

PUNCTATE, LINEAR SEPARATE

Linear separate punctations; a linear arrangement of indentations made with a tool or finger while the paste was plastic. Each punctation is separated from the next nearest punctation, an effect caused by completely removing the tool from the surface of the vessel prior to the next application. The tool may be reed, bone, shell, or anything capable of producing a punctation. This category includes all separately punctated sherds with the exception of sherds punctated exclusively near the rim, as is sometimes seen on Pee Dee and Irene ceramics (Caldwell & Waring 1939, Coe 1952, Reid 1967).

PUNCTATE, DRAG AND JAB

A linear arrangement of continuous punctations made with a tool or finger while the paste is plastic. The tool is not removed from the vessel surface between punctations; rather it is "dragged" prior to indentation. This results in a continuous linear decoration that can approach an incised appearance if the punctations are close enough together.

PUNCTATE, RANDOM

Random punctations applied to the surface of a vessel while the paste is plastic. No linear or other pattern could be discerned in the spacing of the punctations, which may occur on part or over the surface of the vessel.

INCISED

Lines over 1 mm wide drawn on the surface of the vessel, usually while the paste was plastic, although occasionally drawn (engraved) after firing. Some of these specimens may actually reflect brushing or scraping smoothing marks.

CORD MARKED

Cord impressions created by the application of a cord-wrapped paddle to the plastic paste of the vessel. The twist of the cords is usually discernible, and the occurrence of this twist is the primary attribute to observe. If no discernible twist impressions are noted, the sherd is not to be placed in the category of cord marked.

SIMPLE STAMPED

Simple stamped impressions. A parallel or cross stamped arrangement of impressions with the space between the raised lands up to 2 mm wide, apparently made with either a carved paddle or a thong-wrapped paddle. Ferguson (personal communication) has suggested that the design effect may be obtained in many cases by using a split piece of wood as a paddle. Parallel simple stamping results from the application of a parallel carved or wrapped paddle, in an orientation, without cross stamping, to the plastic surface of a vessel. The impressions may be either smooth or rough in appearance, but should not have twists or other attributes suggesting cord or fabric impressions.

FABRIC IMPRESSED

Fabric impressions characterized by a rigid warp element, about which a flexible cord was laced, or else a poorly defined weave with both warp and weft elements flexible. The impressions were applied while the vessel paste was plastic.

LINEAR CHECKSTAMPED

"The design consists of a repeated parallel arrangement of two longitudinal lands which contain a series of finer transverse lands...The longitudinal lands are invariably heavier and usually higher than the transverse lands" (Caldwell & Waring 1939).

The lands are formed by the carving of grooves in a wooden paddle; the stamp is applied when the paste of the vessel is plastic. The thicker size of the longitudinal lands gives the stamp a linear appearance.

CHECKSTAMPED

The design consists of a lattice of evenly-sized raised lands that intersect to form square or rectangular checks under 0.5 cm in size. The even size of the lands produces a regular grid, which distinguishes this design from linear checkstamped. The stamp is created through the application of a carved wooden paddle to the surface of the vessel while the paste is plastic.

BOLD CHECKSTAMPED

Checkstamped finish with square or rectangular grids over 0.5 cm in size. The stamp is created through the application of a carved wooden paddle to the surface of the vessel while the paste was plastic.

PLAIN

Plain sherds have an unaltered surface finish, with variation present only in the nature and extent of surface smoothing. No subdivisions of this category, based upon criteria such as extent of smoothing, were recorded. No burnished or highly polished specimens were noted.

COMPLICATED STAMPED

Complicated stamping characterized by closely spaced lands. The space between the lands in this category is usually 1 mm or so wide. The stamp is applied with a carved wooden paddle while the vessel paste is plastic. Design motifs are curvilinear or rectilinear and include concentric circles, filfot crosses, bar-diamonds, figure eights, and a number of other patterns (cf Coe 1952, Reid 1967, Caldwell and Waring 1939).

NONDIAGNOSTIC

Sherds with a surface finish that is unrecognizable, either through weathering, heavy over stamping, or some other factor. Unless the surface finish of a sherd would be determined with certainty, it was included in this category.

SOILS ANALYSIS PROCEDURES

During the course of the fieldwork for the South-eastern Columbia Beltway Project, soil samples were routinely taken from representative strata and areas within each site. Of over 50 samples collected, 22 were submitted for intensive descriptive analysis, which was undertaken by Dr. Michael Katuna of the College of Charleston's Department of Geology. The 22 samples were selected to provide detailed information on the soil matrix at each of the four project sites. Data of this kind were considered important to interpreting observed artifact preservation and depositional associations. The analyses included measurements of pH, particle size, and color, including brief technical descriptions of each sample. This information was used to prepare the profile diagrams in the report, and the analysis sheets themselves are included in the appendix volume.

The soil samples were air dried and split into approximately 100-200 gram portions using a standard sample splitter. The samples were then weighed on a top-loading Mettler balance to the nearest 0.01 gram and placed into a Rotap sieve shaker for 15 minutes. The screens selected for the size distribution corresponded to the particle size classification proposed by the U.S. Bureau of Soils. The weight, and weight percent, of each of the sieve fractions were then calculated (see tables in appendix volume).

Those samples which contained appreciable amounts of silt and clay were initially broken down using a mortar and rubber-tipped pestle. A dispersant agent (100 ml) consisting of 0.5N sodium metaphosphate solution was then added to assist in the disaggregation of the samples. The samples were agitated for 15 minutes using an ultrasonic probe to complete the dispersion. The suspension was passed through a stainless steel wet sieve to separate the sand from the silt and clay. The sand fraction was dried and sieved using the same method outlined above.

A hydrometer analysis was performed on those samples which contained greater than 10.0 percent by weight of silt and clay. The silt and clay fraction was transferred to a 1000 ml graduated cylinder containing distilled water and was agitated. After two hours, a Bouyoucos (USDA Standard) hydrometer was inserted and a reading taken (at 68° F). The percentages of silt and clay for those samples are also listed in the accompanying data sheets.

The pH for the 22 soil samples was determined using a LaMotte soil analysis kit. A 1.5 gram sample of soil was added to 4.0 ml of pH indicator solution and was agitated. After 15 minutes, the color of the solution was matched to a standard pH colorimetry chart to determine the pH of the soil. The soil color descriptions were measured by comparison with a Munsell soil color chart.

BONE ANALYSIS PROCEDURES

A number of small, highly weathered bone fragments were recovered from 38LX5 and 38LX64. The fragments were very small and were typically recovered by troweling or hand picking rather than in the 1/4 inch mesh used to screen the fill. The entire excavation sample was submitted for analysis to Dr. Albert E. Sanders and Mr. Peter Coleman (Curators of Natural History) of The Charleston Museum, Charleston, South Carolina. The samples were returned with a statement that confident identification was impossible given the size and condition of the material. Use of thin sectioning and high power microscopy was suggested as a potentially viable method for identifying the fragments. Given the distribution of the materials, almost all from temporally unidentifiable midden levels, and the limited interpretive value of possible results, thin-sectioning was considered unwarranted. Should bone material be recovered from well documented features, such procedure might be investigated in future projects at Fall Line sites.

CHAPTER 4

SITE 38LX5 ASSEMBLAGE

INTRODUCTION

The westernmost of the four sites examined during the Southeastern Columbia Beltway Project, 38LX5, was a five acre scatter located on a sandy knoll almost a kilometer south of and elevated 15 to 20 meters above the Congaree Creek floodplain (Figure 2). The site is located within the upland/sandhills environment immediately north and east of a small intermittent tributary of Congaree Creek, which probably served as a water source for aboriginal visitors. The immediate site area has been in cultivation over much of the past half century, and in recent years crops of corn, wheat, and melons have been observed. At the time of the 1978 excavations, the sandy knoll defining the site was in fallow, with short grasses and weeds over much of the surface.

PREVIOUS INVESTIGATIONS AT SITE 38LX5

Site 38LX5 has long been recognized by members of both the avocational and professional archeological communities. James L. Michie (personal communication), now an archeologist at the Institute of Archeology and Anthropology at the University of South Carolina, reports that he and his friends collected materials from this site during the 1950s and 1960s. In November of 1969, Michie and Paul Brockington, another IAA archeologist, visited the site, and on December 3, 1969, formally recorded it as 38LX5 in the state site files. Woodland pottery and points, and a number of quartz and chert flakes, were observed in the southwestern portion of the field, which was in fallow after fall harvesting.

When plans for the construction of the Southeastern Columbia Beltway began to receive public attention in the early 1970s, interest in archeology along Congaree Creek began to grow, since it was apparent that the area would eventually be developed. Under the direction of members of the Archeological Society of South Carolina, volunteer excavations were initiated at 38LX50, and survey work began throughout the area to locate and record archeological sites. Site 38LX5 was visited by David G. Anderson, James L. Michie, and Michael B. Trinkley in early February 1974, and the results were incorporated into a report on the proposed Beltway corridor released that May by the IAA:

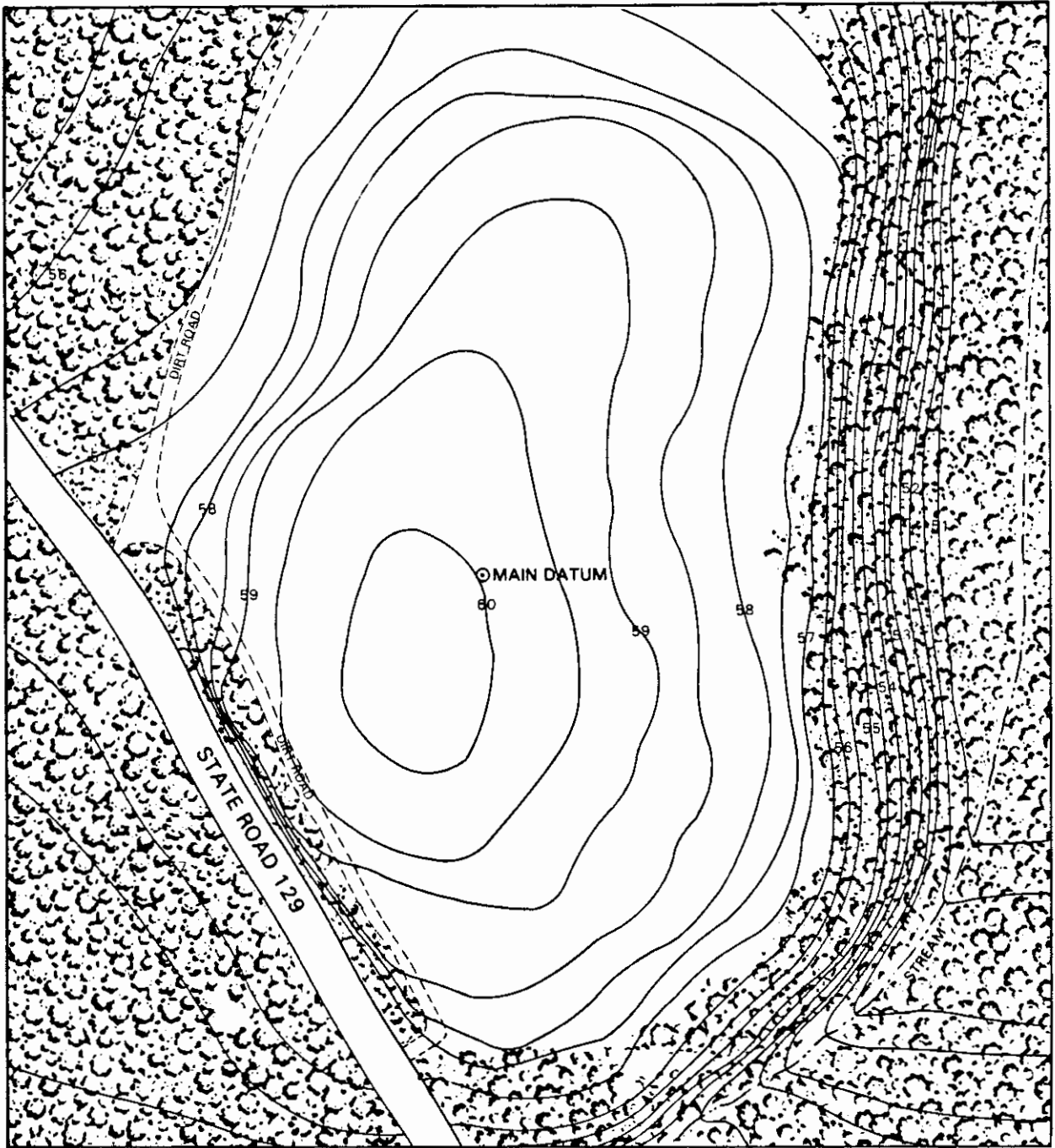
38LX5 covers 1-2 acres and is located on the western edge of an elevated knoll directly adjacent to Road 129. The site is apparently Late Woodland and is characterized by an extensive scatter of ceramic fragments and quartz and chert points, tools, and flakes. The area has been extensively plowed and is presently under cultivation. Woods and low-lying fields are located to the north, east, and southeast of the site, which commands an excellent overview of the immediate area (Anderson, Michie, and Trinkley 1974:7).

The first proposed route for the Beltway was shifted somewhat, and a second cultural resources survey was conducted along Congaree Creek in August of 1974.

Site 38LX5 was revisited on August 15, 1974, by David G. Anderson, who spent one hour gathering artifacts and other data on the nature of the scatter. Two intuitively placed 50 foot diameter circles were intensively collected, one each from the northern and southern portions of the field, in an effort to obtain a controlled sample of the general scatter. A report on the second corridor survey, including a brief description of Site 38LX5, was published in The Notebook of the IAA in late 1974:

38LX5 covers roughly two acres and is located on the western edge of a low knoll facing State Route 129. The site is characterized by a scatter of ceramic fragments; quartz and chert points, flakes and tools; and fire cracked quartz. Inspection of this material indicates Woodland and South Appalachian Mississippian occupations. The area of the site is under cultivation and at the time of the survey was partially grown up in weeds following a recent harvest of corn. Woods and low-lying fields are located to the north, east, and southeast of the site. The site appears to be characterized by an intense scatter of artifacts at the southern end with a diminishing scatter to the north. The special collection procedure confirmed this impression...(Anderson 1974:138-140).

The presence of Mississippian period artifacts was noted as somewhat unusual, since other sites of this period along Congaree Creek were located in the flat alluvial floodplain.



MAP SOURCE: C.A.I. Field Survey, 1978.
 NOTES: Permanent Reference Point (Water Tower) is located 850 m from the site datum at an angle of 245.0° East of Magnetic North.



SOUTH CAROLINA



0 10 20 30 METERS



50 CM. Contour Interval

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SITE 38LX5 BASE MAP

PRIMARY TOPOGRAPHIC FEATURES



FIGURE 2

During the third and final corridor survey for the Southeastern Columbia Beltway, in June and July of 1975, site 38LX5 was revisited by Albert C. Goodyear and John House of the IAA Highway Archeology Program staff. An extensive general surface collection was made over the site area, and the results incorporated into a report released by the IAA in August of 1975:

The site is located on a terrace perhaps two acres in extent and is higher than most land surfaces surrounding it...Both the northern and southern ends of the terrace have heavy concentrations of artifactual debris and cultural materials can be observed in a continuous distribution between the two clusters...Culturally the site seems to have been used from the Archaic through Mississippian. In our visit a large slate Savannah River knife was found indicating a Late Archaic occupation. Also observed were several sherds of check-stamped pottery suggesting an Early- to Middle-Woodland (Deptford) component. Based on the extensive quantities of debris consisting of chert, quartz, and slate, tools and debitage, fire-cracked rock and pottery, it is quite likely some type of habitation site with shelters was present for some of the phases represented.

Currently, and in the past, the site has been extensively cultivated. It is possible, however, that subsurface or subplowzone layers still exist perhaps in the form of postholes, firepits, and storage pits (Goodyear 1975a:18).

Goodyear's description of 38LX5 is particularly important because, unlike previous work, explicit reasons for the importance of the site were advanced, together with possible research topics that might be explored by work on it:

This site is particularly significant for two reasons. First, it is located in the drier, sandy uplands, an area which does not ordinarily produce many sites. Secondly, it is a substantial site, one with great quantities of artifactual debris and therefore is more reminiscent of similar sites down on the floodplain which are closely situated to creeks and swamps.

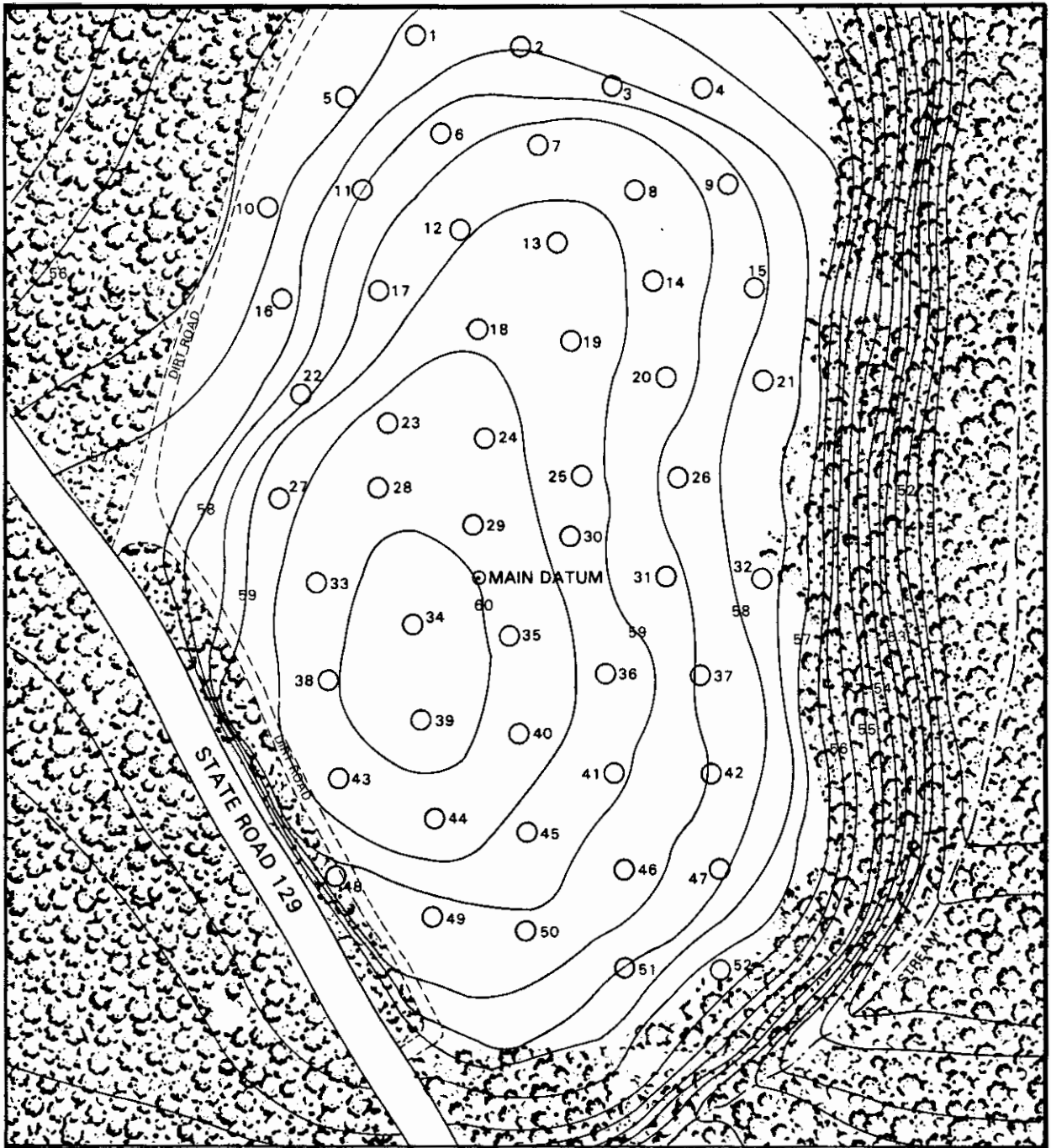
Looked at from a settlement-subsistence viewpoint, 38LX5 could answer many important questions concerning the regional distribution and organization of Archaic and Woodland settlement systems. For example, does such an occupation area represent year-round living with most occupants returning to a basecamp? This would imply the floodplain sites were primarily extraction stations. Or does this site represent seasonal occupation, perhaps in an attempt to locate the population more closely to upland acorn crops? Alternatively, if utilized only seasonally the site might reflect the wet season, in the winter by present rainfall regimes, since the Congaree Valley may have been under water much of the time or at least significant parts of it (Goodyear 1975a:19).

All of the descriptive and interpretive data previously prepared on 38LX5 were used to guide the 1978 field season, and were incorporated into the analysis.

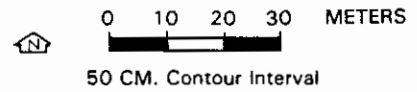
1978 DATA COLLECTION PROCEDURES (Site 38LX5)

During the 1978 field operations at 38LX5, an intensive controlled surface collection was made over the entire site, 94 square meters of the scatter were removed to sterile soil, another 200 square meters of subplowzone deposits were examined using block units, and 25 meters of backhoe trenches were opened and profiled. Field procedures were used sequentially, with the results of the controlled surface collection used to direct test pit placement, and the results of the test pitting operations used to select areas for block unit excavation. A multistage approach was thus employed, with the occurrence and nature of recovered artifacts used to guide later stages of fieldwork.

A main datum was established in the perceived center of the scatter, on one of the highest points on the knoll. A three foot length of iron rebar was driven to mark this point, which was then tied in with a series of landmarks in the immediate site area. Using a transit and tape, 52 points for a controlled surface collection were dispersed over the knoll (Figure 3), employing a stratified systematic unaligned sampling matrix (Haggett 1966:196-198). The extent of the scatter was arbitrarily divided into a 20 meter grid, with one sampling point placed in each 20 m block. Surveyor wire flags were used to delimit each point, and all artifacts were collected from a four meter diameter circle centered on the flag, employing a dogleash procedure. A general collection



MAP SOURCE: C.A.I. Field Survey, 1978
 NOTES: EU Denotes Excavation Unit,
 Circles Represent 4 Meter Diameter Controlled
 Collection Areas.



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SITE 38LX5 BASE MAP

CONTROLLED SURFACE COLLECTION UNITS

FIGURE 3

was then made around each circle. The combined procedures ensured that the entire site surface was collected, with all artifacts tied into within at least 15 meters. In all, 52 circles were collected; the site scatter was found to extend over an area of almost 21,000 square meters or five acres, some two and a half times larger than all previous estimates.

Using the same flags for unit corners, 27 1 by 2 meter test pits were opened over the southern end of 38LX5, in the area of maximum surface artifact concentration (Figure 4). Units were oriented either north-south or east-west, based on a coin toss, with the flag always located at the northwest corner of the unit. In each unit the plowzone was removed as a level, with one or more arbitrary 20 cm levels taken from the subplowzone until sterile sand was reached. All fill was passed through 1/4 inch mesh. In addition to the 27 randomly placed units, an additional 16 1 by 2 meter pits were opened on the site, for a total of 43. These units, and one 3 by 3 meter block and one 1 by 1 meter pit, were intuitively placed to expand around features located during the test pitting and subsequent backhoe clearing operations.

Dispersed probability samples were used to help ensure that representative assemblage data were collected from the site surface, plowzone, and subplowzone areas. One by two meter excavation units were chosen because (1) the surface area of each unit ($2m^2$) was considered sufficiently large enough to permit effective detection of subplowzone features, (2) the unit volume was manageable, permitting removal of upwards of twenty pits, a minimal figure for reliable statistical analyses (cf. Cochran 1963:157) and, (3) the size permitted efficient, deep excavation. When smaller sized units are employed, careful removal of fill becomes difficult with increasing depth.

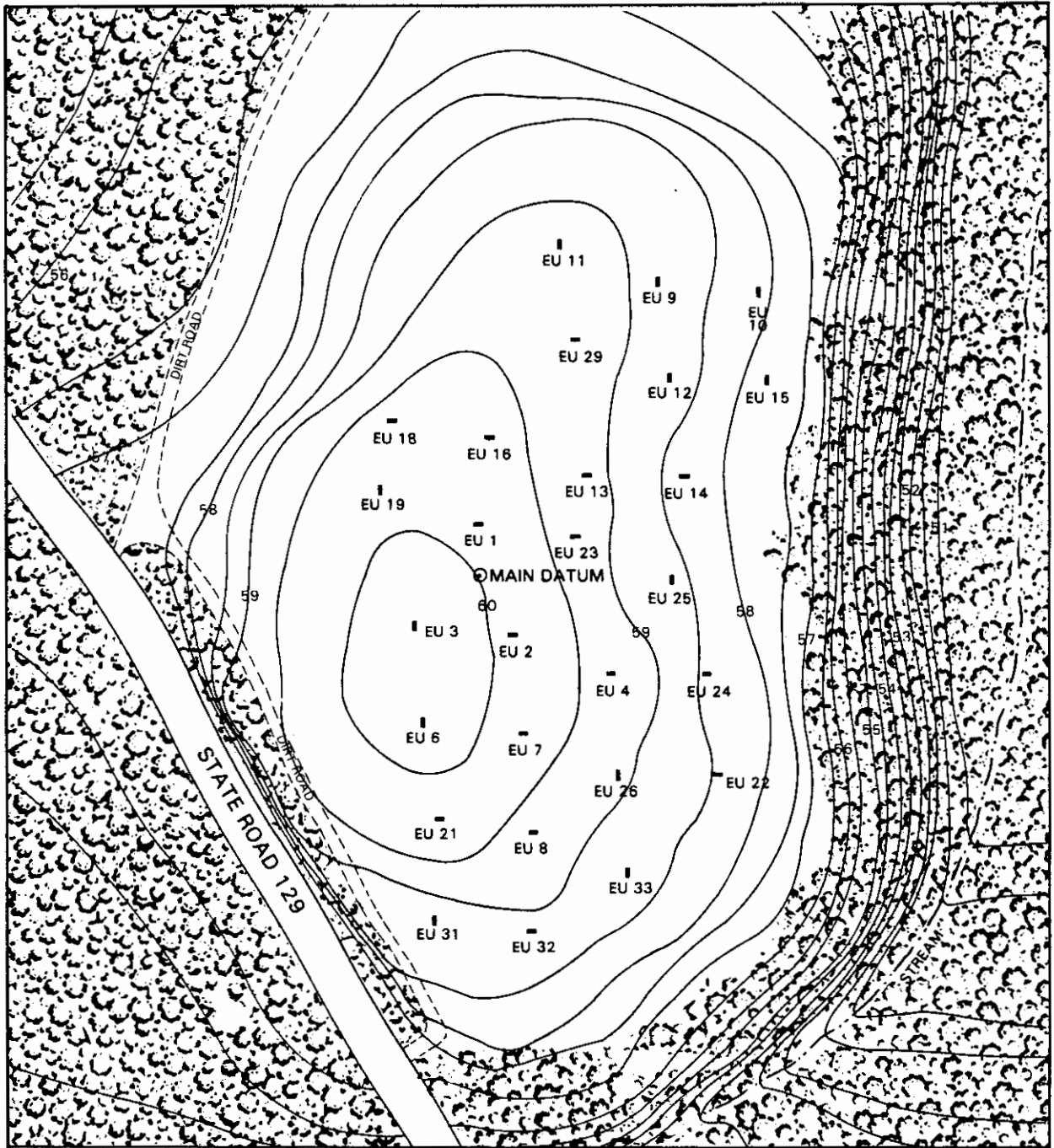
Once the random test units had been opened, a series of trenches and block units were opened across the site in an effort to locate deeply buried deposits and features (Figures 5-7). Block units were intuitively placed in areas of the site that both the surface collection and test excavation procedures had demonstrated to be quite rich in artifactual remains. Two backhoe trenches were also opened on the site, to document local geomorphology and depositional conditions. The cuts included a short 4 meter trench near the main datum and a longer, 21 meter unit at the southern end. The cuts demonstrated that the site rested on a clay/silt base overlain by progressively deeper sands proceeding from the edge to the crest of the knoll.

The long cut at the southern end of the site proceeded from the edge of the small tributary up the slope and out into the field defining the scatter. Over this 21 meter distance, the depth from surface to underlying clay substrate increased from less than a meter to over two meters in thickness. At the edge of the stream, by the base of the knoll, only a thin sand layer was evident, overlain by a somewhat thicker than average humus zone, perhaps built up by erosion and slopewash (Figure 8). The short trench opened at the crest of the knoll collapsed shortly after it was opened, but revealed coarse to medium sands to a depth of almost four meters.

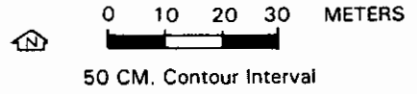
Block units were opened employing the backhoe blade to scrape off the plowzone down to the underlying light yellowish brown sands, where features, if present, would be moderately distinct. A few rock and artifact clusters and diffuse charcoal stains were located by this method, as well as a number of recent tree roots. The areas opened were shovel skimmed, with suspicious stains and artifact clusters flagged. All artifacts were left in place and later plotted, although the coarse, dune-like sands made complete in situ detection impossible. The locations of all units were recorded in a Dietzgen engineer's level book, and were shot in with a transit and a 30 meter fiberglass tape. Elevational data were recorded using a stadia rod for all unit corners and from a number of site areas. In all, 307 separate points were used to prepare the site base maps.

When features were encountered in the block or test units, the surrounding area was expanded as necessary to encompass the associated scatter. Artifact concentrations were piece-plotted, and fill from in or around perceived features (rock or artifact clusters or charcoal stains) was bagged in plastic trash sacks for separate fine (1/16 inch) screening and flotation. Piece plotting procedure entailed marking a number on the artifact using a permanent marker, and plotting this number on a piece of graph paper scaled to the unit dimensions. This permitted the rapid plotting of individual artifacts, and avoided filling out provenience bags for each specimen. Flotation samples were processed in a lake to the northeast of the site, and were submitted for ethnobotanical and radiocarbon analysis shortly after the close of fieldwork (Chapter 8).

The flotation procedure made use of a high walled frame lined with window screen and supported by a tripod. This was lowered into the lake waters until water came into the bottom of the frame. Feature fill was then poured in and agitated, with a rice strainer lined with a finely woven men's handkerchief used to collect the charcoal flecks that



MAP SOURCE: C.A.I. Field Survey, 1978.
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 Circles Represent 4 Meter Diameter Controlled
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SITE 38LX5 BASE MAP

RANDOM EXCAVATION SAMPLE UNITS

FIGURE 4



FIGURE 5 – Site 38LX5, with all excavation units open. View to southwest.



FIGURE 6 – Use of the front end loader at 38LX5 to remove plowzone levels, in an effort to locate subplowzone features.