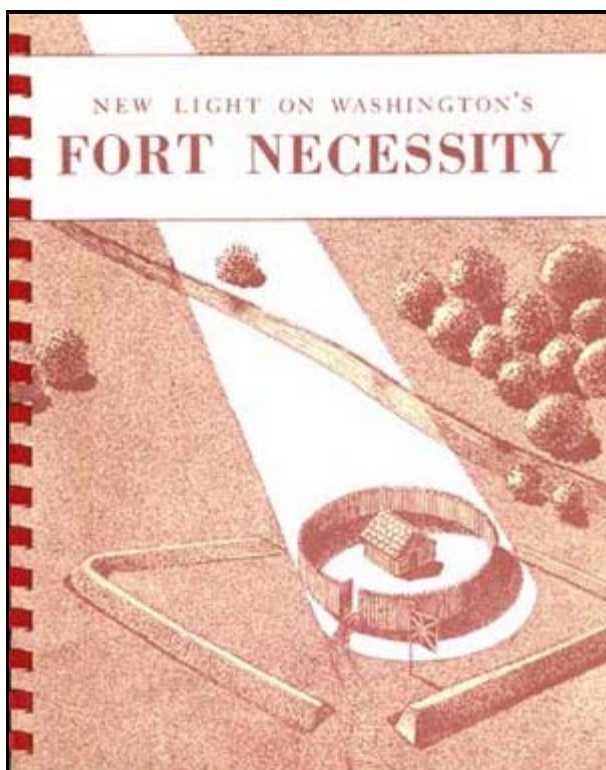


FORT NECESSITY

New Light on Washington's Fort Necessity

A Report on the Archeological Explorations at Fort Necessity National Battlefield Site



NEW LIGHT ON WASHINGTON'S FORT NECESSITY

A Report on the Archeological
Explorations at Fort Necessity
National Battlefield Site

By
J. C. Harrington

1957
Reprinted 1970, 1977

Published by
The Eastern National Park and Monument
Association
Richmond, Virginia

TABLE OF CONTENTS

[fone/new-light/index.htm](http://www.nps.gov/history/history/online_books/fone/new-light/index.htm)
Last Updated: 04-Mar-2009

FORT NECESSITY

New Light on Washington's Fort Necessity

A Report on the Archeological Explorations at Fort Necessity National Battlefield Site



TABLE OF CONTENTS

COVER

Cover design by Hiram R. Haggett

PREFACE

LIST OF ILLUSTRATIONS

INTRODUCTION

PART I. BACKGROUND

Construction of Fort Necessity and Events Leading up to the Battle at Great Meadows

How Fort Necessity Got Its Name

The Triangle Versus Diamond-Shape Controversy

Great Meadows Since the Battle

PART II. ARCHEOLOGICAL EXPLORATIONS

Previous Explorations

 The 1901 Project

 The 1931 Project

The Setting

Objectives

Excavating Procedure

1952 Preliminary Explorations

 Plan of Attack

 Trench "A"

 Trench "B"

 Trench "C"

 Trenches "D" and "E"

 Summary

 A New Stockade Theory

1953 Explorations

 Summary of Procedure and Results

 The Circular Stockade

 The Storehouse

 Other Features Associated with the Stockade

 The Entrenchments

 Great Meadows Run

Furnishings and Equipment

- General Comments
- Weapons
 - Small Arms
 - Cannon
- Other Military Equipment
- Horses and Wagons
- Tools and Implements
- Clothing and Uniforms
- Personal Effects
- Indian Objects
- Conclusions

PART III. RECONSTRUCTION OF FORT NECESSITY

- Archeology and Reconstruction
- Limiting Factors
- The Reconstruction

NOTES

APPENDIXES

1. Villier's Account of the Battle at Great Meadows
2. Washington's Account of the Battle at Great Meadows
3. Governor Dinwiddie's Official Account of the Battle
4. Deposition of John Shaw
5. Description of the Battle Written by Washington in 1783
6. Report of 1931 Explorations

REFERENCES

ILLUSTRATIONS

Frontispiece. Washington's 1754 expedition

1. Conjectural plan of Great Meadows in 1754
2. Freeman Lewis survey made in 1816
3. Map published in Jared Sparks, *The Writings of George Washington*, 1837
4. Map published in W. H. Lowdermilk, *History of Cumberland*, 1878
5. Map published in George D. Albert, *The Frontier Forts of Western Pennsylvania*
6. Survey made by Robert McCracken
7. Plan of Fort Necessity as developed in 1932
8. Plan of Fort Necessity as developed in 1954
9. Survey made by Harry R. Blackford, 1931
10. 1952 exploratory trenches
11. Simplified Profile — Trench "A"
12. Simplified Profile — Trench "B"
13. Simplified Profile — Trench "E"
14. Exploratory Trench "D" inside 1932 stockade
15. Exploratory Trench "E" inside 1932 stockade
16. Location of excavations of 1931, 1952 and 1953
17. Charred remains of stockade posts
18. Second section of water-preserved post ends

- [19.](#) First section of water-preserved post ends
- [20.](#) Close-up of portion of first section of water-preserved post ends
- [21.](#) Detailed plan of explorations in vicinity of circular stockade
- [22.](#) Cross-section and plan of stockade trench
- [23.](#) Typical water-preserved stockade post ends
- [24.](#) Log, 13 feet long, found in bottom of inner ditch of earthworks
- [25.](#) Typical cross-section through 1932 stockade
- [26.](#) Cross-section (parapet conjectural) of 1754 earthworks and earthworks constructed in 1953
- [27.](#) Military specimens
- [28.](#) Miscellaneous objects recovered in excavations
- [29.](#) View of 1932 stockade
- [30.](#) View of Fort Necessity as reconstructed in 1953 and 1954
- [31.](#) Possible shed-type appearance of original log storehouse
- [32.](#) Probable construction of original stockade
- [33.](#) Erecting stockade and log cabin in 1954
- [34.](#) Erecting section of circular stockade in 1954
- [35.](#) View of Fort Necessity as reconstructed in 1954
- [36.](#) View of reconstructed fort

[**<<< Previous**](#)

[**<<< Contents >>>**](#)

[**Next >>>**](#)

fone/new-light/contents.htm
Last Updated: 04-Mar-2009

FORT NECESSITY

New Light on Washington's Fort Necessity

A Report on the Archeological Explorations at Fort Necessity National Battlefield Site



PREFACE

On July 3, 1754, in an open meadow between two mountain ridges in southwestern Pennsylvania, was fought the first battle of the long struggle between France and England for control of North America. The English colonial troops occupied a little makeshift fortification known as Fort Necessity. The larger French army, which finally won the engagement and forced the English to withdraw temporarily from the disputed "Ohio Country", was fighting from the cover of woods that bordered the meadow.

The scene of this important, but little-known opening battle of the French and Indian War, is now a national shrine. As Fort Necessity National Battlefield Site, it has been administered by the National Park Service, U.S. Department of the Interior, since 1933. It is located in Fayette County, Pennsylvania, on U.S. Route 40, 55 miles west of Cumberland, Maryland, and 11 miles east of Uniontown.

To more adequately interpret the site to the visiting public, the National Park Service found it necessary to supplement the scanty documentary information by archeological exploration. Excavating began in August, 1952, under the author's supervision, with little expectation of finding more than a few "relics" and possibly the remains of certain entrenchments, which, according to the records, lay outside a stockade erected by the English just a month before the battle. The chance of discovering any remnant of the original stockade seemed very slight, in view of the extensive excavations carried on in connection with the earlier development and the project offered little challenge as an archeological problem.

As it turned out, however, the archeological explorations of 1952 and 1953 proved to be both exciting and productive. Assumptions as to the fort's location, size, and shape, which, through more than a century of repetition, had come to be accepted as established facts, were found to be in error. Most important was the recovery of relatively complete information on the original fort, including both the stockade and the outer entrenchments, permitting an authentic reconstruction on the exact original site. Reconstruction, as a matter of fact, was not a major concern when the work began, as the reproduction constructed in 1932 was believed to be on the original site and, on the whole, correct as to details.

The present report describes the archeological explorations and interprets the discoveries in the light of available recorded information. I would have preferred giving only a general narrative account of the digging, with emphasis on interpreting the data. However, it is widely held, and undoubtedly with justification, that the digger should first of all make available the complete record so that others may use the data as they see fit, or can better appraise the archeologist's interpretations. Unfortunately the bald record is not particularly interesting. I even considered relegating it to an appendix, but even this seemed to be too much of a departure from accepted reporting practice.

It may seem that I have included more background material than would be required for the reader to follow the account of the excavating and the subsequent interpretations. I have

elaborated on certain incidents prior to 1952, not just to set the stage for the archeological project, but, as I will point out in the Introduction, because this project is such a clear demonstration of the rewards that come from the historian and the archeologist joining hands in a cooperative venture. It is also an excellent example of faulty criticism of historical data, brought out so clearly in the controversy, which went on for over a century, as to whether the fort was triangular or diamond shaped.

The usual archeological report takes up at an early point the geography of the site and the flora and fauna. The natural environment certainly played a part in the historical events that we are dealing with here, but the situation is not exactly comparable to the excavation of an Indian shell midden. Rather than devoting a separate section to the geography of the site, data of this sort will be presented in appropriate places along with the description of the excavations and analysis of the findings.

Acknowledgments are not easy because so many people had a hand in the project in one way or another. The neighbors of the Battlefield Site, as well as people in surrounding communities, were genuinely interested in the excavating and reconstruction and helped in many ways from furnishing historical information to seeing that I had proper nourishment and shelter. The following are singled out, not because they were any more cooperative than the many who are not listed, but because they rendered some particular service or assistance. Mr. Melvin J. Thorpe, Superintendent of Fort Necessity National Battlefield Site, took care of all the time-consuming and irksome administrative details, as well as helping directly with the field work and looking after the project in my absence. Dr. Frederick Tilberg, Historian at Gettysburg National Military Park, assembled documentary materials prior to the excavating, and conferred with me throughout the project in the relating of archeological discoveries to the historical evidence. Exhibits in the reconstructed storehouse were planned and executed by the Branch of Museums, National Park Service, under Mr. Ralph Lewis' direction. Mrs. Preston Martin, Custodian of the Mount Washington Tavern Museum, helped in innumerable ways, as did Mr. Martin, then Superintendent of Fort Necessity State Park. Dr. William Blake Hindman of Uniontown gave us the benefit of his long and scholarly study of the historical records and his intimate knowledge of the site. Mr. Harry Blackford, Civil Engineer, who mapped and excavated the site in 1931, turned over all of his notes and records and cooperated unstintingly, even though our more extensive explorations brought out evidence contrary to his earlier findings. Walter J. (Buzz) Storey, Jr., Staff Writer for the *Uniontown Evening Standard* performed a service that is difficult to appraise. Through his lively, timely, and accurate news stories and his daily column, he kept local interest alive and did much to keep up the morale of all of us on the job. Technical advice and related assistance was furnished by Dr. J. H. Easterby, Director of the South Carolina Archives Department; Mr. Minor Wine Thomas, then of Colonial Williamsburg; Dr. Charles W. Porter, III, Mr. Harold Peterson, Mr. Frank Barnes, Dr. J. Walter Coleman, and a host of others in the National Park Service. Identification of stockade specimens was furnished by the Forest Products Laboratory, Forest Service, U.S. Department of Agriculture. Mr. James Holland lent a willing and valuable hand in reviewing the manuscript, advising on references, and in many other ways. Mrs. Virginia Harris did all of the typing, including the final duplicating copy, and much of the editorial work.

J. C. Harrington
National Park Service
Richmond, Virginia

December 1, 1955

Later note: The reader will wonder, and rightly, why Hugh Cleland's work, *George Washington in the Ohio Valley*, is not cited extensively in this report. Unfortunately, my

manuscript, with the exception of Appendix 1, had been completed and typed for publication before I had seen Professor Cleland's book, which contains many of the contemporary accounts quoted and referred to here. However, some of the accounts, such as the Shaw document, are not quoted in full by Professor Cleland, and are, therefore, retained in the present work. Moreover, it will be more convenient for the reader of this report to include them here.

[**<<< Previous**](#)

[**<<< Contents >>>**](#)

[**Next >>>**](#)

fone/new-light/preface.htm
Last Updated: 04-Mar-2009

FORT NECESSITY

New Light on Washington's Fort Necessity

A Report on the Archeological Explorations at Fort Necessity National Battlefield Site



INTRODUCTION

Archeology has been referred to as the "handmaiden of history", but only within the past twenty years or so has it come to be accepted generally by students of American history. Even so, the acceptance has not been without reservation, although the increasing number of spectacular demonstrations of archeology's contribution — Jamestown, Williamsburg, Saugus, and many others — are beginning to bear fruit.

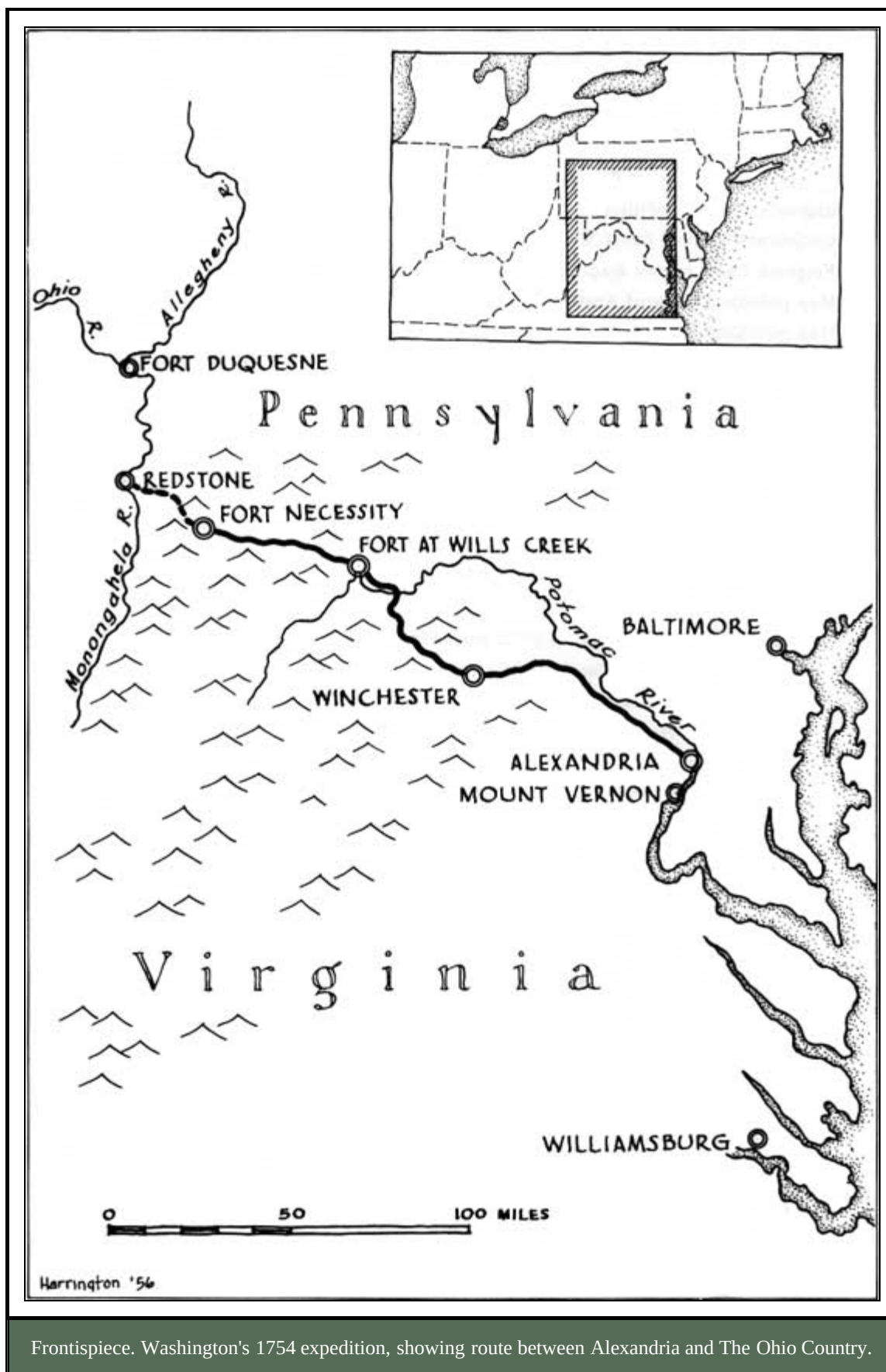
There are several explanations for the reticence on the part of the "American" historian to take up with this newcomer, even though archeology has long been accepted by students of the Near East and other areas as a valuable historical tool. Foremost is the fact that the historian has for so long been interested in different problems and different approaches from those of concern to the archeologist. Probably of almost equal importance is the fact that the historian has utilized a different kind of raw material. Usually he has at hand such a wealth of recorded source material that the data provided through archeology, in comparison, seems pitifully meager and, at times, inconsequential. Then too, the archeologist has often been concerned entirely with objects, which makes him, in the eyes of the historian, an antiquarian of sorts. But excavations at a great many historic sites during the past two decades have shown that archeology can provide significant historical data. With increasing evidence that archeological studies can be set in a framework acceptable to historians, and that archeological data are of value to historians, students of the American scene are showing more interest in archeology as a useful accessory.*

*See J. C. Harrington, "Archeology as an Auxilliary Science to American History".

The Fort Necessity project not only brings out the value of archeology as a historical tool but clearly demonstrates the importance of the archeologist and historian working as a team from the outset, checking and interpreting each bit of evidence as it comes to light. By no means is this the first archeological exploration at a historic site in this country to have demonstrated the value of the historian and archeologist joining hands in the study of the physical and cultural history of a buried site. The Fort Necessity project, however, shows more clearly than almost any other the importance of conducting documentary research and excavations with the problems and progress of each being known and considered at every step by both the historian and the archeologist. In this case the excavating would certainly have terminated before the original remains had even been found had the archeologist not reanalyzed and reappraised the documentary information in relation to the results of the excavating from the first season's field work. The point should be evident from the present report, even though attention is not called to it explicitly.

The Fort Necessity project offers also an excellent lesson in historiography. For over a century, qualified scholars had had their say as to what the fort looked like on the day of the battle in 1754. Had they confined their ruminations to evidence from written records, they probably would not have gone so far astray. But quite properly they took into account the

physical evidence observable at the site; some even resorting to archeology. Unfortunately, this led to two distinct and irreconcilable interpretations — neither, as it ironically turned out, being correct.



Frontispiece. Washington's 1754 expedition, showing route between Alexandria and The Ohio Country.

Even the most conscientious scholar would probably admit that the precise location and appearance of Fort Necessity is of no great consequence to American history. The most detailed account of the battle at Great Meadows is not affected particularly by whether the fort was round or square; whether it was 50 feet or 65 feet across; or whether the storehouse within the fort faced south or east. On the other hand, these data, if known, can make the narrative more realistic, even though they may have little effect on the historian's final conclusions. Moreover, a fact is a fact, and it is the responsibility of the historian, as well as his firm intention, to avail himself of as many facts as he can, even though his particular interest or approach does not exploit equally every fact available to him.

For the development of the site as an educational exhibit, knowledge of the most minute details of the fort's construction was important. Whether such an exhibit should take the form of a full-scale reconstruction or a museum diorama, the closer the reproduction can be to the original, the more intelligible it will be to the viewer. Normally, the relative amount known about the original structure determines whether a reconstruction can be undertaken. Other practical and theoretical considerations enter into the decision, but a reconstruction would not even be contemplated unless enough were known to make the final product highly authentic.

In the present instance, the archeological explorations were initiated with no real expectation of uncovering enough information to warrant a reconstruction. There was little hope, in fact, of determining the original size and shape of the fort, let alone sufficient construction details to permit the construction of a defensible reproduction. This fact, however, did not affect the research procedure, although there is no denying that it dampened the enthusiasm of the archeologist, particularly when the results of the first season's work were completely negative.

In this account, I will treat the historical background as briefly as feasible, since I have nothing new to offer and since it serves only as orientation for the archeological report. I will include a section on the century-long controversy over the shape of the fort, partly because it had a definite bearing on the archeological program, and partly because it is of interest as an object lesson in the critical use of historical data. Primarily, however, I will fulfill the researcher's professional obligation of entering for the record a detailed account of the excavations and the interpretations derived from the archeological and historical data. Finally, I believe it will be of interest to describe briefly the way the site was developed as an educational exhibit, since the interpretive development was, in fact, the primary justification for the excavating.

[<<< Previous](#)

[<<< Contents >>>](#)

[Next >>>](#)

FORT NECESSITY

New Light on Washington's Fort Necessity

A Report on the Archeological Explorations at Fort Necessity National Battlefield Site



PART I.

BACKGROUND

CONSTRUCTION OF FORT NECESSITY AND EVENTS LEADING UP TO THE BATTLE AT GREAT MEADOWS

The story of Washington's first military venture, culminating in the battle at Great Meadows on July 3, 1754, has been recounted so many times and in such detail that there seems little need to go into it here, other than to provide a very general summary and to emphasize the points that relate directly to the archeological project. [1] Nor does it seem necessary to support every statement in this summary with footnotes, since the many published accounts are adequately documented. If, in this brief account, the more important historical aspects of the story are slighted and less important ones are given more than summary treatment, it is either because the former have been fully covered in readily available sources, or because the latter are more directly related to the interpretation of the archeological discoveries. There are several concise and vivid contemporary accounts of the battle, some of which are included as appendixes to this report (1 through 5). The present historical summary, therefore, will treat the actual battle more briefly than would be called for otherwise.

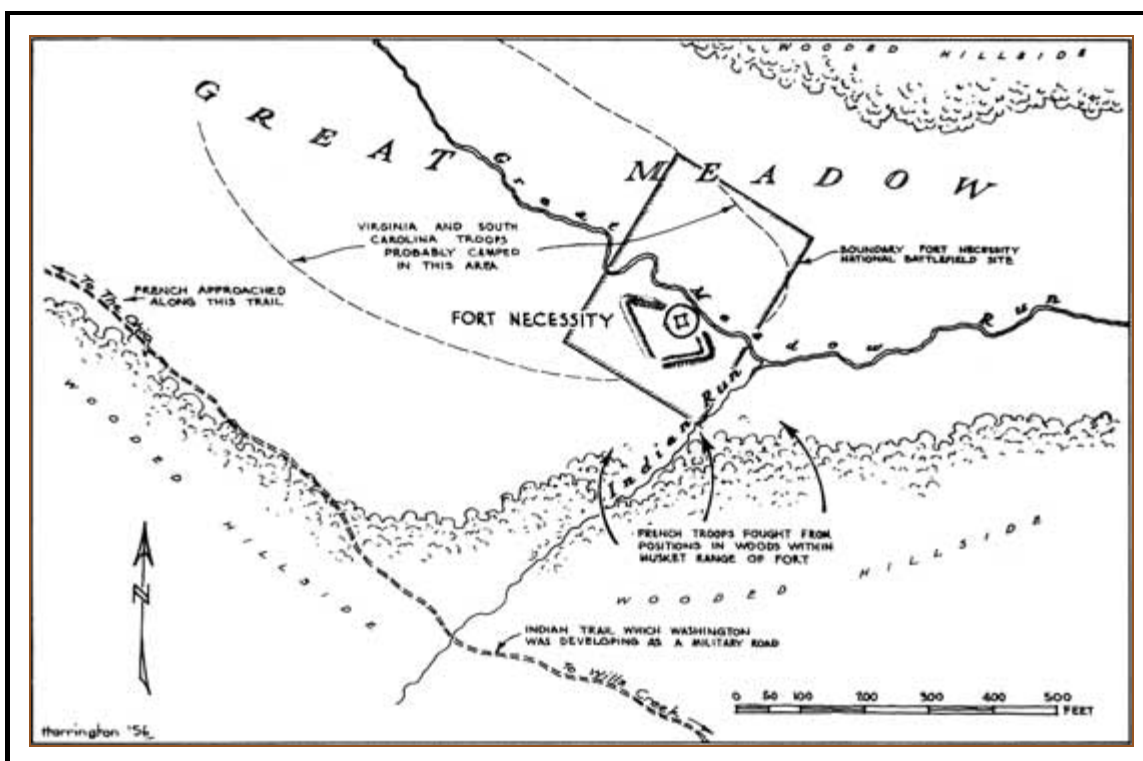


Fig. 1. Conjectural plan of Great Meadows in 1754 as reconstructed from historical and archeological evidence, shown in relation to Fort Necessity National Battlefield Site. In 1962 the entire historic area became part of Fort Necessity National Battlefield. ([click on image for a PDF version](#))

Lt. Col. George Washington, in command of about 160 Virginia volunteers, arrived at Great Meadows on May 24, 1754. For nearly two months this untrained, poorly provisioned army had been hauling supplies and heavy equipment all the way from Alexandria, Virginia, much of the way over narrow mountain trails. There had been desertions; the men were hungry, tired, and dissatisfied. Little wonder that the broad, open expanse of this meadow, with ample pasture for horses and cattle, appealed to Washington and that he decided at once to make it his main base of operations. The winding streams running through the meadow provided natural entrenchments, and, after bushes along the stream banks had been cut, he wrote Governor Dinwiddie that he had here "a charming field for an encounter". [2]

This was not Washington's first visit to these parts. Earlier that year, as a special emissary of the Virginia governor, he had carried a message to the French warning them that they were encroaching on land "notoriously known to be the property of the Crown of Great Britain". [3] But the warning was defied by the French, who looked upon the English as the encroachers. Governor Dinwiddie had then sent an expedition to the Ohio Country to build a fort at "The forks", site of the present City of Pittsburgh. Washington's detail was the vanguard of an army being recruited by Dinwiddie, with Col. Joshua Fry in command, which was to assist and support the little garrison at the forks. Washington, then only 22 years old, and with his new commission of Lieutenant Colonel, had set out on April 2 with the advance party from Alexandria. [4] The main body was to follow as soon as men could be recruited and supplies and equipment assembled. The nature of the entire expedition was altered, however, when word was received along the way that the partially completed fort at the forks had been surrendered to the French.

To understand why the little fort at Great Meadows, later named Fort Necessity, was built as it was, it is important to keep in mind exactly what Washington's objectives were after the French drove the English from their partially completed fort at the forks and began construction of Fort Duquesne. Although Governor Dinwiddie had specifically instructed Washington to resort to force, if necessary, the intent of the advance detachment had been to reinforce the garrison at the forks. On the way, they were also to improve the trail over which the main army would march, but the principal objective was to strengthen the garrison and help complete the fort.

Learning, however, that the French were established at that strategic point, the original plans had to be altered, and, in addition to constructing a road, Washington was now to build a fort on the Monongahela River at the mouth of Redstone Creek. [5] With the way thus prepared, the main army would be assembled at the new base on the Monongahela, from which it would be in position to launch an attack against Fort Duquesne. In advising Governor Dinwiddie of the new plans, Washington wrote: "We will endeavour to make the road sufficiently good for the heaviest artillery to pass, and when we arrive at Red-stone Creek fortify ourselves as strongly as the short time will allow". [6]

It was important that this road over the mountains (which, on the whole, followed the Nemaquin Trail) should be adequate for use by horse and wagon, as well as mounted cannon. [7] The base at Great Meadows was intended simply as a station along this road between the main base at Wills Creek (later Fort Cumberland) and the new advance post on the Monongahela. Subsequent events, it is true, necessitated construction of a defensible fort at Great Meadows. But its situation with reference to the overall plan of the expedition, as well as the circumstances of its construction, must be recognized to understand its small size and unusual design. Expediency, not lack of military sophistication, accounts for the plan of Fort Necessity, even though Washington admittedly was a novice in military affairs at this time. Even so, he, as well as his officers, had some familiarity with frontier forts of conventional design. He had observed, among others, the stockaded fort at Wills Creek and

even the more elaborate Fort Le Boeuf of the French, where he had delivered Dinwiddie's ultimatum the preceding winter. In addition, as evidenced by various statements found in his writings during this period, he was sufficiently versed in military arts to have definite opinions as to the suitability of sites for forts.

The important point to keep in mind is that the site of Fort Necessity was selected originally for an operating base, where supplies could be stored and the expedition temporarily headquartered. Washington had no intention of building any kind of a fort whatever at Great Meadows when his band of road-builders first stopped there on May 24. At such an advanced position, however, and with rumors continuously coming to him of French and Indian activities in the vicinity, he knew there was always a possibility that he might be attacked at any point along the way. Washington was not planning to become involved in a major engagement at this stage. But the possibility could not be ignored, and it is easy to understand why this place appealed to him as a "charming field for an encounter".

After setting up camp at Great Meadows, word came that a party of French soldiers was in the vicinity. With a force of 40 men, Washington, early in the morning of May 28, surprised the French at their campsite a few miles from Great Meadows. In the skirmish that followed, in which the French were quickly and decisively defeated, their leader, Sieur de Jumonville, was killed. [8] One Frenchman escaped, the rest being killed or taken prisoner. Fearing reprisal by the main French army, Washington quickly returned to Great Meadows and hastily began building a stockade with some earth entrenchments. [9] It would appear, however, that work stopped on the fortification as soon as it seemed the French did not intend to retaliate.

During the month of June, Washington worked on the road westward toward the Monongahela, continuing to use Great Meadows as the main camp and supply base. His force had been increased by the remainder of the Virginia regiment and by a South Carolina Independent Company of regular troops, bringing it to around 400 officers and men. Word had come that Colonel Fry had been fatally wounded in an accident and Col. James Innes, who had arrived at Wills Creek with a North Carolina regiment, had been placed in command of the entire expedition. Washington, now commissioned a full colonel, was given command of the Virginia regiment, with Captain James Mackay in charge of the British regulars from South Carolina.

Toward the end of June, word came that a large body of French and Indians was advancing from Fort Duquesne. The Virginia troops, who then were working on the western section of the road to Redstone Creek, first considered making a stand at Gists' Plantation, several miles northwest of Great Meadows, where they had thrown up a temporary fortification. But they decided to fall back to Great Meadows, which they reached on July 1, and set to work strengthening their position. There was little time to do much, for the French attacked on the morning of July 3. The fighting lasted throughout the day, in a pouring rain, and at eight o'clock that night the French Commander, Villiers, requested a parley. After several hours of negotiating, an agreement was reached that was satisfactory to both Villiers and Washington. It called for the English to give up Fort Necessity, although they were accorded honors of war and allowed to keep their small arms and supplies. The following morning, July 4, they marched out of the fort, making their way as best they could to Wills Creek. The French destroyed the fort and returned to Fort Duquesne. Thus ended the opening battle of the French and Indian War. [10]

HOW FORT NECESSITY GOT ITS NAME

The term "Fort Necessity" is found only once in the contemporary records dating from the

period prior to the battle, and very infrequently in such records thereafter. The battle is referred to invariably as "The Battle at the Great Meadows" — never "The Battle of Fort Necessity". [11] The earliest known reference to "Fort Necessity" is in an entry in Washington's journal on June 25, 1754, which reads as follows: "I thought it proper to send Captain Montour to Fort Necessity in order to try if he could persuade the Indians to come to us (to where the Virginia volunteers were working on the road some distance to the west)" [12]

Although Washington mentions the Great Meadows many times in his diary and in letters, I know of only one subsequent use of the term "Fort Necessity" in any of his writings. Many years after the battle, in describing the 1754 expedition, he referred to "a small stockade in the middle of the entrenchment called Fort Necessity". [13] Nor does the name appear in any, of the contemporary official records dealing with the battle. Even so, the name "Fort Necessity" almost certainly was widely known and used. It is so designated on maps drawn a year later in connection with the Braddock Campaign. [14]

The earliest explanation of the origin of the name is in a letter dated May 12, 1755, written by John Banister, Jr., a participant in the battle. He wrote: ". . . we built a fort called 'Necessity', from the great difficulty of procuring necessities for subsistence when our soldiers were there employed". [15] Even though this contemporary account has the ring of authenticity, slightly different origins for the name have been suggested. Douglas Freeman, for example, accounts for it as follows: "The whole and the parts were not a design of engineering art but of frontier necessity. Wherefore, George gave it the name, Fort Necessity". [16] I would be more willing to accept Freeman's explanation if he had said "military necessity" rather than "frontier necessity".

It has also been suggested that the name originated with the necessity of having to erect make shift defenses at Great Meadows (following the Jumonville incident), at a time when Washington quite clearly was intent only on building a road to the Monongahela. The fort at Great Meadows was not planned, as was the proposed fort at the mouth of Redstone Creek, but was built out of necessity when Washington expected to be attacked momentarily by a superior force.

In all probability, an entirely satisfactory explanation for the name will never be found, unless we accept Banister's. We can be reasonably sure, however, that it had to do with the difficulties and hardships associated with the fort's construction and use.

THE TRIANGLE VERSUS DIAMOND-SHAPE CONTROVERSY

In 1816, Freeman Lewis, a professional surveyor, visited Great Meadows and mapped the surface remains of Fort Necessity, still quite conspicuous at that time. Inexplicably to those who later visited the site, he recorded the remains as triangular in plan, with a small, semi-hexagonal bulge extending out from the base of the triangle (Fig. 2). Lewis' map was not published at the time, and was not generally available to scholars, nor widely known, until it was published in Lowdermilk's *History of Cumberland* in 1878. [17] To my knowledge, the first published drawing purporting to be a plan for the fort based upon field observations and measurements, appeared in Jared Sparks' work of 1837 (Fig. 3). [18] Sparks, whose field inspection was made in 1830, was the first to show the fort as diamond-shaped, although it is quite evident that he had not seen the Lewis drawing, nor did he realize that he was to start a century-long argument; an argument that could have been settled quite easily by an inspection of the remains. The resulting discussion over the shape of the fort, which Douglas Freeman characterizes as "almost amusingly heated" [19], was finally brought to a close, and, it is hoped, incontestably, by the recent archeological discoveries. Further discussion of the

subject might seem superfluous at this stage. However, it is of interest not only from the standpoint of historical criticism, but also relevant to the present discussion of the archeological explorations of 1952 and 1953, as well as the earlier excavations in 1931. [20] It explains, in part, why the only really pertinent documentary evidence relating to the original appearance of the fort was ignored; why the stockade was incorrectly reconstructed in 1932; and how the correct location of the stockade and entrenchments came very close to never being discovered.

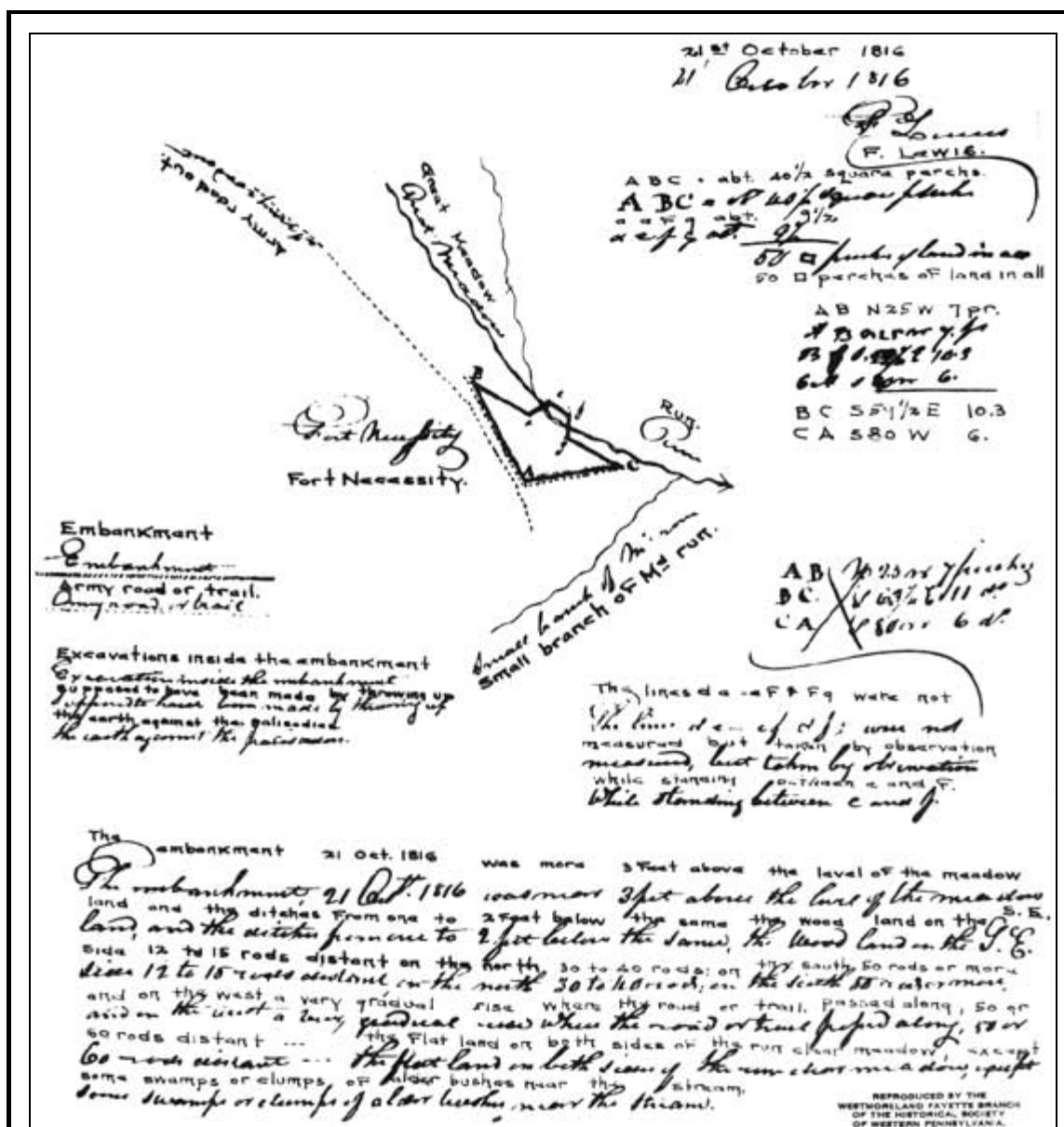


Fig. 2. Freeman Lewis survey made in 1816. Interlineation made on photo-reproduction of original map for broadside, published by Westmoreland Fayette Branch, Historical Society of Western Pennsylvania, circa 1932.

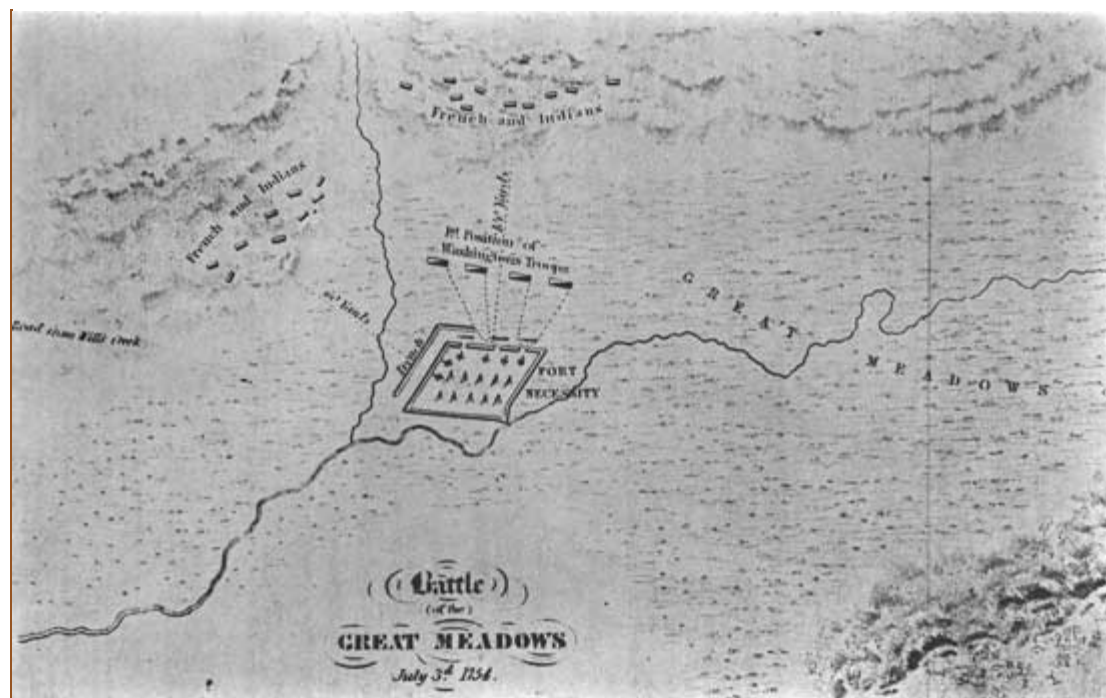


Fig. 3. Map published by Jared Sparks, *The Writings of George Washington*, 1837. (click on image for a PDF version)

Strangely enough, in spite of all the discussion through the years as the plan of the surface traces, no really detailed topographic survey was made until 1931, when Harry Blackford accurately mapped the site prior to archeological excavations and reconstruction (Fig. 9). [21] Since Lewis was reputed to have been a competent surveyor, and since there had been so much discussion by writers over the years, the National Park Service, in preparation for extensive repairs, was practically compelled to do a little exploring to settle, if possible, this old argument, even though the results of the 1931 explorations seemed at the time to be conclusive.

It is now quite apparent that there would have been no argument over the plan of the existing surface remains if those who objected to Sparks' layout had taken the trouble to return to the site and check the earlier survey. Actually, however, this disagreement as to the plan of the fort was not the real reason why it took so long to arrive at the correct solution. Basically, the trouble did not lie in the shape of the surface remains, but in their interpretation. It all started with a note on Lewis' map to the effect that the ridges and depressions were the result of earth having been piled against the stockade posts, and that the ridge, therefore, represented the line of the original stockade. Later writers, whether or not they followed Lewis' triangular plan, invariably gave the same interpretation to these surface ridges.

A single example from the many that might be cited, is sufficient to show how this interpretation, possibly only a tentative suggestion on Lewis' part, was accepted as an established fact. In a discussion of the Great Meadows tract, describing the site as it appeared about 1881, a local writer referred to "the ruins of the fort or *embanked stockade*, which it really was..." [22] (*italics added*). Even Douglas Freeman, as late as 1948, after a most exhaustive study of the source materials, implicitly followed this interpretation when he sided with the Lewis opponents as to the shape of the fort. [23] In fact, this interpretation was still accepted without question when archeological explorations were carried out in 1952.

Some twenty years after Sparks' work was published, James Veech, a local attorney who had worked with Lewis, came out quite vigorously, almost emotionally, in support of the

triangular plan. [24]

In referring to Sparks' drawing and description of Fort Necessity, Veech wrote: "It may have presented that diamond shape, in 1830. But in 1816, the senior author of these sketches (Freeman Lewis) made a regular survey of it with compass and chain . . . As thereby shown, it was in the form of an obtuse angled triangle " [25] Veech then goes on to present a good case for the triangular plan, and having dealt with Sparks, he turns to Colonel Burd, who had innocently described the ruins as he saw them in 1759. [26] "A more inexplicable, and much more inexcusable error than that in Mr. Sparks' great work, is the statement of Colonel Burd, in the Journal of his expedition to Redstone in 1759. He says the fort was round! with a house in it! That Washington may have had some sort of a log, bark-covered cabin erected within his lines, is not improbable; but how the good Carlisle Colonel could metamorphose the lines into a circular form is a mystery which we cannot solve". [27]

On this matter of a round fort, even Hulbert agreed with Lewis and Veech. As an argument against the Lewis triangular shape, Hulbert wrote: "He (Burd) described its remains as circular in shape. If it was originally a triangle it is improbable that it could have appeared round five years later. If, however, it was originally an irregular square, it is not improbable that the rains and frosts of five winters, combined with the demolition of the fort by the French, would have given the mounds a circular appearance". [28] Even Freeman accepted this explanation, [29] as did Tilberg, in reviewing the subject in 1952. [30] The interesting thing is that not one of these students considered the possibility that Lewis and Burd were describing two entirely different features of the fort.

Partly because Veech was a convincing writer, partly because Lewis was an experienced surveyor, and partly because Veech's dissertation was not available to most scholars until 1892, no champion of the Sparks diamond shape appeared on the scene until 1901 when Archer Hulbert carefully examined the site and found, to his amazement, that the old Lewis survey did not fit the existing remains. [31] It is not too surprising that Lowdermilk, in 1878, should have reproduced the Lewis map (Fig. 4), but it is surprising that no one on the Pennsylvania State Commission on Frontier Forts inspected the site before their report was published in 1896. [32] In that report, the Lewis map is improved upon by adding entrenchments outside the stockade, possibly inspired by Sparks (Fig. 5). The shape of the little bulge at the back of the fort was also changed, as well as the location of Meadow Run. Other topographic features were added, all very reminiscent of the Sparks map.

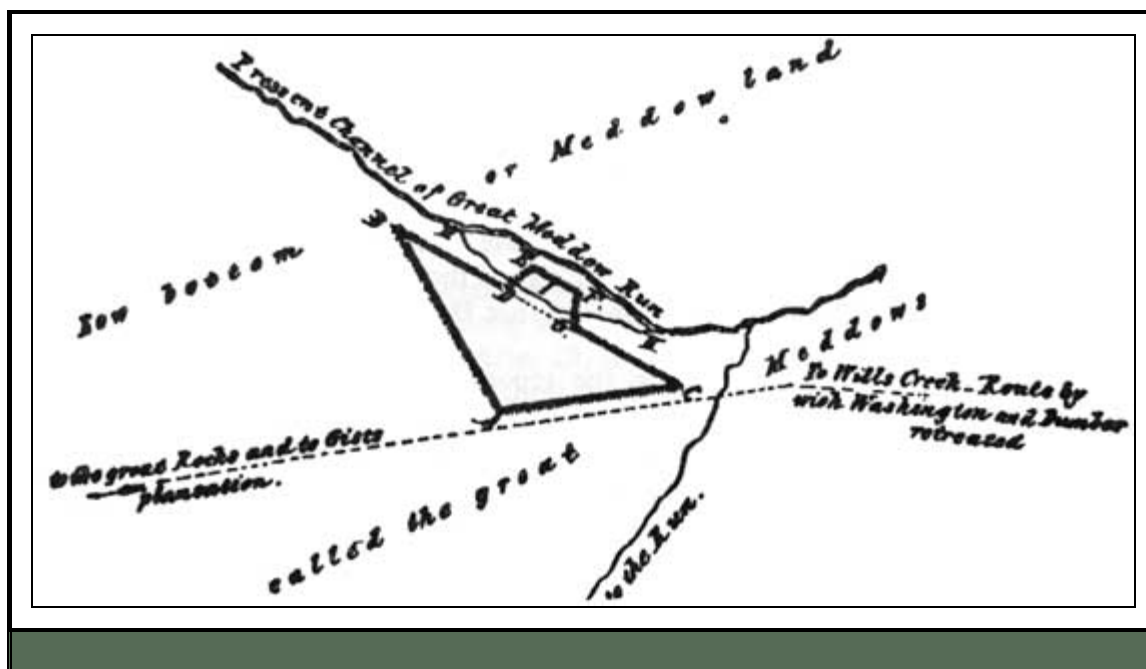


Fig. 4. Map published in W. H. Lowdermilk, *History of Cumberland*, 1878.

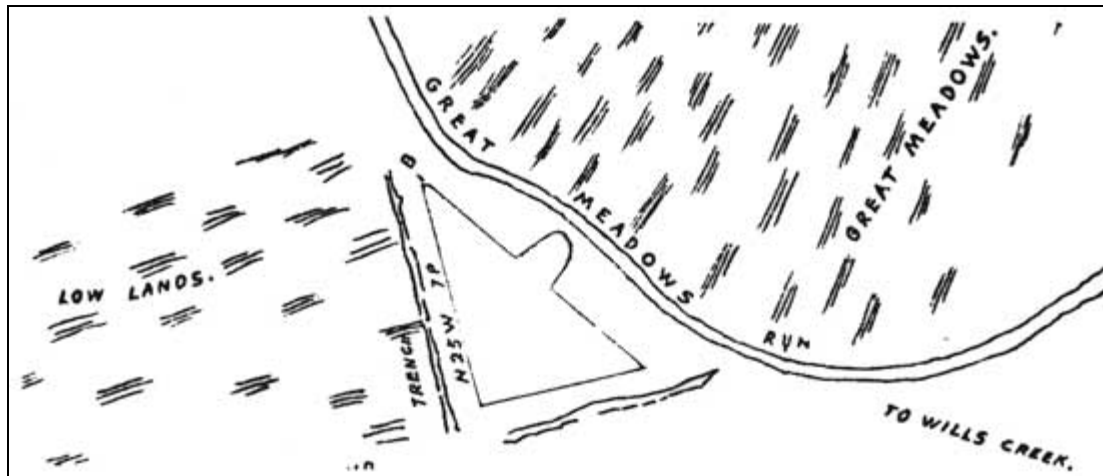


Fig. 5. Map published in George D. Albert, *The Frontier Forts of Western Pennsylvania*, 1896.

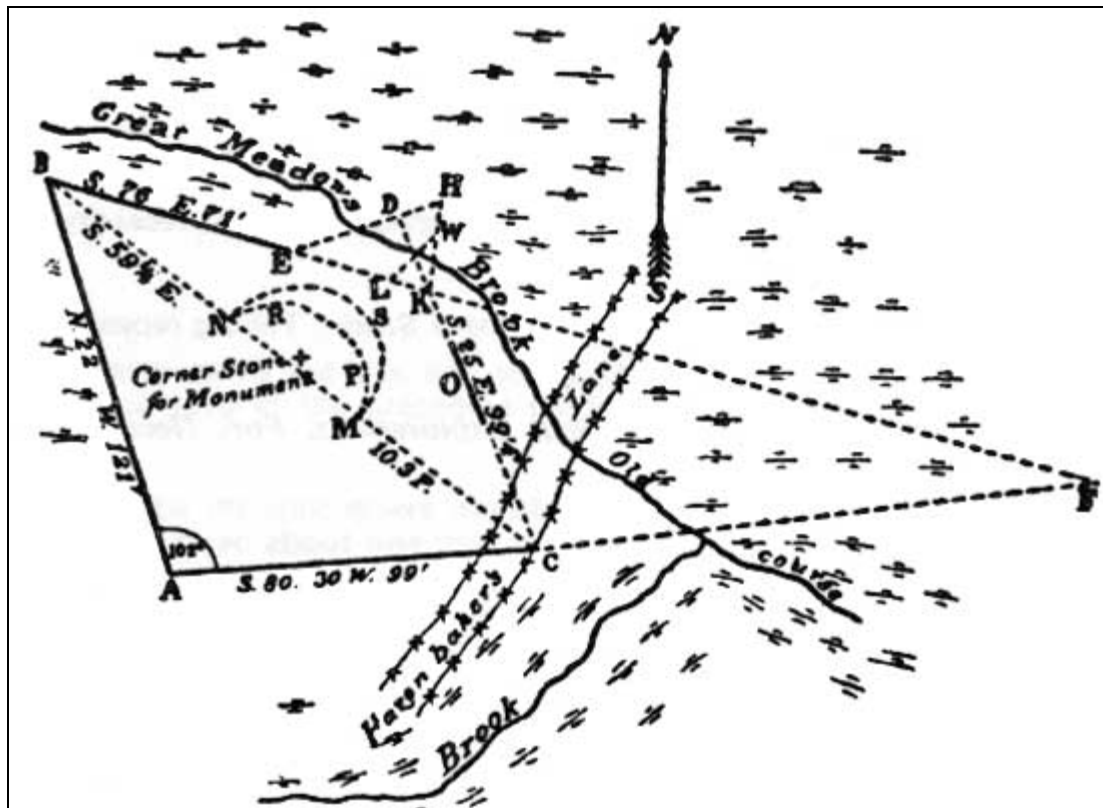


Fig. 6. Survey made by Robert McCracken and published in Archer B. Hulbert, *Washington's Road*, 1903.

Hulbert presented a most detailed explanation, or rationalization, as to how Lewis could have made so conspicuous an error. The error, of course, would have been obvious to anyone taking the trouble to inspect the site, as Blackford found in 1931, or as Thwaite observed when he visited the site in 1903 and made a rough check of the surface remains. [33] Hulbert's review of the evidence was so thorough, and his arguments so convincing, that the case would seem to have been closed once and for all. Douglas Freeman; whose research and

analysis was as thorough as any ever done on the 1754 expedition, was satisfied with the explanation and wrote that Hulbert's "conclusions are accepted". [34]

The Hulbert discussion was reviewed in the report of the 1931-1932 project, results of which appeared to provide added proof of Hulbert's basic interpretation, with certain refinements provided through archeological exploration. [35] Later, in Frederick Tilberg's "orientation report" prepared as a guide for the 1952 explorations, the Hulbert discussion was again presented, along with an appraisal of the added evidence from the 1931 explorations. [36] Hulbert, with certain modifications, was still accepted as the final word at the close of the 1952 explorations, when, in my brief preliminary report, I wrote that "on the basis of existing evidence, the present reconstruction is probably located very close to the original lines of the fort". [37] Through all of the years of discussion of these surface traces, there had never been any question raised as to the validity of their interpretation as remnants of the earth piled against the stockade. The sole point of all the discussions, some rather heated, had been whether the fort was triangular or diamond-shaped in plan.

In view of the uncritical adherence to Lewis' original interpretation on the part of serious students, it is interesting to observe that a few people had visited the site and had naively reported what they saw, just as Burd did in 1759, unprejudiced by the unfortunate notation on Lewis' map. A canal surveyor, for example, passed the site in 1825 and wrote that he had seen "the mud walls of Fort Necessity . . . Its shape and extent are still to be traced by the remains of the embankments . . . The embankments of the Fort I have said are still visible." [38] Obviously, this visitor had not read about Washington having built a stockade, and he visualized the fort as a typical earthwork. Townsend Ward visited the site in 1854 and wrote: "A faint outline of the breastwork and a trace of the ditch are yet visible". [39] Ward, apparently, was one of the few who saw the remains in their true light, and very likely was the last writer to describe just what he saw, unprejudiced by the later arguments.

Now that the clouds have cleared away, it is difficult to see how anyone could have brushed aside Colonel Burd's observation, and it is rather surprising that almost everyone accepted Lewis' interpretation of the surface remains, or arrived at the same conclusions independently, especially since those interpretations are not particularly logical from the standpoint of military precedent. Unfortunately, almost any interpretation gains prestige by repetition and especially by publication, no matter what the qualifications of the author may be. It can gain so much prestige, in fact, that even new evidence will not be given proper consideration.

Such was the case when the Shaw document came to light some fifteen years ago. [40] The document is a deposition made only two months after the battle by a certain John Shaw, presumably a participant in the battle, and contains the following statement: "There was At this Place a Small Stocado Fort made in a Circular form round a Small House ...". No one gave credence to this new evidence when it was discovered, and even as late as 1952, when preparing for archeological explorations, it was summarily brushed aside, along with Colonel Burd's note, because it was counter to the traditional and accepted interpretation. After all, if one could see with his own eyes that the fort was diamond-shaped, why pay any attention to these people who said it was round?

A brief "case history" of this century-long controversy has been included, here, not to excuse, but to explain what now looms up as an unwarranted reluctance on everyone's part to analyze critically the available evidence. It explains also why, even with the Shaw document at hand, we saw the main objectives of the preliminary archeological explorations as (1) locating the "lost" entrenchments, and (2) settling once and for all, the triangle versus diamond-shape controversy. In the detailed description of the excavations, I will show how this stubborn resistance to accepting perfectly good documentary evidence, which originated

innocently with a note on a surveyor's map, finally was overcome.

GREAT MEADOWS SINCE THE BATTLE [\[41\]](#)

What happened at the site of Fort Necessity after the 1754 episode is of no great importance historically, but it could be important in the interpretation of archeological findings. For that reason, the archeologist needs to know how the land was used, what structures were built on it, and any other occurrences that might leave some record in the ground.

Great Meadows apparently played no important part in the Braddock Campaign just a year after the burning of Fort Necessity. The old trail that Washington had struggled so hard to make into a serviceable road had been improved for use by a much larger army, which passed by the ruins of Fort Necessity on June 25, 1755, on its march toward Fort Duquesne. By coincidence, Braddock was buried only a mile to the west of the site during the retreat of the British following their disastrous defeat by the French on July 9. [\[42\]](#) Fort Necessity, however, is indicated on several maps relating to the Braddock Campaign. For example, a British map dated 1755 shows "Great Meadow-Fort Necessity" [\[43\]](#), and a French map of the same year indicates the site as "F. de Necessite". [\[44\]](#)

The next we hear of Fort Necessity is in the accounts connected with the Forbes expedition. In a letter to Col. Henry Bouquet, dated August 2, 1758, Washington recommended Great Meadows as the best site in that vicinity for a post because of the forage available for horses and cattle. [\[45\]](#) The following year, Col. James Burd, the Scotch road builder was sent out to repair and improve the Braddock Road between Cumberland and Redstone. Reporting to Colonel Bouquet, Burd wrote of his stop at Great Meadows on September 10, 1759: ". . . saw Colonel Washington's Fort which was called Fort Necessity. It is a small circular stockade with a small house in the center; on the outside there is a small ditch goes around it, about eight yards from the stockade. It is situated in a narrow part of the meadows commanded by three points of woods. There is a small run of water just by it. We saw two iron swivels." [\[46\]](#)

Reference to the property first appears in official land records when a patent conveying the property to Washington was issued by the Commonwealth of Pennsylvania in 1771. [\[47\]](#) In spite of his earlier unfortunate experiences in this locality, Washington seemed to have had a fondness for Great Meadows, and although he held it throughout the remainder of his life, the property was always a liability. In 1786 he wrote that the tract "sometimes has, and at other times has not a tenant (though no rent has ever yet been paid me for it) . . ." [\[48\]](#) Washington had visited the place on a trip west in 1784, writing in his diary for September 12, ". . . stopped awhile at the Great Meadows and viewed a tenement I have there". [\[49\]](#)

Washington never succeeded in renting the land, and finally in 1794 he attempted to dispose of it. [\[50\]](#) He failed even to sell it, and we find the tract listed among his holdings when his estate was settled. In this list of properties owned by Washington when he died, the Great Meadows tract is appraised at \$1,404, quite an increase over the "30 pistoles" that he paid for it 30 years before. [\[51\]](#) In 1807, executors of the estate sold the property to Andrew Parks, whose wife was a relative and legatee of Washington. Parks sold it to Archibald Henderson and Joshua Longstreet in 1809, and during the next fifty years or so it was owned in turn by General Thomas Mason, Joseph Huston, Nathaniel Ewing, James Sampey, Ellis Beggs, and Godfrey Fazenbaker. [\[52\]](#) During the years that Washington owned the property, the Braddock Road, which gradually assumed greater importance as pioneers began settling the West, was widened and improved. Taverns, mostly log buildings, sprang up along the road, but the Great Meadow tract remained unimproved and undeveloped. Washington's claim that the place offered excellent possibilities as a stand for a public house was not put to the test

until the Braddock Road was replaced by the new National Road early in the nineteenth century. The new toll road which, in this vicinity, roughly followed the Braddock Road, was started in 1811, and passed over the hill some 300 yards to the northeast of the old fort site in the meadow. The present highway, U.S. 40, follows fairly closely the line of the National Road.

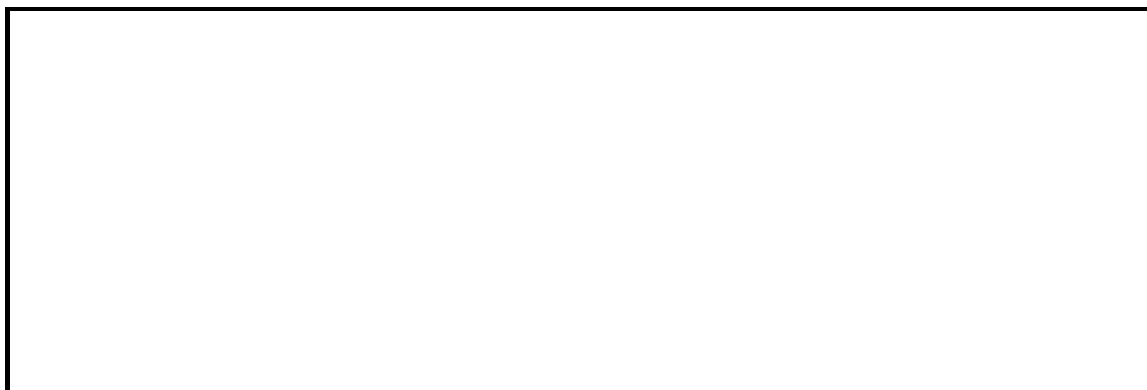
About 1828, after this section of the National Road was completed, Judge Ewing built a large brick house on the new highway, which he named Mount Washington Tavern. Washington's appraisal of the site for use by a publican was more than borne out, for the operator of the tavern reported a profit of \$4,000 during a single year in the 1840's. [53]

The tavern was closed when Beggs acquired the property, and never functioned again as an inn. The Fazenbakers, who purchased the land in 1856, were farmers and stock raisers. They added a frame wing to the brick tavern and used it as their residence. They built a large barn and several frame farm buildings along the highway near the old tavern. [54] The Fazenbakers were probably the first to put the meadow to use, but according to tradition that portion on which Fort Necessity had been built was employed strictly for grazing. They always claimed with pride that the fort site had never been disturbed by the plow. Fences were built across the meadow, the channel of Great Meadow Run was straightened, and an "all weather" lane was built across the bottom land near the old fort site (Fig. 9).

The first known disturbance of the fort site was the laying of the corner stone for a proposed memorial at the centennial celebration in 1854. Fortunately, the memorial was never built and apparently the corner stone subsequently was removed. [55] The next activity was in 1931 in connection with the Washington Bicentennial, when plans were made for a rather ambitious development, including a reproduction of the original fort and construction of an elaborate memorial. [56]

Although the final development was less pretentious than originally proposed, considerable work was accomplished, largely during the spring of 1932. Included was the construction of a stockade, walks and drives, bridges over the creek, and a large parking area across the creek from the fort site. [57]

Before starting this development, a careful survey was made of the surface remains of the fort and the trace of the original creek channel by Harry Blackford, registered Civil Engineer (Fig. 9). An archeological exploration of the site was begun in November 1931, under Mr. Blackford's supervision. [58] Based upon the location of the surface traces and results of the excavating, a stockade was constructed the following spring. Locust logs, 12 feet long and squared on two sides, were set in the archeological trench and imbedded in concrete. A firing step was built around the inside of the stockade, subsurface drainage lines were installed, the adjacent ground was filled to a depth up to 2.5 feet, a log cabin was constructed, a flag pole was erected, bronze historical markers were put up on the stockade, and the area made ready for the celebration on July 3 and 4 (Fig. 7).



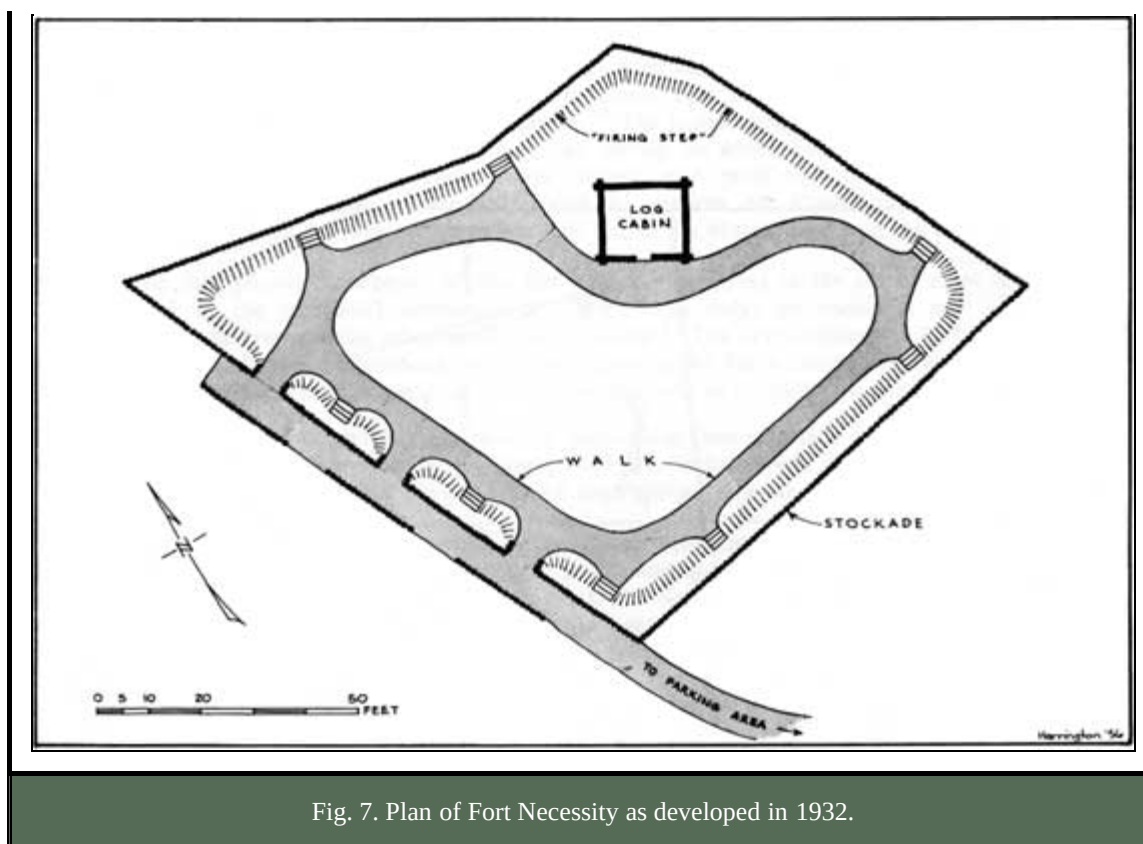


Fig. 7. Plan of Fort Necessity as developed in 1932.

The 2-acre tract on which the fort site is located, and on which the Washington Bicentennial developments were carried out, was deeded to the Federal Government on March 21, 1932. [59] This is the area now comprising Fort Necessity National Battlefield Site. It was first administered by the War Department, then transferred to the National Park Service in 1933. The 311-acre State Park surrounding the Battlefield Site was purchased by the Commonwealth of Pennsylvania in 1932 and developed for recreational use, largely under the Civilian Conservation Corps program between 1935 and 1938. [60] The principal work affecting the battlefield proper, accomplished during this period and later, was the planting of trees. The plan was to restore the surrounding hillsides to their wooded condition as of 1754. Unfortunately, much of the reforestation has been in pine, whereas the forest at the time of the battle was hardwood, predominately oak.

In September, 1953, following the exploratory excavating of the preceding spring when the original stockade remains were discovered, the entire 1932 stockade and related structures were demolished. Later that fall, and during the spring of 1954, the circular stockade and entrenchments were reconstructed, the bronze plaques reinstalled on the stockade wall, a log storehouse built, and a new system of walks constructed within the area (Fig. 8). To keep the ground drier under foot, the fill placed over the area in 1932 was left in place. Thus the reconstruction, although properly located in plan, is approximately a foot higher in elevation than the original structures. The channel of Meadow Run was left in its straightened course, rather than restoring the original meandering course. Some clearing of young volunteer growth in the meadow was accomplished in preparation for the bicentennial celebration, which was observed with elaborate ceremonies on July 3 and 4, 1954.



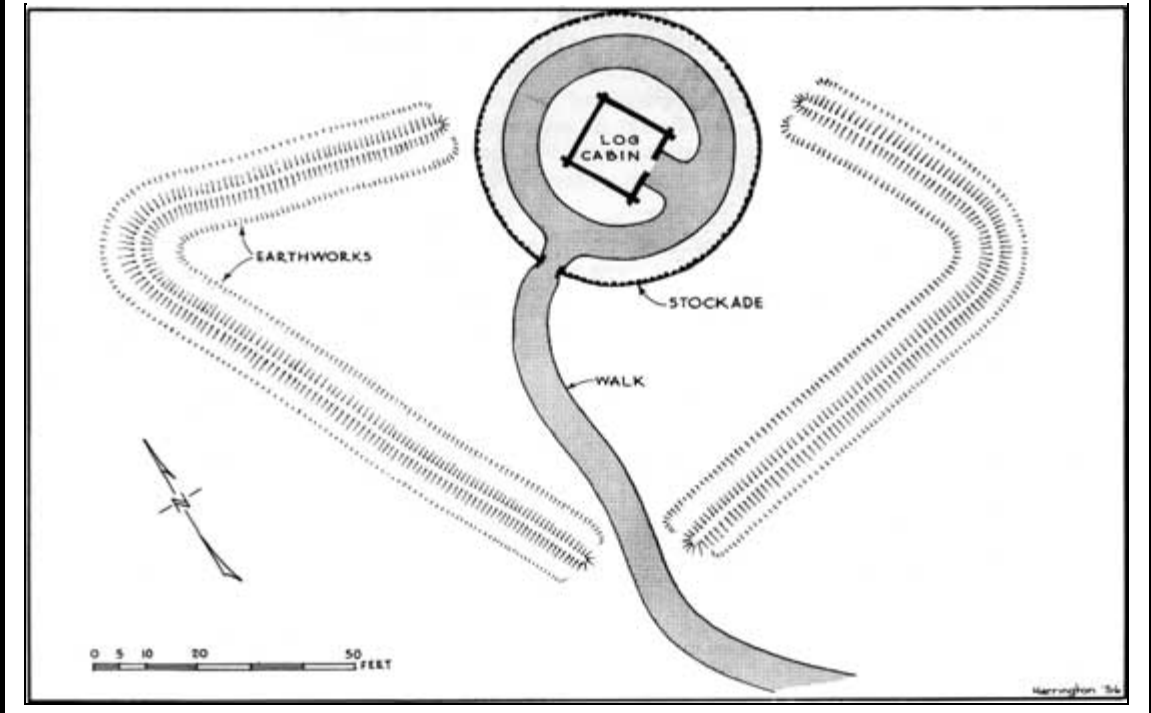


Fig. 8. Plan of Fort Necessity as developed in 1954.

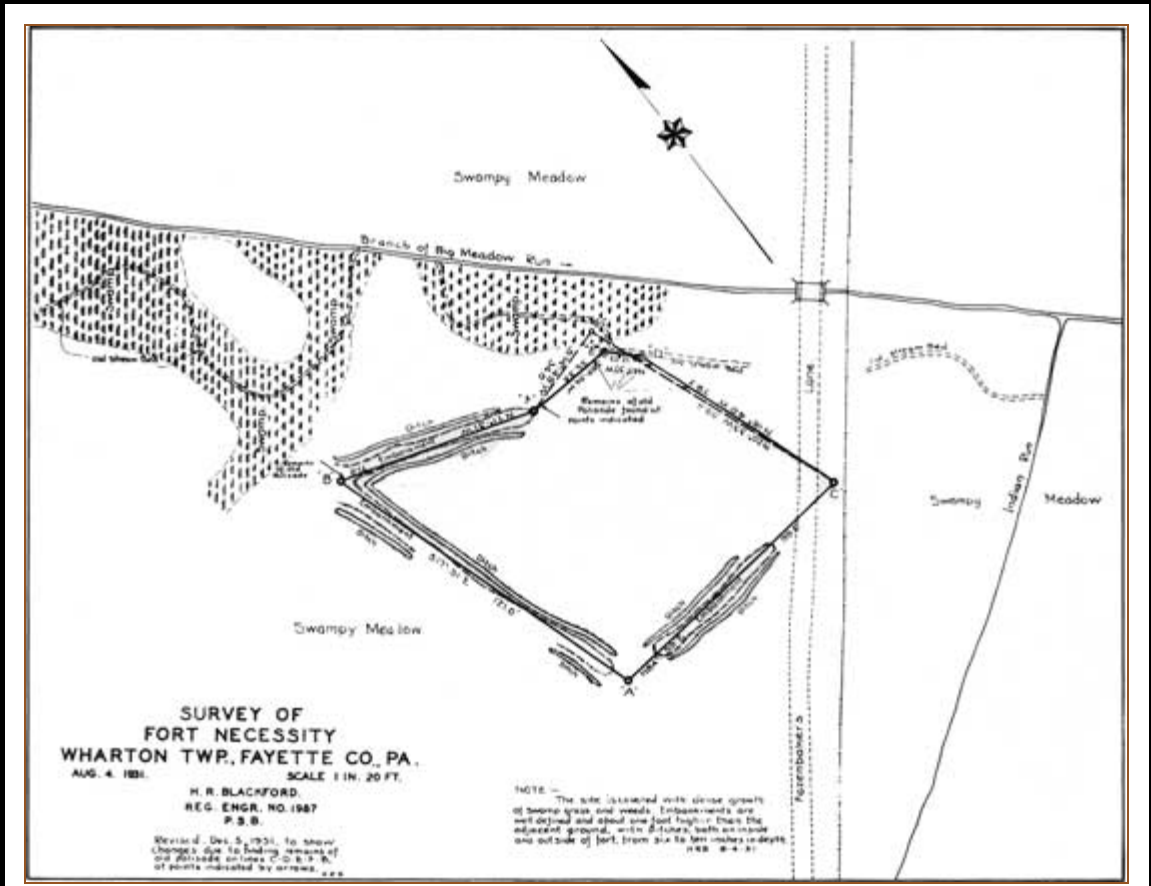


Fig. 9. Survey made by Harry R. Blackford, 1931. (click on image for a PDF version)

fone/new-light/part1.htm
Last Updated: 04-Mar-2009

FORT NECESSITY

New Light on Washington's Fort Necessity

A Report on the Archeological Explorations at Fort Necessity National Battlefield Site



PART II.

ARCHEOLOGICAL EXPLORATIONS

PREVIOUS ARCHEOLOGICAL EXPLORATIONS

The 1901 Project

The first careful examination of the site after Freeman Lewis' visit in 1816 took place in 1901 when Archer Hulbert went to Great Meadows to secure firsthand information for his account of the Braddock Road in the "Historic Highways of America" series. He was familiar with the controversy over the shape of the remains, and states that he went there convinced that Lewis, rather than Sparks was correct. [1] The owner of the land, however, pointed out that the visible surface remains did not conform to the Lewis survey. Robert McCracken, a surveyor, was in the Hulbert party and he soon discovered that two sides of the Lewis triangle were correctly mapped, but that the base of Lewis' triangle was not represented by visible traces. [2] They also found a third ridge, as distinct as the two correctly mapped by Lewis, but not shown on his map. In addition to these more conspicuous ridges and depressions, Mr. Fazenbaker, the owner, also called attention to a very faint trace of an isolated ridge along the fourth side near the Run, marked "O" on McCracken's map (Fig. 6).

Hulbert did enough digging to convince him that the main ridges were man-made, but what seemed more important to him was finding in "Mound O" what he believed to be remains of the original stockade. [3] Here, in two cross trenches (location unknown) at a depth of "about four and one-half feet", a considerable amount of bark was encountered. He interpreted this bark to be remains of the original stockade posts, and made quite a point of the alleged fact that bark is more durable than wood. This bark, which turned out to have no connection with Fort Necessity (see page 60), was encountered also in the 1931 excavations, and again interpreted as remains of Washington's "palisado'd Fort". It was simply a case of wishful thinking, but it seemed to Hulbert, as it did to later excavators, that this discovery furnished final proof that Lewis' triangular plan was in error. [4] It would almost seem that Hulbert was more interested in disposing of Lewis and Veech than in finding the remains of Fort Necessity, although I may be doing him an injustice. But in spite of his concern with Lewis' mistake, his major contribution was in noting and recording "Mound O", since the slight trace of this ridge had completely disappeared by 1931. As pointed out later in this report, the presence of a ridge at this location was a major factor in arriving at an entirely new interpretation of all the ridges, thus leading to the discovery of the original fort remains.

Hulbert refers to certain "relics" as having been found at the site, including "the barrel of an old flint-lock musket, a few grape shot, a bullet mould and ladle, leaden and iron musket balls". [5] The present location of these objects is not known.

The 1931 Project

Only a brief summary of the 1931 excavations will be given here, since the excavator's

account is appended to this report. The explorations carried out in preparation for the Washington Bicentennial Celebration developments were supervised by Harry Blackford, a Civil Engineer, who had mapped the site for the Memorial Committee in August of the same year (Fig. 9). [6]

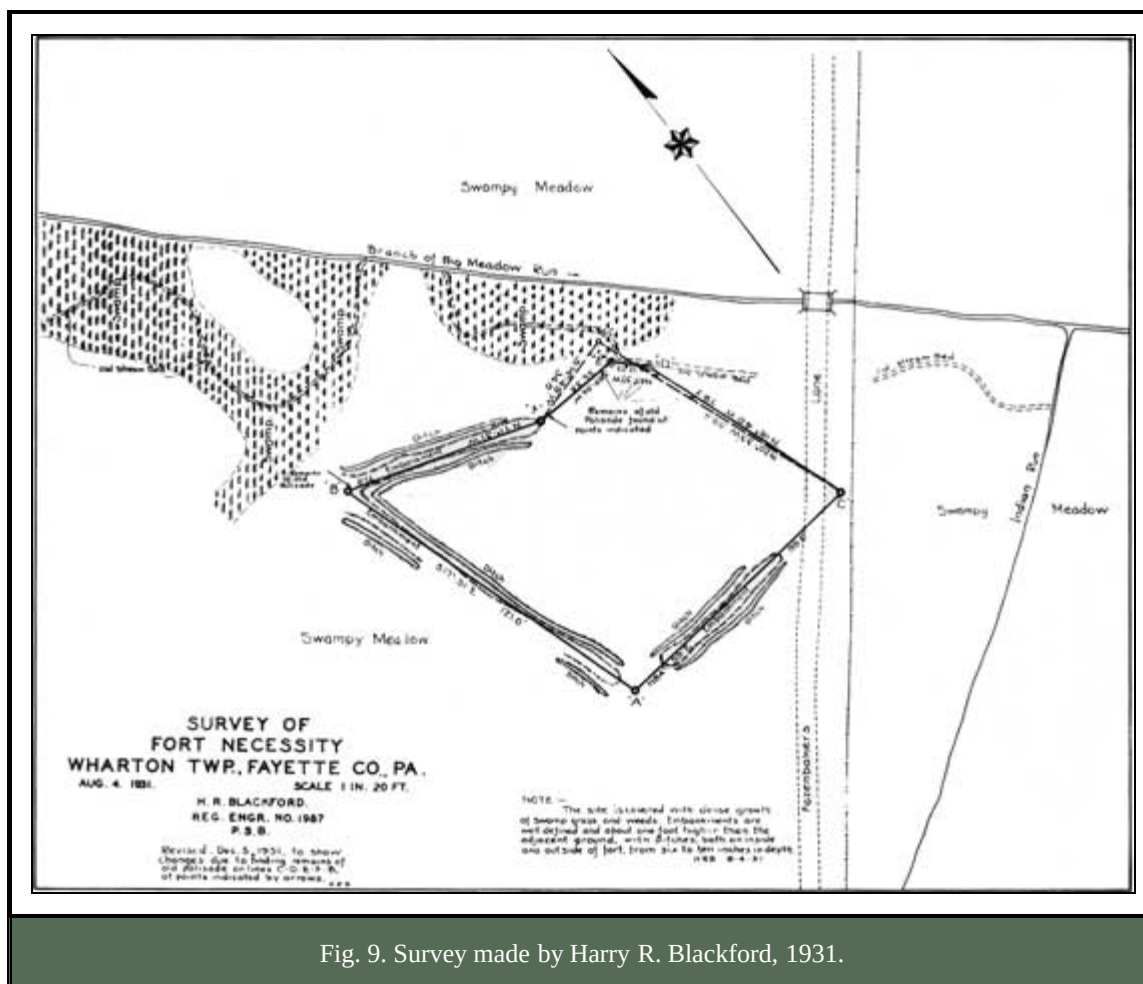


Fig. 9. Survey made by Harry R. Blackford, 1931.

The first step in the archeological excavating, which began on November 17, was to dig "exploratory trenches at right angles to the existing embankments to determine, if possible, the location of the old stockade with reference to the embankments". [7] Finding no evidence of stockade remains in these cross trenches, the next step was to put down a continuous trench, approximately 3 feet wide and 2 to 3 feet deep along the crest of each of the three ridges. Where remains of embankments were no longer visible, these lineal exploratory trenches followed the general location of the fort outline shown on McCracken's map. Finally, at one point in this trench, at the northernmost section, near the Run, several post ends were found in what appeared to be a straight line. Using the new evidence, which departed at this point from the McCracken (Hulbert) map, the trench was continued in a straight line toward the point where the surface traces played out. Only one additional post fragment was found along these assumed lines of the fort, but the same bark reported by Hulbert was encountered, and again erroneously interpreted as remains of the stockade posts.

No plan was made showing the location of the 1931 explorations, but the lineal trenches were marked imperishably when they were filled with concrete as an anchor for the new posts of the reconstruction. Nor was a map made showing the exact position of the few post ends encountered, but, from the narrative account, it would appear that a short, continuous section was uncovered, as well as at least one isolated post (Fig. 21).

Although the first exploratory cross trenches would have intersected the original ditches of

the entrenchments, these remains were not recognized. Nor was the line of the original circular stockade noted when it was crossed, except at those points where post remains occurred, and even there it was observed as a straight line rather than curved. The stockade line was later intersected at several points in digging the trenches for the drain tiles, and several post ends were encountered, but they were not recognized as being significant since they were not found along the traditional or assumed line of the stockade. (Fragments of post ends were found during the 1953 excavating that had been thrown back into the drain tile ditches near where they crossed the original stockade.) A section of the stockade remains was also encountered when digging the hole for the flag pole, but, again, the wood fragments had no business being there, and so were dismissed as of no possible importance, if, in fact, they were noticed. Failure to note evidence of the original entrenchments or the stockade trench where post ends were missing is not at all surprising, since the people who did the excavating were not experienced in distinguishing subtle soil differences. Moreover, they were looking strictly for stockade evidence in the form of wood remains, and such remains, according to the accepted theory, lay in straight lines, mostly represented by visible surface ridges.

Quite a few "relics" were found during the 1931 excavating, as well as during the site development the following spring. They include lead and iron balls, a concentration of swan shot in one of the drain tile trenches, a few fragments of glass and china, and bits of rusty iron. This material is described, along with that found in the 1952-1953 explorations, in a later section.

THE SETTING

Although I promised in the Preface not to give a detailed description of the geography of the site and its flora and fauna, some mention of the physical setting is needed. Winding irregularly between low bordering hills for a distance of 1-1/2 to 2 miles is a typical upland meadow, called "Great Meadows" even before Washington's first visit. Some 200 to 300 yards wide, it is traversed by a small meandering stream known as Meadow Run. [8] Except for certain areas which have been altered in recent years, the meadow is marshy, with typical marsh vegetation — grasses generally, with alders and small bushes along the stream banks. [9] During spring floods, and possibly at times of heavy rains, the stream has overflowed its banks and over the years has gradually built up the floor of the plain. Archeological evidence shows that the meadow was 2 to 3 feet lower in relatively recent geological times, with indications of a heavier growth of vegetation, but the geological history of the area is really of no concern to us here.

The present meadow is relatively level, with an elevation of around 1840 feet above sea level. The ground slopes up from the edges of the flat bottom land, rather gradually at first, then more sharply to irregular ridges and hills, which reach an elevation of 1900 to 2100 feet. In 1754 a hardwood forest apparently began at the edge of the meadow (Fig. 1). These woods furnished logs for the stockade, and also provided shelter for the attacking French soldiers. Contemporary accounts of the battle indicate that the woods came to within 60 yards of the fort on the southeast side, but were beyond musket range on the other sides. The old trails and roads skirted the meadow, running just inside the woods line, presumably to stay on drier ground (Fig. 1). The area selected by Washington for his camp, and later for the fort, apparently was a slightly elevated knoll or tongue of higher ground extending into the meadow. [10] It was bounded on one side by a small tributary of Meadow Run, known as Indian Run. The presence of this second stream, which, with the meandering bed of the main stream, provided natural defenses for the troops until they could build their own, probably was the primary reason for selecting this particular site for the camp.

Today the scene has changed in many respects, although as noted previously, the terrain

within the Battlefield has been restored to its earlier wooded condition. It has been reforested with pine, however, rather than oak. Outside the Battlefield most of the sloping land adjoining the meadow is under cultivation. Also, the meadow itself in the immediate vicinity of the fort site has been altered considerably. First of all, about 100 years ago a straight channel was dug for the portion of the Run adjacent to the fort. In 1932 the grading operations in the 2-acre memorial tract raised the ground level as much as 2 feet or more in places. Other work carried out at that time and during the later development of the Battlefield, such as the entrance road and parking area, has changed considerably the appearance of the meadow. Even more recently an earth dam has been built just upstream from the fort site, forming a small reservoir. Actually, none of these alterations had any real effect on the archeological explorations, other than the additional digging necessitated by the 1932 fill.

Nature, however, was more successful in confusing the archeologist through the activities of crayfish. Even though the site allegedly had never been cultivated, the ground had been worked over quite thoroughly by these industrious creatures, making it very difficult to distinguish soil differences at the upper levels. Moreover, these innumerable crayfish holes, some bigger than a shovel handle, were responsible for finding lead musket balls and other objects at a much lower level than they should have been.

OBJECTIVES

The program of archeological exploration at Fort Necessity can be divided into two distinct phases having quite different objectives. The first corresponds with the opening season's field work (August-September, 1952), and the second with the two periods of field work in 1953 (April and September).

Before excavating began in 1952, an "orientation" report was prepared, in which pertinent documentary materials were synthesized and interpreted as a guide to the archeologist in planning and reporting on the excavations. [11] The conclusions as to the physical appearance of Fort Necessity presented in this pre-excavation report followed those generally accepted over the years. The report, on the whole, dealt with the controversy as to whether the original stockade had been triangular in plan, or more square-shaped, a discussion that had been going on for over a hundred years. Even after assembling and reviewing all the documentary evidence, none of us seriously considered the third alternative of a small, round stockade — actually the only one of the three alternatives supported by contemporary documentary evidence. It was still assumed that both Shaw and Burd had actually observed an irregular, but straight-sided stockade, which appeared superficially to them to be round.

In the preliminary explorations, the primary concern was to locate the entrenchments presumably lying outside the stockade erected in 1932. It was thought that the restoration of this feature would be an interesting and valuable supplement to the reconstructed stockade, and would fill out the setting so that the story of the battle would be more intelligible to visitors. Secondary objectives were 1) to settle, once and for all, the "triangle versus square" controversy, 2) to establish the 1754 location of the stream bed, and 3) to secure additional objects for museum display. It was taken for granted that the excavating and construction carried on in 1931 and 1932 would have destroyed all remains of the original stockade. Recovery of additional information on this feature, therefore, seemed quite unlikely.

The second phase of the archeological explorations was concerned with locating the circular stockade and securing as full information as possible on the entire fort. Such a project, however, was quite unforeseen when the first season's field work was started.

EXCAVATING PROCEDURE

Three factors limited the extent of the preliminary explorations, and, to some extent, the later more extensive excavations. These were 1) the fill made in connection with the 1932 developments, 2) existing features, such as walks and lawn, and 3) limited funds. In the area explored, fills up to over a foot in depth had been made in 1932 for the purpose of providing a less marshy condition around the reconstructed fort, and to lessen the danger of inundation during spring floods. Ideally, this earth fill might better have been removed entirely, with power equipment, before starting the archeological work, but, for obvious reasons, such a plan was not practicable. Even though additional digging caused by this foot or so of fill limited the extent of testing that could be accomplished with the funds available, it is doubtful whether any more exploring would have been done in any event, for the only foreseeable result at that time was the recovery of more relics. Since it was assumed that the surface of the ground had been examined thoroughly before the fill was made, it seemed unlikely that any sizable objects would be found. Although it eventually became necessary to remove the 1932 stockade, as well as the paved walks, nothing so drastic was anticipated when the field work started.

When the excavating began in 1952, it was expected that only a few exploratory trenches would be dug. It did not seem necessary, therefore, to lay out the site on a grid system, particularly since the trenches could not be oriented with the grid lines in any event. The trenches, therefore, were designated "A", "B", etc., and were tied into the permanent boundary markers at the corners of the 2-acre tract. The same system was continued at the outset of the second season, for even at that time it was not yet known whether the modern structures would have to be removed. As soon as archeological evidence made it quite clear that the 1932 reconstruction was incorrect and would have to be replaced, the area was staked out on a regular coordinate system and subsequent trenches laid out in reference to this grid. For convenience, the 252-foot "south" side of the 2-acre rectangular tract was assumed to run east and west, with the southwest property marker designated as the zero point on the grid.

The top of the northeast corner marker, recorded in Blackford's field notes as elevation 1845.62 feet above sea level, was used as the datum for all vertical measurements. In some instances, features, soil levels, and artifacts were recorded by surface depth, without reference to the datum. Such figures, however, can be transposed to actual elevation, or vice versa, since surface elevations were recorded at each stake and at intermediate points as indicated by irregularities in the topography.

Exploratory trenches were either 3 or 5 feet wide, depending upon the nature of the anticipated feature. When an important feature was encountered, the trench was widened, as required.

Field records for the project consist of detailed notes in engineers' bound field notebooks; field drawings on 18 x 23 inch cross-section paper; and photographs, both black and white and colored. All objects were numbered in a continuous series (1 through 243). Wood fragments, consisting mostly of water-preserved post ends, were treated in different ways to assure preservation of typical examples. On most of the larger pieces, no preservative was used, the wood being allowed to dry out very slowly. After two years, the wood appeared to be quite sound, and further proof that this is a satisfactory method is offered by the untreated pieces excavated in 1931, which are in excellent condition. A few sample specimens of wood were dried out by the alum-glycerine treatment and then impregnated with a solution of linseed oil, turpentine, and acetone. Iron objects were preserved by the standard treatment of mechanical and chemical rust removal, with final paraffin coating. All objects, including those recovered in 1931 and 1932, are on display at the Fort or in the Tavern, or are in storage at the Tavern.

1952 PRELIMINARY EXPLORATIONS

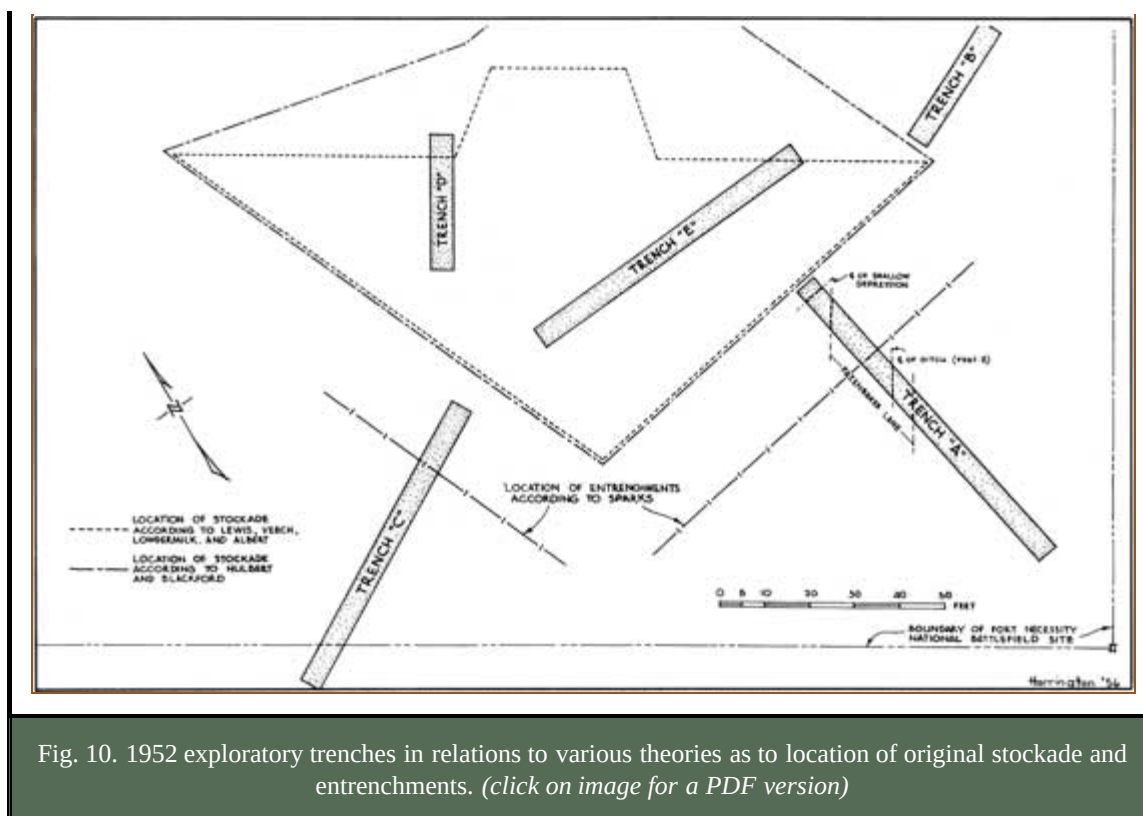
Plan of Attack

Archeological explorations were started in August, 1952, for the express purpose of locating the entrenchments which presumably would be found just outside the stockade. At this time there was no inclination on anyone's part to question the correctness of the 1932 reconstruction, particularly as to the location of the stockade. There is no contemporary description of these entrenchments, and none of the later visitors to the site, with the exception of Jared Sparks, makes any mention of them. [12] Colonel James Burd, however, almost certainly was referring to the entrenchments when he noted after his visit in 1759 that "there is a small ditch goes around it (the stockade) about 8 yards from the stockade." [13] Whereas Burd left no drawing, Sparks provides us with a map purporting to be an accurate record of what he claimed to have observed at Great Meadows when he visited the area in 1830 (Fig. 3).

Several things in Sparks' drawing, however, raised doubts as to its reliability. Although the plan of the stockade appeared to conform, in general, to the plan established by Hulbert and by the 1931 explorations certain details, such as the three entrances, did not quite ring true. There were other reasons for questioning Sparks' map, notwithstanding its superficial appearance of authenticity. Although it showed many features in considerable detail, the few that can be checked — such as the "Road from Wills Creek" and the two streams — were seen to be inaccurately drawn. We could not overlook completely, however, the entrenchments, which Sparks showed approximately 20 feet from the line of the stockade, particularly when this conforms so closely to Burd's "8 yards". On the other hand, it was recalled that Lewis and Veech, who made a detailed survey of the site several years before Sparks' visit, had not been able to find any trace of entrenchments, although they searched the ground for them. However, we had no clear-cut evidence that Sparks had not seen and correctly recorded the entrenchments, and there was no good reason for not using his convincingly delineated map as a starting point for laying out the first test trenches. It was assumed that evidence of the entrenchments would be found within a reasonable distance of the stockade, and it seemed most likely that they would have been located on the south and west sides of the stockade, as shown by Sparks.

Two exploratory trenches were dug on the outside of the reconstructed stockade specifically in search of these entrenchments (Trenches "A" and "C", Fig. 10). A third trench, "B", was dug at the southeast corner for the purpose of checking original topography and soil conditions in the vicinity of the Run. We even considered the possibility of finding evidence of conventional pointed bastions at the corners, so convinced were we at that time that the original stockade corresponded in general with the 1932 reconstruction.





The nature of the earth made it rather difficult to detect old soil disturbances, largely because of its wet, marshy character, and because of the great number of crayfish holes that extended from the surface to a depth of two to three feet. The farm road (Fazenbaker lane) also confused things in Trench "A". Although its location was known (mapped by Blackford in 1931), it was assumed that the lane was relatively superficial and would not extend deep enough to obliterate remains of the original entrenchment.

Not finding evidence of a ditch at a likely distance from the stockade, the first two exploratory trenches were extended as far as there seemed any possibility of the entrenchments having been located (80 feet for "A" and 70 for "C"). Although some interesting information came to light, no evidence of the ditch of the 1754 entrenchments was found in either trench. It was recognized that the shallow remains of the old ditch could have been obliterated by the lane, or made indistinguishable through years of crayfish activities. It was also realized by this time that the exploratory trenches had not been too well located, at least not for the purpose of checking Sparks' plan. Excavation of other test trenches outside the stockade was considered, but it was decided that this would have to wait until it was possible to carry out a more extensive program of explorations. Funds for the first season's tests were quite limited, and there was still the matter of looking for the base of the Lewis-Veech triangle.

Trench "A"

The principal results from the excavation of this 80-foot trench were 1) negative evidence on the entrenchments (although not too satisfactory because of the deep disturbance of the lane), 2) exact location and certain construction details of the lane, 3) information concerning the natural soil conditions and the grading accomplished in 1932, and 4) location and depth of the shallow ditch along the outside of the ridge (confirming Blackford' 1931 survey).

The remains of Fazenbaker's lane, although found in the location shown on Blackford's map, were much more extensive than anticipated. But even though the ground had been disturbed to a depth of over a foot below the 1754 grade, some evidence of the entrenchment ditch

should have been found if it had been in this location. In the vicinity of the fort, where the ground was low and marshy, earth and stones had been added to the roadbed of the lane from time to time. Where Trench "A" cuts the lane, this fill was more than a foot thick, and spread over a width of some 20 feet (Figures 10 and 11). Before the stone fill was made, there had been a ditch along the southeast side of the lane (Feat. 2, Fig. 11).

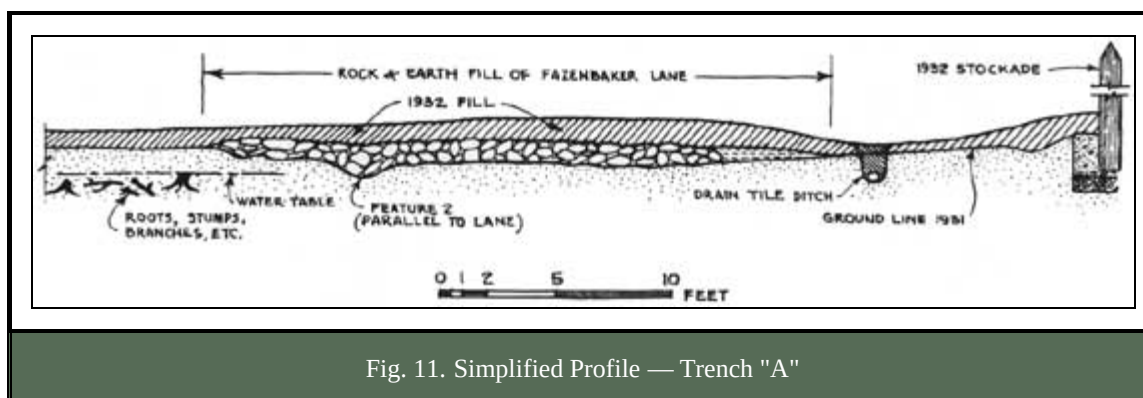


Fig. 11. Simplified Profile — Trench "A"

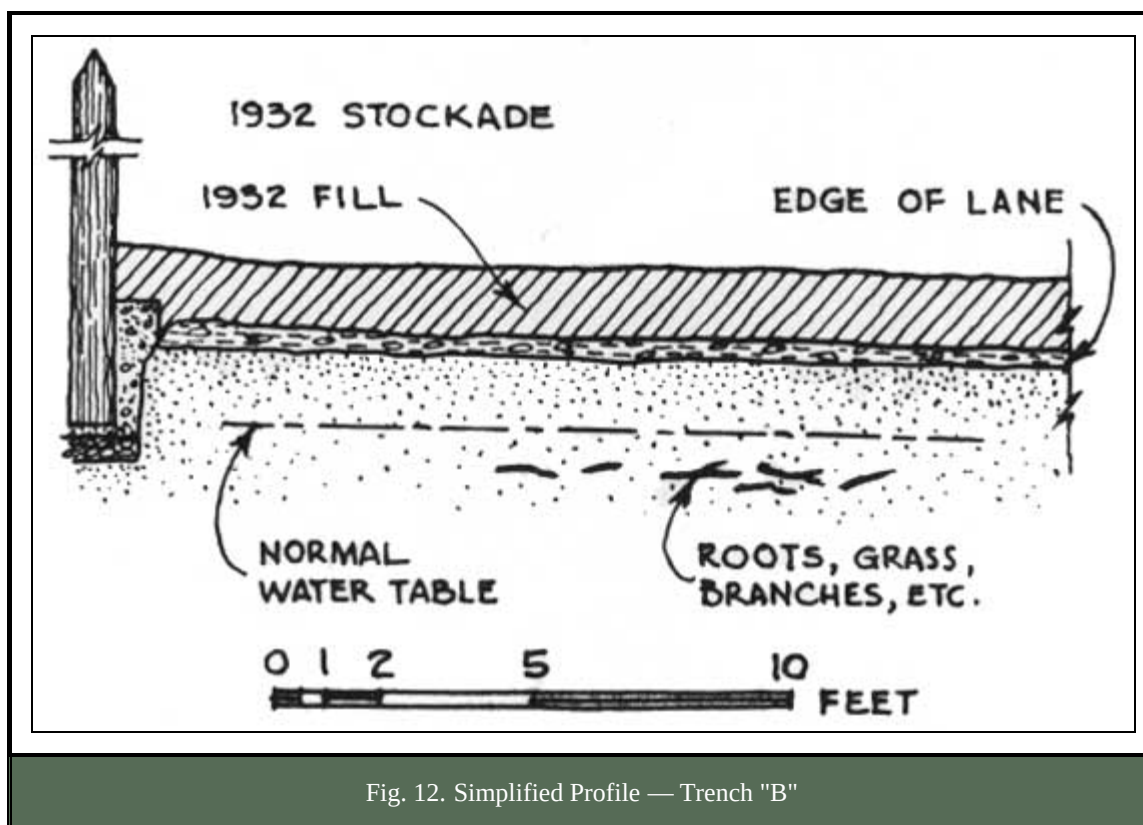
A full description and analysis of the various soil layers adjacent to the lane would require specialized geological study. Moreover, it is irrelevant to the present discussion, since all but the layer added in 1932 are natural deposits, and presumably date from well before 1754. Of interest to the present study, however, is the deep clay layer in which were found remains of tree roots, branches and grass. These remains of an ancient marsh vegetation were preserved by having been below the normal water table, and thus continuously wet. This buried plant zone obviously has no connection with the history of Fort Necessity, but its discovery in the exploratory trenches quite definitely contributed to the discovery of the original stockade, as later discussions will show. The soil above this zone appears to be a combination of natural humus development and flood deposits.

In the short distance between the lane and the existing stockade, the situation was confused and it was not possible to determine the 1754 ground line with any certainty. The trench profile did confirm the recent known history of the site beginning with the excavations of 1931. A trench had been dug along the crest of the still visible ridge, about 3 feet wide and 2.5 to 3.0 feet deep. (See description of 1931 excavations, Appendix 6.) When the stockade was reconstructed the following spring, a six-inch layer of crushed rock was laid in the bottom of this trench, on which was poured a thin layer of concrete. The stockade posts were then set on the concrete-stone footing and the entire space around the posts filled with concrete. Extensive grading followed, in which a wide, shallow depression was formed along the outside of the reconstructed stockade, and a firing step formed on the inside (Fig. 25). A tile drain, placed under the outside depression, further confused the soil picture. But in spite of these disturbances, it was possible to determine the pre-1931 surface, except along the crest of the ridge. A slight depression was noted in the Trench "A" profile, 3.5 feet from the centerline of the earlier excavation trench. This checks with Blackford's survey and undoubtedly represents the depression mapped by Lewis in 1816 and still faintly visible in 1931.

Trench "B"

This 30-foot trench was dug primarily to observe soil conditions in the vicinity of the original creek bed, and to see if the natural soil profile, as already noted in Trenches "A" and "C", also obtained in this area. No evidence of the "lost" entrenchments or extension of the stockade was found here. The most important observation was the presence of the deep clay layer containing remains of vegetation, exactly as found in Trench "A", although it was slightly deeper than in the first trench; not surprising in view of the proximity of the stream

bed (Fig. 12). The 1754 ground line was readily apparent, with the thin edge of the Fazenbaker lane deposits lying directly on it. Above this was the 1932 fill, here a little more than a foot thick. The trench was not extended far enough to reach the original stream bed, but the soil conditions and the slope of the old ground line indicated that it must have been just beyond the end of the trench, which confirms the location recorded by Blackford in 1931 from surface traces.



Trench "C"

This trench, dug expressly in search of the original entrenchments, produced nothing of importance. It showed the normal soil conditions better than Trench "A", since the only post-1754 disturbances revealed in its 70-foot length were a superficial road fill (part of the 1932 developments) and the grading done in connection with the reconstruction.

Trenches "D" and "E"

The purpose of these two trenches was to check on the possibility of there having been some feature here to account for the base of Lewis' triangle (Figures 14 and 15). The surface of the ground had been examined here by Blackford when he mapped the site in 1931, and he had found no surface traces of any sort. In 1901, Hulbert and McCracken also had looked for evidences. However, no one had checked below the surface, and it was felt that the century-old argument could possibly be settled even more convincingly by some archeological testing. The two exploratory trenches were so located that they would cross the line in question.



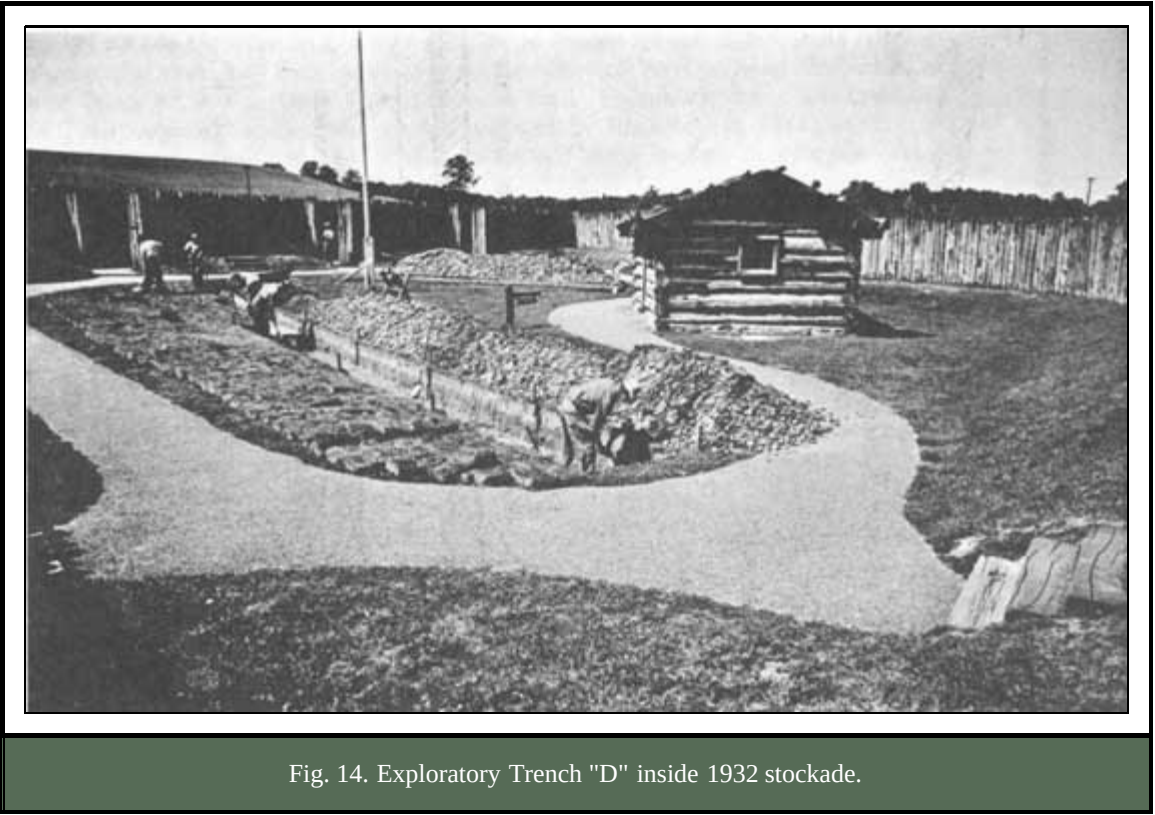
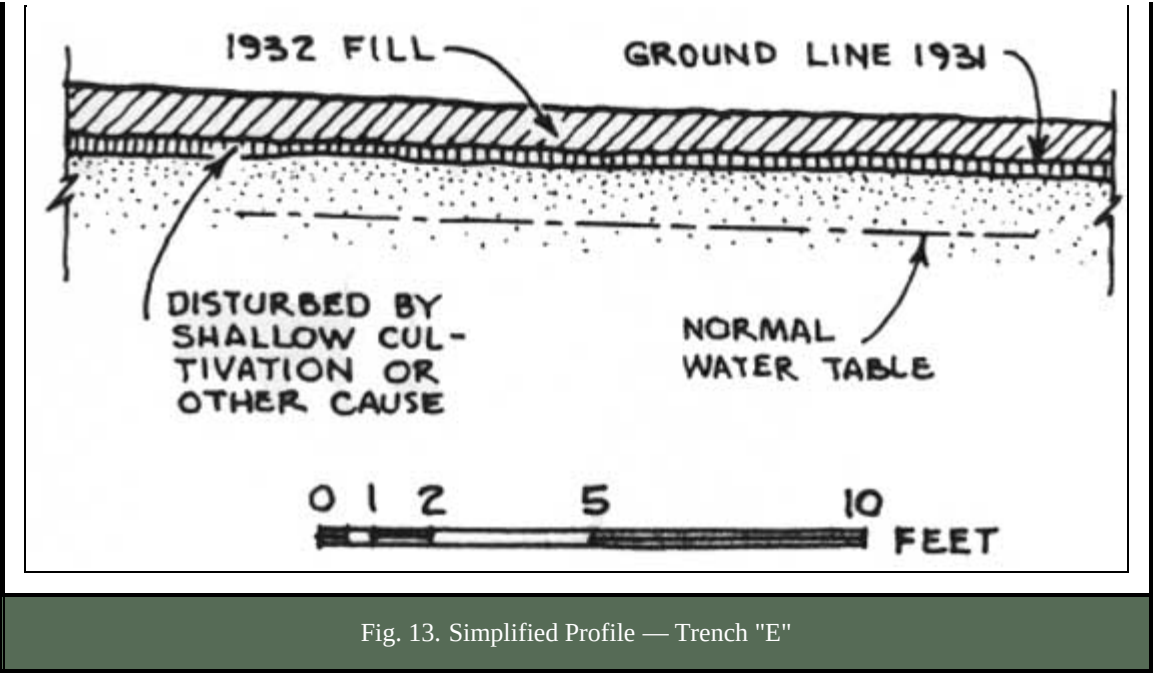




Fig. 15. Exploratory Trench "E" inside 1932 stockade.

Absolutely no subsurface disturbance, other than the drain tile ditches dug in 1932, was found in either trench. What was believed to be the 1754 ground line was quite evident in both trenches, although later evidence raised some question as to the accuracy of this interpretation. The situation was this. A humus layer, averaging about 3 inches in thickness, was found along each profile, lying directly below the 1932 fill (Fig. 13). Below this thin upper humus layer was a more normal natural humus zone. The line of demarcation between the two was quite indistinct, but nevertheless was there. At first this upper portion of the humus zone was thought to have been caused from intensive use of the site in 1754 — men and animals tramping over the ground when it was wet. This, however, would probably not have disturbed the ground to so uniform a depth. The only other conclusion is that the site had been subjected to relatively shallow cultivation. Further evidence for the latter interpretation came from subsequent excavating, and one is forced to the conclusion that Mr. Fazenbaker's claim that the site had never been under cultivation was in error (see page 44 and 46).

The few artifacts found in the excavating came from this upper disturbed zone (except those that had fallen into crayfish holes). They consisted mostly of lead musket balls, gun flints, and small iron cannon balls, and will be described along with the objects from the 1953 excavating.

Summary

Although the location for the three exploratory trenches outside the stockade had not been selected ideally, the evidence from them indicated that there had been no entrenchments in the area explored. Nor had the explorations thrown any new light on the function of the ridges and depressions along which the 1932 reconstruction had been erected. The discovery of roots, branches, and bark in Trenches "A" and "B" at approximately the same depth as the bark reported from the 1931 excavating was very revealing. Blackford had found "pieces of charred wood and lumps of charcoal" at a depth of "about three feet" (Appendix 6), and interpreted them as remains of the original stockade. Finding these remains of vegetation in 1931 was one of the principal arguments advanced at that time for the stockade plan as

reconstructed the following year. It now appeared probable that the bark and "charcoal" encountered by Blackford was the ancient buried vegetation and had been misinterpreted as remains of the original stockade posts.

Discovery of the nature and extent of the Fazenbaker lane also proved valuable in working out a new theory for the location of the original stockade. A section of ridge had been noted by Hulbert early in the nineteenth century, and was shown on the sketch map prepared for Hulbert by Robert McCracken ("Mound O", Fig. 6). Blackford was unable to find any trace of this ridge when he mapped the site in 1931. Noting that the ridge and depressions mapped by Blackford between points "A" and "C" (Fig. 9) stopped at the edge of the lane, it was considered likely that the ridge noted by Hulbert might also have stopped at the lane. Plotting this ridge accordingly on the base map suggested that it, too, stopped at the edge of the lane. It was quite obvious now that the ridges near point "C" had not been obliterated by flood action, as all writers had contended previously, but by construction of the lane. Blackford undoubtedly was correct when he assumed that the ridges originally had continued to "C".

The preliminary explorations left certain questions unanswered, and raised others. Why had we not found those well-documented entrenchments? Was it because we had not dug in the right places, or was it because the evidence had been obliterated or confused by later disturbances, such as the Fazenbaker lane? Should the search be continued in other directions from the fort, and possibly at a greater distance? It was also possible, although we were reluctant to press the point, that remains of the entrenchments were present but had not been recognized. Each of these problems were considered, for we knew that the entrenchments had been some place in this vicinity, and almost certainly not very far from the line of the stockade.

A New Stockade Theory

It has already become legend that the discovery of a previously unknown document (the Shaw Deposition) was responsible for the new theory that the stockade had been circular, rather than squarish or triangular in plan. The truth is that this document was looked upon with favor only after the theory of a circular stockade was advanced in the archeological report for the 1952 preliminary explorations, and was, in fact, not exploited in publicity until after the circular stockade was found. The document had been known, however, long before the new theory was worked out, and had, in fact, been dismissed by everyone concerned, as unreliable evidence. When the exploratory excavations were started in 1952, there still seemed to be too much evidence in favor of a straight-sided stockade, and everyone was content with the existing reconstruction, or, at least, with its location.

The three main factors that brought a reappraisal of the evidence, resulting in a new theory as to the location and shape of the stockade and location of the entrenchments were 1) the absence of remains of the entrenchments in the exploratory trenches, 2) the absence of ridges and depressions in *one area only* (their absence at the lane had now been accounted for, and erosion by the creek, when it overflowed its banks, could no longer be credited with the total obliteration of the traces in the single vacant space), and 3) the fact that stockades were not usually constructed by piling up earth against the posts. A minor factor that also had to be considered was the bulge shown at the north side of the fort on all early maps of the site, particularly those prepared by Lewis and Sparks, both of whom had visited the area before it had been disturbed. Later writers rationalized this bulge as representing an extension of the stockade over the creek for access to drinking water, but the early visitors to Fort Necessity must have observed some evidence on the ground to have caused them to map this extension. The interesting point was that this bulge lay exactly in the space where the ridges and depressions, always assumed to be remnants of the stockade, were missing.

In regard to the method of constructing the stockade, even if earth had been piled against the posts to strength them, there would have been no need to have set them 3 feet in the ground, the depth at which the few posts ends were found in 1931. The 1952 explorations showed that at this depth the bottom ends of the posts would have been preserved by ground water. Why, then, had no post ends been found along the ridges, and corollarily, why were the ones that were found all from the section where there was no ridge? These are some of the questions that arose when the results of the preliminary explorations were appraised in the light of all other evidence; questions that could not be answered satisfactorily by the currently accepted theory that the stockade had originally been located along the ridges.

Once these questions had been raised, and other inconsistencies considered, it was quite natural that the discarded documentary evidence for a small, circular stockade should be looked at again with a less prejudiced view. After weighing all the evidence very carefully, and, at first, rather hesitantly, a report was submitted suggesting that the ridges and depressions were not the remains of the earth banked against a stockade, but rather the remains of the entrenchments. Working on this thesis, it was a natural step to the theory that the stockade had, in fact, been small and circular, and had been located in the space where the ridges were lacking. In the report presenting this new idea, which also outlined plans for future explorations, a circular stockade, roughly 54 feet in diameter, was proposed. [14]

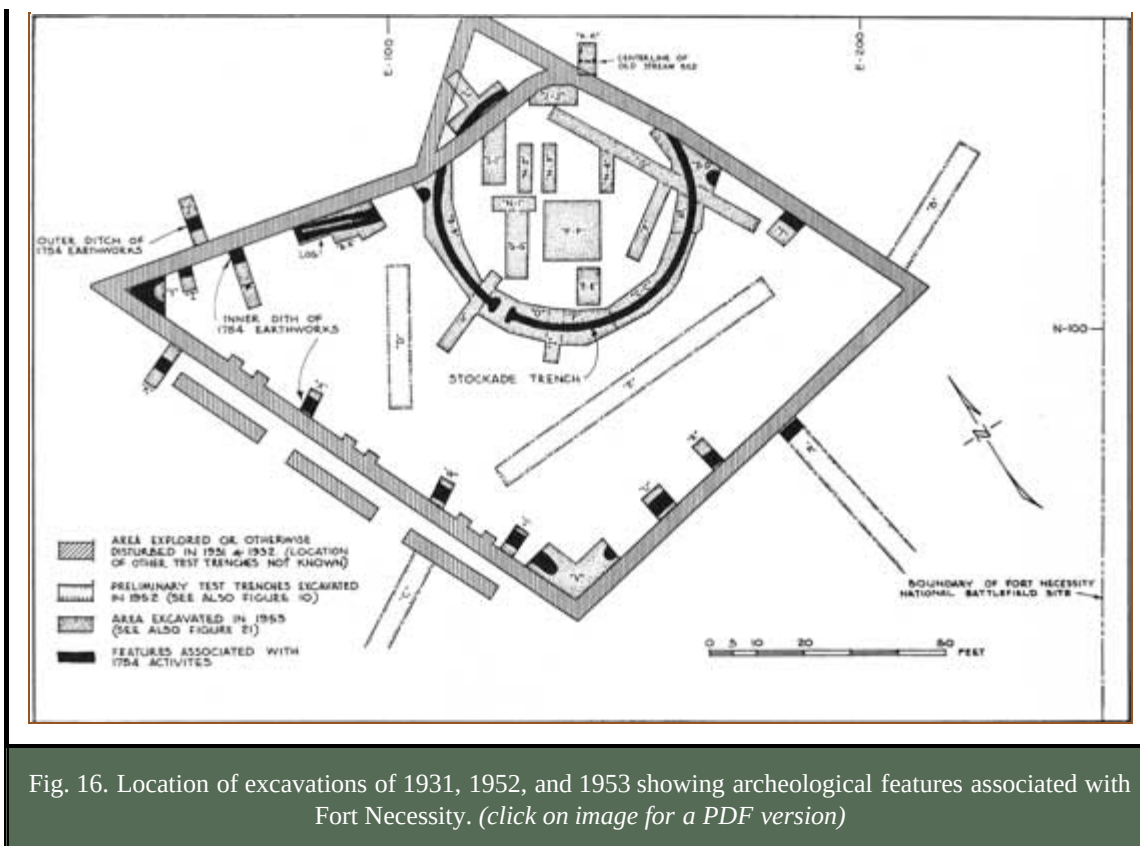
1953 EXPLORATIONS

Summary of Procedure and Results

Excavating was resumed in the spring of 1953 with quite definite objectives based upon conclusions and recommendations presented in the report on the previous year's preliminary explorations. [15] These objectives were 1) to check the circular stockade theory, and, if found to be correct, to obtain as much information as possible on the stockade's original construction; and 2) to look for evidence of the outer entrenchments, which, according to the newly developed theory, would be found under the reconstructed "firing step" just inside the 1932 stockade.

We started by laying out three test trenches across the calculated line of the circular stockade (Trenches "G", "H" and "I", Fig. 16). The presence of paved walks, the log cabin, and the high "firing step" along the reconstructed stockade limited the area that could be explored and still keep the site open to the public. Before the removal of these features could be justified, it was necessary to demonstrate clearly the validity of the circular stockade thesis.





After removing the 1932 fill and a post-1754 accumulation or disturbance from shallow cultivation, an intrusive band of earth was noted in each of the three test trenches. This band of differently colored earth varied in width in each of the three trenches, but was roughly a foot and a half wide. It was quite evident that these bands represented an old ditch or trench, and their position conformed almost exactly to the pre-exploration calculation of the circular stockade location. There could be little doubt about this being the line of the original stockade but even more conclusive evidence was soon to be found as we went deeper. Charcoal and burned earth was found in two of the three trenches (Fig. 17), and, at the level of normal ground water, remains of wood posts were encountered in the same two trenches in which charcoal and burned earth had been noted at a higher point (Figures 18, 19, and 20). These water-preserved post ends averaged from one to one and a half feet in length, and were found standing in a vertical position. The lower ends rested on the bottom of the original stockade trench, which had been dug to a depth of 2.0 to 2.3 feet below the 1754 ground line. There was no doubt now that the original stockade had been found, and almost exactly according to the estimated location.



Fig. 17. Charred remains of stockade posts lying just below 1931 ground line (Trench "O-I-P").



Fig. 18. Second section of water-preserved post ends (Trench "D-D").

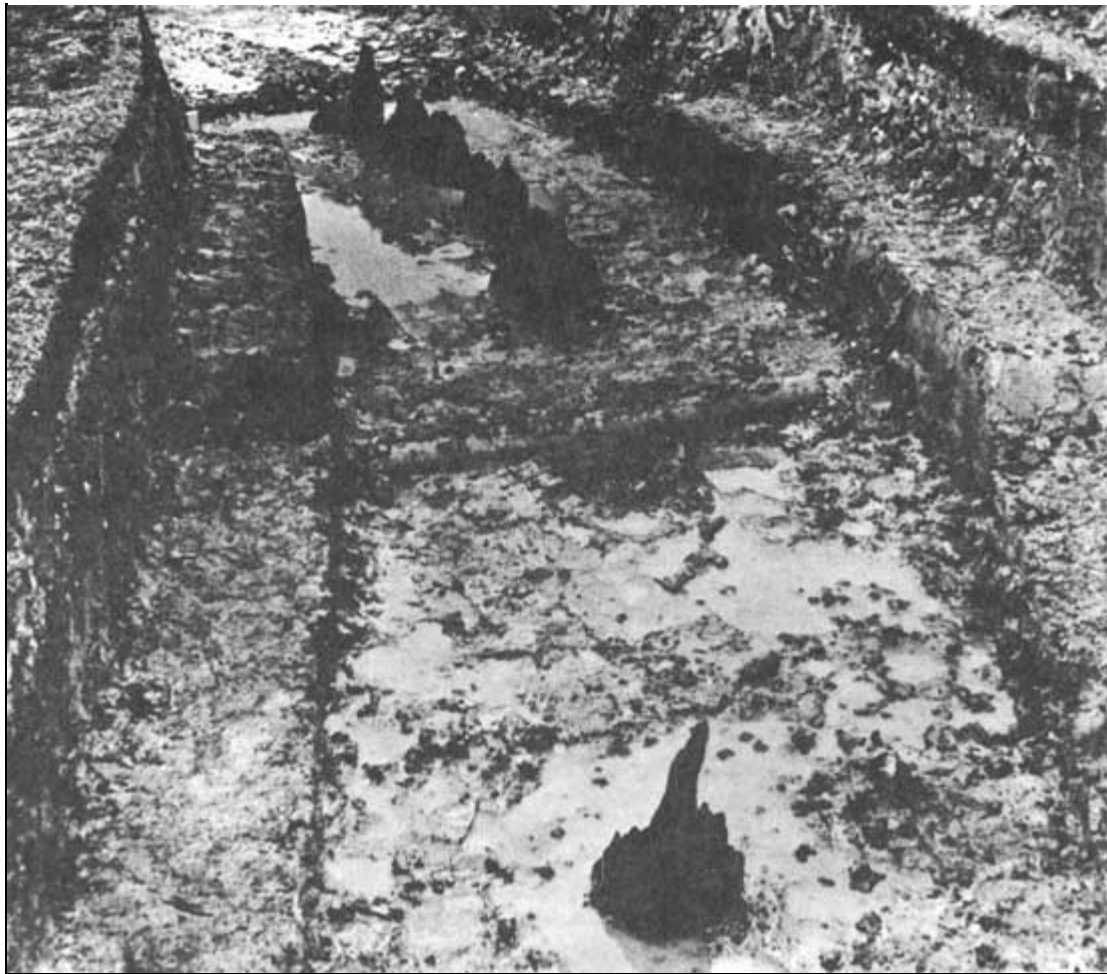


Fig. 19. First section of water-preserved post ends (Trench "O-I-P"), with round gate post in foreground.

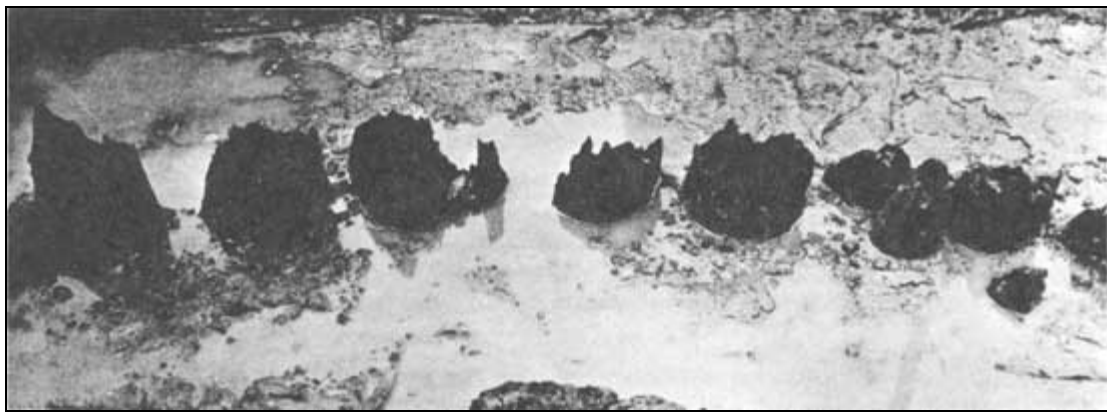


Fig. 20. Close-up of portion of first section of water-preserved post ends.

The stockade was then checked at a fourth point on the circle, permitting its outline to be plotted with considerable accuracy. It was found to be almost exactly circular, with a diameter of roughly 53 feet. Very little more digging was done in the vicinity of the stockade during the spring of 1953, since it was now evident that the walks, as well as the entire 1932 stockade and log cabin, would have to be removed before the area could be excavated systematically. Quite obviously we would now have to give up entirely any idea of revising the earlier reconstruction; it would have to be removed and rebuilt completely.

The principal thing left to be done at this time was to check under the reconstructed "firing step" for evidence of the original outer entrenchments, which we were now more confident than ever would be found just inside the line of the reconstructed stockade. Excavating soon showed the validity of this thesis. Not only was the inner ditch of the original entrenchments found in each of the three test trenches (Trenches "M", "R", and "S"), but their exact size and shape could be determined. Fortunately, the 1931-1932 excavating had followed along the center of the ridges (the remains of the original parapet), leaving the ditches unmolested. Work was terminated at this point, postponing fuller excavation and the demolition of modern features until after the summer travel season.

Excavating was resumed in September, the first operation being the removal of the 1932 stockade, "firing step", log cabin, and paved walks. It was then possible to follow out the entire length of the circular stockade, or that portion which had not been destroyed by the 1932 developments. Because of the fill placed over the entire area in 1932, averaging nearly a foot in depth, it was not feasible to excavate as much of the site as desired. For example, instead of following out the entire length of the entrenchment ditch, it was checked only at intervals by a series of cross trenches (Fig. 16). About half the area inside the original stockade was explored, although we soon discovered that the ground here had been disturbed considerably in 1932 in laying a network of underground drains and in constructing the log cabin. No excavating was done beyond the limits of the line of the original entrenchments, except to locate the earlier course of the stream where it had come closest to the circular stockade.

In the following detailed discussions of the principal archeological features, identification and interpretation will be presented along with the discussion of evidence found in the excavating. Description and interpretation of objects found in the excavations will be discussed under functional groups (cannon, small arms, uniforms, other military equipment, etc.).

The Circular Stockade

Approximately one-fourth of the stockade had been destroyed in the course of the 1932 work, but there was enough left to determine quite accurately its original plan and method of construction. Equally interesting was the clear evidence of how the stockade had been destroyed by the French the day after the battle. It had been almost exactly circular in plan, varying in overall diameter from 53.0 to 53.5 feet (Fig. 21). The stockade trench varied in cross-section from point to point, but its general character was the same throughout, as shown in Fig. 22. In digging this trench, the men had worked from the inside of the circle, since the vertical face of the trench was always on the outside and the sloping face on the inside. The trench varied from 2.2 to 2.5 feet in width at a point just below the thin pre-1932 plowed or disturbed zone. Although post remains were missing completely along much of the stockade trench, there was no difficulty in locating it, as the trench fill contrasted quite definitely with the natural yellow clay subsoil into which the trench had been dug.



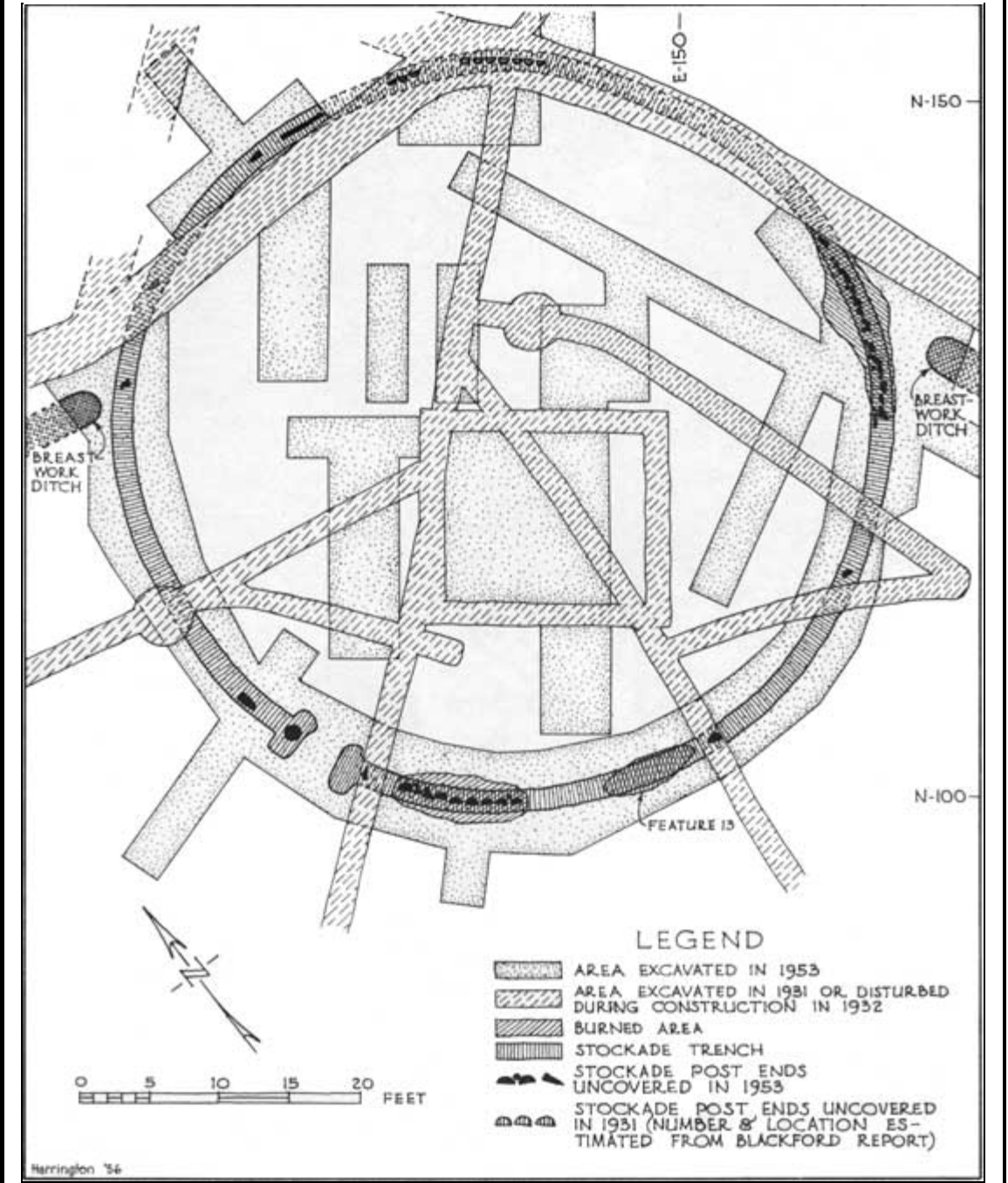


Fig. 21. Detailed plan of exploration in vicinity of circular stockade, showing 1931-1932 and 1952-53 excavations and principal archeological features.

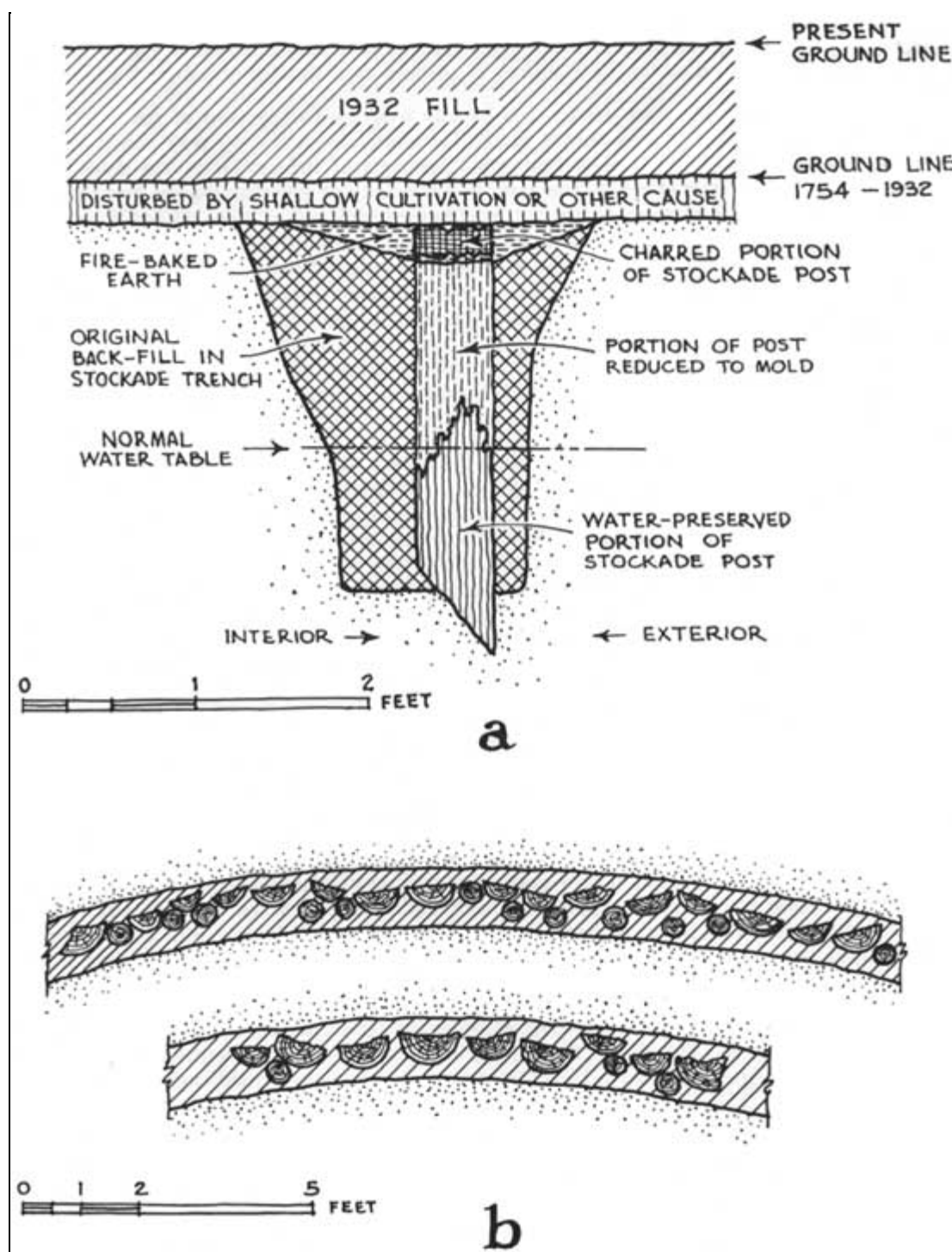


Fig. 22. Cross-section and plan of stockade trench.

a. Typical cross-section at point where posts were burned in place.

b. Plans of two sections of stockade where posts were burned in place. A third similar section was probably encountered in 1931.

Careful examination revealed no irregularities at the 1931 ground line which would mark in any way the presence of the stockade trench, If there ever had been anything of this sort, such as earth thrown out when the trench was dug originally, or a depression from removal of the posts, such evidence had been obliterated, either through cultivation or by natural processes.

Most of the stockade posts were missing, and those found were largely in two continuous, but separate sections. Although no record was made of the post ends found in 1931, Blackford's

description of their discovery furnishes a rough idea of their position, and it would now seem that they stood in a more-or-less continuous line, thus making in all three such sections of post ends (Fig. 21).

At the top of the stockade trench, and directly over the two sections of post ends uncovered in 1953, were found charcoal and burned earth. The charcoal was in very poor condition, but it definitely constituted the remains of vertical wood members of the same size and shape as the lower water-preserved post ends (Fig. 17). The earth in the vicinity of this charcoal was burned hard and red, showing that the posts at these points had been burned while still in place. In addition to the charred remains of the standing posts, charcoal was also found scattered out a short distance from the stockade trench. This might have been interpreted as charcoal scattered from the charred posts through cultivation, except for the fact that the earth under this scattered charcoal showed evidence of exposure to heat. In addition to the burned sections above the preserved post ends, charcoal and burned earth were observed also along the top of the stockade trench at another point where no post remains were found (Feature 13). The charcoal in this instance, however, was lying with the grain of the wood horizontal. In every instance, the 3-inch cultivated or disturbed zone at the 1931 ground line extended unbroken over the stockade trench and over these burned areas.

The evidence is quite clear, therefore, that the French destroyed the stockade by pulling up about three-fourths of the posts, stacking them against the three standing sections of the stockade, and then burning them. In addition, some logs were burned in separate piles, such as represented by Feature 13. Almost certainly the posts would not have been consumed entirely, and this would account for the fact that Col. Burd could still see the remains of a circular stockade when he visited the site five years after the battle. Gradually the above-ground remains disappeared (which they apparently had by the time of Lewis' visit in 1816), leaving about 2.0 to 2.5 feet of post in the ground, the upper few inches of which had been charred by the fire. Some of the charred section lasted through the years, along with the lower ends that were below the ground water line, while the portion between gradually rotted away. This was the condition discovered in the excavations, as shown in Figure 22. Since the charcoal and burned earth did not show up in the 3-inch surface zone, it would appear that this layer had been disturbed after the fort was burned. The only explanation is that the area had been cultivated, but probably no more than a disking to improve the pasture. In his claim that the fort site had never been cultivated, Mr. Fazenbaker apparently meant that it had never been plowed and planted to crops, and the archeological evidence seems to bear this out.

Scattered along the stockade trench were a few ends of posts, lying horizontally or at an angle, not vertically, with the exception of a single large gate post, described later. Six such fragments were found, and presumably represent posts that had broken off when the stockade was torn down, or isolated posts that were partly pushed over, but not removed and burned with the majority. As with the vertical remains, these odd pieces rotted away, except for the portion below the ground water level.

The stockade had been built with logs of white oak (*Quercus alba* L.), split in two, with the split, or flat, side facing out. The original logs ranged from 7 to 13 inches in diameter; the majority 9 or 10 inches. The lower ends show the original ax cuts, some cut nearly at right angles to the log, and some quite slanted (Fig. 23). Some bark remained on most of the posts, and there is no reason to assume that any of the logs were peeled before they were split and set in the stockade trench.





Fig. 23. Typical water-preserved stockade post ends. Split post on left, unsplit "filler" post on right.

In addition to the large split posts, small unsplit logs were used along the inside of the stockade wall. These were mostly about 5 inches in diameter, and seemed to have been distributed quite at random. They probably were used largely as fillers behind large cracks, although shorter ones possibly served as gun rests at the bottom of loopholes. Judging from the number of posts found in the two undisturbed sections, it is estimated that approximately 150 split posts and 50 to 75 small round posts were used in the original structure.

It was a distinct surprise to find split posts in the stockade, for such a practice, to my knowledge, was not common, and, in fact, its use at Fort Necessity may be unique. It is easy to rationalize that a flat surface would be better than a round one as protection from musket fire, and it is obvious that if split posts were used, the flat side would be faced outward. Even though this sounds quite plausible, it is possible that defense against enemy fire was not the full reason for the logs having been split. When the stockade was erected Washington had only about 160 men to cut and carry the logs to the fort site, dig the stockade trench, erect the posts, and build entrenchments, all within a period of less than five days. [16] In fact, there must have been considerably fewer than 160 men available to work on the fort, for some were out on scouting parties, some were taking the French prisoners from the Jumonville skirmish back to Wills Creek, and some undoubtedly were indisposed for one reason or another. Thus, the number of able bodied men available, as well as the need for great haste, accounts for the small size of the stockade and possibly, too, for the use of split logs. It was quicker and easier to split a log than to chop down another tree and cut off a log of the right length. Moreover, a full oak log of this size would weigh at least 300 pounds, whereas a split one could be carried from the woods and erected quite easily by two men. Even the archeological evidence, therefore, or at least the interpretation of that evidence, bears witness to the appropriateness of the name "Fort Necessity".

Only one break was found in the stockade trench. At a point on the west side there was a space exactly 3 feet wide where the trench had not been dug. At each side of this break the trench had been extended out in the form of a T (Fig. 21). The preserved end of an 11-inch round post was found at the center of one of these T's (Fig. 19), but all other stockade members were missing in this vicinity. The shape of the trench, however, suggests that there had been three round posts at each side of the opening, which almost certainly formed a gateway.

Every writer on Fort Necessity, and everyone who has drawn a map of the surface remains, real or imaginary, assumed that the stockade had been built partly over Great Meadow Run to provide a ready source of water for the men stationed within the fort. Blackford's record of the trace of the original channel, still partly visible in 1931, suggests that the stream had been very close to the stockade, but possibly did not extend into it. To check this, a test trench was excavated at the side of the circle nearest the stream. Archeological evidence here showed quite clearly that the circular stockade had been erected right up to the stream, but had not extended over it.

It is possible that a second gate was located at the rear of the stockade to provide access to the stream, or a surface well may have been dug against the inner side of the stockade wall at the closest point to the stream. But what provision, if any, was made for a water supply inside the fort will never be known, since the ground in this vicinity was disturbed to a depth of over 3 feet during the earlier excavating. Of course, if every square foot of the site had been excavated, evidence of a well — if one had existed within the fort — would have been found.

Although the 1953 excavations produced considerable evidence as to the method of constructing the stockade, there is no way of determining the length of the posts. Large, permanent stockade structures, such as Washington saw at Fort Le Boeuf, made use of whole, squared logs, pointed at the top, and often extending as much as 12 feet above the ground. The makeshift structure at Great Meadows would certainly have been lower, but that is about all we can say as to its height. Loopholes would probably have been provided by separating adjacent split logs and placing a short round log behind this opening, with the top of the filler log about 4 feet above the ground. This would account for some of the round poles, while others approximately the length of the main posts would have served to fill normal cracks. Except for the use of split logs, this method of constructing a stockade is shown in military manuals of that period.

The Storehouse

According to Shaw, there was a crudely built storehouse, covered with bark and hides, in the center of the stockade. Presumably it was made of logs or split planks, as he states that men were wounded during the battle by splinters knocked from this structure. Although built for the storage of provisions and ammunition, it is said that the storehouse was used during the battle as a first aid station. [17] Shaw said that this building "might be 14 feet square" but he said also that it was 8 feet from the stockade wall. [18] One of these figures obviously is wrong, since the stockade is known to have been 53 feet across. The 8-foot dimension is less reasonable than the 14-foot storehouse, as 14 feet would seem to be about the maximum size for a small storage shed. It is quite possible that an error was made in recording Shaw's deposition, and that he had said 18 feet, rather than 8. This figure would fit the requirements very nicely.

Even though the space within the stockade circle had been disturbed considerably in 1932, much of this area was explored in 1953, primarily in search of some indication of the storehouse size and orientation. No positive evidence was found, but this is not surprising, as

the structure must have rested directly on the ground. In one of the exploratory trenches a change in the character of the original upper soil layer was noted. Although the edge of this soil change could be followed but a short distance because of recent ground disturbances, its location and orientation was suggestive. It was at right angles to the line of the gate and 8 feet from the exact center of the stockade, thus coinciding rather closely with 14-foot dimension for the storehouse. Suggestive as this is, it is really too vague to consider as acceptable evidence for the location and size of the original structure.

One discovery outside the stockade may have some relation to the storehouse. This was a log found at the bottom of the entrenchment ditch (Fig. 24). The log has a diameter of nearly 9 inches at the butt, and is exactly 13 feet long, with ax cuts on both ends. Being a whole log, it obviously was not used in the stockade, unless as one of the gate posts. It might have been a wall or roof log from the storehouse or a log reinforcement along the top of the entrenchment. The former probably should be ruled out, since this log, although of approximately the right length, is not notched or shaped in any way.



Fig. 24. Log, 13 feet long, found in bottom of inner ditch of earthworks.

Lacking archeological evidence, we can only surmise that the storehouse was probably a very crude log structure. Since it was intended as a storehouse for powder and provisions, it would have been of fairly solid construction, even though hurriedly and crudely built. It may well have had a relatively flat, shed roof, as suggested in the conjectural reconstruction shown in Fig. 38. The bark and skins mentioned by Shaw would have been laid on small branches placed close together across the sloping roof logs. The building would have had a fairly rugged door, probably of split planks. It would have been windowless, with a dirt floor.

Other Features Associated with the Stockade

No features that can be associated with the construction of the fort, or with its occupancy, were discovered inside the stockade. The only evidences of fires were the burned areas along the line of the stockade, and these can only be explained as incident to the final destruction of the fort. Since ammunition was stored in the storehouse, remains of campfires would not be expected in, or near, this structure, although it would seem quite probable that the men, clustered inside the stockade on the day of the battle, might have built small fires close to the stockade wall.

No metal objects were recovered which definitely can be identified as having been used in

the fort structures. An iron bolt was found just above the remains of the large round gate post, and may have been used in some manner in framing or hanging the gate (Fig. 28). On the other hand, it is more likely that this bolt came from one of the wagons which were destroyed, with the fort, by the French. Both the stockade gate and the storehouse door probably were supported on wooden pins and secured with wooden bars and other improvised fasteners.

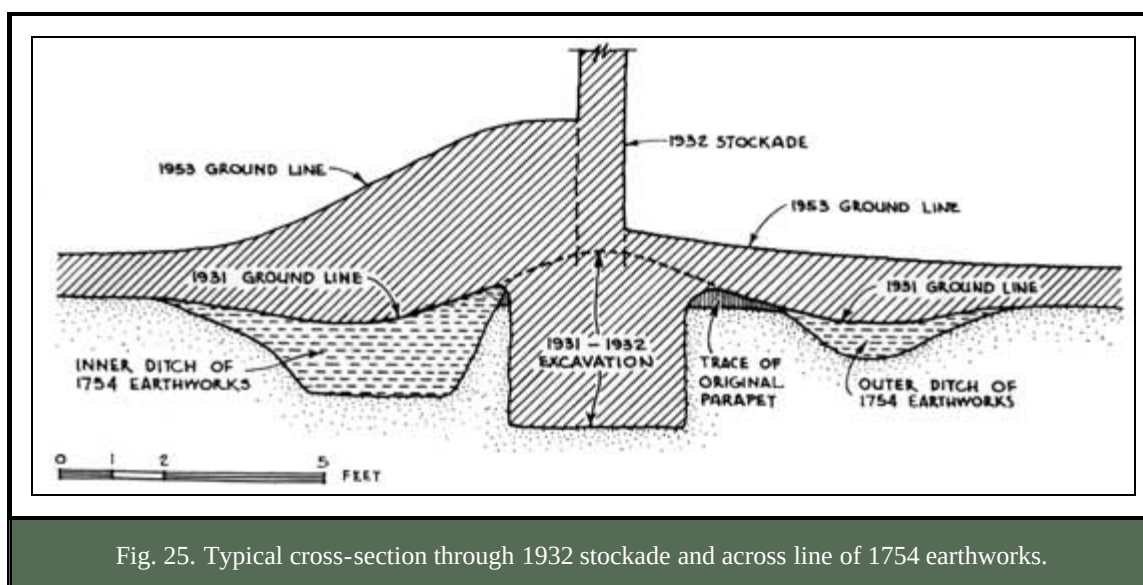
A few iron nails were found scattered about the area, but there certainly were not enough in the vicinity of the storehouse to suggest that nails or spikes were used in its construction. Those that were found very likely came from wagons, chests and boxes that were destroyed with the fort.

The Entrenchments

No less important than the discovery of the stockade remains was that of the entrenchments. Limitations of time and funds prohibited the exploration of the entire length of the trenches, and probably the only value of their complete excavation would have been the recovery of additional objects, particularly musket balls. The first exploratory trenches crossing the line of the entrenchments revealed that the original ditch lay inside the 1932 concrete footing. Fortunately, the reconstructed stockade was placed along the crest of the original parapet or breastwork.

After the ditch as disclosed in the first three cross trenches had been carefully plotted, it was apparent that Blackford's survey provided an accurate record of the entire ditch location, except for the missing section on the east side. Cross trenches were dug at points where Blackford's map showed a change in course of the ditch, as well as at the ends adjacent to the circular stockade. No attempt was made to locate the ditch at Corner "C", since evidence from the previous season's work indicated that the rock fill of Fazenbaker's lane would have destroyed all remains of the entrenchment.

The various cross trenches showed that the ditch was fairly uniform in section. It had been dug about 2 feet below the 1754 grade, which took it down to the level of the normal water table (Fig. 25). In spite of the 1932 disturbances, it was possible to determine the exact shape of the original ditch, which, in turn, permitted an accurate reconstruction of the entire entrenchment.



Observations at the site through the years indicated quite definitely that there had also been a

ditch along the outside of the parapet, but probably not as deep as the main ditch. [19] Previous excavating and grading on the outside of the ridges made it difficult to obtain a clear picture of what the original situation had been. Apparently a relatively shallow ditch had also been dug adjacent to the toe of the parapet along certain portions of the entrenchment. Customarily, such a ditch was not dug in constructing a simple shelter trench, but there are obvious reasons for its use at Fort Necessity, which will be discussed later.

The ends of the ditches adjacent to the circular stockade were found, as well as a gap at one corner, this opening obviously providing the main entrance into the entrenched area. There is a possibility that some sort of a detached breastwork or even a palisade was placed outside this opening, but it was not feasible to explore this area during the 1953 field season. Except for the opening at one corner, the evidence from previous surveys and archeological excavations shows that the earthworks formed a continuous line of defenses protecting the side of the stockade facing the road, or trail, some 180 yards distant. It had been calculated correctly that any enemy attack would come from this side due, presumably, to the proximity of both the trail and the woods.

Quite a few lead musket balls were found in the back slope of the inner ditch; otherwise relatively few objects were recovered from exploration of the entrenchments. The 13-foot log, previously mentioned, was found near the stockade end of the north ditch, with a small round post, 3.4 feet long, lying beside it. In the earth adjacent to these logs were found fragments of clay tobacco pipe stems, several lead musket balls, and four gun flints.

With the location and width of the parapet delimited by the outer and inner ditches, and the amount of earth used to form the parapet determined by the cross-section of these ditches, the original shape was not difficult to reconstruct (Fig. 26). The inner slope would have been relatively steep, probably approximately the slope of the ditch wall immediately below it. Many writers have stated, or suggested, that the breastwork was reinforced with logs. It is not improbable that logs were imbedded in the parapet near the top of the outer slope, particularly in view of finding the 13-foot log in the bottom of the ditch, although one log was insufficient evidence from which to conclude that logs were used along the entire breastwork. Moreover, there seemed to have been enough earth from the two ditches to form a parapet high enough to conform to requirements for a simple shelter trench.

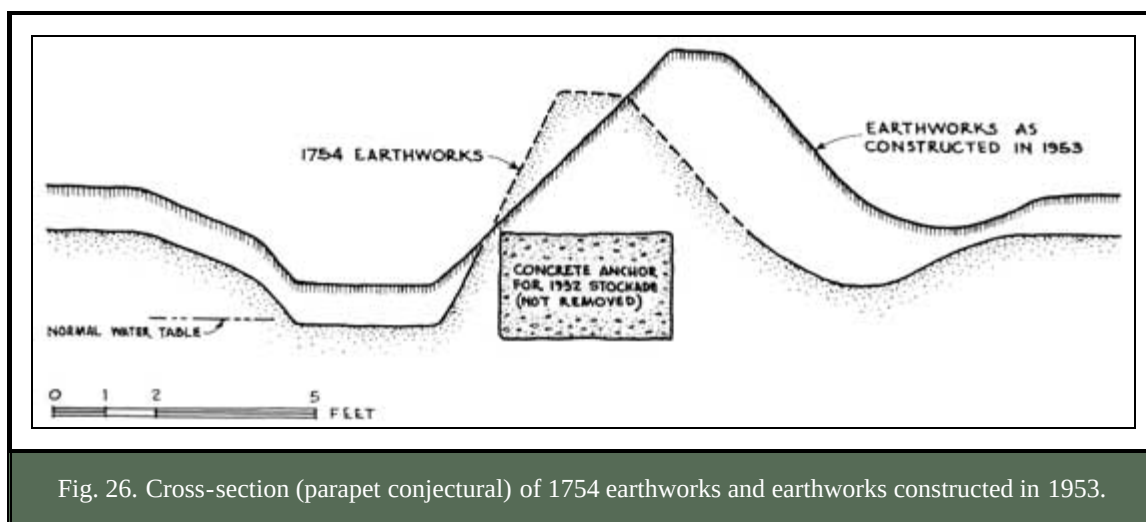


Fig. 26. Cross-section (parapet conjectural) of 1754 earthworks and earthworks constructed in 1953.

In constructing the breastworks, digging in the inner ditch would have stopped when ground water was reached. Since, upon reaching the water table, additional earth would be needed to bring the parapet up to the required height, either the ditch would have to be widened or earth supplied from the outside. Simple shelter, or field, trenches varied considerably in design, often depending upon the time available to build them. A good height for the parapet was 4.5

feet above the bottom of the ditch, which would provide protection for reloading by stooping down, and the proper height for resting the barrel of the gun when firing. A parapet six feet high was even more desirable, but this would have required a firing step. Such a design would not be expected in a simple, hastily constructed work, nor was there sufficient room as the ditch did not have width enough for even a narrow firing step. Assuming, too, that the main ditch did not provide enough earth to bring the parapet up to the required height, additional earth could have been secured most easily from the topsoil layer just outside the parapet.

There is good evidence that an attempt was being made to improve or extend the fortifications on the morning of the French attack. Washington reported that "as our Numbers were so unequal, we prepared for our Defence in the best manner we could, by throwing up a small Intrenchment, which we had not Time to perfect. . ." [20] It might seem from this reference that the "small Intrenchment" was distinct from the major earthworks constructed a month earlier. Almost certainly Washington was referring to the completed, larger works when he stated that his troops "drew up in Order before our Trenches" when the French approached. [21]

The archeological explorations throw no light on the problem of how much, or which part, of the entrenchments were built during the first period of construction, or the portion which may have been built just before the battle. Nor did the explorations reveal any supplementary works, either outside or inside the main line of entrenchments, although it is possible that this last-minute effort was so scattered, or so superficial, that evidence of it was missed in the test trenches.

There can be no question but that entrenchments were constructed during the first flurry of activity immediately after the Jumonville incident. Washington stated quite definitely that the entrenchments had been completed early in June, and that they were considered suitable for defense against any conceivable attacking force. [22] These entrenchments, with the stockade, were built in great haste, and for a specific emergency. They were designed to accommodate the force at Great Meadows, at the time less than 160 men. With the coming of additional troops during the following few weeks, bringing the total force to around 400, no thought apparently was given to enlarging the fortifications. Since Washington considered the first entrenchments properly constructed for defensive purposes, although by a smaller garrison, it would seem that the activities interrupted by the attack on July 3 most likely consisted in extending, rather than modifying, the existing entrenchments. It is reasonable to conclude, therefore, that the system of earthworks represented by the ridges and depressions, and more definitely delimited through archeological explorations, is the final enlarged line of entrenchments.

Another troublesome problem is accounting for the disposition of some 400 men during the battle. The main camp area, possibly located in the meadow upstream from the fort, would have been abandoned with the first warning of the French approach. We know that the horses and cattle were left outside the fort, for it is recorded that one of the first things the French did was to kill these animals. [23] If the fighting strength was only about 300 men, as Washington claimed, the rest of the troops, many of whom were sick, must have been packed within the circular stockade. [24] Some may have huddled outside the stockade on the side away from the line of fire, or in sheltered spots along the stream bed. The main fighting strength was stationed in the entrenchments, but, at best, not over half the force could have fought effectively from the earthworks. The stockade might have served some 50 fighters, and a number of men, of course, were involved in various other activities, such as caring for the wounded. It is quite obvious, therefore, that the defenses at Fort Necessity were badly designed for use by an army of 400 men, and that undoubtedly the fort could have been defended more easily with half that force.

Great Meadows Run

One of the main objectives listed in the plans for the first season's explorations was to determine the exact location of the pre-Fazenbaker channel of Great Meadows Run. However, as we learned more about the physical conditions at the site, and when Blackford's original survey records were made available, this phase of the project was given up. Moreover, one of the principal reasons for determining the original stream location was to have just that much more information on which to interpret the documentary data and to appraise the previous interpretations.

It had been said by several writers that spring floods caused frequent changes in the stream's channel. This claim apparently had been advanced in support of certain theories as to the fort's original shape and to explain the absence of the ridge and depressions near the Run. Once the true situation had been determined, the exact position of the stream in 1754 was no longer of any great concern.

One trench was excavated at the back of the original stockade, as mentioned in the discussion of the stockade's location in reference to the Run. Evidence here showed that the banks of the stream channel prior to its straightening were not particularly steep, and presented a profile which one could assume would have withstood normal flooding conditions. It would also seem a reasonable assumption that Blackford's survey shows correctly the stream bed location prior to its straightening by Fazenbaker (Figures 9 and 16). The channel change by Fazenbaker took place only about 100 years after the battle, and there is no strong reason to believe that the old trace mapped by Blackford is too different from its 1754 course.

FURNISHINGS AND EQUIPMENT

General Comments

Very little can be learned from the records as to the military equipment, tools, or personal furnishings of the armies at Great Meadows. Archeology adds some information, but not a great deal. Accounts by early travelers passing the site speak of seeing swivel guns lying about, but even these were finally carried away. [25] Undoubtedly the Indians, as well as emigrants traveling the Braddock Road, salvaged all usable objects and picked up other things simply as trinkets or souvenirs. Owners of the property and later visitors probably recovered an occasional relic and a number of items exhibited in the Tavern are said to have been picked up on the fort site or in the surrounding meadow or woods.

From some of Dinwiddie's letters written just before Washington set out from Alexandria, we might formulate a list of things considered desirable or essential for such an expedition. There is no evidence, however, that these items were assembled, and, in fact, one might judge from Washington's numerous complaints, that many of them were never furnished. Except for the officers, the Virginia Regiment undoubtedly was poorly equipped, although the South Carolina company would surely have been in regular army uniforms and properly armed. From scattered references, as well as from inference, we can be reasonably certain that there were wagons, horses and riding gear, axes and shovels, pickaxes and spades, and other tools needed in felling trees, erecting structures, and building roads. There would have been medical supplies and equipment, utensils for storing, preparing and eating food, tents and blankets, casks for the rum, and personal items, such as tobacco pipes.

For the present report to be complete, I probably should analyze all documentary references and describe in detail the most likely tools, equipment, and furnishings that would have been used or stored at Fort Necessity. However, I am leaving for some future student with special interests and knowledge of the subject the task of providing such inventory and description. I

will confine my discussion of artifacts to those found in the excavating, relating them, where possible, to documentary references.

Weapons

Small Arms

Small arms, in contrast to cannon, would have been taken for granted, whereas powder and shot would have to have been provided in considerable quantity and issued to the men as needed. That is why the latter appear more frequently in the records. A man's musket posed no problem of transportation and would have been the last thing he would have relinquished. In various letters written in connection with preparing for the expedition, Governor Dinwiddie mentions equipment required, including "300 small arms, powder and shott". [26]

There are other indirect references to powder, but no mention of arms. Probably almost every man carried a musket, and some of them, if not all, were equipped with bayonets. [27] The officers would have carried swords and, in some instances, pistols.

Of the objects found in the excavating, very few relate to small arms. One interesting item is the brass tip of a sword scabbard of the type used with a typical British infantry sword of the period (Fig. 28). Probably the most common items in this category are the numerous lead balls and shot. These are of several sizes and, of course, include both French and English ammunition.

On the whole, the lead balls fall into two size groups, the larger ranging from 66 to 73 caliber, the smaller from 52 to 60, as shown in Table 1. Measurements, of course, are not true indications of original sizes, since there is considerable corrosion and often slight deformation. Because of the corrosion and irregularity of the balls, measurements were made only to the nearest 0.02 of an inch. Balls flattened from impact with a hard object are not included in the table.

Table 1 Lead Musket Balls

	Caliber (approximate)	Average Weight (ounces)	Number of Specimens
Group A — 1	52	0.47	9
2	54	0.52	12
3	56	0.56	10
4	58	0.61	9
5	60	0.66	3
Group B — 1	66	0.92	19
2	68	1.00	27
3	70	1.05	20
4	72	1.25	2

There were probably at least three different caliber muskets represented, 54 or 55, 69, and 75. The smallest balls (A-1 and A-2) could have been intended for either rifles or pistols.

All flattened balls (29 in number) fall in the small group, their weight being around 0.50 ounces. They were found mostly along the stockade trench, where they apparently had dropped after striking the stockade. This is in agreement with other evidence that the French

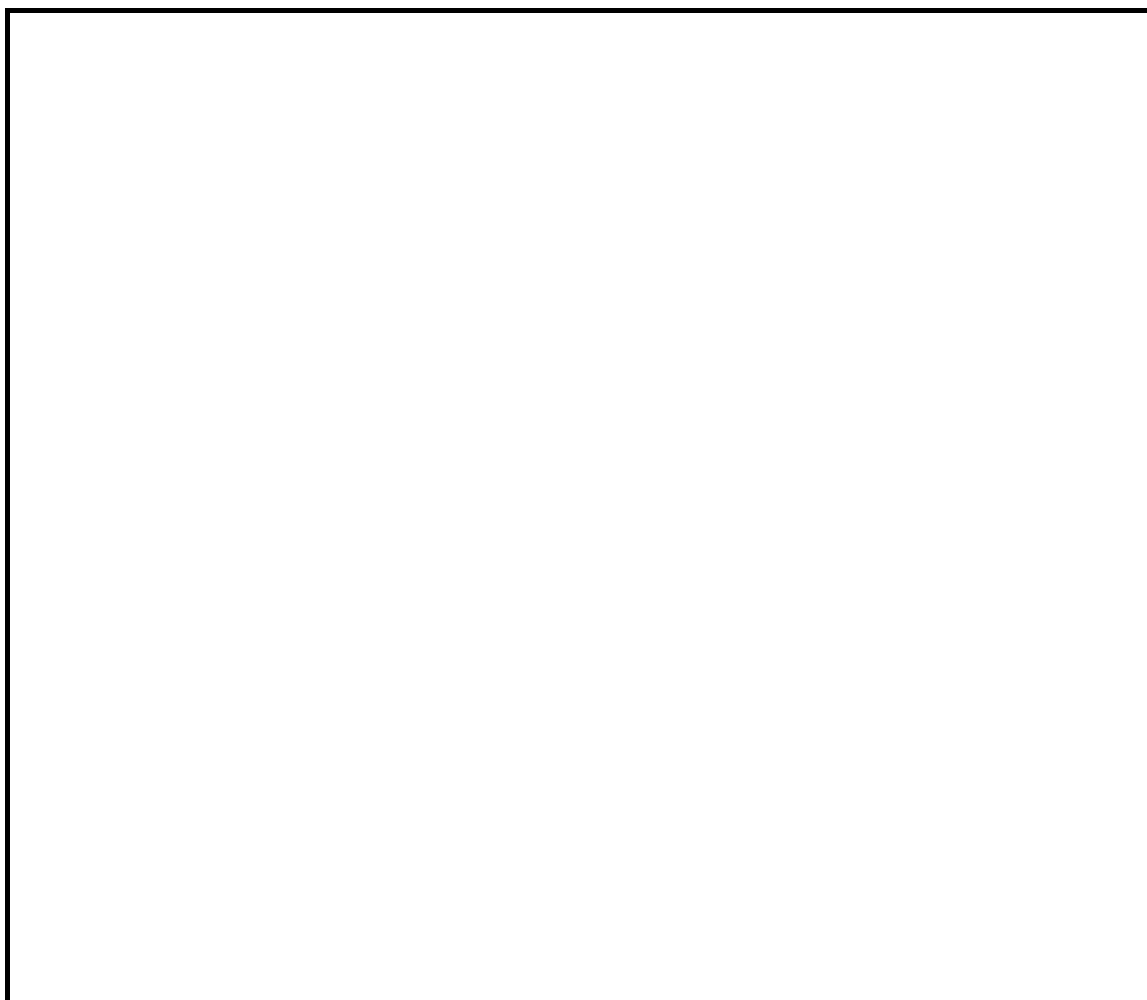
muskets of that period were a smaller caliber than the British.

Several musket balls were found imbedded in the back slope of the entrenchment ditches, and a great many undoubtedly would have been recovered if more of the ditch had been excavated. The British troops must have left fairly large quantities of ammunition at the fort, and we know that they broke the powder casks and scattered the powder about so that it could not be used by the French and Indians. This would account for a greater number of larger size balls being found, although if the entire fort site had been dug, and the earth carefully screened, it is possible that the smaller French sizes would have predominated.

Several blobs of lead, found in the stockade area, showed evidence of having been in a fire. Since the weight of each of these is about that of an average musket ball, they are probably balls that were imbedded in the logs of the stockade or cabin, and melted when the logs were burned by the French.

A "cache" of small lead shot was found in 1932 when digging a drain tile trench in the vicinity of the reconstructed cabin. This deposit totaled 610 shot, ranging in size from 0.08 to 0.22 of an inch in diameter, the majority falling between 0.14 to 0.18. These "bird shot" may well have been for hunting birds and other small game. In the same deposit were 10 larger shot measuring 0.24 to 0.36 of an inch, which is in the "buck shot" range. Except for this single concentration, relatively few shot of these smaller sizes were found.

Of the guns themselves, not a single fragment was found. Sixteen gun flints, however, were recovered, although they tell us less about the guns than do the lead balls. (Fig. 27). Since they mostly came from within the stockade area, or from the entrenchments, we can assume that they were from muskets of the Virginia or Carolina troops, rather than the French.



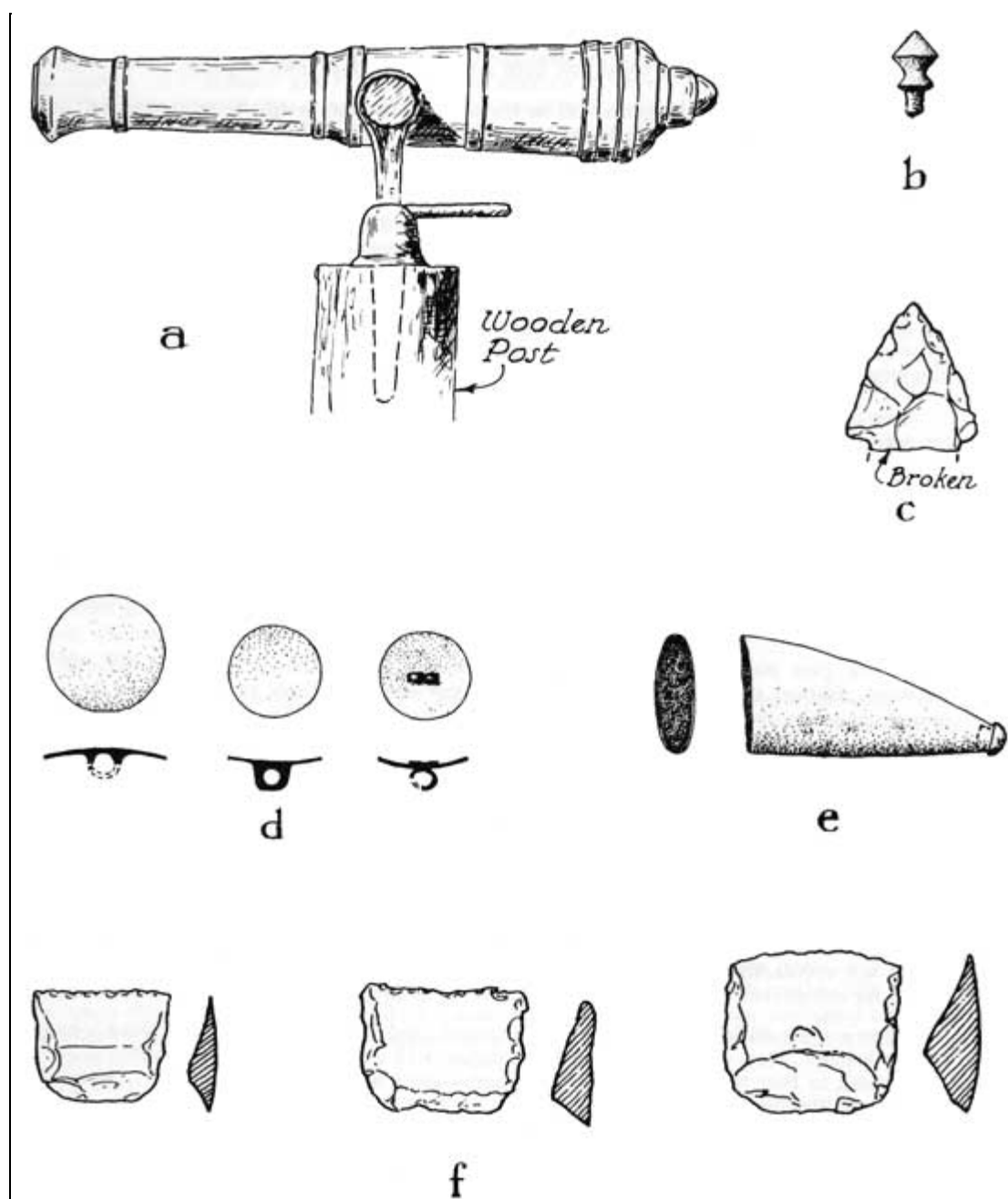


Fig. 27. Military Specimens.

a. Swivel gun typical of the 1/2 pounder type probably used at Fort Necessity. (1/8)

b. Brass fastener.

c. Indian arrow head.

d. Brass buttons.

e. Brass tip of sword scabbard.

f. Typical gun flints.

Objects b through f were recovered in the excavations. All are 3/4 life size.

Cannon

Not until June 9, with the arrival of reinforcements bringing 9 swivel guns, did Washington have any weapons other than the small arms carried by the troops. [28] These small cannon, however, are mentioned more often in the records than all other military equipment combined. Washington quite obviously looked upon this armament as important in the defense of Fort Necessity, should the need arise to make a stand there. This is reflected, for

example, in preparations made on June 12 for an anticipated attack. Through a misunderstanding of intelligence from a scout that a large force of French was approaching, Washington "ordered Major Muse to repair into the fort, and erect the small swivels for the defence of the place, which he could do in an hour's time." [29]

There is other evidence that great stock was put in these cannon, although they turned out to be a distinct liability. They were lugged over the mountain trail during the late June expedition, and then carried back to Fort Necessity when the pack horses could better have been used for transporting the sick and tired troops.

When the French attack finally came on July 3, these "small swivels", on which Washington had relied so heavily, proved quite ineffectual. According to the French commander's report, the swivel guns were used only at the outset of the battle, and then with little effect. He described the action as follows: "As we had no knowledge of the locality we presented our flank to the fort whence they began to fire cannon on us . . . The fire was very brisk on both sides . . . We succeeded in silencing (so to say) the fire of their cannon with our musketry". [30]

Shaw's description of the battle mentions only two swivels, which is probably all the troops had time to set up. [31] It is very doubtful if there were any prepared gun emplacements or protected battery positions. The two swivels were probably mounted on wooden posts or blocks set in the open area between the stockade and the trenches. In addition to Shaw's reference, another participant, Major Stephen, reported that a section of the stockade was removed during the later stages of the battle so that swivel guns could be fired from within the stockade. [32]

On the day after the battle, according to Villier, "M. de Mercier caused the cannon to be broken, as also the one granted by the capitulation, the English not being able to take it away." [33] These "broken" (spiked?) guns must have been left lying about the site, and were probably among the very few things the Indians did not salvage, although Col. Burd reported seeing only two iron swivels when he passed there in 1759.

Except for the number of guns, all we can glean from the records is that at least two were of iron, which we learn from Burd's accounts. Archeological evidence, however, in the way of iron balls, furnishes a clue to the size of these swivels. Altogether, 12 iron balls were recovered in the various excavating activities, and they almost certainly were for use in Washington's nine swivel guns, since the French would certainly not have brought cannon all the way from Fort Duquesne.

Nine of the 12 balls were roughly 1.5 inches in diameter and weigh 7 ounces each. Three iron balls are a smaller size, about 7/8 of an inch in diameter, and weigh only 1-1/4 ounces. The guns for which these two sizes of balls were intended are difficult to determine, since the balls are badly rusted. The larger size was probably for 1/2 pounder guns. In addition to firing iron balls, "scatter" or "case" shot was also used in guns of this type. Such shot could have been either the larger musket balls, or the small pistol size.

Swivel guns of even the larger size could have been carried quite readily by packhorse, or in the wagons. Although such guns were sometimes mounted on galloper carriages, it is not likely that carriages were used in the 1754 expedition.

Such swivel guns were approximately 3 feet in length, with a breech diameter of between 5 and 6 inches. Several guns of this size were salvaged from British ships sunk in the York River at Yorktown during the Siege of 1781, and one, now in the Mariners' Museum at Newport News, is shown in Figure 27.

Governor Dinwiddie mentions other larger cannon in correspondence preceding Washington's expedition, but there is no evidence, documentary or archeological, that this heavier armament ever reached Washington. [34]

Other Military Equipment

In addition to small arms and ammunition, there would have been many other types of military equipment, such as flags, drums, surgical implements, powder horns, tinder boxes, and cartridge boxes. [35] Only a single object was found in the excavating that related to such articles. This is a small brass knob (Fig. 27), originally attached to a small case (tinder box or similar container) over which the lid strap was hooked. The case was apparently of wood, probably leather covered, since the end of the knob is threaded.

Horses and Wagons

It is quite clear from the records that there were both riding and packhorses at Great Meadows, and there were wagons even with Washington's first contingent. But though the horses were all killed during the battle, and the wagons left at the ruined fort, or burned, not a single fragment of harness, riding gear, or wagon hardware was found in the excavating. Some of the wrought iron nails and spikes recovered may have come from the wagons, but there is no certainty of this.

Tools and Implements

Since the expedition was primarily for the purpose of constructing roads, bridges, and fortifications, it would have been well equipped with tools needed for such projects. There would have been cutting, felling, and hewing axes, adzes, wedges for splitting logs, hammers and hatchets, shovels and spades, picks, and probably saws and other carpenter's tools. There would have been tools and parts for repairing wagons, shoeing horses, and for other routine work that would fall to the blacksmith. Strangely enough, not a single object or fragment suggestive of such equipment was found in the excavating, even though almost everything of this sort must have been left behind when the defeated army marched away on July 4. A great deal of the construction equipment, of course, would have been left at Gists' settlement when Washington and his men began their hasty retreat to Great Meadows.

Clothing and Uniforms

Some of the troops, certainly the South Carolina Company, had army uniforms. Of the durable remains one might expect to find from this source, such as buckles, buttons, and epaulets, the only objects found were three buttons (Fig. 27). Two are of the composite metal and bone type, with only the convex brass portion remaining. They are both 3/4 of an inch in diameter. One has a cast (self) shank, the other a riveted shank. The third button, also of brass, is an inch in diameter. It is the solid, convex type, with shank cast integrally with the body.

Personal Effects

A few odds-and-ends from the excavating cast an interesting light on the social and military attitudes of that day. In the face of shortages in provisions and munitions, it might seem slightly incongruous to find evidences of the "better life", in the way of a tea pot, tobacco pipes, and bottles for alcoholic beverages. We know from the records, of course, that a daily ration of rum was considered essential for all soldiers, and we should not be surprised in discovering that the officers, at least, had their afternoon tea, wine with their dinner, and a good smoke in the evening from their favorite "church wardens". [36]

A few scattered fragments of dark green bottle glass were found, apparently from one or two wine bottles typical of that period. Some of the fragments could be fitted together, and indicate a bottle of the type shown in Figure 28.

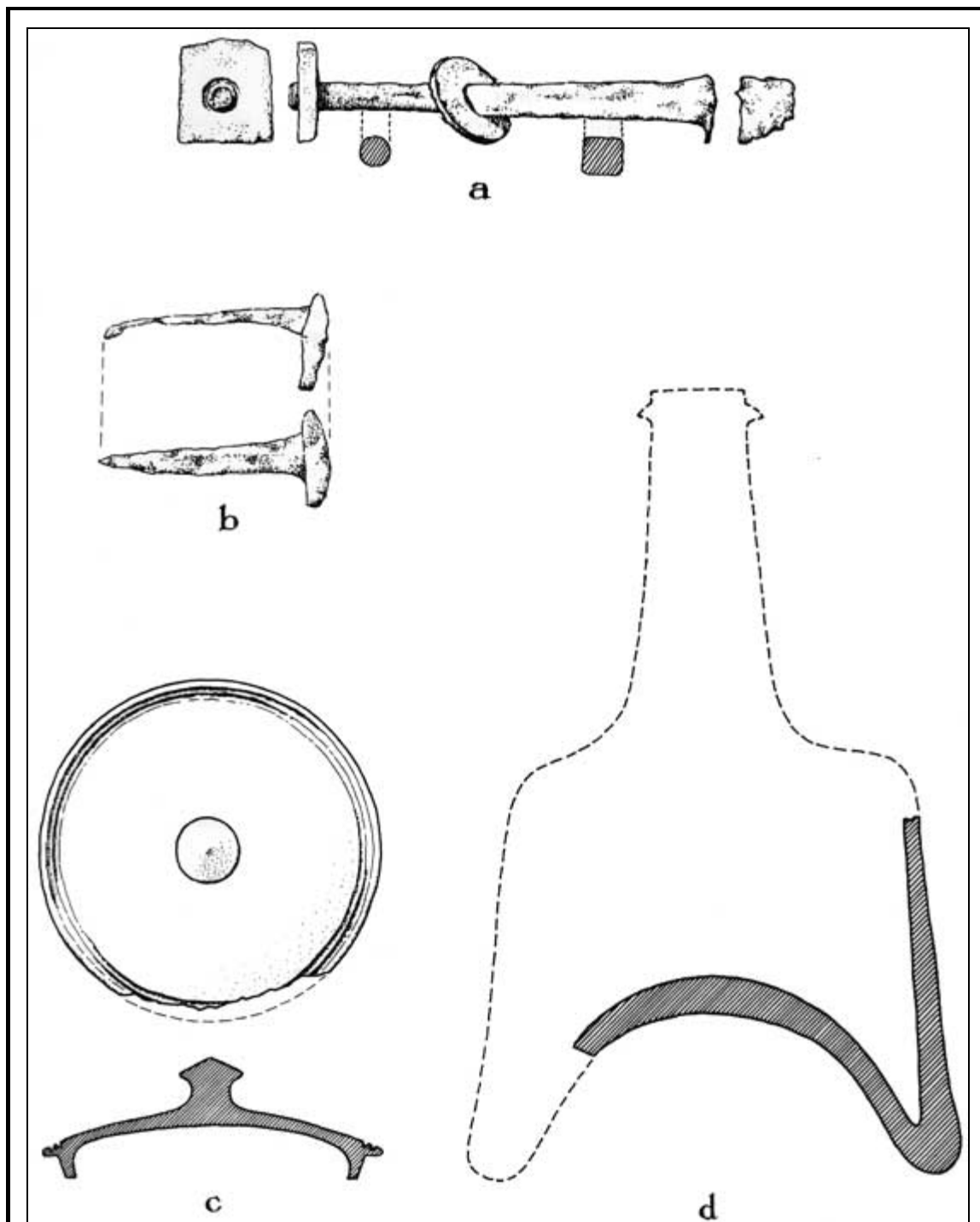


Fig. 28. Miscellaneous objects recovered in excavations. (2/3)

a. Iron bolt, with nut and washer, found close to gate post at entrance to stockade.

b. Typical iron spike.

c. Lid of salt-glazed tea pot. Identical specimens have been found at Colonial Williamsburg.

d. Portion of glass wine bottle. This shape is typical of bottles of the period.

Several fragments of clay tobacco pipe stems were found, as well as a portion of a pipe bowl. They, too, are typical of the size and shape of the period. Tea-drinking is attested by the salt-glazed stoneware teapot lid (Fig. 28), found during the 1931-1932 operations. An identical

lid, with complete pot, is on display in the archeological exhibit in the old Courthouse in Williamsburg.

Under the circumstances, it is not surprising that so little material of this sort was found. We can reasonably assume, however, that the men had various personal items, such as knives and spoons, cooking and eating utensils, musical instruments, and even dice for, after all, they were soldiers.

Indian Objects

Although Washington's Indian allies left him before the final show-down, we know there was a fairly large number of Indian warriors with the attacking French force. Presumably, they were mostly equipped with firearms, but it is conceivable that some had bows and arrows. The fact that the French were running short of ammunition before the fighting stopped would have been all the more reason for the Indians to have used arrows, provided they had any along.

One would expect, therefore, that at least a few arrowheads would have been found in the excavating. Actually, not a single point was recovered. A broken point is in the Tavern collection among the other objects said to have come from the fort site (Fig. 27). If the Indians used bows and arrows, they evidently salvaged the arrows as thoroughly as they did the other usable objects left at the site after the battle.

CONCLUSIONS

The project started out as a half-hearted search for any remains that might have been left undisturbed from previous excavating and construction. If the earlier reconstruction, which by 1953 had fallen into partial decay, were to be rehabilitated, the least that could be done before any large sum was spent on the project was to make a cursory examination of the site. Actually, we very narrowly missed doing just that and nothing more.

There was just about so much a person could do with the available documentary evidence. Scholars of widely varying interests and abilities had analyzed this evidence off and on for over a century. After the first season's dig in 1953, however, we had a distinct advantage over previous students — we had some good *negative* evidence. The problem now took on an entirely different aspect. There are times when the situation calls for the archeologist's particular approach, and Fort Necessity apparently was just that.

One thing an archeologist acquires is a sleuthing instinct and a distrust of undemonstrated theories. He learns particularly to view the available evidence from every angle. In the modern vernacular, Fort Necessity had a lot of angles. The final result of viewing the evidence from the archeologist's vantage point has been described in earlier sections of this report. In retrospect the outcome does not seem too startling. Nevertheless, it was exciting and undeniably satisfying.

Academically important as it is to be certain of basic facts when carrying out a historical reconstruction, possibly the major contribution of the Fort Necessity project is in its demonstration in methodology. Primarily, the project demonstrates two points quite forcibly. First, that in determining the original appearance of a structure which has been partially or wholly destroyed, documentary evidence of the sort available for Fort Necessity is susceptible of varied interpretation. No one person's interpretation should be accepted as final so long as there is any additional evidence obtainable, and certainly no interpretation should be accepted just because a reputable scholar presents it, even in published form.

Secondly, it demonstrates the importance in historical archeology of securing the broadest and most comprehensive collaboration possible of relevant disciplines. Either the archeologist must be a combined historian, architect, and military expert, as well as being familiar with many other pertinent specialties, or he must bring to bear on the problem the services of specialists. Obviously, the latter course is the only practicable one when dealing with the complex remains of modern civilization. The archeologist who goes it alone on any such project will surely end up with an incorrect or, at best, an incomplete picture.

Except for details of the fort's construction, excavations at Fort Necessity produced no conspicuous results. Artifacts, normally the backbone of archeology, were so scarce here that they tell very little. Their use in dating, usually of paramount importance, did not figure in this instance. True, we can say with considerable assurance that at least one person had his customary afternoon tea. We are also reasonably certain that some of the men smoked tobacco in clay pipes. But compared with all we do not know, this is not much. The fact is, a historian could probably reconstruct a fairly accurate picture of the life of the officers and troops by a sufficiently thorough study of contemporary records. In other words, the few objects found in the ground tell us practically nothing that we could not have deduced with a high degree of accuracy from conventional historical sources.

Undeniably, the objects recovered from the excavating have historical importance and add, even though relatively little, to the sum total of historical knowledge. They are possibly more valuable, however, in helping to picture Fort Necessity to the park visitor. They add reality and some measure of human interest to the colder facts found in historical documents.

In the main, therefore, the excavating revealed the correct picture of the physical structures involved; it prevented an entirely erroneous reconstruction from being perpetuated; and it furnished the evidence for a worthwhile educational exhibit that calls for a minimum of qualification.

[<<< Previous](#)

[<<< Contents >>>](#)

[Next >>>](#)

FORT NECESSITY

New Light on Washington's Fort Necessity

A Report on the Archeological Explorations at Fort Necessity National Battlefield Site



PART III.

RECONSTRUCTION OF FORT NECESSITY

ARCHEOLOGY AND RECONSTRUCTION

The responsibility of the archeologist normally is assumed to end with a definitive report, based upon an analysis of excavated objects and field records, and conclusions drawn from this analysis. These conclusions, or interpretations, not only should include identification and dating of the objects and ruins, but even more important, the placing of the archeological complex in its cultural, or historical setting. In other words, the archeologist is expected to produce more than relics and statistical tabulations. He cannot stop even with identification and dating; he must produce "paper" historical reconstructions. To a degree, these reconstructions are guesswork, and that is why they are qualified with the convenient adjective "hypothetical". Of course, they are assumed to be sound, being based upon knowledge of the particular culture or historical situation involved, and upon experience in interpreting archeological data. Then, too, the archeologist must do more than just reconstruct; it is his added responsibility to weigh the soundness of his reconstruction and make his judgment in this respect clear in his report. This is important, for the reader, even though he is provided with every detail of the excavating, usually is not as qualified as the excavator and reporter to appraise the bases for interpretations.

At Fort Necessity, the so-called "reconstruction" went far beyond the usual archeological requirements. In addition to the "paper" reconstruction, it was decided to reconstruct the structure physically, just as it probably looked on July 3, 1754. This decision was not arrived at, however, until sufficient evidence had been found to permit a reasonably authentic product. Lacking documentary evidence in the way of drawings or detailed written descriptions, the information had to come almost completely from the excavating.

The National Park Service, by policy and precedent, does not look with favor on reconstructions, particularly if the site or commemorated event can otherwise be interpreted with reasonable effectiveness. Two primary questions must always be answered in the affirmative before reconstruction is considered. First: Is reconstruction essential to adequate interpretation? Second: Is there sufficient information to permit an authentic reconstruction?

In the case of Fort Necessity, the answer to the first question seemed quite clearly to be in the affirmative. All above-ground traces of the original structure had been obliterated. Removal of the 1932 developments would have left nothing but a level field. True, the site could be marked with a monument or some commemorative feature and treated purely as a memorial. Such treatment had not seemed sufficient to the planners in 1931, nor did it to the National Park Service in 1953. Possibly the decision in the latter case was influenced by the earlier reconstruction, which, over the years, had become a landmark on the old National Road.

The Battle at Great Meadows is not one of the best known incidents in American history. It is

not a Concord, a Valley Forge, or a Yorktown, as far as public knowledge and national lore are concerned. It has the makings of drama, but it has never been dramatized; certainly not to the extent that people would be drawn to the site just to stand on hallowed ground. There seemed to be a distinct need, therefore, to provide the visitor to Fort Necessity with some of the missing parts.

That reconstruction as an interpretive need was called for at Fort Necessity was more or less taken for granted when the archeological explorations were planned in 1952. The earlier reconstruction had been accepted, and what we were concerned with primarily was to secure any information possible before the stockade was rehabilitated. It was not that everyone was completely happy with the earlier reconstruction. Some of the details were questioned, but basically it appeared to fit the evidence. As soon as it became apparent that a drastic revision in the existing structures was called for, actually involving complete rebuilding, an entirely different view was taken. Now the usual criteria were operative again; now we had to face the second and crucial test: Is there sufficient evidence to justify a reconstruction?

This called for extensive archeological exploration. Results of these explorations satisfied reconstruction requirements. The earthworks could be rebuilt with reasonable accuracy. All details of the stockade were known with the exception of its height, the precise location of portholes, and the design of the gate. Least of all was known about the storehouse. But all things considered, a reconstruction was thought to be both needed and within the bounds of acceptable authenticity.

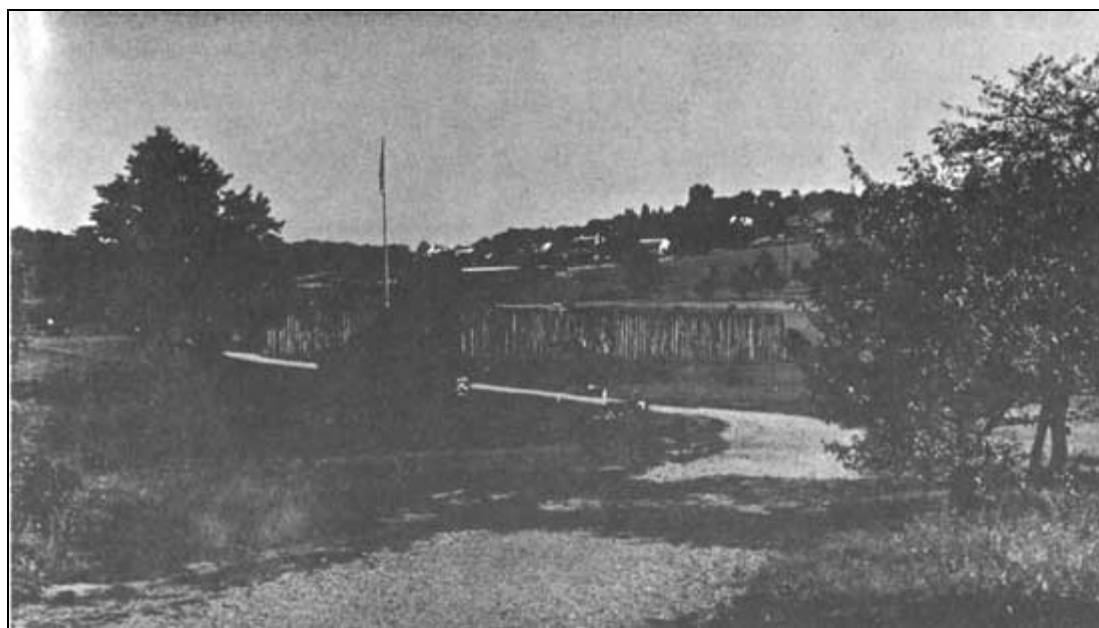


Fig. 29. View of 1932 stockade, looking north from entrance walk, showing Trench "A" being staked preparatory to start of 1952 explorations.



Fig. 30. View of Fort Necessity as reconstructed in 1953 and 1954, looking north from same position as Fig. 29.

LIMITING FACTORS

Every development designed for public use of necessity is affected by a great many factors — traditions, construction problems, visitor convenience and safety, maintenance costs, and many other practical considerations. Fort Necessity could not be constructed in a vacuum. Consequently, there had to be some compromises.

Soil conditions, as well as cost, prevented restoration of the original ground level. The anticipated tramping of many feet called for paved walks. The Run could not be restored to its original meandering course without inviting spring floods. The slopes of the earthworks had to be sodded for purely practical maintenance reasons. The logs had to be peeled so that they could be chemically treated. Sentiment and common sense called for replacing the bronze plaques. And so it went.

Basically, the final result is a reasonably authentic reproduction of the original. The visitor will probably not be as disturbed by the drinking fountain as he would be by the lack of water if it were not available. The paved walks enable him to visit the site in any kind of weather. The purist — and there always are some — will be disturbed by some of these incongruities. In solving the public-use problem, however, some concessions have to be made. The aim at Fort Necessity was to concede no more than visitor use and certain practical limitations required. Primarily the objective was to enable 200,000 people every year to learn a little more about their country's history, to gain a little more respect and appreciation for their historical heritage, and to have one more experience worth talking about with the folks back home.

THE RECONSTRUCTION

Although believed to be located correctly, all of the reconstructed features are approximately a foot above their original level. This was necessitated by the swampy terrain. Even if funds had been available to remove the foot of fill, placed in 1932, there were distinct reasons for leaving it. It not only makes the site accessible throughout the year, but it leaves a large

portion of the original entrenchments undisturbed. This possibly has no real merit, but it makes one feel a little better not to have destroyed every vestige of evidence. After all, we were very glad that Hulbert in 1901 and Blackford in 1931 left something for us.

The entrenchments are probably fairly close to their original size and shape and certainly in their original location, even though the grassed slopes are an added feature. The inner slope of the parapet undoubtedly was a little steeper, and there may have been logs laid on it for added protection. Nevertheless, for all practical purposes, the restored entrenchments probably are fairly authentic.

The stockade could not have been very different from the reconstruction. There is no reason to believe that the posts were any higher than necessary to give protection from musket fire. The reconstructed height of seven and a half feet above the ground must be very close to the original height. The greatest departure from archeological evidence was in peeling the logs, required for preservative treatment.

The storehouse, on the other hand, is almost pure guesswork. All we really know is that there was a building inside the stockade. It probably was built of logs; it was said to have been roofed with bark and hides; and, according to one account, was 14 feet square. It very likely had a slightly sloping, shed roof, rather than the reconstructed gable roof (Fig. 31). Since it was built primarily, if not solely, as a storehouse, the walls would have been as low as practicable, both to expedite construction and to make it less vulnerable in case of attack.

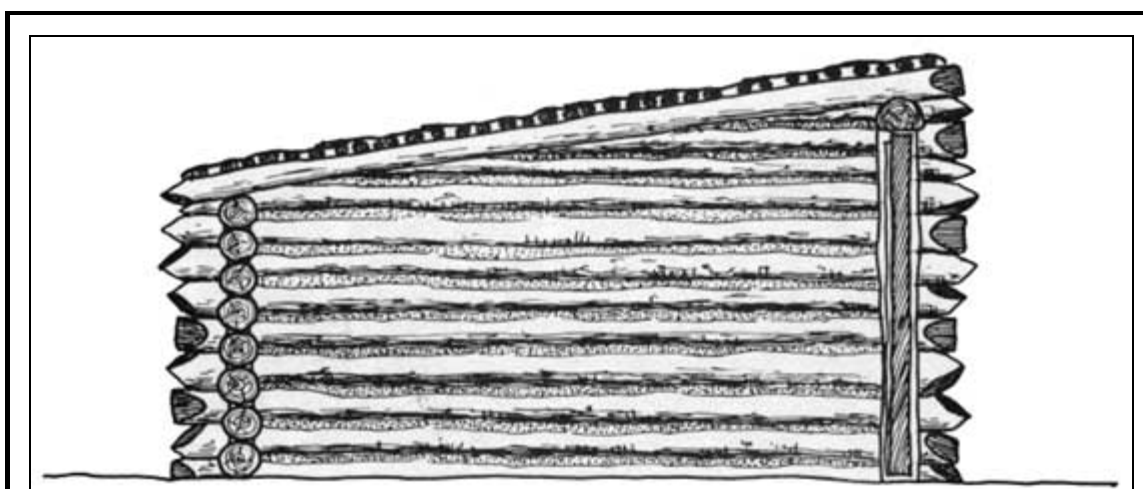


Fig. 31. Possible shed-type appearance of original log storehouse. Public use and greater permanency required better construction and higher roof for reconstructed building.

Such a building was not feasible in developing the site for visitor use. Protected space was needed for the attendant and for a few interpretive exhibits. A gable roof, therefore, was more suitable, and, after all, log structures of this design were common in that day — even more common, in fact, than those with low, shed roofs. As for the roof covering, a more waterproof and durable material than the original was required. The original must have been pretty much of a make-shift affair, with pieces of bark and hides laid over branches. In the reconstruction, a water-tight roof was first laid over the log rafters, with deer hides added to simulate the original.

The concessions to visitor comfort and the added interpretive devices, such as the bronze plaques and the exhibit panels, understandably interject an incongruous note and lessen the realism of the reconstruction. The one consolation, in addition to knowing that thousands of people will drive a great deal of pleasure from their visit to the site, is that all, or any part,

can be done over at any time. All the available evidence is now in one place for everyone's use. Some day the logs of the present stockade will rot; another archeologist may come along and question the reconstruction or the adequacy of the explorations. If he decides to explore a little further, he may find some additional evidence, and, if this evidence warrants, a different reconstruction will be conceived. Or possibly, by then, reconstructions will be out of style.

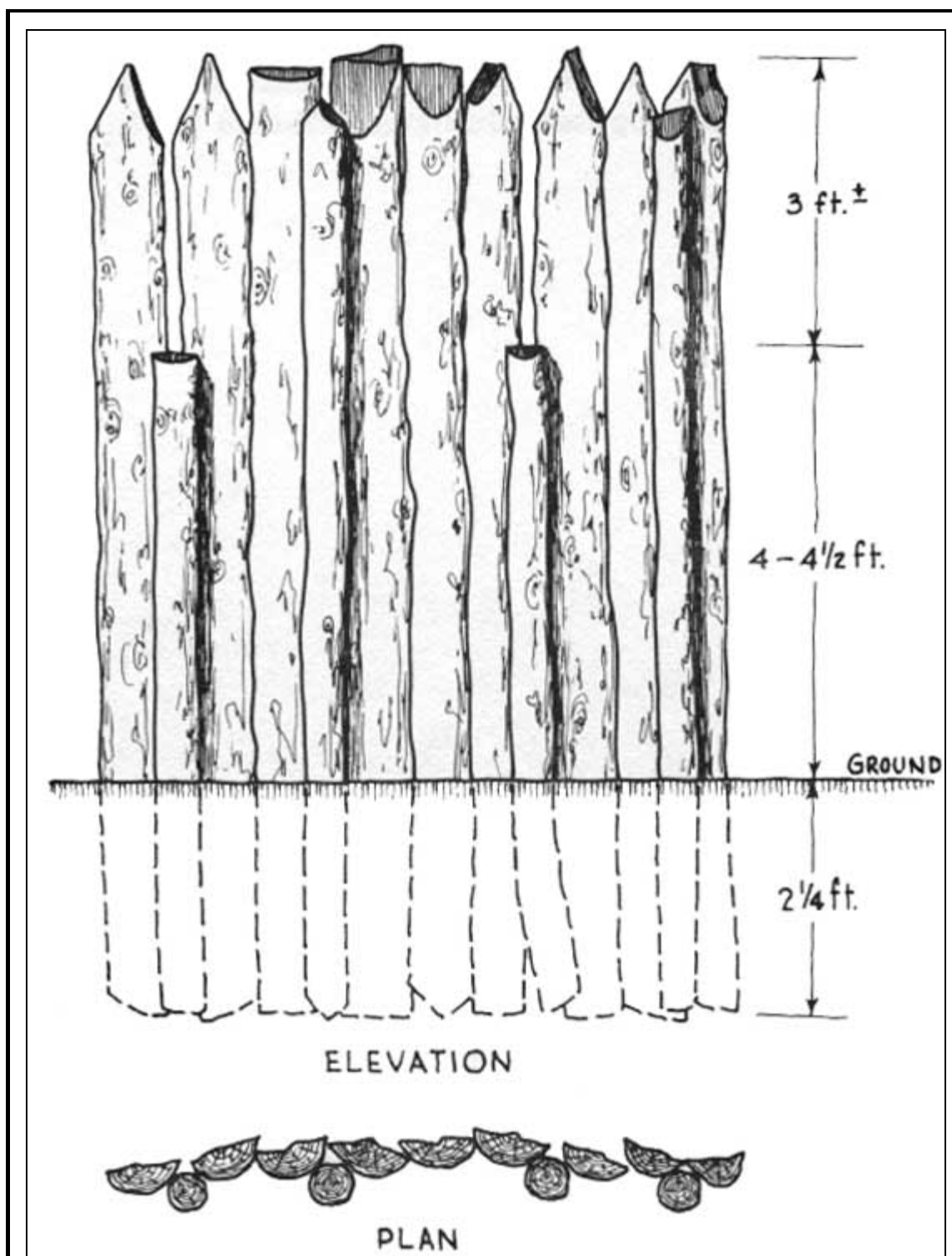


Fig. 32. Probable construction of original stockade. Small unsplit filler poles were possibly used more frequently than shown in the drawing.

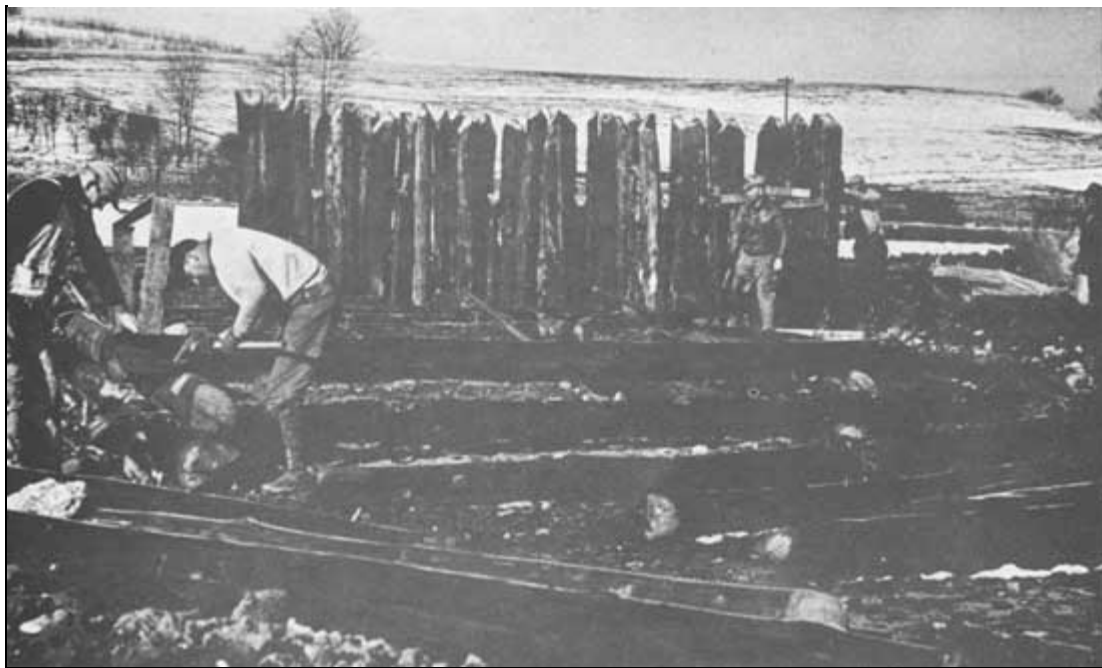


Fig. 33. Erecting stockade and log cabin in 1954.

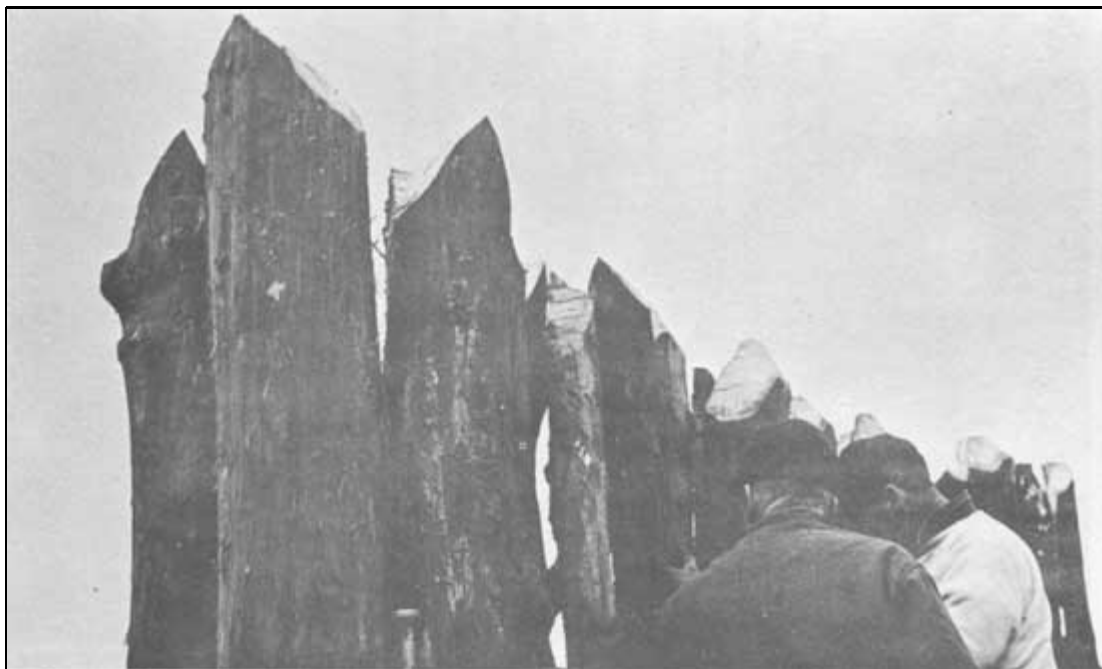


Fig. 34. Erecting section of circular stockade in 1954.

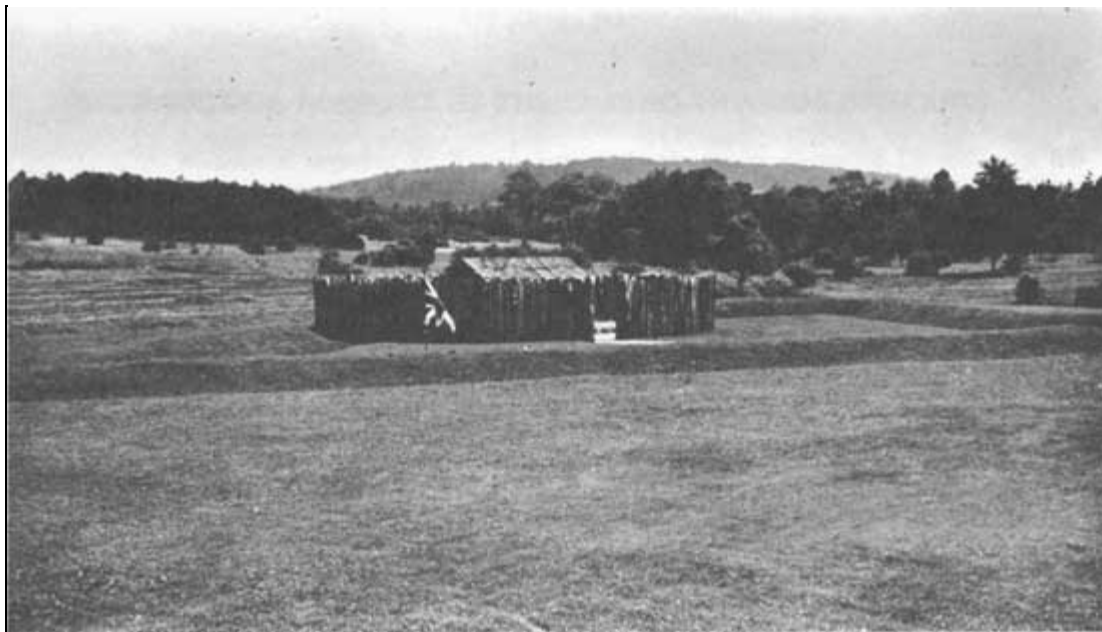


Fig. 35. View of Fort Necessity as reconstructed in 1954, looking east.



Fig. 36. View of reconstructed fort, looking north. Mount Washington Tavern in background.

[<<< Previous](#)

[<<< Contents >>>](#)

[Next >>>](#)

FORT NECESSITY

New Light on Washington's Fort Necessity

A Report on the Archeological Explorations at Fort Necessity National Battlefield Site



NOTES

PART I

¹Most of the references cited hereafter, which deal specifically with Fort Necessity and the 1754 expedition, contain good discussions of events leading up to the battle at Great Meadows, as well as the battle itself. For good brief accounts, see A. A. Salley, *The Independent Company from South Carolina at Great Meadows*, Frederick Tilberg, *Fort Necessity*, and John P. Cowan, "George Washington at Fort Necessity". Two of the fullest accounts were written more than a century apart: Jared Sparks, *The Writings of George Washington*, and Douglas S. Freeman, *George Washington*.

²Of the site of the future Fort Necessity, Washington wrote soon after arriving at Great Meadows: "We have, with Nature's assistance, made a good Intrenchment, and, by clearing the Bushes Out of these Meadows, prepar'd a charming field for an Encounter". (Letter to Robert Dinwiddie, May 27, 1754, in John C. Fitzpatrick, ed., *The Writings of George Washington*, I, 54. This work will be cited hereafter as Fitzpatrick, *Writings*.) Even before preparing the first temporary entrenchments, the natural terrain offered some protection, for Washington wrote in his journal that upon arriving at the Meadows on May 24, he "placed Troops behind two natural Intrenchments, and had our wagons put there also". (John C. Fitzpatrick, ed., *Diaries of George Washington*, I, 85. This work will be cited hereafter as Fitzpatrick, *Diaries*.) The "natural Intrenchments" undoubtedly were the creek beds of Great Meadow Run and a small branch, later known as "Indian Run". (See Fig. 1.)

³Freeman, *George Washington*, I, 309.

⁴*Ibid.*, 343-344.

⁵Later in the French and Indian War, after the capture of Fort Duquesne, Fort Burd was built at this same point, and became an important British outpost. It is now the site of the city of Brownsville.

⁶Letter to Governor Dinwiddie, April 25, 1754, in Fitzpatrick, *Writings*, I, 41.

⁷This trail had been laid out by the Delaware Indian, Nemacolin, in 1750 at the request of Capt. Thomas Cresap. (See Archer B. Hulbert, *Washington's Road*, 96.) Cresap, one of the earliest of the Virginia settlers in this section, had been employed by the Ohio Company in 1748 to mark out a route to the Ohio.

⁸Probably more pages have been written about this skirmish, often referred to as "The Jumonville Incident", than to the remainder of the expedition, including the Battle of Fort

Necessity. Some writers call this engagement the opening "battle" of the French and Indian War. However, it quite definitely was not a battle in the military sense, but only a skirmish between two scouting parties. Its importance lay more in the way it was exploited for propaganda purposes by the French to show that the English were the real aggressors in the disputed Ohio Country. The incident was magnified immeasurably by its unfortunate inclusion in the terms of capitulation at Fort Necessity, in which Washington, misadvised by the interpreter, admitted that Jumonville had been *assassinated*. (For Washington's account of the Jumonville skirmish, see Fitzpatrick, *Writings*, I, 55-58 and 64-65. For a short account, see Tilberg, *Fort Necessity*, 8-10.) Washington very ably refuted the French claim of Jumonville's assassination, which first came to his attention through the translation back into English of his Journal, which had been translated into French and published for propaganda purposes soon after it was captured at the Battle of Fort Necessity. (See Fitzpatrick, *Writings*, I, 36-37.)

⁹There seems to be no consistent application of the terms "palisade" and "stockade" at the time of Fort Necessity's construction, although later military usage definitely distinguishes between them. Washington always used some form of the word "palisade", e.g., "palisado'd Fort". Governor Dinwiddie, on the other hand, called Fort Necessity a "Pallisadoed Fort" when writing to Washington, probably out of politeness, (*Official Records of Robert Dinwiddie*, I, 230), but when writing to his superiors in England, he referred to it as a "Stockade Fort". (*Ibid.*, 206.) Shaw, describing the fort soon after the battle, referred to a "stockade". (See page 26.) Colonel Burd, who stopped at the site in 1759, also called it a "stockade". (See page 28.) Since "stockade" was used more commonly in contemporary references, that term, rather than "palisade", will be used in this report.

¹⁰See Appendixes 1 through 5 for contemporary accounts of the battle.

¹¹Although most contemporary accounts call it "The Battle at the Great Meadows", in his note of appreciation to the Virginia House of Burgesses, dated October 23, 1754, for their commendation of his conduct at the battle, Washington referred to "the late unsuccessful Engagement with the French at the Great Meadows". (Fitzpatrick, *Writings*, I, 103.)

¹²Fitzpatrick, *Diaries*, I, 101.

¹³Fitzpatrick, *Writings*, I, 40.

¹⁴See page 27.

¹⁵Letter to Robert Bolling, cited in *William and Mary College Quarterly*, old series, X, 104.

¹⁶Freeman, *George Washington*, I, 402. There is no basis for giving Washington credit for naming the fort, although presumably he had the right to do so, since it was built under his command. Some writers state that Major Stobo laid out the fort and directed its construction.

¹⁷The original Lewis map is now (1955) in the possession of Mrs. J. A. Batton, 136 Belmont Circle, Uniontown, Pennsylvania. It was first published, as a facsimile (redrawn from the original by D. S. Stewart), in W. H. Lowdermilk, *History of Cumberland*, opp. 76. Later reproductions, all of which vary from the original Lewis manuscript map in various details, may have been copied from Lowdermilk. The Lewis document, but with interlineal "translations" of the descriptive notes, was published as a broadside of the Westmoreland Fayette Branch of the Historical Society of Western Pennsylvania, presumably at the time of the Washington Bicentennial. (The broadside carries no publication date.)

¹⁸Jared Sparks, ed., *The Writings of George Washington*, I, opp. 56. A description of the remains, but without the map, is also found in Sparks' later work, *The Life of George Washington*, 51.

¹⁹Freeman, *George Washington*, I, 402.

²⁰For a more complete review of the history of this controversy, see, in addition to other references cited in this chapter, Frederick Tilberg, *The Location and Structure of Fort Necessity*. I apologize for referring frequently to unpublished reports, but they cover important points in the discussions and must be noted, even though they are not readily accessible. Pertinent sections of the unpublished report on the 1931 excavations are furnished in the Appendix. The several manuscripts by Frederick Tilberg and J. C. Harrington, all relevant to the present report, are too detailed to be included as appendixes, but can be consulted, if desired, at the sources indicated in the Bibliography.

²¹In addition to the map furnished by Blackford, as reproduced in Fig. 9, I was also furnished the original field notes made by Mr. Blackford in 1931, from which additional information, not shown on his map, was obtained. Blackford's material proved particularly valuable in working out the final solution to the fort problem. His map was first published in Frederick Tilberg, "Washington's Stockade at Fort Necessity", 253.

²²*The Frontier Forts of Western Pennsylvania*, II, 38, citing Evert, *History of Fayette County*.

²³Freeman, *George Washington*, I, 402.

²⁴James Veech, *The Monongahela of Old*. The work was started by Freeman Lewis in 1850. He turned it over to Veech, who had not completed it at the time of his death. A few copies, with one chapter unfinished, were made up from the printed sheets, and privately distributed in 1859. The chapter was completed by Veech's daughter and limited edition published in 1892. It was reissued in 1910.

²⁵Veech, *The Monongahela of Old*, 53.

²⁶Sherman Day, *Historical Collections of the State of Pennsylvania*, 336. (See page 28 for further information on Colonel Burd and his visit to Great Meadows.)

²⁷Veech, *The Monongahela of Old*, 53-54.

²⁸Hulbert, *Washington's Road*, 182.

²⁹Freeman, *George Washington*, I, 402, F.N. 113.

³⁰Tilberg, *Fort Necessity Stockade — A Preliminary Study*. He paraphrased Hulbert as follows: "It is probable, if the original fort were an irregular square or parallelogram, that the action of rain and snows over the five years since it was erected, as well as the demolition of the fort by the French, may well have left an appearance of circular mounds".

³¹Hulbert, *Washington's Road*, 177.

³²George D. Albert, ed., *The Frontier Forts of Western Pennsylvania*, (map between pp. 32 and 33).

³³R. G. Thwaite, *How George Rogers Clark Won the Northwest*, 290-292. Thwaite's observations are of interest. He wrote: "It was surprising to find the remains of Fort Necessity so well preserved, Great Meadow Run, originally a lazy, weedgrown stream some ten feet wide, has been straightened by the present proprietor into a drainage ditch, but its ancient windings are readily distinguishable. (They still were in 1931, and fortunately Blackford mapped them at that time.) The change in the course of the run destroyed an outlying work, but the embankment of the fort itself is traceable through the greater part of its length. The line of earthwork is still some eight or ten inches above the surrounding level; while on the inner side, counting the excavation ditch, it has a height of about fifteen inches . . . There are of course no remaining evidences of the palisade, on top of the embankment, for this was at the time destroyed by the French . . . In the centre of the fort still rests, although upheaved by frost, a hewn block of limestone, two feet square, the only surviving memento of a movement . . . for the erection here of a Washington monument (in 1854) . . ."

³⁴Freeman, *George Washington*, I, 402.

³⁵Harry Blackford, *Record and Description of the Reconstruction of Fort Necessity*. (Cited hereafter as Blackford, *Record*)

³⁶Frederick Tilberg, *Fort Necessity Stockade — A Preliminary Study*. Tilberg repeated this discussion in his later report, *The Location and Structure of Fort Necessity*.

³⁷J. C. Harrington, *Preliminary Report, Archeological Explorations, Fort Necessity National Battlefield Site, August-September, 1952*.

³⁸Tilberg, *The Location and Structure of Fort Necessity*, etc., 20, citing the *Daily National Intelligencer*, Oct. 18, 1825.

³⁹Quoted in Tilberg, *ibid.*, citing *Pennsylvania Archives*, XII, 423.

⁴⁰Deposition made by John B. W. Shaw before Governor James Glen of South Carolina on August 27, 1754. Original document in British Public Record Office; photostatic copy furnished by Historical Commission of South Carolina from microfilm negative. See Appendix 4 for transcript of this document and a note on the identification of Shaw. The manuscript will be cited hereafter as *Shaw Deposition*.

⁴¹The long controversy as to the size and shape of Fort Necessity, which began with the survey by Freeman Lewis in 1816, has been covered in the preceding section, and incidents relating thereto will not be repeated in this section.

⁴²The site believed to be the spot where Braddock was buried is near the point where the Old National Pike (U. S. 40) crosses the Braddock Road about one mile west of the Mount Washington Tavern. A 23-acre tract surrounding the presumed burial site was acquired by the Braddock Park Association in 1909 and a monument erected in 1913. In 1932 the plot was transferred to the Pennsylvania Department of Forests and Waters, and in 1962 became a part of Fort Necessity National Battlefield.

⁴³Tilberg, *The Location and Structure of Fort Necessity*. Exhibit IV.

⁴⁴*Ibid.* Exhibit VI.

⁴⁵Fitzpatrick, *Writings*, II, 258-259.

⁴⁶J. W. Abraham, "Redstone Old Fort", in *Fort Necessity and Historic Shrines of the Redstone Country*, 31.

⁴⁷Umble (RE. Umble, "Mt. Washington, Fort Necessity, Park and Shrine", in *Fort Necessity and Historic Shrines of the Redstone Country*, 36) furnishes the following pertinent information: "By virtue of an original order on Application No. 3383 entered June 13, 1769 by William Brooks, who, by Deed dated October 17, 1771 conveyed the said tract with appurtenances unto George Washington in fee simple and a warrant for the acceptance of the survey issued to him February 14, 1782 and on February 28, 1782 the Commonwealth of Pennsylvania granted to His Excellency. George Washington. Esq., a patent for the same in consideration of 35 pounds, 15 shillings and 8 pence, the said land situate on the East side of Laurel Hill where Braddocks Road crosses the Great Meadows'. Enrolled at Harrisburg, Pa., in Patent Book 6, Volume 1, page 136 and recorded in the Recorder's Office of Fayette County, Pa., in Deed Book 507 page 458".

⁴⁸Fitzpatrick, *Writings*, XXXIX, 97. Through the years Washington was unsuccessful in renting the tract, and the records contain several letters to his agent on this subject, of which the following to Thomas Freeman, dated September 23, 1784, is typical: "My tract at the Great Meadows may be rented for the most you can get, for the term of ten years: there is a house on the premises, arable land in culture, and meadow inclosed; much of the latter may be reclaimed at a very moderate expence; which, and its being an excellent stand for an Innkeeper, must render it valuable". (Fitzpatrick, *Writings*, XXVII, 469.) There seems to be no record as to when, or by whom, the house was built, or its location within the tract.

⁴⁹Fitzpatrick, *Diaries*, II, 288.

⁵⁰In a letter to his agent in 1794, Washington wrote that the tract "consists chiefly of Meadow, and is very valuable though unimproved . . . an excellent stand for a Publican", and instructed that the property be sold. (Fitzpatrick, *Writings*, XXXIII, 379.)

⁵¹E. E. Prussing, *The Estate of George Washington, Deceased*, 301-302. A "pistole" varied in value, but was equivalent roughly to \$4.00 in present day currency. Another source gives the cost as 35 pounds, 15 shillings, 8 pence f.n. 47, page 28).

⁵²Albert, *The Frontier Forts of Western Pennsylvania*, 331. (See also Thomas B. Searight. *The Old Pike: A History of the National Road*.)

⁵³Searight. *The Old Pike*, 228.

⁵⁴All of these later structures have been removed. The brick tavern has been restored and is used as a museum.

⁵⁵The memorial was to consist of a monument of "hollow iron, about 4 feet square at the base, composed of plates, and about 50 feet high . . ." (R. E. Umble, "Mount Washington, Fort Necessity and Shrine", in *Fort Necessity and Historic Shrines of the Redstone Country*.

⁵⁶A *Young Colonel from Virginia* (no author). This was a brochure put out by the Fort Necessity Memorial Association describing the proposed developments.

⁵⁷The work was carried out by the Fort Necessity Memorial Association under the sponsorship of the Fort Necessity Chapter, Pennsylvania, Society of the Sons of the American Revolution, (See introductory chapter *Fort Necessity and Historic Shrines*.)

⁵⁸See later discussion of 1931 archeological project and Appendix 6.

⁵⁹Deed Book 512, page 480, Fayette County Records, Uniontown, Pa,

⁶⁰Other Federal relief agencies also had a part in the site development, particularly in the historical and research program and restoration of the Mount Washington Tavern. Included were the Works Progress Administration and the National Youth Administration.

PART II

¹Hulbert, *Washington's Road*, 177.

²Although McCracken was a surveyor and presumably mapped the site, the only record of his survey is a very simple map at small scale reproduced in Hulbert's published work (*ibid.*, 179).

³*Ibid.*, 184-185.

⁴Hulbert, *Washington's Road*, 185-187.

⁵*Ibid.*, 187.

⁶Mr. Blackford worked under the immediate direction of Dr. W. Blake Hindman, Chairman of the Fort Necessity Memorial Committee. Both Mr. Blackford and Dr. Hindman visited the site while work was in progress in 1952 and 1953, and supplemented and confirmed Blackford's earlier report.

⁷Backford Report, Appendix 6.

⁸Also referred to as "Great Meadow Run" and "Great Meadows Run".

⁹Freeman Lewis described the site as it appeared in 1816 by brief notation on his map: "The flat land on both sides of the run clear meadow, except some swamps or clumps of alder bushes near the stream". (Note on original Lewis map, Fig. 2.) Jared Sparks, who was there a few years later, describes it as follows: "Fort Necessity was situate in a level meadow, about two hundred and fifty yards broad, and covered with long grass and low bushes. The foot of the nearest hills came to within one hundred yards of the fort, and at one place within sixty yards. The space between the fort and hills was open and smooth, the bushes having been cleared away". (*The Writings of George Washington*, I, 54.)

¹⁰There is no known topographic map of the site showing grades prior to the 1932 grading operations. I was told that the War Department had mapped the site when it was first acquired, but no such map has been located.

¹¹Frederick Tilberg, *Fort Necessity Stockade — A Preliminary Study*. This report was revised and enlarged by Dr. Tilberg (*The Location and Structure of Fort Necessity and the Physical Features of Great Meadows*), making use of the findings of the preliminary explorations and the report on these excavations J. C. Harrington, *Report on 1952 Archeological Explorations at Fort Necessity National Battlefield Site*.

¹²Sparks wrote: "The fort itself was an irregular square, each side measuring thirty-five yards, with a trench partly finished on two sides. The entrances were guarded by three bastions". (*The Writings of George Washington*, I, 56.) Entrenchments similarly located to those on Sparks' map are indicated on the map in *Frontier Forts of Pennsylvania*, but it is almost certain that the draftsman copied this feature from Sparks.

¹³Sherman, *Historical Collections*, 336.

¹⁴A pertinent portion of the report reads as follows: "If we . . . accept the possibility of the ridge and depressions being the remains of the original outer entrenchments, where, then was the stockade? This brings the 'round' fort back into the picture". The report then goes on to present a number of arguments in favor of a small, circular fort. The report concludes the discussion as follows: "In presenting this radical hypothesis of a small, round . . . fort, I am definitely not suggesting that the present plan has nothing in its favor, or that it should be discarded. I am only attempting to arrive at a solution that most nearly fits all of the evidence available at this time. The round . . . fort seems to be to offer an explanation for certain facts and situations which are not satisfactorily met in the present reconstruction". (Harrington, *Report on 1952 Archeological Explorations at Fort Necessity National Battlefield Site*.)

¹⁵Harrington, J. C., *Preliminary Report, Archeological Explorations, Fort Necessity National Battlefield Site, August-September, 1952*.

¹⁶Some historians have contended that the stockade was constructed just prior to the battle, when a last hurried effort was made to improve the fortifications. (For example, see Cowan, "George Washington," 173). It seems quite clear from the documentary evidence, however, that the entire circular stockade was built during the three or four day period immediately following the Jumonville incident. Washington stated quite clearly that a palisaded fort was built at that time, The last-minute improvements early in July must have comprised work on the entrenchments, rather than on the stockade.

¹⁷Although the bronze plaque placed on the reconstructed storehouse in 1932 states that the original structure was so used, I have been unable to find any documentation to support the claim.

¹⁸Shaw Deposition.

¹⁹Lewis stated that in 1816 the ditches were "from one to two feet below" the level of the meadow (Fig. 2). Thwaite, who visited the site in 1903, mentions only the inner depressions, which he says were about 15 inches below the top of the ridge. (R. G. Thwaite, *How George Rogers Clark Won the Northwest*, 290-292.) Blackford, on the other hand, states that in 1931 the ditches on the outside were 6 to 12 inches below the level of the ground, while those on the inside were 6 to 10 inches deep, (Blackford's original survey notes.) Although relatively little exploring was done on the outside of the original parapet line, no evidence was found of palisades in the outer ditch or of fraises at the other toe of the parapet.

²⁰*Virginia Gazette*, July 19, 1754, (Appendix 2). Shaw's account is similar to Washington's. He stated that "in the Morning before the Engagem^t they Endeavour'd to throw up a little Entrenchm^t round them about two feet deep, But could not finish it . . ." (Shaw Deposition, Appendix 4).

²¹*Virginia Gazette*, July 19, 1754.

²²Washington wrote Governor Dinwiddie on June 3 as follows: "We have just finish'd a small palisado'd Fort, in which, with my small numbers, I shall not fear the attack of 500 men". (Fitzpatrick, *Writings*, I, 71.) Almost certainly he was referring to the combined entrenchments and stockade, for a letter of the same day to his brother stated that the entrenchments were completed. (*ibid.*, 70.)

²³In his description of the battle, Washington wrote: "The enemy had deprived us of all our Creatures; by killing, in the Beginning of the Engagement, our Horses, Cattle, and every living Thing they could, even to the very Dogs". (*Virginia Gazette*, July 19, 1754.)

²⁴"...our whole Force not exceeding 300...". (*Virginia Gazette*, July 19, 1754.)

²⁵A letter by Townsend Ward, printed in the *North American*, July 3, 1754, and quoted in Albert, *Frontier Forts*, page 34, reads: "The artillery which Washington was unable to remove, remained a number of years, and it is said to have been the custom of emigrants who encamped at the fort to use it in firing salutes. At length the pieces, one by one, were carried to Kentucky by some of the emigrants who crossed the mountains".

²⁶*Dinwiddie Papers*. I, 121.

²⁷Detailed descriptions of the battle, such as that published in the *Williamsburg Gazette*, tell how the Virginia and South Carolina troops fixed their bayonets for a last desperate stand after their powder became too wet to use.

²⁸Freeman, *George Washington*, I, 383.

²⁹Fitzpatrick, *Writings*, I, 78.

³⁰Sparks, *Writings*, II, 462.

³¹In his deposition (Appendix 4), Shaw made the following statement: "Our people having two Swivel Guns which were discharged at the same time".

³²Freeman, *George Washington*, I, 409.

³³Sparks, *Writings*, II, 462.

³⁴In a letter to Col. Innes dated March 23, 1754, Dinwiddie wrote: "His M'y sent 30 Pcs Cannon, 4 Ponders, with all necessary Implem's. They are heavy, therefore have sent only ten to be carried in Waggons to the Ohio; if they be easily transported I shall send the other twenty", (*Dinwiddie Papers*, I, 126.) In a later letter to Gov. Glen of South Carolina, Dinwiddie states that these 4 pounders are mounted on "proper carriages", but he also adds that they have no "coe-horns, mortars, or shells". (*ibid.*, I, 129.) Later he writes again that the troops have no "cutlasses, mortars, granad shells, or coehorn" which are needed to capture Ft. Duquesne. (*ibid.*, I, 159.)

³⁵Called a "cartouche box" in contemporary records.

³⁶In reference to preparing for this expedition, Dinwiddie ordered that there should be one quart of rum for every four men per day. (*Dinwiddie Papers*, II, 121.) The main supply of rum was carried in casks, but bottle decanters were probably used to serve drinks to the officers.

<<< [Previous](#)

<<< [Contents](#)>>>

[Next](#) >>>

fone/new-light/notes.htm
Last Updated: 04-Mar-2009

FORT NECESSITY

New Light on Washington's Fort Necessity

A Report on the Archeological Explorations at Fort Necessity National Battlefield Site



APPENDIXES

APPENDIX 1

VILLIER'S ACCOUNT OF THE BATTLE AT GREAT MEADOWS

Description of the battle from the journal of Capt. Louis Coulon de Villiers, Commander of the French detachment. From the translation in Cleland, *George Washington in the Ohio Valley*, 108-111.

I sent scouts who were to go close to the camp; and twenty more to support them; and I advanced myself in order; when some of my people returned to tell me that we were discovered; and that the English approached in order of battle to attack us: as it was said they were close to me, I put my troops in order of battle, and in a manner suited to woods-fighting. It was not long before I perceived that my scouts had led me wrong; and I gave order to my troops to advance towards that side from which I apprehended an attack. As we were not acquainted with the ground, we presented our flank to the fort from whence they began to cannonade us: I perceived almost at the same time, to the right, the English coming towards us in order of battle. The Indians, and we also, set up the cry, and advanced to meet them: but they gave us no time to make our discharge: they filed off, and withdrew into an entrenchment which lay next to their fort. We then set ourselves about investing the fort: it was advantageously enough situated in a meadow, the wood of which was within musket shot of it. We came as close to them as it was possible, to the end that his Majesty's subjects might not be exposed without necessity: the fire was pretty brisk on both sides, and I repaired to the place which appeared most to favor a sally. We succeeded in silencing the fire of their cannon, I may say, with our small arms. It is true that the zeal of our Canadians and soldiers worried me, because I saw that we would in a little while be without ammunition. Mr. Le Mercier proposed to me making arrangements to bolster our positions so as to confine the English in their fort and entirely prevent them from leaving. I ordered Mr. De Bailleul to assemble as many men as possible in order to help the quarter which would be attacked in case of a general sortie. At this time we distributed provisions, ammunition and goods, which encouraged the Indians and militiamen.

The enemy's fire began again at six o'clock, with more fury than ever, and lasted till eight o'clock. As we had spent our time all day drying things from the rain, the Detachment was very tired. The Indians had announced to me their departure on the next day. Rumor said that the beat of drums and the firing of cannon had been heard from a distance. I proposed to Mr. Le Mercier to offer to parlay with the English.

The 4th, at break of day, I sent a detachment to take possession of the fort; the garrison filed off, and the number of their dead and wounded raised compassion in me, notwithstanding my resentment of the manner in which they had made away with my brother.

The Indians, who had in every respect, complied with my desires, had laid claim to the pillage. I opposed it, but the consternation of the English was so great that they ran away and left behind them even their flag and a pair of their colors. I demolished their fort and Mr. le Mercier caused their cannon to be destroyed together with the one which had been granted them by their capitulation, the English not being able to take it away.

I hastened away, after having first destroyed the casks of liquor, in order to prevent the disorders which they would have inevitably caused. One of my Indians took ten English and brought them to me; I sent them away by another . . .

I lost in this attack only two French and one (Indian), I had seventeen wounded, of whom two were Indians, exclusive of several wounds so slight as not to require the attention of the surgeon.

APPENDIX 2

WASHINGTON'S ACCOUNT OF THE BATTLE AT GREAT MEADOWS

Shortly after Washington returned to Williamsburg and reported to Governor Dinwiddie, a full account of the battle, apparently furnished by Washington or taken from his official report, was published in the *Virginia Gazette*, July 19. The story later was printed, almost verbatim, in the *South Carolina Gazette*, August 22. The following is copied from the facsimile copy of the *Virginia Gazette*, published in 1932 by the Fort Necessity Chapter, Sons of the American Revolution.

WILLIAMSBURG, July 19.

On Wednesday last arrived in Town, Colonel George Washington and Captain James Maccay, who gave the following Account to his Honour the Governor, of the late Action between them and the French, at the Great Meadows in the Western Parts of this Dominion.

The third of this Instant July, about 9 o'Clock, we received Intelligence that the French, having been reinforced with 700 Recruits, had left Monogehela, and were in full March with 900 Men to attack us. Upon this, as our Numbers were so unequal, (our whole Force not exceeding 300) we prepared for our Defence in the best Manner we could, by throwing up a small Intrenchment, which we had not Time to perfect, before our Centinel gave Notice, about Eleven o'Clock, of their Approach, by firing his Piece, which he did at the Enemy, and as we learned afterwards killed three of their Men, on which they began to fire upon us, at about 600 Yards Distance, but without any Effect: We immediately called all our Men to their Arms, and drew up in Order before our Trenches; but as we looked upon this distant Fire of the Enemy only as an Artifice to intimidate or draw our Fire from us, we waited their nearest Approach before we returned their Salute. They then advanced in a very irregular Manner to another Point of Woods, about 60 Yards off, and from thence made a second Discharge; upon which, finding they had no Intention of attacking us in the open Field, we retired into our Trenches, and still reserved our Fire; as we expected from their great Superiority of Numbers, that they would endeavor to force our Trenches; but finding they did not seem to intend this neither, the Colonel gave Orders to fire, which was done with great Alacrity and Undauntedness. We continued this unequal Fight, with an Enemy sheltered behind the Trees, ourselves without Shelter, in Trenches full of Water, in a settled Rain, and the Enemy galling us on all Sides incessantly from the Woods, till 8 o'Clock at Night, when the French called to Parley: From the great Improbability that such a vastly superior Force,

and possessed of such an Advantage, would offer a Parley first, we suspected a Deceit, and therefore refused to consent that they should come among us; on which they desired us to send an Officer to them, and engaged their Parole for his Safety; we then sent Capt. Van Braam, and Mr. Peyronee, to receive their Proposals, which they did, and about Midnight we agreed that each Side should retire without Molestation, they back to their Fort at Monongehela, and we to Wills's Creek: That we should march away with all thee Honours of War, and with all our Stores, Effects and Baggage. Accordingly the next Morning, with our Drums beating and our Colours flying, we began our March in good Order, with our Stores, &c. in Convoy; but we were interrupted by the Arrival of a Reinforcement of 100 Indians among the French, who were hardly restrained from attacking us, and did us considerable Damage by pilfering our Baggage. We then proceeded, but soon found it necessary to leave our Baggage and Stores; the great Scarcity of our Provisions obliged us to use the utmost Expedition, and having neither Waggon nor Horses to transport them. The Enemy had deprived us of all our Creatures; by killing, in the Beginning of the Engagement, our Horses, Cattle, and every living Thing they could, even to the very Dogs. The Number of the Killed on our Side was thirty, and seventy wounded; among the former was Lieutenant Mercier, of Captain Maccay's independant Company; a Gentleman of true military Worth, and whose Bravery would not permit him to retire, though dangerously wounded, till a second Shot disabled him, and a third put an End to his Life, as he was carrying to the Surgeon. Our Men behaved with singular Intrepidity, and we determined not to ask for Quarter but with our Bayonets screw'd, to sell our lives as dearly as possibly we could. From the Numbers of the Enemy, and our Situation, we could not hope for Victory; and from the Character of those we had to encounter, we expected no Mercy, but on Terms that we positively resolved not to submit to.

The Number killed and wounded of the Enemy is uncertain, but by the information given by some Dutch in their Service to their Countrymen in ours, we learn that it amounted to above three hundred; and we are induced to believe it must be very considerable, by their being busy all Night in burying their Dead, and yet many remained the next Day; and their Wounded we know was considerable, by one of our Men, who had been made Prisoner by them after signing the Articles, and who, on his Return told us, that he saw great Numbers much wounded and carried off upon Litters.

We were also told by some of their Indians after the action, that the French had an Officer of distinguishable Rank killed. Some considerable Blow they must have received to induce them to call first for a Parley, knowing, as they perfectly did, the Circumstances we were in.

APPENDIX 3

GOVERNOR DINWIDDIE'S OFFICIAL ACCOUNT OF THE BATTLE

Following is a portion of a letter from Governor Dinwiddie to the Lords of Trade, dated July 24, 1754 (*Official Records of Robert Dinwiddie*, I, 239-241).

A few Days ago arriv'd here Colo. W., Com'd'r of the Forces, rais'd in this Dom'n, and Capt. McKay, of the Ind't Compa. from So. Car., from our Camp at the Meadows, near the Ohio river, who gave the following melancholy Acc't of an Engagem't between our Forces and the French. On the 3d of this Mo. they had Intelligence y't the French were re-inforc'd (at the Fort they took from Us, in May last, near the Ohio,) with 700 Men, and y't they were in full March with 900 Men to attack our small Camp, w'ch consisted of few more than 300 besides Officers. They imediately connected and prepared to make the best Defence their small

Numbers W'd admit of, by throw'g up a small Intrenchm't, which they had not Time to compleat, before their out Centry gave the Alarm, by firing his Gun, of the approach of the Enemy. Immediately they appear'd in Sight of our Camp, and fir'd at our People at a great Distance, w'ch did no harm. Our small Forces were drawn up in good Order to receive them before their Intrenchm'ts, but did not return their First Fire, reserving it till they came nigher. The enemy advanc'd irregularly within 60 Yards of our Forces, and y'n made a second Discharge, and observing they did not intend to attack them in open Field, they retir'd within their Trenches, and reserv'd their Fire, thinking, from their Numbers, they w'd force their Trenches, but finding they made no Attempt of this kind, the Colo. gave Orders to our People to fire on the Enemy, w'ch they did with great Briskness, and the officers declare y's Engagem't continue (d) from 11 O'Clock till 8 O'Clock at Night, they being without Shelter, rainy weather, and their Trenches to the knee in Water, whereas the French were shelter'd all round our Camp by Trees; from thence they gall'd our People all the Time as above . . . I beg leave to observe to Y'r L'ds. the Misfortunes attending thro' (the) Expedit'n.

APPENDIX 4

DEPOSITION OF JOHN SHAW

On August 27, 1754, one John B. W. Shaw appeared before a committee headed by Governor James Glen of South Carolina and made an affidavit describing the battle at Great Meadows and events leading up to the engagement. The deposition recorded here was entered in the Journal of the Council of South Carolina, the original manuscript now being in the British Public Record Office. A photostatic copy was furnished by the South Carolina Archives Department. It is recorded here in full, since it has never before been published.

A very similar affidavit is also found in the records of the South Carolina Indian Affairs, photostatic copy of which was also furnished by the South Carolina Archives Department. Since both versions are almost identical, only the Journal manuscript is recorded here. Differences in the two are slight and of no consequence.

Nothing has been learned of the deponent. From his affidavit, it would appear that he was a member of Washington's original Virginia Regiment, although no John Shaw is found in the presumably complete muster roll prepared by Washington after the battle. In any event, Shaw's description checks so closely with other contemporary records that there can be little question that the deponent was an active member of the expedition.

The following is a full typescript of the Journal entry, with the exception of marginal notes. None of these is of particular interest with the exception of the first, which furnishes the date of the affidavit, reading in part: "Affidavit. Made before his Ex.cy by John Shaw 27. Aug.^t 1754".

His Excellency the Governor Communicated to the Board the following Affidavit of John Shaw concerning the Attempts of the ffrench to Interrupt the Tranquillity of the Inhabitants of Virginia—

BEFORE me James Glen Esquire Governor and Comander in Chief in and over his Majesty's province of South Carolina Personally appeared John Shaw, who being duely Sworn on the Holy Evangelists, Made Oath, That he was born in the City of Dublin in the Kingdom of Ireland. That he is of the Age of Twenty Years and upwards that he has used the Seas Severall Years, That he was a Boy on Board his Majesty's Ship Expedition Captain Summers

but was Discharged from her at the Breaking up of the late War, and has been Employed in the Merchant's Service in the Virginia Trade, That he was in Virginia when Proposals were made and published to give Encouragement for Settling some Lands on the Ohio, And that he was amongst many others that embraced the said Proposals And he Believes there might be 100 in all But it being found Necessary that some Forces should be raised, They were thrown into the Virginia Regiment as few or none would Inlist, and were called Volunteers. There were also Twenty two Gentlemen's Sons or thereabouts that made part of the said Regiment as Cadets, but he Believes they were to Receive no pay, But all the Volunteers who were to Settle the Lands were to have eight pence (per) Day Virginia Currency, but that he never Received one ffarthling tho' he was above five Months in the Service. That Col:^o Washington marched with the first Detachment of that Regiment over the Allegani Mountains some days before the Detachment that he belonged to Followed. That the Detachment the Deponent Belonged to Consisted but of Eighty Men, And when they were all Joined the whole Virginia Regiment Including Cadets and Volunteers did not amount to Two hundred Men. Four or five days the Virginia Regiment had been alltogether at a place called the Great Meadows. They were Joined by Captⁿ. Mackay with the Independent Company from South Carolina making in the whole with the aforesaid Regiment a Body of near three hundred Men. That they were for severall days together without any other Provisions than a Quart of Indian Corn delivered to each man, and for three days with only one pound of Beef each without any Corn. That he has heard that the Half King had Sixty Indians with him who were in our Interest But that he never Saw above fferty. That he has been Informed by All the Men who belonged to the first Detachm.^t That a few days before the Second Joined them they had an Engagement with a party of French And the Account given to him was as follows. That an Indian and a White man having brought Col Washington Information that a party of ffrench consisting of ffive and thirty men were out scouting and lay about Six Miles off, upon which Col Washington with about Forty Men and Captⁿ. Hogg with a party of fferty more, and the Half King with his Indians consisting of Thirteen, Immediately Sett out in Search of them, But having taken Different Roads Col:^o Washington with his Men and the Indians came first up with them, and found them encamped between two Hills. Being Early in the Morning Some were asleep, and some eating. But having heard a Noise they were Immediately in Great Confusion and Betook themselves to their Arms. And as he this Deponent has heard One of them ffired a Gun upon which Col Washington Gave the Word for All his Men to Fire. Severall of them being Killed; the Rest Betook themselves to fflight; But our Indians having gone round the ffrench, When they Saw them Immediately ffled Back to the English, and Delivered up their Arms desiring Quarter, which was accordingly promised them. Sometime after the Indians Came up, The Half King took his Tomahawk and Splitt the head of the ffrench Captain, having first asked if he was an Englishman And having been told that he was a ffrench Man, he then took out his Brains, and washed his hands with them, And then Scalped him — All this he has heard and never heard it Contradicted, But knows nothing of it from his own Knowledge. Only he has Seen the Bones of the ffrench Men who were killed in Number ab^t. 13 or 14, And the Head of one Stuck upon a Stick; for none of them were Buryed. And he has also heard that one of our Men was killed at that time. —

That Sometime after Captain Mackay had Joined the Virginia Regiment, Col Washington proposed to March to Attack the French Fort, and accordingly Marched with the Virginia Regiment to Clear the Roads leaving Captⁿ. Mackay behind at the Great Meadows. That they Cleared the Roads about twelve Miles, having been on that Service about three days, and then News having been brought by Two Indians That the French having been Reinforced with a large Body of Men, Were coming to Attack them with Nine Hundred Men. Orders were immediately Sent to Recall that party And also that Captⁿ. Mackay should Advance with his Company, Which he accordingly did: And having Joined them about two in the Morning, They Marched all back to the Great Meadows Burying in the Woods what part of their

Ammunition they could not Carry with them. They Continued at the Great Meadows three days before the ffrench came to Attack them, — And in the Morning before the Engagem^{>t}. they Endeavour'd to throw up a little Intrenchm^t. round them about two foot deep, But could not finish it, as the ffrench appeared betwixt Nine and ten in the Morning. We had Centinels placed out to Give Notice of of (sic) the Approach of the ffrench; one of which fired his Peice, and immediately after the ffrench Began to Fire, but being still at a considerable Distance, And did us no hurt. Our Men were drawn up before the ffrench, but did not ffire, The ffrench still keeping at a Distance; They then turned off to a point of Wood that lay very near our Men, Upon which Our Men went into their little Intrenchment — Upon which the French made a Second General Discharge But our Men having kept up their ffire, their Indians were thereby Encouraged to Advance out of the Wood, and Show themselves — pretty near where our Men lay, upon which Col^o. Washington Gave the Word to fire which was accordingly done, and many of the Indians were killed. Our people having two Swivel Guns which were discharged at the same time. After this neither French nor Indians appeared any more but kept behind Trees firing at our Men the best part of the Day. As our People did at them. There was At this place a Small Stocado Fort made in a Circular fform round a Small House that Stood in the Middle of it to keep our provisions and Ammunition in, And was Cover'd with Bark and some Skins, and might be about fourteen ffeet Square, And the Walls of the Fort might be eight ffeet Distance from the said House all Round. The ffrench were at that time so near that Severall of our people were wounded by the Splinters beat off by the Bulletts from the said House. At Night the ffrench Desired to Parley with our people, But Col^o. Washington refused. Imagining it might be some Deceit, however upon the Assurances given by the ffrench, That they would Act honourably. Captⁿ. Vanbram and Adjutant Pyronie were sent to them — And were told by them that they were to be Reinforced in the Morning by four hundred Indians who lay about twelve Miles off; And then it would not be in their Power to give them Quarters. Advised them therefore to Capitulate. That they should be permitted to Return Home with their Arms, And to Carry with them what Provisions and Ammunition they could Carry. But that they should Engage that none of them should be seen on the Waters of the Ohio for a Year and a day afterwards. And that if they Agree'd to these Terms They should Hoist no Colours the next Morning. This was . . . accordingly Agree'd to and Signed by Col^o. Washington & Agree'd to by all the Officers, And accordingly next Morning We Hoisted no Colours. And as soon as it was day the French & their Indians came in a Body beating their Drum And formed themselves into two Ranks, That our People might pass through, Which they Accordingly did with their Drums beating, with their Arms and what provisions and Ammunition they could Carry. But we were Obligated to leave behind our Swivel Guns and some Arms which soon after were destroyed and broke to peices by their Indians. Such of our Men That were in that little Fort having Broke the Heads of the Powder Barrells and Strewn it about that it might be of no Service to the French.

We were also obliged to leave with them Captⁿ. Vanbram and Captⁿ. Stobo as Hostages for the Delivery of the Twenty one prisoners that had been taken by Col^o. Washington as this Depon^t. has related above who were then at Williamsburgh —

That The French had been joined that Morning by above One hundred French Indians who could hardly be Restrained by them from falling on our People —

This Deponent has heard that some Dutch Men who were along with the French told some Dutch Men who were with us That they had lost three hundred Men, But does not know That of his own Knowledge, But Believes they lost a great many, As our people kept constantly firing at them the whole day. Of our Side there were Ten of the Carolina Company killed Of whom Lieutenant Mercier was one, And Twenty belonging to the Virginia Regiment. There

were also a great many wounded whom our people carried with them the first day's March, But then were Obligated to Leave them & a party with them to take Care of them 'till Horses could be sent for them, but he has heard that seven of them Died the first Night —

This Deponent then Marched on with the Rest of our Men to Will's-Creek but were Obligated to leave all their Stores and Baggage behind them. At Wills-Creek Sixteen of the Volunteers of the Virginia Regiment went in a Body to Col^o. Washington telling him, that as they Came to Settle the Lands, Which now they had no more thoughts of doing, They were determined to Return home. Col^o. Washington endeavoured to perswade them to Stay, promising to procure them some Gratuity from the Government of Virginia for all their trouble and Losses, But he could not prevail with them, For they went off in a Body Soon after which he and Captⁿ. Mackay set out for Williamsburgh And after he was gone the Men went off daily in Two's and Three's, so that he verily Believes there was full two thirds of them gone When he this Deponent came off —

Some of the Indians who were in our Interest some days before the Engagement under Pretence of making some Discovery went Towards the French Fort and Meeting a French party, Were told that if they would not fight against the English, they would Scalp them — Upon which they all turned to the French, The Half King however with their Women and Children in Number about Thirty Came with our people to Will's Creek. From which many of them Sett off For a place called Jemmy Arther in Pensilvania where they Intended to live for fear of being killed by the other Indians. All the Indians on the Ohio and in those parts being in the French Interest And this Deponent declares that there was not one Indian wth. our people in the Engagement. The two that brought the News of the approach of the ffrench having immediately Sett off after — delivering the above Intelligence

(Signed) John B W Shaw's Mark.

27 Aug^t. 1754

APPENDIX 5

DESCRIPTION OF THE BATTLE WRITTEN BY WASHINGTON IN 1783

In the seventeen eighties a David Humphreys began assembling material for a life of Washington, and sent several pages of manuscript to Washington for review. The following is taken from the comments on this material that Washington sent Humphreys, dated by Fitzpatrick as October, 1783 (Fitzpatrick, *Writings*, XXIX, 40). Some minor inconsistencies with earlier records are not surprising. Washington admitted that his memory was not the best on many details, and prefaced his remarks to Humphreys as follows: "This is a task to which GW. feels himself very incompetent (with any degree of accuracy) from the badness of his memory, loss of Papers, mutilated state, in which those of that date were preserved ..." (Fitzpatrick, *Writings*, XXIX, 38).

About 9 Oclock on the 3d. of July the Enemy advanced with Shouts, and dismal Indian yells to our Intrenchments, but was opposed by so warm, spirited, and constant a fire, that to force the works in *that* way was abandoned by them; they then, from every little rising, tree, stump, Stone, and bush kept up a constant galding fire upon us; which was returned in the best manner we could till late in the Afternn, when their fell the most tremendous rain that can be conceived, filled our trenches with Water, Wet, not only the Ammunition in the Cartouch

boxes and firelocks, but that which was in a small temporary Stockade in the middle of the Intrenchment called Fort Necessity erected for the sole purpose of its security, and that of the few stores we had; and left us nothing but a few (for all were not provided with them) Bayonets for defence. In this situation and no prospt. of bettering it terms of capitulation were offered to us by the enemy wch, with some alterations that were insisted upon were the more readily acceded to, as we had no Salt provisions, and but indifferently supplied with fresh; which, from the heat of the weather, would not keep; and because a full third of our numbers Officers as well as privates were, by this time, killed or wounded.

APPENDIX 6

REPORT OF 1931 EXPLORATIONS

Portion of report by Harry Blackford describing the archeological explorations of 1931. The original report not being available, the following is a copy of the transcript made by Thomas L. Loy in 1935.

On August 4, 1931, the writer of this article made an attempt to verify the surveys of Mr. Lewis and Mr. McCracken, and on attempting to fit the Lewis survey to the existing mounds, found that Lewis had ignored the mound on the lines B-F of the appended plot of survey of Aug. 4th, 1931. The lines A-C and A-B agree very closely to the distances given by Mr. Lewis and the angle B-A-C checks the angle found by Mr. Lewis within 2-1/2 degrees, which variation might easily be caused by taking different points on the mounds. Having thus proven Mr. Hulbert's statements that the Lewis survey would not fit the existing marks on the ground to our own satisfaction, we decided to accept the survey of his engineer, Mr. McCracken, until such times as excavations on the site would prove him right or wrong, and so proceeded to stake the fort as shown by lines A-B-F-G-C-A.

On November 17, 1931, at 7:40 an excavation for the reconstruction of Fort Necessity was started under direction of the writer. Operations were begun by first digging exploratory trenches at right angles to the existing embankments to determine, if possible, the location of the old stockade with reference to the embankments. No indications being found, work was started in digging a trench along the line C-A three feet wide and averaging in depth two and one-half feet, which depth reached hard pan in the form of hard yellow clay which showed no evidences of having every been disturbed.

The first day the trench was completed from the point C to a point about twenty feet beyond A on the line A-B. The workmen were instructed to carefully examine and break up all excavated material in the hope that relics might be found of this historic battle. The first day's work netted four lead musket balls, of about one-half ounce size, heavily coated with oxide, these being uncovered at depths ranging from six to eighteen inches below the surface. The next day the trench was completed to the point F and seven more lead musket balls, all of one-half ounce size except one which weighed a shade over an ounce were found. At a point on the line B-F about three feet from B, the first indication of the old stockade was unearthed, it being a section of fairly solid heart wood eighteen inches long, three and one-half inches wide and two inches thick, badly pitted from the action of time. The bottom of this piece was almost in the center of the trench, about three feet under ground with the top inclined at an angle of about forty-five degrees towards the inside of the fort as though it had been pulled over in the demolition of the stockade.

From F, as there is no known description from which a definite location could be fixed on the

ground, it was decided to follow the line F-G-C, This was carried out, without finding further indications until the intersection of line G-C with D-E was reached. At this point three large pieces of the stockade were uncovered at a depth of three feet. This depth is just water level of the branch of Big Meadow Run near this point and probably accounts for the fact that the timber here found had been preserved all these years. As the line of the stockade was plainly indicated by the three pieces unearthed, excavation was carefully extended on this line towards E, with the result that six more pieces were found, the last being at E. From here a trench towards F was started which resulted in finding three more pieces at a point five feet beyond E on the line E-F and another large piece which had just been missed while excavating along the line F-G. These pieces of stockade were all in an upright position and many showing ax marks where they had been pointed to aid in penetrating the ground. They varied in thickness from six inches to, in one case where the log had evidently been split in half, seventeen and one-half inches, The tops were typical of wood that has long been exposed to the action of water and time.

At a point four feet from E on the line E-F on the inside of the trench and two feet below the surface, six iron balls each one and one-half inches in diameter and weighing about one-half pound were dug up within the space of one cubic foot. These were, in all probability, ammunition for Washington's swivel guns. Seven lead musket balls, all of about one-half ounce size were also found on this line. At the point D, seven small pieces, indicating an angle in the line of the stockade, were found and all along the line D-C, which coincides very closely with Hulbert's line D-C, bark, pieces of rotten wood, which was in such a condition that it could not be preserved, were uncovered. These findings substantiated Mr. Hulbert's statement of finding bark on this line. Also, at various points along this line, pieces of charred wood and lumps of charcoal were excavated from a depth of about three feet, thus giving evidence to support the statement that the stockade had been burned. Ten feet beyond D on the line D-C, a large iron cannon ball, three inches in diameter and weighing three and one-half pounds, was found on the outside edge of the trench about twenty inches below the surface. Numerous lead balls of various size came to light on lines E-D and D-C, some of them weighing as much as one and one-half ounces.

While excavating for drain tile inside the lines of the fort, approximately two hundred lead shot, ranging in size from number eight to Buck shot, which looked as though they had been hurriedly made by pouring molten lead in a thin stream into cold water, were found, also numerous lead musket balls of one ounce size and the flint for a flint lock musket.

Three feet under ground and midway between E and D a small piece of straight grained wood, seven inches long and of one half inch diameter was uncovered. This could easily be a portion of either a wooden rain for the muzzle loading muskets or an Indian arrow shaft.

Summing up the evidence found by investigation of this site, we have: The embankments found on the lines C-A and A-B which were in evidence in 1816 as proved by the Lewis survey. The embankment on the line B-F which may have been, and probably was, visible at the time of Mr. Lewis's survey. This embankment is plainly joined to the one on the line A-B on the inside of the fort at the point B and in no possible way could it be construed as being thrown up in excavating a farm drain as some authorities have advocated. Besides, it is proven at B and at F by the finding of parts of the stockade. The lines F-E, E-D, and D-C are indisputable, as sufficient remains of the stockade were excavated to prove their location beyond a shadow of doubt.

fone/new-light/app.htm
Last Updated: 04-Mar-2009

FORT NECESSITY

New Light on Washington's Fort Necessity

A Report on the Archeological Explorations at Fort Necessity National Battlefield Site



REFERENCES

Note: The following references are limited to the sources referred to in this work.

Abraham, J. W., "Redstone Old Fort and Fort Burd". *Fort Necessity and Historic Shrines of the Redstone Country*. Washington Bi-Centennial Issue 1732-1932. Fort Necessity Chapter, Pennsylvania Society of the Sons of the American Revolution. Uniontown, Pa., 1932.

Albert, George D., ed., *The Frontier Forts of Western Pennsylvania*. Report of the Commission to Locate the Site of Frontier Forts of Pennsylvania, Vol. 1. State Printer of Pennsylvania, 1896.

Banister, John, Jr., to Robert Bolling, cited in *William and Mary College Quarterly*, old series, X, 104.

Blackford, Harry, Record and Description of the Reconstruction of Fort Necessity. Typescript of unpublished manuscript report (1931).

Brock, R. A., ed., *The Official Records of Robert Dinwiddie, Lieutenant-Governor of the Colony of Virginia, 1751-1758, Now First Printed from the Manuscript in the Collections of the Virginia Historical Society*. 2 vols. Virginia Historical Society, Richmond, 1883. *Collections of the Virginia Historical Society, New Series, Vol. III*.

Cleland, Hugh, *George Washington in the Ohio Valley*. Pittsburgh, 1955.

Cowan, John P., "George Washington at Fort Necessity". *The Western Pennsylvania Historical Magazine*, XXXVII, Nos. 3 and 4, 153-177 (Fall-Winter, 1954-5).

Fayette County Records, Deed Book 512, p. 480. Uniontown, Pa.

Fitzpatrick, John C., ed., *The Diaries of George Washington*. 4 vols. Boston, 1925.

Fitzpatrick, John C., ed., *The Writings of George Washington*. 39 vols. Washington, 1931-1944.

Fort Necessity Memorial Association, *A Young Colonel from Virginia*. Uniontown, Pa., 1931.

Freeman, Douglas S., *George Washington, A Biography*. 5 vols. New York, 1948-1951.

Harrington, J. C., "Archeology as an Auxiliary Science to American History". *American Anthropologist*, LVII, No. 6, Part 1, 1121-1130 (December, 1955).

Harrington, J. C., Preliminary Report, Archeological Explorations, Fort Necessity National Battlefield Site, August-September, 1952. National Park Service, Region One Office (September 22, 1952). Manuscript Report.

Harrington, J. C., Report on 1952 Archeological Explorations at Fort Necessity National Battlefield Site. National Park Service, Region One Office (January 1953). Manuscript Report.

Hulbert, Archer, *Washington's Road*. Vol. 3 in Historic Highways of America Series. Cleveland, 1903.

Lowdermilk, W. H., *History of Cumberland*. Washington, 1878.

Prussing, E. E., *The Estate of George Washington, Deceased*. Boston, 1927.

Salley, A. S., "The Independent Company from South Carolina at Great Meadows. *Bulletins of the Historical Commission of South Carolina No. 11*. Columbia, S. C., 1932.

Searight, Thomas B., *The Old Pike: A History of the National Road*. Uniontown, Pa., 1894.

Shaw, John B. W., Deposition Made before Governor James Glen of South Carolina on August 27, 1754. Original document in British Public Record Office; photostatic copy furnished by Historical Commission of South Carolina from microfilm negative.

Sparks, Jared, ed., *The Writings of George Washington*. 12 vols. Boston, 1837.

Thwaites, R. G., *How George Rogers Clark Won the Northwest*. Chicago, 1904.

Tilberg, Frederick, The Location and Structure of Fort Necessity and the Physical Features of Great Meadows, National Park Service, Gettysburg National Military Park (January 1953). Manuscript Report.

Tilberg, Frederick, "Washington's Stockade at Fort Necessity". *Pennsylvania History*, Vol. XX, No. 3 (1953). Pennsylvania Historical Association Quarterly Journal.

Tilberg, Frederick, *Fort Necessity National Battlefield Site, Pennsylvania*. National Park Service Historical Handbook Series, No. 19. Washington, 1954.

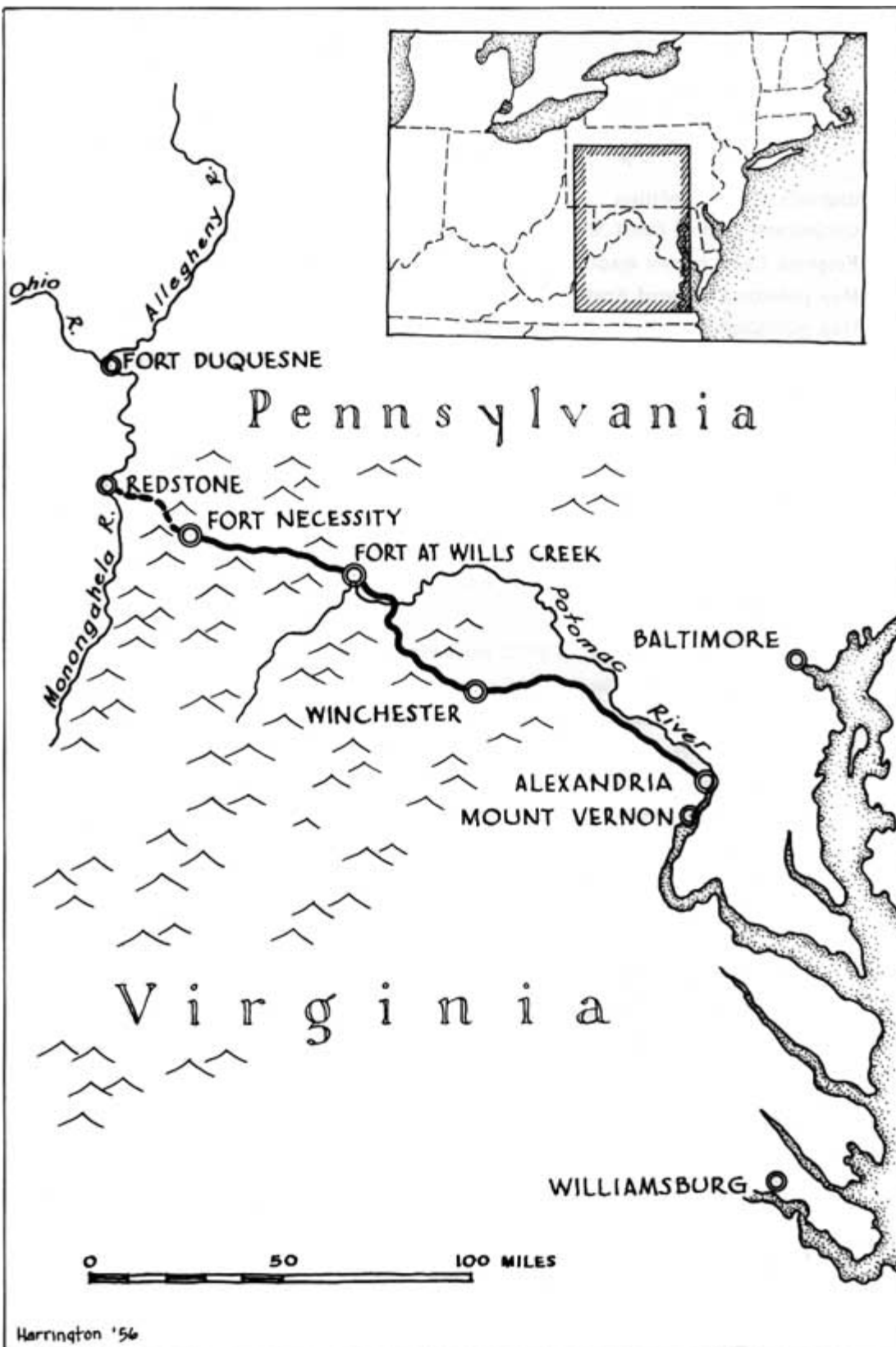
Umble, R. E., "Mount Washington, Fort Necessity and Shrine". *Fort Necessity and Historic Shrines of the Redstone Country*. Washington Bi-Centennial Issue 1732-1932. Fort Necessity Chapter, Pennsylvania Society of the Sons of the American Revolution. Uniontown, Pa., 1932.

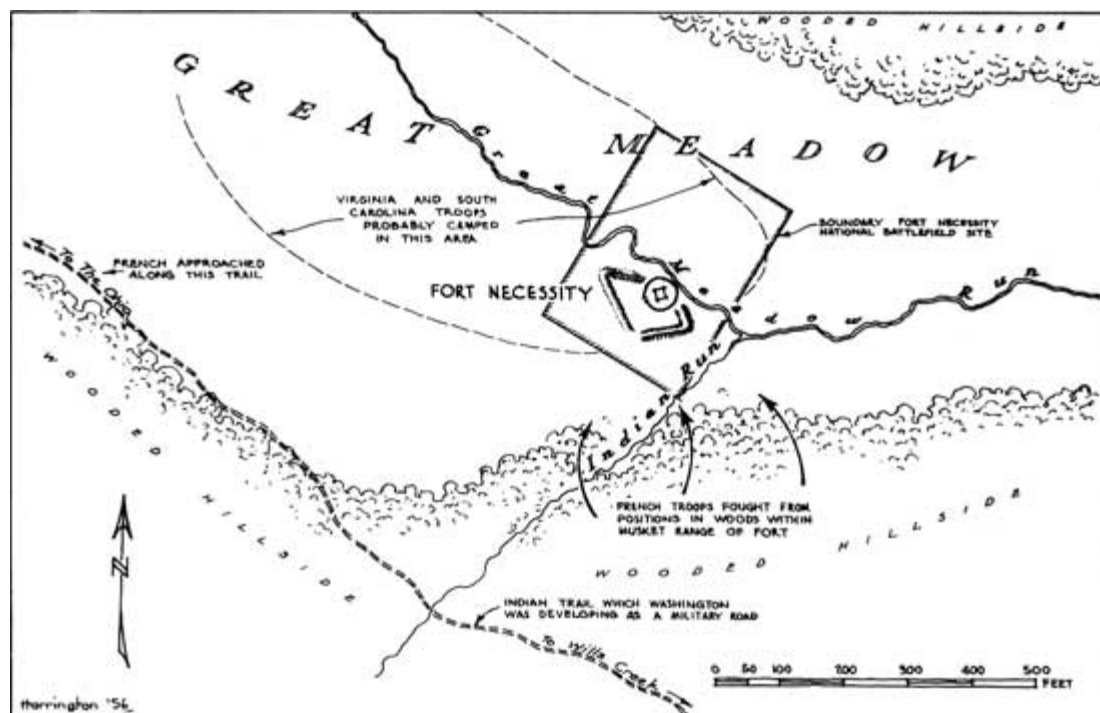
Veech, James, *The Monongahela of Old*. Pittsburgh, 1910.

Virginia Gazette, Williamsburg, Va., July 19, 1754. Facsimile copy published by Fort Necessity Chapter, Sons of the American Revolution (1932).

<<< [Previous](#)

<<< [Contents](#) >>>





21st October 1816

F. Lewis.

$ABC = \text{abt. } 40\frac{1}{2} \text{ square perches.}$
 $ABC = \text{of } 40\frac{1}{2} \text{ square perches}$
 $\frac{2\frac{1}{2}}{2} \text{ abt. } 21\frac{1}{2}$
 $50 \square \text{ perches of land in } 21\frac{1}{2}$
 $50 \square \text{ perches of land in all}$

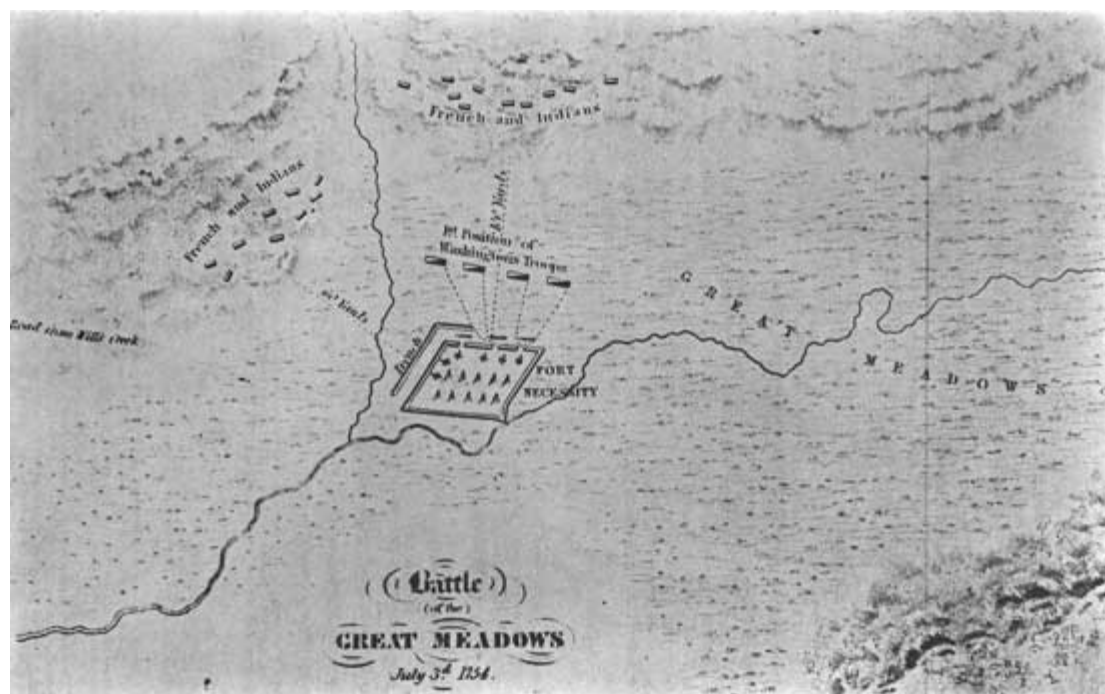
AB N2SW Tpc.
Dalsey 7.4
B 1.08E 10.3
G. 1.6W G.
BC S54 1/2 E 10.3
CA 380 W G.

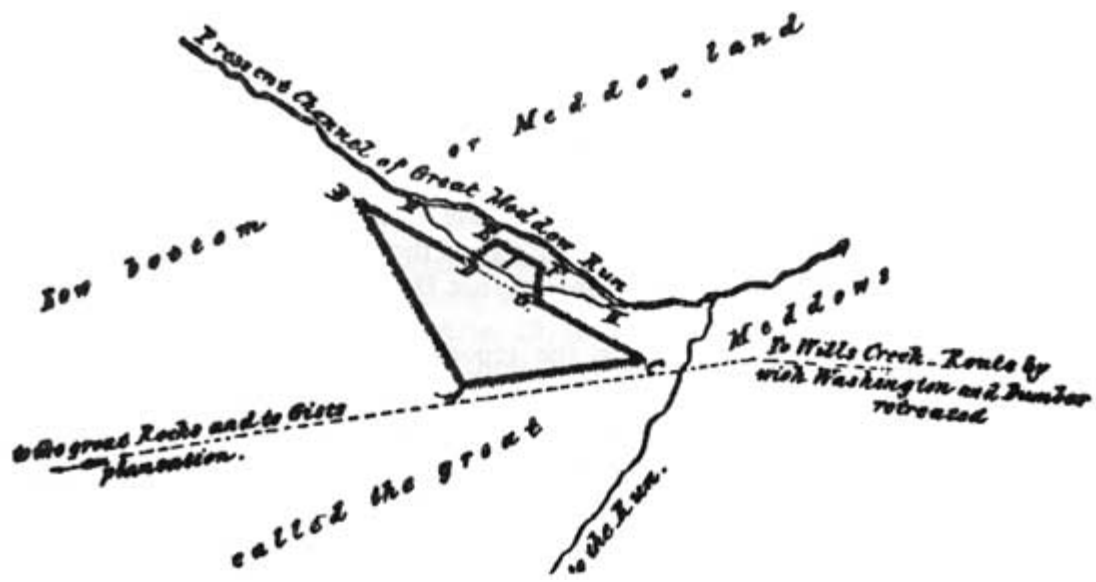
AB 7025 m 7 spec. h
BC 7027 m 11 m
CA 7080 m 6 d.

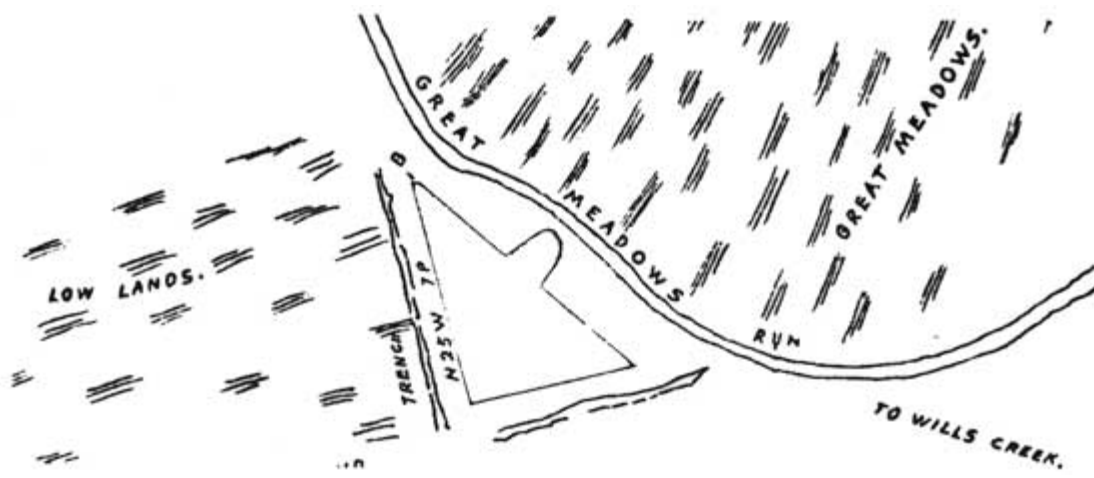
The lines $d = -F + Fg$ were not measured but taken by observation while standing between e and f .

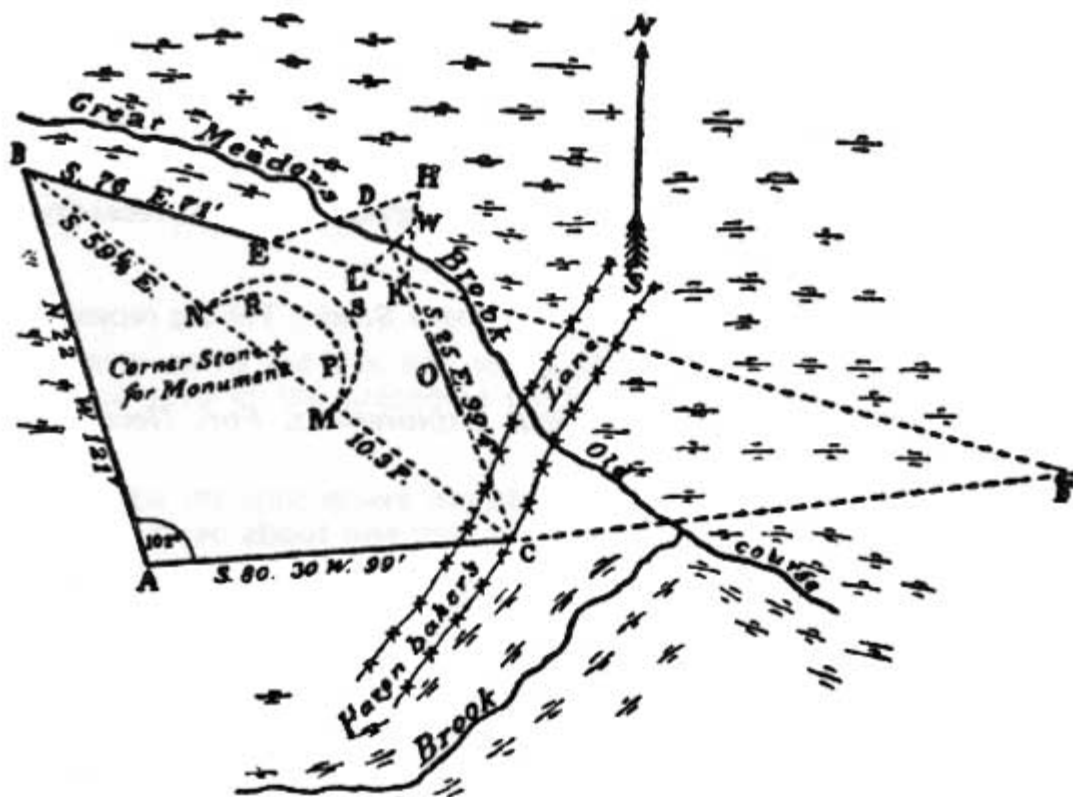
The embankment 21 Oct. 1816 was more 3 feet above the level of the meadow land and the ditches from one to 2 feet below the same the wood land on the S. E. side 12 to 15 rods distant on the north 30 to 40 rods; on the south 50 rods or more and on the west a very gradual rise where the road or trail passed along, 50 or 60 rods distant ... the flat land on both sides of the run clear meadows except some swamps or clumps of alder bushes near the stream, some swamps or clumps of alder bushes near the stream.

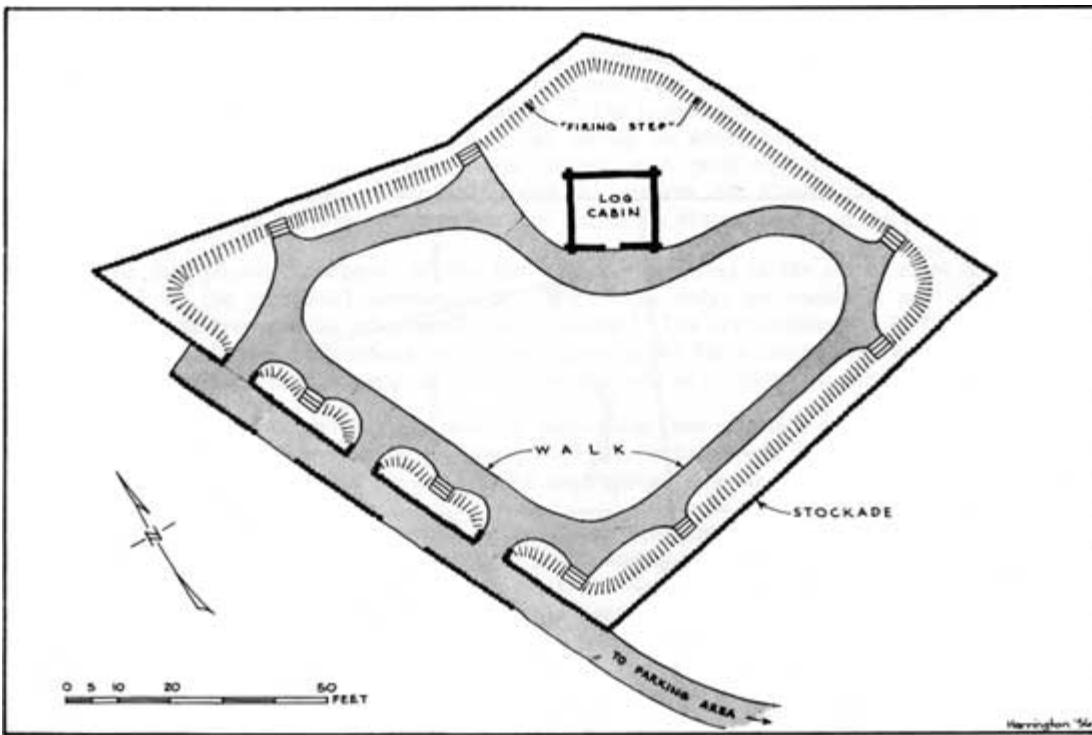
REPRODUCED BY THE
WESTMORELAND FAYETTE BRANCH
OF THE HISTORICAL SOCIETY
OF WESTERN PENNSYLVANIA.

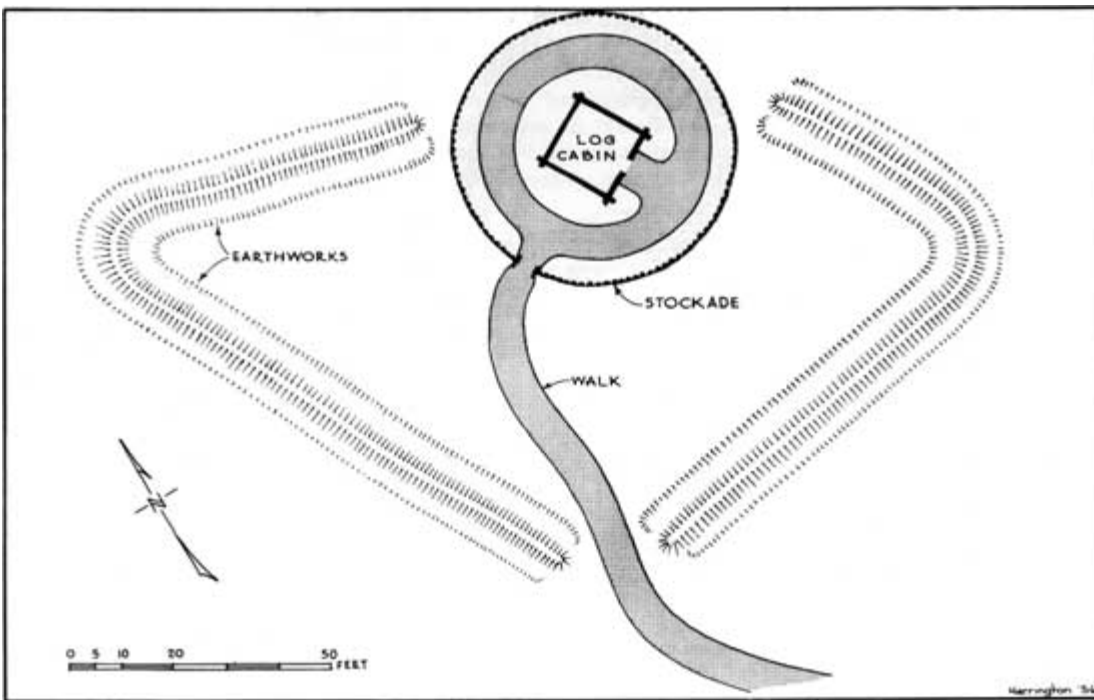


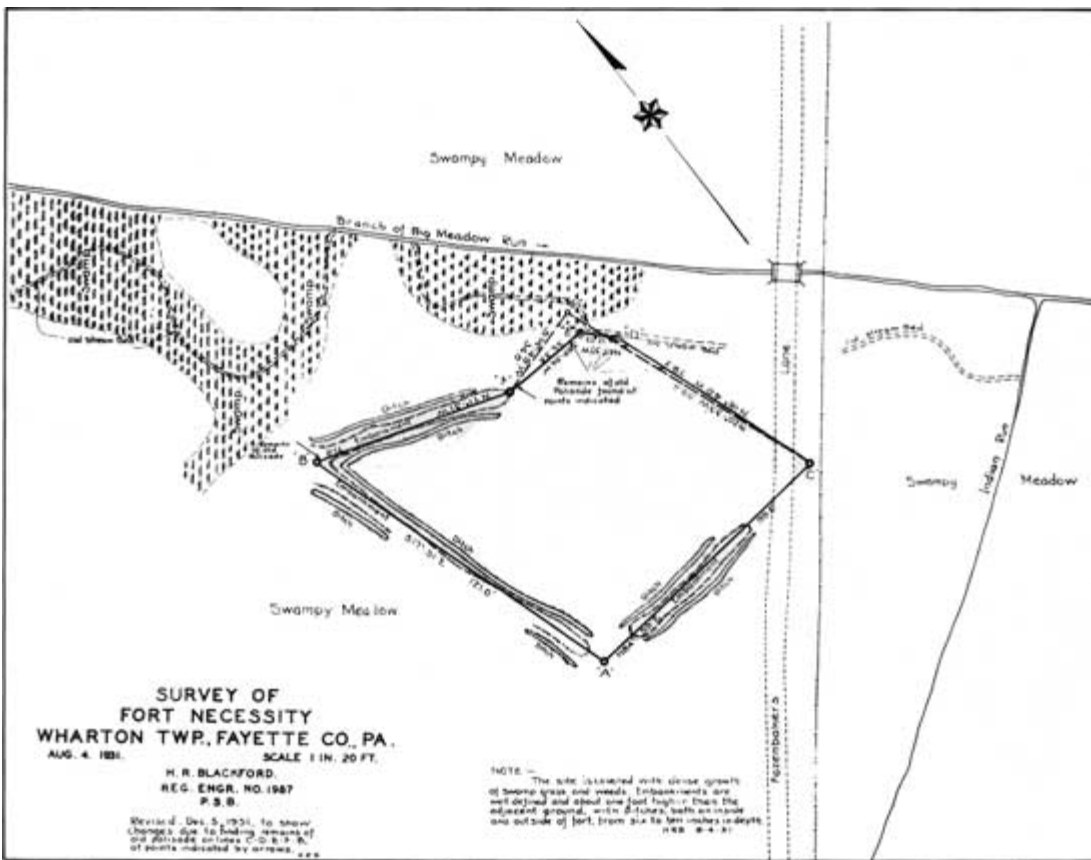


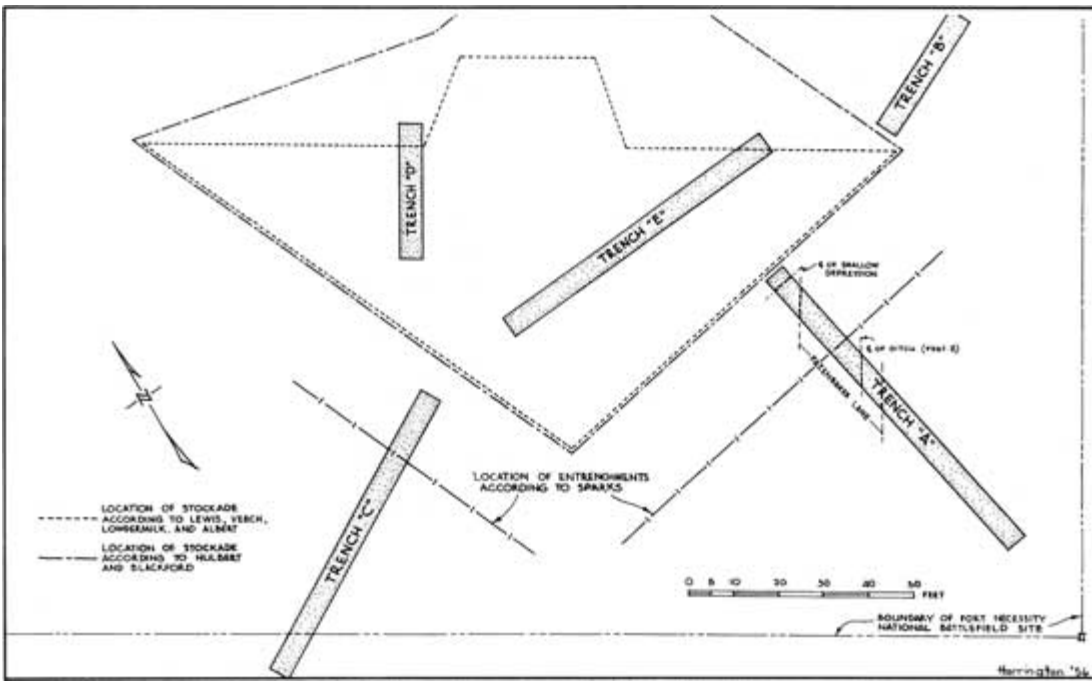


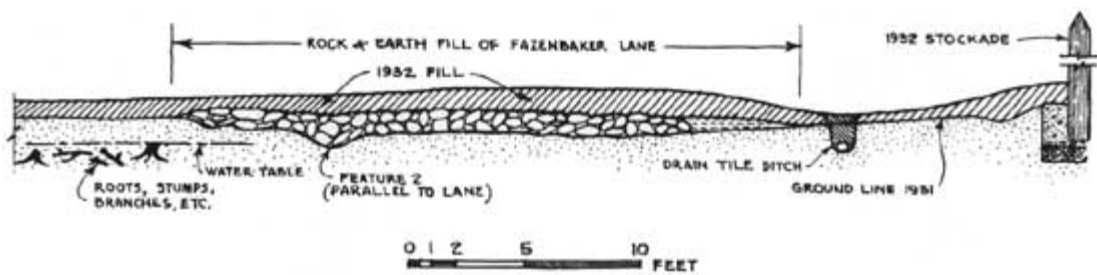


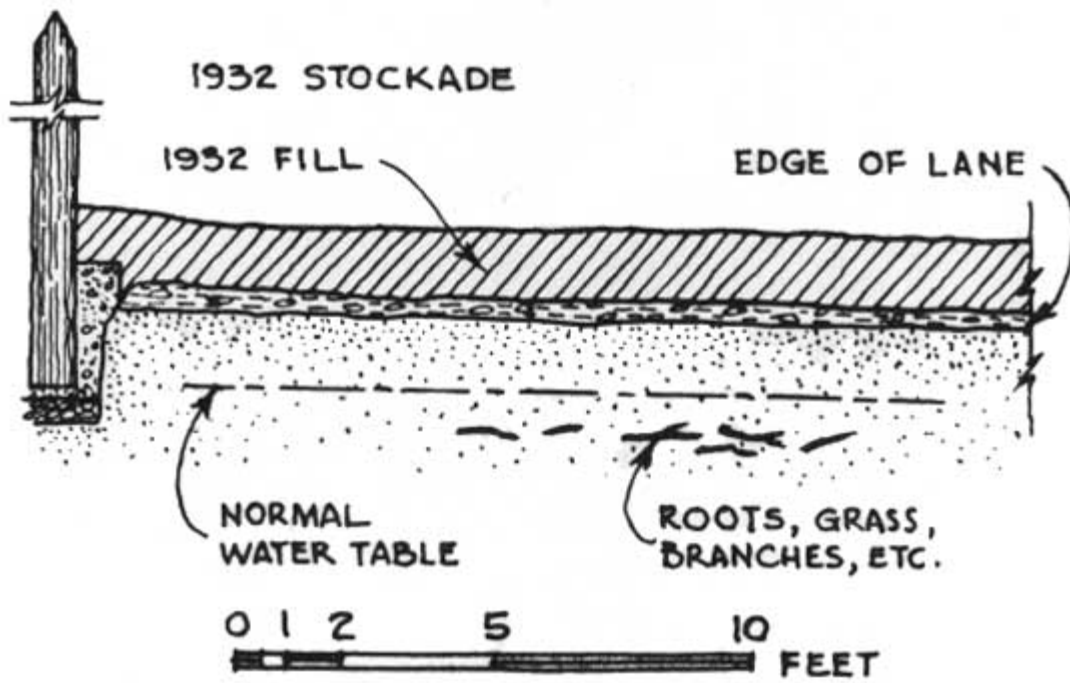


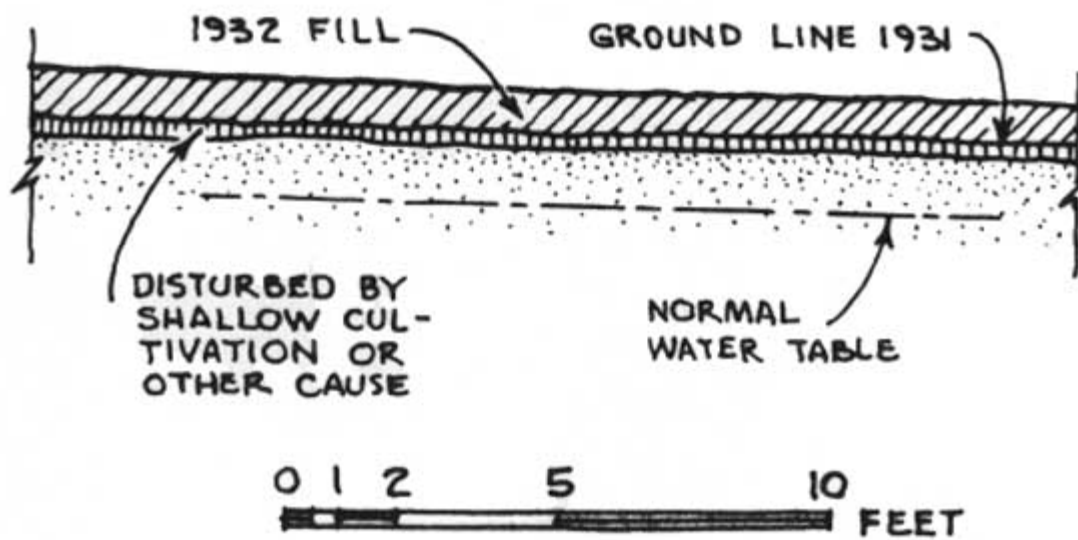


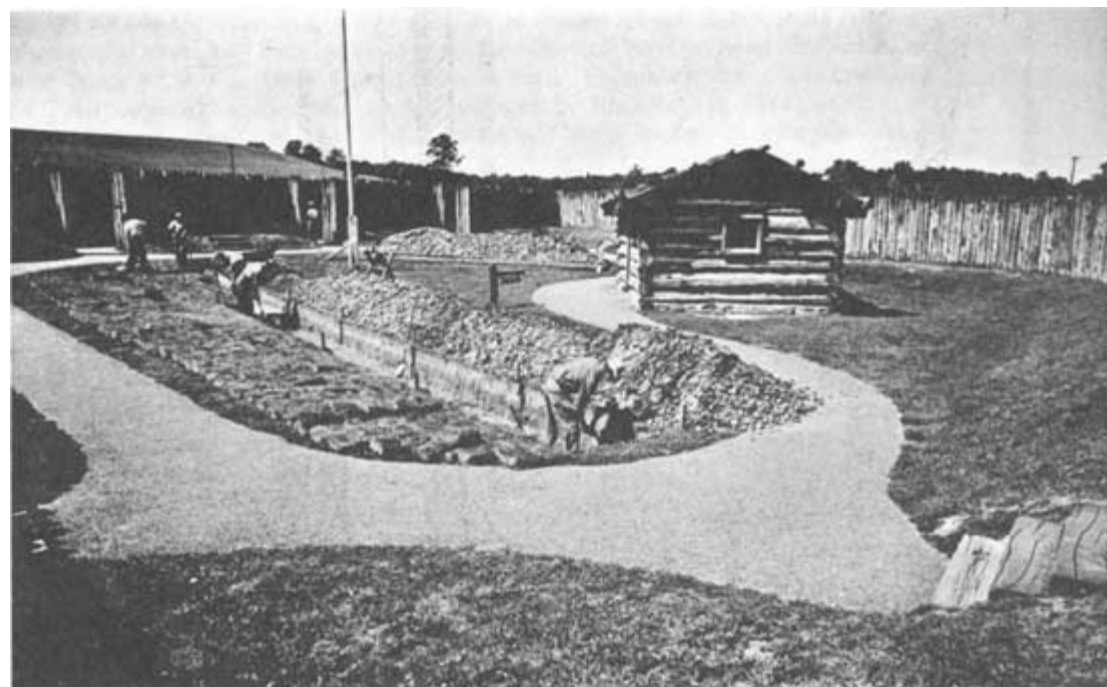




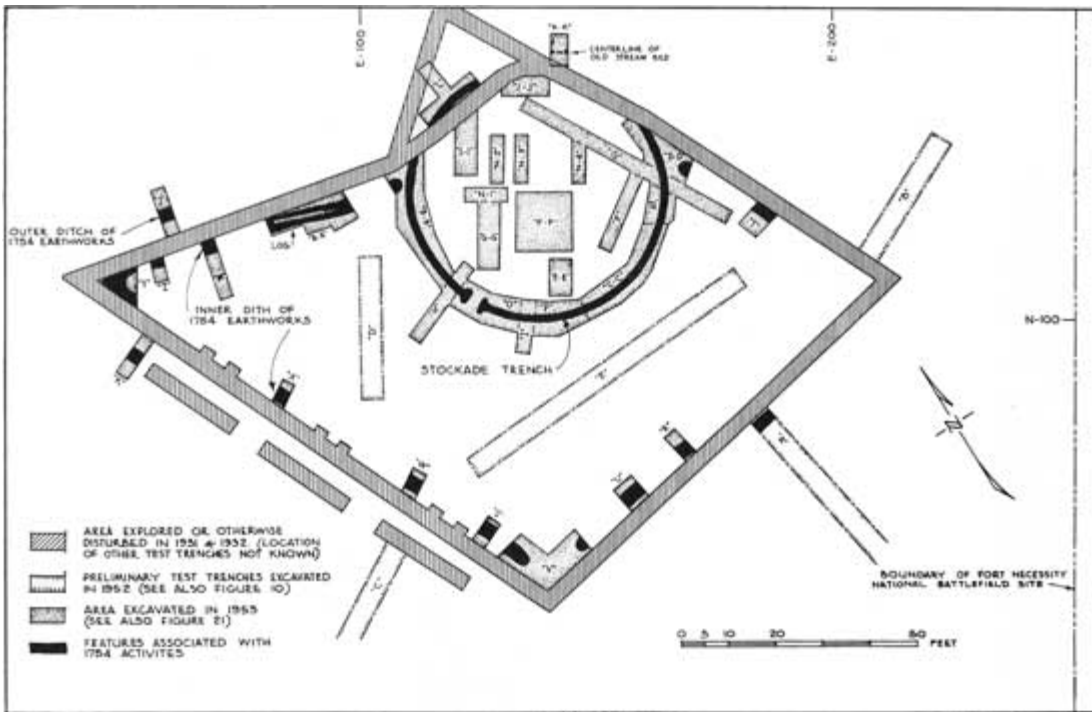






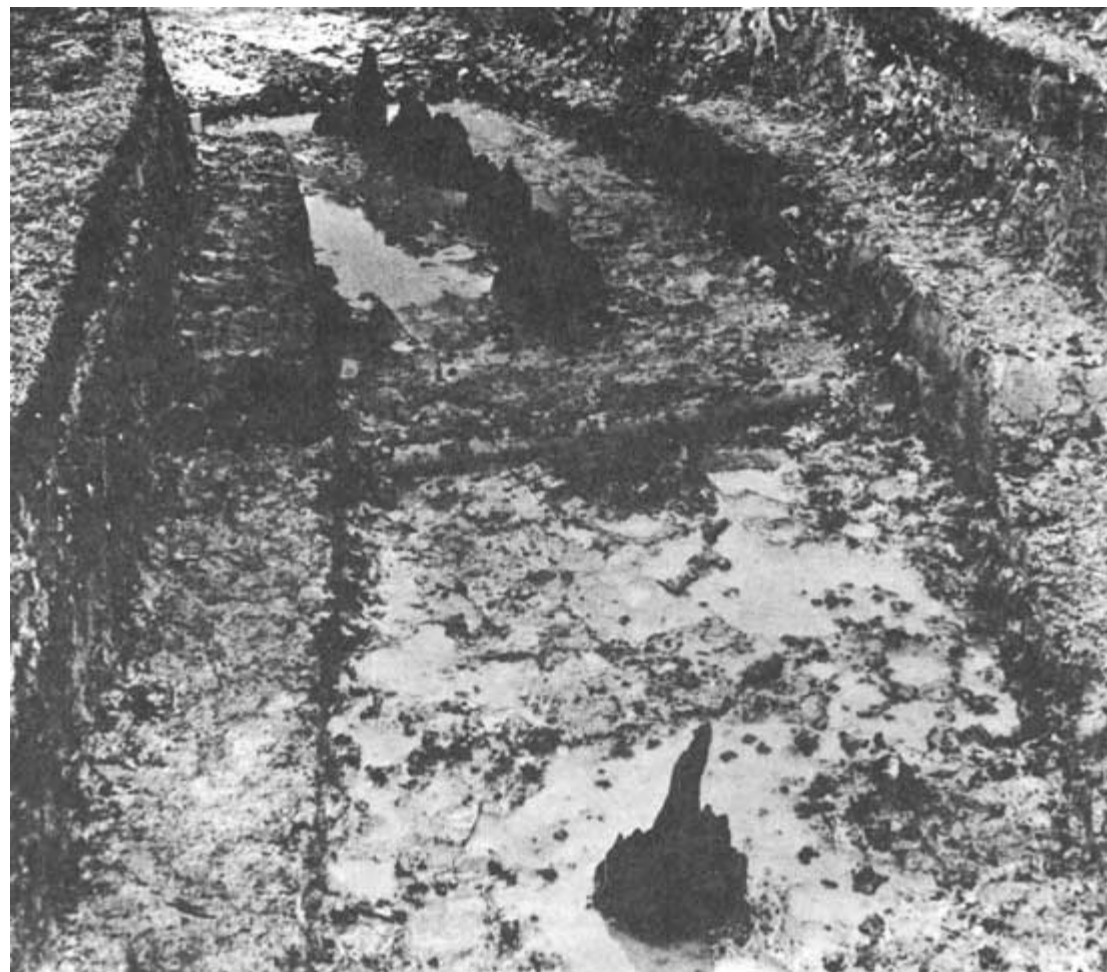




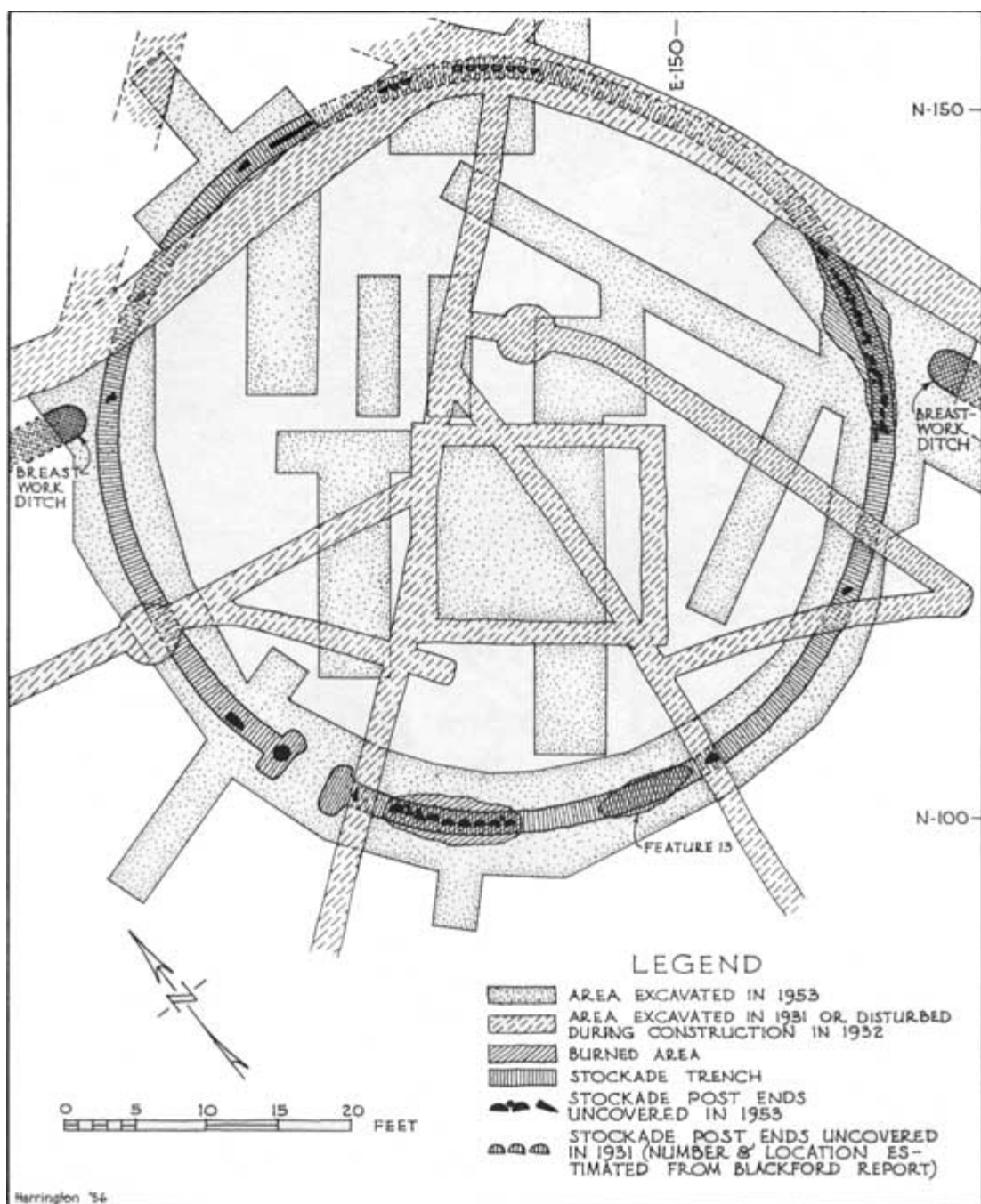


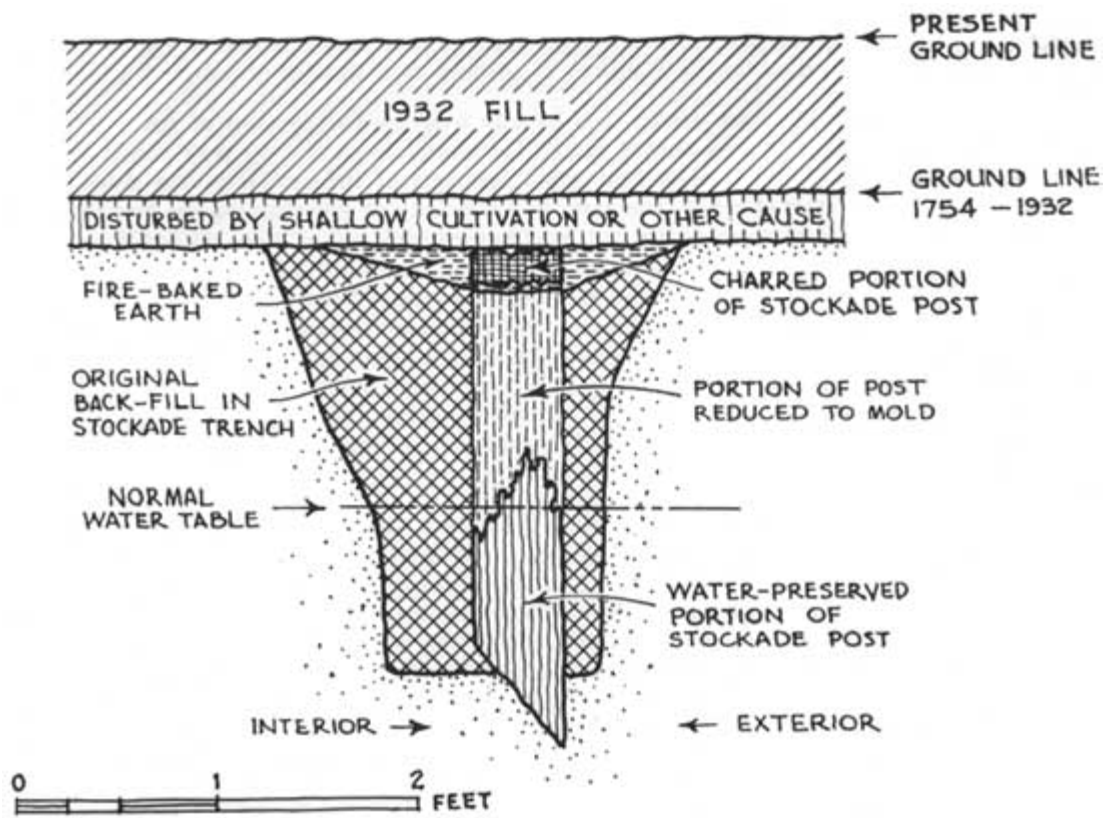




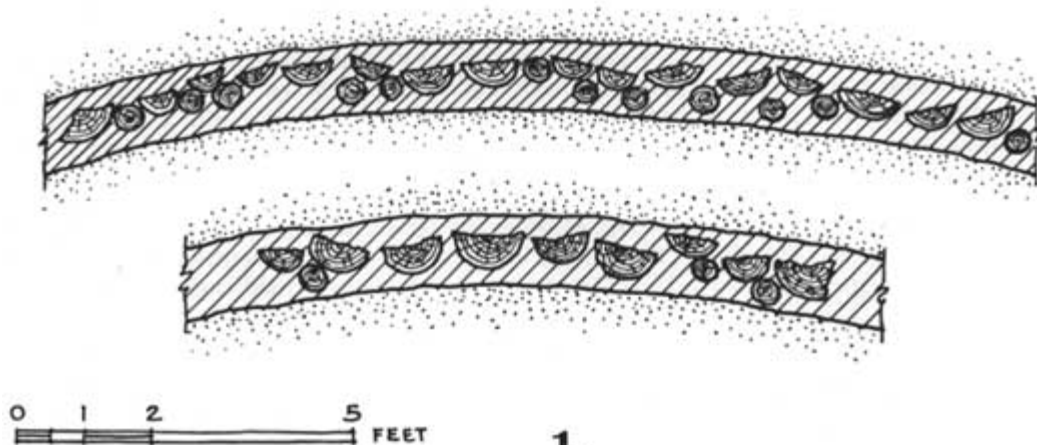








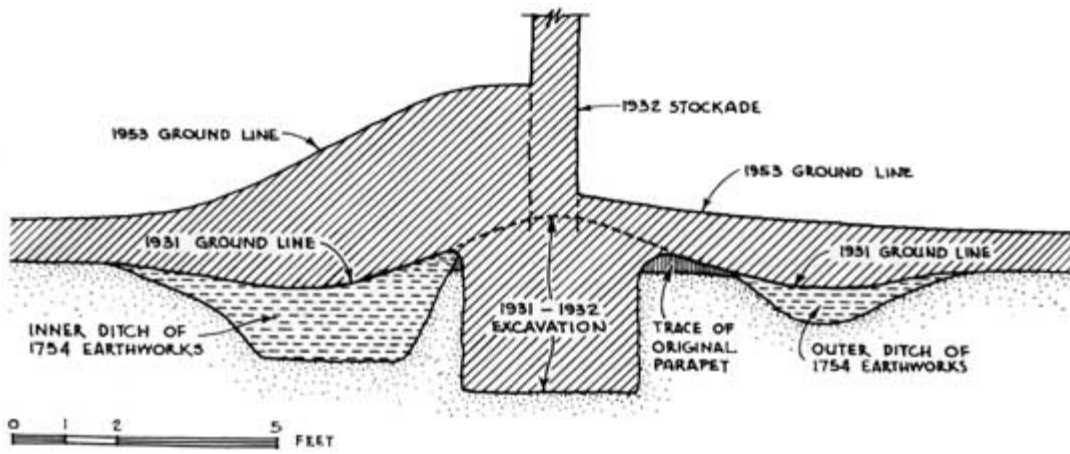
a

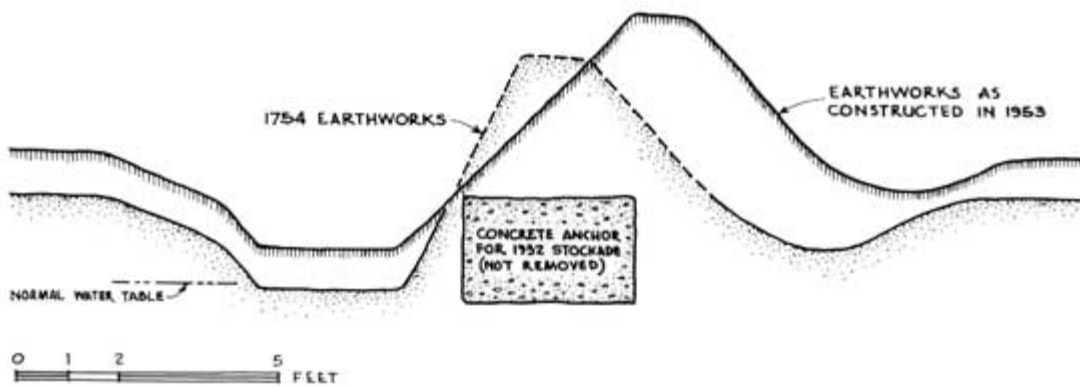


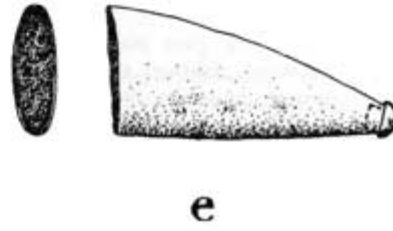
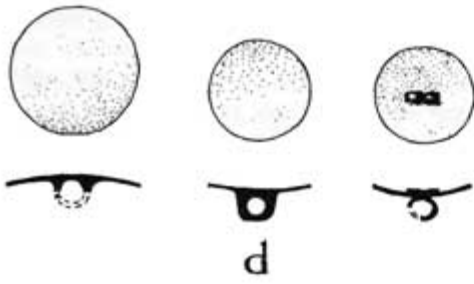
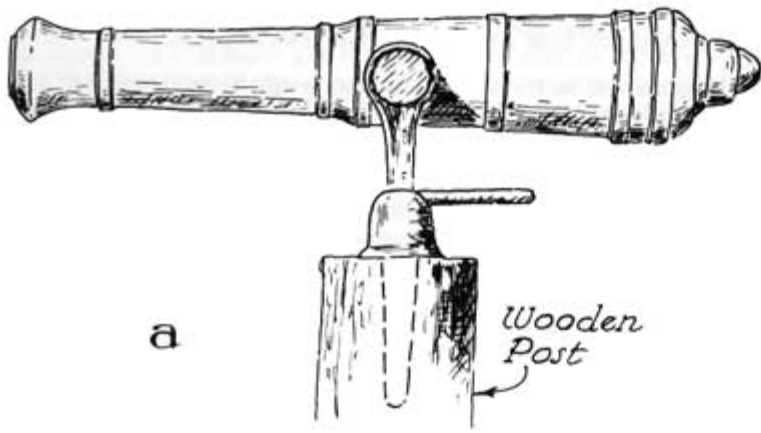
b

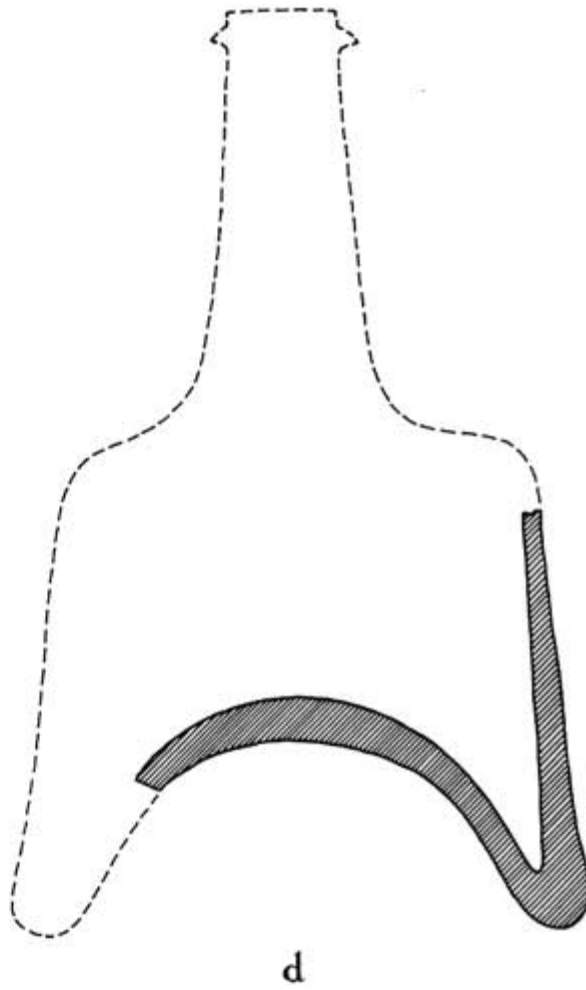
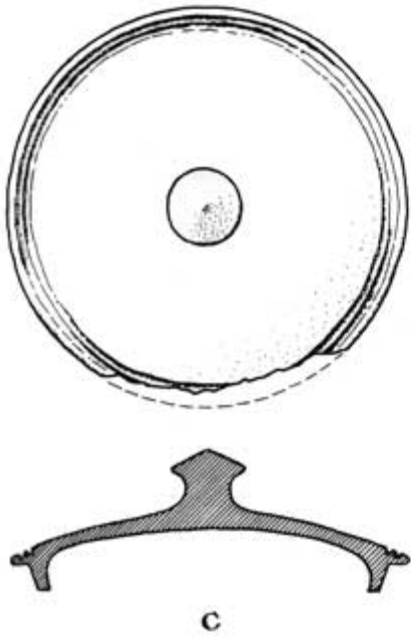
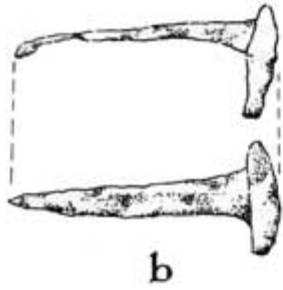
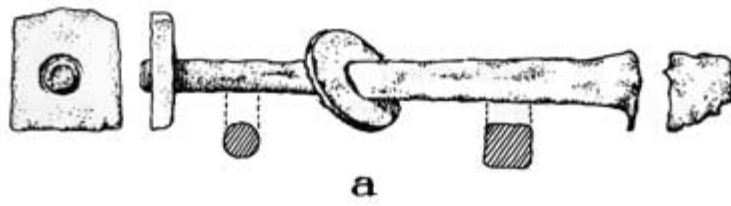


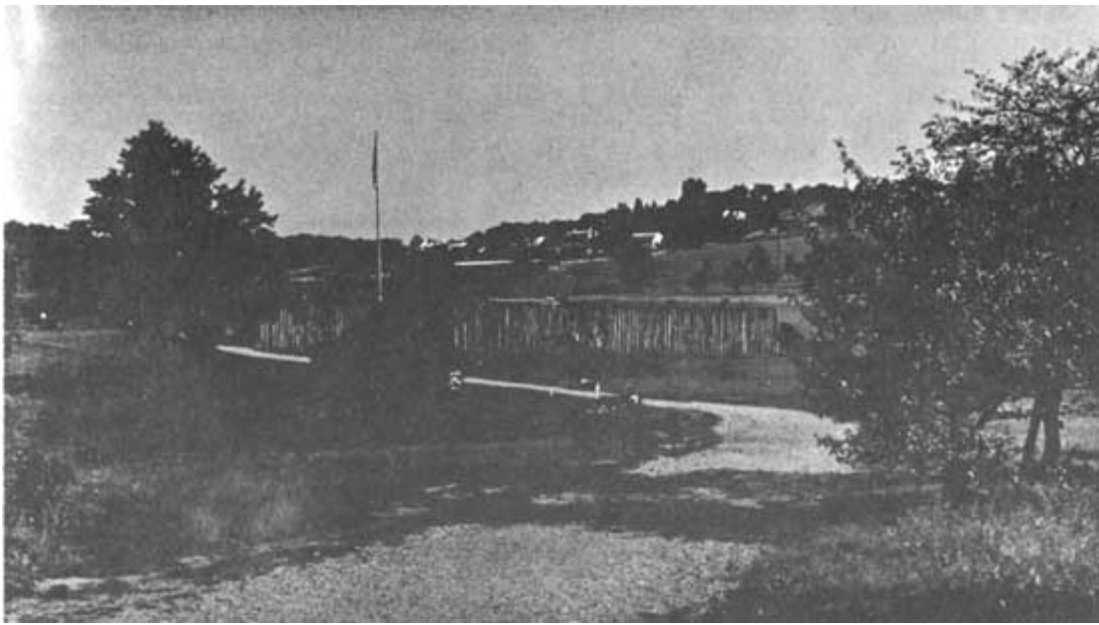




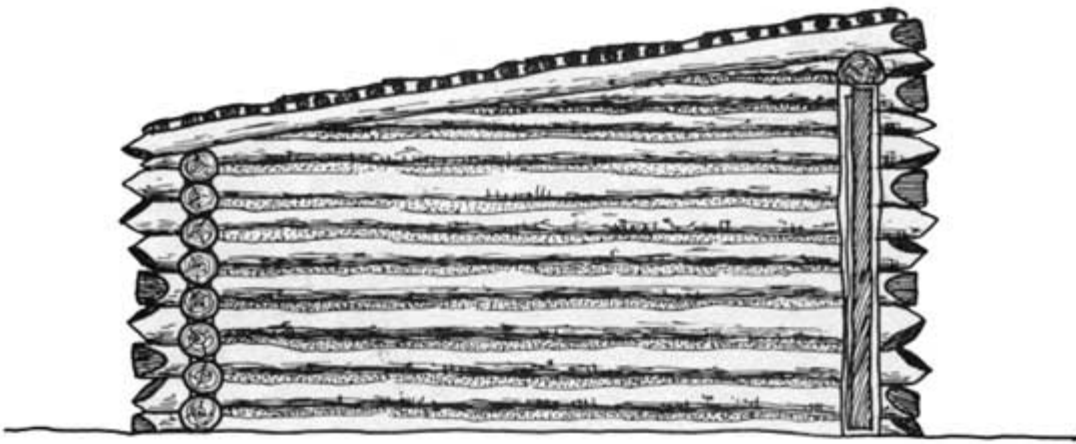


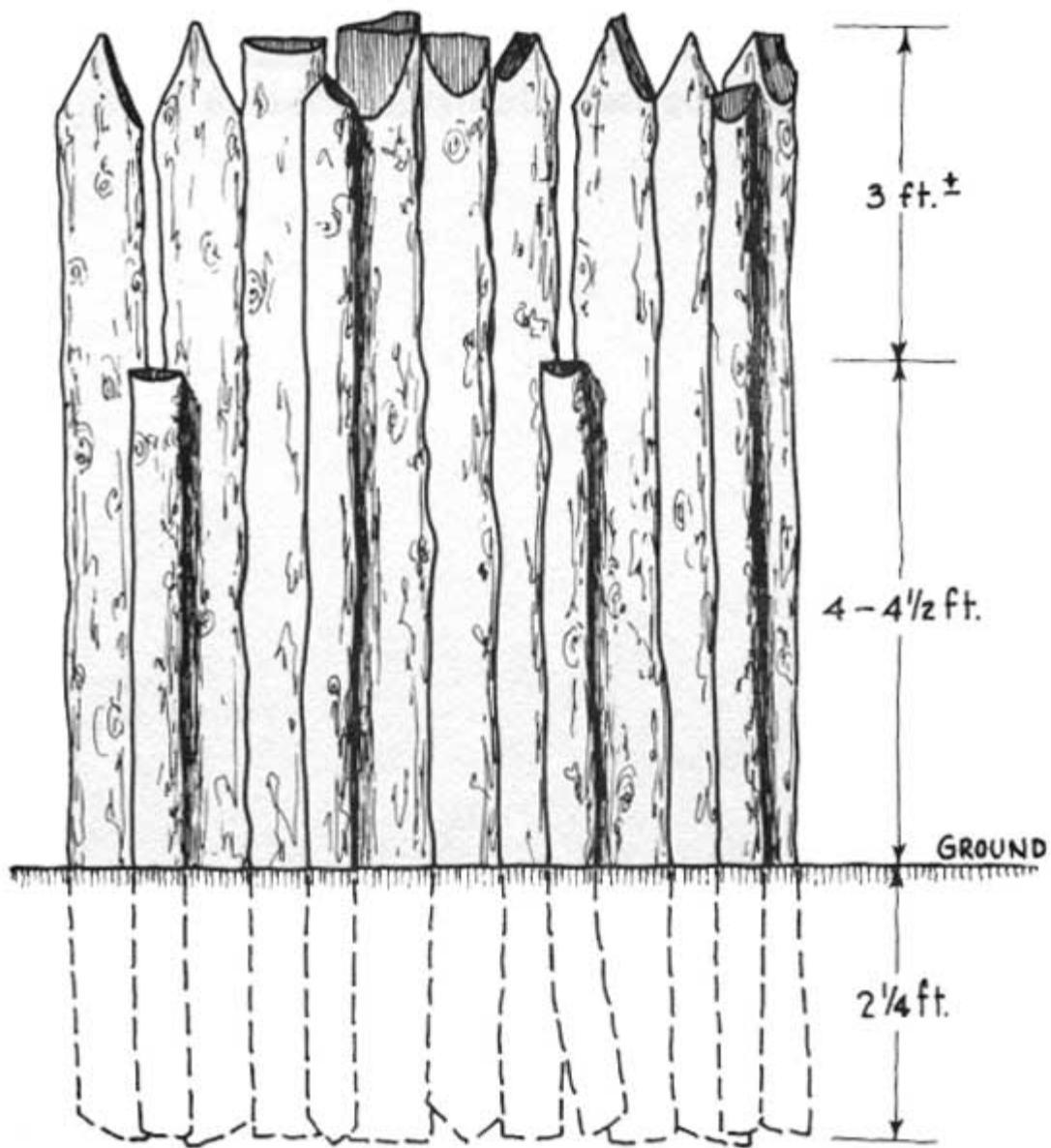












ELEVATION



PLAN

