4. COLLECTION PROCESSING, SAMPLING, AND DATA BASES

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General Laboratory Procedures

Excavated samples recovered by waterscreening, field flotation, and individual plotting were processed in a standard fashion in the lab. Not all samples returned from the field were processed, and decisions in that regard are discussed in a later section in this chapter. Here we discuss the basic processing steps applied to all samples selected for inclusion in the analysis. Waterscreened samples were subjected to three basic processing steps: size-grading over nested screens, water flotation, and detailed sorting into artifact and material classes. Field floated samples (known or constant volume samples and other samples selected for field float recovery) are separated into light and heavy fractions in the field. In the lab, heavy fraction portions of field float samples were subjected to size-grading and sorting only, as lab floating was not necessary. Field float light fraction samples were size-graded prior to sorting. During fieldwork a small number of items were individually, 3-D piece-plotted and were assigned individually catalog numbers. A larger number of other artifacts were individually bagged in the field and tagged for special handling (not sent to the waterscreen), but were not assigned catalog numbers separate from the appropriate general level or feature level number. These isolated specimens were individually examined in the lab, were cleaned or preserved as necessary, were size-graded or given a size grade designation, were assigned a separate catalog number if warranted, and were then placed in appropriate artifact or material classes for further study.

Several discrete record-keeping steps designed to track the history of each sample occurred during the size-grading, floating, and sorting processes (see Processing Guide below):

STEPS IN PROCESSING OF HEAVY FRACTION & WATERSCREENED COLLECTIONS – SCATTERED VILLAGE (A HANDOUT FOR LAB WORKERS)

1. **Size grade** by hand manipulating G1 and G2 and vigorously shaking G3, G4, and G5 for 30 seconds.
2. **Record** catalog number and check off size grading in the **Processing Log** for the appropriate site.
3. Set G1, G2, and G3 aside and **float G4 and G5** into heavy and light fractions; label appropriately for drying. (Float G3 also in special circumstances of high organics.)
4. **Record** that floating has been done for this catalog number in **Processing Log**.
5. When dry, bag the heavy and light fractions of G4 and G5 remains, **place light fraction in appropriate box**, and set all size grades aside for sorting.
6. **Record** that bagging has been done for this catalog number in the in **Processing Log**.
7. **Conduct sorting process using the Sorting Guide**. Have your sort decisions and categories checked by a supervisor unless you have been cleared to sort without checking.
8. After sorting G4 and G5, **weigh the unsorted residue** to the nearest 5 grams on the electronic scale, and write down weights.
9. **Bag appropriately**, using cover bags for multiple size grades. Place bags of ID Bone in G4 and G5 and Seeds in any size grade within **plastic vials** for protection.
10. **Label** all bags with SHSND Accession Number in upper right corner**. Scattered = 99.10**. Place **catalog number** over a line over the site number in the upper left corner. Place size grade and material class information below. In special instances, place Feature number or XU number below that.
11. **Enter data** on counts of bags and weight of G4 and G5 residue in the **Sort Completion Check List**.
12. **Place all bags** of sorted material in appropriate boxes for accumulation.

Standard procedures applied many times in Plains Village samples (e.g., Lee 1980) were used in size-grading. Samples were manipulated or shaken over graduated screens with five square mesh opening sizes (U.S. Standard Sieve Cloth): G1 = 1.000 in; G2 = 0.500 in; G3 = 0.223 in; G4 = 0.100 in; and G5 = 0.046 in. In order to minimize damage, artifacts were manipulated by hand through G1 and G2 screens. Samples were shaken for a standard 30-second interval over G3, G4, and G5 screens. The purposes of size-grading generally fall in three areas. This procedure assists in the efficiency of the sorting process that follows, by allowing the sorter to examine specimen batches that are all approximately the same size. Size-grading also allows use of objective, size-determined cut-off points for the sorting of different types of artifacts. E.g., sorting pottery can effectively cease at the G3 size, while materials G4 and G5 samples must be sorted for glass trade beads and fragments of trade metal. Third, size distribution data for certain artifact classes are in themselves useful for study of site formation processes as well as the technological history of artifacts. Artifacts with different depositional histories (primary, secondary, and de facto refuse) can exhibit contrastive size distributions. Distinct processing histories, as subtle as distinct stone knapping technologies (e.g., Ahler 1989a, 1989b), can be isolated through careful attention to data controlled by size grade.

Standard artifact and material sorting categories are identified in Table 4.1, which also indicates the size cut-off point for sorting each of these classes. It can be noted that materials in size classes G1, G2 and G3 are sorted completely into some named artifact or material category, while for G4 and G5 size grades only selected artifacts are sorted, creating by this process an "unsorted residue" category for G4 and G5 remains.

Sample Sorting of G3, G4, and G5 Size Classes

When lab work began in September 1998, we initiated complete processing and sorting tasks according to the procedures discussed above without regard to the physical size of any specific sample. After monitoring this process for a few weeks, two things became apparent. First, in many individual catalog number lots (generally, discrete excavation levels within a square or a feature), the amount or count of artifactual material present in particularly the G4 and G5 fractions was numerically huge, meaning that we could isolate a useful and representative study sample from these size fractions without complete sorting of the smallest materials from each catalog number. Second, the amount of larger-sized materials in size grades G1, G2, and G3 was in certain contexts also huge, meaning that it probably was not necessary to analyze in any manner some of the excavated materials from the site. These observations were made while tracking the required effort needed for basic sorting for the project, and it was determined that if no lab sampling procedures were implemented, we would probably expend the majority of programmed lab effort and funding on nothing more than basic sorting.

Based on these considerations, we incorporated two kinds of sampling into the lab analysis process. The first was applied during the sorting process to individual catalog lots with especially large amounts of smaller-scale remains. Initially, in October 1998, we used a size G3 sample weight of ca. 1500 grams or greater as a trigger point for this sampling scheme applied to G3, G4, and G5 remains. Later (February 1999), we lowered this trigger threshold to ca. 900 grams of material in size G3. Essential elements of this sampling scheme are the following: (1) partial sorting of some artifact classes in G3 and complete sorting of other, more important

Table 4.1. Sorting guide by size grade for waterscreened samples and heavy fraction field float samples from the Scattered Village project (32MO31), 1998 excavations. X = material to be sorted from the designated size grade.

Artifact or Material Class	Size Grades Sorted From G1	G2	G3	G4	G5
Pottery (both rim sherds and body sherds)	X	X	X		
Fire-Cracked Rock	X	X	X		
Natural Rock	X	X	X		
Clinker	X	X	X		
Fired Clay	X	X	X		
Burned Earth	X	X	X		
Ash	X	X	X		
Charcoal/Wood	X	X	X		
Modified Stone (stone tools & flaking debris)	X	X	X	X	
Ochre/Pigment (hematite/limonite)	X	X	X	X	
Gypsum/Minerals	X	X	X	X	
Fossils/Concretions	X	X	X	X	
Charred Seeds, Maize, Uncharred Squash	X	X	X	X	X
Bone (all bone)	X	X	X	selective, below	selective, below
Identifiable Bone				X	X
Modified Bone (worked)				X	X
Shell (all shell)	X	X	X	selective, below	selective, below
ID Shell (gastropods or fossils)				X	X
Modified Shell (worked)				X	X
Metal (all - historic or trade)	X	X	X	X	X
Glass Beads (trade beads)	X	X	X	X	X
Historic Material (bottle/window glass, concrete, asphalt, etc. - concrete/asphalt from G1/2/3 only)	X	X	X	X	X
Misc. Plains Village (any unusual artifact)	X	X	X	X	X
Insect Parts			X	X	X
Unsorted Residue				X	X

classes in G3; (2) complete sorting of only a fraction of G4 remains, a fraction proportionally comparable to the completely sorted fraction for G3; (3) complete sorting of only a specified, standard volume of G5 remains; (4) a scan of all G4 and G5 remains for presence of metal and glass beads, artifact classes of high importance for temporal assessment; and (5) careful recording of weights of fully sorted and non- or partially-sorted fractions in G3, G4, and G5 so that accurate estimates of total amounts of various artifacts could be computed based on sample

weight ratios. The specific instructions given to lab workers for the size grade sampling procedure are repeated in the text boxes on the following pages. The sorting guide applied to the respective "sample" and "non-sample" fractions of any size grade subjected to sample sorting is shown in Table 4.2 (compare to Table 4.1).

The second kind of sampling had to do with excluding certain entire contexts from study, and will be discussed separately in the following section.

Table 4.2. Sorting guide for sample portions of size G3, G4, and G5 waterscreen and heavy fraction debris from Scattered Village (32MO31), 1998 excavations. X = class is sorted from that size grade and designated fraction.

	Size G3			Size G4		Size G5	
Artifact or Material Class	Sample Fraction	Non-Sample Fraction	Combine to 100%?	Sample Fraction	Non-Sample Fraction	Sample Fraction	Non-Sample Fraction
All Pottery (rim and body sherds together)	X						
Pottery Rim/Lip /Decorated Sherds Only		X					
All Bone (ID/UNID/ Modified Together)	X						
Identifiable/Modified Bone Only		X		X		X	
Fire-Cracked Rock	X						
Natural Rock	X						
Fired Clay	X						
Burned Earth	X						
Ash (lumps, consolidated)	X						
Charcoal/Wood	X						
Clinker	X	X	Comb				
Modified Stone (stone tools & flaking debris)	X	X	Comb	X			
Ochre/Pigment (hematite/limonite)	X	X	Comb	X			
Gypsum/Minerals	X	X	Comb	X			
Fossils/Concretions	X	X	Comb	X			
All Shell (ID/Modified/Fossil Together)	X	X	Comb				
ID/Modif./Fossil Shell Only				X		X	
Charred Seeds, Maize	X	X	Comb	X		X	
Metal (all - historic or trade)	X	X	Comb	X	scan	X	scan
Glass Beads (trade beads)	X	X	Comb	X	scan	X	scan
Historic Mat'l (glass, concrete, asphalt, all else)	X	X	Comb	X		X	
Misc. Plains Village	X	X	Comb	X		X	
Insect Parts	X	X	Comb	X		X	
Unsorted Residue, Sample Fraction				X		X	
Unsorted Residue, Non-Sample Fraction		X					
Unsorted Debris, Non-Sample Fraction					X		X

HOW TO CONDUCT SAMPLING OF SIZE GRADE G3, G4, AND G5 WATERSCREEN MATERIALS IN LARGE CATALOG NUMBER BATCHES FROM THE SCATTERED VILLAGE SITE.
Last MODIFIED 2/26/99

SORTING A SAMPLE OF **SIZE GRADE G3 DEBRIS**.

1. **When to Sample**. Consider sorting only a sample of G3 material when the total G3 debris batch under the catalog number weighs ca. 900 grams or more. If you think your batch is about this large, weigh the G3 batch and then consult a supervisor for a decision.
2. **Naming the Sampling Fractions**. If the decision is made to sort a sample of G3 debris, then the targeted, more fully studied portion is called the "*Sample Fraction*" and the remainder is called the "*Non-Sample Fraction*." These terms apply to any size grade which is sample sorted (G3, G4, or G5).
3. **Drawing the *Sample Fraction***. Dump the G3 debris onto one or more sorting trays. Use the metal scapula to take several scoops of debris from the center of every tray pile, and place these in the 1.5 pint plastic container labeled "G3 Sample" until the container is level full or slightly heaped up. This is your *Sample Fraction*. Everything else is the *Non-Sample Fraction.*
4. **Weighing the Fractions**. Turn on the 5 kg balance with an empty box or rectangular container on the weighing platform. Dump the *Sample Fraction* of G3 debris into the box and record the weight in grams (it should weigh about 550 to 700 grams). Empty the box, and then weigh the *Non-Sample Fraction* of the G3 debris batch (weigh in multiple subparts if necessary). Add the weights of the two fractions together to get the total weight of the G3 debris batch, prior to any sorting. Record these three weights; you will use them later.
5. **Sorting the *Sample Fraction***. Completely sort the G3 *Sample Fraction* just as you would any other non-sampled G3 batch.
6. **Sorting the *Non-Sample Fraction***. Use the sorting guide to selectively sort only certain classes from the *Non-Sample Fraction* of G3 debris. Generally, you will (1) selectively sort only certain kinds of pottery (rim and decorated sherds) and certain kinds of bone (identifiable and modified) from the *Non-Sample Fraction*, and (2) you will not sort certain other classes at all (FCR, natural rock, fired clay, burned earth, ash, charcoal, wood), and (3) you will completely sort other less common or more important artifact classes from the *Non-Sample Fraction* (e.g., modified stone, metal, shell, etc. -- see sorting guide).
7. **Combining and Labeling Bags**. If you sorted exactly the same material from both the *Sample Fraction* and the *Non-Sample Fraction*, then combine these items into a single bag and write on the bag "100% sample". If the material your sorted is selectively sorted from only one or the other fraction, the write on the bag a number which records the proportional weight of the fraction from which the material was derived. For example, if the *Sample Fraction* weighed 665 grams and the whole G3 batch weighed 2310 grams, you would write on the FCR bag "665/2310 sample." In this example, for the rim/decorated pottery bag you would write "1645/2310 sample," indicating that these items were sorted from the *Non-Sample Fraction* which weighed 1645 grams in a total batch weighing 2310 grams.
8. **Residue**. For the *Sample Fraction*, you will have no residue, because this was completely sorted into named classes. For the *Non-Sample Fraction*, your will have unsorted residue. Label this as "Unsorted Residue, Non-Sample Fraction" on the bag, write the proportional weight values on the bag (e.g., 1645/2310), and cover bag and box it with other residue.
9. **Sort Completion Log**. You will enter data in the Sort Completion Log which indicate that you used sampling and the actual sample fraction weights. Under G3 enter numbers which represent the Sample Fraction Weight/Total G3 Debris Weight -- e.g., "665/2310". If you did not sample G3 debris, just enter "100%" in this row in the sorting log.

SORTING A SAMPLE OF **SIZE GRADE G4 DEBRIS**.

1. **When to Sample**. Generally, you will consider sorting only a sample of G4 debris in cases where it was appropriate to completely sort only a sample of G3 debris. We will make this decision on a case-by-case basis, however, based in part on the density of certain classes of material in the G4 and G5 size grades. You should consult a supervisor in making this decision.
2. **Sample Procedure**. Dump the entire G4 batch on one or more trays. Start by pulling aside a portion of the sample which is about the same proportion that the G3 *Sample Fraction* was to the whole G3 debris batch weight. For example, if you completely sorted 665 grams of G3 debris in a total batch weighing 2310 grams,

this is about a 25% sample. So, start by separating out about one-fourth of the G4 debris batch on the tray as the *Sample Fraction*. The remainder becomes the *Non-Sample Fraction*. These proportions may be adjusted as the sorting process gets underway.

3. **Weighing the Fractions**. Weigh the respective *Sample Fraction* and *Non-Sample Fraction*, just as you did with the G3 debris, record the weights, and add them to get a total G4 debris batch weight for the catalog number.
4. **Sorting the *Sample Fraction***. Sort the *Sample Fraction* just as you would any other G4 debris batch.
5. **Sorting the *Non-Sample Fraction***. Consult a supervisor when your finish sorting the *Sample Fraction*. You may be asked to increase the size of the *Sample Fraction*, or you may be asked to selectively sort the *Non-Sample Fraction*. In all cases, the *Non-Sample Fraction* should be scanned for glass trade beads. If any are found, they will be combined with any found in the *Sample Fraction* and placed in a bag labeled "100% sample". If glass beads occur, then the *Non-Sample Fraction* should also be visually scanned for metal and scanned with a magnet for iron.
6. **Residue**. After sample sorting, you will end up with a bag of "Unsorted **Residue**" from the Sample Fraction, as well as a bag of "Unsorted **Debris**" from the Non-Sample Fraction. Bag these materials separately, label them by these names, and indicate the proportion of total debris weight on each bag (e.g., 445/1075 sample and 630/1075, respectively). Cover bag these materials with other residue bags, and box them with other residue.
7. **Sort Completion Log**. If you sample sorted G4 debris, indicate the weight of the *Sample Fraction* and *Total Debris Weight* as a fraction in the G4 line in the Sort Completion Log (e.g., 445/1075). If the G4 debris was not sample sorted, enter "100%" in the Sort Completion Log.

SORTING A SAMPLE OF **SIZE GRADE G5 DEBRIS**.

1. **When to Sample**. We will sample all G5 debris batches which are substantially larger than ½-cup in volume.
2. **Sampling Procedure**. Use the ½-cup measure to check the amount of G5 debris. If it is approximately ½-cup in size or **less,** then do not sample, and sort 100% of the G5 debris. If it is somewhat or greatly larger than the ½-cup measure, then we will sample G5 debris.
3. **Weighing the Fractions**. When G5 debris is sampled, weigh the whole batch of G5 debris to get **total weight**, then take the ½-cup measure and weigh this part – this is your **sample fraction**. The difference between these two \weights in the weight of the non-sample fraction. Record these as usual and as descried above.
4. **Completion**. Sort the G5 sample fraction (1/2-cup measure) completely. Carefully **scan the non-sample fraction for glass beads and metal** of any kind. Record data and bag according to the above guidelines.

Sampling By Provenience

As noted in the previous discussion, we also sampled by selecting certain proveniences for complete analysis while excluding other proveniences from analysis. Such decisions were made on a block-by-block basis and in conjunction with a preliminary study of pottery content in each block in order to insure that the selected proveniences included sufficient materials for comparative study between and among contexts. Decisions about what to include and exclude in analysis were based partly on sample size and apparent redundancy, and in part on varying degrees of disturbance from one location to another. These sampling decisions, along with others having to do with sample sorting, were reviewed by NDDOT before being implemented. In effect, the provenience sampling plan had several basic elements that varied slightly from one block to another: (a) In several blocks, ca. 40-60% of excavated general level samples were processed in the lab, while the remainder were not processed. (b) With the exception of postmolds, nearly all excavated features were fully processed in the lab; exceptions are two particularly large and rich pit features in Block 2 and two similarly large pit features in Block 3. (c) The contents of only a few large postmolds having potential for time period assignment through study of artifact content were analyzed; other postmolds were not processed in the lab. (d) The heavy fraction of field float samples was generally not processed in the lab in situations

where this was a constant or known volume sample associated with a waterscreened counterpart from the same context; in instances where an entire feature or feature level was processed by field flotation, the heavy fraction from field float was processed in the lab. (e) Decisions about sorting and study of field float, light fraction samples were made somewhat independently of decisions regarding waterscreened and heavy fraction samples. We selected for study and sorted only a small fraction of all float light fraction samples returned from the field; selection was based on context, provisional time period assignment, and feature type.

All contexts from which the waterscreened or field float heavy fraction material was selected for intensive or complete lab processing and analysis were assigned a **Priority 1 (P1)** designation in the laboratory. We assigned certain contexts a **Priority 2 (P2)** designation in the laboratory, indicating that they might be selectively analyzed for certain data sets or that they were potential targets for direct inclusion in the analysis should larger numbers or quantities of certain artifact classes be desired at some later date. All other contexts were given a **Priority 3 (P3)** designation, meaning that they were not to be processed in the present study. The great majority of the P3 samples have good integrity and also have high potential for additional study. Some of these samples could readily provide cross-check samples for the analysis that has been conducted for this report. For the most part, the P2 and P3 samples in this study comprise a valuable resource of information that could be tapped at some future time should the need arise.

Specific decisions about priority designations and sampling by provenience were made on a block-to-block and feature-by-feature basis. Table 4.3 presents data on excavated volume by priority designation according to block and individual feature numbers or lumped features. Plan maps of each block occur in Chapter 2 that depict individual excavation squares designated as P1, P2, or P3 samples. In the paragraphs that follow, we briefly summarize the results of those priority designations according to block.

In **Block 1** we designated as P1 four of the eight squares in the block plus the lower part of a fifth square which penetrated subvillage deposits. All other general level samples in Block 1 were designated as P2. Few features occurred in Block 1 (no large pits), and all of the features that fell partially or wholly within the P1 squares were also given P1 designation. The goal was to select stratified samples from the eastern and western parts of the block where stratigraphy was most clear according to profile drawings, and to acquire as much information as possible from the subvillage deposits. Preliminary pottery analysis indicated a sample of more than 200 vessels; substantial vertical change in pottery was apparent in westernmost two squares, while little stratigraphic change occurred in the easternmost square that appeared to contain pottery later in age. The eastern sample is small. There was little sound rationale for expanding the eastern sample numerically because profile drawings do not clarify the precise location of the juncture between the two units (east and west) of apparent different age, and intervening squares can be expected to contain mixed collections from different time periods. Roughly 58% of the excavated volume in Block 1 was given a P1 designation and was included in the analysis (Table 4.3). About one half of the village age midden was included in the study, about one half of the previllage age sediments were also included, and the P3 samples definitely include subparts of the block where mixture between age units is a significant concern.

Table 4.3. Breakdown of feature and general level contexts with associated excavated volume according to assigned priority level, Scattered Village (32MO31), 1998 excavations.

			Excavated Volume (m^3) by Context Priority			
Block	Feat. No.	Feat. Type	Priority 1	Priority 2	Priority 3	Total
1	general level	-	4.827		3.901	8.728
1	46	basin	.018			0.018
1	52	artifact conc.	.103			.103
1	56	basin	.080			.080
1	58	organic layer	.075			.075
1	66	basin	.358			.358
1	181	hearth	.008			.008
1	13,16,48,51	various			.061	.061
Block 1	*Subtotal*		*5.469*	*.000*	*3.962*	*9.431*
2	general level	-	5.452		4.883	10.335
2	6	artifact conc.	.048			.048
2	12	hearth	.003			.003
2	14	pit	.501	.336		.837
2	30	pit	.066		.004	.070
2	57	pit	.153			.153
2	65	hearth	.026			.026
2	67	pit	.210		.010	.220
2	68	pit	.196			.196
2	97	pit	.159		.020	.179
2	178	pit	.552	.406		0.958
2	18,22,23,24,33,34,35,36,37,38,39,40,41,42,43,44,45,49,50,53,54,59,61,62,63,64,69,71,72,77,80,81	postmolds			.500	.500
Block 2	*Subtotal*		*7.366*	*.742*	*5.417*	*13.525*
3	general level	-	2.971	2.944	.435	6.35
3	4	pit	.215		.020	.235
3	7	hearth	.096			.096
3	8	pit	.058			.058
3	11	postmold	.055		.004	.059
3	15	postmold	.042			.042
3	17	hearth	.090			.090
3	19	postmold	.014		.004	.018
3	25	postmold	.017			.017
3	26	pit	.548	.472		1.02
3	27	artifact conc.	.000			.000
3	28	postmold	.004			.004
3	47	pit	.784		.026	.810
3	55	pit	.179			.179
3	73	pit	.341			.341
3	98	postmold	.077			.077
3	101	pit	.509			.509

Table 4.3. Breakdown of feature and general level contexts with associated excavated volume according to assigned priority level, Scattered Village (32MO31), 1998 excavations, continued.

			Excavated Volume (m^3) by Context Priority			
Block	Feat. No.	Feat. Type	Priority 1	Priority 2	Priority 3	Total
3	104	pit	.460			.460
3	106	pit	.183			.183
3	107	postmold	.012			.012
3	108	pit	2.872	.571		3.443
3	111	pit	.114		.024	.138
3	116	postmold	.020			.020
3	117	postmold	.039			.039
3	121	artifact conc	.005			.005
3	182	hearth	.003			.003
3	20,21,100,103,109, 179,180	postmolds, historic disturb			.141	.141
Block 3	*Subtotal*		*9.708*	*3.987*	*.654*	*14.349*
4	general level	-	1.813	1.795	.152	3.760
4	60	hearth	.009			.009
4	99	pit	.307			.307
4	70,74,75,76,78,79,82,83,84, 85,86,87,88,89,90,91,92,93, 94,95,96,102	postmolds			.113	.113
Block 4	*Subtotal*		*2.129*	*1.795*	*.265*	*4.189*
5	general level	-	2.687		2.624	5.311
5	105	organic conc.	.004			.004
Block 5	*Subtotal*		*2.691*	*.000*	*2.624*	*5.315*
6	general level	-	4.636	2.974	1.678	9.288
6	115	pit	.095		.009	.104
6	119	pit	.552		.034	.586
6	134	roof fall	.006			.006
6	135	artifact conc.	.000			.000
6	136	artifact conc.	.000			.000
6	140	pit	.061			.061
6	142	pit	.342		.018	.360
6	143	artifact conc.	.001			.001
6	144	pit	.134			.134
6	149	postmold	.016			.016
6	150	postmold	.039			.039
6	155	pit	.080		.006	.086
6	161	postmold	.009			.009
6	162	postmold	.011			.011
6	163	pit	.085			.085
6	141,152,159,164,165	postmolds, etc.		.125		.125

Table 4.3. Breakdown of feature and general level contexts with associated excavated volume according to assigned priority level, Scattered Village (32MO31), 1998 excavations, continued.

				Excavated Volume (m^3) by Context Priority			
Block	Feat. No.	Feat. Type		Priority 1	Priority 2	Priority 3	Total
6	112,114,118,123,137,138,139,145,153,158,160,166,167	postmold, pit, hearth, conc.				.377	.377
Block 6	*Subtotal*			*6.067*	*3.099*	*2.122*	*11.288*
7	general level	-		.551		.024	.575
7	122	pit		.182			.182
7	125	hearth		.052		.004	.056
7	126	pit		.018		.003	.021
Block 7	*Subtotal*			*0.803*	*.000*	*.031*	*0.834*
8	general level	-		1.292		.012	1.304
8	127	artif.conc/pit		1.682			1.682
8	131	postmold		.001			.001
8	146	hearth		.002			.002
8	147	hearth		.001		.003	.004
8	148	pit?				.000	.000
Block 8	*Subtotal*			*2.978*	*.000*	*.015*	*2.993*
9	general level	-		.225			.225
9	9	pit		.099			.099
9	120	pit		1.109			1.109
9	124	pit		.433		.004	.437
9	130	pit		.704			.704
9	132	pit		1.486			1.486
9	133	pit		.405			.405
9	168	pit		.092			.092
9	169	pit		.044			.044
9	170	hearth		.016			.016
9	171	hearth		.015			.015
9	173	pit		.096			.096
9	174	pit		.034			.034
9	175	pit		.803			.803
9	176	pit		.003			.003
9	1,2,3,10,128,172	postmolds, pit				.454	.454
Block 9	*Subtotal*			*5.564*	*.000*	*.458*	*6.022*
Site	**General Level Total**		**m^3**	**24.454**	**7.713**	**13.709**	**45.876**
			%	*53.3%*	*16.8%*	*29.9%*	*100.0%*
Site	**Feature Total**		**m^3**	**18.321**	**1.910**	**1.839**	**22.070**
			%	*83.0%*	*8.7%*	*8.3%*	*100.0%*
Site	**Grand Total**		**m^3**	**42.775**	**9.623**	**15.548**	**67.946**
			%	*63.0%*	*14.2%*	*22.9%*	*100.0%*

In **Block 2** we gave P1 designation to general level materials from six of 14 squares that penetrated a modestly deep midden deposit, and we gave P1 and P2 designations to non-postmold features in this block (Table 4.3). All postmolds were given a P3 designation and their contents were not analyzed. Preliminary pottery vessel analysis indicated more than 250 vessels from Block 2 when analyzed in this fashion, and this was deemed adequate for comparative study. Two features produced a very large amount of waterscreen debris, and we felt justified in less than complete analysis of these contexts. Levels 1 and 3 in F14 were given a P2 designation, and levels 2, 4, and 5 were given P1 designation. Levels 1-4 in F178 were given a P2 designation, and levels 5 and deeper were given P1 designations. The P2 samples in each of these pit features were sorted completely for pottery and possible trade artifacts, in order to increase the samples of these specific artifact classes.

We began by designating about half of the excavation squares in **Block 3** as P1, slated for analysis, and the remainder as P2, as backups in case it proved effective to study spatial distributions of house floor artifacts in earthlodges in the Block 3 area. As lab work progressed, we learned that nearly all general level samples had very low artifact counts and that many contained intrusive historic materials. Consequently, we de-emphasized study of general level samples in Block 3 and focused primarily on features. We gave 17 of 41 squares P1 designations, with the balance having P2 designations but not further analyzed (effectively being P3 contexts) (Table 4.3). P1 squares were selected to give broad spatial sampling, including the "fluffy" sediment unit near the surface in the eastern end of the block (see Chapter 2). In contrast to Block 2 and 4 where we did not study contents of postmolds, we gave P1 designations to several of the larger postmolds in an attempt to use their content to assign them to discrete structural or temporal units. This proved not to be feasible due to low artifact content. We targeted all larger features for complete study (P1) with the exception of two very large pits, F26, and F108. We gave a P2 designation to the west half of F26, where tree root appreciably disturbed pit contents, and eventually decided that this half of the pit did not need to be studied. We gave P2 designation to approximately the highest meter of excavation levels in the north half of F108 (a deep burial pit). Field notes were inadequate for many of these levels, and we assumed the levels at corresponding depths in the south half of the pit provided useful data. We fully analyzed the lower two-thirds of this pit in an attempt to better understand its formation history and temporal placement. In summary, we analyzed almost precisely two-thirds of the excavated volume in Block 3 contexts (P1 designations) (Table 4.3), with a clear focus on study of contents of features.

In **Block 4** we gave P1 designations and full analysis to three of the six excavation squares and to a single hearth feature and a single undercut pit (Table 4.3). Contents of the several postmolds encountered in this block were not analyzed. Although artifact density is low in this block, it is sufficient to document that the content effectively mirrors that in nearby Block 2 and that the selected sample is adequate for study.

In **Block 5** we initially assigned a P1 designation and completely processed three of the six excavated squares. Squares were selected to give the maximum possible horizontal and vertical stratigraphic information based on documented profiles. The single feature in Block 5 was also given a P1 designation. More than 400 classifiable vessels occur in these P1 samples, indicating their adequacy for comparative analysis. Preliminary pottery analysis indicated a

distinct assemblage in an early stratigraphic position in the lowermost five excavation levels of one of the selected P1 squares (levels 7-11 in unit 498NE449). Based on this, we reexamined stratigraphy in Block 5 and decided to assign the lowermost levels in another excavation square (levels 8-11 in unit 497NE444) a P1 priority because these fell within another topographic low that might contain a comparably early ceramic sample. Subsequent analysis indicated that an early ceramic assemblage was lacking in this square; none-the-less, these levels were included in the fully analyzed (P1) part of the collection. In the end, almost exactly half of the excavated volume in Block 5 was given a P1 designation, with the remainder having a P3 designation (Table 4.3).

The strategy in **Block 6** was to process general level materials both inside and outside of the house boundary to obtain contrastive data regarding these two contexts, and to process approximately one-third of the squares excavated through roof fall and floor debris within the house in order to compare the content of these two natural horizons. Squares which fell on the house margin were systematically excluded (assigned P3). All or parts of 10 squares outside the house were given P1 designations, and all or parts of 16 squares inside the house were given similar designations. Overall, we processed ca. 50% of the total excavated area in Block 6. We gave P1 designations to all features of any size in Block 6, including several large postmolds that may be primary roof support members. Smaller post molds and other small features with too little potential content for age assignment were given P2 and P3 designations. One apparent pit feature (F123) outside and east of the house was found to contain substantial historic disturbance and was reassigned a P3 designation. Altogether, we analyzed ca. 54% of the total excavated volume in Block 6 (Table 4.3).

All available excavated materials from all fine-screened contexts (excluding some constant-volume float samples) in **Block 7** (village margin borrow area), **Block 8** (burned earthlodge) and **Block 9** (scattered, salvaged features and midden) were given P1 designations and were included in analysis (Table 4.3). Exceptions for Block 9 included several isolated postmolds and a single pit feature (F128) found to be historically disturbed.

Table 4.3 provides summary data on excavated volumes and context type assigned to each priority level. For the site as a whole, ca. 63% of the total site volume excavated with control was designated P1 and was included in analysis. A much higher percentage of the volume in features contexts (83%) than in general level context (53%) was included in the analysis. Altogether, nearly 68 m^3 of village or other archaeological deposits were excavated in the project; the artifact content from slightly less than 48 m^3 was included in the analysis. It can be emphasized that the vast majority of the unstudied portion of the excavated collection, particularly general level contexts from Blocks 1, 2, 4, and 5, comprises archaeological samples having substantial integrity and with significant information potential.

Data Bases

All data for the project are organized using the Microsoft Access relational database software (part of the Office 97 package). A master provenience information table in this database (named "Catalog") was based directly on the field catalog, with virtually all information in the field catalog entered according to catalog number. Catalog numbers were not duplicated

in this data table. We developed a second data table called the "Processing" table, that also lists catalog number and which we used to enter and track relevant information about the samples as they were processed in the lab or as decisions about samples and contexts were made in the lab. As analysis and organization of the collection for study progressed, we eventually developed additional information about samples and contexts such as the computed excavated volume, time period assignment, and other details relevant to analytic unit definition. All of this information was added to the Catalog table or Processing table. We eventually developed a query from the information in these two tables and exported it as a separate database or data table for distribution and use by all researchers in the project. Table 4.4 provides a list of the fields names, field descriptions, code values, and code value labels for all information distributed in the table or database called "SCATPROV." This data table was developed in several formats (Access, d-Base, Paradox, SPSS, etc.) for maximum utility as needed by project participants. This data table was also periodically updated as appropriate, with newer versions distributed on occasion to various researchers.

Table 4.4. Explanation of variables (fields), codes, and code values used in the database SCATPROV that is intended to guide the organization and analysis of all data sets from the Scattered Village project (32MO31), 1998 excavations.

Field	Variable Name	Code Value	Value Label
CAT_NO	Catalog Number	*1001-3047*	as assigned in the field catalog or in the lab
BLK	Excavation Block	*1-8*	as designated in field
		9	salvaged features
		10	geologic samples
		11	testing phase and surface samples
TP1	Time Period	*0*	mixed
		1	later postcontact
		2	earlier postcontact
		3	later precontact
		4	earlier precontact
		5	pre-Village
		blank	none assigned
AREA	Site Area	*1*	North City Block 910
		2	South City Block 910
		3	North City Block 89
		4	South City Block 89
		blank	none assigned
CONTEXTTYP	Context Type	*1*	cache pit
		2	cache w/ burial
		3	burial pit
		4	central hearth
		5	other hearth
		6	other pit

Table 4.4. Explanation of variables (fields), codes, and code values used in the database SCATPROV that is intended to guide the organization and analysis of all data sets from the Scattered Village project (32MO31), 1998 excavations continued.

Field	Variable Name	Code Value	Value Label
CONTEXTTYP (continued)		*7*	postmold
		8	cluster
		10	roof fall
		11	floor zone
		12	midden dump
		13	sheet midden
		14	basin fill
		15	massive infill
		blank	none assigned
INOUTHOUSE	Inside/Outside House	*1*	inside house
		2	outside house
		3	unknown or NA
		blank	none assigned
SAMTYPE	Sample Type	*??*	unknown
		BT	machine boundary trench
		CF	curb face trench
		CS	controlled surface collection
		CV	constant volume
		EP	exploratory Pit
		FL	feature level
		FS	floor scraping
		GE	geology sample
		GL	general level
		MT	monitor test (street light test pit)
		NL	natural level
		PP	piece plot
		PT	profile trench
		SH	shovel test
		SS	soil sample
		SSC	surface scrape
		ST	strip trench
		TT	T-trench
		US	uncontrolled surface collection
		WS	wall scraping
FEANO	Feature Number	*1-183*	as assigned
		blank	general level, non-feature, or none assigned
GEN_LVL_	general level number or association	*for gen. lev. samples*	as assigned during excavation
		for features	most likely general level at point of origin for the feature

Table 4.4. Explanation of variables (fields), codes, and code values used in the database SCATPROV that is intended to guide the organization and analysis of all data sets from the Scattered Village project (32MO31), 1998 excavations, continued.

Field	Variable Name	Code Value	Value Label
FEA_LVL_	feature level no	*for features*	as assigned during excavation
RECOV	recovery method	*DS*	¼" dry screen
		FL	field float system
		GI	Giddings rig (core sample)
		PL	3-D piece-plotted
		US	unscreened
		WS	1/16-inch waterscreen
SORTP	Sort Priority	*0*	no priority assigned (generally, non-controlled samples)
		1	chosen for analysis
		2	back-up sample for possible analysis
		3	excluded from analysis
SORTST	Sort Status	*0*	no priority assigned to this CN
		1	sample found and sorted
		2	sample found, not sorted
		3	sample not located
		4	sample examined, boxed for return
EXVOL	Excavated Volume	*n.nnn*	number to 3 decimal places, as computed in lab
		0.000	plotted artifact or other sample with negligible volume, or context not studied
G3MULT	G3 Multiplier	*n.nnn*	value to be used to estimate total count or weight of G3 materials in classes that were sample sorted in the lab; value of 1.000 indicates no sampling was used; values >1.000 indicate that sampling was used
		blank	lab sampling not applicable or this context was not studied
G4MULT	G4 Multiplier	*n.nnn*	value to be used to estimate total count or weight of G4 materials in classes that were sample sorted in the lab; value of 1.000 indicates no sampling was used; values >1.000 indicate that sampling was used
		blank	lab sampling not applicable or this context was not studied

Table 4.4. Explanation of variables (fields), codes, and code values used in the database SCATPROV that is intended to guide the organization and analysis of all data sets from the Scattered Village project (32MO31), 1998 excavations, continued.

Field	Variable Name	Code Value	Value Label
G5MULT	G5 Multiplier	*n.nnn*	value to be used to estimate total count or weight of G5 materials in classes that were sample sorted in the lab; value of 1.000 indicates no sampling was used; values >1.000 indicate that sampling was used
		blank	lab sampling not applicable or this context was not studied
FEATYP	Feature Type	*AC*	artifact concentration
		AL	ash layer
		HE	hearth
		HI	historic disturbance
		NF	non-feature or general level sample
		NL	natural layer, infilling a basin/borrow
		OL	organic layer
		PH	postmold
		PT	pit (basin, cylindrical, undercut, etc.)
		RF	roof fall debris concentration
		blank	soil samples; unstudied contexts
NSQ	North Grid Square Coordinate	*nnn*	even meter
ESQ	East Grid Square Coordinate	*nnn*	even meter
LDD	Local Datum Depth	*nnn-nnn*	cm; top and bottom depths below the applicable local datum
PLOT_TYP	Plotted Artifact Type	*no code*	individual description
COORD	Plotted Artifact Coordinates	*nnNEnn*	cm north and east within excavation square
EXCAVTR	Name of Excavator		last name
DATE	Excavation Date		date
COMMENT	Comment		comments as appropriate