Battle of the Clouds
Technical Report

County of Chester, Pennsylvania

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October 25, 2013

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ACKNOWLEDGEMENTS

The Battle of the Clouds project has been a success because of the cooperation of scholars, local historical commissions, county and municipal officials, county employees, and dedicated volunteers. The project team is grateful to the National Park Service (NPS) and the American Battlefield Protection Program (ABPP) for funding this research, particularly Kristen McMasters and Elizabeth Vehmeyer of the ABPP who recognized the importance of this battle within the context of the Philadelphia Campaign and the Revolutionary War.

Our team of historical consultants, consisting of Dr. Robert Selig, Thomas McGuire, and Wade Catts, dug tirelessly through the dust-covered primary documents and found some accounts that may not have been read since the time of the battle.

Chester County is fortunate to have a network of historical commissions which research and document the historic resources within their individual municipalities. We would like to thank the dedicated research teams from Charlestown, East Coventry, East Goshen, East Nantmeal, East Pikeland, East Vincent, East Whiteland, Uwchlan, West Whiteland, West Vincent, Schuylkill, South Coventry, Warwick, West Goshen and West Pikeland Historical Commissions and Committees whose members attended the first stakeholder meeting and the subsequent trainings and meetings for the Historic Resource Survey of the battle area to identify the Defining Features that are still standing or are known archaeological sites from the date of the battle and subsequent troop movements. These individuals received guidance from the Chester County Archives staff Kim Bucklaw and Cliff Parke, the Chester County Historical Society, and the work of the deceased local historian Estelle Cremers. We'd also like to give special thanks to Madeline Corsaro who spent her summer internship transcribing the Depredation Reports. Supervision was provided by Karen Marshall, Chester County Historic Preservation Officer.

And of course this project never would have gotten off the ground without support from the Chester County Commissioners, Ryan Costello , Kathi Cozzone , and Terence Farrell, who have encouraged these Chester County battlefield projects since we started researching Brandywine in 2009.

A number of Chester County employees from the DCIS, Planning, Archives and Facilities Departments were crucial in making sure all the Historic Resource documents and maps were accurate and completed to high quality standards.

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Purpose

The purpose of this report is to provide a narrative for the Battle of the Clouds based on primary accounts and to examine the battle in the context of an Eighteenth Century cultural landscape inventory.

This study was a continuation of the work performed by Chester County, with backing from the American Battlefield Protection Program, for the Battle of Brandywine in 2010, and the Battle of Paoli in 2011.

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Preface

For this project, we brought together a team of scholars to attempt to uncover the truth about the Battle of the Clouds, which up until now, had not been thoroughly investigated. A plethora of new information was uncovered, but many questions still remain – particularly the exact brigade-level troop configurations during the marches and the encampments, as well as the precise routes that were taken.

This report is an attempt to organize what we know by focusing on proven facts of primary sources, and minimizing the stories that have never been proven. The goal was to present an understandable narrative based on the best available knowledge.

We understand that there is still research to be done on this battle, and we welcome future study. As Claudius Ptolemy taught us when he bravely published his world map in 150AD, some works are not meant to be the final word, but instead are to be updated and improved as new information is brought forth.[1]

[Figure 1] Claudius Ptolemy's Map of the World, 150AD

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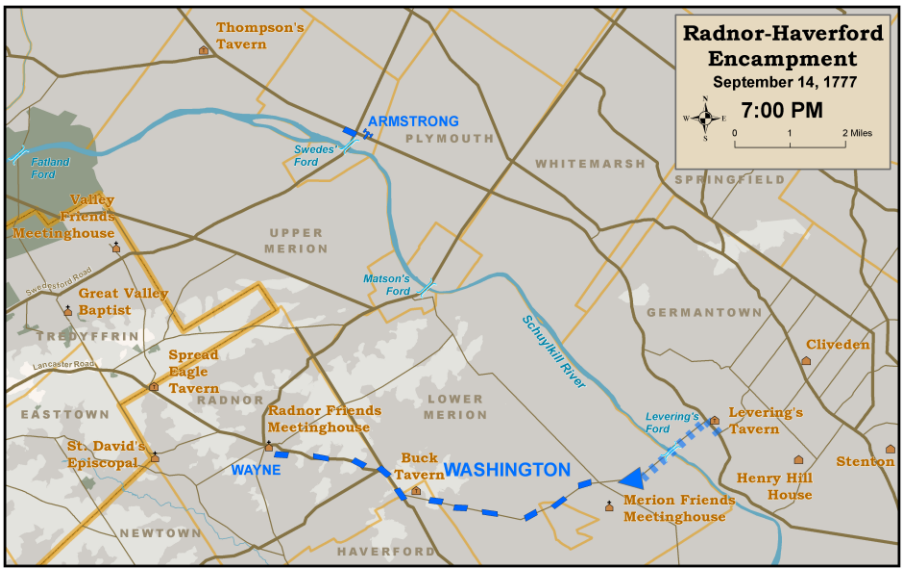
Introduction

Known as the Battle of the Clouds, the battle was a meeting engagement between advance elements of the Crown forces commanded by Lieutenant General Sir William Howe and American forces commanded by General George Washington. Maneuvering and heavy skirmishing between the opposing forces was taking place when an extremely strong rainstorm – likely a nor'easter – brought an abrupt halt to the fighting, making the roads nearly impassable and turning the surrounding agricultural fields into sodden fields of mud. The American Army broke contact and retreated, and the Crown Forces encamped on the field of battle and took shelter in nearby buildings.[2]

After Brandywine

Following the Battle of Brandywine on 11 September, Howe remained on the battlefield until 16 September, while two brigades under Lieutenant General Charles Earl Cornwallis camped less than 20 miles from Philadelphia near the Seven Stars Tavern in Aston Township.[3] Washington had retreated through the town of Chester after the battle and camped with the Continental Army near Germantown.[4] He made his headquarters at the Henry Hill House,[5] close to where he had paused two weeks earlier on his way to face Howe in Delaware, and blocks away from Cliveden where the Battle of Germantown was to be decided in October.



[MAP 1] Recrossing the Schuylkill to the Randor-Haverford Encampment

Before leaving Germantown, Washington ordered the only bridge across the river, at Middle Ferry (Market Street), to be unmoored and pulled to the east side in order to prevent a direct advance by Howe into Philadelphia.[6] This left Howe's most likely route to Philadelphia across

Swedes' Ford near today's Norristown which Washington ordered to be guarded by Brigadier General John Armstrong's militia and some engineers who constructed an artillery battery.[7]

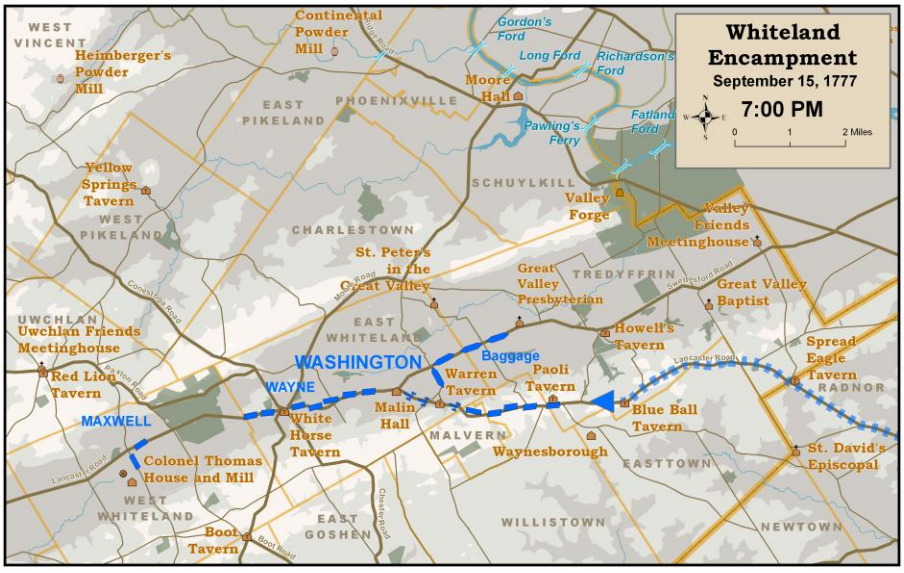
On the morning of 14 September, the Continental Army crossed the Schuylkill River at Levering's Ford near today's Green Lane in Manyunk.[8] The army's line of march was led by the light dragoons, followed in order by the divisions of General Major General John Sullivan, Major General Lord Stirling, Major General Anthony Wayne, Brigadier General Francis Nash, Major General Adam Stephen, and Major General Nathanael Greene.[9]

Washington's Army camped along the Lancaster Road that night between the Merion Friends Meetinghouse and the Radnor Meetinghouse, where Wayne halted his troops. Washington made his headquarters at the Buck Tavern in Haverford.[10]

Washington Returns to Chester County

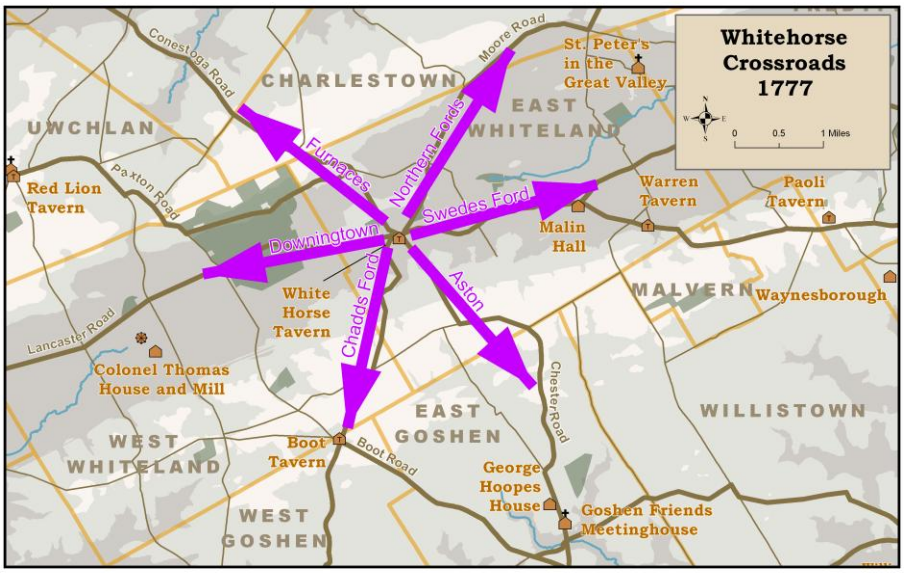
On the morning of 15 September the Continental Army, consisting of about 11,000 men, marched back into Chester County and down into the Great Valley.[11] Apart from the likelihood of Wayne being at the front of the march, and Greene at the back, the exact order of march on the 15th is not explicitly documented.[12]

Their encampment was along the old Lancaster Road. To the far west, Brigadier General William Maxwell's Light Infantry Corps was camped in today's Exton near the home of Colonel Richard Thomas.[13] To the east, Greene's division was in the vicinity of the Paoli



[MAP 2] The Whiteland Encampment and Northern Fords

Tavern.[14] Wayne was likely at the White Horse Tavern. Washington made his headquarters at Randal Malin's house at the fork of Lancaster and Swedesford Roads in East Whiteland. The Randal Malin House is no longer standing, but was located just to the east of the building known as Malin Hall.[15] Map 2 shows the approximate configuration of the army on the evening before the battle.

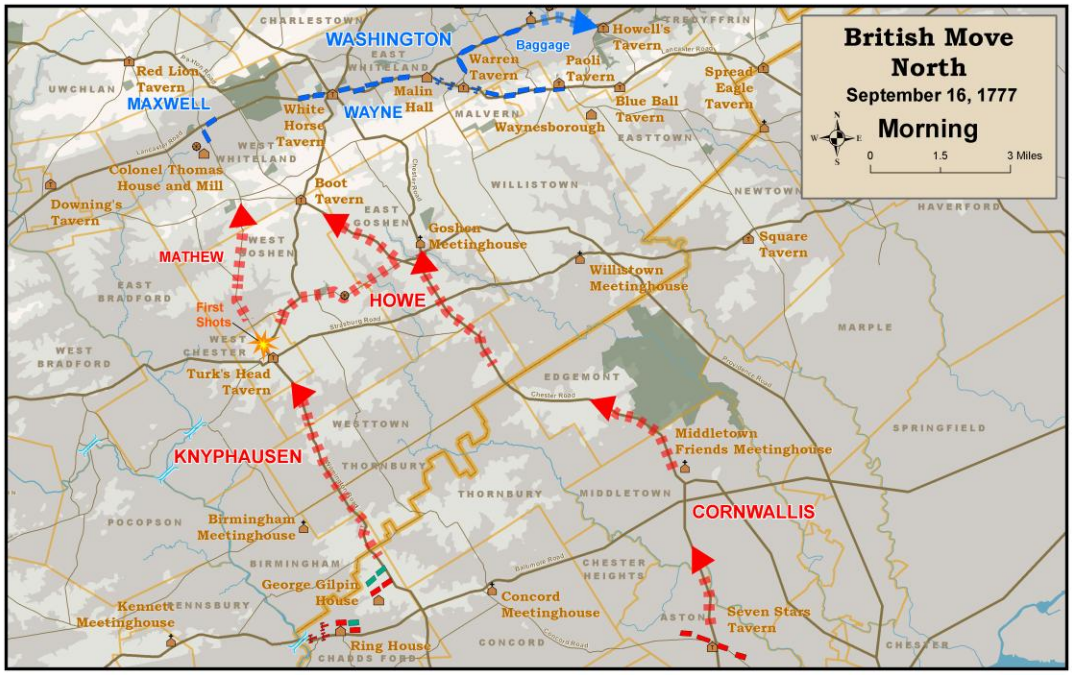


[MAP 3] White Horse Tavern Crossroads

The White Horse Tavern sits on piece of high ground in the Great Valley at the watershed divide between the Brandywine Creek and Schuylkill River. Native Americans were frequent visitors to the tavern since it had been built upon the Allegheny Trail which was an important trading route between the still-wild interior of Pennsylvania and the city of Philadelphia.[16] As shown in Map 3, this location was a critical six-points crossroads in colonial Pennsylvania. The area covered the road leading east to Swedes' Ford – less than a day's march away. The northern fords across the Schuylkill could be accessed by the northeast road. The road going west passed through a commissary depot at Milltown (now Downingtown)[17] and toward the fertile farmland of Lancaster County.[18] The road going northwest was known as the Paxton Road[19] and led to the furnace region where artillery and ammunition were manufactured, and to Reading which served as the Continental Army's main supply depot.[20] The two roads going south from this intersection led to Chadds Ford and Aston, where the Crown Forces were encamped.

Howe Moves North

After learning of Washington's new position, Howe ordered his army, of about 15,000 men, to move north on 16 September in two columns toward their intended destination, the White Horse Tavern.[21] The eastern column commanded by Cornwallis began moving at midnight and halted near modern Lima until daybreak. In the morning they followed the Chester Road (today's Route 352) to Goshen where they were to rendezvous with General Wilhelm von Knyphausen's column which headed north from their Brandywine encampment at daybreak.[22]



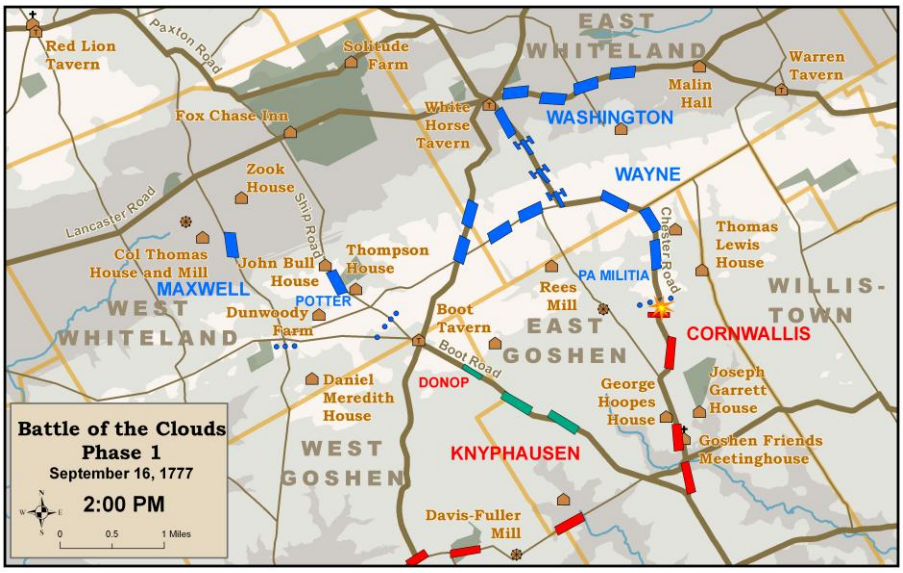
[MAP 4] Howe's Route North

At midmorning, as the head of Knyphausen's column was approaching the Goshen Meetinghouse, the first shots of the day were fired in the middle of the column by an American scouting party neard the Turk's Head Tavern (in today's West Chester). One British soldier was killed and two were wounded during this episode.[23] While the rest of Knyphausen's column continued toward the Goshen Meetinghouse, the Brigade of Guards, commanded by Brigadier General Edward Mathew, pursued the scouting party up modern Route 100 and Pottstown Pike.[24]

As the two columns continued to concentrate their forces, Major General James Grant wrote, "we met pretty early that Day at Goshen Meeting House, but were obliged to wait until three o'clock for the Artillery and Baggage," to arrive. [25]

The Battle of the Clouds Phase 1 : The Chester Road

On the morning of 16 September, Washington received intelligence that Howe's army was approaching.[26] He ordered Maxwell's Light Infantry Corps, along with Brigadier General James Potter's Pennsylvania militia, to cover the western approach to the White Horse Tavern, while Wayne's two Pennsylvania brigades, along with a Pennsylvania militia Brigade, was sent to cover the eastern approach along the Chester Road near Rees' Mill.[27]



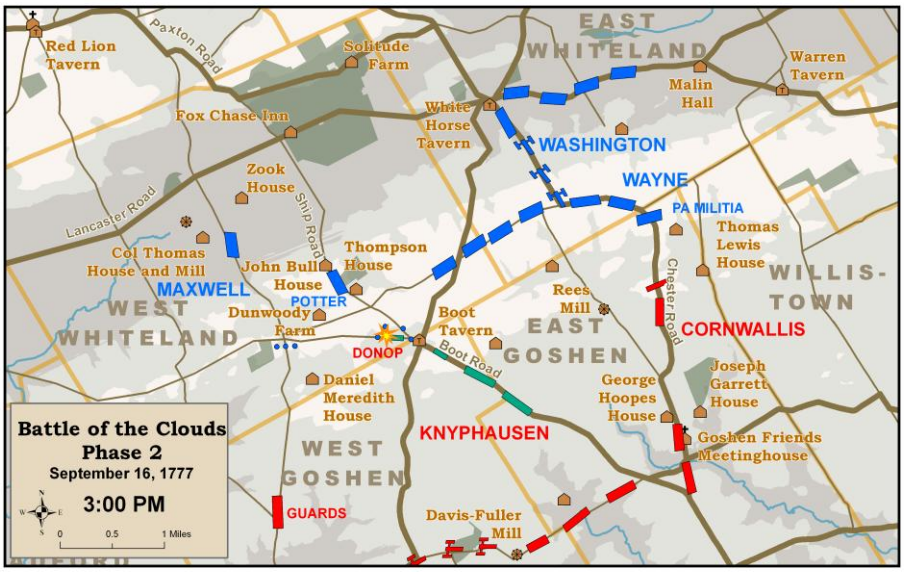
[Map 5] Battle of the Clouds, Phase 1

Wayne and Maxwell were both commanding about 1,500 men each.[28] Baggage, including tents and ammunition, was sent to Howell's Tavern in Tredyffrin Township, safely behind the lines.[29]

Before Knyphausen's column had completely arrived, Cornwallis ordered the 1st Light Infantry Battalion forward on the Chester Road.[30] About a mile up the road they ran into a skirmish line of the Pennsylvania militia on Washington's left near the current intersection of Greenhill Road.[31] The militia, according to Adjutant General Timothy Pickering, "shamefully fled at the first fire."[32] About twelve to fourteen Pennsylvania militia were killed during this brief action, and no British were killed.[33] Wayne's regular brigades were never engaged.[34] Map 5 shows the approximate configuration of the troops at this time.

The Battle of the Clouds Phase 2 : Skirmish Near the Boot Tavern

Maxwell was positioned on the Pottstown Pike, near Colonel Richard Thomas' Mill, while Potter's Militia Brigade lined up behind the Boot Tavern, which was located at the intersection of Boot and Ship Roads in West Goshen Township.[35]



[MAP 6a] Battle of the Clouds, Phase 2

Around 3:00pm, while the bulk of the Crown Forces remained near the Goshen Meetinghouse, a detachment of Hessian Jaegers, along with Hessian Grenadiers and the Leib Regiment plunged forward with Colonel Carl von Donop leading the way.

Donop, who came from a Hessian noble family, requested to command the Jaegers in America, with the ambitious dream of widening the war to "seize the wealth of Mexico and Peru."[36] After suffering humiliation at Trenton in January, Donop was eager to find an opportunity for revenge against the Americans. This eagerness may explain why we found himself so far ahead of the rest of his column.[37]

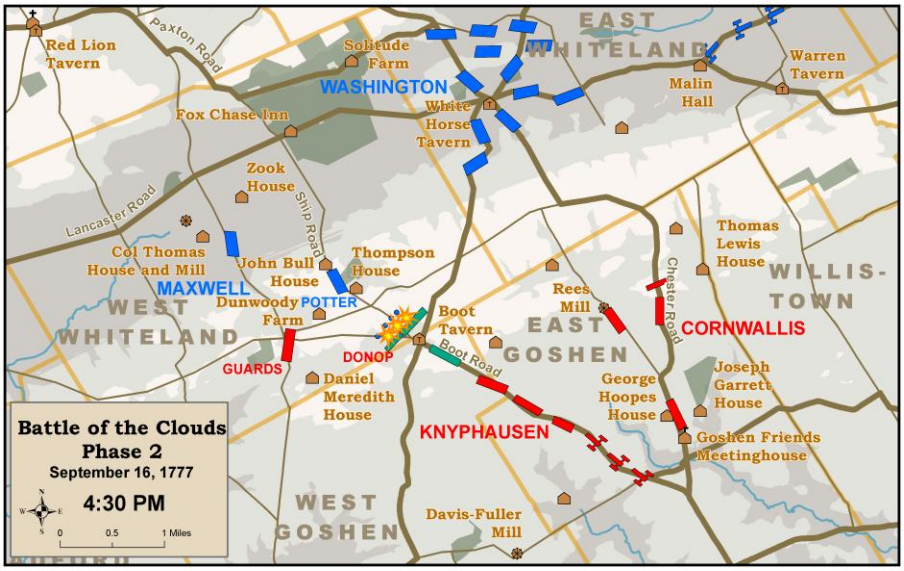
According to Howe's aid-de-Camp, Fredriech von Munchhausen, Donop may have "advanced a little too impetuously," because he soon found himself cut off from the rest of his detachment and "almost surrounded" by Potter's men who saw an opportunity to catch the Hessians out of position.[38] Map 6a depicts Donop's close call at the Boot Tavern.

Summoning his determination, Donop, "decided to break through with the horsemen," in order to reunite with the rest of Knyphausen's column that was approaching from the east.[39]

While Donop was maneuvering by the Boot Tavern, the main army on King Road between Maxwell and Wayne was still not in formation, the rain was starting to fall more steadily, and the only avenues of retreat back to the Great Valley (modern day Ship Road, Phoenixville Pike, Planebrook Road, and Pottstown Pike) were deteriorating quickly.[40] Washington and his officers were considering, "whether we should receive the British on the ground then occupied by our troops, or retire beyond a valley in their rear."[41] Pickering's opinion was, "The order of the battle is not completed. If we are to fight the enemy on this ground, the troops ought to be immediately arranged. If we are to take the high grounds on the other side of the valley, we ought to march immediately, or the enemy may fall upon us in the midst of our movement."[42] "Let us move," was Washington's response, and the army turned back toward the White Horse Tavern in the valley.[43]

[Figure 2] Count Carl Emil Ulrich von Donop

As the storm worsened, weapons on both sides began to misfire, and the Jaegers drew their hunting swords forcing Potter's men to "quit the field."[44] Map 6b depicts this scene which represents the last time patriot blood was spilled in the Brandywine Valley.



[MAP 6b] Battle of the Clouds, Phase 2

The episode by the Boot Tavern saw five Jaegers killed and seven wounded[45], about eight to eleven Americans killed, and a number of prisoners captured.[46] According the Futhey and Cope, "the killed were buried near to the dwelling of Daniel Meredith, and the wounded taken to the house of Daniel Thompson, a short distance north of

Meredith's, which was used as a hospital."[47] Immaculata University on King Road has a gravesite on its campus that is traditionally believed to contain soldiers killed in the battle.[48]

Rainsoaked Roads and Ammunition

By today's standards this storm would probably be known as a tropical storm or hurricane, reminiscent of Hurricane Floyd which hit southeastern Pennsylvania on September 16, 1999.[49] Even modern society, with paved roads and abundant shelter, has a difficult time functioning during such weather events, but for these Eighteenth century armies, there were only dirt paths, quickly turning to mud, and a few scattered farmhouses that would have been quickly snatched up by the officers. Most men on both sides were left to remain out in the open fields with only their weapons and provisions.

By about 5:00pm, the Crown Forces were forced to call off the attack. Even the Jaegers, charging with their hunting swords, were stopped in their tracks by mud up to their calves.[50] Apart from the severely degraded road system, one of the primary concerns for both armies was the state of their ammunition, particularly the cartridge boxes. These boxes were carried by soldiers on both sides to store cartridges consisting of a musket ball and powder wrapped in paper. They were constructed using a wooden box and covered with a leather flap.

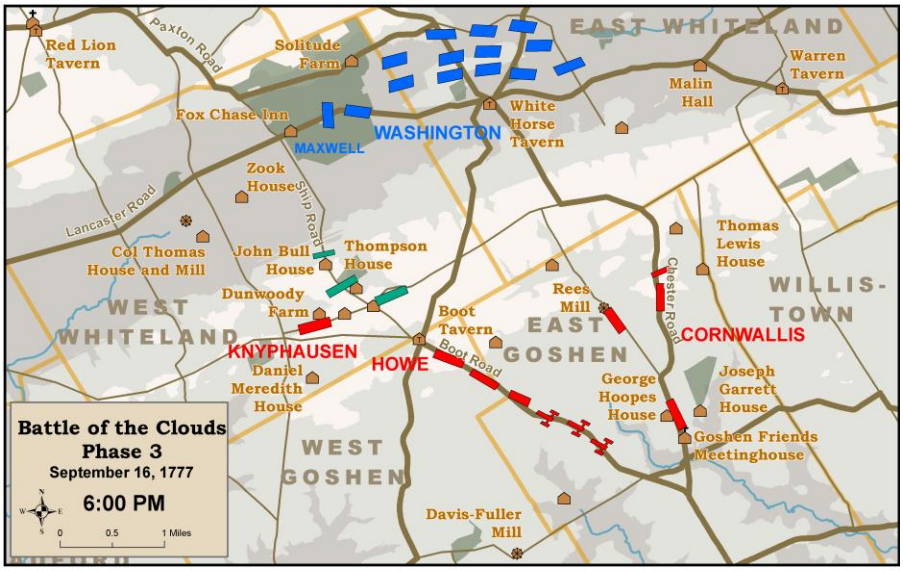
[Figure 3] Cartridge Boxes : Continental versus British

Figure 3 shows samples of a Continental cartridge box (the two on the left), and a British cartridge box on the right. Better construction of the British boxes, particularly with a larger leather flap, as well as double flaps, gave them an advantage in wet situations.[51] Nobody put it more plainly than Brigadier General

Henry Knox who summed up the situation on 16 September, saying, "This was a most terrible stroke to us, and owing entirely to the badness of the cartridge-boxes which had been provided for the army."[52]

After the Battle of the Clouds, Washington became well aware of the difference in quality, sending a letter to Congress on 13 October, where he identified some design improvements, saying, "With respect to Cartouch Boxes, without which it is impossible to act, … each Box should have a small inner flap for the greater security of the Cartridges against rain and moist weather. The Flaps, in general, are too small, and do not project sufficiently over the ends or sides of the Boxes. … For we know from unhappy experience in the severe rain, on the 16th [of September] the few Boxes we had of this construction preserved the ammunition without injury, whilst it was almost wholly destroyed in those of the Common form, with a single flap."[53]

The Battle of the Clouds Phase 3 : Regrouped at the White Horse Tavern



[MAP 7] Battle of the Clouds, Phase 3

Despite the failure of the cartridge boxes, it could be said that the storm played to Washington's advantage by eliminating the possibility of a British pursuit and allowing him the time to put some distance between the two armies.

Exactly what happened that late afternoon, however, is difficult to say. As documented in Appendix A, the configuration of Washington's line near the White Horse Tavern is unknown. The historical study could not locate a single firm and reliable primary source that contained evidence of the order of Continental Army forces marching toward White Horse Tavern on the afternoon of 16 September, 1777."[54] The only primary account that even hints at a reformed line comes from Pickering, who states

that Continental forces, "formed on the high ground beyond the valley, and there remained during a very rainy day. We then marched to a place called the Yellow Spring."[55] This would put Washington's Army somewhere in the vicinity of today's Philadelphia Memorial Park as shown in Map 7.

While the main army retreated to Yellow Springs, Maxwell's and Potter's commands moved along the Lancaster Road toward Valley Forge in order to screen the baggage.[56] The march to Yellow Springs that evening was not going to be easy considering the continuation of hurricane force wind and rain, the steady deterioration of the roads, the steepness of the hills, and the darkening of night.

Crown Forces Encampment

As Washington's Army trudged north the Crown Forces focused on making camp. General Howe made his headquarters at the Boot Tavern, which Munchhausen referred to as, "a miserable small house",[57] while General Cornwallis rested at a farmhouse owned by George Hoopes along the Chester Road.[58] The rest of the army found shelter if and where they could.

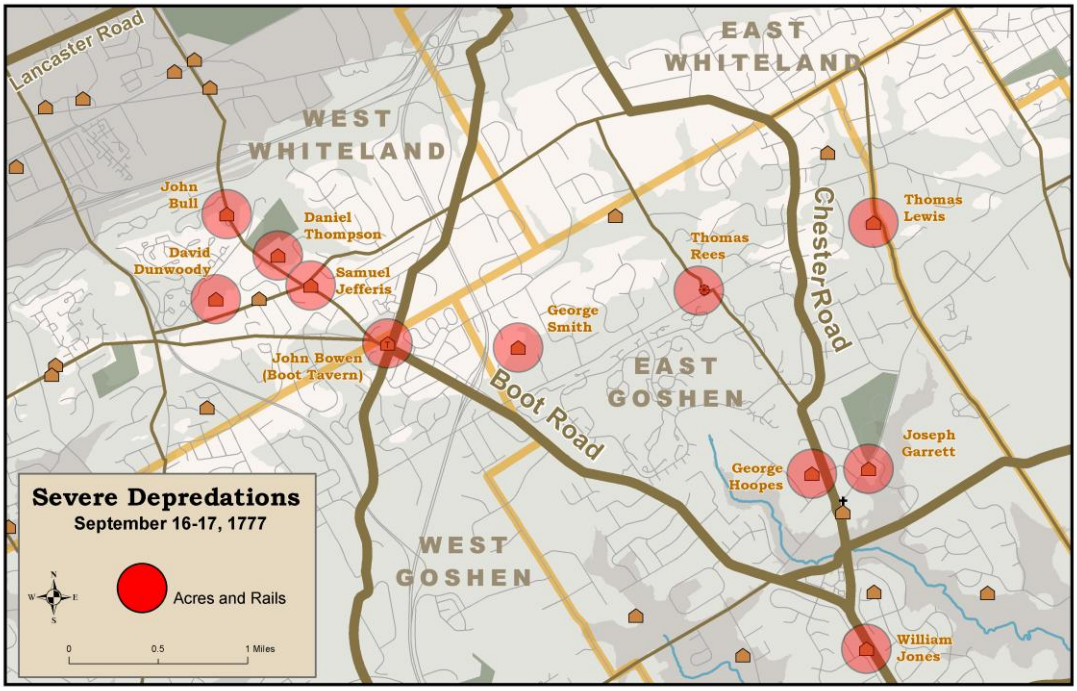
Once again there are no primary sources describing the Crown Forces encampment in Goshen and the Whitelands on the night of 16 September. Based on the historical research detailed in Appendix A, the exact configuration of the Crown Froces camp at Goshen/Whiteland remains unknown. Due to the heavy rainfall and the almost impassible roads it is highly improbable that Crown forces established a regular camp. Primary sources suggest that the troops simply stopped in place and that the camp roughly followed the line of march. Once fighting had begun, the order for the march dissolved and no orders for laying out and establishing a camp were issued.[59]

Insights into the Crown Forces encampment come from the depredation report which was, "based on the register, compiled in November 1782, which contains accounts of property of Chester County residents seized or (not as frequently) destroyed, without compensation, by the British Army, aided by 'adherents' (Pennsylvania Tories), during their march toward and occupation of Philadelphia, from the fall of 1777 until June 1778."[60] These claims were designed to, "bolster the American position in the peace negotiations with Great Britain that had begun the previous April … This was not to be, however, for the treaty resulting from these negotiations, the Treaty of Paris (1783), while recognizing American

Independence, did not include compensation for colonists whose property had been seized during the war."[61]

These damage claims contain some direct information about the Crown Forces encampment. Donop is listed as the commanding officer while damage was being done to the John Bull and Daniel Thompson properties along Ship Road in West Whiteland. Similarly, Mathew is recorded at the David Dunwoody house. John Bowen, the owner of the Boot Tavern, reports damages and tells us that General Howe used his house as his headquarters. In East Goshen, Thomas Reese and Joseph Garrett both make claims which they attribute to General Cornwallis' troops. George Hoopes' claim includes the mention of Cornwallis using his house as his headquarters.

The list also contains claims that include damage to either multiple acres of crops or to multiple thousands of fence rails. Among the claimants are Samuel Jefferis of West Whiteland as well as George Smith, Thomas Lewis, and William Jones of East Goshen. Map 8 is a graphical representation of all these properties, and may represent the general area affected by the Crown Forces Encampment on the evening of 16 September.[62]

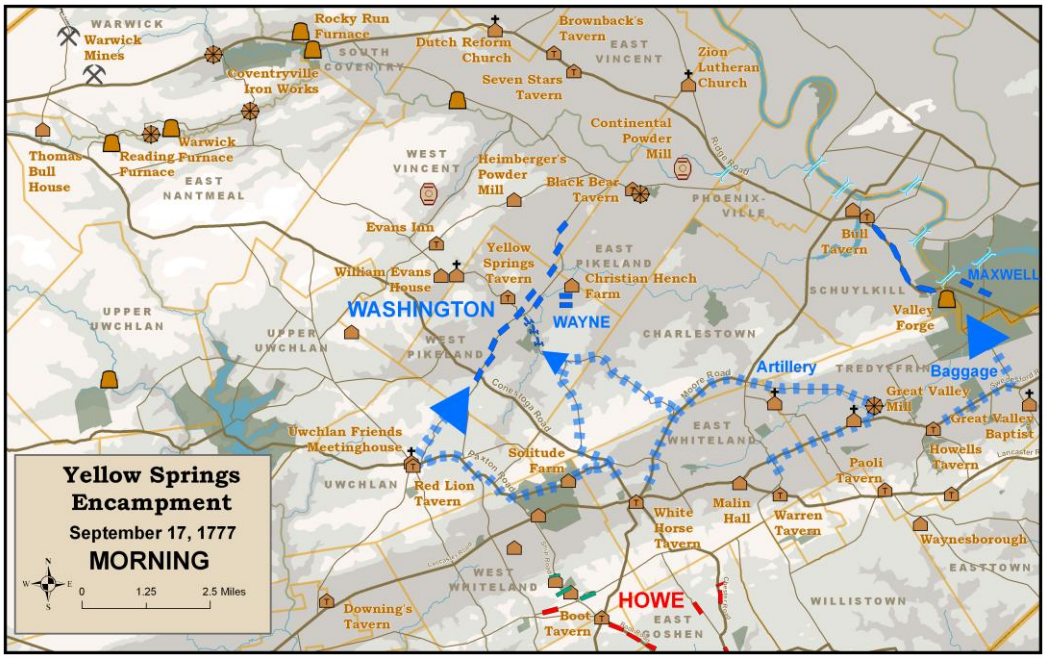


[Map 8] Severe Depredations

Yellow Springs

It was an uncomfortable camp for the Crown Forces as the storm continued through the night, but for the Continental Army, the almost ten mile retreat from the White Horse Tavern to Yellow Springs must have been unbearable.[63]

The most direct route would have been up Batcon Hill to Bodine and Yellow Springs Road, but the historical research detailed in Appendix A indicates that the order of march is unknown due the confusion of the battle, and the troops likely took whatever road they could that was still passable.[64] Another road that might have been used was the Paxton Road which was the main road to Harris's Ferry (Harrisburg) which roughly followed Valley Road west through Exton County Park to Ship Road (avoiding the steep climb up Conestoga Road, now Route 401) and north to Lionville, which in the Eighteenth Century was the location of the Red Lion Tavern. From there, Kimberton Road (Route 113) led directly to Yellow Springs. Whatever routes they took through the muddy hills of northern Chester County, the army did not arrive at Yellow Springs until the wee hours of the morning.[65] Possible routes are shown on Map 9.



[MAP 9] Possible Routes to the Yellow Springs Encampment

One route that is documented is that of the artillery park. As the battle commenced in the early afternoon the baggage was sent to Howells Tavern. At this time, Commissary General Clement Biddle sent a

message to Washington where he described how in the late afternoon Lieutenant Martin Strobach, who had been put in charge of the artillery, was heading toward Howell's Tavern and looking for a route to Yellow Springs. It's possible that the intended route to the furnaces was through Valley Forge, until they discovered the roads in Tredyffrin obstructed by the baggage train. Strobach's orders were to, "put the Park Artillery in the Road by Rowlands Mill [Great Valley Mill] to the Yellow Springs by the best Rout."[66] This route took the artillery from Swedesford Road up North Valley Road and west along a now abandoned road to the approximate intersection of Church and Yellow Springs Road, and then along Yellow Springs Road west to the encampment.

[Figure 4] Ned Hector (with permission from Bryant White)

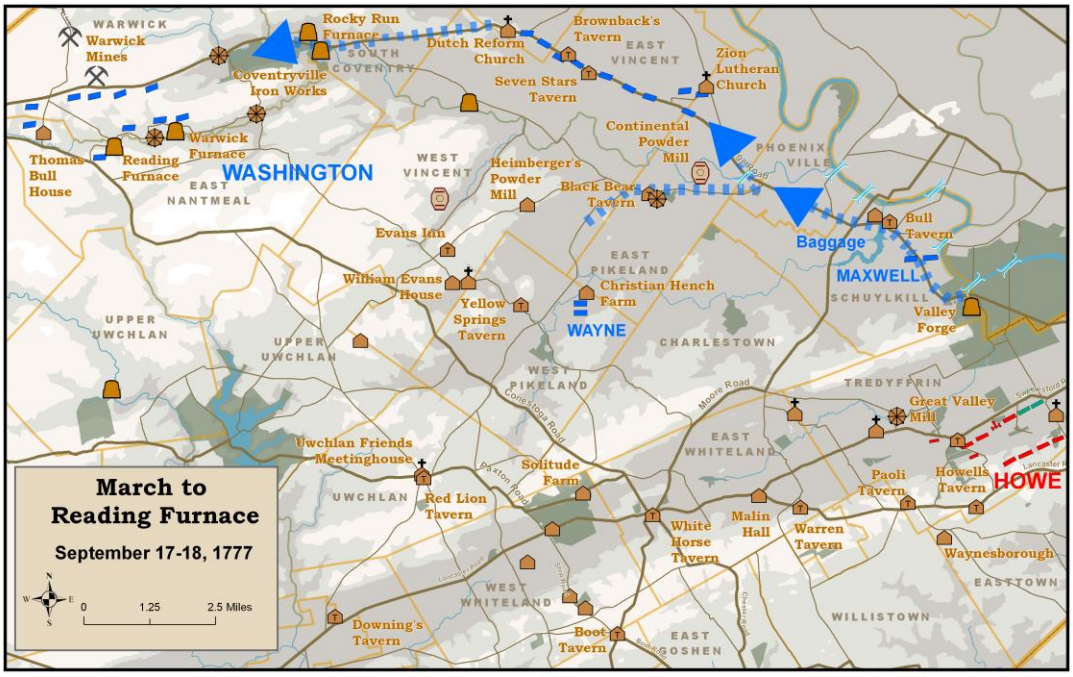
Along these roads, clogged with artillery, travelled thirteen-year old Jacob Nagle and African American teamster Ned Hector of Proctor's Artillery, both of whom had performed heroically at the Battle of Brandywine. In his diary entry for 16 September, Nagle wrote, "the ground being so soft that they had to onhich the horses from one piece of artillery and hitch them to another till they had got them all up the hill ... I being a horseback, I kept close behind one of the ammunition waggons but driping wet and shivering with cold."[67] Hector, who would have been driving one of those wagons, lived in a cabin in Conshohocken, and was famous for his quote at Brandywine, "The enemy shall not have my team. I will save the horses or perish myself."[68]

On the morning of the 17 September, Washington's Army found itself strung out along the roads around Yellow Springs as the rain continued to fall. The exact configuration of this camp is unknown. Based on the in depth historical research detailed in Appendix A, the troops camped wherever they could find a dry place.[69] Washington probably made his headquarters at the Yellow Springs Tavern.[70]

The Furnaces

In a letter sent from Valley Forge, Commissary Biddle documents the route of the American baggage train. By mid-afternoon, with the battle apparently lost, Biddle removed the baggage from Howells Tavern to Valley Forge.[71] At the time of the battle, Valley Forge was the site of a thriving ironworks business owned by William Dewees and David Potts, and was already being used as a military depot.[72] Maxwell's and Potter's troops were sent to Valley Forge to begin the removal of stores.[73]

On 17 September, Washington sent a message ordering the baggage at Valley Forge, including tents and ammunition, to be delivered to Warwick Furnace, which is where the main army was headed next. Colonel William Evans of West Vincent was assigned to guide the baggage, "by the safest and best route."[74] We know from Biddle's letter the previous night that the head of the two-mile long baggage train was at the Bull Tavern. From there Evans led the baggage along present day Route 23 to Warwick.



[MAP 10] The Yellow Springs Encampment and the Route to the Furnaces

By late morning the rain had finally let up, and the main army, desperately low on ammunition and practically defenseless against the enemy still only a couple of hours away, continued its march that afternoon toward Warwick and Reading Furnaces where much needed supplies awaited.[75]

Still in disarray from the previous day's battle, and with swollen creeks and muddy roads ahead of them, Washington's Army would have taken whatever roads and fords were most passable.[76] The most direct was the Nantmeal Road (past Colonel William Evans' house) to Warwick furnace. The only primary account of this march comes from Captain Robert Kirkwood of the Delaware Regiment, who reports that he "crossed French Creek Bridge," a route which took the army through East Pikeland past the Black Bear Tavern and the Continental Powderworks. They made camp that night "about three miles further," which placed the army along modern day Route 23 in East Vincent.[77] Although there is no hard evidence of the location of Washington's headquarters that night, local lore claims that he stayed at Brownback Tavern.[78]

Kirkwood's account points out that they had no tents at this time, indicating that the Delaware Regiment had not yet met up with the baggage coming from Valley Forge.[79] After the baggage was removed, Maxwell's troops remained at Valley Forge until the rest of the supplies could be hauled up the Schuylkill River to safety. Though he was eventually joined by Lt. Colonel Alexander Hamilton and a dragoon detachment commanded by Captain "Light Horse" Henry Lee, they were unable to complete the removal of the stores because of the arrival of British Dragoons on 18 September.[80]

After a brief stop in East Vincent, the main army continued to the furnace region. The exact order of march is unknown, but we do know from Kirkwood and McMichaels's accounts that they started marching between 3:00am and 4:00am, passing the Warwick Furnace on their way to Reading Furnace.[81] The army probably arrived about mid-morning on 18 September in the furnace region. The configuration of the army is not precisely known, but it is known that Washington made his headquarters at the Reading Furnace mansion.[82]

After Washington's departure from Yellow Springs, Wayne's division of about 2,000 men was left behind to guard against any movement by Howe toward the furnaces.[83] There is no official record of the exact whereabouts of Wayne's camp. The only primary source is Colonel Thomas Hartley who states that they made, "camp three miles from the Red Lion."[84] Without naming their source, Futhey and Cope place Wayne at the house of Christian Hench along the Pickering Creek in West Pikeland.[85]

Open Road to Philadelphia

Both armies began the day prepared for a major engagement, but the Battle of the Clouds turned out to be little more than a series of small unit actions between advance parties which never developed into a full blown battle.

After the storm subsided, Howe's path to Philadelphia was clear, "triggering a panicky exodus of congressmen," who fled to York, Pennsylvania where they held session that winter.[86] On 26 September, Howe entered Philadelphia, while Washington remained thirty miles to the west in Pottsgrove.

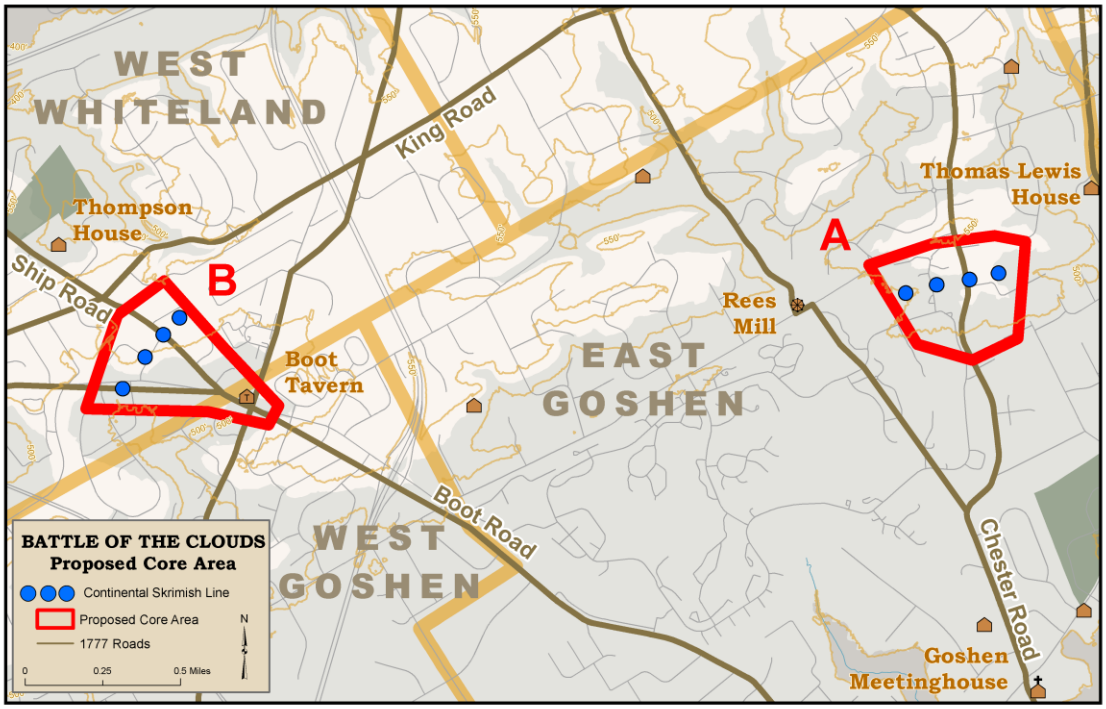
The Battle of the Clouds was certainly a strategic victory for Howe, but Washington recognized that it had little bearing on the outcome of the war, later writing to Congressman Henry Laurens, "The possession of our towns, while we have an army in the field, will avail them little…It is our arms, not defenseless towns, they have to subdue."[87]

Proposed Core Area

The American Battlefield Protection Program defines the Core Area as "…the main area of fighting on the battlefield" which includes "…positions that delivered or received fire."[88] Our proposed Core Area encompasses the two locations where Continental skirmish lines engaged with Crown Forces' advanced troops.

On Map 11, Area A is where Wayne's militia met Cornwallis' 1st Light Infantry Brigade around 2:00pm as described in the Phase 1 section of the narrative. The boundary is centered on Chester Road and covers about 0.25 miles on each side of the road at a high point that would have provided the militia with an optimal line of site south on Chester Road.

Area B is where Potter's militia first engaged with von Donop near the Boot Tavern at 3:00pm, and then where the Hessians reorganized and charged Potter's men with hunting swords as described in the Phase 2 section of the narrative. The boundary covers the triangle formed by Boot Road and Ship Road starting at the Boot Tavern. The location of the skirmish line is based on elevation and optimal lines of site from both roads looking toward the Boot Tavern.



[MAP 11] Proposed Core Area

Recommendations

a. Further Research

Much remains unknown about the Battle of the Clouds, and there are some questions that may never be answered, but Chester County recommends that further research be conducted on the following aspects of the battle.

1) Crown Forces Encampment

We know the location of Howe and Cornwallis' quarters on the night of 16 September from primary accounts, while the depredations report explicitly state the location of some of the other generals. We also used the depredations report to show properties that suffered severe damage, suggesting the presence of a large body of troops.

Further study of the properties in this area may reveal more information about the extent of this encampment as well as the configuration of the Crown Forces during the battle itself.

2) Route to Yellow Springs and the Furnaces

Very little documentation is available regarding the routes that Washington took between 16 and 18 September from the Whitehorse Tavern to the Reading Furnace region. Apart from the baggage and the artillery, we do not have a description of the routes that were taken by the Continental Army on the night of 16 September.

Kirkwood's account indicates his route to the furnace region across the French Creek Bridge on 17 September, but it remains unclear how much of the army took this route, and whether other routes were taken.

This study has mapped the Eighteenth century road network, but further research is needed to reveal which roads were used by Washington.

3) Continental Encampments

The exact location and configuration of the Continental encampments on the nights of 16, 17, and 18 September are unknown. We know that Yellow Springs, East Vincent, and Reading Furnace were the general location of the army, but details remain unclear.

Further research into these encampments is recommended, including the location of Washington's headquarters in East Vincent and Wayne's quarters at Yellow Springs.

b. National Historic Landmark Status

The Paoli Battlefield Preservation Fund should explore the possibility of establishing National Historic Landmark (NHL) Status for the Battle of the Clouds Core Area (see Map 11) and linking it with their effort to establish an NHL for the Paoli Battlefield.

Establishing an NHL for these two battlefields, similar to the existing NHL at nearby Brandywine, would help to give the two sites the elevated status deserved of nationally significant events. Its location between Valley Forge and Brandywine would help the general public tie together these important events in the Philadelphia Campaign.

c. Regional Linkages

It is recommended that the *Revolutionary War Campaign of 1777 Loop* proposed by the Brandywine Battlefield Task Force in conjunction with municipal input be formally endorsed by both Chester and Delaware counties. This Loop concept is a regional planning effort that would provide regional linkages between significant Battlefield landscapes and historic sites. The Loop would provide pedestrian access along many of the roadways and other corridors that were used for troop movements. The Animated Maps and Atlases from the Brandywine, Paoli, and Clouds projects can serve as the historical reference material to locate opportunities for historical interpretation along the proposed regional linkages.

A general alignment of this loop can be found in Appendix H.

d. White Horse Crossroads Historic District

The White Horse Tavern village was located at a critical six-point crossroad in Chester County as shown in Map 3. Here the east-west Lancaster-Philadelphia Road which led to Swedes' Ford, met the Paxton Road which led to the northern iron forges and Harris's Ferry (Harrsiburg), the Morehall Road which led to the upper fords of the Schuylkill River, the road to the Boot Tavern, and the road to Chester, the County Seat.

In the 18th century, it was almost impossible to travel through northern Chester County without finding yourself at this crossroad. Apart from the blacksmith shops, the village featured the White Horse Tavern which was one of the first taverns to receive a license in 1721.[1]

The White Horse Tavern exemplifies the significance of the proposed district. During September 1777, the tavern was the location of many events including the Battles of Paoli and the Clouds. After the war it was a regular meeting place for ex-soldiers in the Great Valley, and in 1790 it became a Masonic Lodge.[2] The tavern was also a frequent stop for Conestoga Indians who travelled along the Paxton Road to Philadelphia to trade skins and furs.[3] It remained a tavern until the early 19th century, [4] when it became a private residence as it remains today.

A number of potentially contributory Class 1 Historic Resources exist in the White Horse area today, as well as the Battle of the Clouds Township Park. It is also believed that Revolutionary War graves exist in the adjacent Philadelphia Memorial Park.[5]

[1] Tredyffrin Easttown Historical Quarterly, October 1970, Volume 15 Number 4, Pages 77
[2] The wayside inns on the Lancaster roadside between Philadelphia and Lancaster, Julius Sachse, page 198
[3] Ibid, page 197
[4] Ibid, page 201
[5] Tredyffrin Easttown Historical Quarterly, October 1970, Volume 15 Number 4, Pages 77

e. Educational Kiosks: Linking Headquarters, Battle Sites, Taverns and Churches to Tell a Cohesive Story

One of the significant findings of the study was that although there has been major development in the battle study area, a large number of the critical historic sites related to the battle remain, and some have been recognized through national designation or local designation. This recognition has led to increased preservation efforts and measures in Chester County.

It is recommended that educational kiosks displaying the animated map, paper maps and the Historic Resource Map be developed and placed throughout the battle area at Chester County Public Library System sites, the Chester County Archives, the Chester Valley Regional Trail and the Exton County Park site, municipal buildings and possibly Valley Forge National Historical Park.

In conjunction with the kiosks, a website should be developed to provide the interactive map for the public and for teachers who wish to utilize the information in the classroom. It is further recommended that Chester County Parks & Recreation officially incorporate educational programming for the Philadelphia Campaign into their county-wide educational programming.

f. Preservation Plan

Chester County should continue to work with local municipalities to develop a Preservation Plan for both the Paoli and Clouds battlefields.

Sources

Blockson, Charles, *Pennsylvania's Black History* : Portfolio Associates, 1975

Buck, William Joseph, *History of Montgomery County, Pennsylvania, Volume 2*, Montgomery County (Pa.): 1884

Campbell, William Bucke, *Old Towns and Districts of Philadelphia, Vol. IV, No. 5,* City History Society of Philadelphia, 1942

Chernow, Ron, *George Washington, A Life*, New York, NY: Penguin Press, 2010

Chester County, *Chester County Tavern Petitions 1700-1923, N-P*

Chester County*, Strategic Plan for The Iron and Steel Heritage Region*, 2003

Cremers, Estelle, *Reading Furnace,* Elverson, PA: Redding Furnace Press, 1986

Cremers, Estelle, *30,000 Acres Vincent and Pikeland Townships,* Elverson, PA: New Mediterranean Sea Company, 1989

East Whiteland Historical Commission, *The Battle of the Clouds, September 16, 1777:* 1976

Fischer, David Hackett, *Washington's Crossing*, New York, NY : Oxford University Press, 2004

Futhey, J.Smith and Cope, Gilbert, *History of Chester County, Pennsylvania.* Philadelphia, PA: Louis H.Everts, 1881

Kemble, Stephen, *The Kemble Papers: Journals of Lieut. Col. Stephen Kemble, 1773-1789 and General Orders by Major General the Honorable William Howe.* New York, NY: New York Historical Society, 1883.

Leasa, K. Varden, *A Great Valley Legend Examined*, Tredyffrin Easttown Historic Quarterly Spring 2008, Volume 45, No. 2

Lester, Toby, *The Fourth Part of the World: The Epic Story of History's Greatest Map*, By Toby Lester. New York NY: Simon and Shuster, 2009

Library of Congress, *The George Washington Papers.*

Lloyd's List. *Extant Issues 1741-1784 and 1790 – 1797,* Westmead, Farnborough, Hants, England: Gregg International Publishers Limited, 1969

Lukens, Rob and Momyer, Sandra, Yellow Springs, Charleston, SC: Arcadia Publishing, 2007

Martin, David, *The Philadelphia Campaign.* Conshohocken, PA: Combined Books, Inc, 1993

McGuire, Thomas J., *The Battle of Paoli.* Mechanicsburg, PA: Stackpole Books, 2000

McGuire, Thomas J., *The Philadelphia Campaign: Brandywine and the Fall of Philadelphia, Volume One.* Mechanicsburg, PA: Stackpole Books, 2006

Mires, Charlene, *Independence Hall in American Memory*, Philadelphia, PA: University of Pennsylvania Press, 2002

Myers , Elizabeth Lehman, *History of Bethlehem Pike*. Bethlehem, PA: Bethlehem Print. Co., 1924

National Park Service, *Report to Congress on the Historic Preservation of Revolutionary War and War of 1812 Sites in the United States*. Washington, DC : 2007

Sachse , Julius Friedrich, *The Wayside Inns on the Lancaster Roadside Between Philadelphia and Lancaster*. Lancaster, PA : New Era Printing Company, 1915

Selig, Robert, McGuire, Thomas, Catts, Wade, *Detailed Historical Research in Support of the Battle of the Clouds Project*. American Battlefield Protection Program Grant GA-2255-12-005. Prepared for Chester County Planning. John Milner Associates, Inc., West Chester, PA., 2013

Wallace, Paul, *Indian Paths of Pennsylvania*. Harrisburg, PA : Commonwealth of Pennsylvania, 1998

Winthrop, Grace Kugler, *Early Chester County Roads*. 1986

Wolf, Martha, *A History of West Whiteland*. Exton, PA: West Whiteland Historical Commission, 1982

End Notes

[1] Lester, p. 158
[2] Appendix A, Introduction, also note that any reference to "Crown Forces" includes British, Hessian, and Loyalist forces
[3] McGuire, Paoli, p. 29
[4] McGuire, Campaign, p.273
[5] Appendix A, Question 2. According to Campbell, p. 136, this house was later rebuilt and renamed Carlton, and is located at Midvale Avenue and Stokeley Street in Germantown
[6] Appendix A, Question 3
[7] McGuire, Campaign, p. 281
[8] McGuire, Campaign, p. 281
[9] Washington Papers, General Order 14 September
[10] McGuire, Campaign, p. 283
[11] Appendix A, Question 1
[12] Appendix A, Question 4
[13] Appendix A, Question 8. Captain Porterfield describes the location.
[14] Appendix A, Question 4. Lieutenant James McMichael describes the location.
[15] Appendix A, Question 5. This refutes the claim from Leasa, T/E History, p. 58, which states that the headquarters was at the Brackbill-Haledmen-Malin house
[16] Sachse, p. 197 and Wallace, p. 19
[17] McGuire, Campaign, p. 291
[18] McGuire, Paoli, p. 28
[19] Winthrop, p. 6
[20] McGuire, Paoli, p. 29
[21] Appendix A, Question 13, destination stated in Knyphausen's letter to Landgrave Frederick II of Hesse-Kessel, Crown Forces troop strengths described in Question 1
[22] McGuire, Paoli, p. 31, Appendix A, Question 13, Montresor's account describes how Knyphausen's division "made a junction with Lord Cornwallis" before they split up.
This is counter to many secondary accounts which claim that Knyphausen went straight from Turk's Head to the Boot Tavern on what would have been the road currently known as Phoenixville Pike. For example, Futhey and Cope (page 83) states that, "The Hessian line, under the command of Count Donop, took the road leading from the Turk's Head to the Boot tavern." This claim is backed up by the "Battle of the Clouds" East Whiteland report that shows a map depicting Knyphausen's forces taking this direct route.
[23] Appendix A, Question 13, Captain Andre's account states that shots were fired upon "the 33rd regiment" at Turks Head. Andre's account and Robertson's account from Appendix A, Question 12, state that there was 1 killed and 2 wounded. Futhey and Cope, p. 249 state that two British were killed and were buried at a location near the Turk's Head Tavern.
[24] Futhey and Cope, p. 83 says the Crown Forces "took the road leading from the Turk's Head to the Boot Tavern". This is supported by the depredation claims in Appendix D which show Mathew occupying the Dunwoody Farm that night.
[25] Appendix A, Question 8, Montressor's account says they "made a junction with Lord Cornwallis" at 11:00am, Question 13, quoted from Grant's letter to Laird of Ballindalloch discussing "obliged to wait"
[26] Appendix A, Question 8, Pickering's account, "On the 16th of September, in the morning, information was received of the approach of the enemy"
[27] Appendix A, Question 8
[28] Appendix A, Question 13, Knyphausen's estimates of enemy strength
[29] Appendix A, Question 8, In Pickering's diary he says, "About nine in the morning we were informed that the enemy were advancing towards us. The troops got under arms, and the baggage was sent off." Clement Biddle, the Commissary General, reported that he had removed baggage to the Howell Tavern
[30] Appendix A, Question 12, Robertson's account names the "1st Light Infantry Battalion"
[31] Appendix A, Question 13, Stirke's account says ½ mile, Sullivan's account says 1 mile, and Futhey and Cope say 1.5 miles

[32] Appendix A, Question 8, Pickering
[33] Appendix A, Question 13, Thomas Sullivan account says 12 killed, Robertson says 14 killed
[34] Appendix A, Question 8
[35] Appendix A, Question 8, The Boot Tavern was located at approximately the site of a 7-11 until 2013
[36] Fischer, p. 55-56
[37] McGuire, Paoli, p. 33
[38] Appendix A, Question 13, Munchenhausen
[39] Appendix A, Question 13, Ewald
[40] Appendix A, Question 11
[41] Appendix A, Question 8, Pickering describes the decision to retreat
[42] ibid
[43] ibid
[44] Appendix A, Question 13, Ewald
[45] Appendix A, Question 13, Ewald
[46] Appendix A, Question 13, Feilitzsch reports eleven Americans killed, Appendix A, Question 8, Giffen says eight Americans killed
[47] Futhey and Cope, p. 257
[48] Appendix A, Question 9
[49] If the 1777 storm track was anything like the 1999 Floyd track, it may have been the same storm that sunk British ships on September 10, 1777, near Dominica in Caribbean as recorded in Lloyd's List

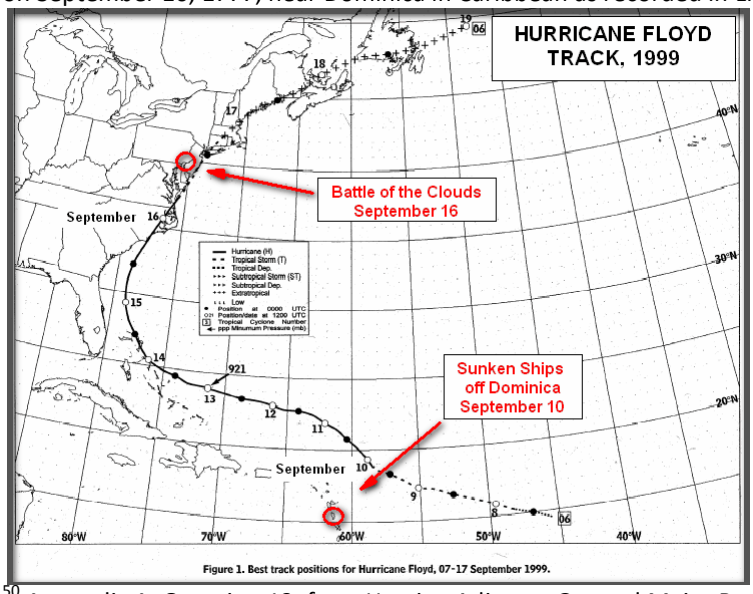


Figure 1. Best track positions for Hurricane Floyd, 07-17 September 1999.

[50] Appendix A, Question 13, from Hessian Adjutant General Major Baumeiter's account
[51] McGuire, Campaign, p. 293
[52] Appendix A, Question 8, General Knox's letter to his wife
[53] Washington Papers, Letter from George Washington to John Hancock, 13–14 October 1777
[54] Appendix A, Question 12
[55] Appendix A, Question 8, Pickering
[56] Appendix A, Question 11
[57] McGuire, Campaign, p. 292 and Paoli, p. 36
[58] Futhey, p. 84
[59] Appendix A, Question 13
[60] Chester County Register of Revolutionary War Damages (British Depredations)
[61] Appendix D contains details of the depredations

[62] Some additional rail damage was reported in East Whiteland near the White Horse Tavern, but this would have likely been from the late evening of 17 September when Cornwallis' Column moved into the valley
[63] The direct route up Batcon Hill, Bodine, and Yellow Springs Road would have been about 6 miles. Other routes vary in distance. The artillery's route was closer to 15 miles.
[64] Appendix A, Question 14
[65] Appendix A, Question 14, McMichael's account states, "we marched till 2 oClock thro the heaviest rain I ever felt and when halted we had to remain under arms till Dawn of aurora"
[66] Appendix A, Question 14, Biddle's letter from Valley Forge
[67] Appendix A, Question 11, Nagle's diary account
[68] Buck, p. 717 and Blockson, p. 25
[69] Appendix A, Question 14
[70] Lukens, p. 9
[71] Appendix A, Question 14, Biddle's letter from Valley Forge, 16 September
[72] McGuire, Paoli, p. 55
[73] Appendix A, Question 11
[74] Appendix A, Question 17, Washington's letter to Mifflin from Yellow Springs, 17 September
[75] Appendix A, Question 12, Beatty's account says, "The rain left off falling the morning of the 17th about break of day. In the afternoon we began our March towards the Valley Forge [Warwick Furnace]" & McGuire, Paoli, p. 39
[76] Appendix A, Question 17
[77] Appendix A, Questions 14, Kirkwood states, "Wednesday 17th march'd and Cross'd French Creek Bridge being 6 miles went 3 miles further there Stayed all night being 9 miles (no tents) [.]" This location on the night of the 17 September is corroborated by McMichael's account which states, "Friday 19th returned back to our last encampment being 12 miles, filed off to the left and forded Schuylkill & march'd towards ye Sweeds ford."
[78] Appendix A, Question 16 points out the lack of reliable sources. Cremers Acres, p. 60 suggest Brownbacks
[79] Appendix A, Questions 14, see Kirkwood's quote above, "not tents"
[80] McGuire, Paoli, p. 57-58
[81] Appendix A, Question 17, stresses that the order of march is unknown. Question 14, Kirkwood mentions leaving at 3am and McMichael says 4am. McMichael also mentions passing Warwick Furnace
[82] Appendix A, Question 17, letter to the Continental Congress from "Reading Furnace"
[83] McGuire, Campaign, p. 293
[84] Appendix A, Question 15, Hartley's account
[85] Futhey and Cope, p. 258. Although Futhey and Cope make the claim that Wayne stayed at the Hench house, Selig points out that Futhey and Cope do not identify a source of their information. Appendix A, Question 15.
[86] Chernow, p. 306
[87] George Washington Papers, Letter from George Washington Henry Laurens, October 3, 1778
[88] National Park Service, p. 27