MODERN PATTERNS AND PAST PROCESSES:

A STUDY OF NORTH CANAAN'S PAST

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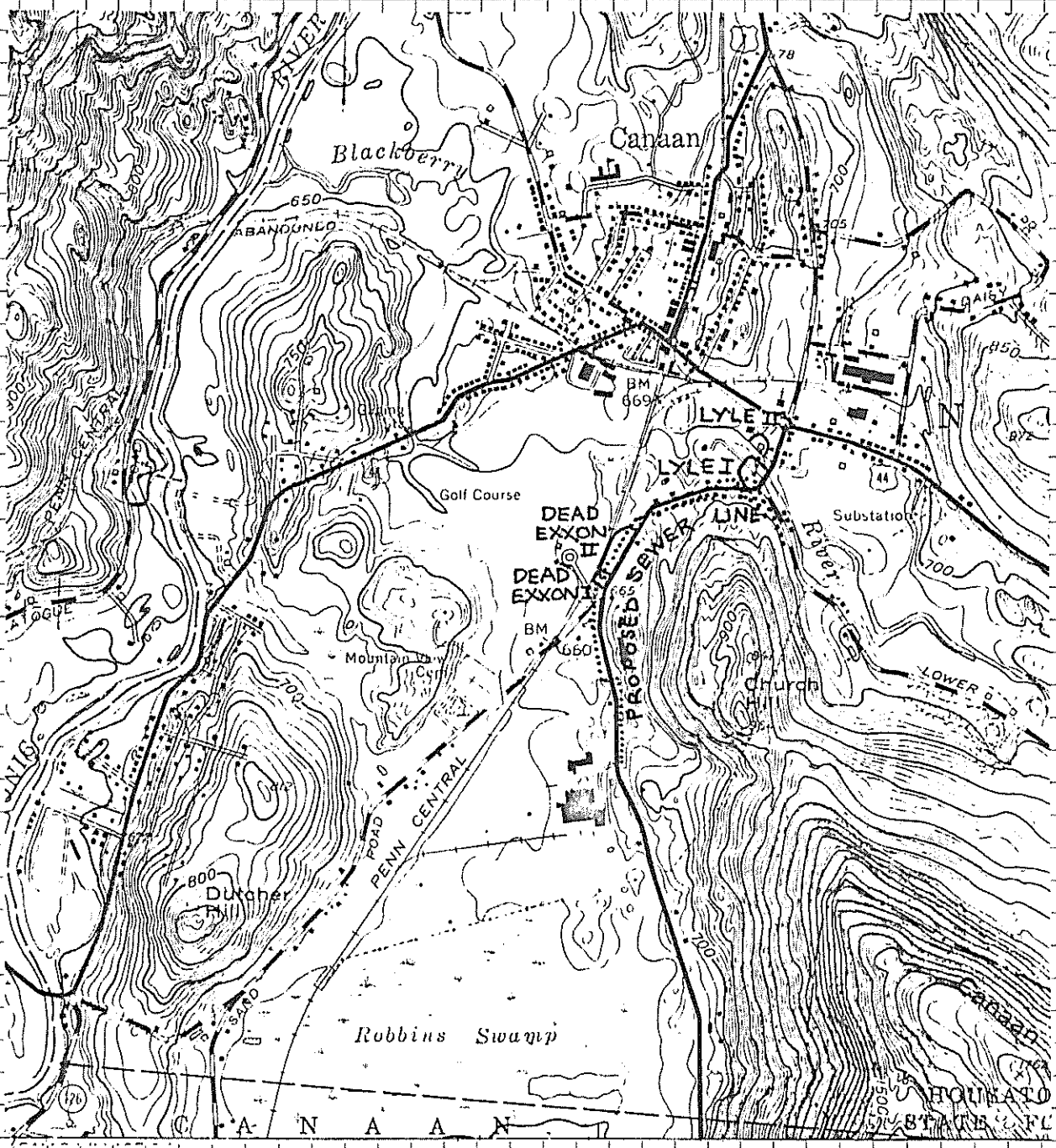


I. ABSTRACT

An earlier archaeological reconnaissance of the route of North Canaan's sewer, completed in the fall of 1979, indicated that several prehistoric and historic archaeological sites were going to be threatened by the proposed construction activities. Further studies of these resources, completed during the spring of 1980, have contributed to our knowledge of the involved archaeological sites as well as what adverse effects might occur.

Given the most recent set of engineering plans, both Dead Exxon I and Dead Exxon II will be avoided by the line's construction. Each of these resources was explored during Phase Two; their boundaries were delimited and new information was gathered which allowed a better understanding of each site's age and internal patterning. However, given the restraints of the project's research design, it is not known whether either Dead Exxon I or II would be an eligible resource worthy of nomination to the National Register of Historic Places. Nevertheless, care should be taken to avoid disturbing each of these sites during construction.

A series of four two-meter squares was excavated along the route of the siphon system on a Holocene terrace along the western edge of the Blackberry River. Earlier testing during the fall of 1979 had suggested that this terrace had been subjected to periodic flooding resulting in the deep burial of archaeological sites. The stratigraphic sections isolated in these units indicated that this terrace has been affected by both depositional and erosional processes. Although some historic materials were recovered there is no intact buried cultural resource at Lyle I. This locality may be considered to be of little archaeological significance and no further research is required. Construction may proceed as planned.

During the initial survey in 1979 three archaeological sites were discovered

on or within a Holocene terrace and floodplain on the eastern edge of the Blackberry River. The prehistoric campsite found at Lyle II has been disturbed by historic activities including plowing and the construction of the historic Lawrence Tavern. Unlike our earlier interpretation, this prehistoric campsite (ca. 1000 B.C.) is not considered to be a significant archaeological resource.

Two discrete historic middens were encountered at Lyle II, each associated with the construction and use of the Lawrence Tavern, a mid-eighteenth century building which is still occupied on the upper terrace. These two middens, together with the Tavern itself, represent an intact record of historic occupation from the time of initial settlement through the end of the nineteenth century. During this period the Tavern was used for a variety of purposes and underwent several structural modifications, including changes in heating systems. Its architectural and occupational history is reflected in the structure and patternings of the associated archaeological record. Together the Tavern and historic middens represent a significant complex of cultural resources probably eligible for nomination to the National Register of Historic Places.

Avoidance of either of these midden deposits during construction does not seem possible as midden materials have been located across both terraces. In addition, the exact location of the river crossing is apparently pre-determined by engineering specifications as well as regulatory permits. Thus an adverse effect is predicted, requiring the development of a mitigation plan for data recovery. One possible plan would include the excavation of a two-meter wide trench, 30 meters in length, from the edge of the river to the extant sewer line. Once this trench was excavated the sewer line could be constructed within it.

II. INTRODUCTION AND ACKNOWLEDGEMENTS

An intensive study of the archaeological resources associated with North Canaan's proposed sewer line was financed by Loureiro Engineering Associates and the Canaan Fire District through an agreement with the American Indian Archaeological Institute of Washington, Connecticut. Since the construction of the sewer line (Figure 1) is being planned and implemented with available Federal funds (through the Environmental Protection Agency), the Federal government and the associated local agencies are involved in such a way as to meet the threshold requirements of Federal preservation law.

In particular, the Federal funding associated with this construction project can be recognized as a "Federally assisted and financed action" as defined in Section 3 of the Procedures of the Advisory Council on Historic Preservation (Title 36, Chapter VIII, Part 800 of the Code of Federal Regulations. Procedures for the Protection of Historic and Cultural Properties. see Federal Register 41, No. 28, Part II - February 10, 1976). These procedures and a related corpus of preservation and environmental law provide the legal framework for undertaking both preliminary studies (Phase I projects) and intensive evaluations (Phase II projects) of those cultural resources identified in earlier reconnaissances. The route of North Canaan's sewer has now been subjected to both an inventory study (see Hampton 1979) and a program of intensive evaluation (this report).

The results of these studies and the strategies used to achieve our goals are discussed in the following sections of this report. Additionally, the archaeologist, as preservationist, must ascertain the effects that a proposed project will have on properties eligible for nomination to the National Register of Historic Places. If such properties are identified and will be adversely effected by construction activities, then a series of appropriate plans for mitigation should be developed. The evaluation of a particular archaeological resource's significance (and consequent eligibility) will also require a discussion of that resource from the perspectives of contemporary archaeological and anthropological theory.

History of the Project

The initial archaeological study of North Canaan's sewer was begun on November 16, 1979, following more than a one-year period of inactivity after submission of a proposal in August of 1978. A crew of four persons worked 6.5 days in the field in late November with an additional 100 man-hours expended in walkovers, the processing of artifacts, and report preparation.

Roberta Hampton's 1979 report, "Exploration of Archaeological Resources along the Proposed North Canaan Sewer Line," was submitted for review in mid-December of 1979. Following the clarification of several sections of this report, Connecticut's State Historic Preservation Officer recommended an intensive evaluation of six archaeological sites including three located on the tract known as Lyle II (Letter of February 20, 1980, from the Office of the State Historic Preservation Officer, Connecticut Historical Commission).

A request for a proposal and budget to fund this intensive survey was received in late February of 1980. The relevant documents were submitted in

Figure 2. Dead Exxon I, Looking West.

early March, reviewed and modified by the Connecticut Historical Commission in mid-March, and further discussed by a letter from the Research Department of the American Indian Archaeological Institute to personnel of the Environmental Protection Agency (April 15, 1980). A letter authorizing the Institute to undertake the intensive archaeological study was received during the third week of April, 1980.

Fieldwork began in late April, continuing on an irregular basis through May and finishing in mid-June of 1980. A total of 1056 man-hours was expended in the completion of field studies (Table I). An additional 500 man-hours were used to process artifacts, prepare field notes and diagrams, catalog the recovered materials, attend various meetings, and complete a restoration of the grounds of Lyle II.

Table I: Manpower Allotments - Fieldwork

	Activities	Manhours
Dead Exxon I	STP's	80
Dead Exxon II	STP's	176
Lyle I	Four two-meter units	400
Lyle II	STP's, Three two-meter units	400
		1056 : TOTAL

Acknowledgements

A variety of agency personnel helped with the administrative end of the project including Sal Palaia of Loureiro Engineering Associates, Tony Nania of the Canaan Fire District, and Dave Poirier of the Connecticut Historical Commission. Ms. Kathleen Taylor, Administration Department of the American Indian Archaeological Institute, guided the machinations of bimonthly payrolls, contributing to the well-being of the crew. Crew members included Lisa Poinsot, Helen Starwalker, Anne Sherburne, Deborah Handsman, Chip Pennington, Steve Post, Amy Quist, and Peter Jongbloed.

Roberta Hampton served as Field Director and also helped plan the research strategy. She made all the day-to-day field decisions and also completed several analyses used in this report. The success of this project is in large part due to her. Christine Hoepfner helped analyze the historic ceramics from Lyle II and drew preliminary versions of several stratigraphic diagrams. Amy Quist prepared the final catalog cards for the entire project and completed many of the figures used in this report. Donna Vargo took a break from her busy schedule to identify some of the species represented by the faunal materials from Lyle II. Adam Burnett, Peter Patton, and Joe Sullivan discussed the fluvial geology of Blackberry River with us on several occasions.

Several employees of the Litchfield Water Company provided us with invaluable information and aid including the loan of a ladder and heavy machinery to fill the squares at Lyle I. Mrs. Molly Lyles kindly permitted our excavations at Lyle II, provided the crew with delicious cookies, and allowed us to tour the Lawrence Tavern on several occasions. Her hospitality was unforgettable and we hope that she is pleased with this report, another chapter in the history of the Tavern which had already been studied by her late husband, James Lyles.

Figure 3. The Dead Exxon II Locality.

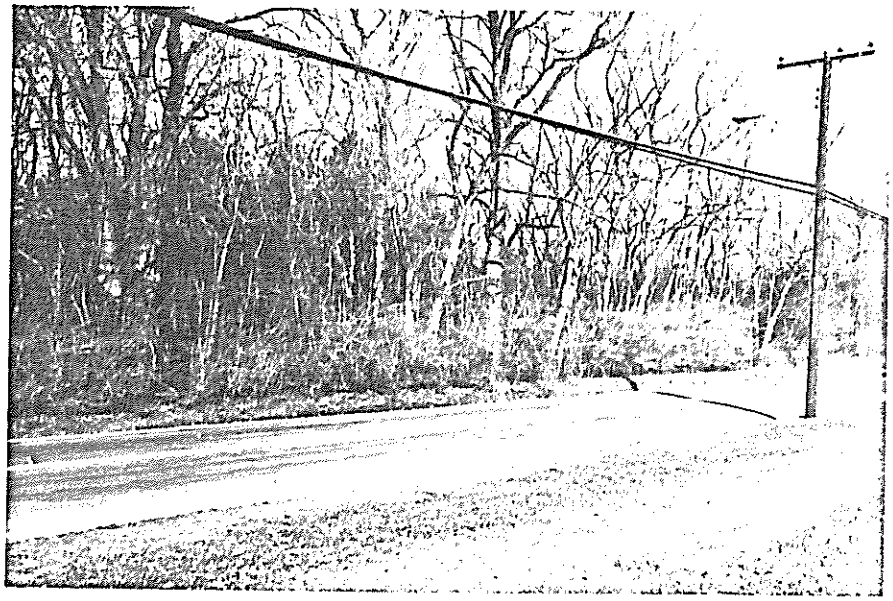


Figure 3a. Dead Exxon II, Looking East.

Figure 3b. Dead Exxon II, Looking North.

III. RESEARCH DESIGN AND DATA REQUIREMENTS

Since the construction of North Canaan's sewer meets the threshold requirements of "Federally assisted and financed actions" as described in the Advisory Council's Procedures, a research design was developed with this same set of procedures in mind. Once an agency or corporate group such as the Canaan Fire District is advised to undertake a cultural resource reconnaissance (usually by the State Historic Preservation Office; in this case, the Connecticut Historical Commission), there are two questions which need to be answered during any archaeological study:

1. What sorts of cultural resources (prehistoric and historic archaeological sites, standing structures, industrial sites or complexes, monuments, cultural features of the landscape) exist?

2. Have any of these resources been placed on the National Register of Historic Places or are any of them eligible for inclusion on the Register?

The second criteria, inclusion or eligibility, is particularly significant since it establishes a minimum standard against which each cultural resource must be judged. If a particular archaeological site does not achieve this standard, then the involved agencies are usually released from further obligations. Throughout the entire process of identifying and evaluating previously known and unknown resources, all involved agencies and personnel have a responsibility (and legal mandate) to attempt to preserve each site or structure in its original location, intact and unaltered for future generations.

A preliminary study of the cultural resources situated along the route of North Canaan's sewer was undertaken in November of 1979 by a crew from the American Indian Archaeological Institute of Washington, Connecticut (Hampton 1979). Six archaeological sites distributed across four property tracts were identified as requiring further study:

1. Dead Exxon I, an historic site located adjacent to Route 7, south of the village and the Blackberry River (Figure 2).
2. Dead Exxon II, a prehistoric site north of Dead Exxon I situated on a Holocene terrace, south of the Blackberry River (Figure 3).
3. Lyle I, a problematical prehistoric site thought to be situated within the fill of an alluvial terrace, on the western bank of the Blackberry River (Figure 4a).
4. Lyle II, a group of one prehistoric and two historic sites located on and within an older Holocene terrace and more recent floodplain formation, situated on the eastern bank of the Blackberry River (Figure 4b).

It was recommended that a second, more intensive archaeological evaluation be undertaken which would attempt to delineate the size and boundaries of each of these resources, to discover each site's age and internal structure, and to assess the surficial and subsurficial integrity of each cultural deposit. Each of these information categories would then allow the archaeologist and other historic preservationists to determine whether any of the extant resources contained significant information worthy of being preserved in an unaltered or excavated state.

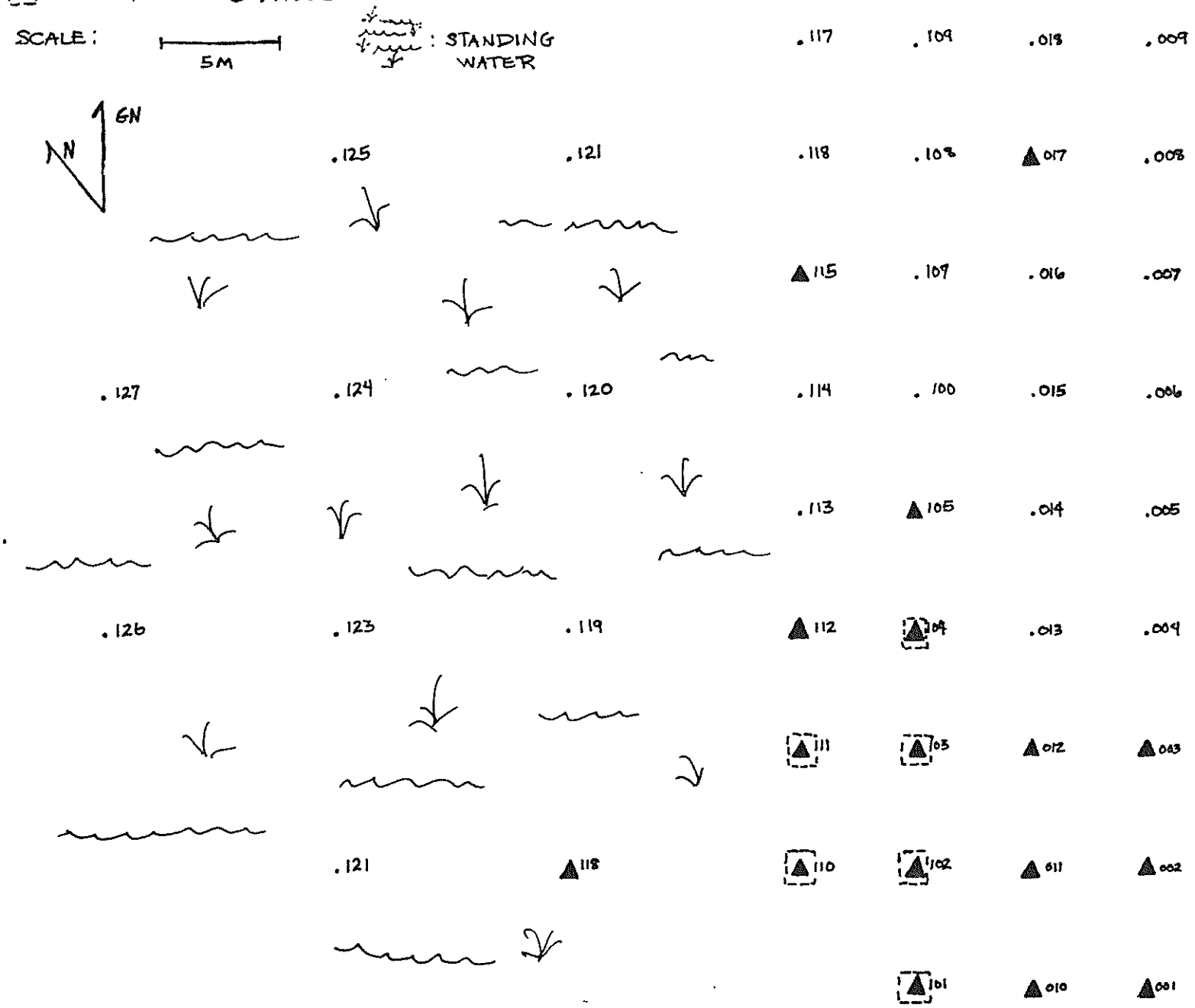
Figure 4. Localities of Lyle I, Lyle II.

Figure 4a. Lyle I, Looking South and West.

Figure 4b. Lyle II, Looking North and East.
Note floodplain and upper terrace.

The research design which was used to gather the appropriate information and the subsequent analyses and interpretations are dependent upon a set of theoretical problems which the Institute's Research Department has been studying for more than two years (Handsman 1980a). We are not as concerned with discovering what happened in the prehistoric or historic past - in fact that is a goal which can never be attained - as we are interested in studying the past and present theories which archaeologists have used to acquire knowledge about the past. Two such theories are relevant to the present study of several sites in North Canaan: one which explores the interrelationships between fluvial processes and the prehistoric and historic archaeological record (Handsman 1978, 1980b; Handsman and Hampton 1979) and a second which is concerned with the continuing inability of the profession to differentiate the modern isolation of patterns in the archaeological record from the past behavioral processes which were responsible for those patterns (Handsman 1980c).

The potential significance of some of the sites discovered in North Canaan can only be evaluated within the context of these theories and the research problems derived from them. A different set of research problems may have required different field strategies. The following two sections of this report describe the modern patterns isolated within each site's archaeological record and then discuss each set of patterns as signs of past behavioral processes.



CONN. ROUTE 7

Figure 5.

IV. FIELD STUDIES AND RESULTS: DESCRIPTION OF MODERN PATTERNS

All archaeologists, no matter what past period they are studying, are trapped between two worlds: one, the modern world of contemporary observations of patternings isolated in the archaeological record and the second, the world of past behavior. It is the latter domain which determines what any archaeological record looks like and how that record should be studied by archaeologists (Binford 1980). As processes of behavior or adaptation changed in the past so did the patternings which eventually get recognized by archaeologists. Further, as individual archaeologists continually modify their research problems and designs, the patternings seen in the record are also transformed (Struever 1971).

When an archaeologist is called upon to assess the significance of any cultural resource there are two varieties of information which must be gathered and studied. First is the set of contemporary observations - descriptive statements which summarize each site's site, depth, contents (information categories), age, and integrity (has the site already been disturbed). Second, this set of modern observations must be embedded within a perspective which is concerned with past behavioral processes (King 1976, King and Lyneis 1978). What sorts of adaptive strategies might have been selected by a population (and why that strategy and no other) and what is the relationship between these strategies and the patternings isolated in the archaeological record?

An intensive assessment (Phase Two) of extant sites always produces information which can be used to describe the structure or internal patternings of each archaeological record. This set of information can then be used to assess the research potential of each site separate from questions of prehistoric or historic behavioral processes. If a site's internal structure cannot meet some minimal standard, then there is little hope that such a site can be studied as a record of past behavior. The following discussion summarizes the set of patternings exhibited by each of the six sites and suggests whether each set of observations offers the chance for further research.

Dead Exxon I

The historic site identified as Dead Exxon I is located adjacent to Route 7 just north of an abandoned Exxon Station, towards the southern end of the proposed sewer line (Figures 2, 5). The tract is situated on an old Holocene terrace (ca. 12,000 B.P.) within the drainage system of the Blackberry River. The terrace itself was formed by the ancestral Blackberry draining west through its valley after the disappearance of a glacial lake at East Canaan, Connecticut (Holmes and Newman 1971).

Two mid-to-late nineteenth century published maps, Richard Clark's (1859) map of Litchfield County and F. W. Beers' (1874) County Atlas of Litchfield, Connecticut, indicate that a structure stood here for at least 100 years. Several local informants suggested that one or two houses existed at Dead Exxon I until the late 1950's when the land and structures were purchased by the State of Connecticut. Evidently the structures were then dismantled or burned and the refuse used to fill the old cellar hole(s).

The initial archaeological survey of the site isolated evidence of an historic midden layer (layer of refuse) buried beneath more than 50 centimeters

(cm) of overburden (Hampton 1979). The original grid of two transects of 18 shovel test pits (STP's) was extended to the west (grid west) through the excavation of an additional two transects of 17 STP's (Figure 5). A group of 10 pits was placed beyond the four transects to determine whether the midden layer was present in what is inferred to be the house's side yard. Many of these 10 pits could not be excavated more than 50 cm below the ground surface due to a high water table.

The distributional map of historic artifacts (Figure 5) shows that the midden layer is concentrated within 30 meters of the filled cellar and extends to within five meters of the edge of Route 7. A variety of historic materials were recovered from both phases of research including sherds of red and white earthenwares (nineteenth century), numerous glass fragments, cut nails (nineteenth century), and unidentifiable bone and metal fragments. Several sherds of a transfer-printed white earthenware were found, indicative of a period of occupation during the second half of the nineteenth century.

Since the contractual agreement specified that no larger block units would be excavated at Dead Exxon I it was not possible to determine the stratigraphic relationships between the historic midden and the overlying sediments. However, evidence from studies at Dead Exxon II, just grid north of I, and the Lyle II locality suggest that the fluvial terrace at Exxon I would have been stable since the melting of glacial ice and the draining of the glacial lake, around 12-15,000 years ago. From this period on the surface of this terrace would not have been subjected to flooding so that any archaeological site should lie within the plowzone or 30 cm of the surface.

The historic midden at Dead Exxon I is buried beneath more than 50 cm of overburden and it is suspected that this layer was deposited during the destruction of the house in the late 1950's. Thus the midden layer might have been disturbed by bulldozers and other heavy machinery, resulting in a loss of spatial patternings and the site's integrity. However there is no way to know whether the midden has been disturbed, except through additional intensive excavations. At best, Dead Exxon I remains a problematical site, worthy of being protected because of the information it <u>might</u> contain. On the basis of present information it is not known whether the site is eligible for nomination to the National Register of Historic Places.

Dead Exxon II

Further to the north and east along Route 7 the Holocene terrace continues for a distance of 200 meters until a series of rock outcrops appear where Route 7 turns to the east. This long, narrow tract, known as Dead Exxon II, is bordered by Route 7 and a railroad grade and contains both prehistoric and historic materials (Figures 6, 7). The initial survey identified a series of pits, grid west of Route 7, which contained flakes, pieces of chert which represented the manufacture or maintenance of stone tools by prehistoric populations.

During the second phase of research a series of six transects of STP's were excavated at 10-meter intervals between the original transect and the railroad grade. On the basis of these excavations and the resulting distribution maps (Figures 6, 7), two concentrations of both historic and prehistoric materials have been isolated. The first is located at the northern end of the grid and is approximately 40 meters in diameter. The second is situated grid south of the first and is a more amorphous concentration centered around the south central portion of the tract.

Figure 6.

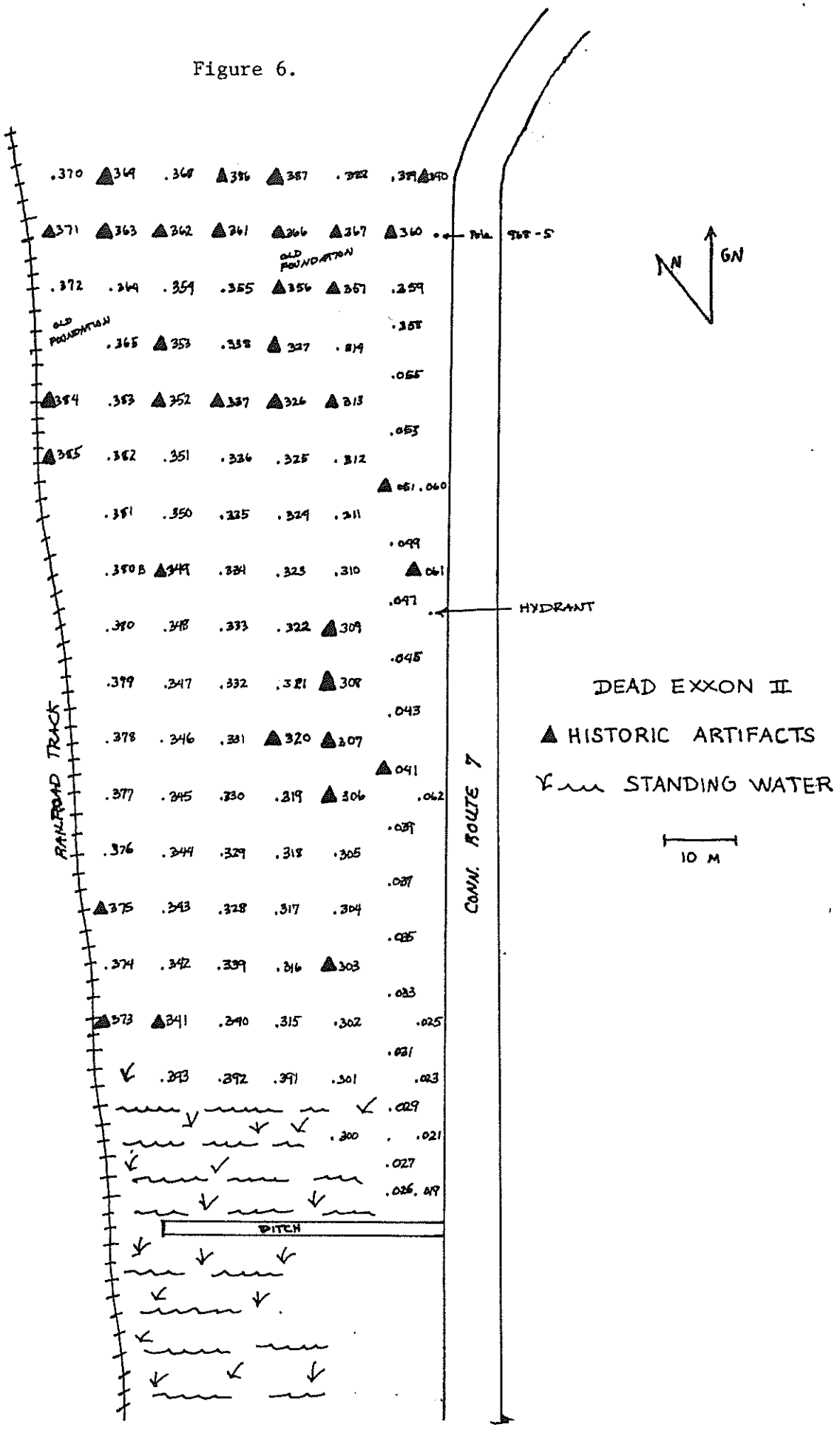
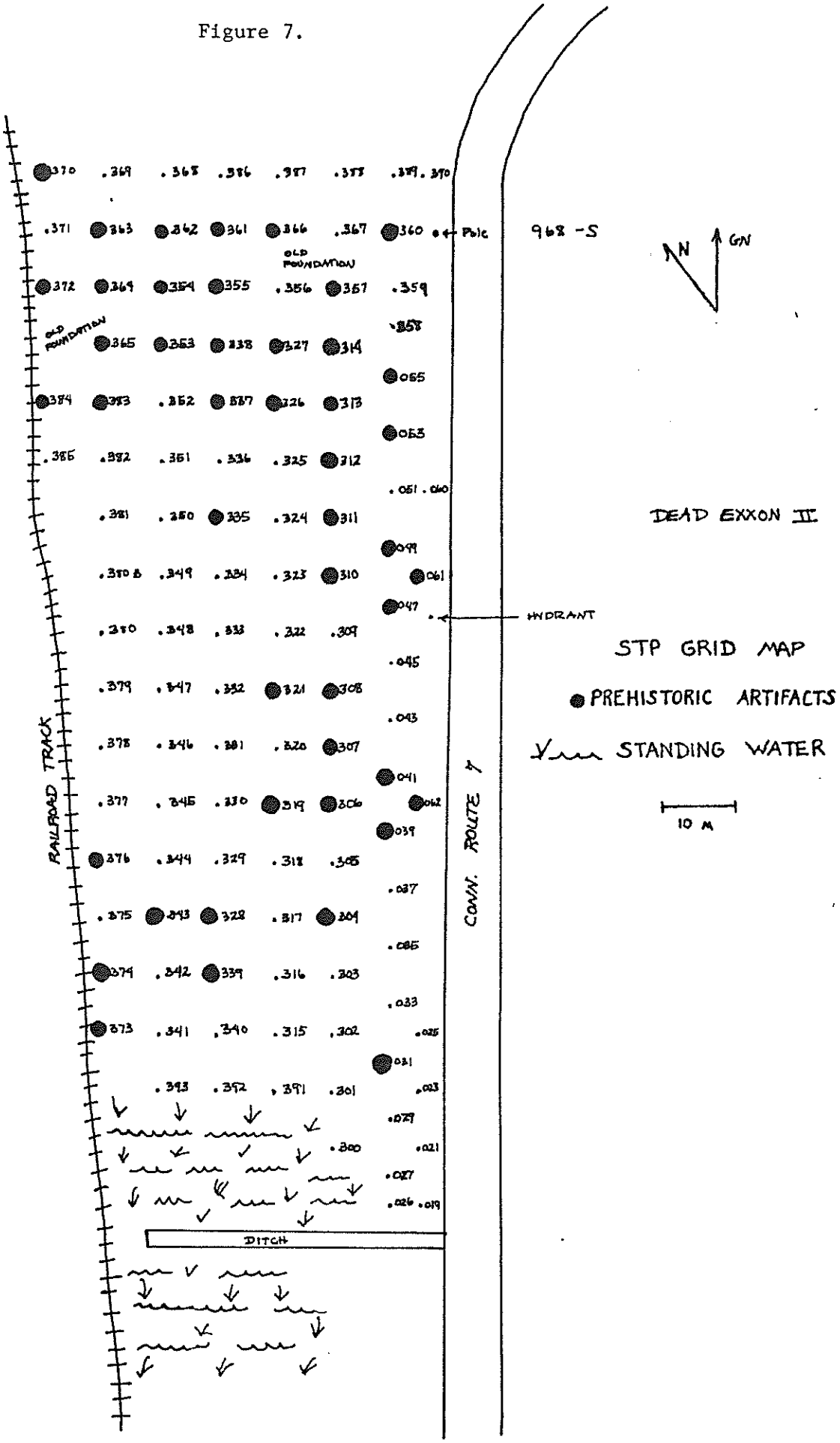

RAILROAD TRACK
CONN. ROUTE 7
OLD FOUNDATION
OLD FOUNDATION
HYDRANT
DITCH
N
GN
DEAD EXXON II
HISTORIC ARTIFACTS
STANDING WATER
10 M

Figure 7.


RAILROAD TRACK
COMM. ROUTE 4
OLD FOUNDATION
OLD FOUNDATION
HYDRANT
DITCH
968 -S
GN
DEAD EXXON II
STP GRID MAP
PREHISTORIC ARTIFACTS
STANDING WATER
10 M

Each concentration includes both historic and prehistoric artifacts (mostly flakes, few finished tools) but this correspondence is apparently the result of either systematic plowing or chance. Since the historic occupation is temporally separated from the prehistoric activities by a minimum of 3000-4000 years, the spatial overlap of artifacts cannot be due to a contact situation between Euro-american and Native American populations. Many of the individual excavated units at Dead Exxon II contained both prehistoric and historic artifacts within the plowzone, a sign of the terrace's geomorphological stability since 12,000 B.P.

The two concentrations of historic materials are not significantly different; both contained sherds of white earthenware, metal and brick fragments, and several cut nails (machine variety) from the second half of the nineteenth century. There is no archival evidence to suggest that house structures existed on the tract during the nineteenth and twentieth centuries. However the survey did locate two filled foundations of cut and laid stone within the northern concentration of historic materials. Neither the size nor the age of these structures has been determined but they may represent outbuildings associated with the historic house (late eighteenth/nineteenth century) which stands 100 meters to the north along Route 7. The distribution of historic artifacts south of this house and the group of possible outbuildings is probably a sign of refuse materials being deposited in manure piles and scattered by plowing.

Other than disturbances from modern plowing, the northern concentration of historic materials is intact, undisturbed by any sort of construction activity. The spatial distribution of artifacts and the presence of buried foundations suggests that one could retrieve some archaeological data from this historic cultural resource. Like Dead Exxon I, the historic archaeological site at Dead Exxon II is worthy of preservation and will apparently be avoided during the construction of the sewer line.

Unlike the historic site, Dead Exxon II's prehistoric deposit consists of several patterns of spatial variability which may be a reflection of past behavior. For example, a small concentration of jasper flakes and tools was isolated in a series of four pits in the northwestern corner of the grid. Most of the units which contained prehistoric artifacts included chert flakes or, more rarely, tools such as bifaces or scrapers. The quantity of pits with chert artifacts increases as one moves grid north as does the density of artifacts per individual pit.

Given the restrictive nature of our research design, it was not possible to determine whether any intact cultural features (storage pits, hearths, or house structures) existed at Dead Exxon II. However the density of artifacts per STP suggests that the tract was intensively used by prehistoric populations. Only one relatively diagnostic artifact was retrieved, a triangular biface of jasper from the northwestern corner of the grid. This may represent an occupational phase around 2500-2000 B.C., during the Late Archaic period. Without additional data it is not possible to infer whether the site was used during this time period or any other.

Even though the tract has been plowed and the prehistoric campsite disturbed, recent archaeological studies have shown that a campsite's internal patternings are still recognizable after plowing and available for interpretation (see Binford et al. 1970, Redman and Watson 1970, Roper 1976). This is particularly significant since Dead Exxon II probably represents a camp occupied and used by populations who were exploiting the abundant food resources available in Robbins

Figure 8.

Lyle I, Location of Squares.

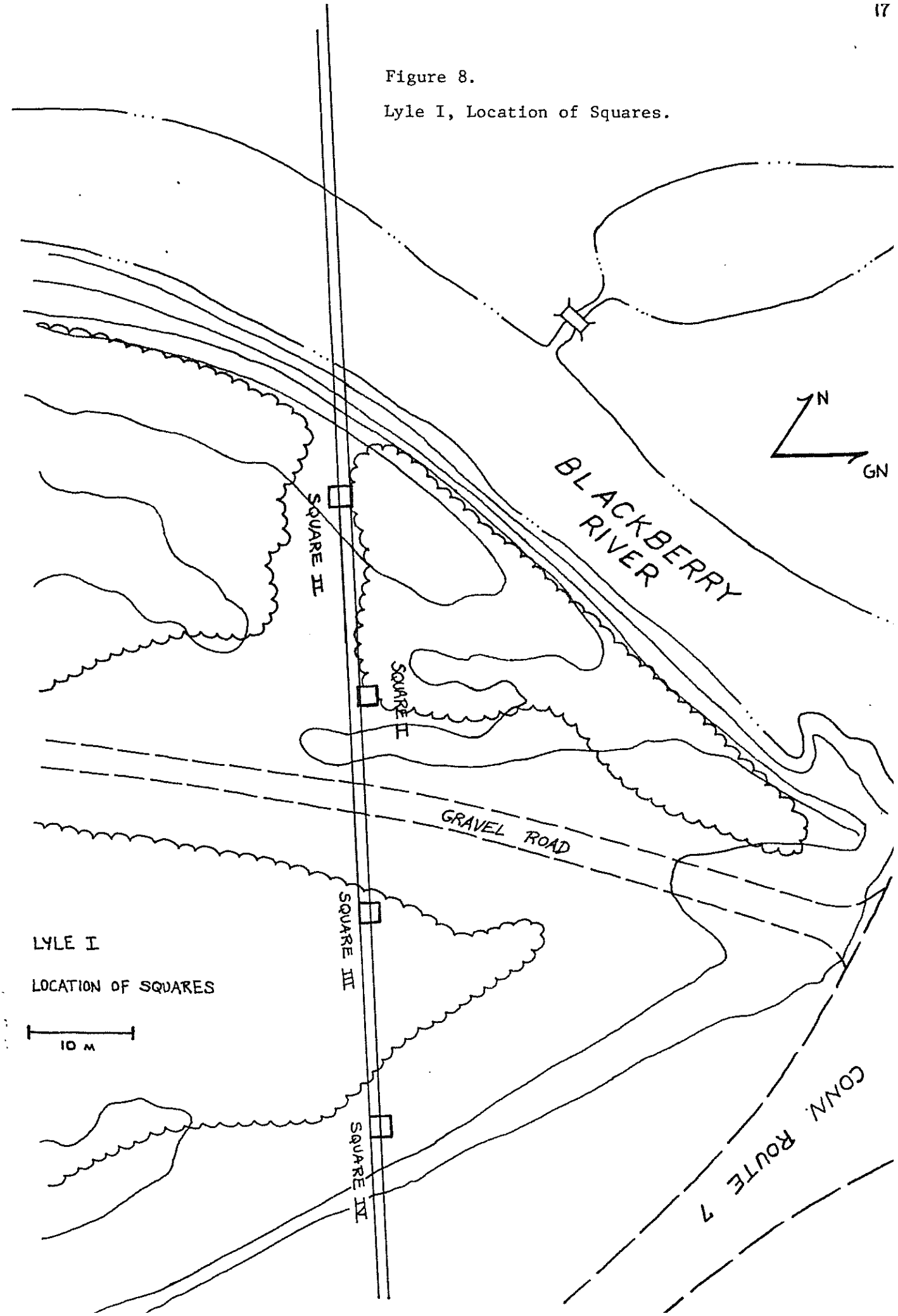


Figure 9.

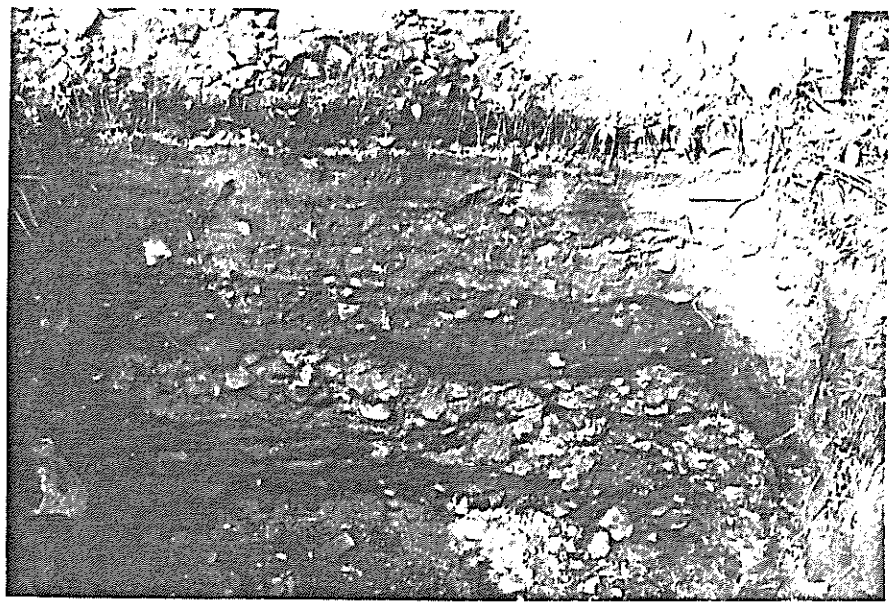


Figure 9a. Profile of Square 1, Lyle I.

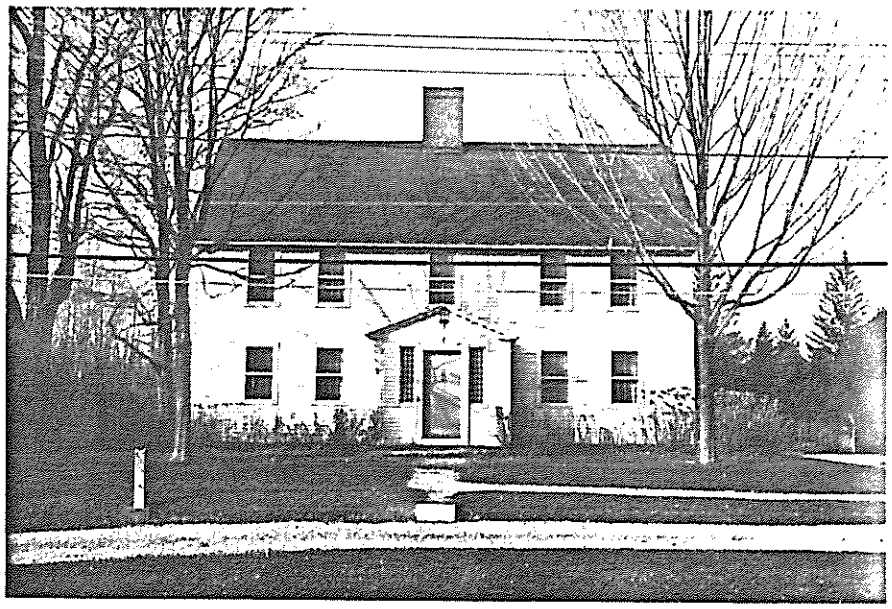


Figure 9b. Lawrence Tavern, Front Facade.
Note the Georgian symmetry.

Figure 10. Lyle I, Square 2, West Wall.

KEY

R:	Rock
1:	Modern Humus
2:	Coarse Sand, Depositional
3:	Compact Sand and Silt, Recent Fill
4, 5, 7:	Layers of Sand and Sand/Silt
6:	Former Land Surface, Sand
8:	Coarse Sand, Depositional
9, 10:	Brown Sand and Silts, Intermixed
11:	Coarse Sand and Pebbles
12:	Compact Sand and Silt, Possible Older Surface
13-16:	Coarser Sands and Silts with Some Pebbles, Primarily Depositional

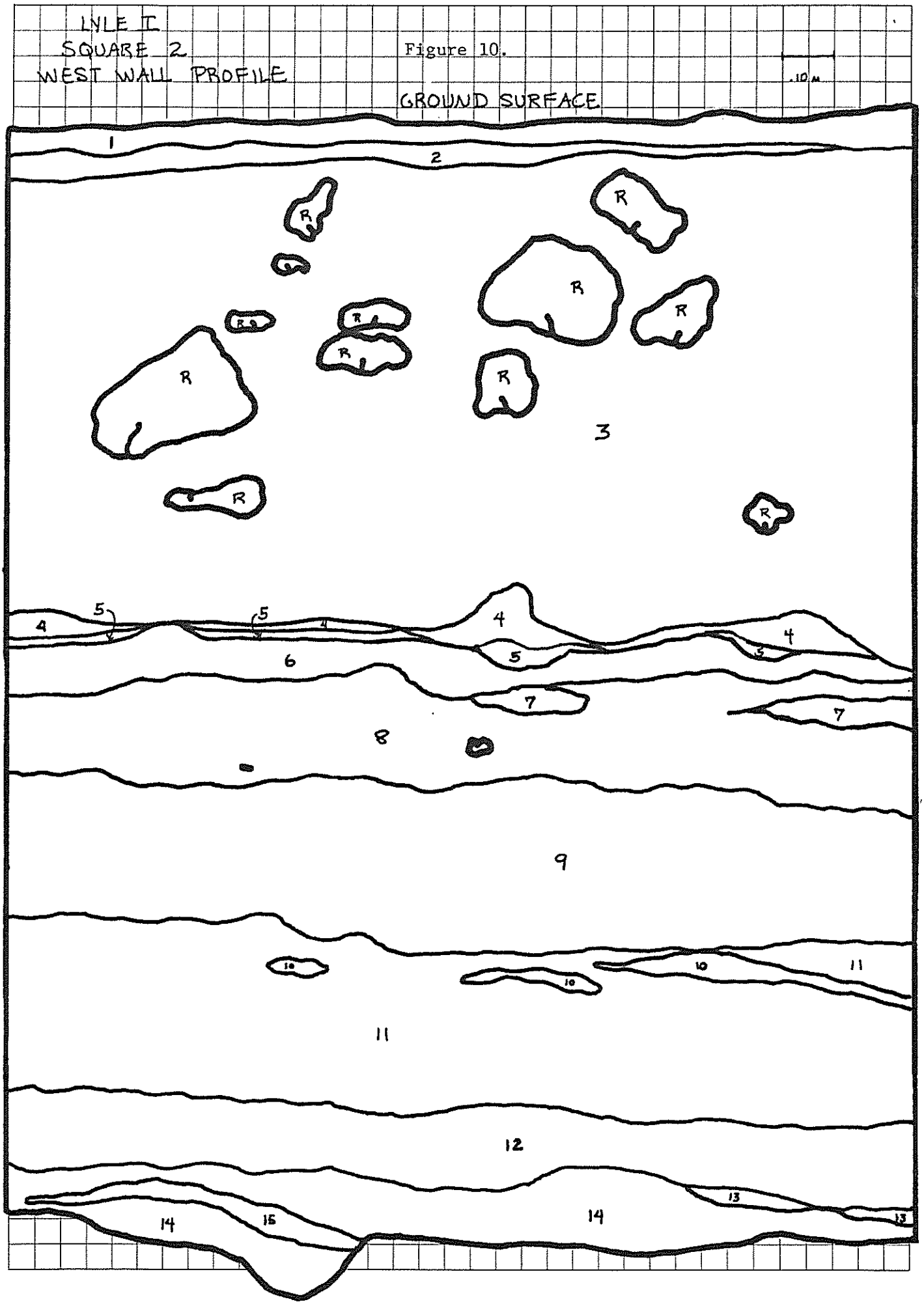


Figure 10.

Swamp. Similar campsites have been recorded by the Institute on the western edge of the Swamp in the Town of Canaan. These same groups might also have occupied sites along the fluvial terraces of the Housatonic River but these sites have been lost to the river's processes of erosion (Handsman 1978). Thus the archaeological record of "river towns" in the northern Housatonic Valley has already been dramatically reduced in number, making any surviving sites more significant.

The most recent set of construction plans indicates that the sewer line will be placed within five meters of the edge of Route 7 on the grid eastern side of the site. This corridor has already been disturbed and will not effect Dead Exxon II.

Lyle I

The second major locality for research consists of two tracts of land situated along the Blackberry River where Route 7 crosses the river (Figures 1, 4). Lyle I is a fluvial terrace on the western bank approximately two to three meters above the river's base flow. Earlier archaeological and geomorphological studies isolated evidence which suggested that buried sites might have existed beneath the terrace's surface (Hampton 1979). Four two-meter squares were excavated at Lyle I during the second phase of field research. These units were located along the route of the siphon system as defined by a set of engineering plans (Figure 8). Three of the squares (1, 3, 4) were excavated to depths of 1.50 meters below the present surface while a fourth (2) extended to a depth of 2.40 meters. Detailed profile drawings were prepared for each square (see Figures 10-12).

Each of the units contained historic artifacts including glass and metal fragments, pieces of slag and brick, and sherds of red and white earthenware. However no evidence was discovered which represented buried historic occupation floors or middens. Some of the materials, especially those in Squares 1 and 2, were probably redeposited as fill or within sand and silt layers laid down by the Blackberry during flood events.

The sedimentological and pedological data which was retrieved from each square's stratigraphic profile indicates that this terrace has been subjected to both depositional and erosional processes. The nature of the geomorphological activities was determined by the distance between the Blackberry River and each particular locality as well as the bridge across the river, 60 meters upstream from the sewer corridor, which acts as a constriction.

For example, the stratigraphic profile of Square 2 (Figure 10) consists of a series of stratum of well-sorted sands and silts buried beneath one meter of recent fill (Figure 10, Stratum 3). Larger flood events would have deposited coarser sands, gravels, and cobbles as reflected in Strata 11, 13, 14, and 15. Since Square 2 is directly adjacent to the river it would have been subjected to flooding on almost an annual basis from both seasonal and catastrophic high water levels.

The stratigraphic profile from Square 3, 50 meters grid west of the Blackberry, shows similar patterns of deposition and stability except that much of the microstratigraphic variation apparent in Square 1 is missing here (Figure 12). This is a function of the increased distance between this locus and the river so that smaller flood events and depositional processes will not reach this locality.

Figure 11. Lyle I, Square 1, North Wall.

KEY

1:	Modern Humus
2, 3:	Coarse Sand, Pebbles, Sand and Silt
4:	Former Land Surface, Sand and Silt
5:	Sand, Depositional; Evidence of Multiple Floods
6:	Former Land Surface, Sand and Silt
7, 8:	Layers of Recent Fill
9:	Sand Layer with Strata of Pebbles
10:	Mottled Sand and Silt
11:	Sand and Silt; Evidence of Multiple Floods
12:	Gravel Stratum, Including Small Pebbles
13:	Well-sorted Gravel
14-18:	Sand and Silt Layers, Variable Colors Resulting from Oxidation

.10 M

GROUND SURFACE

LYLE I.
SQUARE 1
NORTH WALL PROFILE

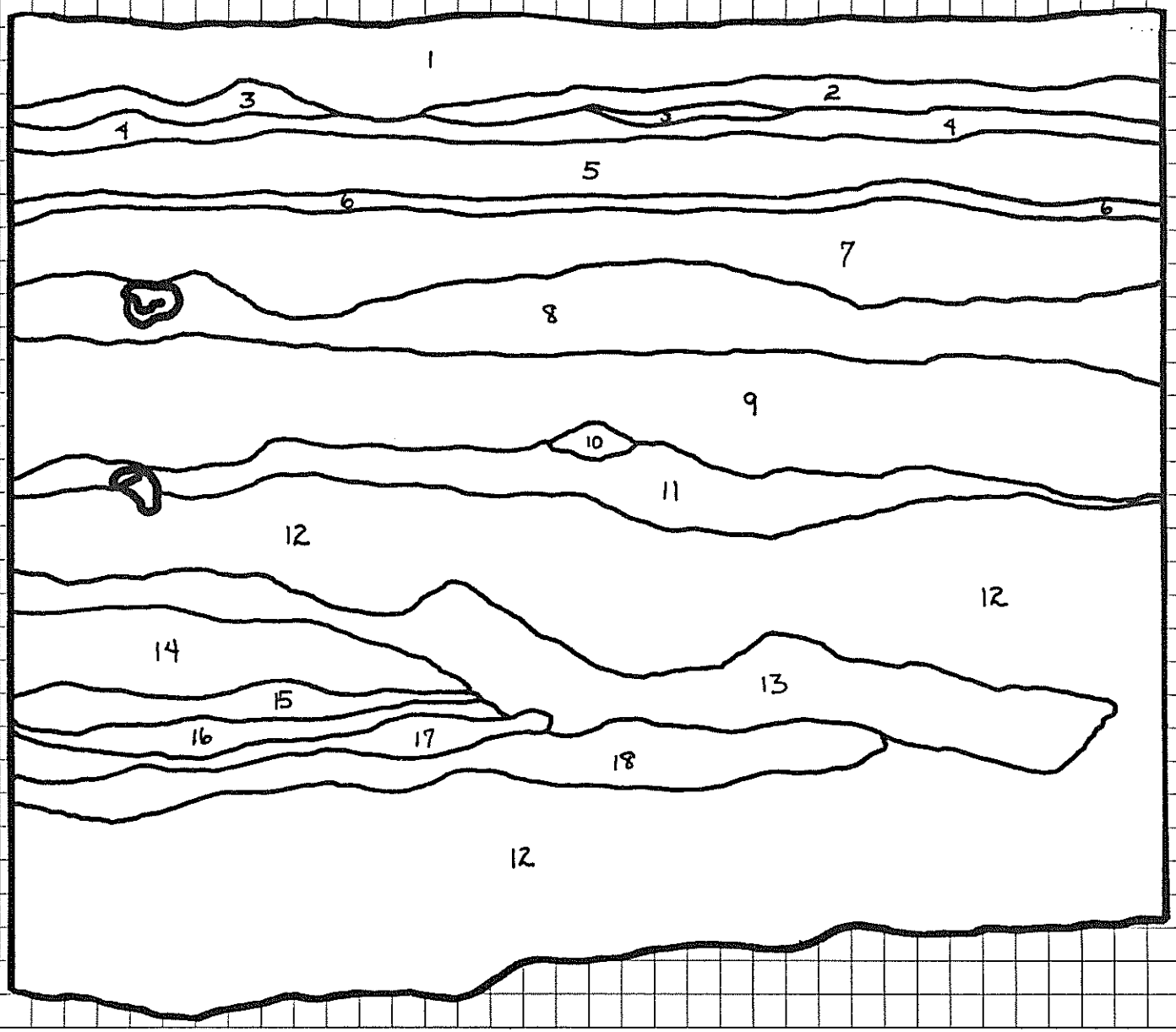


Figure 11.

Figure 12. Lyle I, Square 3, North Wall.

KEY

1: Modern Humus and Series of Sand Layers
2: Coarse Sand
3: Sand Layer, Finer Size
4: Patches of Coarser Sand
5: Sand Stratum, Darker in Color
6: Lense of Charcoal, Rotted Organic Matter
7: Sand Stratum, Finer Size
8: Patches of Fine Sand, Lighter in Color
9: Coarse Sand and Gravel
10: Gravel Lens
11: Sand Stratum, Finer Size
12: Sand Stratum, Finer Size; Evidence of Oxidation
13: Mottled Gray Sand
14: Mottled Gray Sand; Evidence of Oxidation
15: Mottled Gray Sand and Silt; Evidence of Fluctuating Water Table, Oxidation, and Reduction

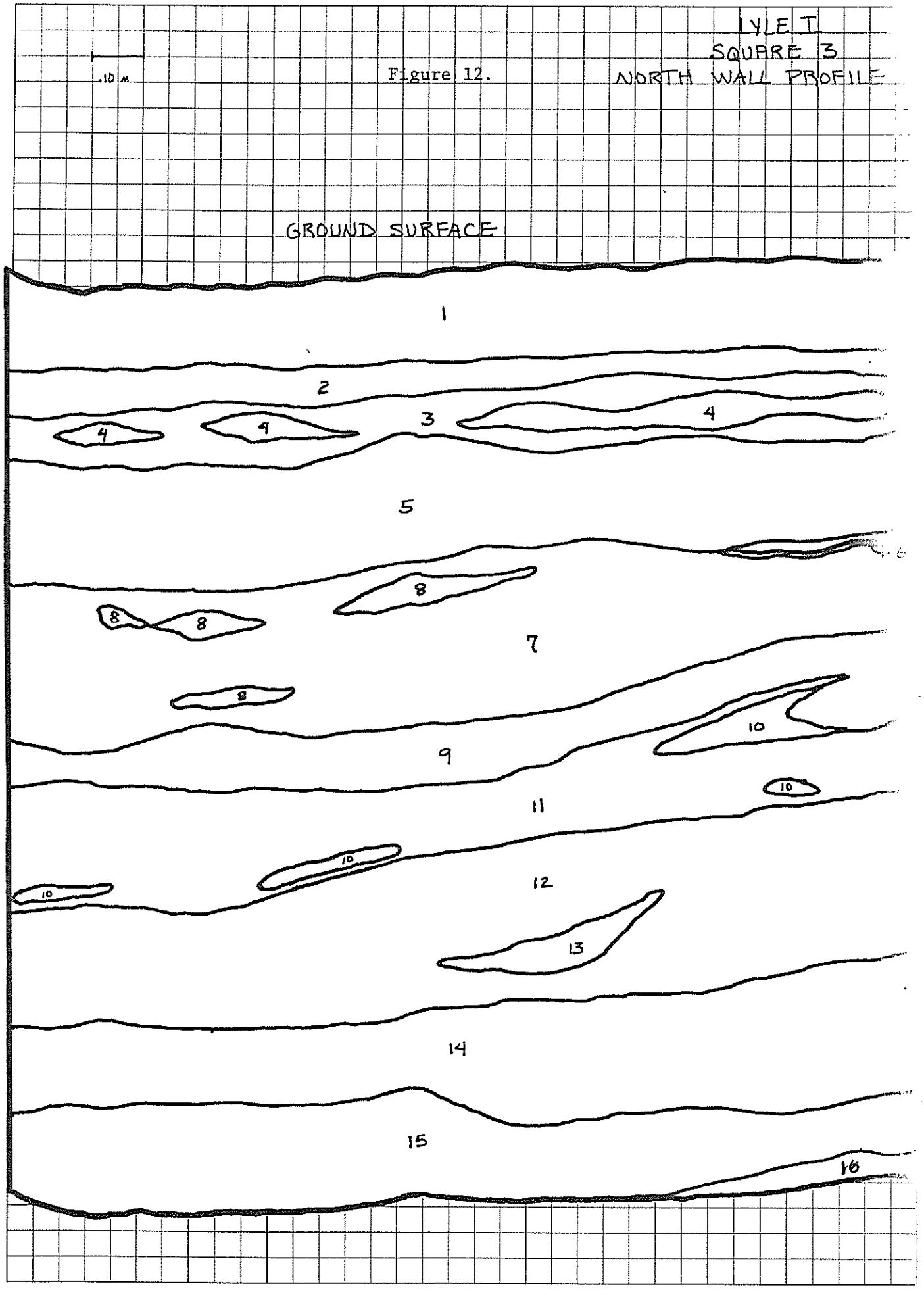


Figure 12.

Figure 13.

LYLE II
△ Prehistoric Artifacts

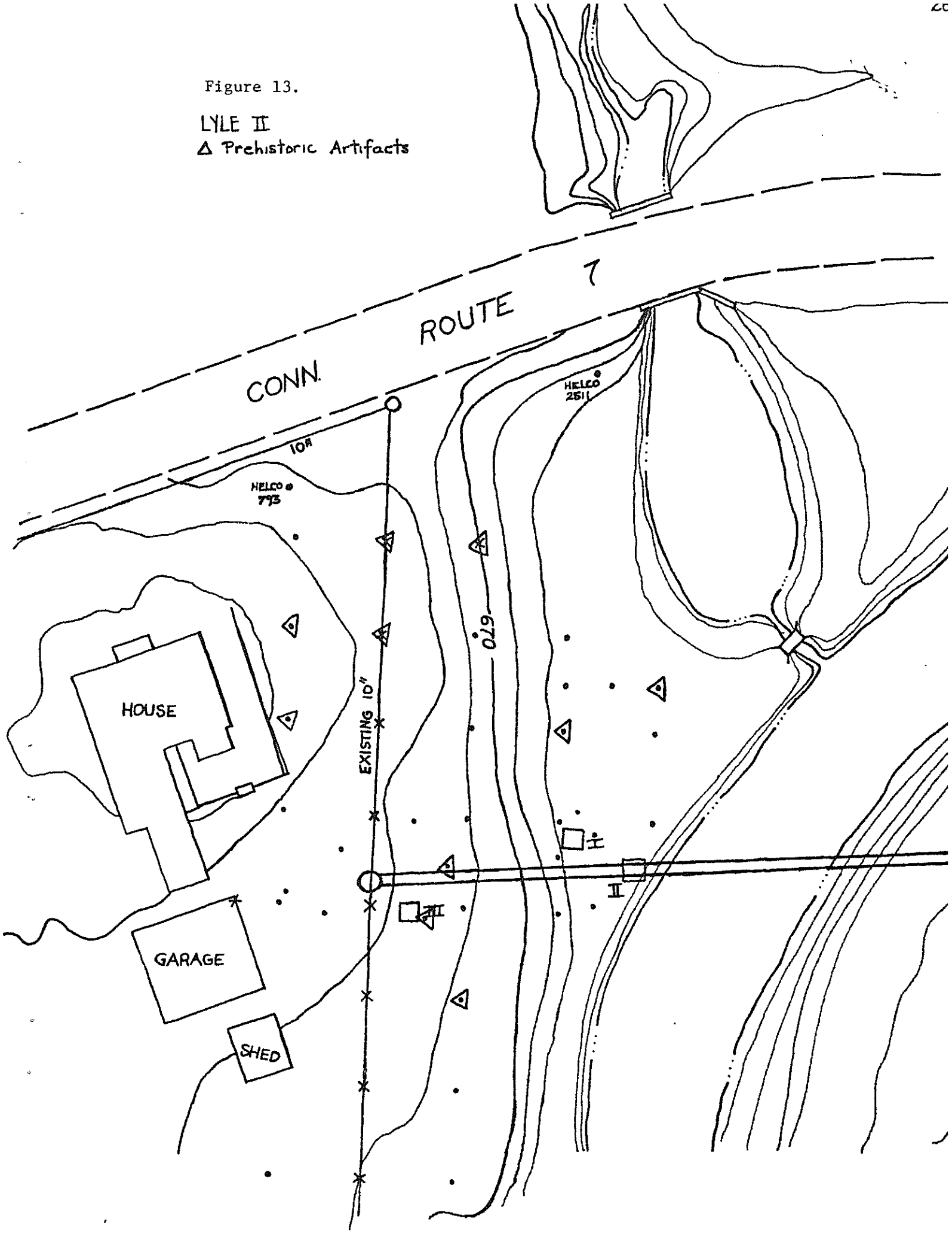


Figure 14. Lyle II.

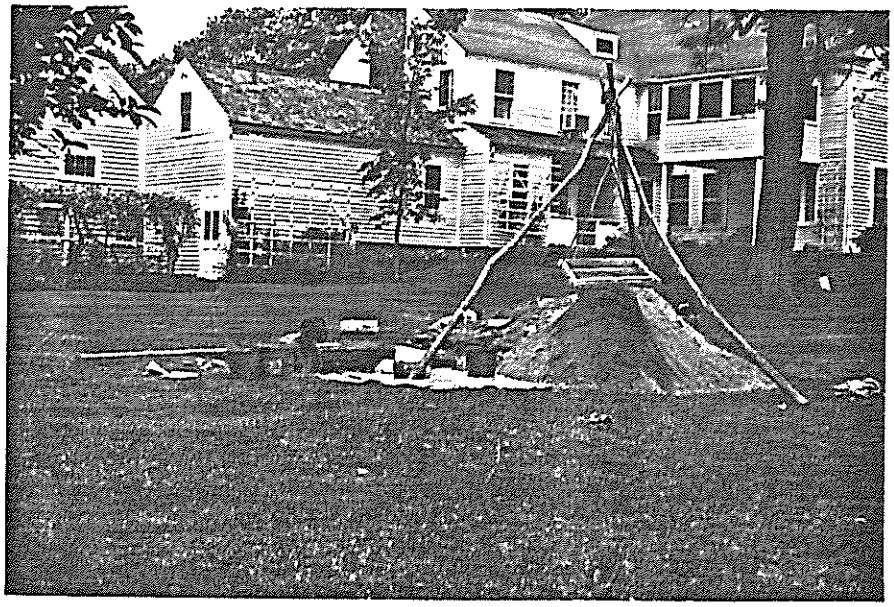


Figure 14a. Lyle II, Square 3.
Side yard of Lawrence Tavern.

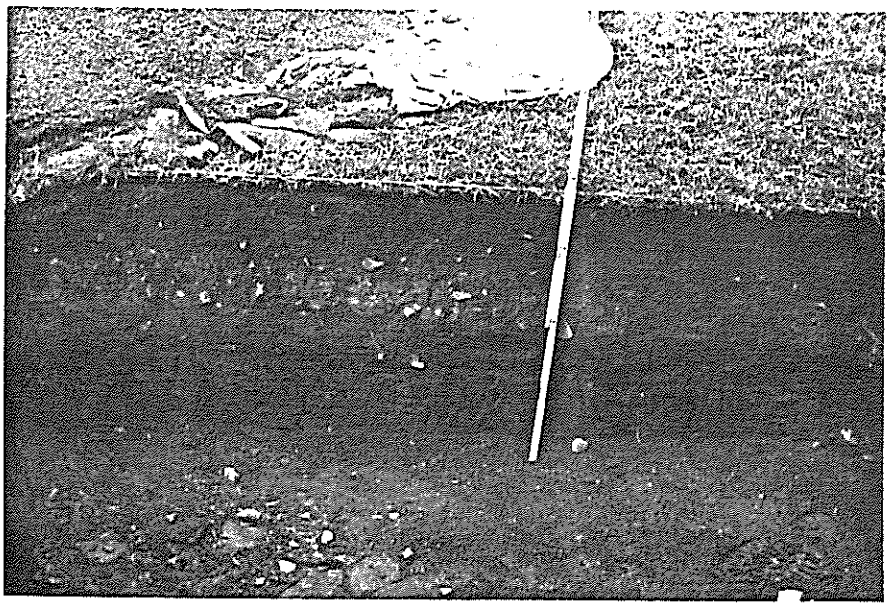
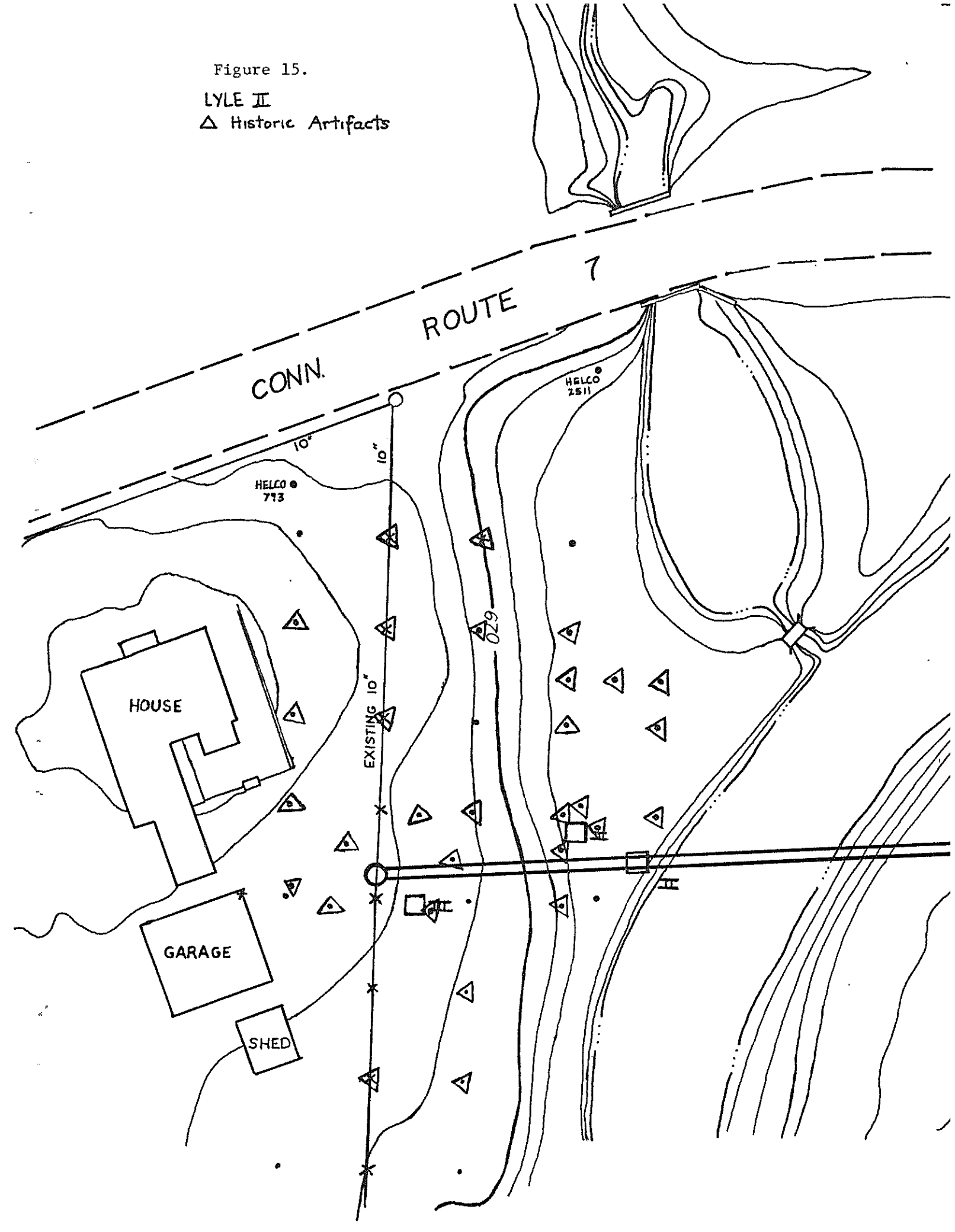


Figure 14b. Profile of Square 3, Lyle II.

Figure 15.

LYLE II

△ Historic Artifacts



Between Squares 2 and 3 a third unit (Square 1) was excavated whose wall profile is significantly different from either of the former two (Figure 11). Square 1 is situated within 25 meters of the river within an active zone which is affected by both depositional and erosional processes in the past. Several strata (Figure 11, Strata 14-18) have been truncated by fluvial erosion while others reveal the presence of scour channels, indicative of erosion. In addition, many of the lower beds are buried beneath 20 centimeters of recent fill which includes fragments of asphalt (Strata 7, 8 - Figure 9a). Even if an archaeological site had existed in this locality, it would have been disturbed by these activities. Although the geological evidence suggests that much of the formation at Lyle I has been deposited by floods, there are no signs of "in-situ" archaeological remains. The tract is considered to be of little significance and no further studies are required.

Lyle II

The second major research locality along the Blackberry River is situated on the river's eastern bank and consists of two distinct geomorphological formations - an older fluvial terrace which postdates the glacial lake at East Canaan (12,000 B.P.) and a younger, more active floodplain whose age cannot be less than 1750-1800 A.D. The upper terrace at Lyle II is approximately 3.5 meters above the river's base flow while the surface of the floodplain is only .90 meters in height (Figure 4b).

During the fall of 1979 three separate archaeological sites were found at Lyle II, two historic middens (one on both the older terrace and the younger floodplain) and a prehistoric resource on the older terrace (Hampton 1979). The size, depth, and patternings of each of these sites was further studied through the excavation of a series of three two-meter squares and five transects of STP's.

The distributional maps, summarizing the spatial patternings of prehistoric (Figure 13) and historic (Figure 15) artifacts, reveal that the historic resources are more extensive and that the prehistoric campsite is not concentrated in one locus. Originally it was thought that the prehistoric resource was buried by approximately 40 cm of silt, beneath the base of the plowzone (Hampton 1979). A two-meter square (Square 3 - Figures 14, 16, 17) was excavated near the southern edge of the upper terrace to determine the stratigraphic relationships between the prehistoric component, the historic midden, and a set of alluvial sediments.

Prehistoric artifacts, chert flakes and tools, were recovered from each stratigraphic layer but the density of materials decreases significantly at the bottom of the older plowzone (Appendix A). Rather than being buried beneath the level of the plow as earlier suggested, it is now apparent that the site does not continue beneath the transition between the older plowzone (Figure 16, Stratum 3; Figure 17, Stratum 3) and the undisturbed "B horizon" of sands and silts. The intermediate layer, a point bar of coarse sand and pebbles, does not completely seal the older plowzone from the younger one except in the southernmost portion of Square 3 (Compare Stratum 2 on Figure 16 with Stratum 2 on Figure 17.). While this layer, the result of a major flood along the Blackberry River, does partially separate two historic middens, it has not protected the prehistoric site at all.

The age of the campsite is estimated to be 3000 years old (3000 B.P.) on the basis of a diagnostic projectile point which was excavated from Square 3. The point, a stemmed form manufactured from jasper, is morphologically similar to Orient points which have been excavated from many Transitional period camp-

Figure 16.

LYLE IT.
SQUARE 3
SOUTH WALL PROFILE

.10 M

KEY

1: Sand and Silt; Former Plowzone; Stained Dark by Organic
2: Yellow, Coarse Sand and Pebbles; Point Bar
3: Silt Layer, Darker in Color; Older Plowzone
4: Sand and Silt, Pebbles and Cobbles; Undisturbed B Horizon, Holocene Terrace

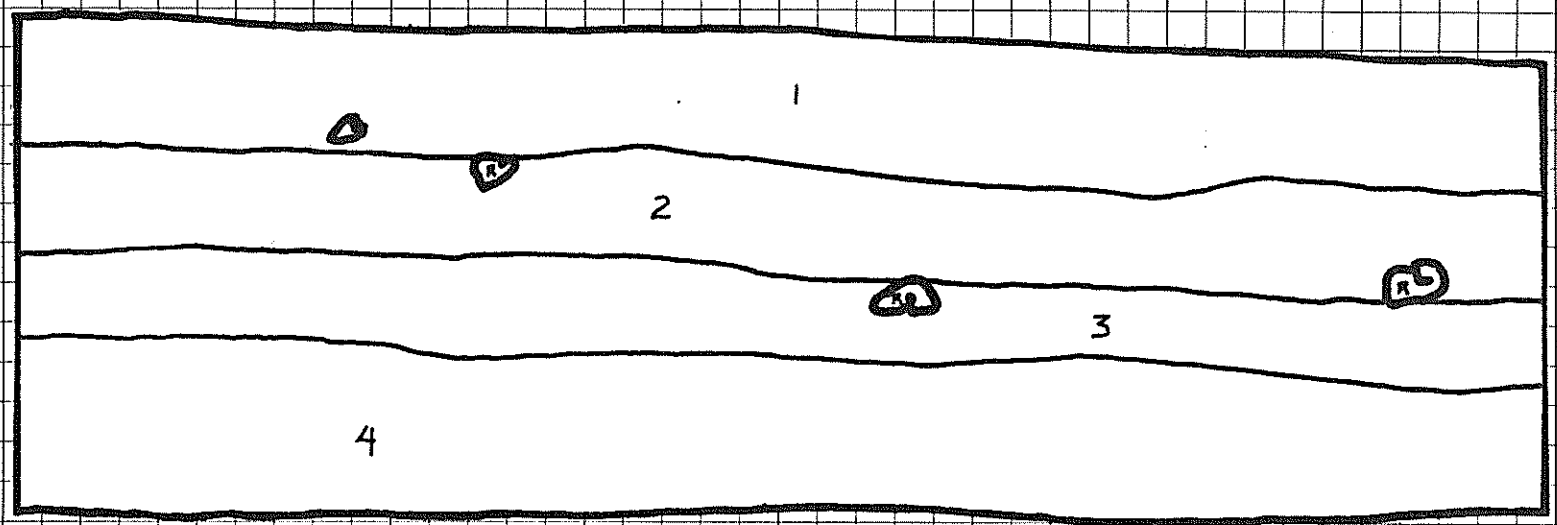


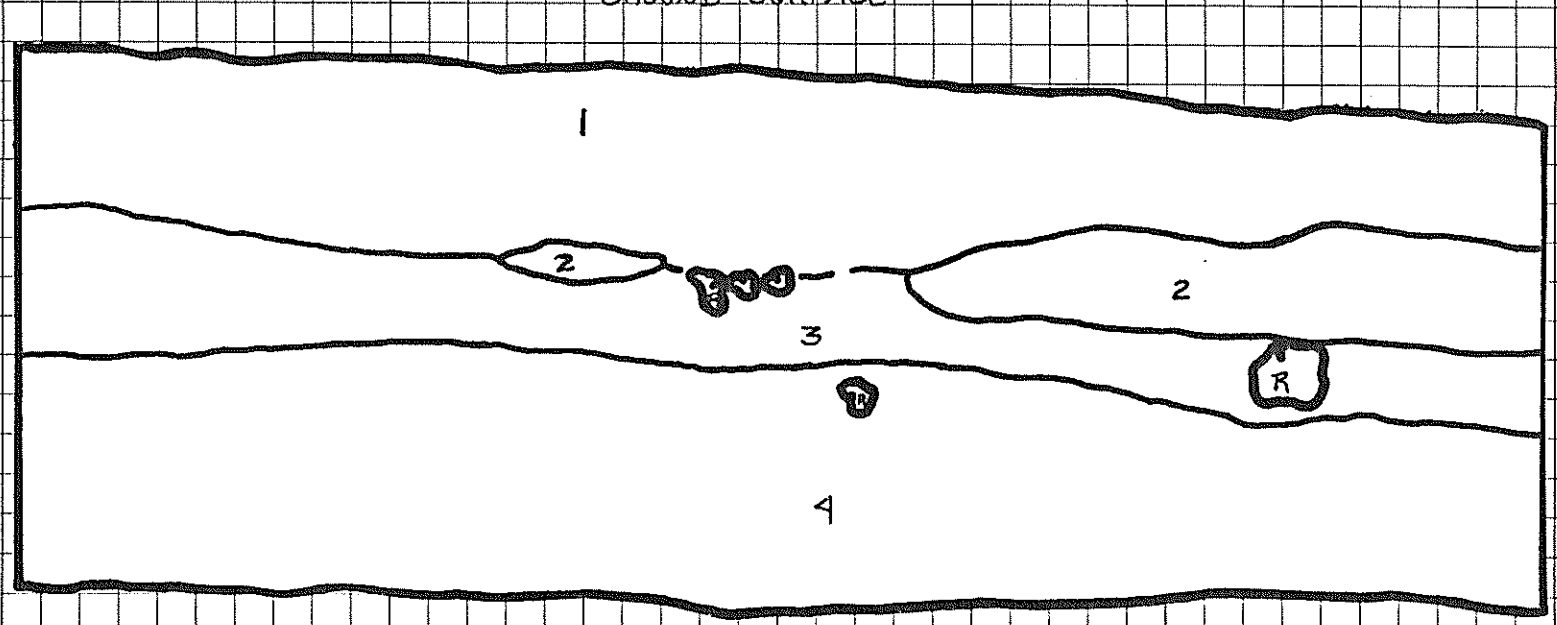
Figure 17.

LYLE II
SQUARE 3
EAST WALL PROFILE

10 M

KEY

1: Sand and Silt; Former Plowzone; Stained Dark by Organic
2: Yellow, Coarse Sand and Pebbles; Point Bar
3: Silt Layer, Darker in Color; Older Plowzone
4: Sand and Silt, Pebbles and Cobbles; Undisturbed B Horizon, Holocene Terrace



sites in southern New England. It is apparent that prehistoric populations occupied the upper terrace at Lyle II. In fact, the construction of the Lawrence Tavern around 1750 A.D. may have disturbed the site, ending all opportunity to study its settlement pattern. Given its disturbed nature, the prehistoric resource is not considered to be a significant archaeological settlement.

The historic midden on the upper terrace is quite extensive; materials are distributed from the edge of Route 7 in an easterly direction for more than 70 meters (Figure 15). In Square III the midden is actually two discrete units separated by the point bar in the southern half of the square (Figures 14b, 16, 17). The historic artifacts recovered from the older plowzone and midden do not differ in age or type from those excavated from Stratum 1.

A variety of artifacts was recovered from the upper terrace at Lyle II, including hand wrought and machine cut nails, glass and bone fragments, sherds of red earthenware, and sherds of creamware (1760-1820) and pearlware (1790-1840). Most of these materials are interpreted to be more than 100 years old, dating between the mid-eighteenth and mid-nineteenth centuries.

The assemblage would represent the first century of construction, occupation, and use of the Lawrence Tavern (Figure 9b), a mid-eighteenth century farmstead and tavern which occupies the upper terrace at Lyle II. The historic midden on this terrace is located in the side yard of the Tavern (Figure 14a), a Georgian structure built by Isaac Lawrence in 1751. Since that time the house and its outbuildings have been owned and occupied by descendants of Isaac Lawrence related to him and one another by blood or marriage (Lyles 1951, n.d.). At one time the premises were owned by Samuel Forbes (1824-1827), one of Canaan's leading citizens and owner/operator of several iron furnaces and mills in northwestern Litchfield County.

The Lawrence Tavern was actually both a functioning farmstead and a public meeting place. Tavern licenses were granted by the State to Isaac Lawrence (1756-1778), his son, Jonas Lawrence (1779-1791), and to his grandson, Josiah Lawrence, who owned and operated the farm and tavern between 1806 and 1823. Isaac Lawrence's probate file (1794) lists a variety of livestock including horses, cows, sheep, and oxen. In addition the "Home Farm" which comprised 60 acres included several outbuildings such as a barn and cow houses, milk house, storehouse, horse house, and "cyder mill." The Lawrence Tavern itself was referred to as the "Mansion House" by the estate's executors.[1]

Sometime after 1850 the Tavern became used for a variety of purposes - as a boarding house (Beers 1874:18) and boarding school for girls in the 1870's - which may not include its more traditional functions as a tavern and farmstead. At least a portion of this second century of occupation and use, more specialized than the first period, is represented by the subsurface midden buried within the lower floodplain of Lyle II (Figure 18).

A pair of two-meter squares (Squares 1, 2) were excavated on the floodplain in order to determine the depth, age, and structure of this midden deposit. Unlike the midden from the upper terrace, the lower midden is characterized by a thickness of .50-1.00 meters as well as a complicated stratigraphy (see Figures 19-21). For example, the older midden layer in Square 1 (Figure 19, Stratum 11; Figure 20, Stratum 12) contains both creamware and pearlware which the overlying coal ash midden does not. This second, younger layer (Figure 19, Stratum 6; Figure 20, Stratum 5) has been dated to the second half of the nineteenth

Figure 18. Lyle II.

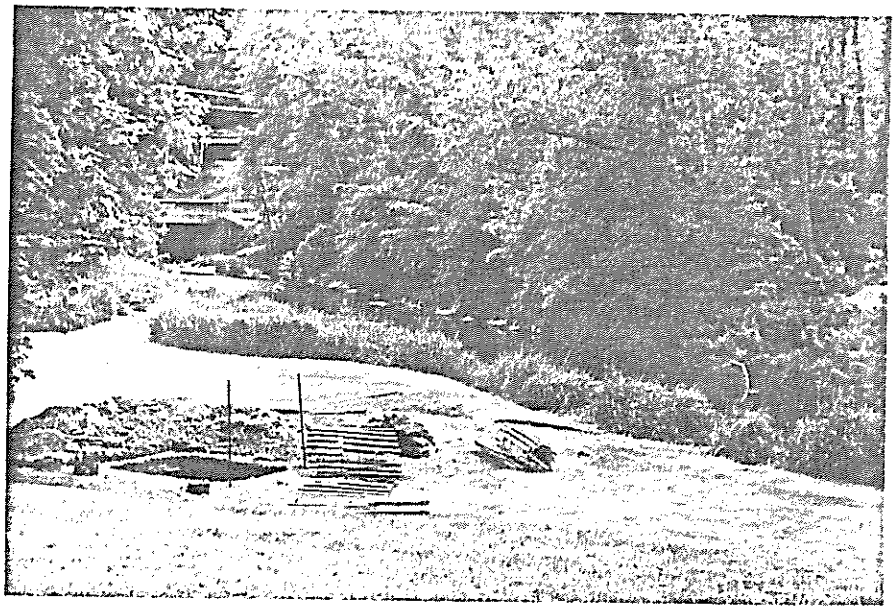


Figure 18a. Lyle II Floodplain, Square 1.

Figure 18b. Profile of Square 1, Lyle II.

Figure 19. Lyle II, Square I, South Wall.

KEY

1: Modern Humus
2: Coarse Sand, Alternating with Thin Humus Layers
3, 5: Finer Sand (Darker in Color)
4: Coarser Sand
6: Ash Layer with Artifacts
7: Coarse Sand and Cobbles
8: Yellow Sand Layer
9: Garbage Pit in Cross Section; Ash and Brick
10: Rock
11: Coarse Sand with Patches of Pebbles

LYLE II
SQUARE 1
SOUTH WALL PROFILE

.10M

GROUND SURFACE

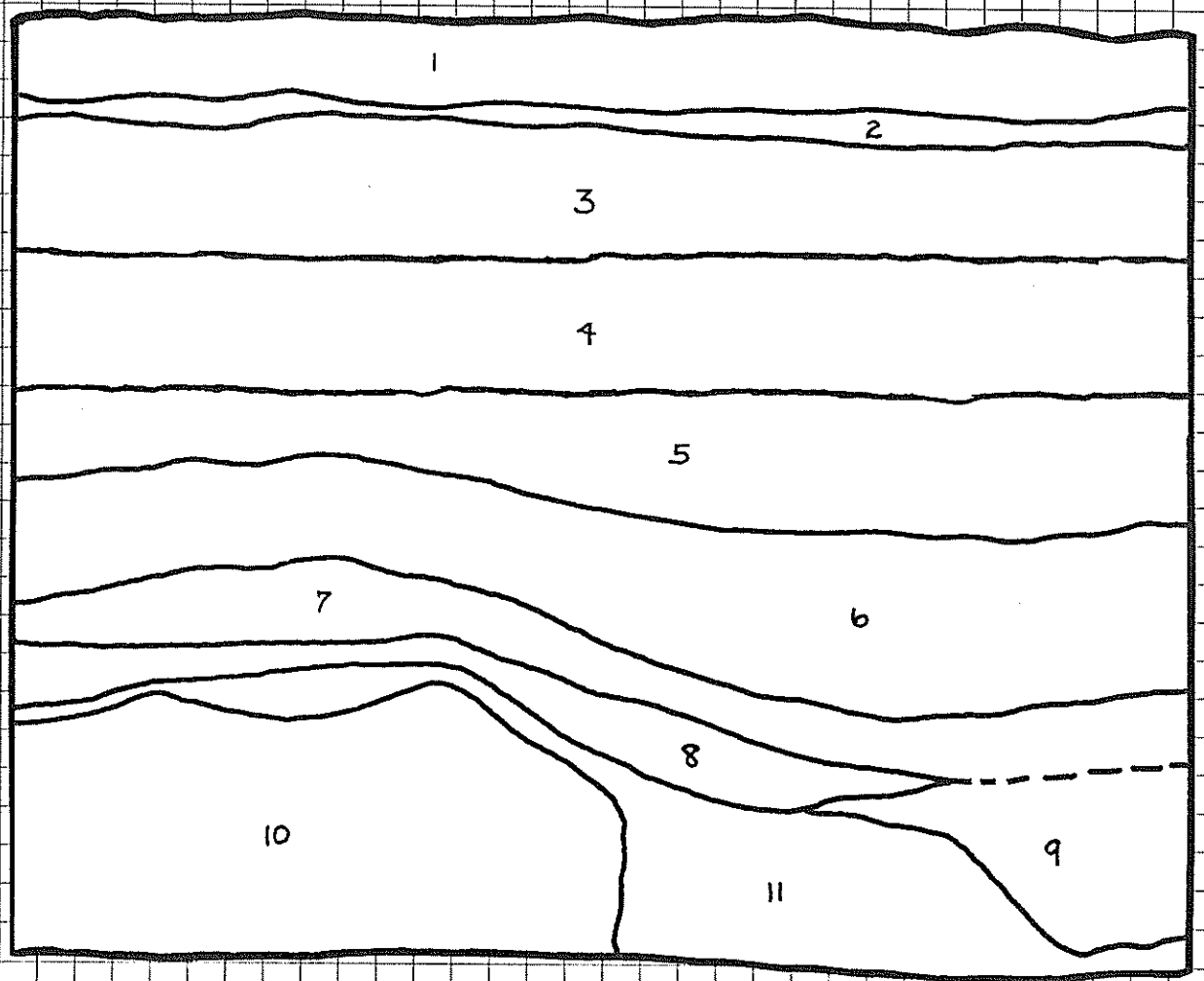


Figure 19.

Figure 20. Lyle II, Square I, West Wall.

KEY

1: Modern Humus
2: Coarse Sand, Alternating with Thin Humus Layer
3: Coarse Sand (Darker in Color), Alternating with Thin Humus Layer
4: Coarse Sand Lens
5: Coal Ash Layer with Cultural Material
6: Sand Lens
7, 8: Ash Layers with Artifacts
9: Coarse Sand and Cobbles
10: Garbage Pit in Cross Section; Ash and Brick
11: Yellow Sand Layer
12: Ash Deposit

Figure 20.

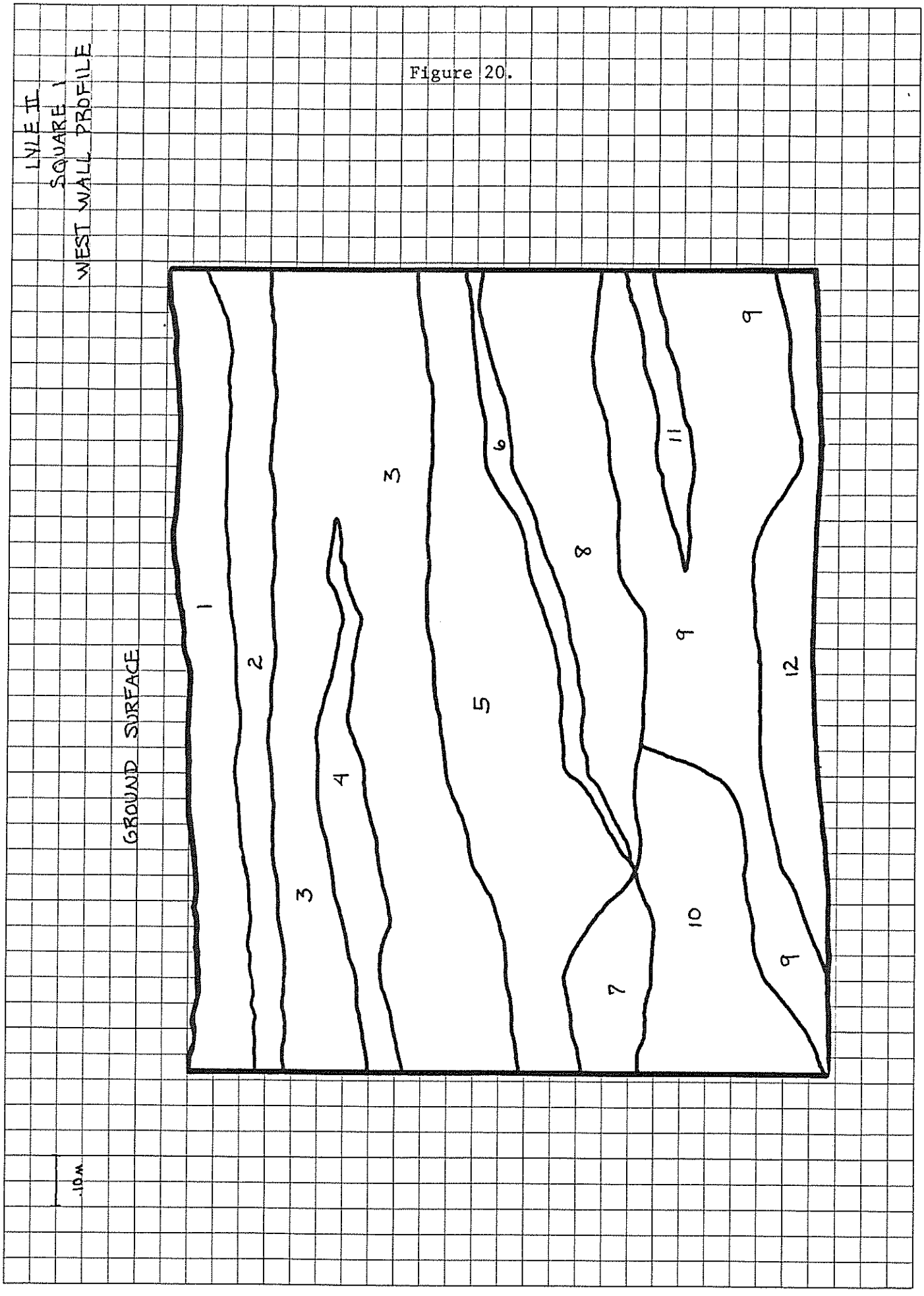
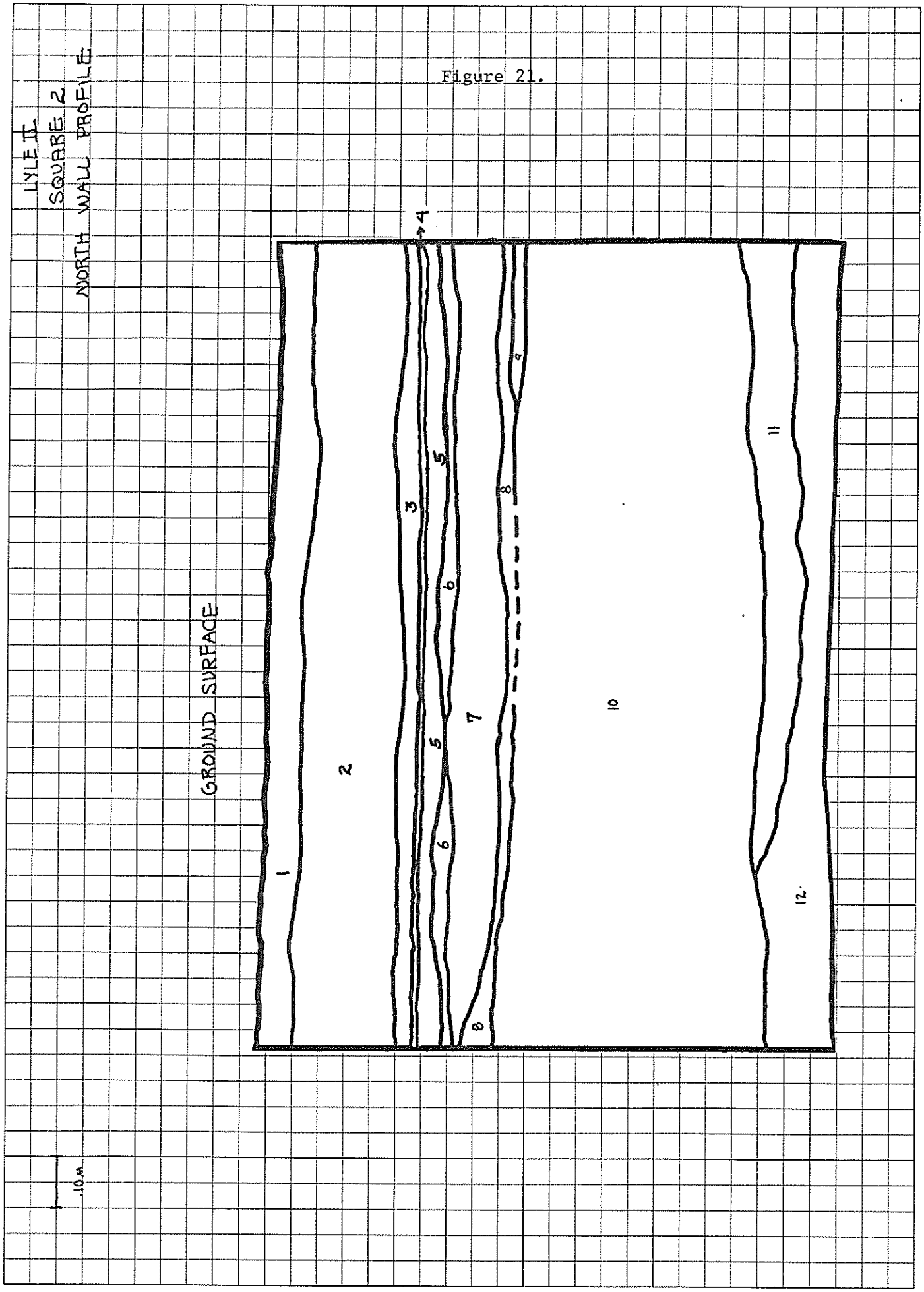


Figure 21. Lyle II, Square 2, North Wall.

KEY

1: Modern Humus
2: Finely Sorted Sands Alternating with Thin Humus Layers
3: Sand Layer, Darker in Color
4: Coarser Sand Layer
5: Sand Layer, Darker in Color
6: Sand Lens, Darker in Color; Buried Organic Materials
7: Sand Layer, Lighter in Color; Evidence for Multiple Floods
8: Coarser Sand
9: Discontinuous Finer Sands
10: Coarser Sand Stratum
11: Yellow Sand and Cobbles
12: Sand Layer and Cobbles, Darker in Color

Figure 21.


LYLE II
SQUARE 2
NORTH WALL PROFILE
GROUND SURFACE
1
2
3
4
5
6
7
8
9
10
11
12
10 M

century on the basis of a glass inkwell recovered from the midden. A detailed inventory of all the materials recovered from the squares at Lyle II is presented in Appendix A.

Evidently the entire floodplain of Lyle II was used as a dump during the historic period. Artifacts have been recovered from most of the STP's excavated on this surface (see Figure 15) as well as a second two-meter square located adjacent to the Blackberry River (Square 2 - Figure 21). The coal ash midden is concentrated within five to ten meters of Square 1.

When the floodplain was first used as a dump (ca. 1800) its surface was only slightly elevated above the base flow of the Blackberry, probably less than 50 cm. At that time the river was actively depositing a point bar at the base of the upper terrace, which is incorporated into and incorporates the older historic midden. Sometime after 1850 and the deposition of the coal ash midden this surface had sufficiently increased its height so that only finely-sorted sands and silts were deposited upon it (Figure 19, Strata 1-5; Figure 21, Strata 1-9). The depth of these overlying strata has protected all the midden layers on the floodplain from any sort of cultural or natural disturbance such as plowing or erosion.

In summary, two discrete historic middens were encountered at Lyle II, each associated with the construction and use of the Lawrence Tavern, a mid-eighteenth century structure which is still occupied on the upper terrace. These two middens, together with the Tavern itself, represent an intact record of historic occupation from the time of initial settlement through the end of the nineteenth century. The architectural and occupational history of the Tavern is reflected in the structure and patternings of the associated archaeological record. Together the Tavern and historic middens represent a significant complex of cultural resources probably eligible for nomination to the National Register of Historic Places.

V. INTERPRETIVE MODELS FOR PAST PROCESSES: LEARNING TO UNDERSTAND THE MODERN PATTERNS

For more than a decade American archaeology has been in a state of absolute confusion. Noone seems to know what it is that archaeologists should be doing - how they should acquire knowledge about the past and, once acquired, what the meaning of archaeological knowledge is. All the revolutionary change accumulated during the 1970's is in danger of becoming an inert doctrine. American archaeology is not as dreary as it was before 1965 but many archaeologists are still mistaken about the process through which knowledge of the past is created (Handsman 1977, 1980a).

Archaeologists continue to be incapable of distinguishing knowledge of the past, in some form or other, from knowledge of the archaeological record itself, which is, as Lewis Binford has repeatedly insisted (see Binford 1972, 1977, 1980), entirely a contemporary phenomenon. Much of current archaeological research is concerned with the isolation of patternings in the record, patternings referred to as occupation floors, subsistence-settlement systems, patterns of refuse disposal, and spatial patternings and associations of artifacts. As such these patternings are assumed to reflect past behavior and, by beginning with behavioral units rather than artificial archaeological categories, archaeologists hope to translate the record's patternings into prehistoric or historic behavioral reality (see Schiffer 1972, 1975, 1977 for prehistory and South 1977, 1979 for historical archaeology).

The current insistence on developing a set of methods and procedures which will allow us to isolate patternings, the so-called "middle range" of archaeological theory (Goodyear et al. 1978), is American archaeology's most obvious failure. Middle range theory, and all the methodological innovations based upon it, is mistaken since it is founded upon the analytical and interpretive substitution of the modern world for ones which existed in the past. The so-called behavioral units, based upon the isolation of spatial patternings, which provide an interpretive beginning for modern archaeology are no more about the past than other archaeological units have been (Handsman 1980c).

All archaeological constructs are inventions, patterns based upon present observations, which allow us to impose an order upon the inherently chaotic record of the past. All of our observations are theory ladened (Handsman 1977), determined by the larger, encompassing world of cultural epistemology (Hill 1972). It is known that the archaeological record can be made to speak about past behavior. Yet archaeologists continue to have little sense that they cannot operate from middle range theory and spatial patternings "up" to the higher level of theory implicit in cultural and socioeconomic process. No matter what some may insist, middle range theory is not a bridge between the world of theories of adaptation and the world of observations. It is encompassed, or should be, by the higher domain of social and economic process. More importantly, analytical constructs of the middle range, when they are not embedded in principles of adaptation and structural change or transformation, can only lead to modern observations or descriptive reconstructions of the past.

The Failure of Stanley South's Theoretical System

This critique is as valid for historical archaeology as it is for prehistory. It is in the latter domain that much of the last decade's revolutionary action and writings were situated. In fact, historical archaeology managed to remain almost completely divorced from the theoretical crises of the 1970's, not because its practitioners were unaware of theory but because historical archaeology is embedded within a literary society and supposedly more able to reconstruct past lifeways. However when historical archaeologists attempt to transform their profession from a particularistic discipline into an archaeological science - an approach strongly advocated by Stanley South (1977, 1979) - they become as mistaken as prehistorians are about the reality of middle range theory.

Over the past five years South has developed a highly personal approach to historical archaeology which has become doctrinal for a large segment of the profession. It is a perspective whose theoretical premise and methodological approaches are copied from prehistoric behavioral archaeology: a desire to isolate activity areas as loci of meaningful behavior and to use these patternings as the primary units of and for interpretation. For example, South's (1979) approach can best be summarized as an analytical progression from site content (relationships and observations), through site structure (spatial patternings), to site function (behavioral inferences), a movement from empirical observations through the middle range of spatial patternings, ending with descriptions of behavioral lifeways.

While this progression is both logical and sequential the interpretations which are derived from it can only be descriptions of contemporary patterns isolated in the archaeological record. No amount of hypothesis formulation and testing can ever change the status of historical archaeology's interpretive units as long as middle range theory is separated from theories of social, economic, and cultural process. It is this larger, more dynamic theoretical world which determines what our middle range constructs should look like and how we will make them work. As Binford (1980:4) recently summarized:

> The archaeological record is at best a static pattern of associations and covariations among things distributed in space. Giving meaning to these contemporary patterns is dependent upon an understanding of the processes which operated to bring such patterning into existence. Thus, in order to carry out the task of the archaeologist, we must have a sophisticated knowledge and understanding of the dynamics of cultural adaptations, for it is from such dynamics that the statics which we observe arise. One cannot easily obtain such knowledge and understanding from the study of the archaeological remains themselves (emphasis mine).

This statement is completely revolutionary, a sign of a significant break through which Binford attempts to revise archaeology's implicit theory of knowledge. Instead of beginning with patternings which we assume had relevance in the distant or recent past, archaeologists must begin with the dynamic world of process which will specify the sorts of interpretive units that should be recognized. For example, Binford's (1980) current distinction between the adaptive strategies of collectors and foragers reveals how two contrasting strategies

leave two distinct sets of archaeological residues which are patterned in ways not currently recognized by archaeologists. Thus it is not even possible to correctly interpret spatial patternings without these observations being embedded in theories of adaptation and structural transformation. South's system of theoretics can never work becasue it begins with patterned residues which are assumed to be both unique (there is only one set of patterns and one method to isolate them) and relevant. Historical archaeology needs to be re-thought so that its interpretive units are given their life by theoretical processes, not the reverse.

Structural Transformation and Archaeological Patternings: Lyle II as a Case Example

The true potential significance of the historic middens at Lyle II is that these sites can be used to evaluate a theory of structural transformation which connects cultural perceptions of social and economic processes and change to patternings in the historical archaeological record whose importance has never been appreciated. The research problem summarized here represents a radical re-orientation of historical archaeology as it is currently practiced within the perspective of Stanley South. By explicitly modeling historical archaeology after prehistory, South denies himself (and other historical archaeologists) the opportunity to simultaneously study precapitalist and capitalist social and economic formations. Historical archaeology is located at the boundary of a transition between two distinct systems of thought and action, mediator between what is modern and what is not. Without working through the premises inherent in this transition, historical archaeology runs the risk of returning itself to the problematical position of prehistoric behavioral archaeology, a position which prehistorians can never escape (see Handsman 1980d).

As historical archaeology is capable of situating itself at a critical boundary, so the middens at Lyle II are reflective of periods of time on either side of this transition. Much of the midden on the upper terrace and a portion of the older materials from the lower terrace represent the first five to seven decades of occupation of the Lawrence Tavern (ca. 1750-1820). The remainder of the buried deposits on the lower terrace reflect a similar span between 1820 and the end of the nineteenth century. During this entire 150-year period many of the settlements and social systems in Litchfield County underwent dramatic transformations, changing from structures characterized by homogeneity and a lack of economic specialization into systems which were highly differentiated and individualized (Daniels 1979, McManis 1975). The occupation and use of the Tavern and the archaeological record associated with it are representative and reflective of this significant structural transformation.

During the second half of the nineteenth century many of New England's villages became transformed into highly nucleated settlements, central places which served as the foci for commercial, industrial, and professional activities. In fact the modern New England townscape of nucleated clusters of buildings surrounding a green or crossroads did not fully appear until the end of the first half of the nineteenth century:

> The closely gathered compact settlements that dot the present-day New England landscape, and fit our idea of what a village should be, emerged only in the Federal period, in the last decade of the eighteenth century and the first decade of the nineteenth century. Such

> villages mark not so much an agrarian past, though their roots are firmly agrarian, but one manifestation of the emergence of an urban society in New England (Woods 1978:5).

Prior to the Federal period the normative pattern for settlements was one of dispersed farmsteads surrounded by an individual's land holdings including farm plots, wood lots, and pastures. This dispersed pattern of settlements is interpreted as a reflection of economically-motivated actions and political events determined by governmental policies concerning settlement and land ownership. The pattern is also described as representing a social structure characterized by ego-centered nuclear families and a political ideology which valued individualism (Bushman 1970:41-103, Daniels 1979:8-44, Grant 1972, McManis 1975: 63-72, Woods 1978).

While social and economic historians have wrongly emphasized the eighteenth century ideology of individualism (more recent studies suggest that individualism was always defined through a cultural system of kinship - Handsman 1980e), they have correctly perceived the fundamental difference between pre-capitalist and capitalist socioeconomic structures. Prior to the advent of capitalism and the appearance of central places or towns, New England's villages were characterized by a lack of social, economic, and technological specialization. Each farmstead was like any other and the archaeological record of each will look like any other. The range of activities which took place, the equipment and facilities which were used during these activities, and the deposited residues which represent them will tend to be homogenous from site to site and from stratum to stratum within specific sites.

Once the process of socioeconomic and technological specialization begins this structure of homogeneity will disappear and be replaced by variability and differentiation. The associated archaeological record of depositional units will become more individualized and specialized whether specific units are compared to one another or to earlier pre-capitalist units. As a continuously used and occupied site from the time of initial settlement, Lyle II and the Lawrence Tavern are an impressive (and undisturbed) historical, architectural, and archaeological record of New England's dramatic transformation from a "primitive," pre-capitalist social and cultural whole to a "civilized," capitalist, differentiated system.

These processes of change and increasing complexity, signs of the appearance of what Durkheim referred to as organic systems, determine the form and contents of patternings in the archaeological record, and changes in them. In both the prehistoric and pre-capitalist worlds, each society was a whole and one cannot distinguish what was social and cultural from what was economic. The archaeological record of such societies, a set of technological residues, cannot be subdivided or compartmentalized as South's perspective requires (Handsman 1980d). Rather, the significant pattern should be one of similitude, no matter how the archaeologists choose to recognize and interpret it.

Once the great boundary, a cultural divide, is crossed between pre-capitalism and capitalism, similitude becomes transformed into specificity and differentiation; the material record of the past becomes a complicated aggregation of fine-grained, individuated units. Thus, within the archaeological and historical record of Lyle II and the Lawrence Tavern there is available an impressive record of socio-economic and cultural change - transformations which allow us to better understand what modern America became and how it became what it did.

VI. THE PROJECT'S ADVERSE EFFECTS AND A PLAN FOR MITIGATION

Of the six localities which were examined during the intensive archaeological survey, two sites (Lyle I, the prehistoric site at Lyle II) were interpreted to be unsignificant archaeological resources. This determination is based upon a lack of preserved archaeological information in the first case and a loss of integrity in the second. No further mitigation plan is required for either Lyle I or the prehistoric campsite at Lyle II.

Both Dead Exxon I and II have been interpreted, provisionally, as significant resources which should be preserved "in-situ." According to the most recent set of engineering plans from Loureiro Engineering Associates, the sewer line will be located on the eastern edge of both of these sites, within four meters of Route 7. Such a placement will avoid both sites so that no adverse effects are projected. During construction heavy machinery should not be driven across the tract to avoid endangering both the historic midden at Dead Exxon I and the prehistoric campsite at Dead Exxon II.

Further to the northeast, the sewer line will cross the Blackberry River north of Route 7, continuing through both historic middens which were isolated at Lyle II. The route of the line has been reproduced in Figure 15. The disturbance and destruction of both middens resulting from the excavation of the construction trench is an obvious example of a "criteria of adverse effect" as defined in the Procedures of the Advisory Council on Historic Preservation (36 CFR 800, Section 800.9a - Federal Register 39, No. 18: January 25, 1974).

Avoidance of these deposits, as one potential mitigation plan, does not appear possible for two reasons. First, historic materials (signs of subsurface middens) have been isolated across both the upper terrace and the lower floodplain (see Figure 15), so complete avoidance will never be possible. Second, the exact location of the crossing of the Blackberry River is apparently predetermined by regulatory permits as well as engineering specifications associated with the siphon system. As it now stands, the siphon system's required head is approaching its threshold; any further changes in its route will affect its ability to work. For these reasons, avoidance does not appear to be a viable mitigative strategy.

Given the significance of the archaeological resources at Lyle II it would appear that the only possible mitigation plan is salvage excavations, the retrieval of information prior to the construction of the sewer line. A two-meter wide trench, 30 meters in length, should be excavated from the bank of the river across the floodplain and upper terrace, ending where the older sewer line is buried within the upper terrace. Once this trench has been completely excavated machinery could be used to increase its depth prior to the installation of the sewer line.

The trench itself could vary in depth between two or three meters on the floodplain and one meter on the upper terrace. Pumps will be required on the floodplain as the water table is within three meters of the ground surface. Historic artifacts were still being recovered from 1.50 meters below the surface in Square 1 when seepage prohibited further excavations. It is estimated that eight people could completely excavate the trench in eight weeks. Processing of artifacts, the preparation of catalog cards, and writing of the final report would probably require an additional six to eight weeks.

VII. NOTES

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