower part of the intrusion was then isolated and excavated separately in an attempt to reduce the potential for contamination of the prehistoric fill in F7 and F17. The intrusion was circular in outline, measured approximately 80 cm in diameter, and was essentially straight-sided. It had been excavated down to and through the bottom of both hearths.

### *Postmolds*

Table 2.17 provides summary data on all postmolds exposed in Block 3. The majority of posts were identified between 25 and 35 cmdd and was clearly visible as lighter areas of soil against the dark previllage A horizon. Three posts were exposed at 40 cmdd or below, these occurring in the eastern portion of the block where the previllage soil had been removed and replaced with the fluffy-brown fill discussed above. The actual point of origin is unclear for all these posts, with all likely originating at elevations higher than where we were able to detect them.

Table 2.17. Summary data, postmolds, Block 3, site 32MO31.

Feature Number	Unit Northing	Unit Easting	Average Diameter (cm)	Local Datum Depth (cm)	Post Depth (cm)
11*	496	567	37	30-61	31
15*	497	566	35	25-74	49
19	496	565	30	25-65	40
20	497	567	10	25-38	13
21	497	567	10	25-51	26

Table 2.17. Summary data, postmolds, Block 3, site 32MO31, concluded.

Feature Number	Unit Northing	Unit Easting	Average Diameter (cm)	Local Datum Depth (cm)	Post Depth (cm)
25	497	565	20	25-76	51
28	497	565	15	25-44	19
98*	498	566	37	30-115	85
100	496	563	25	35-48	13
103	498	570	13	35-45	10
107	498	570	25	35-58	23
109*	497	567	30	30-67	37
116*	497	569	37	50-68	18
117*	497	569	30	40-105	65
180	498	569	13	40-55	15

\* Possible main posts based on size and location relative to the central hearths.

Wilson (1934) presents architectural data on two historic (early 1900s) Hidatsa circular earthlodges. The architectural plans that Wilson presents are confirmed by Lehmer et al. (1978) during excavations at numerous post-contact Hidatsa sites along the Missouri River near its confluence with the Knife River. Will (1930) presents similar data on an earthlodge constructed by the State Historical Society of North Dakota using Mandan informants. While both lodge plans are similar, there are significant differences in the layout of the central support posts between the Mandan lodge presented in Will and the lodges described in both Wilson and Lehmer et al. In the lodge described by Will, the central posts are spaced nearly twice as far apart as those in Wilson and Lehmer et al. Given that the archeological data tend to support the design described by Wilson, the following discussion is based on his data as well as those presented in Lehmer et al (1970).

The lodges described in Wilson and in Lehmer et al. were circular, averaging ca. 12.4 - 15.4 m in diameter, although both smaller and larger lodges were constructed. Four large main support posts were set in the center of the lodge, around the central hearth, forming a square that averaged 3.8 m on a side. Main support posts averaged 4.3 m tall, ranged between 30 and 55 cm in diameter depending on the size of the lodge, and were set to a depth of 70 cm into the ground. Twelve to fourteen perimeter posts were placed in a circle outside the four center posts and 4.8 to 5.5 m from the central hearth. Perimeter posts were shorter than the main support posts (ca. 2.0 m), were spaced between 1.5 and 2.5 m apart, averaged 30 cm in diameter, and were also set into the ground to a depth of 70 cm. Stringers were then laid between the four central support posts and another series was placed between the perimeter posts. To form the roof, rafters were laid side to side from the perimeter stringers to the stringers placed on the main support posts. A shallow trench was then dug approximately 1.5 m outside the perimeter posts and around the lodge. The bases of short slabs were placed in the trench and the tops were leaned against the perimeter stringers creating the outside walls of the earthlodge. The entire structure was then covered with layers of willows, grass and soil.

Based on size and location relative to central hearths, six posts are possible candidates for main support posts for the earthlodges (see Figure 2.35 - F11, F15, F98, F109, F116, and F117). In the lodges described in both Wilson and Lehmer et al., main support posts were placed approximately 2.8 m from the central hearth. In Block 3 only one of the possible central posts is that far from either of the central hearths (F11 is ca. 2.70 m from F17). If the lodge in Block 3 was smaller than average, and the distance between central support posts was decreased accordingly (to ca. 2.00 m), several pairs and trios of posts are in the proper position to be considered central supports. Features 15 and F117 are equidistant from the oldest central hearth (F17) and could have formed the southern side of a north - south oriented square around F17. If the square of posts was oriented more northeast - southwest, F15 and F116 could have formed the southwestern side. Feature 98 and F116 are also equidistant from F17 and could also have formed the southwestern side of the square of central posts around the oldest hearth. Feature 109 and F116 are equidistant from F17, but they are spaced rather close together and would likely have been the southern side of a *rectangle* of posts around F17, a design that does not conform to known archeological and historical data.

Fewer post groups occur for the younger of the two central hearths (F7). A trio of posts (F11, F98, and F117) appear as the best candidates for central posts, forming a northwest - southeast oriented square around F7. Feature 109 and F116 could have formed the southern side of a north - south square, or if the square was shifted slightly to a more northeast - southwest orientation, F15 and F116 could have formed the southwest side of the square of posts.

The location (s) of the earthlodge perimeter (s) is unknown. No evidence for roof fall or for a lodge floor was exposed during excavation. However, based on the metric data presented in Wilson (1934), the lodge perimeters are projected to have occurred between 6.25 m from the central hearth (for a small-sized lodge), or 7.75 m from the hearth (for a large lodge). Using these distances, the perimeter of a small lodge would have intersected the western part of the Block 3 grid, very near the E562 grid line, and the perimeter of a larger lodge would not have intersected the Block 3 grid at all. Normally, the location of perimeter posts could help establish the location of the lodge perimeter. However, only F100 appears in the proper location, and is of the proper size, to have been a perimeter post. If it was a perimeter post, the lodge perimeter would have been ca. 1.5 m from this feature, or within the area of historic disturbance in square 495NE562.

Since the earthlodge floor is absent, it is clear that an unknown amount of sediment was removed from the Block 3 area prior to our controlled excavations. Therefore, it is difficult to determine at what depth features may have originated, and subsequently if they are possibly the same age as the earthlodge and may have been associated with it. However, F108 clearly postdates the lodge since it is associated with the cut and fill episode that obliterated that eastern part of the lodge in Block 3. Feature 8 and F55 also likely postdate the lodge since they originate higher than, and intrude into, earlier pits that apparently originate near the level where the earthlodge floor would have existed. Using the projected location of the lodge perimeter (see above), it is possible to determine what features would have been within the lodge interior, and possibly directly associated with the earthlodge. If the lodge was large, all features with the exception of Feature 4 fall within the lodge perimeter and therefore could be directly associated with the lodge. If the lodge was small, F73 likely fell outside the perimeter of the lodge and may

or may not have been the same age. The perimeter of a small lodge is projected to intersect F47 (and it could therefore not be within the interior), and it is likely that this feature fell within the interior of a larger lodge, or postdated the lodge.

### *Pits*

Eleven pits were exposed during Block 3 excavations, of which all but two were undercut (Figure 2.37 and 2.38). Of the other two pits, F108 was essentially straight sided, and the cross section of F111 was undetermined due to excavation difficulties. Feature 8 and F55 likely postdate the occupation of the earthlodge since only the bottoms of these pits were still present indicating they originated much higher than the floor of the earthlodge. Feature 108 clearly postdates the lodge occupation since the pit is associated with the cut/fill episode that removed the eastern portion of the earthlodge. With the possible exception of F101, it is difficult to determine the relationship of the remaining pits to the earthlodge. Feature 101 was only exposed after the squares surrounding one of the previously visible central hearths were repeatedly troweled down after rain storms in an attempt to redefine feature boundaries. Thus, it appears as if F101 originated slightly lower than one, or perhaps both, of the central hearths, and could therefore be slightly older. The remainder of the pits originate at a wide range of datum depths suggesting different ages. However, given the absence of the earthlodge floor and historic disturbances, the actual depth that these pits originated is difficult if not impossible to determine. Cross sections of all Block 3 pits can be found on Figures 2.37 and 2.38.

*Feature 4* was in a curb face trench two meters south of the western boundary of the grid established for Block 3. This is the only pit that is clearly outside the potential boundaries of the earthlodge. Excavation of curb-face trench S910-19/20/21 had truncated this bell-shaped pit leaving approximately the southern two-thirds of the pit intact. Excavation of the pit proceeded with hand removal of 10-15 cm historic overburden from an approximate 1.3 meter square area above the pit. This material was lying directly on top of the previllage soil, was apparently historic in nature, and was therefore not screened. At this point, the pit orifice, measuring nearly 80 cm in diameter, was clearly visible in plan view as an area of lighter colored fill against the previllage soil. Because this feature was outside the Block 3 grid, a local datum was established just for this feature. The feature was then excavated using 15 cm arbitrary levels until a final depth of 85 cmdd (pit depth of 50 cm). Artifact content of the pit included fire-cracked rock, modified stone, bone, and ceramics.

*Feature 8* (no cross section available) is an interment discovered in squares 497NE561 and 498NE567 during the mechanical removal of historic overburden in Block 3. When first encountered, only a few small cranial fragments were exposed. Hand excavation revealed a single individual, likely adolescent or juvenile, in flexed position with the head to the east. The individual had apparently been placed in the bottom of a pit that had originated at a much higher elevation but had been truncated historically leaving the remains very shallowly buried (the remains were under no more than 10 cm of overburden). At the time of excavation, pit boundaries were difficult to identify, particularly in the northeast portion of the excavation. Additionally, a utility trench mentioned above had truncated the western portion of the pit. The determination of pit boundaries was even more complicated since the pit was apparently partially intrusive into a yet deeper pit (F73, see below) that contained similar fill.

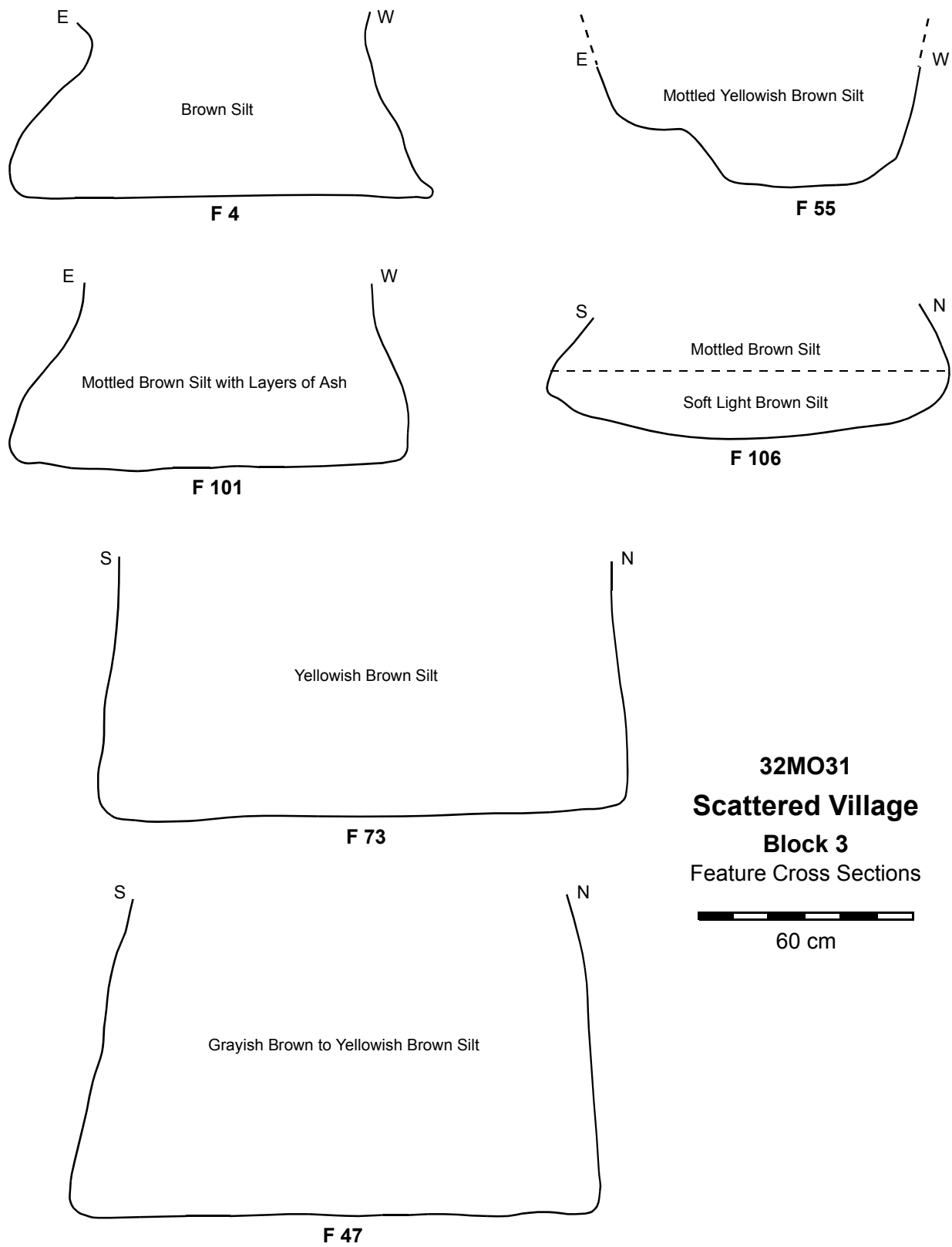


Figure 2.37. Cross sections of Features 4, 47, 55, 73, 101 and 106 Block 3, Scattered Village, site 32MO31.

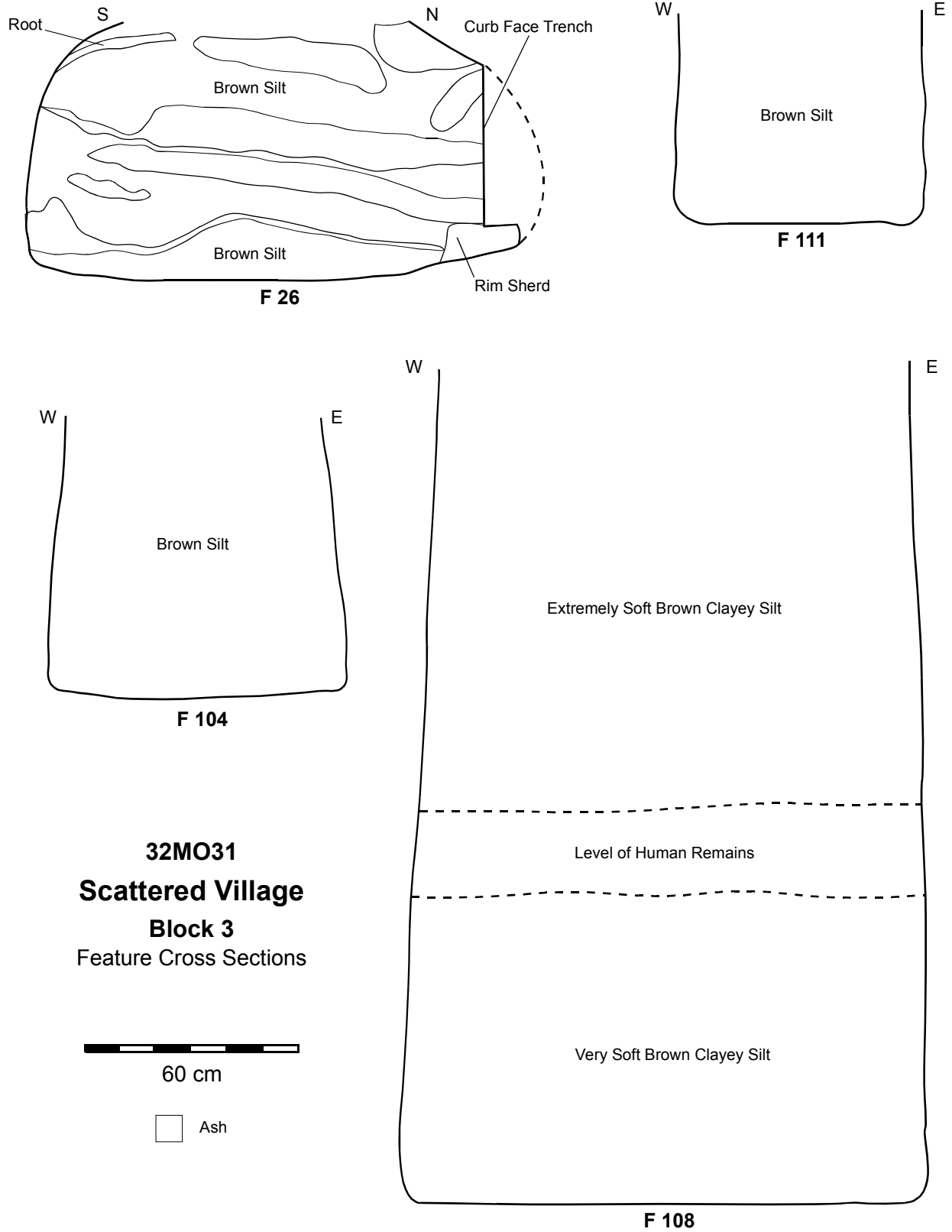


Figure 2.38. Cross section of Features 26, 104, 108, 11 Block 3, Scattered Village, site 32MO31.



The majority of the human skeletal remains recovered from F8 were in extremely poor condition, probably having deteriorated because of close proximity to the current land surface. Additionally, the heavy equipment traffic that occurred prior to halting construction likely caused some damage. The cranium, ribs, pelvis, vertebral column, and right arm elements were almost completely deteriorated and quickly broke apart upon removal. Most phalanges, carpals, metacarpals, tarsals, and metatarsals were also heavily deteriorated. Leg elements from both sides of the individual appeared to be ochre stained and were in better condition. A more complete description of recovered elements and their condition is contained in Williams' report (Appendix B).

*Feature 26* is a cache pit in squares 498NE564 and E565 exposed in a curb face trench. The western part of the pit had been disturbed by the removal of a tree stump in square 498NE564. Feature 26 was undercut (Figure 2.38), measuring 80 cm in diameter at its orifice and nearly 1.3 m diameter at its base (ca. 75 cm pit depth). The feature was excavated in halves with work initiated in the eastern half of the pit, in square 498NE565. Constant volume float samples were taken only from the eastern half of the pit. When excavation in the eastern half was completed, the exposed wall of the pit was profiled (Figure 2.38) and the western half was excavated. Fill within the feature was an artifact-rich brown silt with several discrete ash lenses. In general, artifact content was typical of a trash-filled pit. However, of particular interest were at least three separate concentrations of ceramics, with each concentration apparently containing sherds from a single vessel. Also of note were several isolated human phalange elements. No other human remains occurred in the pit.

*Feature 47* was a relatively large cache pit in squares 497NE561 and E562 (Figure 2.37). The pit measured ca. 1.2 m in diameter at the depth it was recognized (ca. 25 cmdd) and 1.4 m in diameter at its base (ca. 80 cm pit depth). The pit was filled with typical village refuse including ceramic fragments, flaking debris, and bone.

Three additional pits occurred in the general area of F47 (F8, F55, and F73, see Figure 2.35). Feature 73 is just east of F47 and was nearly contiguous. Feature 55, a burial occurred in the area where the boundaries of F47 and F73 met. During excavation, it became clear that F55 was intrusive into F47, but its excavation (prehistorically) had disturbed the boundary between the two other features (F47 and F73). Feature 55 occupied a roughly circular area (ca. 80 cm diameter) in the western portion of F47. The boundary between the fill of the separate pits was distinct and it was therefore easy to keep them separate during excavation.

*Feature 55* was a pit burial in squares 497NE561 and E562, and 498NE561 and E562. The entire feature was intrusive into F47 (see above). In fact, F55 was identified at the bottom of level 2 in F47. At this point excavation in F47 was halted and the burial present in F55 was excavated, mapped, and removed. The boundaries of F55 were distinct enough to confirm that F55 intruded into F47, and to allow the fill from both features to be separated during excavation.

The burial in F55 was in extremely deteriorated condition. All of the vertebral column, ribs, and all hand and feet elements were completely deteriorated. However, the position of other elements made it clear that the individual had been placed in a flexed position on its right side with its head facing south-southeast. A relatively large piece of groundstone was under the

right side of the cranium, and another smaller piece was under the distal end of the left humerus. No other potential grave associations were evident in the pit fill.

*Feature 73* was a cache pit in squares 497NE561 and 498NE561. The pit measured ca. 1.15 m in diameter at the point where it was recognized (30 cmdd) and 1.25 m at its base, or ca. 43 cm pit depth (Figure 2.37). Only the portion of the pit within squares 497NE561 and 498NE561 was excavated. The portion of the pit west of these squares and outside the block grid was not excavated since an historic utility trench had disturbed most of the feature in this area. Additionally, a small area of the southwest quarter of the pit (in square 497NE561) had been disturbed by the same trench. The fill from F73 contained typical village refuse including fire-cracked rock, bones, pot sherds, and modified stone. An unusual amount of shell was also noted. Feature 8 (see above) intruded into F73, with its base at 22 cmdd, more than 40 cm above the base of F73.

*Feature 101* was an undercut cache pit just west of the central hearths in squares 498NE566 and E567 (Figure 2.37). Before excavation, F101 was thought to be an additional hearth due to the abundant ash in the upper fill of the pit. However, as excavation proceeded F101 was quickly determined to be a bell-shaped cache pit. The pit measured 80 cm in diameter at the orifice and 1.1 m at the bottom of the final level (ca. 71 cm pit depth). Several distinct stratigraphic layers were apparent within the first 30 cm of pit fill including layers of ash, medium brown silt, and yellow-tan silt. The remainder of the pit fill (ca. 40 cm) was a medium brown silt containing several small, discrete lenses of ash. Ceramics, bone, modified stone, and fire-cracked rock was present throughout the entire feature fill.

*Features 104 and 111* are two connected pits in squares 496NE567 and E568, and 497NE567 and E568. Both pits were in a small, roughly rectangular area of the intrusive fluffy-brown fill that occupied the southern and eastern portion of Block 3 (see Figure 2.36). Feature 104 was first visible at 40 cmdd, and was originally exposed when the contact between the previllage soil and the fluffy-brown intrusive fill was being cleaned with a trowel and traced into the southwest portions of the block. The pit measured ca. 55 cm in diameter at its orifice and nearly 70 cm in diameter at its base (ca. 75 cm pit depth) (Figure 2.39). A small trench (prehistoric) originating in the southwest wall of F104 extended to the west linking F104 and F111. Several articulated vertebrae (likely bison) occupied the trench. Aside from the articulated vertebrae, pit fill contained a typical array of village refuse.

Feature 111 was a relatively small, circular pit. The diameter of the pit (ca. 50-55 cm) made it difficult to determine if it was an unusually large post or simply a small pit. The feature was straight sided, 58 cm deep, and apparently partially intruded into or was intruded by F11, a nearby post (cross section on Figure 2.38). The fill was a relatively homogenous, medium brown silt that contained scattered artifacts including bone, fire-cracked rock, flaking debris, and pot sherds.

*Feature 106* was a relatively shallow, bell-shaped cache pit in the eastern portion of Block 3 in the area occupied by the intrusive fluffy-brown fill (Figure 2.38). It measured ca. 90 cm in diameter at the point at which it was recognized and nearly 1.1 m at the pit bottom (ca. 40

cm pit depth). The feature was exposed when squares 497NE570 and 498NE570 were excavated to a depth of 55 cmdd while searching for house architectural features in the disturbed eastern portion of the block. Feature 106 became apparent only after the fluffy-brown fill was removed and the intact native sediments below it were visible. This suggests a cut-fill episode reflected by the fluffy fill truncated at the upper part of this pit. The feature was relatively rich in artifact content including a cluster of ceramics that appeared to be part of a single vessel, an articulated leg bone flesher, and numerous stone and bone tools. Also present was refuse typically found in trash-filled cache pits: fire cracked rock, bone, ash, charcoal, and flaking debris.

*Feature 108* was an extremely large, deep, straight-sided pit in the southeastern corner of Block 3 (Figure 2.35). The pit measured ca. 1.15 m in diameter when excavation commenced and nearly 1.6 m in diameter and when excavation was complete (2.34 m pit depth--see Figure 2.38 for cross section). The feature boundaries were first identified at a depth of ca. 75 cmdd in square 496NE569 as this square was excavated to deeper levels in an attempt to understand the fluffy-brown intrusive fill that characterized the eastern portion of the block. The upper portion of the feature was excavated in two separate portions, partly because of a fiber optic phone line trench that bisected the feature. The north half was excavated first to a depth of 204 cmdd, at which point human remains were encountered. The south part of the feature was excavated to the same level revealing more human remains. Three individuals had been placed along the east and north walls of the pit, and by the position of many elements it appeared as if they had been laid close to one another with at least some intermingling of limbs. After being exposed the remains were mapped, photographed, and removed. The entire pit was then excavated using 15 cm levels until the base of the pit was reached. Throughout the entire pit, fill consisted of the unconsolidated fluffy fill that characterized the east and southeast parts of Block 3. Artifacts were scattered through the fill in low density and consisted of typical Plains Village refuse. One small, notable item was a piece of bone (scapula?) carved in the form of a bird.

Twice during the process of excavating F108 the depth within the pit reached that deemed unsafe by OSHA guidelines. Each time, a backhoe was used to remove the surrounding sediment from an area measuring nearly 10 m square around the pit orifice (Figure 2.39 and Figure 2.40). This effectively reduced the perceived depth of the pit and made it safer as well as easier to excavate.

#### *Other Features*

*Feature 27* was a cache of five small bifaces encountered at 33 cmdd. The bifaces were stacked on top of one another in a shallow, circular depression measuring ca. 10 cm in diameter. The boundaries of the depression were difficult to observe visibly, but were expressed as a change from soft, unconsolidated sediment within the depression to a harder, more compact sediment outside of it. One biface was manufactured on smooth Tongue River Silicified Sediment; the remaining four were made of Knife River Flint.

*Feature 121* was a cluster of ca. 12-15 unbroken bivalve shells on the east grid line between squares 495NE570 and E571 (Figure 2.41). The half-shells were stacked upon one another and were all oriented the same direction with their exterior faces up. The entire



Figure 2.39. Feature 108 before the excavated OSHA step down.



Figure 2.40. Feature 108 after excavated OSHA step down.

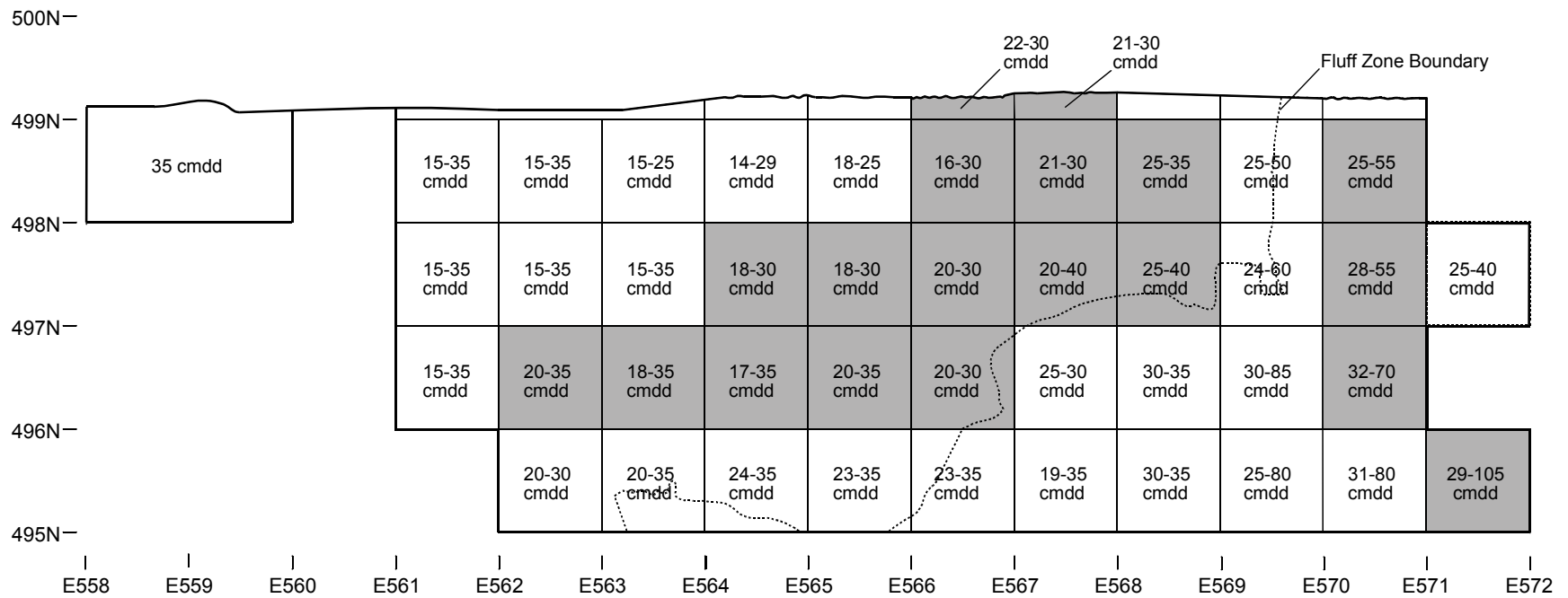
collection of shells occupied a 15 x 20 cm area within the brown-fluffy fill that characterized the eastern portion of the block. The shell cluster was exposed, photographed, and removed as a unit with a 20 x 20 cm sample of the surrounding fill. The recovered sample was bagged for processing in the lab.

*Laboratory Sampling Strategy*

Because it is likely that much of the floor of the earthlodge(s) had been removed or significantly disturbed prior to our controlled excavations, we decided to de-emphasize the study of general level materials and increase our focus on the contents of Block 3 features. Following this strategy, we have processed and studied 17 of the 41 excavated squares, of which four occur in the cut-and-fill intrusion in the eastern part of the block. Several larger postmolds for possible support posts were also designated for study. Fill from these posts may give us some idea of the artifacts associated with the house interior. The sort priority for all features can be found in Table 2.16. Figure 2.42 illustrates the distribution of squares chosen for study in the lab.



Figure 2.41. Feature 121, Block 3, Scattered Village, site 32MO31.



**32MO31**  
**Scattered Village**  
**Block 3 Excavated Depths**

Square studied in lab  
 Priority 1

GN ↑  
 1 m

Figure 2.42. Excavated depths and priority 1 squares, Block 3, Scattered Village, site 32MO31.

## Excavation Block 4

Excavation Block 4 investigated what was originally thought to be a midden deposit located at the eastern end of City Block S89 (Figure 2.13). This portion of the site was just southwest of the elevated landform that characterized the north side of City Block 910 and diagonally across the intersection from Block 2. The area was essentially flat and had undergone significant alteration due to construction activities and previous landscaping. All vegetation had been removed, an unknown amount of sediment had been removed, and the new concrete curb had been placed in this area.

During the testing phase of the project, curb face trench S89-28 exposed nearly 90 cm of cultural deposits in this area. Several features were also identified including a small hearth and a possible deeply buried pit (see Testing section for details). The overall character of the deposit was similar to deposits exposed in the very western portion of City Block S910 suggesting that an expansive midden potentially spanned the intersection between these two city blocks. Work began in Block 4 on August 6 and was completed on August 17. Two to three crew members worked continuously in Block 4, and 4.19 cubic m of sediment were excavated.

Based on an initial review of stratigraphy exposed in curb face trench S89-28, it was believed that approximately 10-15 cm of historic overburden occurred in the area of Block 4. Work began with hand stripping of the historic overburden from the Block 4 area. A 2 x 3 m grid was then established and excavation commenced in squares 497NE474 and 498NE473. However, historic materials were encountered in the first general levels from both squares. Therefore, the amount of historic overburden actually occurring in the Block 4 area was re-assessed by removing a small portion of the northeast corner (ca. 20 x 20 cm) of square 498NE473. This area was excavated rapidly, without screening, until it was clear that prehistoric deposits had been reached. This occurred at a depth of 55 cmdd, a full 30 cm below where the historic overburden was originally thought to end (stratigraphic profiles confirmed the depth of historic overburden-see below). The entire area was then stripped of this remaining overburden, the grid was re-established, and controlled excavation commenced again in squares 497NE472 and E474, and 498NE473. A single 10 cm level was excavated from each of these squares, followed by excavation of the corresponding level in an adjacent square. By alternating excavation of levels from adjacent squares in this manner, the entire grid was brought down simultaneously to a depth of 115 cmdd (Figure 2.43). At this point excavations had exposed and partially intruded into the previllage soil and excavation was halted.

Originally, two contiguous squares in Block 4 were to have been excavated to a final depth 2.0 m below surface to expose site geologic stratigraphy and investigate the potential for previllage cultural deposits. However, this plan was modified and deeper investigations occurred only in a portion of square 497NE474. During excavation of F99 a small portion of square 497NE474 outside of the feature boundaries, and below the previllage soil, was removed without screening to facilitate access to the deeper levels of the feature. This process created a deep shelf in the southern two-thirds of the square. After F99 was excavated, the shelf was also removed, without screening, down to the same depth as the bottom of the feature. This effectively exposed an additional 90 cm of sediments below the previllage soil and provided a partial north-south profile of F99 (see discussion of stratigraphic profiles below).

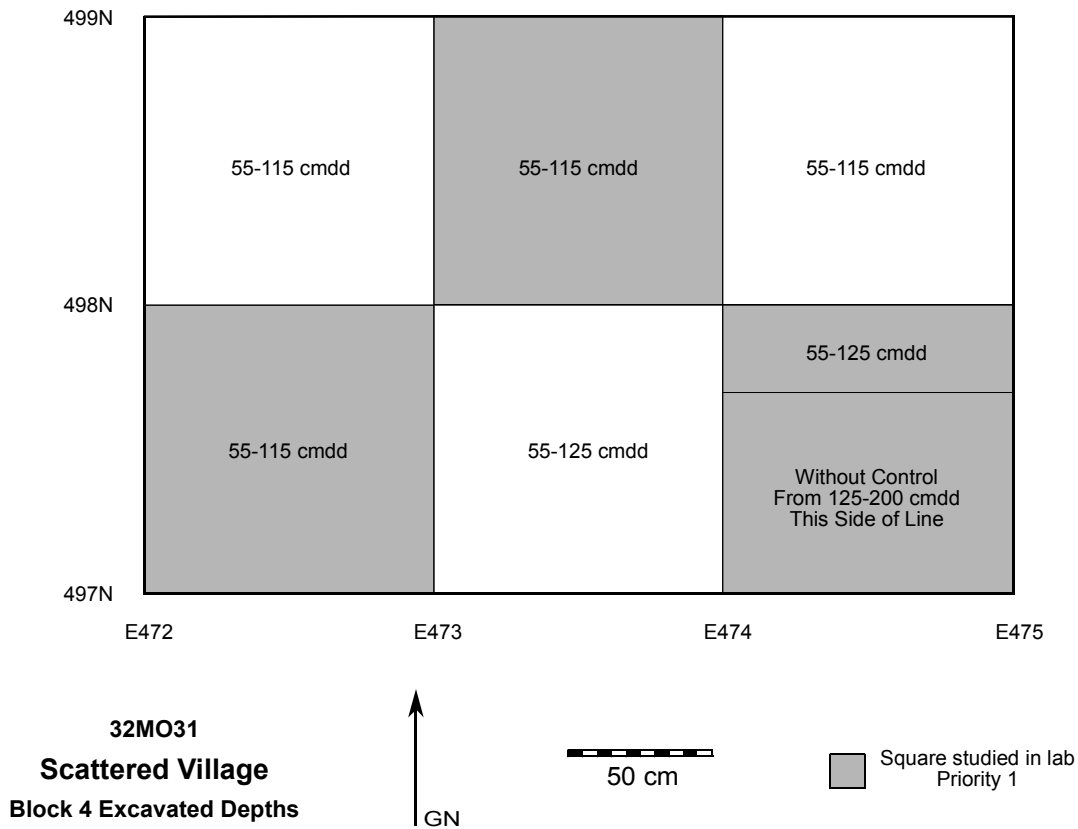


Figure 2.43. Excavated depths and priority 1 squares, Block 4, Scattered Village, site 32MO31.

Stratigraphic profiles were completed for all four exposed walls in Block 4 (Figure 2.44 and 2.45). Additionally, the north and east walls of the deep excavation in square 497NE474 were also profiled (Figure 2.45). The profiles reveal ca. 65 cm of stratified prehistoric cultural sediments deposited directly onto the previllage soil and overlain by nearly 40 cm of historic overburden. In general, all profiled walls show similar stratigraphy. Village sediments in particular are characterized by a relatively thick layer (ca. 15 cm) of gray brown silt overlying alternating bands of either light or dark yellowish brown silt and dark brown silt, all containing dispersed artifacts. The two deepest layers present in the north and east wall profiles (the two layers directly above the previllage soil) were absent in the south and west wall profiles. A small (ca. 5-10 cm) exposure of the previllage soil occurred in all profiled walls at the base of excavations. Sediments exposed in the deepest portion of square 497NE474, and below the level of the previllage soil A horizon (Figure 2.45) are similar to sediments in the same stratigraphic position (below the previllage soil) in other areas (see Block 1 and Block 2). These deep sediments were a yellow-brown silt punctuated by thin, dark brown/black humic layers. Geologic soil samples were taken from exposed profiles starting with the village age stratigraphic layer directly above the previllage A horizon. Sample locations are indicated on Figure 2.45.



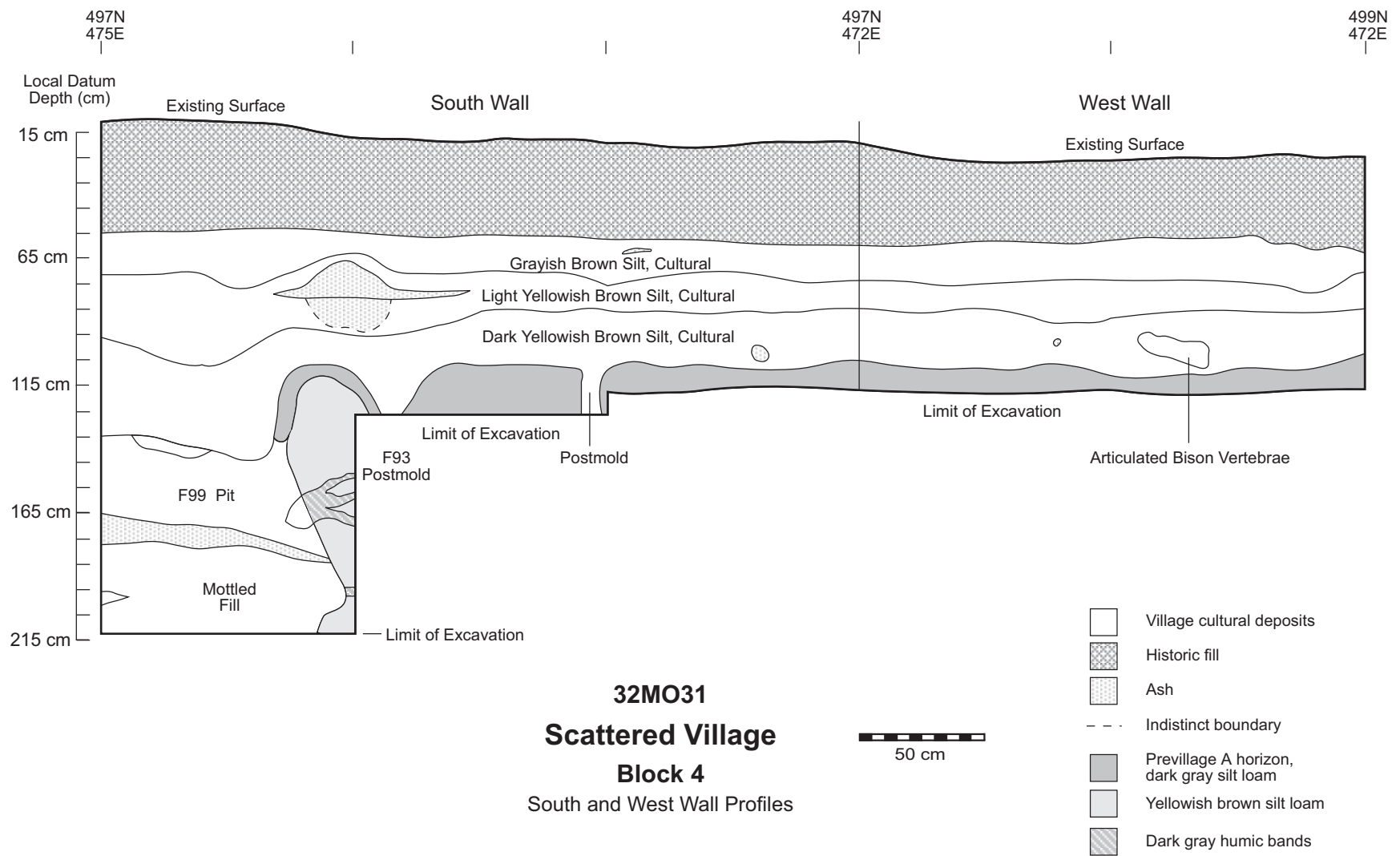


Figure 2.44. Stratigraphic profile, south and west walls, Block 4, Scattered Village, site 32MO31.

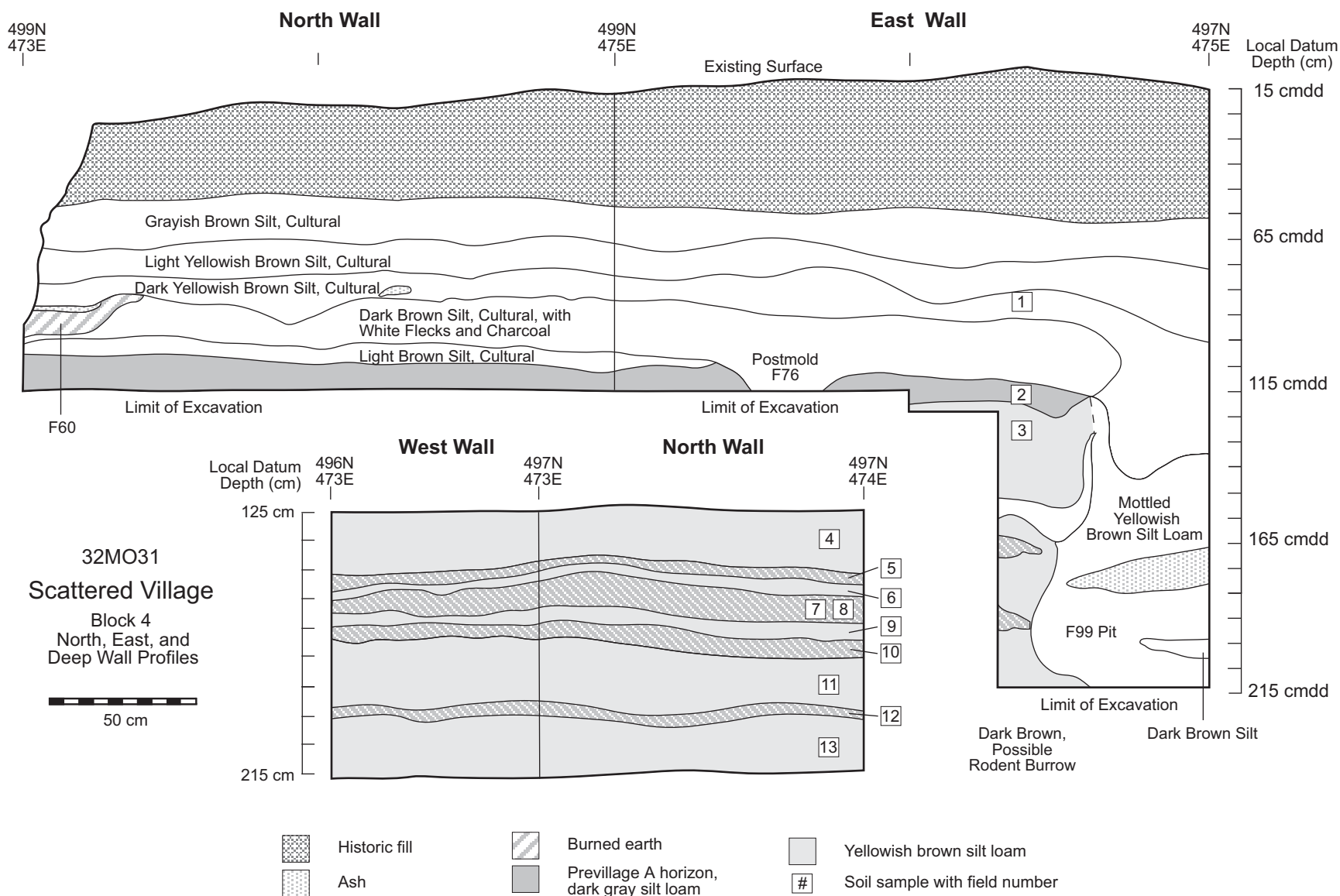


Figure 2.45. Stratigraphic profile, north and east walls, and deep excavation in square 497NE474 Block 4, Scattered Village, site 32MO31.

Twenty-four features were identified during the excavation of Block 4. The majority (n = 22) are postmolds, the remaining two being a small hearth and a bell-shaped cache pit. A few post molds were identified when fill from levels above the previllage soil collapsed into a void created when the post material had rotted away. This same depositional process was seen in Block 2 where rapid accumulation of sediment buried the butts of posts that eventually rotted away, creating subsurface voids. Figure 2.46 shows the distribution of features in Block 4. Table 2.18 provides summary data on posts encountered in Block 4. The two non-post features are discussed individually below.

Table 2.18. Summary data on post molds, Block 4, site 32MO31.

Feature Number	Unit Northing	Unit Easting	Average Diameter (cm)	Local Datum Depth (cm)	Post Depth (cm)
70	497	472	25	85-174	69
74	498	472	22	115-147	32
75	498	474	30	105-134	19
76	498	474	25	115-155	40
78	497	472	10	115-125	10
79	497	472	15	115-125	10
82	497	474	15	115-134	19
83	497	474	15	115-132	17
84	498	473	12	115-124	9
85	498	473	13	105-125	10
86	498	473	12	105-126	11
87	498	473	16	95-136	21
88	497	473	10	115-118	3
89	497	473	14	115-123	8
90	497	473	15	115-126	11
91	497	473	15	115-133	18
92	497	473	12	115-127	12
93	497	473	35	115-121	6
94	497	473	13	115-130	15
95	497	474	18	115-136	21
96	497	474	10	115-139	24
102	497	473	14	125-134	11

*Feature 60* is a hearth located in squares 498NE472 and E473 (Figure 2.46) and extending into the north wall of the block. The feature was relatively small, measuring ca. 60 cm in diameter, and was clearly basin shaped. The feature was excavated in two parts and in two natural levels. A partial north-south profile of the hearth can be seen in Figure 2.45, an east-west profile was drawn when the eastern half of the feature was excavated. The hearth basin measured 12 cm at its deepest location and had a significant oxidation rind (ca. 5 cm). Two discrete types of fill occupied the basin: a 3 cm layer of concentrated ash was at its base, and a layer of charcoal-stained silt that filled the center and uppermost part of the basin.

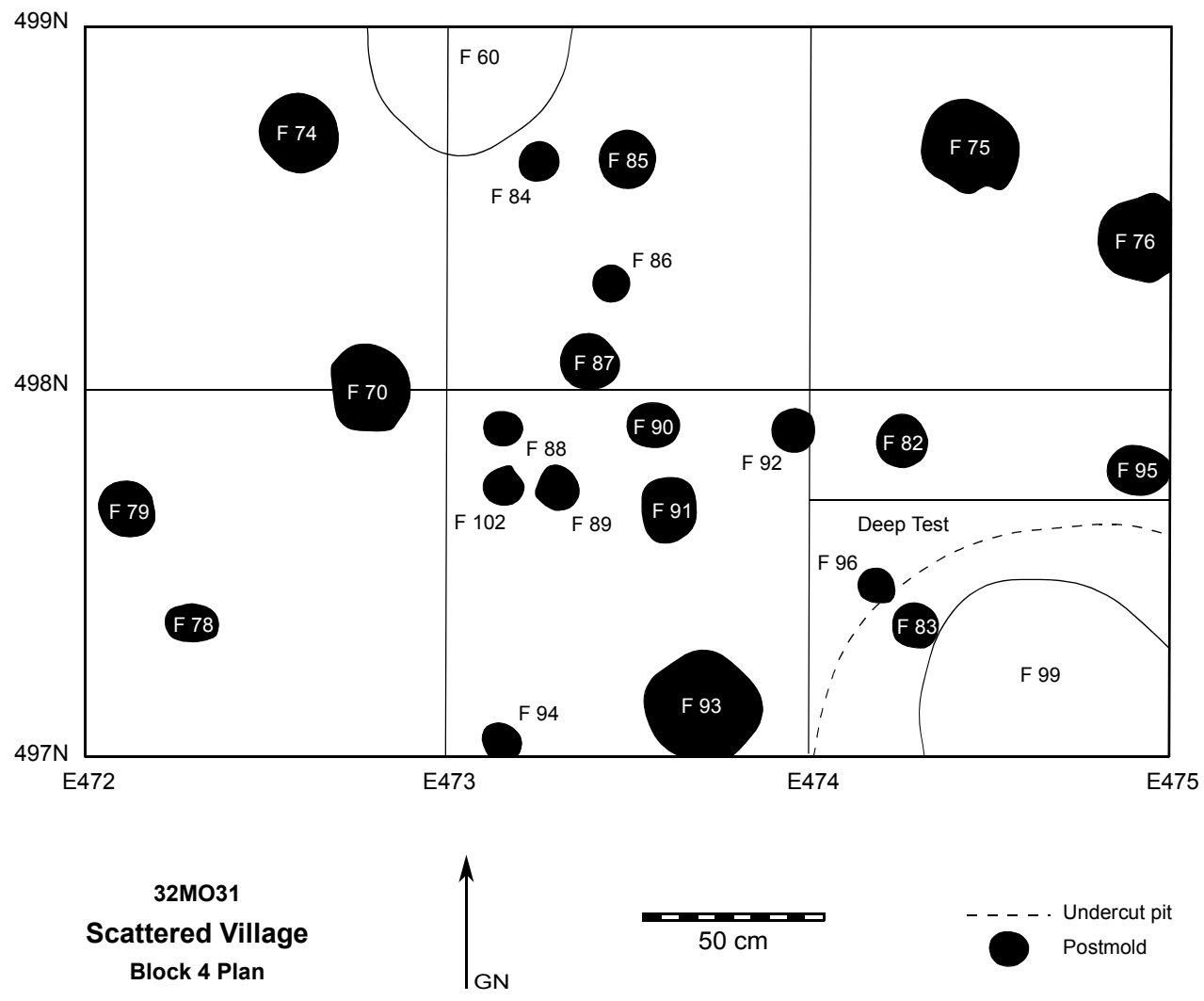


Figure 2.46. Feature distribution, Block 4, Scattered Village, site 32MO31.

*Feature 99* is a cache pit located in the southeast corner of square 497NE474. It was identified in the last general level of that square, when the previllage soil was encountered. The majority of the pit continues past the southeast corner of the block. Pit orifice diameter is estimated at ca. 80 cm, based on approximately one-quarter of the pit within the block (Figure 2.46). The pit was first visible near the top of the previllage soil (ca. 115 cmdd), was clearly bell shaped and was nearly 100 cm deep (see Figures 47 and 48). The basal diameter of the pit is ca. 1.2 m. The artifact content of F99 was quite rich. In addition to the usual assortment of refuse, the pit also contained several large fragments of hide, numerous modified pieces of bone, many large ceramic pieces, and a large, single-grooved maul.

During excavation, it became clear that sediments in Block 4 do not originate as an intentional refuse deposit. Block 4 was in many ways similar to Block 2. Both blocks appear to have exposed activity areas where structures requiring posts had once stood and burial was rapid by fill containing a moderate artifact density. Given the location of both blocks near the toe of the alluvial fan that formed the elevated landform in City Block N910, it is likely that the fill was deposited as slope-wash from areas north and east. Fill may also have originated from nearby earthlodges.

### *Laboratory Sampling Strategy*

Fifty percent of the general level material from Block 4 was designated priority 1 for laboratory analysis. Figure 2.43 illustrates which Block 4 squares were studied as well as depth of excavation for all squares. All material from F99 and F60 was also studied. Fill from all post molds was given priority 3 status and was not studied.

### **Excavation Block 5**

Excavations in Block 5 sampled a large, bone-rich midden on the south side of City Block 89 (see Figure 2.13). The existing surface in this area sloped gently to the southwest, and the area had experienced considerable construction activity when our work began. The new street curb had been built, sod and several trees had been removed, and an unknown amount of sediment had been removed (Figure 2.47). Consequently, the midden deposit was visible at the surface as a smear of ash, charcoal, and bone over an approximately 50 square meter area between sidewalk segments 19 and 21. During testing, curb face trench S89-19/20/21 revealed nearly a meter of intact, well-stratified midden below the surface smear of cultural material. Additionally, the lateral extent of the midden was confirmed by two strip trenches excavated to the southwest and southeast, and perpendicular to the curb face trench (see Testing section). Controlled excavation in Block 5 commenced on August 6 and was completed on August 27. A total of 5.32 cubic meters of material was excavated from Block 5.

Block 5 began as two 1 x 3 m strips, one west near the end of curb face trench S89-19/20/21, the other to the east (Figure 2.48). Figure 2.49 illustrates the depths excavations eventually reached in each square. Excavation commenced in the eastern strip which was oriented east to west and placed approximately one meter east of the curb face trench. Work began simultaneously in the end squares 498NE449 and 498NE451, with each unit excavated to completion before work began in square 498NE450. Square 498NE451 was excavated to a final



Figure 2.47. Location of Block 5 immediately after testing, City Block S89, Scattered Village, site 32MO31.



Figure 2.48. Block 5 upon completion of excavation, City Block S89, Scattered Village, site 32MO31.

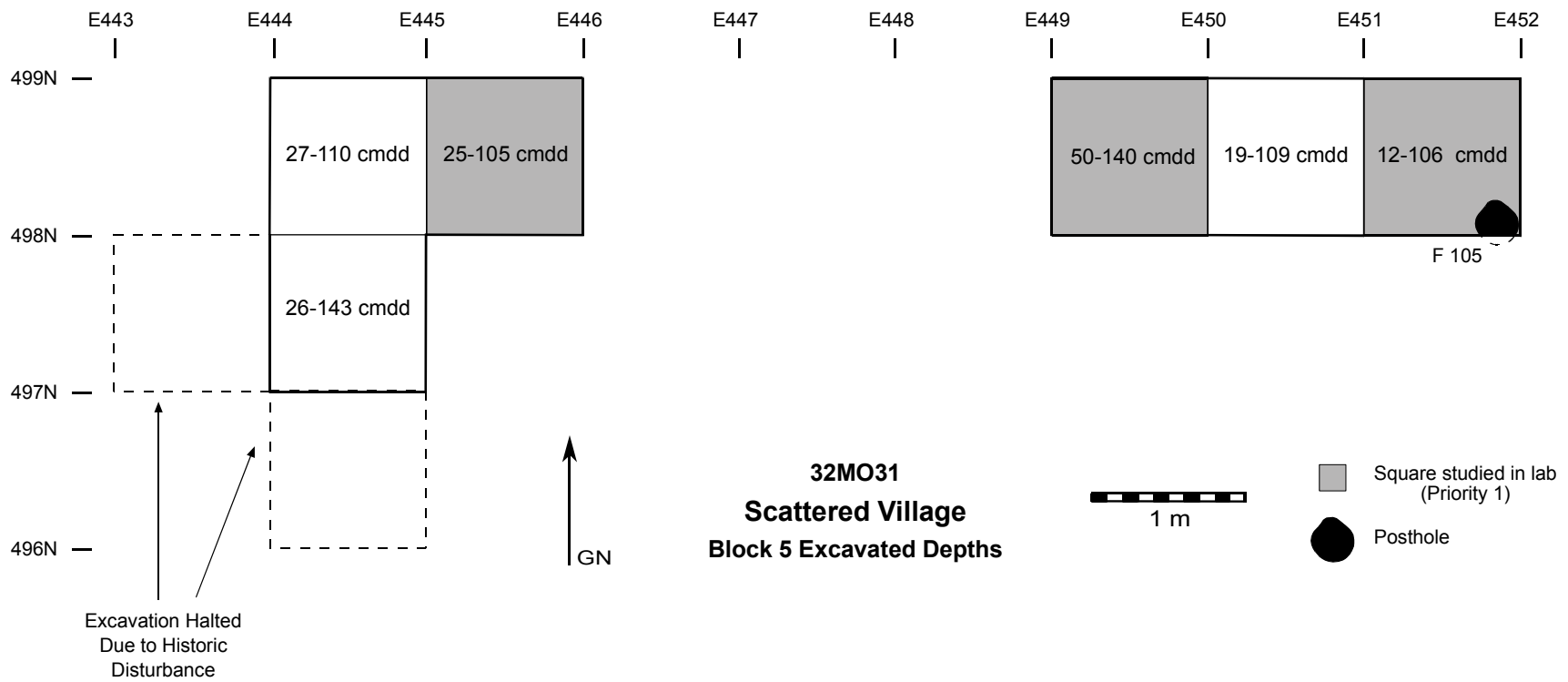


Figure 2.49. Excavated depths and priority 1 squares, Excavation Block 5, Scattered Village, site 32MO31.

surface depth of 80 cm and square 498NE449 to 1.05 m. Excavation halted when the culturally sterile, yellow-brown sediments normally occurring below the previllage A horizon were encountered. The remaining column of midden in square 498NE450 was excavated and all exposed walls were profiled (Figure 2.50).

Work then commenced in the western 1 x 3 m strip in Block 5. Excavation in this area was complicated by the presence of historic trenches that were not on utility maps we referenced when the location of the western 1 x 3 was chosen. The 1 x 3 was originally placed perpendicular to the street near the west end of curb face trench S89-19/20/21. This arrangement of squares did not work out, as historic trench fill was encountered first in square 496NE444 and then in 497NE443. The arrangement of excavated squares was L-shaped, as shown in Figure 2.50, with excavation penetrating 75 to 117 cm below surface. All available outside walls of these excavation units were profiled (Figure 2.51).

The profiles of Block 5 revealed a well-stratified midden in the upper two-thirds of the exposure composed of discrete layers of charcoal and ash inset into more massive layers of bone and fire-cracked rock (Figure 2.50 and 2.51). The previllage A horizon is absent, and in two places in Block 5 the lower portion of cultural deposits filled large, shallow basins formed in the sediments below the previllage A horizon. This situation is similar to that in Block 1, and it is likely that the basins in Block 5 materials were also prehistoric borrow areas.

Block 5 profiles reveal that the upper portion of the midden is stratified both horizontally and vertically. In this massive upper unit, layers within dip both to the west (Figures 53 and 54) and to the south, indicating that material was added both vertically and laterally to the midden. The oldest material in this upper unit occurs in the northeast part of the block (in square 498NE451), and the youngest material is to the south and west (in square 497NE444).

A different sediment unit (or units) fill the two basin-like depressions in Block 5, that are deepest in squares 498NE449 (Figure 2.50) and 497NE445 (Figure 2.51). This fill unit(s) does not contain internal structure, and may be significantly older than the massive, highly structured midden that overlies it (see discussion of analytic units).

A single feature was discovered in Block 5. Feature 105 is a postmold at the bottom of the last general level excavated in square 498NE451. It was not evident within the midden, but was apparent when previllage sediments were exposed at the bottom of the midden, suggesting that it pre-dates the midden deposit. The feature was ca. 27 cm in diameter and was 16 cm deep. The postmold had been filled with material from the midden above it, which also indicates it pre-dates the midden.

### *Laboratory Sampling Strategy*

Three of the six excavated squares in Block 5 were first selected for study (Figure 2.49). The sampling strategy was designed to obtain the most complete stratigraphic sample possible based on our understanding of the lateral accretion of the upper, structured midden unit from east to west (oldest to youngest). Thus, one square was chosen from the east part of the midden, one from the middle, and one from the west.



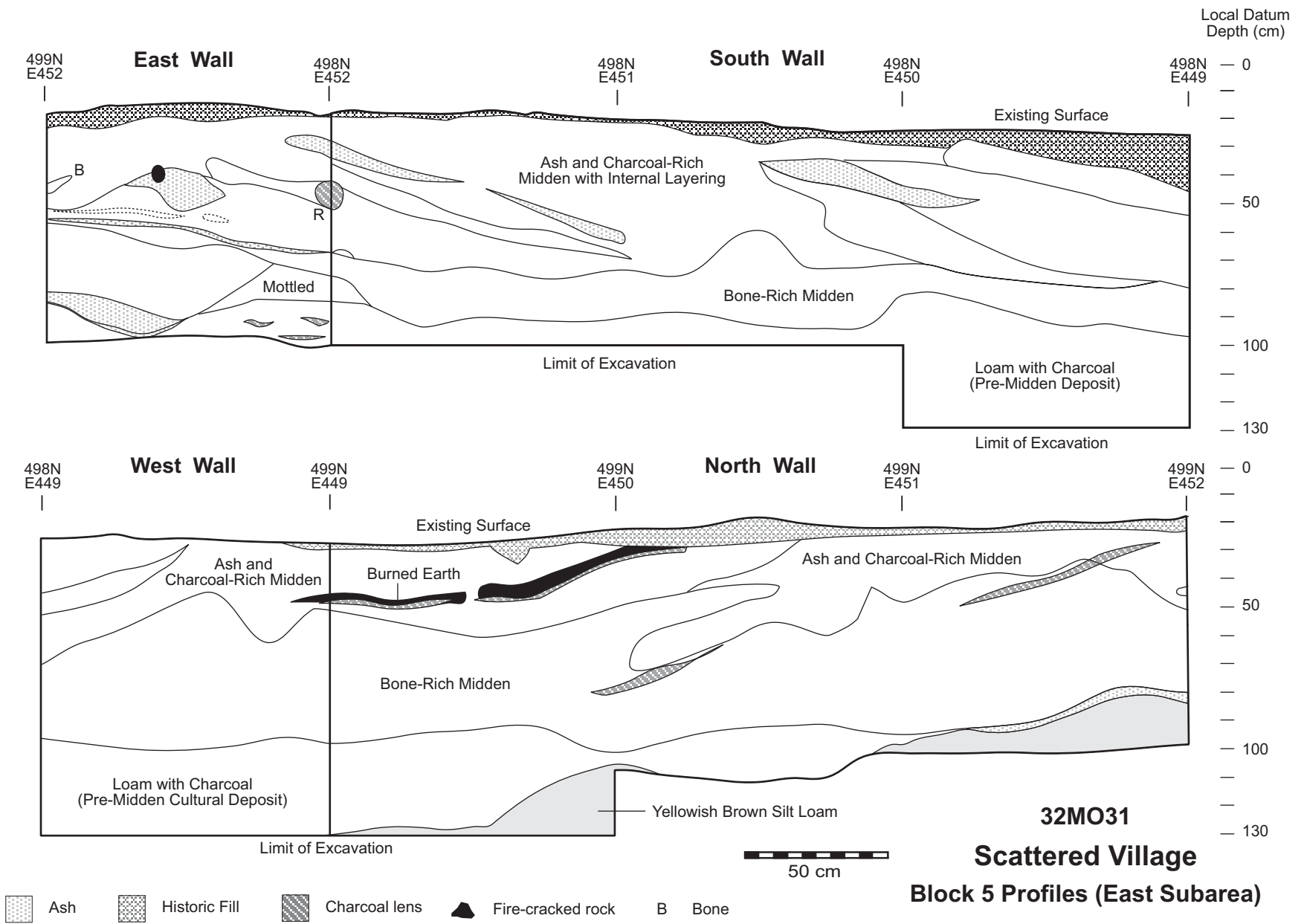


Figure 2.50. Stratigraphic profile of the west, north and east walls of eastern 1 x 3, Excavation Block 5, Scattered Village, site 32MO31.

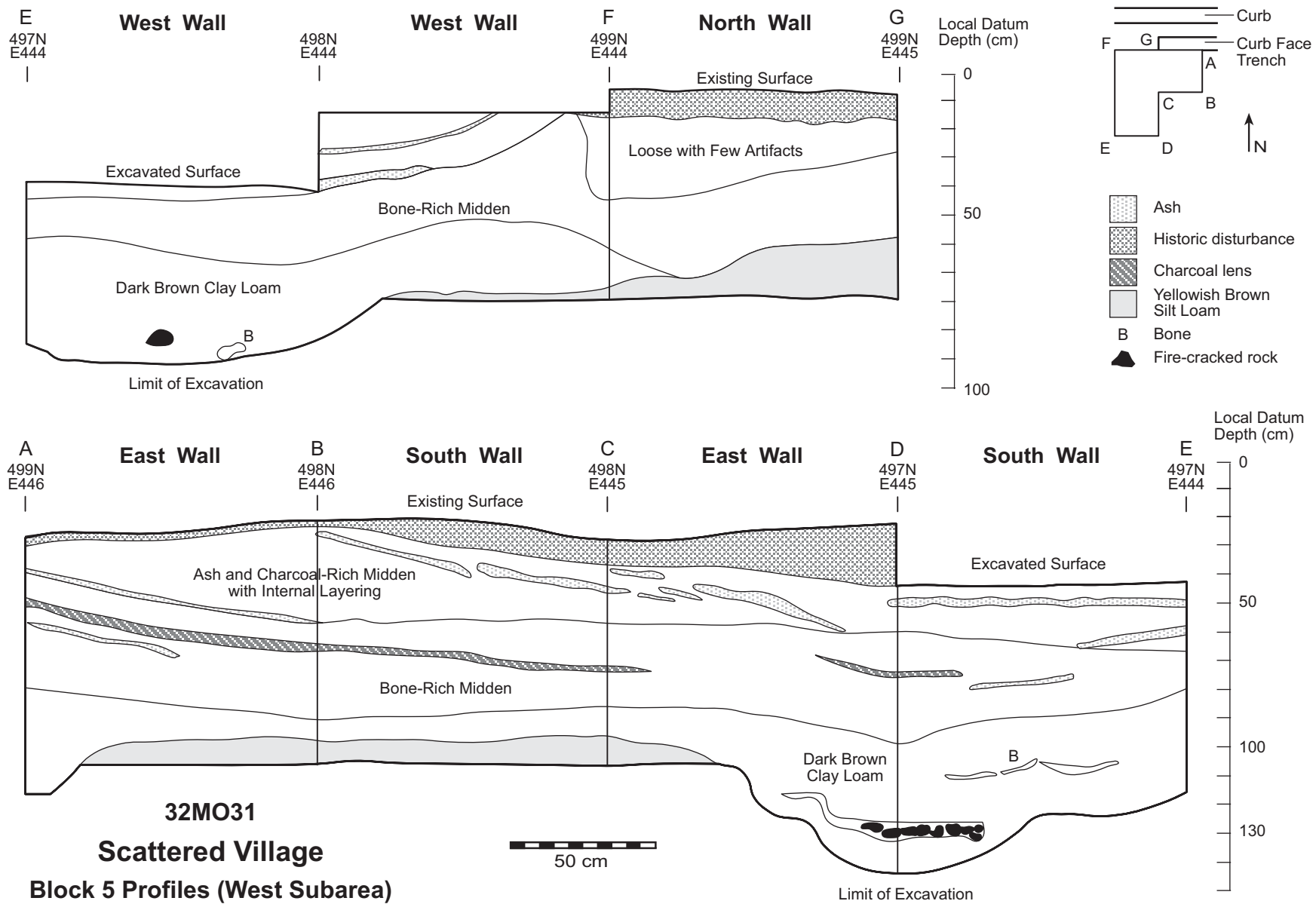


Figure 2.51. Stratigraphic profile of west and north walls of western 1 x 3, Excavation Block 5, Scattered Village, site 32MO31.

When preliminary vessel analysis was conducted (see analytic unit discussion), it was learned that pottery with an “early” appearance was concentrated in the lowermost levels in square 498NE449 (see Figure 2.50). On this basis we reexamined profiles and then selected the lowermost levels from square 497NE444 (level 9 and below) for study as well. We also selected radiocarbon samples from both the upper, massive midden, and the lower unit for analysis, in an attempt to confirm the apparent chronologic separation of these two units.

### **Excavation Block 6**

Excavation Block 6 exposed the remains of an earthlodge and other features on the north side of City Block 89 (see Figure 2.14). The earthlodge was visible in the curb face trenches as a large horizontal expanse of burned roof fall between sidewalk segments N89-15 and N89-20 (Figure 2.52). Several other cultural features were also visible in the curb face trench profile, including the house floor, postmolds, cache pits, and a large, ashy midden deposit immediately east of the earthlodge. The trench profiles also revealed that the house had been constructed on top of a relatively shallow (ca. 10-20 cm) midden-like deposit that directly overlay the previllage A horizon. The previllage soil underlay the entire earthlodge, and was absent only immediately east of the house margin. In this area, two shallow depressions had been excavated through the previllage soil, perhaps as borrow areas for the earthlodge. The depressions were subsequently filled with refuse creating the midden deposit visible in the trench profile.

Work began in Block 6 on August 17 with mechanical removal of historic overburden from above the earthlodge and near-lodge areas using a backhoe with a toothless bucket (Figure 2.53). Overburden was removed from a 50 square meter area. An historic utility trench disturbed a ca. 2 m wide strip running north-south through the western portion of the earthlodge, effectively dividing the cleared area into two unequal parts. Grids were established in both areas, with the smaller gridded area extending past the western house margin. The larger, eastern gridded area encompassed a significant portion of the house interior, the north and northeast house margins, and the midden deposit immediately east of the house. Prior to controlled excavation, a small amount of remaining overburden was removed by hand from the area immediately above the house.

The focus of controlled excavation in Block 6 was on (1) identifying and excavating architectural features, (2) sampling the outside-house midden that was readily apparent east of the burned lodge, and (3) sampling the subfloor, pre-lodge midden that was apparent in the curb face trench. We accomplished tasks (1) and (2) fairly well, but time constraints did not allow completion of task (3). The perimeter of the lodge was generally easy to identify by the arc of burned roof fall in the eastern, northern, and western portions of the block. Following the backhoe work the remaining roof fall zone ranged in thickness from 10-25 cm and was removed in two levels in most squares. One level was excavated deep enough to expose and map a wide array of charred roof beam fragments and concentrations of willows and other roof material (Figure 2.54). After mapping the remainder of the roof fall was removed in a natural level down to contact with the house floor.

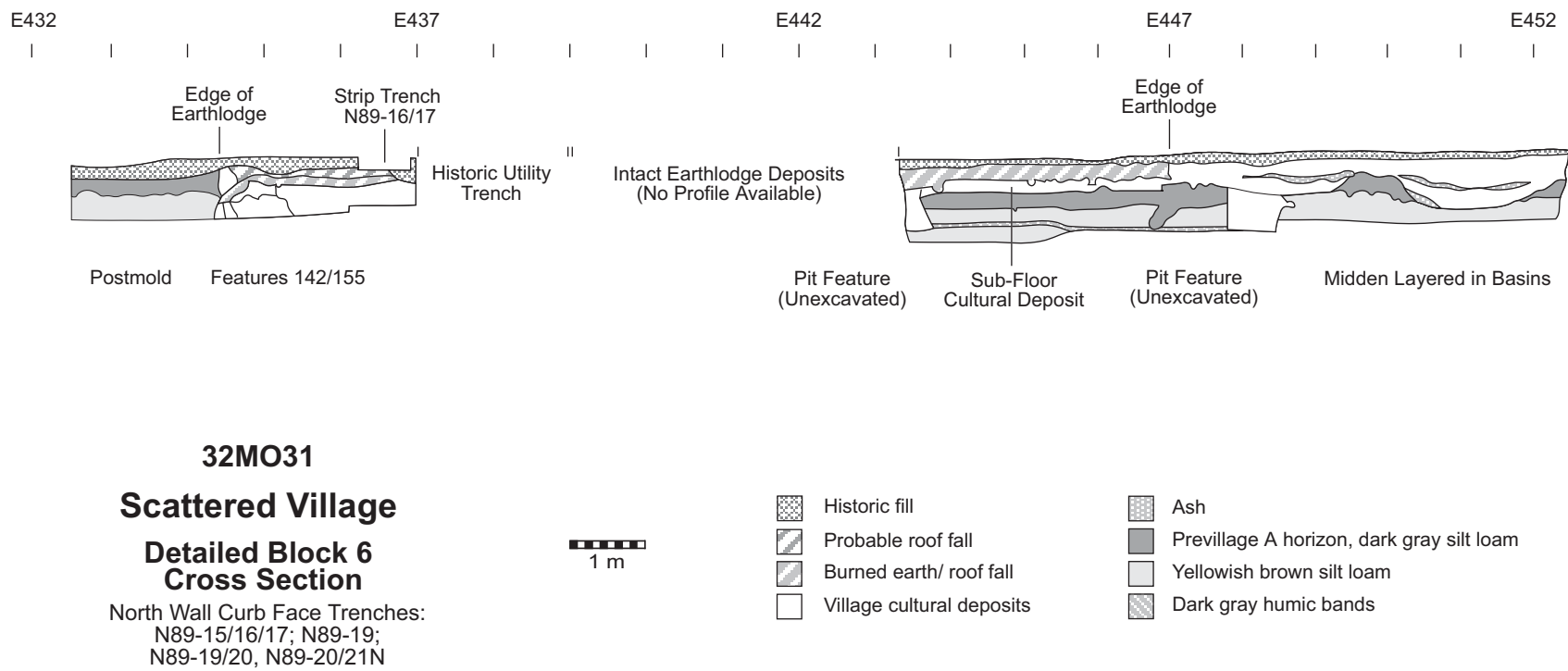


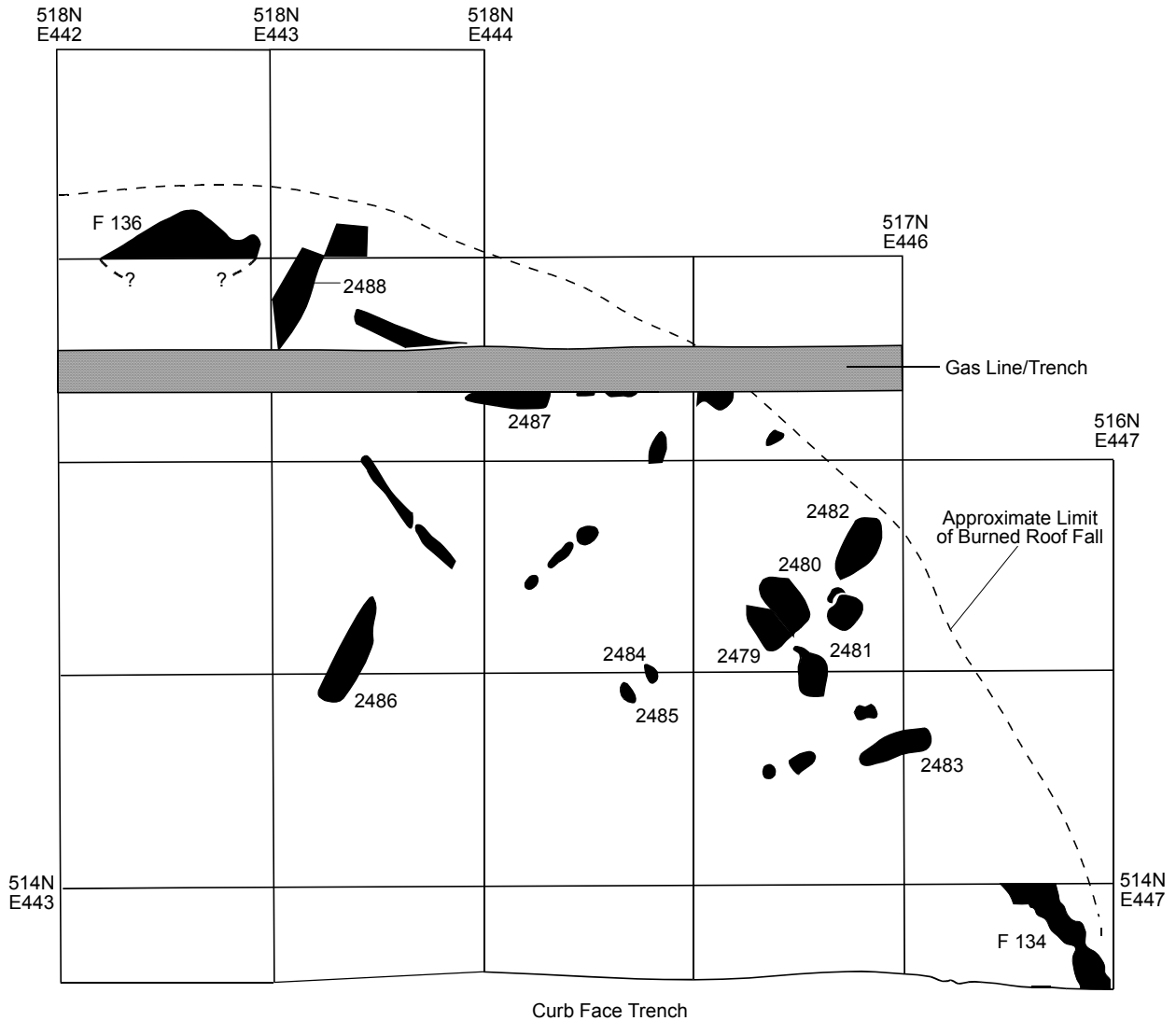
Figure 2.52. Composite cross section from curb-face trenches, Excavation Block 6, Scattered Village, site 32MO31.



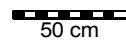
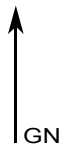
Figure 2.53. Backhoe removing historic overburden, Excavation Block 6, Scattered Village, site 32MO31.

Once the floor of the earthlodge was encountered (at ca. 45-55 cmdd depending on location) squares were excavated using 5 cm arbitrary levels with generally no more than two levels excavated from each square. Outside of the lodge squares were excavated using 10 cm arbitrary levels unless the presence of a feature was suspected through probing or from a subtle color or textural change in level fill. If such were the case, 5 cm levels were employed in an attempt to more precisely define feature boundaries and point of origin. Most squares outside the house were excavated until the previllage soil was encountered. Two squares inside the house, 514NE443 and 514NE445, were excavated through the house floor to sample the cultural deposit immediately below it. These two squares were also excavated down to the contact with the previllage soil. Figure 2.55 shows the final depth of excavation in all squares in Block 6. Forty-one features were exposed in Block 6, of which 35 were excavated. Figure 2.56 illustrates the distribution of all features in Block 6.

Table 2.19 below presents summary information for all excavated Block 6 features, including laboratory sort priority. Four large areas of historic disturbance were also exposed. These include the two-meter wide utility trench that divided the gridded areas (see above), a ca. 20 cm wide gas line trench that ran east west through all squares on the 516N grid line, a circular area of disturbed fill where a lateral gasline extended north out of the Block 6 grid (squares 515NE440, 516NE440 and E441), and a large area of disturbed fill on the eastern end of the block in squares 514NE448, and 515NE447 and E448.



**32MO31**  
**Scattered Village**  
**Block 6**  
 Plan of Major Charred Roof  
 Fall Members in East End of Block



2483 Charred roof beam  
 and catalog or feature  
 number, if collected

Figure 2.54. Major charred roof fall members, eastern part of Excavation Block 6, Scattered Village, site 32MO31.

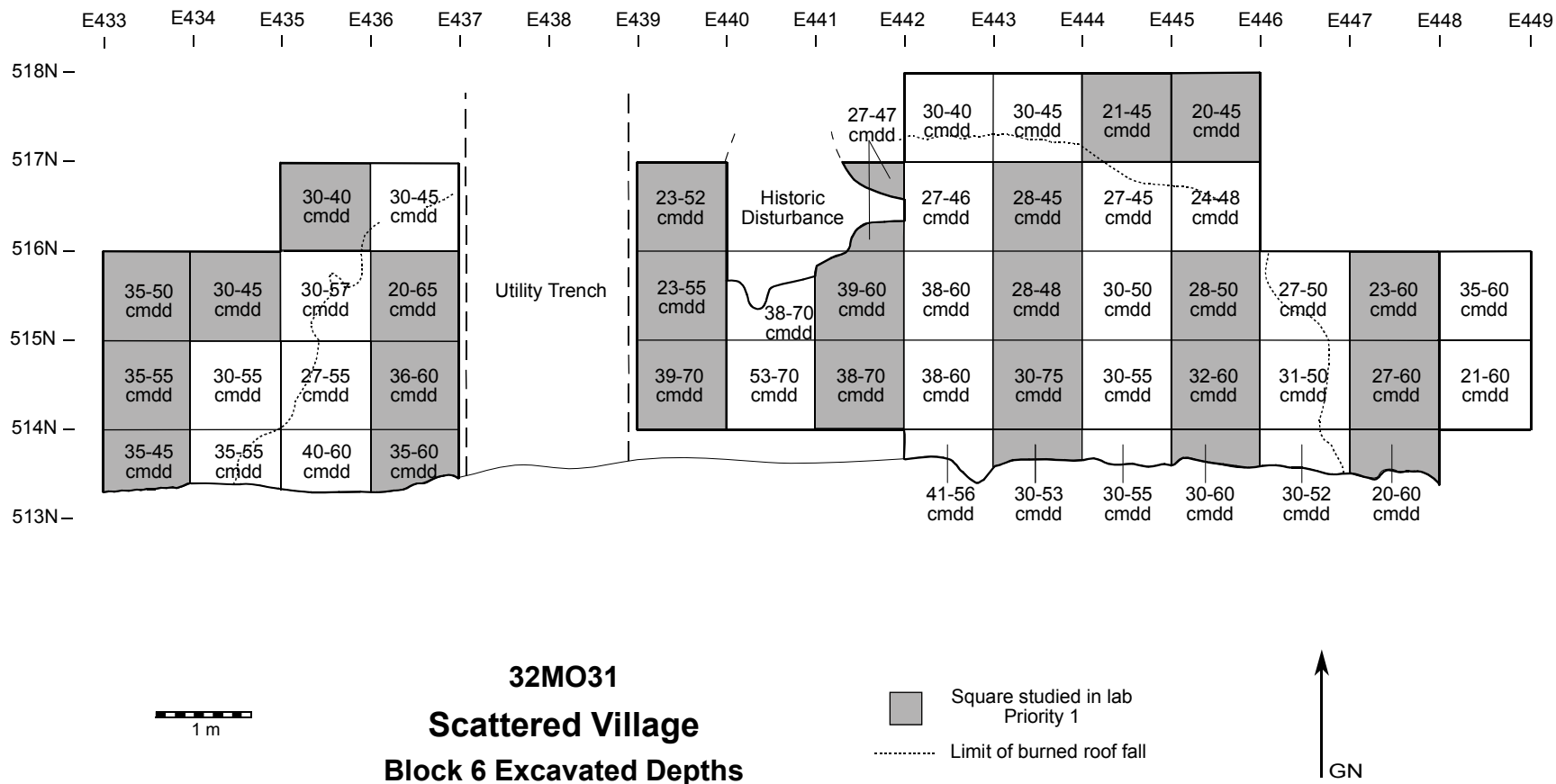


Figure 2.55. Excavated depths and priority 1 squares, Excavation Block 6, Scattered Village, site 32MO31.

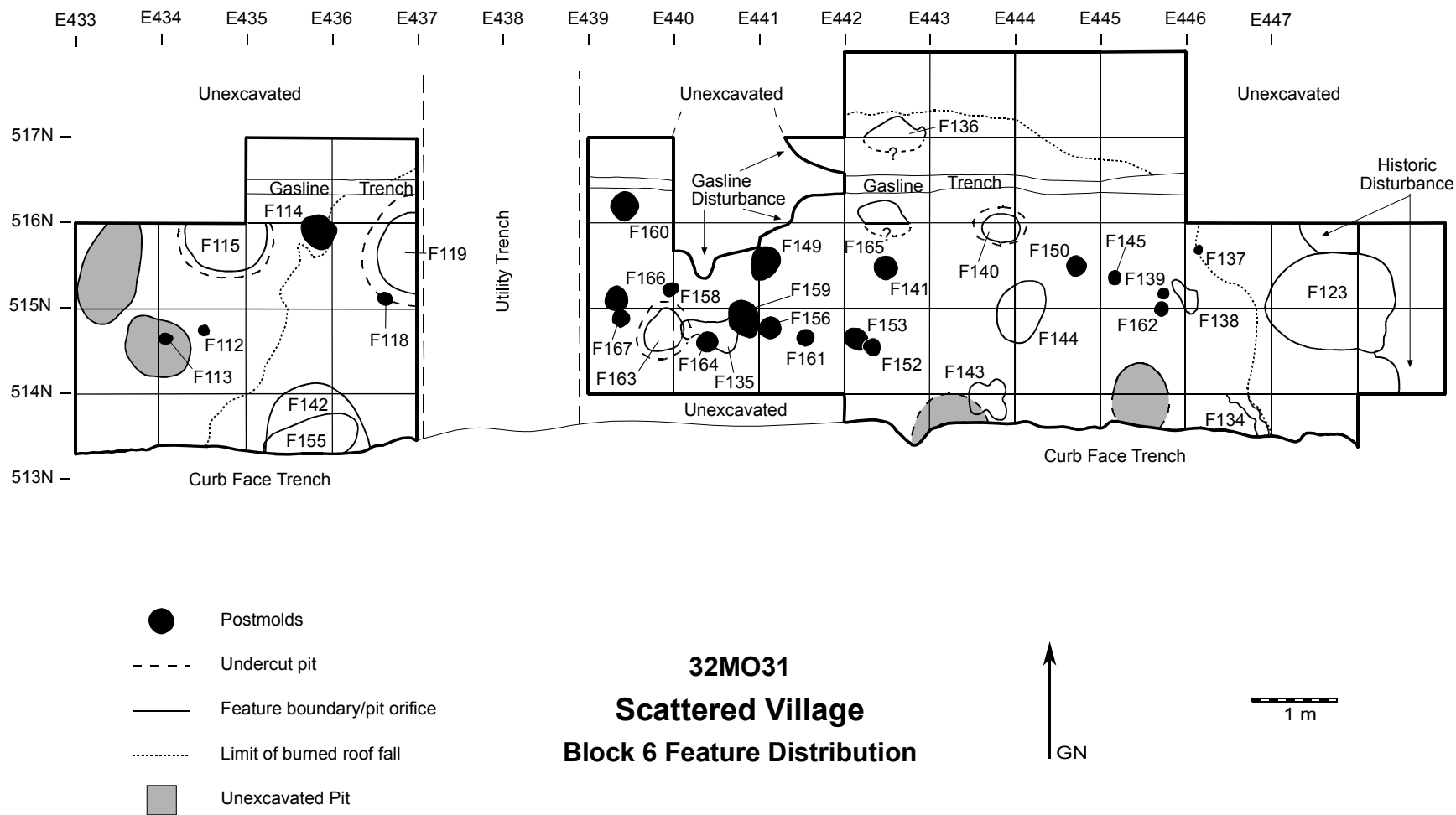


Figure 2.56. Feature distribution, Excavation Block 6, Scattered Village, site 32MO31.



Table 2.19. Summary Feature data, Block 6, site 32MO31

Feature Number	Feature Type	Square Northing	Square Easting	Excavated Volume, m <sup>3</sup>	Sort Priority
112	Lithic concentration	514	434	NA	3
113	Postmold	514	434	.001	3
114	Postmold	515	435	.018	3
115	Pit	515	434	.104	1
118	Postmold	515	436	.004	3
119	Pit	515	436	.503	*1
123	Pit	514	447	.251	*1
134	Roof fall debris	513	446	NA	1
135	Ceramic concentration	514	440	NA	1
136	Roof fall debris	517	442	NA	2
137	Postmold	515	446	.0009	3
138	Pit?	515	445	.011	3
139	Postmold	515	445	.004	3
140	Pit	515	443	.118	1
141	Postmold	515	442	.045	2
142	Pit	513	435	.360	*1
143	Ceramic concentration	513	443	.001	1
144	Pit	514	444	.386	*1
145	Postmold	515	445	.004	3
149	Postmold	515	441	.016	1
150	Postmold	515	444	.039	1
152	Postmold	514	442	.008	2
153	Small hearth	514	442	.002	3
155	Pit	513	435	.086	*1
156	Postmold	514	441	.004	3
158	Postmold	515	439	.004	3
159	Postmold	514	440	.040	2
160	Postmold	516	439	.021	3
161	Postmold	514	441	.009	1
162	Postmold	514	445	.011	1
163	Pit	514	439	.085	*1
164	Postmold	514	440	.018	2
165	Pit	516	442	.014	2
166	Postmold	515	439	.009	3
167	Postmold	514	439	.01	3

\* indicates only waterscreen samples listed as priority 1. Heavy fraction float samples from the same level were assigned priority 3.

### *Postmolds*

Twenty postmolds were exposed during the excavation of Block 6. Only two postmolds were outside the apparent limits of the earthlodge and were obviously not lodge architectural features. Table 2.20 provides summary data on postmolds, including location, average diameter, and depth.

Post-contact and Historic Mandan and Hidatsa earthlodge architecture has been discussed previously (see “Excavation Block 3). The reader should reference that section to place Block 6 architectural discussions in context.

Figure 2.56 illustrates the distribution of postmolds in Block 6. The apparent perimeter of the lodge was well defined by an arc-like margin for the burned earth layer visible in the western, northern and eastern portions of the block. It is likely that only perimeter support posts were exposed during excavation. If we take this arc to be a portion of a circle, its radius is about 7 m, and its center (the location of the central hearth), can be projected to have been located near the current center of First Street. We therefore excavated only a small slice (<4 m wide) of a 14 m diameter earthlodge. Perimeter support posts and the *atuti* area can be expected to occur within our excavation area. Possible perimeter support posts were identified by isolating only those posts 25 cm or greater in diameter, and located within 1.5 to 2 m of the burned roof fall margin. Several posts exhibited a large enough diameter to qualify as perimeter supports, but only four posts were within 2 m of the lodge perimeter: F141, F149, F150, and F166. When spacing and depth criteria are taken into account only two posts appear as good candidates for perimeter supports: Features 141 and 150. Spacing data (distance from the lodge perimeter and between perimeter posts) suggest that F166 is also in the proper location to be considered a perimeter post. However, the depth of the feature (ca. 26 cm) is not great enough to qualify as a support post based on Wilson’s data. Whether the feature was a perimeter post and was not completely excavated, or whether the feature was not part of the lodge support structure is unresolved.

The remaining posts exposed in Block 6 can be divided into two groups: those apparently related to non-roof-support structures within the earthlodge (i.e. racks, beds), and those that apparently originate below the lodge floor and likely predate the construction of the earthlodge. Seven posts fit into the latter category, originating at depths of 60 cm or greater: Features 118, 149, 152, 156, 159, 161, 164, and 167. These posts are presumably reflecting the construction of outdoor structures, perhaps drying or storage racks, predating the house. Features 113, 114, 137, 139, 141, 145, 150, 158, 162, and 166 fall into the group likely related to the house interior.

### *Pits*

Twelve pits were exposed during Block 6 excavations, of which eight were excavated. Of the excavated pits, six were undercut, and two had basin-shaped cross-sections. Nine of the twelve pits occurred inside the lodge perimeter, but depending on point of origin, may or may not have been directly associated with the earthlodge. Locations of all pits in Block 6 can be

seen in Figure 2.56, and cross-sections are seen on Figures 60 and 61. Individual pits, their artifact content, and potential association with the earthlodge are discussed below.

Table 2.20. Summary data on postmolds, Block 6, site 32MO31.

Feature No.	Unit Northing	Unit Easting	Average Diameter (cm)	Local Datum Depth (cm)	Post Depth (cm)	Likely Postmold Association
113	514	434	14	47-57	10	Interior Lodge Feature
114	515	435	40	40-80	40	Interior Lodge Feature
118	515	436	18	60-76	16	Pre-Lodge Feature
137	515	446	12	51-64	13	Interior Lodge Feature
139	515	445	14	51-83	32	Interior Lodge Feature
141	515	442	28	48-121	73	Perimeter Support
145	515	445	14	50-69	19	Interior Lodge Feature
149	515	441	32	61-90	29	Pre-Lodge Feature
150	515	444	25	50-136	86	Perimeter Support
152	514	442	22	61-92	31	Pre-Lodge Feature
156	514	441	28	70-77	7	Pre-Lodge Feature
158	515	439	16	57-78	21	Interior Lodge Feature
159	514	440	38	70-120	50	Pre-Lodge Feature
161	514	441	20	70-100	30	Pre-Lodge Feature
162	514	445	16	50-104	54	Interior Lodge Feature
164	514	440	26	70-104	34	Pre-Lodge Feature
166	515	439	25	55-81	26	Perimeter Support
167	514	439	33	70-90	20	Pre-Lodge Feature

*Feature 115* was a shallow, bell-shaped pit outside of the house in square 515NE434. Only the southern two-thirds of the feature was excavated. The pit was 25 cm deep, measured 90 cm in diameter at its orifice, 98 cm in diameter midway to the bottom, and constricted down to 90 cm in diameter at its base (Figure 2.58). Feature fill consisted of light brown silt and typical village refuse. Of particular note was a concentration of large pot sherds that appeared to be from a single vessel. The pit originated at 45 cmdd. However, given the shallow nature of F115 it is possible that the pit originated higher than where it was detected. If this was the case, the upper portion of the pit was likely removed historically during street construction or landscaping activities (or perhaps partially removed during the mechanical stripping of historic overburden). If the pit did originate higher, it clearly post-dates the earthlodge and the majority of features exposed in Block 6.

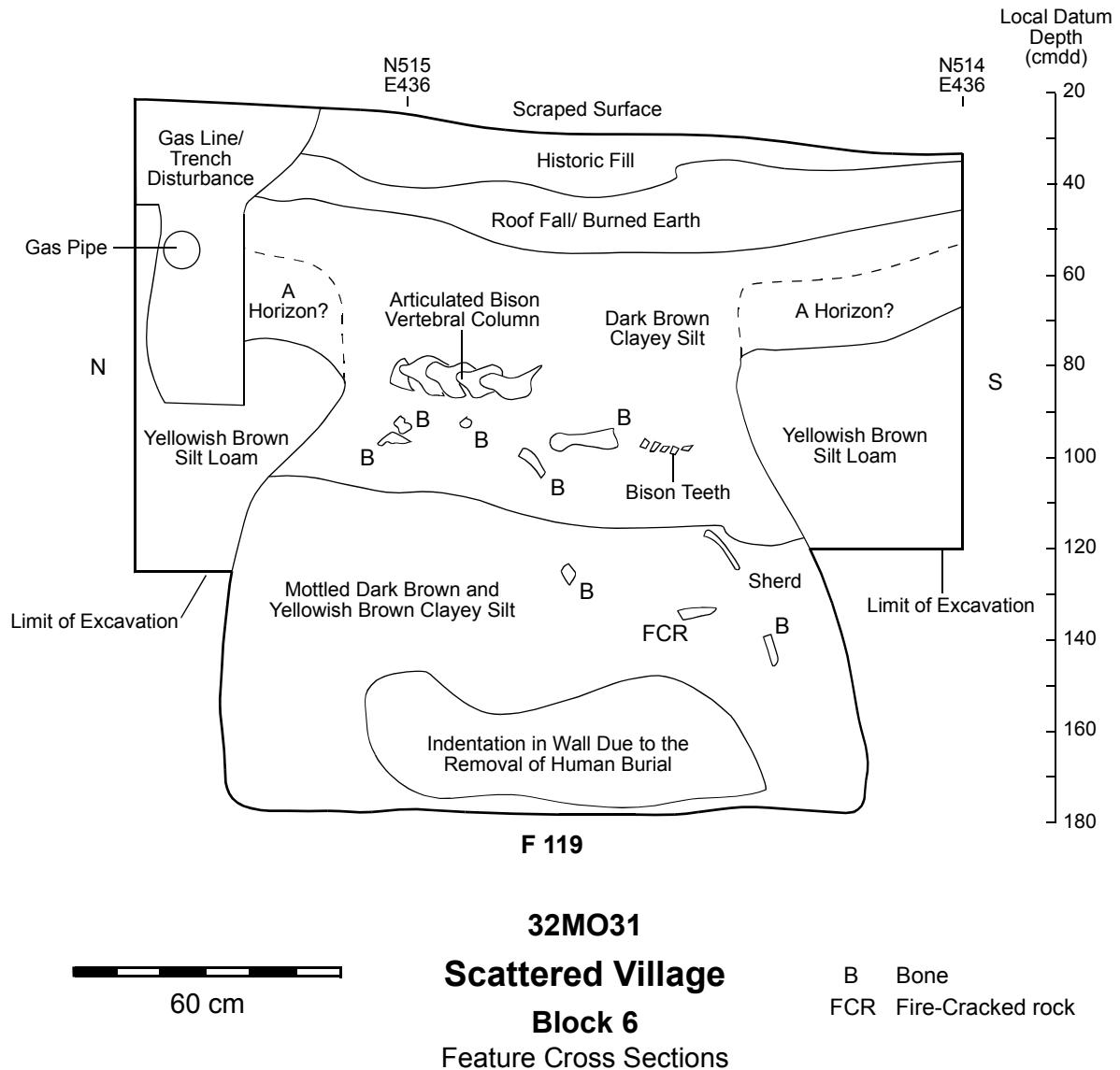
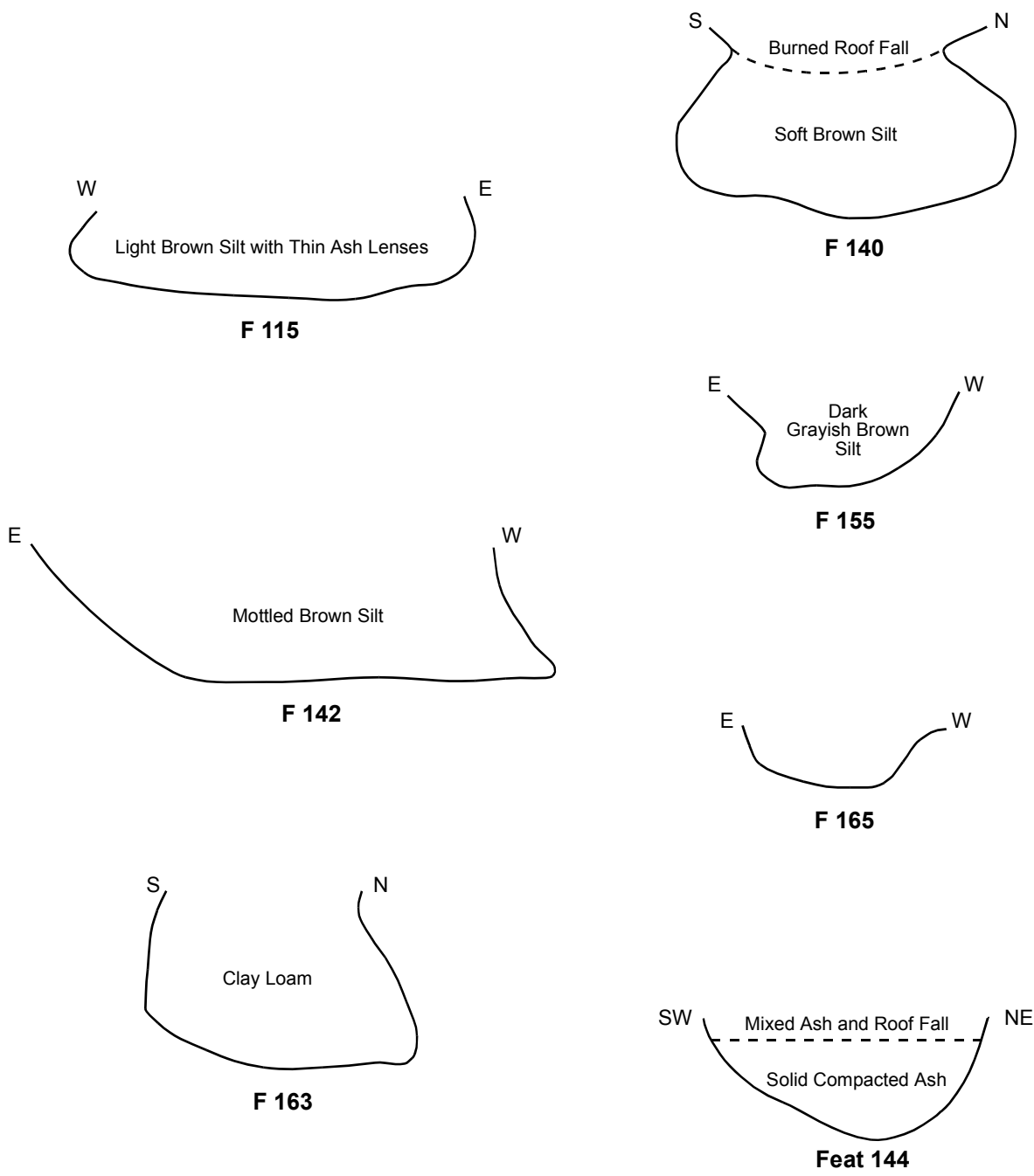


Figure 2.57. Cross section, Feature 119, Excavation Block 6, Scattered Village, site 32MO31.

*Feature 119* was a classic bell-shaped pit inside the perimeter of burned roof fall in squares 515NE436 and 516NE436 (Figure 2.57). The eastern half of the pit was truncated by the historic utility trench that crossed the earthlodge, leaving only the western half to be excavated. The pit was 1.0 m deep, measured 90 cm in diameter at its orifice and 1.4 m in diameter at its base. The orifice was first visible at 60 cmdd, well below the floor of the earthlodge. In this portion of Block 6 the previllage soil was encountered at ca. 55 cmdd, and it is therefore likely that the pit actually originated at the top of the previllage soil. This suggests that F119 predates construction of the earthlodge. The pit was apparently filled in two episodes. The bottom 60-70 cm of fill was a mottled brown silt with relatively low artifact density. Also present in the bottom of the



60 cm

**32MO31**  
**Scattered Village**  
**Block 6**  
 Feature Cross Sections

Figure 2.58. Cross sections of Features 115, 140, 142, 144, 163, 165, Excavation Block 6, Scattered Village, site 32MO31.

pit was a single human interment. The individual was placed on their back with the head to the north. The legs were flexed and laid towards the east. No grave associations were identified. The upper 30-40 cm of pit fill was a dark brown silt that contained numerous large bison elements, both cranial and postcranial. Many of the postcranial elements were articulated.

*Feature 140* was a small, bell-shaped pit in the northeast portion of Block 6. The pit originated at ca 45 cmdd at the house floor and was therefore clearly associated with the earthlodge. The orifice measured 44 cm, and maximum diameter was 70 cm (Figure 2.58). Roof fall intruded part way into the feature from above suggesting the pit may have been only partly filled at the time the earthlodge burned. The upper 20 cm of pit fill consisted of a brown silt charged with burned earth. The remaining fill was a brown to dark brown silt. Artifact density in the fill was relatively low, and consisted mainly of small pieces of bone, pottery, and chipped stone.

*Features 142 and 155* were a pair of irregular-shaped pits just inside the western house perimeter. Feature 142 was superimposed on F155 making the definition of boundaries difficult (Figure 2.60). Feature 142 was first identified in cross section in a curb face trench during testing work (Figure 2.53). Feature 142 (Figure 2.58) was capped by the burned roof fall layer suggesting that it dates to the same period as the earthlodge. The bottom of F142 was reached at ca. 45 cm pit depth, and at this point the boundaries of Feature 155 (Figure 2.58) were clearly visible in the floor of F142. Several unusual artifacts were also exposed at this depth including a complete elk antler scraper handle, a sandstone shaft abrader, and a large piece of clinker. Other artifacts recovered consisted of typical village refuse. The entire contents of F155 were removed in a single 24-cm level. Artifact content in F155 contrasted significantly from that in Feature 142. While containing a typical array of village refuse (FCR, chipped stone, pottery), F155 also contained an abundance of highly fragmented bone. It is unknown at what depth F155 originated. However, since F142 was superimposed onto F155 (and F142 is associated with the earthlodge) it is likely, though not definite, that F155 predates the earthlodge.

*Feature 144* was an unusual ash-filled basin pit first identified in the house floor at a depth of 55 cmdd. Once completely exposed the feature extended into squares 514NE443, 514NE44, 515NE443 and 515NE444. The pit was oval in outline (ca. 75 x 50 cm) and 30 cm deep (Figure 2.59). A single natural level (ca. 5 cm) consisting of dark brown silt was removed from the top of the pit. The remaining fill was divided in half and excavated as a single level with one half waterscreened and the other half floated. As well as a concentration of ash, the pit fill contained several complete bivalve shells.

*Feature 163* was a small bell-shaped cache pit in square 514NE439 (see Figure 2.64 for cross section). The pit was encountered below the floor of the house (ca. 67 cmdd) and apparently originated near the top of the previllage soil, suggesting it predates the earthlodge. Pit diameter measured ca. 45 cm at its orifice and 68 cm at its base (Figure 2.58). The pit was excavated in a single 40 cm level. The pit contained ordinary village refuse as well as an unusually high concentration of fish bones.



Figure 2.59. Features 142 and 155 after excavation, Excavation Block 6, Scattered Village, site 32MO31.

*Feature 165* was a small, shallow, basin-shaped pit in squares 515NE442 and 515NE442. The pit was first visible in the house floor at ca. 46 cmdd. The pit orifice was oval in plan, measuring 50 cm by 30 cm (Figure 2.58). Fill was removed in a single 12-cm level. Artifact content was typical of a trash filled pit (FCR, bone, pottery, and chipped stone).

Three additional pits were recognized in the field but were not excavated due to time constraints. Two pits were inside the earthlodge, although only one was likely directly associated with the lodge. The first of the interior pits was identified at the bottom of the last level excavated in square 514NE445. This particular square was one of two squares excavated through the lodge floor and into the cultural deposits directly below it. The last level of this square removed cultural material down to the contact with the previllage soil, and it was at this point that the northern half of the pit orifice became visible. Since the pit originated at the top of the previllage soil, it clearly predates the earthlodge.

The second interior pit was exposed in one of the original curb face trenches excavated during the testing phase (see Figure 2.52). This pit was bell-shaped, and was approximately 60 cm deep (based on the cross section exposed in the curb face trench). The diameter of the pit base and orifice are unknown since the pit was neither excavated or completely exposed in cross section. As can be seen in Figure 2.52, the pit originated in the house floor immediately below the layer of burned roof fall, indicating that it was of the same age as the earthlodge.

The last pit identified in the field but not excavated was located outside the western boundary of the earthlodge. The feature was thought to be a circular pit in 514NE433 and 514NE434. A transect of tests with a soil probe defined the feature's boundaries, but excavation of general levels in the associated squares could not verify the boundaries before time constraints required excavation to halt.

### *Other Features*

Nine additional features were identified during excavation of Block 6. These included artifact concentrations, intact portions of the roof structure, a lithic cache, a potential borrow area, two features of undetermined nature, and a "mini" hearth. Each feature is identified on Figure 2.57 and is individually discussed below.

*Feature 112* was a small lithic cache in square 514NE434 consisting of three pieces of Knife River flint (KRF) and two pieces of petrified wood placed in a small circular pit (ca. 12 cm in diameter and 5 cm deep). One piece of KRF and one piece of petrified wood were minimally modified (tested?); the remaining pieces were unmodified.

*Feature 123* was originally thought to be a cache pit in the midden area outside and east of the earthlodge (squares 514NE447 and 515NE447). When first encountered at a depth of 60 cmdd, the feature boundaries were clearly visible as a circular area (ca. 1.1 m in diameter) of lighter brown sediment set within the previllage soil. As excavation proceeded, the feature manifested as a shallow basin approximately 25 cm deep that had been excavated through the previllage soil and into undisturbed sediments below. An unknown portion of the eastern part of the basin had been disturbed by an historic intrusion that was not identified on construction utility maps. Based on its size and overall shape, it is likely that the basin reflects borrow activities related to the earthlodge construction. The basin contained the usual array of village refuse: FCR, chipped stone, bone, pottery and shell.

*Feature 134* was a concentration of burned roof fall that marks the boundary of the lodge perimeter in square 513NE446 (Figure 2.60). During excavation of the natural level of burned roof fall, several intact bunches of apparent willow rods as well as portions of larger beams or puncheons were encountered. The mass of intact willow rods, identified as F134, was collected without screening and wrapped in foil.

*Feature 135* was a concentration of ceramic sherds in square 514NE440, all apparently belonging to the same vessel. The concentration was encountered within the natural level of burned roof fall, suggesting that it was originally located on the roof of the lodge and not inside on the floor. A single piece of groundstone was found immediately adjacent to the ceramic concentration and was included in the feature material. The concentration was mapped and all material was collected without screening.

*Feature 136* was another concentration of burned roof fall debris, this one in square 517NE442. Much like F134, this feature consisted of a mass of burned willow rods and large pieces of charred wood that delimited the extent of burned roof fall and marked the boundary of the earthlodge. The entire mass of charred material was collected without screening.





Figure 2.60. Feature 134, burned roof fall, Excavation Block 6, Scattered Village, site 32MO31.

*Feature 138* was a small area of unconsolidated sediment visible in the house floor in square 515NE446. The nature of the feature was never determined since work was halted before the feature was completely excavated. The feature was irregular in outline, measuring roughly 45 cm in length and 28 cm at its widest. Excavation was halted after one level when it was evident the feature intersected an additional cultural feature (either a midden or another pit). Due to time constraints, excavation of F138 never resumed.

*Feature 143* was a dense concentration of ceramics in square 513NE443, on the house floor immediately below the burned roof fall. The concentration represented one, or possibly two vessels. Three separate groups of sherds were collected and bagged separately. Under one sherd a significant amount of charred botanical remains (what appeared to be grass florets) were exposed. Because of this discovery, a sample of the sediment below the sherd concentration (ca. 1.5 cm deep) was collected for flotation in the lab.

*Feature 153* was a small, circular basin-shaped depression (ca. 26 cm in diameter) in square 514NE442, at 60 cmdd directly under the roof fall zone. The feature contained a mixture of silt, charcoal, and ash. This feature resembled a small hearth, including a thin oxidation rind in the sediments forming the basin. Feature contents were removed in a single level and were floated. The only artifacts noted during excavation were small pieces of bone.

A possible pit was identified in squares 514NE433 and 515NE433. Feature boundaries were identified in the last levels excavated from both squares. The eastern portion of the feature,

visible as an area of yellow-brown loam within the darker previllage soil, was somewhat circular. The western boundary was much more difficult to expose, and could not be positively identified in the field. Due to the ambiguous nature of the feature additional excavation did not take place.

### *Block 6 Summary*

Excavations in Block 6 revealed two, and possibly three phases of village occupation. The first phase is represented by at least three pits, several postmolds, and the thin layer of cultural material deposited directly onto the A horizon of the previllage soil. Two pits (F119 and F163) originated at the previllage soil below the floor of the earthlodge. It is unknown where the other pit (F155) originated, but F142 (likely associated with the earthlodge) was superimposed into it, suggesting that F155 predates the earthlodge. An additional pit in square 514NE445 was encountered at the top of the previllage soil but was not excavated. At least seven posts appear to have originated below the level of the house floor and likely represent outdoor structures such as drying or storage racks. Over the tops of these features, and below the earthlodge floor, a thin layer (ca. 10-15 cm) of refuse was deposited. This material was sampled in two squares in Block 6 (514NE443 and E445).

The second phase of occupation is represented by the earthlodge remains and features directly associated with the earthlodge. Aside from the multiple posts exposed in the house floor during excavation, four pits appear directly related to the earthlodge (F140, F142, F144, and F165). All of these pits were visible in the house floor immediately after the removal of the layer of burned roof fall. Feature 123 may represent a borrow area used for earthlodge construction. There is some evidence to suggest that the earthlodge burned and was abandoned while still occupied. Several artifacts were encountered on the house floor, including parts of two ceramic vessels. Additionally, at least one excavated pit appears to have been open at the time the lodge burned.

A possible third phase of occupation is reflected by a single pit outside the lodge perimeter (F115). Based on the shallow depth of this feature it appears to have originated above the level of the earthlodge.

### *Laboratory Sampling Strategy*

We decided to fully analyze ca. 50% of the general level contexts from Block 6. The sampling strategy was designed to obtain contrastive samples from both inside and outside of the earthlodge, and from roof fall and floor contents. Using these parameters all squares falling on the house margin were excluded from study (priority 3) since they potentially contained a mixture of material from both inside and outside the earthlodge. All squares falling outside of the earthlodge are selected for study (priority 1) provided that no historic disturbance was present within the square. Approximately two-thirds of all squares inside the house were selected for study (priority 1). All told, 24 of 44 Block 6 squares are included in the studied sample. Non-post features are also included if they are large enough to provide a meaningful sample of cultural material. Posts are included if they are believed to be support members of the earthlodge structure. Figure 2.55 illustrates the distribution of priority 1 squares and features in Block 6. Table 2.19 above, indicates the laboratory sort priority for excavated features.

## Excavation Block 7

During the testing phase a series of curb face trenches on the south side of City Block 89 intersected relatively deep cultural deposits west of the bone-rich midden of Block 5. Immediately west of Block 5 cultural deposits were thin, but slightly farther to the west they were thicker in the form of a massive, highly organic, clay-rich sediment with localized concentrations of large pieces of bone and fire-cracked rock. Farther west this deposit was thinner and absent near the west end of City Block S89. Given the location near the village periphery it was thought that this lateral variation in stratigraphy might represent remains of a fortification ditch. Block 7 investigated this possibility by opening a continuous profile exposure in this area with the aid of a backhoe. A similar trench was planned for the north side of City Block 89 in the corresponding portion of that side of the street. This north trench became Block 8 (see below--discussion Block 8).

Mechanical excavation of Block 7 began on August 24 (Figure 2.61). Work was monitored and halted once, when the backhoe intersected a hearth. At this point the trench was shifted approximately 30 cm to the north to avoid destroying the hearth. Excavation continued, the trench ultimately measuring 20 m in length and averaging 1.25 m in depth. The south trench wall was resurfaced with trowels and was accurately mapped.

The stratigraphic profile of Block 7 reveals an expansive deposit of a massive, dark-gray, organic-rich clay (Figure 2.62). A thin smear of obvious historic sediment was present at the top of the profile in the eastern six meters of the trench. Numerous discrete, but small lenses of ash and charcoal were evident within the gray clay unit. In most places the massive gray clay is deposited directly onto the previllage soil. In other locations the gray clay overlies cultural features that had been excavated into and through the previllage soil. Many of the features resemble the basins seen at the bottom of Blocks 1 and 5, and it is possible that the features in Block 7 also reflect borrow activities. In Figures 99 and 100 two basins can be clearly seen between E431 and E428, and between E427 and E425. Several similar features were also evident in the north wall of the trench, but were not mapped. The basins exposed in the south wall are apparently distinct features and are not connected to the basins exposed in the north wall, suggesting that all of these features are relatively small. Distinct stratigraphic layers of brown silt or mottled, yellow-brown silt occur in the bottom of the basins and below the massive gray clay. Sediments normally occurring below the previllage A horizon are also exposed in Block 7, and are most visible in the western half of the trench where at least four distinct humic bands are exposed (Figure 2.62).

Several additional cultural features were exposed in the profile of Block 7. These include a possible pit between meters one and two, a possible postmold between gridlines E437 and E436, the hearth (F125 - see below) encountered during excavation (grid coordinates 497.3NE427.8), a small pit directly under the hearth (F126 - see below), a postmold between gridlines E428 and E427 (this particular post mold still contained wood debris), and a straight-sided pit with grid coordinates 498NE423.64 (F122 - see below). An historic utility trench was exposed between grid lines E423 and E422.



Figure 2.61. Backhoe excavating Block 7, Scattered Village, site 32MO31.

The processes that led to the deposits in Block 7 are the result of both natural and cultural events. By tracking the previllage A horizon across the entire length of the trench it is evident that the previllage land surface in this area was not flat. In the first four meters of the trench the previllage soil dips significantly to the east. Between E432 and E424 the previllage soil also dips and is deeper than it is immediately to the east or west. Note that just east of E431 the previllage A horizon appears to have been truncated, indicating that the original previllage surface in this area was higher than it appears in the profile. In sum, the existing land surface in the area of Block 7 appears to have been characterized by at least two relatively shallow swales, or depressions. Village occupants excavated into these depressions, removing the previllage A horizon and in some locations a portion of the sediments below it, creating the small basins described above as potential borrow areas. These basins were then partially filled, either intentionally by the village occupants, or by local material washing into the basins over time.

The massive gray unit was deposited next, and given its high clay content it is likely that the unit represents a slackwater deposit. Flood waters from the nearby Heart River could easily have filled, and been trapped in, the topographic depressions exposed in Block 7. Periodic flood events could have provided the necessary influx of clay to fill the depressions. Given the amount

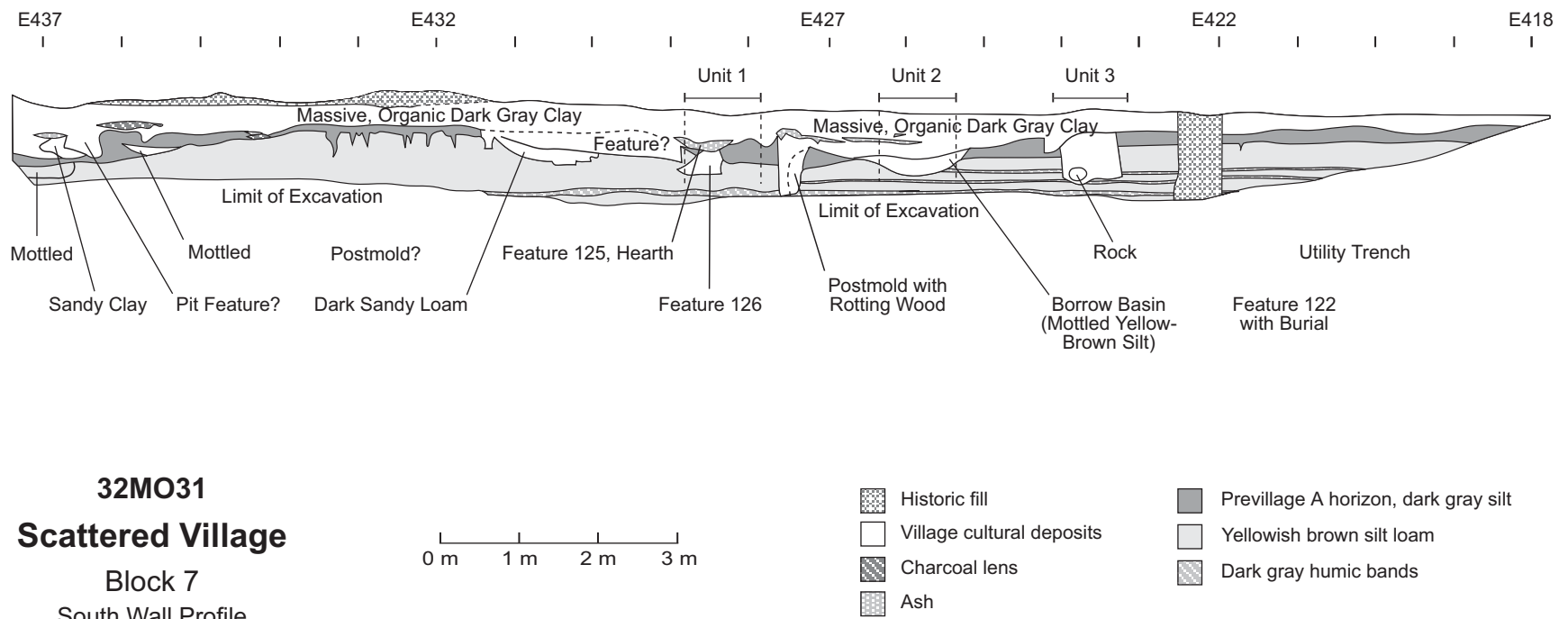


Figure 2.62. Stratigraphic profile, Excavation Block 7, Scattered Village, site 32MO31.

of clay in the depressions it is likely that water could have remained in the depressions for extended periods after any given flood event. If this occurred local vegetation would have been enhanced, and it is possible that wetland vegetation could have been established. Over time, the accumulated mass of decaying vegetation could have accounted for the high organic content in the clay unit.

Limited controlled excavation was conducted in Block 7. In particular, 1 x 1 m squares were established over the numbered features identified above, and an additional 1 x 1 was excavated into the center of the westernmost basin. Details of excavation for each 1 x 1 unit are discussed below.

#### *Unit 1: Feature 122*

Feature 122 is a straight-side pit that contained a single human interment. The human remains were identified when the wall of the trench was being cleaned prior to stratigraphic mapping. Excavation of the pit feature began with the removal of overburden from directly above the pit until the actual orifice could be discerned in plan view. This material (ca. 25-30 cm) was removed without control and was not screened. Controlled excavation then commenced, and pit contents were removed as a unit down to the level of the human remains. The remains were carefully exposed, mapped, photographed, and removed. Fill surrounding the interment was added to the fill from the remainder of the pit and all of this material was waterscreened. No float sample was taken.

The human interment in F122 was placed in a flexed position on its right side with the head to the west. A single large, spherical rock (ca 20 cm in diameter) had apparently been placed on top of the individual in the abdominal region. The position of the individual's head is estimated from the position of other elements, because part of the spinal column and the cranium were removed by the backhoe. Most of the elements were recovered from the backhoe spoil pile and were reincorporated with the excavated elements. Other than the large rock, no grave associations were encountered and, in fact, the pit fill contained very little of the normal village refuse.

#### *Unit 2: Feature 125*

Feature 125 is the remnant of a moderately large, basin shaped hearth, largely removed by the backhoe. The hearth measured ca 1.0 m in diameter and was nearly 25 cm deep in the deepest portion of the basin. In profile, a 5 cm thick oxidation rind was clearly visible at the bottom of the basin in the eastern half of the feature. A 1 x 1 m square was established over the hearth and 20-25 cm of overburden directly above the hearth was removed without screening. Controlled excavation commenced with the removal of a natural level of sediment down to the point at which the hearth was exposed in plan view. The hearth was visible as a semi-circular smear of ash in the northeast quarter of the square. A smaller concentrated area of solid ash was present in the very center of the larger ash smear. The ash contents of the hearth were removed in a single level, exposing the burned sediments of the hearth basin. The majority of the fill from this level was waterscreened, with a float sample measuring (20 x 20 x 10 cm) also taken. After

the contents of the hearth were removed, the orifice of the pit below the hearth (F126) was visible as a small circular area of ash against the red, oxidized sediments of the hearth basin.

### *Unit 2: Feature 126*

Feature 126 was a small pit that occurred directly below F125, the hearth described above. The pit was essentially straight-sided on its western side, was undercut on its eastern side for approximately 15 cm, and was 29 cm deep (see Figure 2.62). A review of the stratigraphic profile of Block 7 indicates that the pit probably pre-dates the hearth, although it is possible that both pits were in use during the same period of time. The contents of F126 were excavated in a single level. The majority of pit fill was waterscreened, with a ca. 3-liter float sample taken. Pit fill was ashy, gray-brown silt with sparse pieces of charcoal and bone. No other artifacts were noted during excavation.

### *Block 7, Unit 3*

Unit 3 was excavated into the westernmost basin in Block 7 (Figure 2.62). This particular basin occurred beneath one of the deepest expressions of the massive, gray clay in Block 7, and contained an additional distinct sediment unit below the massive clay unit. Present within the basin were many large pieces of bison bone, and the intent of excavation in this unit was to obtain a sample of this bone to compare it to samples from other areas of the site.

Excavation began with removal of the first 15-20 cm of clayey sediment, without control or screening. Two 15 cm general levels then removed the remainder of the gray clay unit, and a single natural level removed the mottled, brown-yellow silt that filled the bottom of the basin. The natural level measured nearly 30 cm in its deepest portion, and exposed three separate, intersecting basins excavated into the intact sediments below the previllage A horizon.

Given our understanding of the cultural and natural stratigraphy of Block 7, it is apparent our excavations did not intersect a fortification ditch. Instead, deposits in Block 7 likely reflect a variety of activities taking place near the village periphery. Borrow activities are represented by numerous small basins, exposed in both walls of the trench, excavated into and through the previllage A horizon. The remains of posts suggest the presence of structures; perhaps similar to the structures erected in Block 2 and 4. The single hearth might indicate the presence of an earthlodge, but this is unlikely given that the hearth is not as large as most central hearths and no floor or roof fall remains were exposed. The single pit that contained human remains was likely dug solely for the purpose of the interment given its relatively unusual, cylindrical shape and the relative lack of artifacts in the pit fill (suggesting it was not used as receptacle for refuse).

### *Laboratory Sampling Strategy*

All waterscreened samples from controlled excavations in Block 7 were assigned a sort priority 1, and were processed in the laboratory according to normal guidelines.

## Excavation Block 8

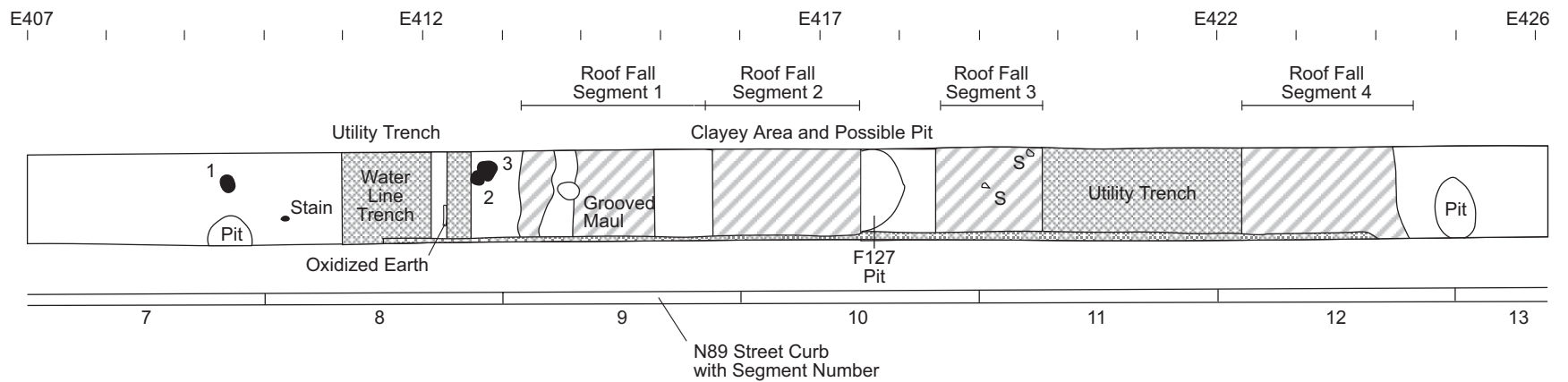
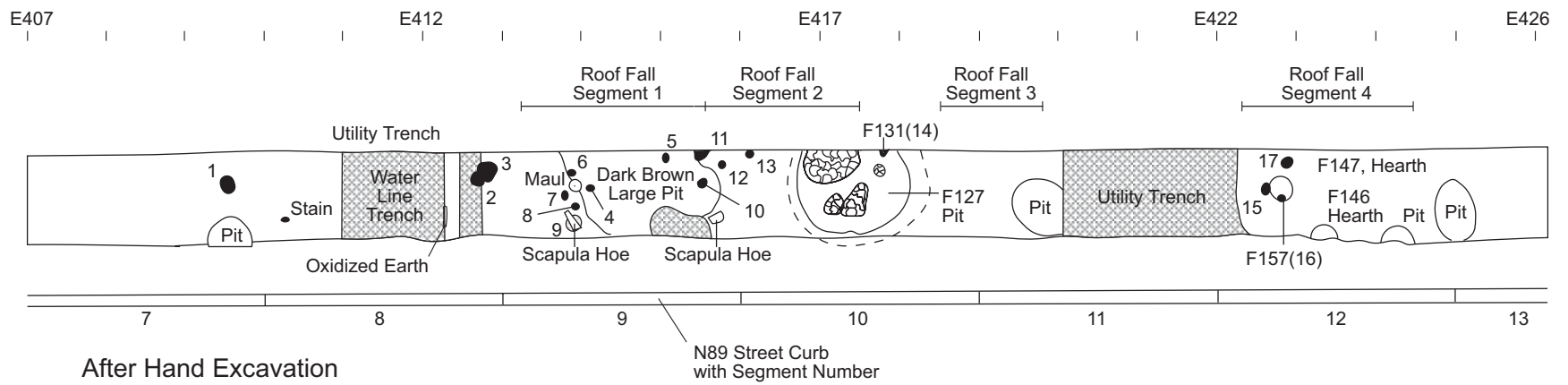
Excavation Block 8 was begun as the second of two 75-cm-wide backhoe trenches intended to investigate the possibility of a fortification ditch on the southwest village periphery. Block 7, the first such trench, was excavated on the south side of City Block 89. Block 7 did not intersect a fortification ditch (see above). Block 8 was placed in a corresponding location on the north side of the street, and it too did not reveal a fortification ditch. Mechanical excavation began on August 24 working from east to west. Burned earthlodge roof fall was encountered immediately under a thin smear of historic overburden. Backhoe work continued, but the focus of work shifted from excavating a deep trench to simply removing the thin layer of historic overburden from burned roof fall below it. Historic overburden was removed from an area approximately 19 m long and 1.15 m wide. Nearly 11 m of burned roof fall was exposed in the trench, as well as numerous features outside the area of the burned roof, including two historic utility trenches. In one location along the trench, the backhoe unintentionally cut completely through the burned roof fall, into the sediments below the floor. Figure 2.63 illustrates the distribution of cultural features in Block 8 immediately after stripping with the backhoe and after hand excavation.

The discovery of a burned earthlodge in Block 8 came late in the planned field season. Consequently, the excavation strategy employed in Block 8 differed from that used elsewhere on the site. We decided that we had no time or resources to expand excavation beyond the trench, to expose more of the burned house. Therefore, controlled excavations were confined to the area stripped by the backhoe, and this area became “Block 8”. Instead of excavation by 1 x 1 m squares, Block 8 was divided into four segments, of unequal length, where intact roof fall occurred, and each segment was excavated separately (see Figure 2.63). The segments were placed in the roof fall area with the intention of sampling the house interior. Roof fall in each segment was removed as a single natural level that ranged from 5 cm to 15 cm in thickness. At this point, a more extensive area of house floor and numerous features were exposed (Figure 2.63). Excavation continued and a 5 cm arbitrary level was excavated from each segment to sample the house floor. Additional features were exposed at the end of this level, including several postmolds, two small pits, two small (ca. 30 cm) basin-shaped burned areas that appear to have been hearths (see discussion below-F146 and F147), and one extremely large pit, F127. Because Block 8 was excavated near the end of the field portion of the project, time constraints did not allow all features to be excavated. Instead, feature excavation focused on the large cache pit in segment 2, two small posts, and the two small hearth-like features in segment 4. A brief description of all exposed features is found below.

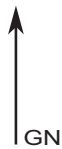
### *Cache Pits*

Five probable cache pits were exposed in Block 8. Two of these were outside of the area of the burned roof fall and were exposed only in plan view, one west of segment 1 and the other east of segment 4 (Figure 2.63). The remaining three pits were in the house interior (below the burned roof fall) in segments 1, 2 and 4. Only one of the exposed cache pits was excavated (F127) and is discussed below. This particular feature and a portion of the cache pit in segment





32MO31  
Scattered Village  
Block 8 Plan  
After Backhoe Skimming &  
Before Hand Excavation



- Post
- S Sherd
- ▨ Burned earth / roof fall
- ▤ Ashy
- ▧ Historic fill
- ⊗ Broken Pots

Figure 2.63. Plan View of Excavation Block 8 after backhoe skimming and hand excavation, Scattered Village, site 32MO31.

1 can be seen in cross section in Figure 2.64. The pit in segment 4 was partially truncated by a utility trench that ran parallel to the street (Figure 2.63).

Nearly two-thirds of F127 was exposed in the trench floor in segment 2. The remainder of the pit continued into the north wall of the trench. It is clear that the pit predated the abandonment of the earthlodge because burned roof fall and complete pots on the house floor rested on top of the fill in the pit. During the occupation of the lodge the pit fill had settled (or been compacted) so that a large circular depression was evident in the house floor directly at the pit orifice. A dense ceramic concentration representing several crushed and burned vessels occurred in this depression. The entire ceramic concentration was treated as the first level of the feature and was collected in groups thought to represent individual vessels or portions of individual vessels. Under one of the groups within the concentration, a significant amount of charred maize was exposed. This material was collected separately with no additional in-field processing. Eleven 15 cm levels were then excavated from the pit. Excavation was halted when the pit depth reached the maximum allowed by OSHA regulations. Probing of the pit floor determined that another 30 cm of fill remained in the pit.

Feature 127 was 1.65 m deep after excavation was halted. The pit was slightly flaring at the top with an orifice diameter of 1.44 m, and undercut, with a diameter of 1.6 m at the bottom. The pit contained the normal array of village refuse: bone, fire-cracked rock, shell, pottery, and both bone and stone tools. The pit also contained a relatively large number of historic trade metal artifacts, including both copper and iron.

### *Postmolds*

Seventeen postmolds were exposed during the excavation of Block 8. Three of these were outside the area of the burned roof, west of segment 1, and are not likely associated with the architecture of the earthlodge (see Figure 2.63). The remaining postmolds were distributed between segments 1, 2, and 4. Postmolds were encountered immediately after the roof fall was removed and again after the floor was sampled. Figure 2.63 illustrates the distribution of postmolds. Table 2.21 provides summary data on all Block 8 postmolds. Since most postmolds were not excavated, they were not assigned feature numbers in the field. Two exceptions occurred when postmolds were located within other features being excavated (see below-F131 and F157). For illustration purposes, all postmolds were assigned a number that can be found in Table 2.21 and next to their location on Figure 2.63.

There is little possibility of deciphering the architecture in Block 8 given the small amount of the earthlodge actually exposed. However, based on the relative size of Block 8 posts it can be concluded that it is not likely that they were related to the support structure of the earthlodge. All of the posts within the roof fall zone in Block 8 had an average diameter that fell between 8 and 18 cm. Wilson (1934) presents data on several circular Hidatsa earthlodges in which he states that main support posts averaged between 13 and 18 inches in diameter (ca. 30-45 cm), and perimeter posts averaged 13 inches (ca. 30 cm). Assuming a circular structure for



Table 2.21. Summary data on posts, Block 8, site 32MO31.

Segment	Post Number	Average diameter, cm	Encountered after excavation level
NA	1	17	After backhoe work
	2	15	After backhoe work
	3	25	After backhoe work
1	4	8	1, roof fall
	5	8	1, roof fall
	6	12	2, house floor
	7	12	2, house floor
	8	12	2, house floor
	9	12	2, house floor
	10	8	2, house floor
	11	16	2, house floor
	2	12	16
13		12	1, roof fall
4	14 (F131)	8	1, roof fall
	15	14	2, house floor
	16 (F157)	10	2, house floor
	17	18	2, house floor

the earthlodge in Block 8, this indicates that no post in Block 8 was large enough to be considered one of the main support posts usually found near the center of an earthlodge, and neither were they large enough for perimeter support posts. Therefore, it is more likely that they represent the remains interior lodge facilities.

Only two posts were excavated in Block 8 (F131 and F157). These two particular posts were excavated because they fell within the boundaries of other features that were slated for excavation. Feature 157 was in one of the hearth features in segment 4, and was relatively shallow (ca. 10 cm). Feature 131 was in segment 2, within the boundaries of the large, excavated cache pit (F127). This post was much deeper than F157, continuing 70 cm into the pit fill below the house floor (see Figure 2.64).

#### *Other Features*

The two remaining excavated features were both what appeared to be small hearths in segment 4 (F146 and F147--see Figure 2.63). The two features were similar in overall size, shape, and cross section. Both were filled with ash, were basin-shaped, measured approximately 35 cm in diameter, and were just under 5 cm deep. A 2 cm thick rind of oxidized earth could be seen below the hearth basin in both profiles. All fill from each feature was floated.

### *Summary Block 8*

It is difficult to determine what portion of the earthlodge Block 8 intersected. While just over 10.5 m of burned roof fall was exposed in Block 8, roof fall extended beyond the eastern limit of segment 4 (see Figure 2.64). It is unknown how far burned roof fall continued, and therefore, it is impossible to determine the diameter of the earthlodge. However, based on the extent of roof fall actually exposed, and using the data presented in Wilson (1934) for a circular Hidatsa lodge, we can speculate where Block 8 might have crossed the earthlodge. If the lodge was relatively small (ca. 12.5 m in diameter -- see Wilson, 1934) the extent of roof fall exposed in Block 8 is nearly great enough to span the maximum diameter of the earthlodge. If such was the case, Block 8 excavations passed near the center of the lodge, probably within two meters of the central hearth. If the earthlodge was larger (ca. 15.5 m in diameter) the extent of burned roof fall exposed in Block 8 (ca. 11 m) would indicate that excavations passed closer to the perimeter of the earthlodge, within ca. 2.5 m of the lodge wall. However, it is possible that a significant amount of burned roof fall remained unexposed east of Block 8, in which case excavations crossed a larger part of the lodge interior.

The earthlodge exposed in Block 8 was clearly burned while still in use (catastrophic abandonment). Numerous artifacts were encountered on the house floor, including the 4-5 reconstructable vessels in the depression above F127. Apparently, at least one of the vessels still contained stored food items. Also exposed on the house floor was a large, grooved maul in segment 1 (see Figure 2.63); the maul was stolen by a site visitor before it could be collected. The fact that useable artifacts and stored items were left within the lodge prior to its burning suggests that the lodge was rapidly abandoned.

### *Laboratory Sampling Strategy*

Block 8 excavations exposed what was apparently an earthlodge that was in use and rapidly abandoned due to catastrophic fire. This is an unusual circumstance, making this a very important part of the site. Therefore, all waterscreened sample materials from controlled excavations in Block 8 were assigned priority 1 for full analysis.

## **Monitoring and Related Excavations**

All earthmoving activities on First Street NE between 8th and 10th Avenues undertaken as a part of street construction after the start of fieldwork on July 13, 1999 were monitored by a professional archeologist. Monitoring was undertaken to identify any additional significant cultural features that might be exposed during final construction work. If deemed significant, construction was halted until exposed features could be excavated (features were identified as significant only if it was believed that they could provide additional data beyond that already collected through controlled excavations). Construction activities between 10th and 11th Avenues were not monitored because archeological testing in this block indicated no significant cultural resources were present.

Monitored earthmoving activities fell into three groups: backhoe trenching to access and cut off old gas utility lines, mechanical auguring to place concrete piers for streetlight supports, and grading of the existing ground surface. Mechanical auguring for streetlights took place sporadically throughout the period of archeological work. Grading and backhoe work commenced only after controlled excavations were completed in the targeted construction areas. During monitoring the locations of all exposed features were mapped. All burials encountered during monitoring were mapped, photographed, and excavated in accordance with protocols developed through consultation with the State of North Dakota and Tribal representatives. Table 2.22 identifies and provides summary data on all features encountered during monitoring activities. All controlled excavation samples that derived from monitoring work were designated as being from “Block 9”, for convenience of reference and collection management. Figures 2.13 and 2.65 illustrate the locations of all excavated street light piers. Figure 2.65 illustrates the location of all features identified and excavated during monitoring activities.

Table 2.22. Summary data, monitoring features, City Block N910, site 32MO31.

Feature Number	Feature Type	Northing	Easting	Feature Depth (cm)	Feature Volume
1	Postmold	498.90*	542.40*	12	.003
2	Postmold	498.90*	542.40*	4	.001
3a	Postmold	498.90*	542.40*	48	.006
3b	Postmold	498.90*	542.40*	6	.001
120	Pit/Burial	517.71	511.97	120	1.109
124	Pit/Burial	514.93	545.91	49	.437
128	Historic Pit	517.09	499.97	30	.411
129	Postmold	517.57	541.39	18	.008
130	Pit/Burial	515.40	541.56	81	.704
132	Pit	516.99	541.57	150	1.486
133	Pit	516.85	548.41	75	.405
168	Pit	516.50*	553.50*	26	.092
169	Pit?	516.00*	535.00*	7	.044
170	Hearth	517.00*	527.40*	18	.016
171	Hearth?	517.00*	528.00*	12	.015
172	Postmold	516.50*	527.00*	25	.003
173	Pit/Burial	516.20*	540.00*	15	.096
174	Pit	516.50*	546.70*	34	.034
175	Pit	516.75*	555.30*	120	.803
176	Basin	517.00*	557.70*	10	.003

\*coordinates for these features are estimates since features were not mapped using the total station. Estimates were achieved by overlaying the site grid on a field map produced by plotting feature locations against known locations on the N910 retaining wall footing.

### Street Light Placements

Three streetlights were planned for each block along First Street NE, with two lights on one side of the street near the corners, and the third in the approximate middle on the opposite

side of the block. For this report, streetlight piers were numbered sequentially from one to six starting in City Block 910 and ending in City Block 89.

Streetlight piers were located within three feet of the newly constructed concrete street curb and were excavated with a mechanical truck-mounted auger (ca. 30" diameter) to a depth of six feet. Piers 1 and 3 were not monitored since they were to be placed within the existing gas line trench that ran parallel to the street curb on the north side of City Block 910. Pier 5 was not monitored since its location fell within the backhoe trench that was designated as Excavation Block 7. In the remaining three locations (piers 2, 4, and 6) monitoring included hand excavation of 1 x 1 m test units immediately over the designated pier location. Additionally, an archeologist monitored the augering process and inspected the spoils for cultural material as they were removed by the auger. Cultural materials were exposed in the test units placed in the locations of piers 2 and 6. The results of testing in these locations are discussed below. No cultural material was encountered during testing for pier 4, and augering was allowed to commence. No cultural materials were encountered during augering for the pier.

The test unit placed at pier 2 was excavated without screening until the intact yellow-brown silt normally occurring below the previllage soil was exposed. Few artifacts were encountered, but four postmolds were revealed (F1, F2, F3a, and F3b: Figure 2.66). The postmolds were excavated individually, with all fill processed at the waterscreen. Auguring of the streetlight occurred and no additional cultural material was encountered during the augering process.

The test unit placed at pier 6 was excavated in two 15 cm levels. All fill was processed through the waterscreen. Excavations revealed a moderate density cultural fill, occupying the entire square in the first level, and a shallow basin in the eastern half of the test pit in the second level. The basin had been excavated into undisturbed previllage sediments. Artifact content of the fill consisted of numerous large sherds, minor amounts of FCR and bone. Once the pit had been excavated to the point where intact sterile sediments were exposed, auguring occurred. No additional cultural materials were encountered.

## **Backhoe Trenches**

At the time of discovery of archeological remains on First Street NE, Montana Dakota Utilities (MDU) was in the process of installing new peripheral gas utility lines to individual residences along First Street. The process involved excavation of backhoe trenches to expose the existing peripheral gas lines so that they could be cut off from the main supply line that ran parallel to the street, near the newly placed concrete street curb. The majority of this work had been completed before construction was halted. However, five lateral lines on City Block N910 remained uncut and required monitoring during the excavation of backhoe trenches. One trench located on the very eastern edge of City Block N910 did not encounter cultural material. Two trenches were excavated through the midden that Excavation Block 1 had sampled. No discrete features were encountered, and because a significant sample of material from controlled excavations in Block 1 already existed, backhoe work was allowed to continue.

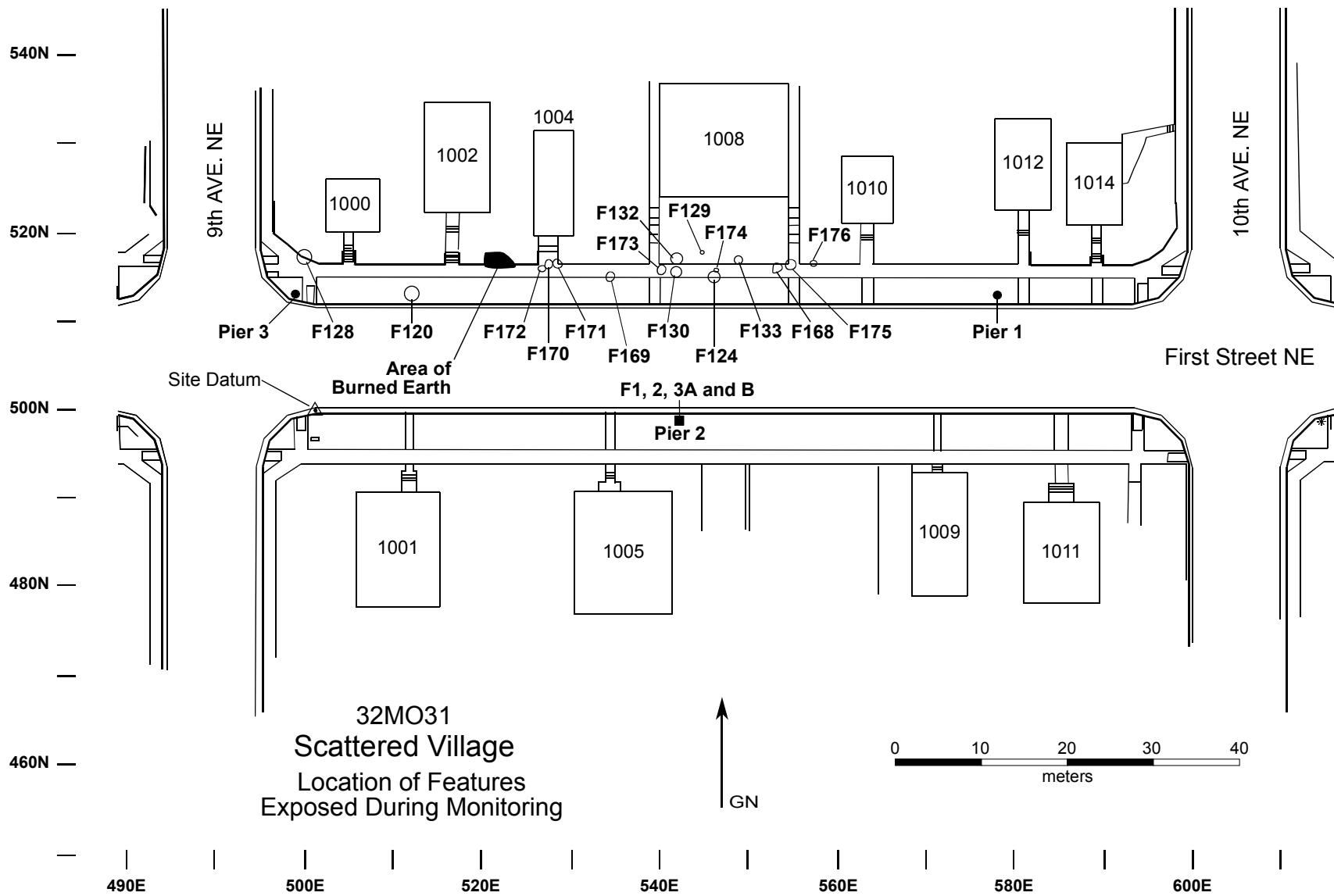


Figure 2.65. Locations of all features encountered during monitoring activities, Scattered Village, site 32MO31.



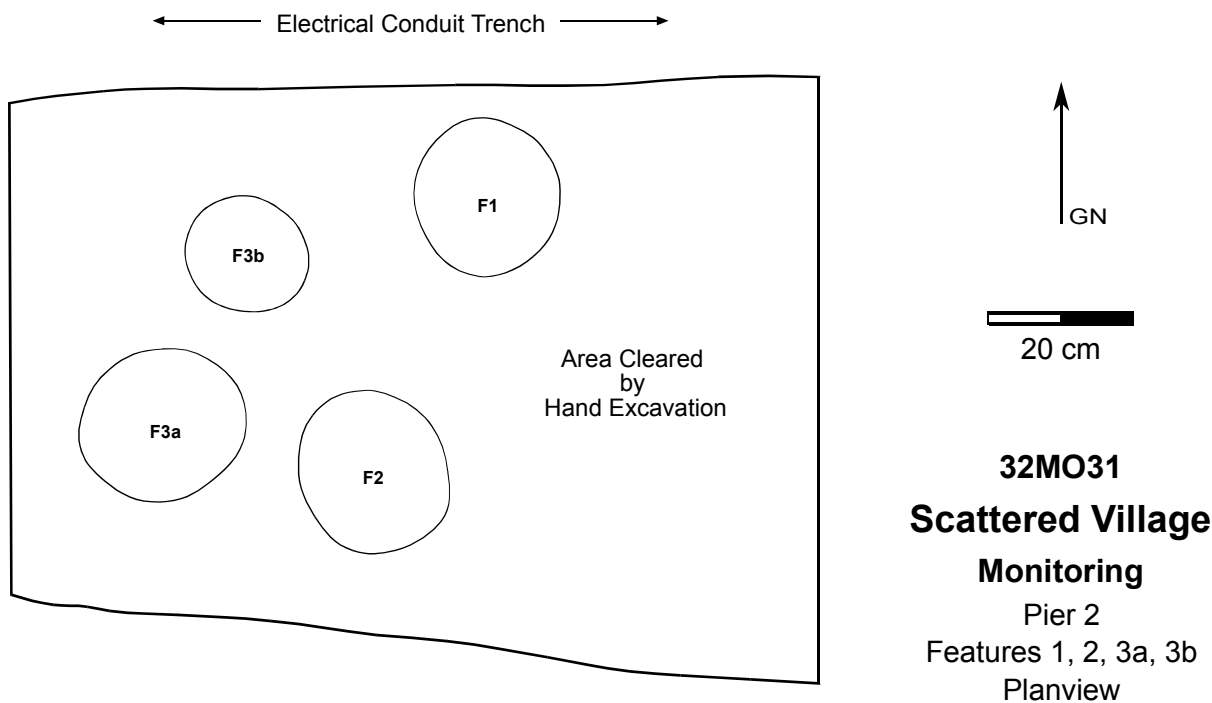


Figure 2.66. Plan view of Features 1, 2, 3a, and 3b, street light investigation, City Block S910, Scattered Village, site 32MO31.

Two trenches were excavated in the western one-third of City Block N910 east of Excavation Block 2. Both of these trenches encountered cultural deposits similar to that exposed in Block 2. One trench intersected a pit and backhoe work was halted until the pit (F124) could be excavated. The second trench exposed isolated human remains (cranial fragments) and backhoe work was halted while hand excavation investigated the possible presence of additional remains. Hand excavation revealed several additional human elements (more cranial fragments and vertebrae) and a pit orifice. The exact location of the isolated human remains could not be determined due to backhoe related disturbance. The pit (F120) was excavated and backhoe work continued. Both pits are discussed in detail below.

*Feature 120* was exposed in a backhoe trench approximately three meters east of the east wall of Block 2 (see Figure 2.67 for cross section). A small portion of the top of the pit had been truncated by the backhoe, and it was from this general area that the isolated human remains mentioned above were encountered. The center of the pit orifice was mapped within the site grid at 517.71NE511.97 and at an elevation of 99.49 m relative to the site datum. At this elevation the pit orifice measured 70 cm in diameter. The pit was 1.20 m deep, was excavated in five levels, and measured 1.65 m in diameter at its base. A single human interment was exposed at 110 cm pit depth. All skeletal elements were present, and no other remains were encountered in the fill above this individual. This indicates that the isolated remains found when the pit was discovered were simply part of the general pit fill or were from an unrecognized interment within the backhoe trench but outside the pit boundaries. The individual encountered at 110 cm pit depth had been placed on their stomach with their head to the north. The arms were flexed and

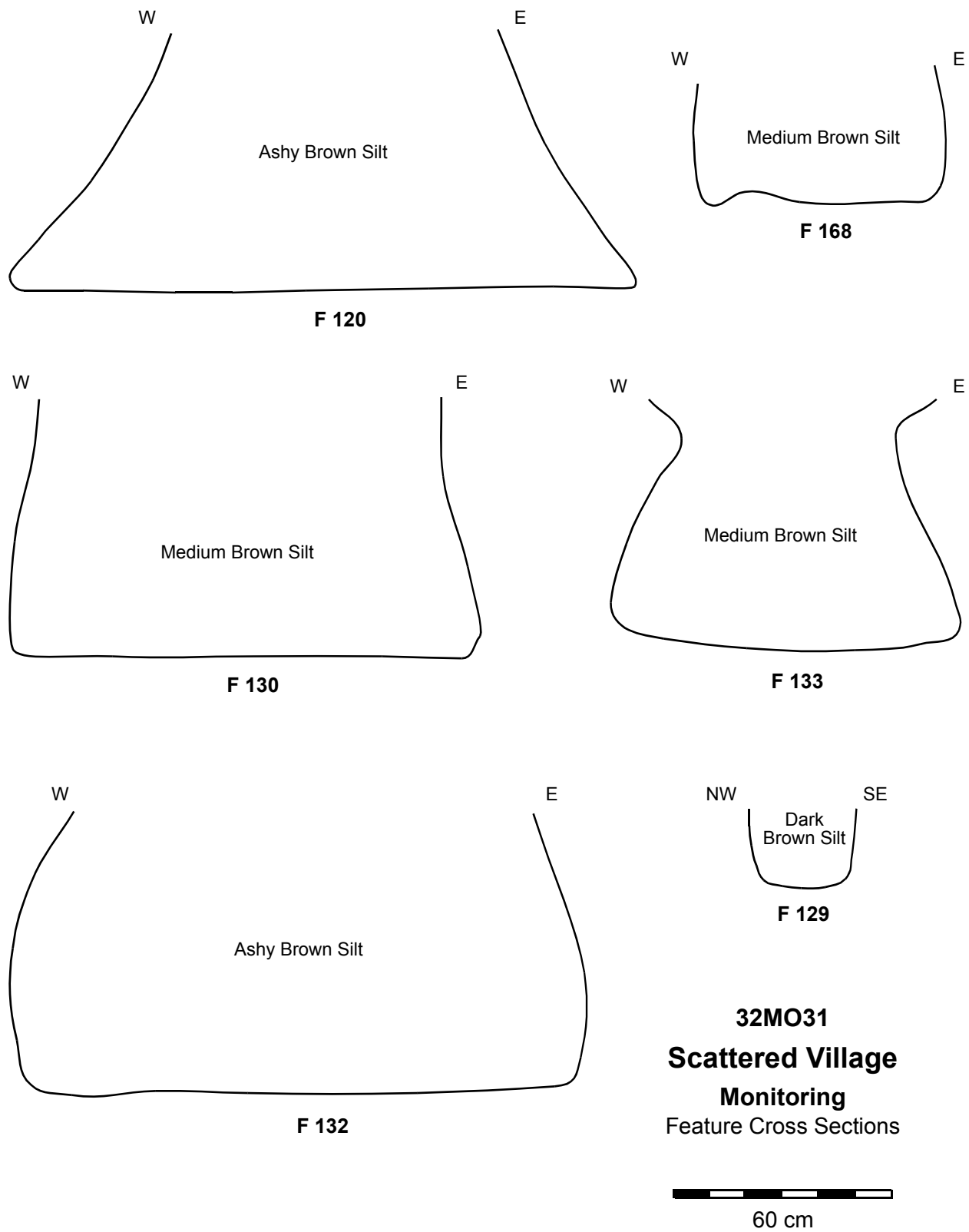


Figure 2.67. Cross sections of Features 120, 129, 130, 132, 133, and 168 Scattered Village, site 32MO31.

placed against the chest. The legs were flexed at the knees and extended to the west. Many of the bones appeared to be ochre stained. Pit fill was a light to medium brown silt containing numerous pieces of FCR, chipped stone, bone fragments, and pottery sherds. No grave associations were identified.

*Feature 124* was encountered in a backhoe trench 37 m east of the east wall of Block 2 (No cross-section available). The center of the pit was mapped at 514.93NE545.91 and at an elevation of 99.56 m relative to the site datum. The pit orifice at this depth was ca. 130 cm in diameter. The diameter of the pit at the final level (49 cm pit depth) was just over 140 cm. A burial was encountered in the pit at 35 cm pit depth. The individual had been placed on their back with the head to the northeast. The lower legs were flexed with the knees pointing to the southeast. The left arm was extended with the hand resting over the pelvic region. The right arm was flexed with the hand placed near the chin. Many bones appeared to be ochre stained. The pit was filled with an ashy, yellow-brown silt that contained typical village refuse (FCR, pottery, bone, chipped stone).

## **Grading**

Earthmoving to level the ground surface to the proper grade for sidewalk construction was conducted on City Block S89, N89, N910, and S910 after controlled excavations were complete in each area (Figure 2.68). The amount of grading on City Blocks N89, S89, and S910 was relatively minor, and no significant cultural materials were encountered during the grading process. A significant amount of grading took place on City Block N910 where the elevated landform in this portion of First Street had to be lowered considerably. Prior to grading, a large volume of site matrix was removed with a backhoe from places where intact midden seemed to exist, just east of Block 2 and just west of Block 1. This material was stockpiled near the waterscreen station and was to be waterscreened by NDDOT and SHSND personnel in order to recover additional artifacts for museum and educational displays.

Grading occurred at two different times due to changes in construction plans. Original plans called for a gradual slope from the street to the private property along City Block N910. Grading for this initial plan occurred on August 28. Sediment was removed in thin layers (5-10 cm) while an archeologist walked immediately behind the grader observing the freshly scraped surface. The locations of suspected features were marked with pin flags. When grading was completed, suspected features were cleaned of loose sediment to define feature boundaries in plan view. Four pits, one postmold, and four distinct midden deposits were identified during this stage of monitoring. All features, with the exception of the midden deposits, were excavated. Individual features are discussed below.

*Feature 128* was a small circular pit located immediately west of Block 2 (Figure 2.67). The feature was visible as a roughly oval area in plan view immediately after grading. Abundant historic debris was encountered the first two 15-cm levels excavated, indicating the feature was historic in nature. Excavation was halted at the end of the second level.



Figure 2.68. Monitoring earthmoving activities on City Block N910, Scattered Village, site 32MO31.

*Feature 129* was a small postmold (?) mapped at 517.57NE541.39 on the site grid. The postmold was oblong in plan view, measuring 20 x 28 cm, and was 22 cm deep. Artifact content consisted of small pot sherds, pieces of bone and chipped stone flaking debris. The entire contents of the postmold were waterscreened.

*Feature 130* was a large undercut pit. The pit center was mapped at 515.40NE541.56 on the site grid (Figure 2.67). The pit orifice at the point of discovery (elevation of 100.136 m relative to the site datum) measured 1.0 m in diameter. The feature was 81 cm deep, was excavated in five levels, and measured 128 cm in diameter at pit bottom (see Figure 2.67 for cross section). The base of the pit had been excavated in to the cultural sterile sediments that occur below the previllage A horizon. A human interment was encountered at 40 cm pit depth. The individual was placed on their left side in a flexed position with their head to the northeast. No grave associations were identified during excavation. Pit fill consisted of a medium brown silt containing numerous pieces of fragmented bone, pottery sherds, and flaking debris.

*Feature 132* was a large, undercut cache pit immediately north of F130 (Figure 2.67). Grid coordinates for pit center are 516.99NE541.57. The pit was exposed at an elevation of 100.03 m relative to the site datum. Pit diameter was 1.2 m at the orifice and 1.5 m at the base. The pit was 1.5 m deep and was excavated in seven levels; the bottom three levels 30 cm thick. Aside from typical village refuse, the pit fill contained a significant number of large pottery

sherds and several large bison scapula “squash knives.” Both the pottery and the squash knives were found in the lower half of the pit.

*Feature 133* was a bell-shaped cache pit exposed approximately seven meters east of F130 and F132 (Figure 2.67) at coordinates 516.85NE548.42, and 100.20 m elevation relative to the site datum. The feature was considerably smaller than both F130 and F132, with a diameter of 75 cm at the orifice, 1.0 m at its base, and a depth of 75 cm. Pit fill was brown silt that contained an unusually dense array of artifacts. Bone and bone tools were numerous and included a split rib knife handle, a scapula hoe, two beaver mandibles, a rib “shaft straightener,” at least one awl, and a bison horn core. Pottery was also abundant and included several large body and rim sherds. Stone tools were less abundant, but quite variable, including sandstone and clinker abraders, end scrapers, hammerstones, and at least one projectile point.

On September 7, construction resumed on City Block N910 under a revised construction plan. Construction plans had been modified to include a retaining wall and steps to private residences along the north side of the street. This necessitated an additional round of grading as well as the excavation of a footing trench for the retaining wall. This work required monitoring by a professional archeologist, a task conducted by Bob Christensen of the NDDOT. Nine additional features were exposed and excavated by NDDOT, MAC, and SHSND personnel, including six pits, two hearths, and one shallow basin of undetermined nature. Also exposed was an area of burned earth assumed to be roof fall. The roof fall was just barely exposed in the bottom of the footer trench, and the decision was made to map its locality but leave it unexcavated.

A limited crew size and a compressed time schedule forced several modifications in excavation techniques. All features encountered in this final round of work were removed as a unit, without multiple levels excavated in a single level, no matter the depth or size of the feature. Most feature locations were mapped by measuring from a pin placed on the string line marking the alignment for the retaining wall and shot in by KLJ engineers. A few features were individually shot in by KLJ engineers. Float samples were not taken. Individual features are discussed below.

*Feature 168* was a cache pit that had been truncated on both the east and west by utility trenches. The pit was also truncated on the north by the trench excavated for the retaining wall footing. The undisturbed portion of the pit was roughly rectangular in outline, measuring 40 cm wide and 78 cm long (Figure 2.67). The pit was only 26 cm deep, suggesting that it had originated much higher than where it was encountered. The pit was filled with a medium brown silt that contained FCR, bone fragments, ceramics, stone tools, flaking debris, and a small number of bone tools.

*Feature 169* was a roughly rectangular exposure of a midden in the trench excavated for the retaining wall footer. Presumably, more of the midden was present but was not exposed by the backhoe. The exposed area measured 70 x 100 cm. Excavation revealed only 7 cm of deposit containing the typical array of village refuse (FCR, pottery, bone, chipped stone tools, and debris).

*Feature 170* was one of two adjacent hearths located just south of the backhoe trench for the retaining wall footing. Although it is clear that the hearth was circular, field excavation forms do not accurately describe the hearth's dimensions. The hearth was excavated in a single 18 cm level and fill consisted mainly of cemented ash. A relatively thick oxidation rind (ca. 3-4 cm) could be seen in the sediments surrounding the hearth. Few artifacts were noted during excavation.

*Feature 171* was the second of the pair of hearths noted above. Although described as a hearth, field records provide little additional information about size and form. The feature contained 12 cm of fill composed of a small quantity of ash, larger quantities of burned earth, and a few ceramics.

*Feature 172* was a postmold immediately west of F170. The unscaled field map does not provide accurate information on its size and location. The postmold was excavated to a depth of ca. 25 cm and contained the usual village debris as well as a portion of a scapula hoe, an antler tine, and at least one large piece of shell.

*Feature 173* was a pit burial located approximately 1.3 m west of F132 (see above). Since the grid coordinates of F132 are known, the location of F173 can be estimated at approximately 517NE540. The skeletal remains were at the bottom of a pit ca. 90 cm in diameter and only 15 cm deep. It is likely that the upper part of the pit had been removed some time in the past. The individual had been placed on their left side, with arms and legs flexed and with the head to the northeast. The cranium was badly damaged by the construction work, although the remaining elements were in good condition. Pit fill was a brown silt that contained a medium to low artifact density. No obvious grave associations were encountered during excavation.

*Feature 174* was a small cylindrical pit measuring 38 cm in diameter and 34 cm deep (Figure 2.69). Most notably, the pit contained a bison sacrum and the articulated coccygeal and lumbar vertebrae. Other artifacts were conspicuously absent from the pit fill.

*Feature 175* was a large undercut pit that contained an abundance of bone and stone tools, as well as at least two partially reconstructable vessels. The pit measured ca. 90 cm in diameter at its orifice, was 120 cm deep, and had a diameter of 105 cm at its bottom (Figure 2.69). The pit was divided roughly in half (top to bottom) by two stratigraphically distinct fills, both of which contained abundant artifacts.

The upper 60 cm of the pit was filled with a dark gray silt that had a noticeably higher concentration of artifacts than the bottom 60 cm. A single glass trade bead from the upper fill (noted in the field) indicates that at least the upper fill is post-contact in age. Other notable artifacts included a number of complete scapula hoes that appeared deliberately stacked along the north wall of the pit, numerous end-scrapers and projectile points, an elk antler scraper handle, a slotted rib tool, several bone beads, one piece of iron pyrite, and at least two miniature pots (fragmented). The majority of these tools appeared to still be functional.

The bottom 60 cm of the pit was filled with a mottled, yellowish-brown to gray silt. Artifact diversity and content appeared to diminish in the bottom one-third of the feature. Notable artifacts encountered in the bottom 60 cm of pit fill include several ground stone tools manufactured on both granite and sandstone, a grooved axe or maul, several bison horn cores, and one proximal end of an elk antler. Several patches of charred botanical remains were evident on the pit floor. Samples were taken of these botanical remains.

*Feature 176* was a small, shallow, circular basin measuring 40 cm in diameter and 10 cm in depth (Figure 2.69). The pit contained typical village refuse including a few larger ceramic sherds, clinker, and a fragment of a scapula hoe.

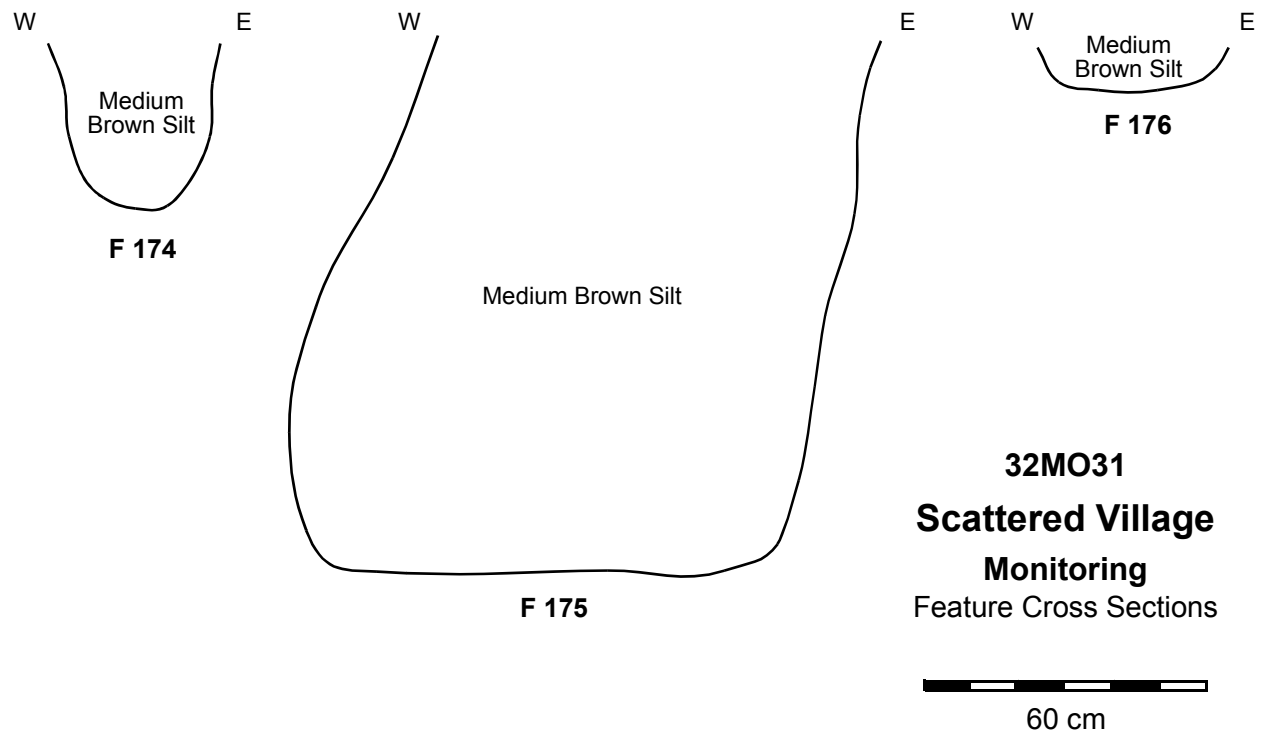


Figure 2.69. Cross-sections of Features 174, 175, and 176, City Block N910, Scattered Village, site 32MO31.