Contents

1.0 Overview

2.0 Map Notes

- 3.0 Notes on the Forces
- 4.0 Confederate Notes
- 5.0 Union Notes
- 6.0 Chronological Order
- 7.0 Weapon Descriptions
- 8.0 Arrival Schedule
- 9.0 <u>References</u>
- 10.0 Parameter Data
- 11.0 Order of Battle

1.0 Overview

[For a summary of the events leading up to the battle of Shiloh, see p.43 in the Players Guide]

The Confederate attack on the morning of April 6th achieved almost complete surprise. Despite problems arising from an awkward attack formation - three of their available corps spread out in parallel lines - the Confederates were able to achieve success against the initial Union forces they encountered. A number of Union troops broke and ran for the safety of the rear, while others remained and conducted a fighting retreat.

After being pushed out of their camps, the divisions of Brig. Gen. William Sherman and Brig. Gen. Benjamin Prentiss were joined by other Union forces that had marched from their camps nearer the Tennessee River. Some of the Union troops were able to make a stand along a secondary wagon track (the Sunken Road) at the far end of a large field. There, from 11:30 AM, they fought off repeated Confederate charges with such fury that the area became known as the Hornet's Nest.

General Johnston was wounded in the leg while leading a charge against the Peach Orchard at the Hornet's Nest. Thinking his wound was minor, the general ignored it. But an artery had been cut, and Johnston died shortly thereafter from loss of blood.

The Confederate attacks continued after Johnston's death, and the Union defenders of the Hornet's Nest were eventually surrounded and forced to surrender around 5:30 PM. However, their stand, in conjunction with Sherman's stubborn fighting retreat, had given Grant time to form a last-ditch line near Pittsburg Landing to protect the vital ferry crossing.

Unfortunately for the Confederates, daylight was now fading and their troops were disorganized, hungry, and exhausted from the day-long fighting. Their momentum waned, and no fresh troops were available to carry on the attack. At the same time, the leading elements of Buell's army began arriving at Pittsburg Landing, where they had to move through thousands of routed Union troops milling about on the river bank, oblivious to all attempts to rally them. And on the Union right flank, Maj. Gen. Lew Wallace's division finally arrived after having initially taken the wrong road to the battlefield. The chances of a smashing Confederate victory were fast slipping away.

That night, hundreds of men burned to death in woods and underbrush set ablaze by the fighting earlier in the day. From the river boomed the big guns of the **Lexington** and **Tyler**, which fired blindly into the night in the general direction of the Rebel lines. The next morning, the fresh Union forces attacked the tired and surprised Confederates, who believed they had won a great victory. By sheer weight of numbers the Federals pushed them back. Resistance stiffened as the day wore on; but after fierce fighting in the Peach Orchard and near Water Oaks Pond, the Confederates pulled back and the next day withdrew to Corinth. A half-hearted Union pursuit was turned back by a cavalry charge led by Col. Nathan Bedford Forrest.

On April 11th, Maj. Gen. Henry Halleck relieved Grant and took over his command. He then took three weeks to advance the 22 miles to Corinth, which the Confederates promptly evacuated. On May 30th, Union forces entered an empty Corinth, severing the Memphis & Charleston Railroad. The casualties at Shiloh totaled over 20,000 men, making it the bloodiest battle of the war to date. The Union army had suffered 21% casualties, the Confederates 27%. The populace of both North and South were shocked and outraged by the carnage.

2.0 Map Notes

Since the map is larger in the North-to-South dimension, it is oriented with West-to-East vertically to take advantage of the dimensions of the typical computer screen.

The data for the map was obtained from the map produced D. W. Reed in 1900 and several other sources, then verified against modern U. S. Geological Survey maps.

The portion of the map west of the Owl and Snake Creeks has been programmed as "blocked" to prohibit movement through it.

Because of the prevalence of woods on the map, the fields are an important feature. They are the only places where clear fields of fire can be had. Except for the ravines, most of the area where the fighting occurs is a tapering plateau, so elevation will play an important part only on the flanks.

Fortunately, most of the original battle site is now part of the Shiloh National Battlefield. Most fields have been preserved in their original condition, except for Rhea Field which is only half as large as it was in 1862. The two main entrances to the park are along the Hamburg-Purdy and Hamburg-Savannah roads. There is a small cluster of stores just outside the park in the area where the Confederates assembled for their attack. The visitors' center is located close to Pittsburg Landing, near map coordinates (47, 44). Most of the battlefield is easily accessible except for areas around Cavalry Field and, due to recent erosion, around Dill Branch. The modern-day Shiloh Church is privately owned.

3.0 Notes on the Forces

As usual, the Confederate batteries were of mixed composition, containing in most instances more than one type of cannon. But instead of breaking each battery down into sections, an average weapon type has been assigned to it so that the overall composition comes out more or less historical.

The numbers of the Union units is known fairly accurately - except for Garfield's Brigade, which arrived on April 7th after the fighting.

Precise strengths are unavailable for many of the Confederate regiments, though their overall brigade strengths are known. For these regiments, educated guesses using the available source material had to be made.

The smoothbore musket was the predominant infantry weapon in the Confederate army, except for some units in the Reserve Corps that had been equipped with recently arrived Enfield rifles.

4.0 Confederate Notes

On the morning of April 6th, the Confederates are organized in their historical but flawed three-wave formation. This organization will cause them problems - but the Union forces will be unprepared, as they were historically.

The fundamental decision the Confederate player must make is whether to attack hardest on the right flank and thus try to take Pittsburg Landing, or on the left to try to force the Union army into the river. Attempting to do both the historical Confederate strategy - may well result in accomplishing neither. The Confederate player must also keep in mind that capturing Pittsburg Landing will cut off large numbers of Union reinforcements. A Confederate victory on the first day is essential, since the arrival of fresh Union forces will give the Union the upper hand on the second day.

The April 5th "what-if" scenario is based on the hypothesis that the Confederates could have attacked a day earlier. This allows them to fight Grant's army more or less alone, without having to face the bulk of Buell's army.

5.0 Union Notes

On the morning of April 6th, the Union forces are faced with the problem of being totally unprepared for the Confederate attack. Most are fixed at start, to reflect the initial lack of coordination in their defense. As Federal units become free to move, the Union player must try to form a defensive line somewhere between his outermost camps and Pittsburg Landing. He must defend Pittsburg Landing at all costs, as that is where most of his reinforcements will arrive.

Using the woods and fields, he should eventually be able to form a strong line. At that point it will become a matter of holding on until reinforcements arrive.

On April 7th the Union player, if he has succeeded in holding the Pittsburg Landing area, should be able to take the initiative using the fresh troops of Buell's army and Lew Wallace's division.

The April 5th "what-if" scenario will be much harder for the Union side, since the Federals are no more prepared and the Confederate attack occurs a day earlier. Buell's army will not be available until the end of the 6th, so the Union player will have to make do with just Grant's army. As a small consolation, this scenario assumes that Lew Wallace comes directly to the battlefield and thus arrives several hours earlier than normal.

6.0 Chronological Order

April 6, 1862

- 5:00 AM Skirmish in Fraley Field.
- 6:30 AM Confederate advance.
- 7:00 AM Fighting in Seay Field.
- 7:30 AM Peabody clashes with Wood and Shaver. McDowell forms brigade. Ross forms brigade.
 - McClernand forms division. Hurlbut orders Veatch to front.
- 8:00 AM Fighting in Spain Field. Cleburne attacks in Rhea Field. Hurlbut advances.
- 8:30 AM Prentiss falls back. Anderson and Russell attack in Rhea Field.
- 9:00 AM Wallace advances. Grant arrives.
- Grant arrives.
- 10:00 AM Sherman retreats.
- 11:00 AM Chalmers attacks Stuart.
- 11:30 AM Jackson attacks Stuart.
- 12:00 N Sherman counterattacks. Gibson attacks Hornet's Nest.
- 1:00 PM Buell arrives.
- 2:00 PM Confederate attack in Peach Orchard. Johnston is wounded. Fighting in Jones Field.
- 2:30 PM Johnston dies.
- 3:30 PM Hurlbut retreats.
- 4:00 PM Union line is outflanked.
- 4:30 PM Ruggles line is formed. Pond attacks in Cavalry Field.
- 5:30 PM Surrounded Union troops start surrendering. Nelson's division arrives.
- 6:00 PM Confederates reach Dill Branch.
- 6:30 PM First day fighting ends.
- 7:30 PM Lew Wallace arrives.
- 9:00 PM Crittenden's division arrives.

April 7, 1862

- 5:30 AM Union line advances.
- 8:00 AM Union forces take Wicker's Field.
- 10:00 AM Sherman attacks in Jones Field.
- 11:00 AM Union forces attack in the Peach Orchard.
- 2:30 PM Confederates counterattack at Water Oaks Pond.
- 3:30 PM Confederate retreat begins.

7.0 Weapon Descriptions

Code Description G 24-pounder siege guns

A rarity on the battlefield was the 24-pounder siege gun. It had a bore diameter of 5.82 inches and fired a 24-pound shell with deadly accuracy. Designed for use as a river- and coast-defense gun and for the bombardment of fortifications, it was never intended to be utilized as a field piece. Only one battery was equipped with 24-pounders at Shiloh.

H 12-pounder Howitzer

The 1841 pattern 12-pounder field howitzer was a smoothbore, muzzleloading howitzer with a caliber of 4.62 inches. In 1862 it was replaced by the Napoleon in the Union Army, but was retained in the Confederate Army for want of anything better. It could fire a 12-lb. shell effectively to a range of 1072 yards, and a spherical case to a maximum range of 1050 yards.

M Smoothbore Musket

A good majority of the soldiers in the Western Theater of the war were equipped with the Smoothbore Musket of various types. Even though the smoothbore could be loaded faster, it was accurate only out to about 100 yards. Many still even had flintlocks, which made them similar to those used during the War of Independence.

N 12-pounder Napoleon

The most common field gun in the arsenal of both sides during the Civil War was the 12-pounder Napoleon. From the Napoleonic Wars to around 1850, artillery batteries had a mixture of cannons, usually half field guns and half howitzers, so as to be able to fire explosive shells and solid shot. The Napoleon was a smoothbore, muzzle-loading fieldpiece with a caliber of 4.62 inches, developed under the auspices of Napoleon III, and designed to provide an alternative to the need for mixed types of artillery in batteries. It could fire solid shot against masses of troops 600 to 2,000 yards away, and spherical case shot was used at ranges of 500 to 1,500 yards. A 12-lb. shell could be fired from 300 to 1,500 yards, but was less effective at the lower end of its range. Canister, which emitted a "spray" of golf-ball size projectiles, could be fired effectively vs massed enemy troops at 500 yards or less. The Napoleon's higher rate of fire complemented the rifled field gun's greater accuracy at long range.

R Rifle

Although a great variety of small arms saw use during the war, the principal weapon on both sides was the .58-caliber Springfield Rifle Musket. The North supplemented it arsenal as well with the .577-caliber Enfield 1853-Pattern Rifle Musket. Over 3,500,000 rifles were purchased by the North and

South.

The .58-caliber Springfield rifle musket had a barrel 40 inches long and an automatic priming device called the Maynard Tape Primer System. The latter worked like a child's roll-cap pistol, with a paper tape containing fulminate patches that were fed over the nipple by the action of the hammer. The only problem with the system was that if the paper became damp it often failed to work. The rifle fired a minie ball - a lead bullet that expanded to fit the rifling so the bullet would spin.

T Rifled Cannon

The majority of rifled cannons in Civil War artillery batteries comprised the 10-pounder Parrott Gun and the 3-inch Ordnance Rifle. The main function of these guns was to fire at the enemy beyond the shorter range of the howitzers.

The 10-pounder Parrott was a muzzle-loading, rifled gun with a bore of 2.9 inches. It resembled the Napoleon in appearance, save for its black barrel with tell-tail heavy iron reinforcing bands around the breech. Despite its reinforced breech, the Parrott developed a reputation for bursting just ahead of the breech-bands after lengthy use. Its 2,000-yard range made it useful for counter-battery fire. Although the Parrott was rifled, it could still fire canister at charging infantry.

The 3-inch Ordnance Rifle was made of heavy wrought iron, and had a better reputation for dependability than the Parrott. A disadvantage of the Ordnance Rifle was its weight, which made it more difficult to move in soft ground or bad weather.

Z Gunboat cannon

The Timberclads **Lexington** and **Tyler** carried two types of cannon: the 32-pounder and the 8-inch Dahlgren, both smoothbores. The 32-pounder was a standard naval gun, with a bore diameter of 6.41 inches and a wide range of ammunition to deal with fortifications and other ships. The 8-inch Dahlgren was a very powerful gun able to hurl shells weighing 50 pounds with devastating effect. These gunboat cannon proved deadly to anyone caught in the open.

8.0 Arrival Schedule

Each arrival is assigned an entry hex, and an arrival date and time. In addition, each is assigned a protected distance value which is shown in the column entitled **Prot** in the schedules; see 8.1 Arrival. If this value is other than zero, it indicates that the arrival is "protected". In a protected arrival, the appearance of friendly units in the arrival hex automatically causes all enemy units in that hex to be eliminated and all enemy units within the given number of hexes (i.e., the protected distance) of that hex to become routed. The purpose of this rule is to prevent "crowding" of the arrival hex by enemy units trying to take advantage of the limited movement capabilities near the map edge. A protected distance value of zero means that it is possible for enemy units to prevent the arrival of friendly units by occupying their arrival hex.

The name of the first unit in each arrival group is given in the 8.1 schedule. An arrival group comprising more than one unit is indicated by three dots (...).

8.1 Arrivals

Side Hex Prot Name Date 07:00 04/06/1862Union (46,45) 0 08:40 04/06/1862Union (46.45) 0 09:00 04/06/1862Union (46,45) 0 09:40 04/06/1862Union (69,47) 0 11:20 04/06/1862Union (46,45) 0 12:00 04/06/1862Union (46,45) 0 14:00 04/06/1862Union (46,45) 0 15:00 04/06/1862Union(68,26) 0 15:00 04/06/1862Union(68,26) 0 15:20 04/06/1862Union (68,26) 0 15:40 04/06/1862Union (68.26) 0 16:00 04/06/1862Union (68,26) 0 16:20 04/06/1862Union (46.45) 0 16:20 04/06/1862Union (46,45) 0 16:40 04/06/1862Union (46,45) 17:00 04/06/1862Union (46,45) 0 18:20 04/06/1862Union (46,45) 0 19:20 04/06/1862Union (46,45) 0 20:00 04/06/1862Union (46,45) 0 20:20 04/06/1862Union (46,45) 0 21:20 04/06/1862Union (46,45) 0 22:20 04/06/1862Union (46,45) 0 00:20 04/07/1862Union (46,45) 0 01:20 04/07/1862Union (46,45) 0 01:20 04/07/1862Union (46,45) 0 02:40 04/07/1862Union (46.45) 0 03:20 04/07/1862Union (46,45) 0 04:40 04/07/1862Union (46,45) 0 05:00 04/07/1862Union (46,45) 0 05:20 04/07/1862Union (46,45) 06:00 04/07/1862Union (46,45) 0 06:20 04/07/1862Union (46.45) 09:40 04/07/1862Rebel (0,0) 0 13:00 04/07/1862Union (46,45) 13:00 04/07/1862Union (46.45)

13:40 04/07/1862Union (46,45)

- 23rd Missouri
- Mai. Gen. U. S. Grant
- 15th Iowa
- Lexington Gun Boat
- 19th Ohio, ...
- Maj. Gen. Don Carlos Buell
- 14th Wisconsin
- Maj. Gen. Lew Wallace
- Col. Morgan L. Smith, ...
- Col. John M. Thayer, ...
- Col. Charles Whittlesev, ...
- Thompson, 9th Indiana Lt, ...
- Brig. Gen. William Nelson
- Col. Jacob Ammen, ...
- 0 6th Ohio, ...
- Col. Sanders D. Bruce, ...
- Col. William B. Hazen, ...
- 6th Kentucky, ...
- Brig. Gen. T. Crittenden
- Col. William Sooy Smith, ...
- 26th Kentucky, ...
- Brig. Gen. Jeremiah Boyle, ...
- Bartlett (G) 1st Ohio Lt, ...
- Brig. Gen. A. McCook
- Brig. Gen. Lovell Rousseau, ...
- 1st Ohio. ...
- 1st Btln, 16th US, ...
- Col. Edward N. Kirk, ...
- 30th Indiana, ...
- 0 Col. William H. Gibson, ...
- 15th Ohio, ...
- 0 Terrill (H) 5th US
- 47th Tennessee
 - 0 Brig. Gen. Thomas Wood
 - 0 Col. George D. Wagner, ...
 - 0 57th Indiana, ...

9.0 References

Shiloh - in Hell before Night

James Lee McDonough University of Tennessee Press 1977

Shiloh: Bloody April

Wiley Sword Morningside Press 1983

The Battle of Shiloh and Organizations Engaged

D. W. Reed 1913

Unit Organizations of the American Civil War

Richard Zimmermann Rafm Co. Inc. 1982

The Illustrated Civil War Atlas

Time-Life Books 1991

Counce, Tenn.

1:24000 Topographic Map United States Geological Survey

Pittsburg Landing, Tenn.

1:24000 Topographic Map United States Geological Survey

Map of Shiloh Battlefield

D. W. Reed 1900

The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies

Government Printing Office 1889

The Official Military Atlas of the Civil War

The Fairfax Press, New York 1983

Battlefield Maps of Shiloh

United States Dept. of the Interior 1936

The Civil War - The Road to Shiloh

Early Battles in the West Time-Life Books 1983

Warships of the Civil War Navies

Paul H. Silverstone Naval Institute Press, Annapolis, Maryland 1989

The Shiloh Campaign: March - April, 1862

The Great Military Campaigns of History series David G. Martin Wieser & Wieser, Inc 1987

Artillery Weapons of the Civil War

James C. Haxlett, Edwin Olmstead & M. Hume Parks University of Delaware Press 1983

Echoes of Glory

Arms and Equipment of the Union Time-Life Books 1991

Echoes of Glory

Arms and Equipment of the Confederacy Time-Life Books 1991

Historical Times Illustrated Encyclopedia of the Civil War

Harper & Row 1983

10.0 Parameter Data

Miscellaneous Data

First Move: Confederate

Time and Visibility Data
Time:Dawn: 5:00Day: 6:00Dusk: 18:00Night: 19:00Visibility:Day: UnlimitedDawn & Dusk: 4 HexesNight: 1 Hex
Minutes Per Turn:
Dawn, Day, Dusk: 20 Night: 60

Movement Allowance Data

Infantry: 12 Supply Wagon: 24 Artillery: 12 Dismounted Cavalry: 12 Cavalry: 24 Unlimbered Artillery: 0

Stacking Data

Maximum infantry/cavalry that can be in a hex is 1000. Maximum cannon that can be in a hex is 20. Maximum regiments, batteries and/or supply wagons that can be in a hex is 8. Exception: Only one supply wagon is allowed per hex.

Fatigue Data

Maximum Fatigue: 9 Day Fatigue Recovery: 10% Night Fatigue Recovery: 40% Fatigue from Fire: 1 Fatigue from Loss: 1 Fatigue from Melee: 1-3

Command Radius

Brigade Radius: Union: 2 Confederate: 3 Division Radius: Union: 4 Confederate: 6

Breastworks

Breastwork Construction: 12% Breastwork Movement Penalty: +1 Breastwork Defensive Value: -1

Movement Costs

Hex	Infantry	Infantry	Cavalry	Artillery	Supply	Gunboat
	(Line)	(Column)	Mounted	Limbered	Wagon	
Blocked	Р	Р	Р	Р	Р	Р

Clear Water Forest Orchard Marsh	2 P 4 3 4	2 P 4 3 4	2 P 6 4 8	2 P 8 6 P	3 P 8 6 P	P 1 P P
Hexside	Infantry	Infantry	Cavalry	Artillery	Supply	
	(Line)	(Column)	Mounted	Limbered	Wagon	
Trail	(Line) *	(Column) 2	Mounted 2	Limbered 2	Wagon 2	
Trail Road	· · ·	(Column) 2 1	Mounted 2 1	Limbered 2 1	Wagon 2 2	
	*	(Column) 2 1 1	Mounted 2 1 2	Limbered 2 1 2	Wagon 2 2 2	
Road	*	(Column) 2 1 1 P	Mounted 2 1 2 P	Limbered 2 1 2 P	Wagon 2 2 2 P	
Road Stream	* * 1	2 1 1	2 1 2	Limbered 2 1 2 P 2	2 2 2	

Notes

= Movement Point Cost to enter hex or cross hexside. P = Prohibited. Unit cannot enter hex or cross hexside. +# = Additional Movement Point Cost to cross hexside. Dismounted Cavalry move as Infantry in Line Formation. Dismounted Leaders move as Infantry in Column Formation. Mounted Leaders move as Mounted Cavalry.

Formation/Facing Change Costs

Unit	Change	Change	About Face
	Formation	Facing	
Infantry:	4	2	2
Cavalry:	6	3	2
Artillery:	6	2	2

Rearward Movement Penalty: +1

Ammunition Loss Values

Each time an Infantry or Cavalry unit uses ranged fire, there is a 4% chance its ammo status will change. The first supply status loss is called "Low Ammo" and the second supply status loss is called "Out of Ammo."

Each time an Artillery unit is captured, the former owner's Artillery Ammo Level is reduced by three.

Each time a Gunboat fires there is a 5% chance its ammo supply status will change.

Weapon Effectiveness Table Weapon Class								
Range	G	Н	М	N	R	Т	Z	
1	15	12	6	12	4	9	16	

T 00 ..

2	9	6	1	6	2	6	10
3	3	2	*	3	1	3	5
4	2	1	*	2	1	2	2
5	2	1	*	2	1	2	2
6-8	2	1	*	2	*	2	2
9	1	1	*	1	*	2	2
10-11	1	*	*	1	*	1	2
12	*	*	*	1	*	1	2
13-18	*	*	*	*	*	1	1
19-20	*	*	*	*	*	*	1

is the multiplier of weapon type firing.* means the weapon has no effectiveness at that range.

Weapon Types:

- 24-pounder siege guns 12-pounder Howitzer G:
- H:
- Smoothbore Musket M:
- 12-pounder Napoleon N:
- R: Rifle
- Rifled Cannon T:
- Z: Gunboat cannon

Fire Results Table

Factor/Roll	1	2	3	4	5	6	7	8	9	10	11	12
1-2	0	0	0	0	0	0	0	0	F	F	F	1
3	0	0	0	0	0	0	0	F	F	F	F	1
4	0	0	0	0	0	0	F	F	F	F	1	1
5	0	0	0	0	0	F	F	F	F	F	1	1
6	0	0	0	0	F	F	F	F	F	1	1	1
7	0	0	0	F	F	F	F	F	F	1	1	1
8	0	0	F	F	F	F	F	F	1	1	1	1
9	0	F	F	F	F	F	F	F	1	1	1	1
10-12	F	F	F	F	F	F	F	1	1	1	1	1
13-15	F	F	F	F	F	F	1	1	1	1	1	2
16-18	F	F	F	F	F	1	1	1	1	1	2	2
19-21	F	F	F	F	1	1	1	1	1	2	2	3
22-24	F	F	F	1	1	1	1	1	2	2	3	3
25-27	F	F	1	1	1	1	1	2	2	3	3	4
28-30	F	1	1	1	1	1	2	2	3	3	4	4
31-36	1	1	1	1	1	2	2	3	3	4	4	5
37-42	1	1	1	1	2	2	3	3	4	4	5	5
43-48	1	1	1	2	2	3	3	4	4	5	5	6
49-54	1	1	2	2	3	3	4	4	5	5	6	6
55-60	1	2	2	3	3	4	4	5	5	6	6	7
61-66	2	2	3	3	4	4	5	5	6	6	7	7

67-72	2	3	3	4	4	5	5	6	6	7	7	8
73-78	3	3	4	4	5	5	6	6	7	7	8	8
79-84	3	4	4	5	5	6	6	7	7	8	8	9
85-90	4	4	5	5	6	6	7	7	8	8	9	9
91-96	4	5	5	6	6	7	7	8	8	9	9	10
97-102	5	5	6	6	7	7	8	8	9	9	10	10

Numeric result indicates strength loss F indicates increase in fatigue

Fire Results Modifiers

Enfiladed modifier: 2 Mounted cavalry modifier:	4
---	---

Hex Side Modifiers:

Breastworks: -1	Trail: 0	Road: 0
UpElevation: -1	Stream: 0	Creek: 0

Terrain Modifiers:

Clear: 0	Water: 0	Blocked: 0
Forest: -1	Orchard: 0	Marsh: 0

Melee Table

Diff	2	3	4	5	6	7	8	9	10	11	12
-3	4/-9	4/-8	3/-7	2/-6	1/-5	1/-5	1/-5	2/-6	3/-7	4/-8	4/-9
-2	-4/8	3/-7	2/-6	1/-5	1/-4	1/-4	1/-4	1/-5	2/-6	3/-7	4/-8
-1	-3/7	-2/6	1/-5	1/-4	1/-3	1/-3	1/-3	1/-4	1/-5	2/-6	3/-7
0	2/-6	1/-5	-1/4	-1/3	-1/2	1/-2	1/-2	1/-3	1/-4	1/-5	2/-6
1	1/-5	1/-4	-1/3	-1/2	-1/1	-1/1	1/-1	1/-2	1/-3	1/-4	1/-5
2	-6/1	-5/1	-4/1	-3/1	2/-1	-2/1	2/-1	2/-1	-4/1	-5/1	-6/1
3	-7/2	-6/1	-5/1	-4/1	-3/1	-3/1	2/-1	3/-1	-5/1	-6/1	3/-2
4	-8/3	-7/2	-6/1	-5/1	-4/1	-4/1	-4/1	-5/1	2/-1	3/-2	4/-3
5	-9/4	-8/3	-7/2	-6/1	-5/1	-5/1	-5/1	-6/1	-7/2	4/-3	5/-4
6	-10/4	-9/3	-8/3	-7/2	-6/1	-6/1	-6/1	-7/2	-8/3	-9/3	-10/4

Absolute value are in terms of defender-losses/attacker-losses. Negative result indicates losing side.

Leader Casualty Values

Fire Wound Value: 2% Fire Kill Value : 3% Melee Wound Value : 3% Melee Kill Value : 4% Capture Value : 5%

Elevation Information Terrain Elevations (feet):

Clear: 0	Water: 0	Blocked: 30
Forest: 30	Orchard: 15	Marsh: 0
	Breastwork: 0	

11.0 Order of Battle

Army of the Tennessee

Maj. Gen. U. S. Grant

First Division (McClernand)

Maj. Gen. John A. McClernand

First Brigade (Hare) Col. Abraham M. Hare

8th Illinois 18th Illinois 11th Iowa 13th Iowa

Second Brigade (Marsh) Col. C. Carroll Marsh

11th Illinois 20th Illinois 45th Illinois 48th Illinois

Third Brigade (Raith) Col. Julius Raith

17th Illinois 29th Illinois 43rd Illinois 49th Illinois

Unattached

Dresser's Battery (D), 2nd Illinois Light Artillery McAllister's Battery (D), 1st Illinois Light Artillery Schwartz's Battery (E), 2nd Illinois Light Artillery Burrow's Battery, 14th Ohio Light Artillery 1st Battalion, 4th Illinois Cavalry Carmichael's Company, Illinois Cavalry Stewart's Company, Illinois Cavalry

Second Division (W.H.L. Wallace) Brig. Gen. William H. L. Wallace

First Brigade (Tuttle)

Col. James M. Tuttle

2nd Iowa 7th Iowa 12th Iowa 14th Iowa

Second Brigade (McArthur) Brig. Gen. John McArthur

9th Illinois 12th Illinois 13th Missouri 14th Missouri 81st Ohio

Third Brigade (Sweeny) Col. Thomas W. Sweeny

8th Iowa 7th Illinois 50th Illinois 52nd Illinois 57th Illinois 58th Illinois

Unattached

Willard's Battery (A), 1st Illinois Light Artillery Richardson's Battery (D), 1st Missouri Light Artillery Welker's Battery (H), 1st Missouri Light Artillery Stone's Battery (K), 1st Missouri Light Artillery Company A and B, 2nd Illinois Cavalry Company C, 2nd and Company I, 4th United States Cavalry

> Third Division (Lew Wallace) Maj. Gen. Lew Wallace

> > First Brigade (Smith)

Col. Morgan L. Smith

11th Indiana 24th Indiana 8th Missouri

Second Brigade (Thayer) Col. John M. Thayer

23rd Indiana 1st Nebraska 58th Ohio 68th Ohio

Third Brigade (Whittlesey) Col. Charles Whittlesey

20th Ohio 56th Ohio 76th Ohio 78th Ohio

Unattached

Thompson's Battery, 9th Indiana Light Artillery Buell's Battery (I), 1st Missouri Light Artillery 3rd Battalion, 11th Illinois Cavalry 3rd Battalion, 5th Ohio Cavalry

Fourth Division (Hurlbut) Brig. Gen. Stephen A. Hurlbut

First Brigade (Williams) Col. Nelson G. Williams

28th Illinois 32nd Illinois 41st Illinois 3rd Iowa

Second Brigade (Veatch) Col. James C. Veatch

14th Illinois 15th Illinois 46th Illinois 25th Indiana

Third Brigade (Lauman) Brig. Gen. Jacob G. Lauman 31st Indiana 44th Indiana 17th Kentucky 25th Kentucky

Unattached

Ross's Battery, 2nd Michigan Light Artillery Mann's Battery (C), 1st Missouri Light Artillery Myers's Battery, 13th Ohio Light Artillery 1st and 2nd Battalion, 5th Ohio Cavalry

> Fifth Division (Sherman) Brig. Gen. William T. Sherman

First Brigade (McDowell) Col. John A. McDowell

6th Iowa 40th Illinois 46th Ohio

Second Brigade (Stuart) Col. David Stuart

55th Illinois 54th Ohio 71st Ohio

Third Brigade (Hildebrand) Col. Jesse Hildebrand

53rd Ohio 57th Ohio 77th Ohio

Fourth Brigade (Buckland) Col. Ralph P. Buckland 48th Ohio 70th Ohio

72nd Ohio

Unattached

Taylor's Battery (B), 1st Illinois Light Artillery Waterhouse's Battery (E), 1st Illinois Light Artillery Morton Battery, 6th Indiana Light Artillery 2nd and 3rd Battalion, 4th Illinois Cavalry Thielemann's Companies, Illinois Cavalry

Sixth Division (Prentiss) Brig. Gen. Benjamin M. Prentiss

First Brigade (Peabody) Col. Everett Peabody

12th Michigan 21st Missouri 25th Missouri 16th Wisconsin

Second Brigade (Miller) Col. Madison Miller

61st Illinois 18th Missouri 18th Wisconsin

Unattached 16th Iowa 15th Iowa 23rd Missouri Hickenlooper's Battery, 5th Ohio Light Artillery Munch's Battery, 1st Minnesota Light Artillery 1st and 2nd Battalion, 11th Illinois Cavalry

Unattached to Army 15th Michigan 14th Wisconsin Battery H, 1st Illinois Light Artillery Battery I, 1st Illinois Light Artillery Battery B, 2nd Illinois Artillery Battery F, 2nd Illinois Light Artillery 8th Battery, Ohio Light Artillery

Army of the Ohio Maj. Gen. Don Carlos Buell

Second Division (McCook) Brig. Gen. Alexander McD. McCook

Fourth Brigade (Rousseau) Brig. Gen. Lovell H. Rousseau

6th Indiana 7th Kentucky 1st Ohio 1st Battalion, 15th U. S. 1st Battalion, 16th U. S. 1st Battalion, 19th U. S.

Fifth Brigade (Kirk) Col. Edward N. Kirk

34th Illinois 29th Indiana 30th Indiana 77th Pennsylvania

Sixth Brigade (Gibson) Col. William H. Gibson

32nd Indiana 38th Indiana 15th Ohio 49th Ohio

Unattached Terrill's Battery (H), 5th United States Artillery

Fourth Division (Nelson) Brig. Gen. William Nelson

Tenth Brigade (Ammen)

Col. Jacob Ammen 36th Indiana

6th Ohio 24th Ohio

Nineteenth Brigade (Hazen) Col. William B. Hazen

9th Indiana 6th Kentucky 41st Ohio

Twenty-second Brigade (Bruce) Col. Sanders D. Bruce

1st Kentucky 2nd Kentucky 20th Kentucky

Fifth Division (Crittenden) Brig. Gen. Thomas L. Crittenden

Eleventh Brigade (Boyle) Brig. Gen. Jeremiah T. Boyle

9th Kentucky 13th Kentucky 19th Ohio 59th Ohio

Fourteenth Brigade (Smith) Col. William Sooy Smith

11th Kentucky 26th Kentucky 13th Ohio

Unattached Bartlett's Battery (G), 1st Ohio Light Artillery Mendenhall's Battery (H and M), 4th United States Artillery

> Sixth Divison (Wood) Brig. Gen. Thomas J. Wood

Twentieth Brigade (Garfield) Brig. Gen. James A. Garfield 13th Michigan 64th Ohio 65th Ohio

Twenty-first Brigade (Wagner) Col. George D. Wagner

15th Indiana 50th Indiana 57th Indiana 24th Kentucky

Army of the Mississippi

Gen. Albert Sidney Johnston Gen. P. G. T. Beauregard

First Army Corps Maj. Gen. Leonidas Polk

First Division (Clark) Brig. Gen. Charles Clark

First Brigade (Russell) Col. Robert M. Russell

11th Louisiana 12th Tennessee 13th Tennessee 22nd Tennessee Bankhead's Tennessee Battery

Second Brigade (Stewart) Brig. Gen. Alexander P. Stewart 13th Arkansas 4th Tennessee

5th Tennessee

33rd Tennessee Stanford's Mississippi Battery

Second Division (Cheatham) Maj. Gen. Benjamin F. Cheatham

First Brigade (Johnson) Brig. Gen. Bushrod R. Johnson

Blythe's Mississippi 2nd Tennessee 15th Tennessee 154th Tennessee (senior) Polk's Tennessee Battery

Second Brigade (Stephens) Col. William H. Stephens

7th Kentucky 1st Tennessee (Battalion) 6th Tennessee 9th Tennessee Smith's Mississippi Battery

Unattached Lindsay's 1st Mississippi Cavalry Brewer's Mississippi and Alabama Battalion 47th Tennessee

Second Army Corps Maj. Gen. Braxton Bragg

Company Alabama Cavalry First Division (Ruggles) Brig. Gen. Daniel Ruggles

First Brigade (Gibson) Col. Randall L. Gibson 1st Arkansas 4th Louisiana 13th Louisiana 19th Louisiana Vaiden's (Bain's) Mississippi Battery

Second Brigade (Anderson) Brig. Gen. Patton Anderson

1st Florida Battalion 17th Louisiana 20th Louisiana Confederate Guards Response Battalion 9th Texas Hodgson's Washington (Louisiana) Artillery

Third Brigade (Pond) Col. Preston Pond

16th Louisiana 18th Louisiana Cresent (Louisiana) Regiment Orleans Guard (Louisiana) Battalion 38th Tennessee Ketchum's Alabama Battery

> Unattached Jenkin's Alabama Battalion

Second Division (Withers) Brig. Gen. Jones M. Withers

First Brigade (Gladden) Brig. Gen. Adley H. Gladden

21st Alabama 22nd Alabama 25th Alabama 26th Alabama 1st Louisiana Robertson's Alabama Battery

Second Brigade (Chalmers) Brig. Gen. James R. Chalmers 5th Mississippi

7th Mississippi 9th Mississippi 10th Mississippi 52nd Tennessee Gage's Alabama Battery

Third Brigade (Jackson) Brig. Gen. John K. Jackson

17th Alabama 18th Alabama 19th Alabama 2nd Texas Girardey's Georgia Battery

Unattached Clanton's 1st Alabama Cavalry

Third Army Corps Maj. Gen. William J. Hardee

First Brigade (Shaver) Brig. Gen. Thomas C. HindmanKCol. R. G. Shaver

2nd Arkansas 6th Arkansas 7th Arkansas 3rd Confederate Swett's (Warren) Mississippi Battery Miller's (Pillow) Tennessee Battery

Second Brigade (Cleburne) Brig. Gen. Patrick R. Cleburne

15th Arkansas 6th Mississippi 2nd Tennessee 5th (35th) Tennessee 23rd Tennessee 24th Tennessee Unattached Trigg's (Austin) Arkansas Battery Calvert's (Helena) Arkansas Battery Hubbard's Arkansas Battery

Third Brigade (Wood) Brig. Gen. Sterling A. M. Wood

16th Alabama 8th Arkansas 9th (14th) Arkansas 3rd Mississippi Battalion 27th Tennessee 44th Tennessee 55th Tennessee Harper's (Jefferson Mississippi) Battery Avery's Georgia Dragoons

Reserve Corps

Brig. Gen. John C. Breckinridge

First Brigade (Trabue) Col. Robert P. Trabue

Clifton's 4th Alabama Battalion 31st Alabama 3rd Kentucky 4th Kentucky 5th Kentucky 6th Kentucky Crew's Tennessee Battalion Lyon's (Cobb's) Kentucky Battery Byrne's Mississippi Battery Morgan's Squadron, Kentucky Cavalry

Second Brigade (Bowen) Brig. Gen. John S. Bowen

9th Arkansas 10th Arkansas 2nd Confederate 1st Missouri Hudson's (Pettus) Mississippi Battery Watson's Louisiana Battery Thompson's Company, Kentucky Cavalry

Third Brigade (Statham) Col. Winfield S. Statham

15th Mississippi 22nd Mississippi 19th Tennessee 20th Tennessee 28th Tennessee 45th Tennessee Rutledge's Tennessee Battery

Unattached

Forrest's Regiment Tennessee Cavalry Wharton's Texas Regiment Cavalry Wirt Adam's Mississippi Regiment Cavalry McClung's Tennessee Battery Robert's Arkansas Battery