SURVEYING TECHNIQUES FOR THE ARCHAEOLOGIST

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Anthropology 390
Dr. McDaniel
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The work of the true surveyor is oriented towards extreme precision. His instruments are the results of centuries of refinements. In many cases he uses temperature control techniques to compensate for the minute changes in tapes brought on by changes in the air temperature.

The archaeologist does not have this same concern for accuracy as the surveyor, yet much of the surveyor's equipment and techniques can be used in the field to simplify the jobs of mapping and surveying. The archaeologist must use methods that are fast and economical, yet must not sacrifice too much in accuracy.

One way to keep things simple is to set certain standards to be used in the field. It is essential to have a standardized unit of length. Whether English or metric, the system must be used throughout the site for all measurements of distance, elevation, and depth. The metric system is based on the number ten and therefore is easy to use when mapping on Mylar paper, which has ten divisions per inch. Most surveyors in the United States use the English system, which is based on twelve inches to a foot. The English system can be used, yet difficulties can arise in accurate mapping on Mylar paper. These difficulties can be eliminated by using a rule or tape with each foot broken into tenths. When using the English system, the arbitrary layers should also be in inches with each layer equal to four inches; instead of ten centimeters as used in the metric system.

The grid system for an intensive study is another item that needs standardization. Although the grid may vary in overall size according to the needs of the individual site, the size of the grid intervals should
remain the same from site to site. Because of the Mylar paper used in mapping, some multiple of ten units should be used for the grid interval.

The datum point of a grid is always in the southwestern corner of the grid. All measurements in the grid are made with this point serving as the origin. This standard should be extended further to be used in the test pits and trenches; that is, all measurements to locate artifacts in the trenches or test pits should be made with the southwestern corner as the origin. To record the location of the trench or test pit, one should record the location of its southwestern corner in relation to the grid datum point. To do this, all trenches and test pits should be oriented in a north-south direction. (*See Addendum One*)

Surveyors use various pieces of equipment that can be used by the archaeologist. A wooden surveyor's stake is the simplest equipment the surveyor uses. A simple 2" x 2" stake provides enough strength to be driven into the ground. To accurately locate the point on the stake, the surveyor drives a nail into the top of the stake at the exact location. This system of marking points can be used to lay out the grid. The nails can serve a twofold purpose of accurately locating the point and providing a place to which to tie a line.

Steel arrows are another useful tool. These are steel pins about fourteen inches long with a one inch diameter loop at the top. A piece of fluorescent ribbon is tied through the loop to help prevent loss. These arrows can be used to mark off the corners of a trench or test pit. They can be pushed into the soil by hand, and string can be tied around them with little loss in accuracy.

Vinyl stake flags can be used to temporarily mark future trench locations, as well as the location of metal when found by a metal detector. These flags are fastened onto a twenty-four inch steel wire stake
and can be easily inserted in the ground and are easily spotted from a distance.

One of the most useful and most expensive pieces of surveyor's equipment of use to an archaeologist is a transit. A builder's transit provides the accuracy and simplicity needed for archaeological surveying. It is lightweight, portable, and easy to use. A transit can lay out grids, provide elevations, find inaccessible distances as well as provide a technique for mapping the site. The transit combines the aspects of a level and a Brunton pocket transit to provide a more accurate and versatile instrument, plus the telescopic eyepiece provides easier siting with more accuracy.

The transit can be used to lay out the grid system for a site. After choosing a datum point, the surveyor sets up the transit on this point. Using a compass, he then zeroes in the horizontal circle to the north. With the use of an assistant, the surveyor measures off and sites in the northwest corner of the grid. The corner is marked with a stake and nail. After rotating the head by 90 degrees, he then stakes the southeast corner. To mark the northeast corner, the surveyor points the head at an angle of $\tan^{-1} \left( \frac{b}{a} \right)$, Western Side, and measure off a distance equal to the square root of the sum of the squares of the sides.

Figure #1

\[ \Theta = \tan^{-1} \left( \frac{b}{a} \right) \]

\[ c = \sqrt{a^2 + b^2} \]
After locating the four corners of the grid, the surveyor must locate the intervals of the grid. With the transit pointing in the northern direction, the intervals are measured off and staked. The process is repeated in the eastern direction. The transit can be moved to the northeast corner and the process repeated for the other sides. Even though it may be simpler to move the transit, a little mathematics can be used to allow the transit to remain in the same location. The surveyor would need to know the angle and the distance to each interval point. These can be found from the relationships shown in Figure #2.

\[
\phi = \tan^{-1} \frac{a}{d} \\
e = \sqrt{a^2 + d^2}
\]

Figure #2

Care must be taken to make sure all tape measurements are made with the tape as level as possible. In some instances a plumb bob may have to be used.

The transit can also be used for mapping purposes. Any point on the site can be located with the angle from north and the distance from the datum point. This information can be plotted on a map with a scale and a protractor. This is simpler than recording the distance from the interval markers in the northern and eastern directions. Additionally, the elevation of the point can be taken at the same time. The transit
can be used as a level by zeroing in the vertical arc. If the elevation is too high or too low to read with the arc set at zero, the arc can be turned to enable the surveyor to site the pole. The reading is made from the pole in the normal fashion and corrected by subtracting or adding the amount equal to the level distance from the point multiplied by the tangent of the angle read from the vertical arc.

Figure #3

This will enable the surveyor to record and map information about the site from one datum point. Therefore, the surveyor would only have to set up the transit once.

When working in the field, the surveyor may run into the problem of working around buildings, trees, and other obstacles. There are several methods of solving these problems. We will only concern ourselves with three of these methods.

One method is called the Bisection Method. Although it is simple to use in the field, it is not extremely accurate. In Figure #4, the transit is set up at Point A and equal angles turned off on each side of the transit line AB. Point B' and C' are set on one of these lines at convenient distances from A, and on the other line Point B'' and C'' are set at these same distances from A. Then Point B is placed midway between B' and B'' and similarly for Point C. The line BC is the prolongation of the transit line AB. It is advisable to make the distance B'C' as long
as possible to retain accuracy. The distance $AB$ can be found by the relationship shown in Figure #4.

$$AB = AA' \cos \alpha$$

Figure #4

A method to measure around a small obstacle is called the Offset Method. This method can be used to find the distance between points where a tape cannot be pulled. In Figure #5, line $DE$ is measured as some convenient whole number of units judged by the eye to be at right angles to line $AB$.

$$AE \text{ and } EB \text{ are measured. The distance } AB = AE - \frac{(DE)^2}{2AE} + EB - \frac{(DE)^2}{2EB}.$$ 

Figure #5

This method is convenient in the fact that it requires only the use of a tape. It is extremely simple and accurate.

When one or both of the points are inaccessible, a method can be used to find this distance. In Figure #6, the points $A$ and $B$ are inaccessible, and it is desired to find the distance $AF$ and the angle it makes to a known line, $CD$. Points $D$ and $C$ are staked out, and the
distance DC is measured. At the Point D, the angles BDA and ADC are measured from Point C. The procedure to find the distance AB is as follows: from triangle CBD compute CB, from triangle ACD compute AC, and from triangle ACE compute AB, the inaccessible distance. The equations are shown in Figure #6.

\[ CB = \frac{CD \sin(180^\circ - (BCD + BDA + ADC))}{\sin(BCD)} \]

\[ AC = \frac{CD \sin((ACB + BCD)}{\sin(180^\circ - (ACB + BCD + ACD))} \]

\[ AB = \sqrt{(AC)^2 + (CB)^2 - 2(AC)(CB) \cos(ACB)} \]

Figure #6

In triangle ACB, the angle ABC can be found by the relationship:

\[ ABC = \sin^{-1} \left( \frac{(CB)^2 + (AB)^2 - (AC)^2}{2(CB)(AB)} \right) \]

This angle, together with the measured angle BCD, will give the difference in direction between lines AB and CD.

There is no end to the "tricks" used by a surveyor. The methods shown are simple and economical to use in the field. The equipment is easy to use and can save time if used properly. In addition to a transit, it would be a good investment to obtain a small electronic calculator to perform the math in the field. Once the surveyor has mastered the
equipment and techniques, the time and effort saved will make the investment more than worthwhile.
Addendum One

At times it may prove advantageous to orient a trench or test pit in a direction, other than north-south, to help bring out special features, i.e. walls, builder's ditches, or false walls. When recording the location of these special trenches or test pits, it is necessary to record not only the southwestern corner, but another corner as well. This will allow the surveyor to record both location and direction. If the trench or test pit should be of a shape other than a rectangle, all corners are needed to locate it properly.
Equipment Recommendations

Transit:

Berge Instruments Model 300
Speed-A-Liner Magnum
Price: $415.00 with Tripod, Plumb Bob and Case

Sold by: Mint Printing & Supply, Inc.
Charlottesville, Va. 22901

Surveyors' Steel Arrows
14", red and white
Price: $12.00-$15.00 per set of 11

Steel Carrying Rings for Steel Arrows
Price: $4.50

Standard Vinyl Stake Flag
30" or 21" lengths
Colors Avl.: Red, Orange or Yellow
Price: $8.95 per 100

Arrows, Rings, and Flags available at:

Mint Printing & Supply, Inc.
or
Virginia Reproductin Supply
Richmond Virginia
Name of Site: Old Monmouth Church

Type of Site: Church Ruins

Cultural Affiliation: Scotch-Irish

Map Reference: Sheet 5159 IV

Latitude 29° 29′ 37″ north. Longitude 37° 48′ 30″ west.

UTM Zone _______ Easting _______ Northing _______

(or distance from printed edge of map: bottom edge _______; right edge _______)

Owner/address: New Monmouth Church, Rt. 1, Lexington, Va. 24450

Tenant/address: ____________

Attitude toward investigation: Problematic; to see if additional work is warranted.

Informant/address: ____________

Surveyed by: Gardner T. Umbarger, III Date: 12/15/77

General Surroundings: Hilly, with rock outcrops. There are the remains of an 18th century church with cemetery.

Nearest Water: nature, direction and distance: Walters Creek, which flows north-west and originates in another area of the county.

Dimension of Site: 140 feet by 50 with an area on the side consisting of approx. 1500 sq. ft.

Description: depth, soil, collecting conditions: Conditions were muddy; silty loam soil; depth of soil is approx. 5 inches to clay.

Specimens collected: kinds, quantities, materials: 36 cut nails, 46 pieces of old glass, large quantities of mortar and cut stone, small quantity of charcoal

Specimens reported, owners address(es):

Other documentation: photos, reports, historical data:

Condition: erosion, cultivation, excavation, construction: Former road runs through the area; there is evidence of some disturbance in the SW corner.

Recommendations: This area, in my opinion deserves further investigation on the scale of a full survey.

Recorded by: Gardner T. Umbarger, III Date: 12/17/77
All test pit locations were taken from the houses shown on the Lexington 1:50,000 map directly to the west of the structure and south across Walters Creek. On the house to the west the measurement was taken from the SW corner and the other house also used the SW corner.
The purpose of the first part of this paper is to explain some of the problems that can and were faced by me in the pursuit of this project. This first, and foremost, was the problem of obtaining the permission to do this project. At the early part of this term when it was decided that I would pursue this project I submitted a proposal to the church that was in possession of the property and asked for permission to dig inside the ruins. At this point I had not realized that the major purpose of survey was to locate those structures or areas that were not yet discovered. This proved to be my major obstacle in this project since it took me six weeks to obtain permission to dig on the inside and another three weeks to get permission to dig on the outside. By this time exams were in full swing and I was unable to devote the necessary time to this project, which leads to the next problem I faced.

The second problem dealt with the proper use of sampling techniques. Since time was at a premium it became a problem deciding where to place the test pits in order to gain maximum affect. Here the Rootenberg article was of great use. Here I use a smaller than usual grids since this solved the problem of breaking larger grid sections into smaller ones. I ran into no major problems because my total area was reasonably small. Since the number of test pits is based on available manpower and time it was necessary to use Rootenberg's formula for sampling:

\[ n = \text{the number of test pits you are able to excavate} \]
\[ N = \text{total number of clusters} \]
\[ N/n = i \text{ the number of pits per cluster or the interval of sampling} \]

Since the area was limited because of my promise to avoid the grave areas
and my desire to avoid the inside of the structure left me with a workable area of 5000 sq.ft. in which to locate my test pits. Of these areas I later learned that some contained unmarked graves and some areas consisted of nothing more than above ground out crops. This left me with little more than half the original area, approximately 2500 sq. ft. The test pit itself contains 10 sq. ft., which means there can only be 250 in the entire area. Deciding to survey between 5 and 10 percent of the total area, that left me with anywhere between 13 to 25 test pits. Since my time was limited to approximately 15 hours of digging time and 1.5 to 2 hours needed to excavate a test pit I could only do about 7 or 8. In deciding where to place these pits I took into account the fact that the steps were still intact and decided to concentrate my work in that area since that was more or less the area that had the greatest amount of human activity. There was also a road in the other part which would have made the project a waste of time. The map included will show those areas and the problems involved.

Another problem I had was in the area of previous human disturbance. I have already mentioned the road in the back, but the major problem was the evidence of people trying to dig up pieces of metal with metal detectors. There were small holes in various areas which I do not think were made by animals. The lady who lives next to the sight, who was a great help, said she had seen kids with metal detectors out there before. She also showed me the areas with unmarked graves.

_Sight Protection_

The only state protection is provided by the need to seek permission before any construction is done there. Since the church has shown a desire to have the area restored there is little need to be concerned
with this area being sent to the state center for a decision.

There are two federal laws that are relevant here. They are the Historic Sites Act of 1935, and the Historic Preservation Act of 1966. The former protects all sites of historic significance while the latter protects and provides for a National Register. This site is of great historic importance in so much as it dates from 1748 with the first structure. As far as its including on the National Register, criteria A for churches and cemeteries provides for recognition if it is of historic importance or if a person of great importance is buried there and has not other place available of designation. The first structure at that site dates back to 1748 and was built by the first Scotch-Irish settlers to the area. There were also many people of significance to this area who were in the congregation. Students from Liberty Hall no doubt attended this shuch since it was hardly more than 3 miles from the school. This, and the probable location of graves of people of importance with no other site of importance is no doubt enough criteria for designation.

Type of Survey

The type of survey used here is type 3, or problematic. Here I have attempted to provide a greater idea of this importance of this site in the hope of making a viable evaluation of the importance of the site. This evaluation will show the need for full scale operations at a later date, when the proper methods and techniques can be utilized. That was the reason I declined to go into the interior since the major find in this area will be the different structures that occupied the site before these present ruins.
Introduction

The purpose of this survey was to find boundaries of possible activity and find if the site warrants further investigation. This site is no doubt of importance, especially to Washington and Lee since its period of occupation parallels that of Liberty Hall with the present ruins dating from 1789 to 1853. This makes it important not only Liberty Hall but also to Washington College.

Methodology

The site was found during a previous studied done last spring. After drawing a close parallel to Liberty Hall I decided that it would probably be of importance to study this site closer.

The first step was to decide the boundaries. This was facilitated by the fact that permission was given to explore only certain areas. Since the site was small in the first place I decided to run the lines from the furthest points available. With a compass I shot a line from the NW corner to the SW corner. After this I shot another line east to a point 140 ft. from the SW corner. From the NW corner I shot a line east at the same angle. At this point a line drawn from the NE to the SE corners completed the boundaries of the grid system.

I then measured 10 ft. along the line and placed a peg. This was done on both long axes. I then measured 10 ft. along the line of the short axis and placed a peg there. That left only the placing of lines to complete the grid system.

I had previously decided to devote my attention to the area to
the west of the ruins since this was the area that contained the steps and was probably the area that had the most activity. I also had information that the area in the back had been subject to major disturbance with an old road going back there which was not from the period. I placed 6 test pits in this area and 2 in the back. The frame was pinned to the ground and the outlinetraced by cutting through the turf layer. The turf was then removed the the pits excavated to sterile or bed rock. The spoil was then put back and the turf replaced.

Project Area

The site is located on a small hill with two streams beside it. The soil itself is a loamy loam, and the ground contains a large amount of rock out-crops. Behind the ruins are two cemeteries, a white and black one which contain tombstones from the 18th century until the early 20th century. The site that is being excavated is to either side of the ruins of a 18th century Scotch-Irish Presbyterian Church. In front of the site is arterial highway Rt. 60.

Results

Time did not allow a surface survey to be conducted. This would probably been of dubious importance since there has been no of the surface being cultivated and it has been used as a pasture for cattle which would probably have forced most artifacts into the ground. Also, the ground was very heavily covered with matted grass and visability would not have been good enough to see any artifacts.
Test Pit #1  Location: Grid Square 1; 224°SW, 342°NW
Layer #1- Major disturbance

Test Pit #2  Location: Grid Square 11; 220°SW, 305°NW
Layer #1- 1 piece modern glass
          1 piece old glass
          1 piece modern wire
          1 cut nail
Layer #2- 2 cut nails
          1 piece old glass
          charcoal
Layer #3- sterile

Test Pit #3  Location: Grid Square 13; 223°SW, 310°NW
Layer #1- 6 cut nails
          5 pieces of old glass
Layer #2- sterile

Test Pit #4  Location: Grid Square 14; 221°SW, 325°NW
Layer #1- Crushed stone and mortar
Layer #2- Mortar in large quantities
          4 pieces of old glass
          7 cut nails
Layer #3- Sterile

Test Pit #5  Location: Grid Square 24; 224°SW, 331°NW
Layer #1- Large quantities of mortar and cut stone
          2 cut nails
Layer #2- Cut stone

Test Pit #6  Location: Grid Square 22; 222°SW, 329°NW
Layer #1- 10 cut nails
          22 pieces old glass
          1 piece of old bottle
Test Pit #6

Layer #2- 3 nails
   2 pieces of old glass

Layer #3- sterile

Test Pit #7  Location: Grid Square 42; 227°SW, 326°NW

Layer #1- Large deposite of cut stone and mortar
   Concentration of glass fragments; 8 large pieces
   2 cut nails

Layer #2- 4 Pieces old glass
   4 cut nails

Assessment of Historic Significance

First occupation at this site dates to 1748 when a structure known as the Forks of James by the first Scotch-Irish settlers. This structure was built of logs. The second structure at the site was a structure of hewn logs called Hall's Meeting House, which was built in 1767. The last structure, whose remains are still present, was Old Monmouth. This structure was occupied until 1853 and the cemetery was used until the early 1900's.

Recommendations

In my estimation the site is of great historic importance and haste should be made to do a full scale excavation. The interior of the structure no doubt contains evidence of earlier periods of occupation while exterior excavations closer to the structure will probably reveal a greater number of artifacts than I was able to recover in my work further away.
This project would probably be ideal of further use as a classroom for archaeology after work at Liberty Hall is completed due to its close location to Lexington and its need for immediate attention. It is my hope that this work will be completed as soon as possible.
PRELIMINARY REPORT

CASIN SITE
(44Ba 3b)

Gathright Lake Basin
Perkins Point
Bath County, Virginia

This site is located in a formally cultivated field adjacent to the Jackson River.

The site is subject to periodic flooding such as that which occurred in the Spring of 1973 when approximately 30 inches of water covered the excavations.

The site is normally 12 feet above the present river flow.

Formally owned by The Virginia Game Commission, this entire basin and the surrounding areas were purchased by The United States of America in 1973 for the construction of an earthfill dam and lake. The expected completion of the dam and subsequent flooding of the basin is expected in 1978.

The site has been under continuous part-time excavation since September 1972 by the writer and a few very helpful volunteers. The beginning excavations were ambitious in 1972 and early 1973 but were reduced to digging artifacts from the Summer of 1973 to the present, Spring of 1976. Plans are to continue excavations.

The initial excavations were made under the direction of Dean Johnson, Project Archaeologist on the adjoining site, 44Ba 3b, and with the assistance of the writer.

Harry A. Jaeger
Route #5, Box 396
Covington, Virginia
24426
March 13, 1976
Area of Old Cornfield: 100 feet (N-S) by 120 feet (E-W)

This area has been cultivated yearly for about 100 years. In 1950 (the approximate year) the Virginia Game Commission bulldozed an earthen berm around the entire 12-acre field to create a pond for migratory game birds. This project, however, did not hold water and was abandoned. In the bulldozing operation, a large portion of this site was scrapped to provide fill for the earthen berm. Therefore, numerous artifacts have been unearthed in this area of fill, which will be included in the plow zone. (see Plate No. 1 for cross section of earthen berm. See Drawing No. 2 for site plan.)

PZ - Brown loam with numerous scattered artifacts 12 inches to 24 inches deep.

FINDS LIST:

This is inclusive of earthen berm and the plowzone. Approximate items 20,000. 20th Century artifacts almost absent.

CERAMICS

Pearlware - blue and green shell edge
Creamware - some transfer printed patterns
Earthenware -
Stoneware -
Saltglazed White Stoneware
Delftware - Monochrome and Polychrome
Rim, Body and Bottom sherds of many colors, designs and patterns.

METALS

Nails - Rosehead, Handwrought - various sizes
Iron Pot - several fragments - one with 1½" leg
Horseshoes -
Knives - Bone handle (Ref. A)
Forks - Bone handle, 2 tine (Ref. A)
Spoons - Pewter and Iron
Straight Pins - Brass, ball head, 1" long
Musket Balls - Misc. sizes, lead
Miscellaneous: Pintee hinges, chisels, punches, chain links, and many other iron items not identified. Various items of brass, copper and lead not identified.
Thimbles - One pewter, one brass
Jews Harp - Iron, 2½" long
Buckles - Shoe and knee, brass and iron
Drawer Pull - Brass

COINS

Spanish 2 reals (2 bit) silver 1807
Virginia Half-Penny, Copper 1773
Spanish Bit, appears to be 1/8 of Half Dollar, Silver, no date observed, pie shaped.
BUTTONS

Assorted patterns, sizes and shapes - copper, brass, iron, silver, pewter and bone
Decorative Button - oval 3/8" x 1/2", blue glass set in pewter frame with word "LIMITED" and a design under the glass.
Sleeve Buttons (cuff links) - all oval 5/16" x 1/2" brass with floral or animal designs.

PIPES

Kaolin Stems and Bowl Fragments (not dated)

MISCELLANEOUS

Bone Fragment From Domestic and Wild Animals
Window Glass -
Bottle Glass -
Brick and Mortar Fragments
Freshwater Mussel Shells, Egg Shells
Prehistoric Artifacts - Pottery, Points, Etc.

CS-2 TRASH PIT

Rectangular in shape, 13 1/2' x 11 1/2' x 2' deep (see Drawing No. 2 for cross-section of pit). Flat bottom and vertical sides.
Pit dug in Fall/Winter 1973 and Winter/Spring 1974. (see Plate No. 2).

FINDS LIST: (Artifacts mistakenly placed in CS-1) Approximate items 5,000

CERAMICS

Pearware - Blue and green shell edge, marbelized saucer
Creamware - Royal pattern white plate, some transfer printed patterns
Earthenware -
Stoneware -
Delftware - Monochrome and polychrome
Rim, Body and Bottom sherds of many colors, designs and patterns. Approximate count 2,000 pieces

METALS

Key - Iron, 4 1/2" long
Bone Handles for knives and forks
Several 2 tine Iron Forks
Table Knives
Folding Knives
Boot Spur with Star Rowell
Snaffle Bits
Horseshoes

Ref. A - Art. of Col. Amer. I. N. Hume Page 182, Fig 63, No. 5,6 and
METALS (cont'd)

Buttons - Brass, Iron, Copper and Silver. Assorted sizes and shapes; Sleeve Buttons (cuff links)
Scissors
Thimbles
Lead Musket Balls
Assorted Handwrought Nails
Miscellaneous - Unidentified pieces of copper, brass, iron and lead

BOTTLES

Assorted colors, sizes and shapes. Three identifiable tops and bottoms (see ref. A).

No large pieces or complete bottles recovered at this time.

WINDOW GLASS

Assorted colors and thicknesses

SMOKING PIPES

Kaolin pipe stems and bowl fragments, clay pipe fragments (bowls & stems) as described by I. N. Hume in "Artifacts Of Colonial America" Page 303 Fig. 97, No. 29

COINS

Spanish 2 Bit Piece, Silver 1756

MOTAR

Lime and sand mixture, 2" to 4" thick, triangular in shape, slightly concave on two sides with impressions of tree bark on concave sides. Chinking to a log house.

BONE

Assorted fragments from deer, turtle, squirrel, rabbit, elk, dog, steer or oxen and many unidentified pieces.

MISCELLANEOUS

Pieces of chicken and duck egg shells, hickory nuts, freshwater mussel shells and brick fragments.

PREHISTORIC

Pottery, chips, projectile points, flint tools and fire cracked rocks.

CS-3 TRASH PIT

Rectangular in shape, approximately 7' x 7' x 18" deep. Irregular bottom and sloping sides. CONTENTS: Rocks, wood ashes, small amount of ceramics, glass and kaolin pipe fragments.
CS-4 Burned Area

40" in diameter with concave bottom. Dense bright orange clay with a few small brick fragments (See Plate No. 4).

CS-5 Brick Wall Remains

Only a scant bit of lime mortar and brick fragments were uncovered indicating a wall around 11'-2" long by 12" wide with right angle corners. The spring flood of 1973 erased all signs. These fragments were located at the top of subsoil approximately 12" below existing grade (Dug Fall 1972).

CS-6 Pile of Large Stones

Approximately 8 in number with an average size of 12" x 12" x 18". Some appear to have remains of lime mortar on sides. All located in the plow zone (Dug Fall 1972).

CS-7 Indian Fire Pit

Approximately 4' x 2' x 2' deep. Contents are recorded in 44Ba 3 Site Report (Dug Fall 1972).

CS-8 Indian Burial Pit

Approximately 4' x 2½' x 1½' deep with skeletal remains of a flexed adult. Contents are recorded in 44Ba 3 Site Report.

CS-9 Post Mold

The mold is 2" diameter x 2" deep in subsoil, 10" below existing grade.

CS-10 Post Mold

The mold is 6" diameter at top to 4" diameter at bottom, 30" deep in subsoil, 10" below existing grade. Contents brown loam.

CS-11 Post Mold

The mold is 2" diameter x 2" deep in subsoil, 10" below existing grade.

CS-12 Post Mold

The mold is 4" diameter x 12" deep in subsoil, 10" below existing grade. Contents brown loam.

CS-13 Post Mold

The mold is 2" diameter x 3" deep in subsoil, 10" below existing grade.
CS-14 Dense Accumulation of Limestone

Approximately 40" in diameter from existing grade to top of subsoil, 12" deep. Burned and natural limestone mixed with approximately 40 percent brown loam and some brick fragments.

CS-15 Post Mold

The mold is 2" diameter x 1" deep in subsoil, 10" below existing grade.

CS-16 Indian Fire Pit

Size - 2' - 8" x 1' - 10" x 3' deep, oval 12" below existing grade.

Contents include fire cracked stones, charcoal, burned clay, cord marked limestone tempered pottery, chert flakes, broken chert projectile points.

CS-17 Indian Fire Pit

Size - 3' - 6" x 2' - 4" x 1' 14" deep, oval, 12" below existing grade.

Contents include fire cracked stones, charcoal, burned clay, chert flakes, limestone tempered pottery, projectile points, chert.

CS-18 Post Mold

The mold is 3" diameter x 8" deep in subsoil, 12" below existing grade. Contents brown loam.

CS-19 Post Mold

An oval 10" x 12" x 2' 4" deep in subsoil, 12" below existing grade.

Contents brown loam.

CS-20 Post Mold

The mold is 4" diameter x 6" deep in subsoil, 12" below existing grade. Contents brown loam.

CS-21 Post Mold

The mold is 3" diameter x 3" deep in subsoil, 12" below existing grade. Contents brown loam.

CS-22 Post Mold

The mold is 4" diameter x 2' 4" deep in subsoil, 12" below existing grade. Contents brown loam.

CS-23 Post Mold

The mold is 4" diameter x 6" deep in subsoil, 12" below existing grade. Contents brown loam.
CS-24 Post Mold

The mold is 2" diameter x 2" deep in subsoil, 12" below existing grade. Contents brown loam.

CS-25 Post Mold

The mold is 3" diameter x 3" deep in subsoil, 12" below existing grade. Contents brown loam.
CABIN SITE

(44Ba 3b)

DRAWING LIST

DRAWING NO. 1 - Vicinity map taken from Virginia State Highway map

DRAWING NO. 2 - Plan of cabin site and excavated areas

DRAWING NO. 3 - Location plan taken from U.S.C.G.S. quad sheet
Falling Spring, Virginia-West Virginia 1966 UTM
Coordinates 290900E/4201990N

PLATE NO. 1 - Cross section of earth berm

PLATE NO. 2 - Cross section of trash pit CS-2

PLATE NO. 3 - Cross section of trash pit CS-3

PLATE NO. 4 - Cross section of burned area CS-4