

CIVIL WAR LOGISTICS: EFFECTS OF LOGISTICS
ON THE PEA RIDGE CAMPAIGN

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Military History

by

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ABSTRACT

CIVIL WAR LOGISTICS: EFFECTS OF LOGISTICS ON THE PEA RIDGE CAMPAIGN, by Major Jarrod C. Bailey, 100 pages.

This study examines the logistical system that supported the Federal Army of the Southwest in the American Civil War during the Pea Ridge Campaign of January-March, 1862, under the command of Brigadier General Samuel R. Curtis. The Pea Ridge Campaign was carried out along the U.S. frontier of southwestern Missouri and northwestern Arkansas, a sparsely populated region with little economic infrastructure. The forces operating in the region did not have the benefit of railroads or navigable bodies of water.

This study concludes that the commander and his quartermasters overcame enormous problems posed by the environment and situation to win the most significant victory in the Trans-Mississippi Theater in the entire Civil War. Creating a logistical system that allowed the Army of the Southwest to extend its operational reach, improve freedom of action, and extend the endurance of the army.

Logistics is a rarely explored, but very important, field of study. This study attempts to put the field of logistics in its proper place within the study of military history. Logistics is tied with strategy and tactics; without logistics, victory is not possible.

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TABLE OF CONTENTS

	Page
MASTER OF MILITARY ART AND SCIENCE THESIS APPROVAL PAGE	iii
ABSTRACT.....	iv
ACKNOWLEDGMENTS	v
TABLE OF CONTENTS.....	vi
ILLUSTRATIONS	vii
TABLES	viii
CHAPTER 1 INTRODUCTION	1
CHAPTER 2 CIVIL WAR LOGISTICS OVERVIEW.....	6
CHAPTER 3 SUSTAINMENT PREPARATION OF THE OPERATIONAL ENVIRONMENT	30
Planning Considerations	38
CHAPTER 4 LOGISTIC OPERATIONS OF THE PEA RIDGE CAMPAIGN	43
Federal Leaders	44
Confederate Leaders	48
Pea Ridge Campaign Phase 1	50
Pea Ridge Campaign Phase 2	64
Phase 3: The Battle of Pea Ridge.....	72
CHAPTER 5 CONCLUSION.....	81
BIBLIOGRAPHY	89

ILLUSTRATIONS

	Page
Figure 1. Agriculture Map of the Ozarks	32
Figure 2. Geographic Regions of the Ozarks	34
Figure 3. Southeast Missouri and Northwest Arkansas: Pea Ridge Campaign Map	63
Figure 4. The Battle of Pea Ridge, 7-8 March	77

TABLES

	Page
Table 1. Breakdown of Authorized Staff Positions	11
Table 2. Breakdown of Authorized Staff Wagons per Unit.....	55
Table 3. Organization of the Army of the Southwest and Commanders	64

CHAPTER 1

INTRODUCTION

Military historians have long been fascinated by war. From grand campaigns to single battles, historians have dissected every aspect of why an army committed a certain blunder or how a smaller force outwitted a larger foe. Maps show how regiments or legions maneuvered around terrain to surprise the enemy or how a cavalry raid turned a battle into a decisive victory when defeat was almost certain. A great deal of attention is paid to how many pieces of artillery a general had, who led the charge, how many men each side had, what strategy was in place, and many more details of war. One aspect of war that is rarely studied is that of logistics. It is almost as if the person studying a certain battle just assumes food and ammunition is already on the battlefield and an army needs only to show up, pick up their supplies, and commence fighting. That situation is never the case. Soldiers must have food and that food has to be found or brought from somewhere; the same with ammunition or other materiel. It has to come from somewhere, and how does it get to where it is going? Only when the lack of food, ammunition, or some other supply costs an army victory does logistics ever get the attention it deserves. This thesis will attempt to study a campaign where logistics is a major contributing factor to the success of the mission.

The American Civil War began when the Confederates fired on Fort Sumter on April 12, 1861. Over the next four years, many great campaigns and battles were fought from First Bull Run all the way through to Appomattox. Men from both sides fought and died, heroes were made and legends were born. In the early part of 1862, across the great Mississippi River, in Missouri and Arkansas, a campaign began. This campaign required

considerably smaller amounts of men compared to some of the greater battles that later took place. Yet, the men that took part in that campaign later wrote about how the hardships they endured and what they accomplished were far greater than any other battle they fought. The reason they were able to overcome such hardships was the considerations they made in keeping their force fed, armed, and supplied. This campaign is called the Pea Ridge Campaign.

The Pea Ridge Campaign started in January 1862 and lasted until the Battle of Pea Ridge in March 1862. The battle was fought from 6-8 March 1862. This battle was a decisive victory for Union control of Missouri and northern Arkansas within the Trans-Mississippi Theater. After this victory, the Confederate Army of the West moved east of the Mississippi River, giving control of Missouri to the Federals. With the Federal victory at Pea Ridge, and the Confederate abandonment of Arkansas, the Trans-Mississippi became a military backwater, not nearly as important as the campaigns moving downstream to control the Mississippi River Valley.

Missouri was a battleground state at the outset of the Civil War. The Confederacy wanted to add its star to the Rebel flag and the Federal government needed to keep the state in the Union. It was also important for both sides to gain the initiative in the Trans-Mississippi Theater of operations, especially for the Federals, as any campaign to control the Mississippi River Valley could not go downstream without clearing the Confederates out of Missouri. As long as Rebel forces threatened St. Louis, Missouri, the center of gravity for the Union in the Upper Mississippi River Valley at this stage of the war, the Federals could not move forces out of the state for operations further south. This theater proved to be an operational challenge for both sides. The terrain of the Ozark Plateau—

which dominated most of the Missouri River Valley in the heart of that state—and a lack of economic infrastructure proved to be very difficult for offensive operations. In addition, the Union high command insisted on conducting the campaign during the winter months. Military campaigns are difficult enough. However, campaigns during winter make even some simple problems complex. The Union Army had to overcome all the obstacles during this campaign—and do it without the benefit of an industrial economic infrastructure. The railhead and supply depot for the Federal Army of the Southwest was in Rolla, Missouri. The Pea Ridge campaign began when the Unionists left Rolla and headed southwest, thus the Federals could not take advantage of steamboats or railroads to supply its forces in the operational area.

Current U.S. Army logistics is a complex network that connects equipment, supplies, and movement of Soldiers using the latest technology. The U.S. uses trucks, rail, massive ships, airplanes, computers that allow for instant requests and visibility of shortages. The speed at which logistics is currently conducted is astounding. During the Civil War, both armies relied on rail, steamboat, and wagons. These were the systems used to conduct logistical operations. Although using the latest technology of the time logistics had a very different look during this period than today.

A key factor to the Union victory in the Civil War was the effective use of the logistical system the Federals implemented. The use of rail and steamboats allowed the Federals to move equipment, supplies, and Soldiers on such a level the Confederates never came close to equaling. What is unique with the Campaign for Pea Ridge was that rail was extremely limited. The rail line stopped at Rolla, just over 200 miles from the battlefield at Pea Ridge, just outside of Bentonville, Arkansas. Steamboats were of no use

at all because the waterways that riddled the regions were far too small and shallow to permit steamboat navigation. Add to these limitations that Pea Ridge was a winter campaign making a complex logistical problem worse. Yet, the Federals won this campaign primarily due to their superior logistical operations. The role of logistics during the Pea Ridge Campaign was paramount to Federal victory.

The primary research question for this thesis is: How did logistical operations affect the operational reach, freedom of action, and endurance for the Army of the Southwest during the Pea Ridge Campaign? This study will attempt to answer many other questions as well. What did logistics look like during the Civil War? How did the terrain affect logistics operations? Did logistical operations drive the tactical situation? How did the tactical situation affect logistical operations? How were logistical operations conducted leading up to the Battle of Pea Ridge? Finally, how were logistical operations conducted during the battle?

The next chapter of this paper will be an overview of how Civil War logistics operated from the strategic level down to tactical level. This chapter will discuss the situation the Federals found themselves in at the outbreak of the war and how they overcame various problems to create their procurement process to supply the army. In addition, how the Federals moved supplies from the grand depots to the armies in the field. Chapter 3 will lay out the operational environment the Army of the Southwest conducted their campaign. This chapter will look at the geography, supplies and services, facilities, transportation, maintenance, and general skills that effected the logistical operations for Brigadier Samuel R. Curtis. Planning considerations for the amount of food, forage, and ammunition will also be discussed as well as the concept of support

Curtis employed to support his army. Chapter 4 will discuss the Pea Ridge Campaign and the logistical operations used to support the Army of the Southwest. This campaign is broken down into three phases: Phase 1 starts with the Federal Army in Rolla, Missouri preparing for the pending campaign. Phase 2 begins when the Federal force advanced to Lebanon, Missouri, reorganize, and the pursuit of Major General Sterling Price's Missouri State Guard. Phase 3 is the culminating battle of Pea Ridge. Finally, chapter 5 will analyze Curtis' support operations by using the eight principles of logistics set forth in current U.S. Army doctrine. This final chapter will also answer the primary research question. This paper will now set forth to study a unique Civil War campaign in which the major contributing factor for victory was logistics.

CHAPTER 2

CIVIL WAR LOGISTICS OVERVIEW

The American Civil War was fought from 1861-1865. The amount of men, supplies, distances involved, and level of support required was unprecedented. The numerous expansions of the Union Army resulted in over one million men in blue by the end of the war. United States Army expenditures skyrocketed and passed the \$1 billion mark for the first time in 1864. Although foot soldiers limited the tactical mobility of an army, advances in transportation with steam-powered locomotives and steamboats extended the strategic mobility of the nation. This situation created many logistical problems at all levels. How armies conduct logistics hugely impacts war from the tactical to the strategic level.¹ What follows is a general overview of how logistics operated during the American Civil War.

By 1860, there were 30,000 miles of rail in the United States. Approximately 21,000 miles of that rail was located in the Northern states and around 9,000 miles in the future Confederate states. River vessels from the Free states were all over the inland waterways and on the seas, and Northern shipping almost equaled that of the British Empire. Manufacturing, mechanical improvements, finance, and food production were all to the Federal government's advantage. The North also had a population of roughly 22,000,000 as opposed to the South's approximately 9,000,000—which included 3,500,000 slaves. With the control of the seas, a greater railway network, better inland waterways, and vessels, the Federals could move troops and supplies better than their

¹ Charles R. Shrader, "Field Logistics in the Civil War," in *The U.S. Army War College Guide to the Battle of Antietam: The Maryland Campaign of 1862*, ed. Jay Luvaas and Harold W. Nelson (Carlisle, PA: South Mountain Press, 1987), 255.

Confederate counterparts.² In major operations, an army requires a developed base and depots to draw supplies. Commercial centers of the country must connect with field armies through roads, railroads, and waterways. As with other nations going into a war, the United States was not as well prepared as it could have been. However, given all of the advantages it possessed it was in a far superior situation than that of the Confederacy not only in industry and transportation but also in organization.³

The War Department had three bureaus in charge of all supply and services for the Army: the Quartermaster Department, Ordnance Department, and the Subsistence Department. The procurement and distribution of all supplies was their primary function.⁴ During the war, these departments had the task of supplying an army that expanded its strength an amazing sixty-two times. In 1861, the U.S. Regular Army began with only 16,000 men and by the end of the war in 1865, the army, including volunteers, reached over 1,000,000 men. Along with the expanding the army, War Department expenditures increased from \$22,981,000 in 1861 to \$1,031,323,000 in 1865.⁵ These supply bureaus were a big reason this much money was spent.

The first of the big three Civil War logistics departments is the Quartermaster Department. U.S. Army regulations of 1861 state, “This department provides the quarters

² James A. Huston, *The Sinews of War: Army Logistics, 1775-1953* (Washington, DC: Center of Military History, U.S. Army, 1997), 159.

³ Ibid., 160.

⁴ Clayton R. Newell and Charles R. Shrader, *Of Duty Well and Faithfully Done: A History of the Regular Army in the Civil War* (Lincoln: University of Nebraska Press, 2011), 67, 109, 119, 139-140.

⁵ Huston, 175.

and transportation of the army; storage and transportation for all army supplies; army clothing; camp and garrison equipage; cavalry and artillery horses; fuel; forage; straw; material for bedding, and stationary.”⁶ With the sudden demands of a rapidly growing army, the Quartermaster Department responded quickly, effectively, and attained a high level of support that lasted to the end of the war. After only ten months of service, Brigadier General Joseph E. Johnston resigned as Chief of the Quartermaster Department in April 1861 in order to take a Confederate command. His replacement was Brigadier General Montgomery C. Meigs, an engineering officer. Meigs brought skill and efficiency to the Quartermaster Department that ensured the Union Army was well supplied.⁷

The Chief of the Quartermaster Department assigned an officer to each department, army, corps, division, and brigade to serve as their quartermaster officer. Each regiment nominated an officer to be the supply officer and regimental quartermaster whose duty was to acquire all supplies except for ordnance.⁸ The chief quartermaster of an army was a colonel, lieutenant colonels at corps level, majors with a division, captains at brigades, and the regiments assigned lieutenants.⁹ The next supply bureau was the Ordnance Department.

⁶ War Department, *Revised Regulations for the Army of the United States 1861* (Harrisburg, PA: The National Historical Society, 1980), 159.

⁷ Newell and Shrader, 139-141.

⁸ Huston, 174.

⁹ Jack Coggins, *Arms and Equipment of the Civil War* (Mineola, NY: Dover Publications, 2004), 120-121.

Article XLVII, subsections 1375 and 1376 of the *Revised Regulations for the United States Army* state:

The Ordnance Department has charge of the arsenals and armories, and furnishes all ordnance and ordnance stores for military service. The general denomination, "Ordnance and Ordnance Stores," comprehends all cannon and artillery carriages and equipments; all apparatus and machines for the service and [maneuvers] of artillery; all small arms and accoutrements and horse equipments; all ammunition; all tools and materials for the ordnance service; horse medicines, materials for shoeing, and all horse equipments whatever for the light artillery.¹⁰

Colonel Henry K. Craig served as Chief of the Ordnance Department for ten years before Brigadier General James W. Ripley replaced him in April 1861. Neither of these men equaled the imagination or initiative the Chief of the Quartermaster Department, General Meigs displayed during his tenure as the Chief Quartermaster. Ordnance items proved more difficult to procure than food and clothing. The Ordnance Department could not keep up with the skyrocketing demands for arms and ammunition. This caused a shortage in munitions and confusion in distribution that lasted throughout the war.¹¹ Just like the Quartermaster Department, the Ordnance Department assigned officers to be the chief ordnance officer for each respective army, corps, division, and brigade. The regimental level assigned a sergeant as the regimental ordnance sergeant. His duties were to obtain arms, ammunition, and repair arms.¹² After the Ordnance Department is the Subsistence Department.

¹⁰ War Department, *Revised Regulations for the Army of the United States 1861*, 387.

¹¹ Huston, 168.

¹² *Ibid.*, 174.

The Subsistence Department was the third supply and service bureau in the War Department.

Subsistence stores for the army, unless in particular and urgent cases the Secretary of War shall otherwise direct, shall be procured by contract, to be made by the Commissary-General on public notice, to be delivered on inspection in the bulk, and at such places as shall be stipulated.¹³

Colonel George Gibson presided as the Commissary General of Subsistence for forty-three years before his death in September 1861. His replacement was Colonel Joseph P. Taylor. The Subsistence Department was responsible for procuring, storing, and distributing the ration and any subsistence related items, like soap and candles.¹⁴ As with the case in both Quartermaster and Ordnance Departments each army, corps, division, brigade, and regiment would have an assigned commissary officer.¹⁵ These are the departments and men charged with managing the logistical system of the army and ensuring soldiers in the field received everything they needed. These bureaus, and the men in charge, through there procurement programs were vital in the economic boom the war brought about:

¹³ War Department, *Revised Regulations for the Army of the United States 1861*, 241.

¹⁴ Newell and Shrader, 109.

¹⁵ Huston, 174.

Table 1. Breakdown of Authorized Staff Positions

Type/Level	Staff Personnel Authorized
Army/Military Department	1 x Chief Quartermaster (Col.); 1 Chief Commissary of Subsistence (COL.); 1 x Ordnance Officer (Col.)
Corps	1 x Chief Quartermaster (Lt. Col.); 1 Chief Commissary of Subsistence (Lt. COL.); 1 x Ordnance Officer (Lt. Col.)
Division	1 x Chief Quartermaster (Maj.); 1 Chief Commissary of Subsistence (Maj.); 1 x Ordnance Officer (Maj.)
Brigade	1 x Chief Quartermaster (Capt.) [also served as Brigade Ordnance Officer]; 1 Chief Commissary of Subsistence (Capt.)
Infantry Regiment	1 x Regimental Quartermaster/Commissary (Lt.); 1 x Regimental Ordnance Officer (Lt.)
Infantry Battalion	1 x Battalion Quartermaster/Commissary (Lt.); 1 x Quartermaster Sergeant; 1 x Commissary Sergeant
Infantry Company	No Staff Authorized
Cavalry Regiment	1 x Regimental Quartermaster/Commissary (Lt.); 1 x Regimental Ordnance Officer (Lt.); 1 x Ordnance Sergeant
Cavalry Battalion	1 x Battalion Quartermaster/Commissary (Lt.); 1 x Quartermaster Sergeant; 1 x Commissary Sergeant
Cavalry Company/Troop	1 x Company Quartermaster Sergeant; 1 x Commissary Sergeant
Artillery Regiment	1 x Regimental Quartermaster/Commissary (Lt.); 1x Quartermaster Sergeant; 1 x Commissary Sergeant; 1 x Regimental Ordnance Officer (Lt.); 1 x Ordnance Sergeant
Artillery Company/Battery	1 Company Quartermaster Sergeant

Source: Created by author using data from Clayton R. Newell and Charles R. Shrader, *Of Duty Well and Faithfully Done: A History of the Regular Army in the Civil War* (Lincoln: University of Nebraska Press, 2011), 70-71.

The Civil War saw a massive expansion in the American economy and its industrial mobilization. The amount of money the U.S government spent during the four years of the Civil War, \$1.8 billion, was more than all previous U.S. expenditures

combined. This amount was even four times greater than the combined spending of the French and British in the Crimean War of 1854-56. The Civil War became another example of the incredible expense and destructive power an industrialized nation-state can bring to bear.¹⁶

The United States was in an economic depression for the first few months of the war. However, people were encouraged with the raising of the protective tariffs, speculation of easy money, and with the accumulated demands of a people in a depression caused business to increase. Government contracts were the biggest boost to the economy. These contracts were very profitable. At first, there was no plan or direction for this growth and this created an environment of fierce competition, profiteering, and fraud. The thought of earning large profits spurred the expansion and made it easier to convert peacetime industries to wartime industries. Northern industry would soon be producing the goods needed for the war. Philadelphia was by far the biggest manufacturing center in the country at the time. In 1862 through 1864, Philadelphia alone built 179 new factories. Carpet mills turned into woolen mills, machine shops to arms factories, saw factories made sabers, and jewelry factories made brass buttons. The only industry that suffered was the cotton mills and that was due to the cotton embargo from the Confederacy. The conversion of old manufacturing was very significant in this economic expansion as well as the factory system for clothing and shoes manufacturing and the growth of the meat packing and iron industry too. The iron industry saw great expansion in New York, New Jersey, and Pennsylvania. Pittsburgh

¹⁶ Mark Wilson, *The Business of Civil War: Military Mobilization and the State, 1861-1865* (Baltimore, MD: Johns Hopkins University Press, 2010), 1.

alone erected six new iron mills. Pig iron output went from 524,000 tons to 684,000 tons from 1860 to 1864. Pennsylvania benefited the most from this industry with eighty percent of it located within its borders. With rolling mills growing in number all over the country, rolled iron was now produced domestically and no longer needed importing from other countries.¹⁷

Due to the lack of cotton and the demand from both military and civilian sectors, the wool industry prospered the most during the war. At first, demand was hard to meet but it would not take long until the wool industry was up and running to supply this growing market. The promise of Army contracts and the increased tariffs from the Morrill Tariff Act of 1861 also helped to spur the growth of the wool industry. In order to keep up with the growing demand, workers worked days, nights, and on Sundays. By comparison, peacetime Northern wool mills produced 85,000,000 pounds, while at the height of the war they produced 75,000,000 pounds for the military and 138,000,000 pounds for the civilian economy. Beginning slowly in the 1830s, the ready-made clothing industry really took off after the introduction of the sewing machine in 1849. What once used to take fourteen hours and twenty minutes to make a shirt now took one hour and sixteen minutes. When war brought more orders, the ready-made clothing industry was ready. Both wool and ready-made clothing industries allowed the United States to supply uniforms directly from domestic sources for the first time.¹⁸

An immediate need for any expanding army is clothing. Armies in camps can find food locally and arms and ammunition are not immediate requirements until engagements

¹⁷ Huston, 176-177.

¹⁸ Ibid., 177.

with the enemy draw closer. At the start of the war, on-hand clothing in military warehouses was enough to provide for the 16,000 men in the Regular Army. The approaching mass enlistment changed that. In the summer of 1861, contracting for uniforms was based on a 300,000-man force War Department estimate. When Congress authorized the army to expand by 500,000 men that meant four million yards of blue cloth were required to produce one uniform per soldier. That amount of cloth was beyond the capacity of the army at that time. The Schuylkill Arsenal in Philadelphia was the only depot the Quartermaster Department had for clothing and equipment. This depot made uniforms from cloth purchased by the Quartermaster Department. New depots were established in New York in 1861 and Cincinnati in 1862 due to the increased demand put on the Schuylkill Arsenal. This increase in demand also led to the direct procurement of ready-made clothing and dependence on the states to outfit their soldiers.¹⁹ As the main centers for clothing and equipage procurement these three depots totaled: over 2,985,000 coats and jackets; approximately 3,500,000 yards of cloth for coats; 7,700,000 trousers; 5,900,000 woolen blankets; 1,890,000 rubber and painted blankets; 1,596,000 rubber and painted ponchos; 10,860,000 boots and shoes; and hundreds of thousands of tents, camp kettles, mess pans, plus scores of other items of clothing and equipment.²⁰ Buying food for the army proved to be a little easier to solve than buying uniforms.

Overall, food procurement earned a mixed record throughout the war. The meat packing industry grew despite the closing of the Mississippi River. In 1860, Chicago

¹⁹ Huston, 184.

²⁰ War Department, *The War of the Rebellion: A Compilation of the Official Records (OR) of the Union and Confederate Armies* (Washington, DC: Government Printing Office, 1880-1901), series 3, vol. 5, 283-286.

slaughtered 270,000 hogs. Soon after the start of the war, 900,000 hogs occupied the city ready for slaughter. The introduction of the reaper and improvements in transportation caused an increase in wheat and flour production so much the North grew a war surplus and exported to Europe.²¹

As with other departments, rapid mobilization caused administrative problems in the Subsistence Department. However, it did not produce shortages like those that clothing and ammunition endured. Motivation for mobilization brought public contributions of food. A great number of soldiers ate better than they ever had.²² Only when public motivation began to wane did food procurement become an issue.²³ Profiteers and dishonest merchants tried to gain personal advantages, especially in supplying beef, but munitions and clothing contracts offered greater opportunities, so the supply of food was not greatly affected. Other than tactical operations or interrupted supplies from troop movements, there were generally very few food shortages due to procurement in the Federal military. Union soldiers ate well during the war. The Commissary General in 1861 told the Secretary of War “that never before in history had an army been so well provisioned.”²⁴ This statement is most likely true in bulk calories provided to Union soldiers. Rations of the Union Army were double what the Prussians, Austrians, Russians, and twenty percent more than the British received. However, variety left much desired and cooking ruined taste. With the exception of flour and fresh beef,

²¹ Huston, 177.

²² Ibid.

²³ Ibid., 184-185.

²⁴ Ibid., 185.

the army advertised for bids when purchasing foodstuffs. Boston, New York, Philadelphia, Baltimore, Cincinnati, Louisville, and St. Louis were the cities where most food procurement took place. Flour was bought in the same manner but in places with closer proximity to field armies. Beef by block or on the hoof was contracted or negotiated. The Quartermaster Department in 1863 shipped on average from New York 7,000 packages of food each working day of the year. The 1864 average was slightly less.²⁵ After ensuring soldiers had food, they then needed ammunition in order to engage with the enemy.

Problems in munitions procurement started at the beginning of the war and lasted until the end. The first problem was to arm the swarm of early volunteers, then to keep up with the expansion of the Army, and then to replace obsolete weapons with newer and improved ones.²⁶ These issues set the stage for profiteering and fraudulent contracts, among other issues, that plagued the Ordnance Department. The .58 Springfield muzzle-loading rifled musket was the regulation infantry weapon but due to the shortage of arms, it was necessary to buy a variety of weapons. The amount of foreign muzzle-loading rifles bought by the Army was two-thirds greater than the amount of Springfield rifles in use. In the inventory, there were smoothbore muskets, breech-loading carbines, breech-loading rifles, and repeating rifles. These came from various countries: Britain, France, Austria, Germany, Belgium, and others. This only created more problems when dealing with spare parts and ammunition. Arms and ammunition were big money makers for munitions contractors. By far the biggest munitions contractor was Robert P. Parrot, with

²⁵ Huston, 185.

²⁶ Ibid., 185-186.

2,332 contracts valued at \$4,733,059. In second place was Colt's Patent Fire Arms Company in Hartford, Connecticut with 267 contracts valued at \$4,687,031. There were fifteen other companies with contracts each worth \$1,000,000. Artillery munitions, gunpowder, and a great amount of small arms were purchased through private industry contracts. Springfield Armory made approximately 802,000 rifled muskets while procurements from private industry yielded 670,600 rifles. Overall, 1,225,000 muskets and rifles, over 400,000 carbines, and 375,000 revolvers were from various purchases from both foreign and domestic markets.²⁷ The amount of money spent on buying clothing, food, ammunition, and other items proved to be very beneficial to the country.

The U.S. military procurement program helped put the United States among first-class powers in the world. Despite fraud, mismanagement, profiteering, dishonest contractors, and all its imperfections, the U.S. achievement compared favorably to the best militaries at the time.²⁸ The emphasis put on domestic procurement impeded efforts to get necessary supplies and equipment and it left foreign sources open to the Confederates. However, the United States freed itself from dependence on foreign sources for clothing and weapons. The result was a confidence that the United States would not have a disadvantage with wartime demands to any future enemies.²⁹

The Federal government did not rely completely on private industry for all of its needs. In areas where the government thought private industry lacked, it went into business for itself. The Harpers Ferry Armory, in Harper's Ferry, Virginia, was destroyed

²⁷ Huston, 186.

²⁸ Ibid., 186-187.

²⁹ Ibid., 187.

to prevent it from falling into Confederate hands. To make up for the loss, production at the Springfield Armory, in Springfield, Massachusetts, and far enough north to not be threatened by rebel forces, increased its output to 350,000 rifles per year. The government could produce rifles at Springfield for around ten dollars as opposed to the twenty-dollar cost for private manufacturers. Springfield produced one third of the rifles for the Army during the war.³⁰

Private industry and government facilities grew during the war but domestic resources could not meet the immediate requirements for the Army. Congress authorized enlistment of 500,000 volunteers, all of whom eventually needed to be clothed, equipped, and fed. The government was going to have to buy resources from overseas, mainly Europe. The Ordnance Department was initially slow to start procurement in both domestic and foreign markets. However, due to the coming influx of soldiers the Ordnance Department started foreign procurements on a large scale due to the massive arms shortage.³¹ In the first fifteen months of the war, the Federal government bought 738,000 muskets, rifles, and carbines from different European countries. This amount of arms was ten times more than it bought from American manufacturers.³² British Enfield rifles and the official French rifle were favored but quantity did not meet demand so weapons of all types were accepted. European countries took this opportunity to rid themselves of obsolete weapons at a high price. Along with weapons, the U.S. government bought clothing, individual equipment, and munitions from foreign markets.

³⁰ Huston, 178.

³¹ Ibid.

³² Ibid., 178-179.

Without foreign procurements, the Union armies would not have been able to arm and equip themselves through the first year and half of the war. Despite this need for immediacy, foreign procurement saw opposition by strong protectionist sentiment that American money should stay in the United States to boost native industry. Secretary of War Edwin Stanton issued an order in January 1862 stating there would be no further contracts for anything made overseas that could be made in the United States All outstanding orders were revoked, although a few purchases were allowed to be made, but by the end of 1863 foreign procurement essentially ceased.³³ When foreign procurement started decreasing the use of domestic government contracts increased.

Government contracting in the early years of the Civil War was rife with profiteering and fraud.³⁴ The War Department was concerned with the results and overcoming delays rather than fair prices. They wanted to arm and clothe soldiers more than they wanted to stick to regulations and contractors wanted to make a profit first rather than think about their obligation to the country during wartime. In July 1861, Congress started investigating contracting fraud and abuse.³⁵ Congress passed one bill concerning the making of contracts in 1861 and started working on further legislation, much to the dismay of Quartermaster General Montgomery C. Meigs. General Meigs protested this legislation would cause more red tape and stifle the war effort.³⁶ In response to this bill, Major General Meigs wrote to Senator Henry Wilson and said:

³³ Huston, 179.

³⁴ Wilson, 107-108.

³⁵ Huston, 180.

³⁶ Ibid., 181.

Every purchase, every order to purchase or deliver, if accepted, is a contract. These orders are sent by telegraph. Contracts are thus made with persons a thousand miles away. If we are to trammel every purchase with new conditions of writing, of record, of affidavit, no human brain will be capable of conducting the business of the great supply departments of the Army.³⁷

In 1862, Secretary of War Stanton did not wait for new laws and acted on his own to curb fraud. In the same order, he used to stop foreign procurement he “required all persons claiming to have any kind of contract or order from the War Department to give a written notice of such contract, together with a statement of what had been done under it, within fifteen days.”³⁸ An act of 1860 prescribed how purchasing through contracting should work. Any government department needing supplies and services would advertise their requirement. An exception to advertising the requirements was in the need of immediate delivery. In that case, no advertising was required and an open purchase or contract made via person to person. The contracting process was conducted in this manner throughout the war.³⁹ Once the government procured supplies and equipment for the army, they had to get it to them in the field.

The method of supplying armies in the field during the Civil War did not differ much from that of the Mexican-American War. However, logistic operations in the Civil War were on a larger scale, but improved over time and were accomplished effectively. Observers from Europe were impressed with the organization and ability to support, maintain, and move massive armies even when they disagreed over strategy Federal

³⁷ War Department, *OR*, series 3, vol. 1, 379.

³⁸ Huston, 181.

³⁹ *Ibid.*

commanders used.⁴⁰ The support concept to distribute supplies to the army used major logistic installations and depots. The means of transporting these supplies from logistics installations to depots and then to the Soldiers was by rail, shipping on inland waterways, and wagon trains.⁴¹

The Union Army relied on the depot system to supply the army. There are four main types of depots: general, base, advanced, and temporary. The general depots under the control of the supply bureaus of the War Department sent supplies to base depots, which in turn forwarded supplies to advanced depots then on to temporary depots if necessary. The main general depots were located in New York, Boston, Philadelphia, Baltimore, Washington, Cincinnati, Louisville, St. Louis, Chicago, and New Orleans. Quartermasters had authorization to establish depots as required. During offensive operations, commanders established advance depots where the army drew supplies and did not have to return to a general depot for them.⁴² Armies tried to keep advanced depots within two days march. If needed, temporary depots were established as a distribution point for using units in the vicinity. These temporary depots received their supplies from the advanced depots and allowed armies to operate further away from their advanced depot.⁴³ Transportation of supplies from depot to soldier is the very heart of logistical

⁴⁰ Huston, 215.

⁴¹ Henry G. Sharpe, "The Art of Supplying Armies in the Field as Exemplified during the Civil War," *Journal of Military Service Institution* (January 1896): 57-58, accessed 3 February 2015, <http://babel.hathitrust.org/cgi/pt?id=yale.39002002970474;view=1up;seq=7>.

⁴² Erna Risch, *Quartermaster Support of the Army: A History of the Corps, 1775-1939* (Washington, DC: Center of Military History, U.S. Army, 1989), 427, 431.

⁴³ *Ibid.*, 431.

operations. In this respect, the Union held a great advantage over the Confederacy, especially when it came to moving men and supplies by rail.

Before rail, armies moving through the countryside relied on animals and men. Weapons, ammunition, food, shelter, and everything the army needed moved was moved by muscle power. Foraging and by water were the only exception. Draft animals added to the logistical problem of an army. Animals had to eat too. More wagons and mules were needed to carry food just for the animals and wagons carrying food for soldiers. Half of an army's food requirement was for animals. The further an army got from its supply base only compounded the problem. Armies that relied on muscle-powered logistics could only carry around ten days' worth of supplies. An army often spent more time looking for food than it did fighting.⁴⁴ A talented commander in early American wars involved shepherding his force to the battlefield without first starving. Poor roads, underdeveloped and sparsely populated countryside, and long distances to travel were all issues a moving army had to deal with in early America.⁴⁵ This was certainly the case throughout the Pea Ridge Campaign, fought over an area not too far from the western frontier. In colonial times, a fort with a dozen soldiers could dominate thousands of square miles just because no one else could get there to challenge them.⁴⁶ By 1861, this situation had changed with less wilderness, more farmers, and although still poor quality,

⁴⁴ Christopher R. Gabel, *Railroad Generalship: Foundations of Civil War Strategy* (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1997), 1.

⁴⁵ *Ibid.*, 1-2.

⁴⁶ *Ibid.*, 2.

more roads in which to choose. In addition, steam-powered transportation was invented. This invention had a huge impact in military logistics.

Railroads held a significant edge over muscle-powered logistics. The advantage a train has over a mule-drawn wagon is not that a train can carry more tons of cargo. More wagons can make up for the difference of cargo tonnage. The advantage was a train could haul more supplies further on a given amount of fuel. A wagon with six mules could carry 1.5 tons of cargo approximately 333 miles on one ton of fuel (food). So given one ton of fuel at 333 miles traveled carrying 1.5 tons of cargo equals a transportation capacity of 500 ton-miles derived from one ton of fuel consumed. A freight train in the Civil War on one ton of fuel could only travel thirty-five miles.⁴⁷ These trains would sometimes carry as much as 150 tons of cargo. This calculates to 5,250 ton-miles per ton of fuel.⁴⁸ Another advantage rail had was trains could move five times faster than a mule driven wagon. This speed meant a faster delivery time and more round trips in a given amount of time that equated to a smaller number of supply vehicles needed to keep supplies moving.⁴⁹

Railroads played a significant role in the Civil War. From the start, railroads favored the Union. Confederate rail lines were built to run north and south with very little moving east to west. This was mainly for hauling cotton to factories in the north. Northern lines ran everywhere.⁵⁰ The main problem facing the Union in using railroads

⁴⁷ Gabel, 2.

⁴⁸ Ibid., 2-3.

⁴⁹ Ibid., 3.

⁵⁰ Huston, 198.

was that moving troops and cargo involved numerous corporations. The military wanted priority, but rail managers needed to maintain civilian traffic and turn a profit.⁵¹ Congress passed formal legislation ensuring military priority but an informal agreement was made with the various corporations promising them they could still make a profit and support the war effort. In January 1862, with the approval of Congress, President Lincoln seized control of all rail for military use. A new bureau created in the War Department for the purpose of managing rail was the United States Military Rail Roads. Although United States Military Rail Roads technically controlled all railroads, they restricted their authority to those rail lines captured from the Confederacy. The military had to rely on civilian executives because they were the true experts of railway operations and managed rail as a profession.⁵² By the war's end, the United States Military Railroad employed almost 25,000 men, operated over 2,100 miles of railway, 419 engines, 6,330 cars, laid or re-laid 641 miles of track, built or re-built 137,418 feet of bridges, and its total expenditures were approximately \$42,462,000.⁵³ Almost of equal importance to rail was the use of inland waterways.

In St. Louis in 1863, 193,023 troops and 153,102,100 pounds of subsistence, ordnance, and various other supplies moved by rail. Riverboats transported 337,912,363 pounds of the same plus 135,909 troops. Cargo capacity varied between 250 tons to 1,700 tons per boat. A regular Ohio River 500-ton steamboat on a single trip could haul enough

⁵¹ Gabel, 12.

⁵² Ibid., 13.

⁵³ War Department, *OR*, series 3, vol. 5, 1003-1005.

supplies to support a 40,000-man army with 18,000 horses for two days.⁵⁴ It would take five ten-car freight trains to equal this. River transportation differed from rail in coordination because there were no large companies to deal with.⁵⁵ Furthermore, rivers could not be cut or damaged like railroad tracks. There was no civilian river counterpart like those of the railroad corporations and it was more likely to find as many owners as steamboats. The job of handling coordination for riverboat transportation fell to the Quartermaster Department of the Army.⁵⁶ As much as the armies of the time relied upon rail and river, wagons were required to finish connecting depots to soldiers.

As the war progressed the efficiency in organizing and operating trains increased. The unit quartermaster officer controlled baggage and supply trains following a unit on the march. The general supply trains carrying forage and subsistence were consolidated at division and controlled by the division quartermaster while the division ordnance officer controlled ammunition trains. Sometimes division trains were moved and controlled by the corps. These division and corps trains also had the responsibility of moving supplies from railheads to advanced depots and then on to temporary depots.

The amount of wagons allowed for baggage trains was a hotly contested subject during the war. General Henry W. Halleck viewed the huge trains that traveled with the soldiers as an impediment to the mobility of an army. Although General Meigs did not want to regulate supply trains, he agreed that regulating baggage trains that always

⁵⁴ Huston, 211.

⁵⁵ Ibid., 211-212.

⁵⁶ Risch, 405-406.

accompany units to carry baggage and supplies was a good idea.⁵⁷ The allowance for baggage trains in 1862 specified the amount of wagons as four to the headquarters of a corps; three to the headquarters of a division or brigade; three to a light artillery battery or squadron of cavalry; and six for a full regiment of infantry.⁵⁸ The amount of wagons prescribed for supply trains was based on the level of a unit, type of unit, and number of soldiers in the unit. There is also a distinction between allowances for ammunition wagons and wagons for subsistence, forage, and general supplies. For example, seven wagons authorized for every 1,000 men for cavalry or infantry to serve as their supply trains for forage, subsistence, and general supplies. Ammunition wagons were calculated by the number of guns, type of guns, and amount of ammunition allotted for each weapon. General George G. Meade outlined five rules in a general order to the Army of the Potomac for the calculations in allotting wagons for ammunition.⁵⁹

Wagons were essential in keeping soldiers supplied with their rations, forage, and camp equipage.⁶⁰ Both horses and mules were used to pull wagons during the war. However, as the war dragged on demand for horses grew. A cavalry regiment needed 12,000 horses and a light artillery battery needed 110. Mules were of no use in the cavalry and artillery due the mules' preference of performing their military duty in the rear and the nervousness they displayed under fire. Quickly, six mules were replacing

⁵⁷ Huston, 216.

⁵⁸ John Davis Billings, *Hardtack and Coffee, Or, The Unwritten Story of Army Life* (Lincoln: University of Nebraska Press, 1993), 357.

⁵⁹ *Ibid.*, 361.

⁶⁰ *Ibid.*, 280.

four horses in all unit trains.⁶¹ Aside from the mules' reluctance in battle, mules had a great number of advantages over horses when it came to hauling wagons full of supplies. Mules could withstand harder usage, neglect, bad feed, no feed, can travel over terrain that would otherwise injure horses, and were just as happy eating brush or chewing on a piece of wood. Wagon drivers found they could handle six mules better than four horses.⁶² Another use for the mule was in putting a packsaddle on them. In this configuration, a mule would bring up the rear of a march loaded with the cookhouse instruments.⁶³ Often times during battle when wagons could not safely approach, a mule was loaded up with ammunition or rations and sent to resupply soldiers. Both Federals and Confederates agreed to the value mules provided during the war but the wagons they pulled were even more valuable.⁶⁴

Army wagons were heavy, lumbering, and built for hard service. Almost all army wagons were designed the same and came complete with a toolbox, feed trough, spare pole, a wooden bucket for water, iron bucket for grease, and a canvas cover. These wagons were great for hauling supplies but were not a pleasure to ride.⁶⁵ The wagons were also an important part of the distribution system. They were the link between a base of supplies and the soldier on the move. Wagons made up the baggage and supply trains of an army. The usual order of march for supply trains was small arms ammunition,

⁶¹ Billings, *Hardtack and Coffee*, 281.

⁶² *Ibid.*, 282.

⁶³ *Ibid.*, 290.

⁶⁴ *Ibid.*, 279.

⁶⁵ *Ibid.*, 352.

artillery ammunition, subsistence, and then forage. Bringing up the rear to these trains was the Sutler.⁶⁶

Sutlers were civilian businessmen that followed an army. When a unit on the march stopped for the night, Sutlers pitched their tent and set up a little market. Sutlers sold all sorts of goods, but mostly food.⁶⁷ Along with canned goods, Sutlers stocked army regulation hats, boots, flannels, socks, and suspenders.⁶⁸ Not just any civilian could buy a wagon, stock it with goods, and follow soldiers on the march. They must receive an appointment by a commander in order to do so. Only officially appointed Sutlers were allowed to sell their wares. They were not allowed to sub-contract out their work or they would lose their appointment.⁶⁹ Army Regulations in 1861 state:

Troops in campaign, on detachment, or on distant service, will be allowed Sutlers, at the rate of one for every regiment, corps, or separate detachment; to be appointed by the commanding officer of such regiment, corps, or detachment, upon the recommendation of the Council of Administration, subject to the approval of the general or other officer in command.⁷⁰

Soldiers kept well fed through rations delivered by supply trains or supplemented their food with the Sutlers' goods but sometimes neither was around for whatever reason and units on the move had to forage for food.

⁶⁶ Shrader, 274.

⁶⁷ Ibid., 224.

⁶⁸ Ibid., 227.

⁶⁹ War Department, *Revised Regulations for the Army of the United States 1861*, 38.

⁷⁰ Ibid., 37.

Foraging is the act of looking for food or supplies for man or animal in the surrounding countryside. At the start of the war, the army was very hesitant to allow soldiers to forage for supplies. This was due to civil authorities believing the combination of a show of force with respect for private property would gain back southern allegiance.⁷¹ However, when in enemy territory generals were authorized to sustain their armies off the countryside. When a unit did forage for food or supplies, they had to account and give a receipt for everything taken so that civilians could recoup some of their losses.⁷²

Military leaders in Europe generally disregarded any tactical or strategic lessons from the American Civil War. What did pique their interest was the logistical system the Union Army put in place.⁷³ This system gave the Federals a distinct advantage over the Confederates and played a huge role in winning the war. However, the next chapter will show the advantages the Federals enjoyed, especially in the use of rail, did not exist in the Pea Ridge Campaign.

⁷¹ Billings, 231.

⁷² Sharpe, 89.

⁷³ Shrader, 284.

CHAPTER 3

SUSTAINMENT PREPARATION OF THE OPERATIONAL ENVIRONMENT

To prepare logistical operations, modern-day army logisticians use a method called sustainment preparation of the operational environment. This is a way to analyze and determine infrastructure, physical environment, and resources in an area of operations that will have either positive or negative effects on the operation. It is used to assist staffs in their planning process to help improve sustainment estimates and the concept of support. Some factors analyzed are geography, supplies and services, facilities, transportation, maintenance, and general skills. Geography is information on terrain and climate. This information helps planners determine if any special equipment or considerations are needed to sustain soldiers. Supply and services determines the available supplies and services in the area. Facilities include any warehouses, production and manufacturing plants, reservoirs, hospitals, hotels, etcetera, in the area that are useful to the operation. Transportation looks at the road and rail network, inland waterways, bridges, ports, choke points, control problems, and trucks available. Maintenance focus is on the capabilities of fixing equipment. General skills are information on any special skills required to conduct operations.⁷⁴ Although this method is primarily a planning tool, this chapter will use sustainment preparation of the operational environment as a method to analyze the logistical situation Brigadier General Samuel Ryan Curtis and the Army of the Southwest faced during their campaign across southwest Missouri and into northwest Arkansas. Given the factors previously stated, this chapter will discuss the terrain,

⁷⁴ Headquarters, Department of the Army, Army Doctrine Reference Publication (ADRP) 4-0, *Sustainment* (Washington, DC: Government Printing Office, July 2012), 3-13.

climate, infrastructure, cities, transportation, supply and service requirements, and a concept of support.

The Pea Ridge Campaign took place in a region of the country called the Ozarks. The Ozarks, in its entirety, is larger than Scotland and covers 50,000 square miles.⁷⁵ It encompasses five states: Missouri, Arkansas, Oklahoma, Kansas, and Illinois. For this study, only the areas in Missouri and Arkansas will be discussed. It is shaped like a parallelogram with rivers defining the Ozark boundaries.⁷⁶ The Mississippi River in the east, Missouri River to the north, the Arkansas River in the south, and a combination in the west of the Arkansas River, Neosho River, and Osage River roughly mark the Ozarks' boundaries.⁷⁷ This region is the only major highland between the Appalachian Mountains and the Rocky Mountains.⁷⁸ Overall, the Ozark terrain has oak and hickory forests, scattered high prairies and glades, hillsides with exposed bedrock, and very thin and poor soil. Beneath the soil is a cavernous system of porous rocks that resembles Swiss cheese and causes an abundance of sinkholes.⁷⁹ A complex topography that varies between regions, the Ozarks are often referred to as mountains. The term mountains is not the most accurate description.⁸⁰ The average elevation is 1,800 feet above sea level

⁷⁵ Phyllis Rossiter, *A Living History of the Ozarks* (Gretna, LA: Pelican Publishing, 1992); Carl Ortwin Sauer, *The Geography of the Ozark Highland of Missouri* (New York: Greenwood Press, 1968), vii.

⁷⁶ Ibid., 3.

⁷⁷ Sauer, 3.

⁷⁸ Rossiter, 17.

⁷⁹ Ibid.

⁸⁰ Sauer, 5.

with the highest elevation, the Boston Mountains, only 2,300 feet above sea level.⁸¹ Therefore, the Ozarks are really less than mountains but more than hills.⁸² One word cannot describe the whole region. It is better to discuss the various sections that constitute the Ozarks.

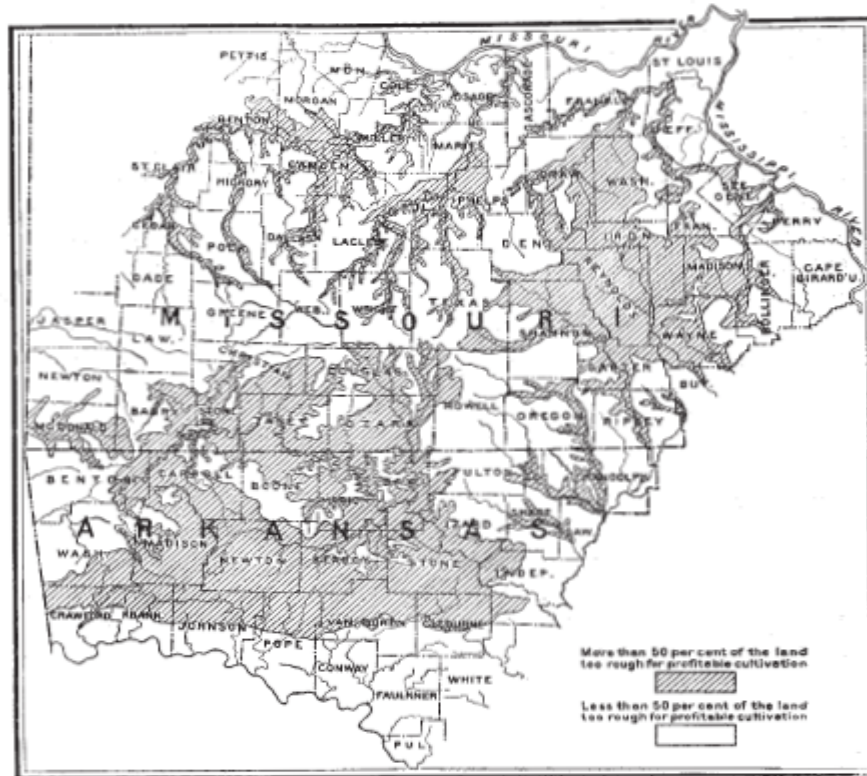


FIG. 3.—Sketch map showing proportion of land well adapted and poorly adapted to agriculture.

Figure 1. Agriculture Map of the Ozarks

Source: Curtis Fletcher Marbut, *Soil Reconnaissance of the Ozark Region of Missouri and Arkansas* (Washington, DC: Government Printing Office, 1914), 12.

⁸¹ Ibid., 6.

⁸² Rossiter, 17.

Missouri is an elevated limestone region while Arkansas has a limestone and a sandstone-shale region. The limestone region of Arkansas is just north of Fayetteville and has the same characteristics as Missouri with the shale region south of Fayetteville. As a whole, this region of the Ozarks has three main sections: (1) the Ozark Dome; (2) the Boston Mountains; (3) the Ouachita Mountains.⁸³ The Pea Ridge Campaign took place in the first two sections, the Ozark Dome and the Boston Mountains. The Ozark Dome is also known as the Ozark Plateau, Ozark Mountains, or Ozark Hills. This section follows a northeast to southwest direction starting at the Mississippi River approximately fifty miles south of St. Louis and continues into northern Arkansas.⁸⁴ Maximum elevation is 1,800 feet above sea level with the average elevation of a crest line 1,300 feet. The whole dome averages 1,050 feet.⁸⁵ The Boston Mountains is a block of highlands that lie in a southeastern to northwestern position between the White and Arkansas Rivers.⁸⁶ Maximum elevation is 2,300 feet with an average elevation of 1,800 feet. In contrast to the Ozark Dome, the Boston Mountains have abrupt changes in elevation on the northern side and rapidly slopes to lowland on the southern side. Overall, there is a very small percentage of the Ozarks with smooth terrain.⁸⁷ Over fifty percent of the terrain is too

⁸³ Curtis Fletcher Marbut, *Soil Reconnaissance of the Ozark Region of Missouri and Arkansas* (Washington, DC: Government Printing Office, 1914), 7-8.

⁸⁴ *Ibid.*, 8-9.

⁸⁵ *Ibid.*, 11.

⁸⁶ *Ibid.*, 8-9.

⁸⁷ *Ibid.*, 11.

rugged for cultivation.⁸⁸ The Ouachita Mountains start with the southern slope of the Boston Mountains and is of no significance to this study.⁸⁹



FIG. 2.—Sketch map showing the extent of the several more important physiographic divisions of the Ozark region.

Figure 2. Geographic Regions of the Ozarks

Source: Curtis Fletcher Marbut, *Soil Reconnaissance of the Ozark Region of Missouri and Arkansas* (Washington, DC: Government Printing Office, 1914), 9.

Like the topography of the Ozarks, it also has a variety of climates.⁹⁰ Because of the size of the area, there is a noticeable difference in temperature from the extreme

⁸⁸ Marbut, 12.

⁸⁹ Ibid., 8-9.

northern part to the extreme southern part. From east to west, there is a very small contrast in rainfall.⁹¹ Average temperatures in the north and south are fifty-four degrees and sixty degrees with the average rainfall of thirty-five and forty-six inches respectively.⁹² Rainfall is abundant and temperatures are favorable to agriculture. The growing season is long enough to allow temperate region crops to grow.⁹³ The average maximum temperature in the summer months exceeds eighty degrees while the average minimum for the winter months is below thirty degrees. January and February are the coldest months with twenty-five F the average. It is common to have frost at night and thawing during the day for weeks in midwinter. Going three to four days without a thaw is very unusual.⁹⁴ Snow does not last for long and it is common to have a fog-like drizzle or an icy glaze. Springtime is long and arrives early while summers are hot and humid. Nights are often cool and misty. Autumn is the more favorable time of year in terms of weather with perfect conditions.⁹⁵

The only navigable rivers in the Ozarks are the Mississippi River, Missouri River, White River, and the Arkansas River.⁹⁶ The Mississippi River is the most important river for the Ozarks as it opens up access to most of the northern territories and states, all of

⁹⁰ Rossiter, 20.

⁹¹ Sauer, 27.

⁹² Marbut, 12.

⁹³ Ibid., 13.

⁹⁴ Sauer, 28-30.

⁹⁵ Rossiter, 20.

⁹⁶ Marbut, 16.

the Ohio Valley, most of the Atlantic states, and with the Gulf of Mexico. The Missouri River opens commerce to the Rocky Mountains and has many tributaries throughout the state of Missouri.⁹⁷ As previously stated, these rivers form the boundaries of the Ozark region. The interior of the Ozarks has two smaller rivers navigable by small boats, the Osage River, and a portion of the White River. This means the Boston Mountains and central part of the Ozark Dome is only accessible by wagon roads.⁹⁸ Although, there are a great amount of smaller streams, creeks, and branches all over the interior of the Ozarks their use for navigation is very limited due to their inaccessibility from producing areas, low volume of water, fast currents, and their winding courses.⁹⁹ Most are bordered by rugged hills that act as a barrier between the river and the rest of the countryside. These streams are littered with bars of sand and gravel that produce serious obstructions to water-borne traffic, even to boats of shallow draft.¹⁰⁰ Navigating the rivers is an issue but finding drinking water is not a problem in this region. Springs of pure cold water are found all over the Ozarks. For a section to only have no or only one spring is rare. Even on the rare occasion a spring cannot be found, productive wells are routinely found by digging twenty to forty feet down.¹⁰¹

⁹⁷ R. I. Holcombe, *History of Greene County, Missouri* (St. Louis, MO: Western Historical Company, 1883), accessed 11 March 2015, <https://ia601405.us.archive.org/16/items/historyofgreenec00holc/historyofgreenec00holc.pdf>, 8-9.

⁹⁸ Marbut, 16-17.

⁹⁹ Holcombe, 9.

¹⁰⁰ Sauer, 49.

¹⁰¹ Holcombe, 20.

The presence of railroads in the area of the Ozarks where General Curtis and his army operated in were virtually nonexistent. St. Louis had railroads that led in every cardinal direction and improved roads that could take anyone to any part of the country.¹⁰² Nevertheless, there was one single branch of one railroad extending into the part of Missouri encompassing the Pea Ridge Campaign. The Southwest branch of the Pacific Railroad only extended as far as Rolla.¹⁰³ Men, equipment, and supplies could reach Rolla by rail but the rest of the way was by wagon and dirt roads.¹⁰⁴ The network of roads throughout this region was primitive at best. Dirt roads are greatly affected by nature, tend to ice over, and turn to mush when it thaws. The main road for this area of operations was known as Telegraph Road, or Wire Road. Built to supply frontier forts in 1838, it carried thousands of Cherokees to the Indian Territory as part of the Trail of Tears. This road acts as a natural avenue of approach into northern Arkansas for the Federals. An overall unimproved and narrow dirt road served as the best option.¹⁰⁵

With a population of approximately 200,000 and an established road and rail network, St. Louis was the Grand depot for the Western Department, and the District of

¹⁰² Ibid., 95.

¹⁰³ H. Craig Miner, *The St. Louis-San Francisco Transcontinental Railroad; the Thirty-fifth Parallel Project, 1853-1890* (Lawrence: University Press of Kansas, 1972), 29.

¹⁰⁴ William L. Shea and Earl J. Hess, *Pea Ridge: Civil War Campaign in the West* (Chapel Hill: University of North Carolina Press, 1992), 10.

¹⁰⁵ Ibid., 10-12.

Southwest Missouri, which gave the Army of the Southwest its name.¹⁰⁶ Rolla, a small town of around 600 residents at the end of the rail line was perfectly suited as the advance depot for Curtis and his army.¹⁰⁷ During military operations, commanders established forward or temporary depots to extend their lines of communication in order to resupply their unit in the field. These depots tried to make use of buildings to protect their stores.¹⁰⁸ In the Pea Ridge area of operations, a few small towns or villages acted as temporary depots. Four of these population centers lay directly along the Wire Road. Lebanon, a small village, and Springfield, a city of 2,000 and the most prosperous town in southwest Missouri were both great options for temporary depots in Missouri.¹⁰⁹ In Arkansas, General Curtis' options were the city of Fayetteville and the former Federal army post of Fort Smith, just south of the Arkansas River.

Planning Considerations

The everyday ration for a soldier consisted of: twelve ounces of pork or bacon, or twenty ounces of fresh or salt beef; eighteen ounces bread or flour, or twelve ounces hard bread, or twenty ounces of corn meal. For every 100 rations issued a soldier's ration was supplemented with: eight quarts of beans, or ten pounds of rice, or 9.3 pounds of

¹⁰⁶ Robert J. Rombauer, *The Union Cause in St. Louis in 1861: An Historical Sketch* (St. Louis, MO: Press of Nixon-Jones Printing, 1909), accessed 11 March 2015, <https://archive.org/details/unioncauseinstlo00rombiala>; Risch, 427.

¹⁰⁷ Miner, 30.

¹⁰⁸ Risch, 440.

¹⁰⁹ *History of Laclede, Camden, Dallas, Webster, Wright, Texas, Pulaski, Phelps, and Dent Counties, Missouri* (Chicago, IL: The Goodspeed Publishing Company, 1974), accessed 11 March 2015, http://books.google.com/books/about/History_of_Laclede_Camden_Dallas_Webster.html?id=B9IyAQAAMAAJ, 72; Holcombe, 739.

desiccated potatoes twice a week; 6.25 pounds of mixed vegetables; ten pounds of coffee or 1.5 pounds of tea; fifteen pounds of sugar; four quarts vinegar; one pound of sperm [whale] candles, or 1.25 pounds adamantine candles, or 1.5 pounds tallow candles; four pounds of soap; and two quarts of salt. The ration for hard bread increased to one pound during a march or campaign.¹¹⁰ In addition, during a march soldiers were not issued their ration of beans, rice, soap, candles, and other parts of the ration because they just could not carry it.¹¹¹ During the Civil War, the ration increased to twenty-two ounces of bread or flour, or one-pound hard bread. Commanding officers were told to issue fresh beef over salt meat if they could and if possible, at least three times a week each man received one pound of potatoes. If parts of the ration could not be issued in the prescribed amounts then an equal amount of another type of food was issued. Tea was an authorized substitute for coffee.¹¹² This ration equates to around three pounds of food per soldier per day.¹¹³ Water is one gallon every day for every soldier.¹¹⁴ For an army of 15,000 men that is 45,000 pounds of food and 15,000 gallons of water required every day.

In order for an army to engage the enemy, ammunition is required. Regulations called for 100 rounds of small arms ammunition per soldier. These numbers were the

¹¹⁰ War Department, *Revised Regulations for the Army of the United States 1861*, 243.

¹¹¹ Billings, 112.

¹¹² War Department, 243.

¹¹³ Louis-Philippe-Albert D'Orléans Paris, Louis F. Tasistro, Henry Coppee, and John P. Nicholson, *History of the Civil War in America* (Lexington, KY: Bibliolife, 2015), 212.

¹¹⁴ William P. Craighill, *The 1862 Army Officer's Pocket Companion: A Manual for Staff Officers in the Field* (Mechanicsburg, PA: Stackpole Books, 2002), 90.

same regardless of the type of musket, rifle, or pistol. Of the 100 rounds issued to a soldier, forty were carried in a black leather cartridge-box located on their belt. The other sixty were their reserve located on wagons with the field trains.¹¹⁵ Sometimes soldiers carried sixty rounds with forty in the cartridge-box and twenty in their pockets.¹¹⁶ Based on 100 rounds per soldier, the Army of the Southwest during the Pea Ridge Campaign would have had a requirement of 1,500,000 rounds in small arms ammunition. Of these 1.5 million rounds, 600,000 rounds were carried with the soldiers based on each soldier carrying forty rounds. If they carried sixty on their person, this increased the number to 900,000 rounds. This left 900,000 or 600,000 rounds for the wagons.

Artillery required 400 rounds for each gun. These 400 rounds were divided into 200 for the active batteries and 200 in the reserve with the field trains. Additional supplies and stores of ordnance were located at convenient depots if needed under certain circumstances.¹¹⁷ The Army of the Southwest had forty-eight pieces of artillery: fourteen six-pounder rifled guns, sixteen twelve-pounder howitzers, two twelve-pounder guns, and sixteen six-pounder guns.¹¹⁸ Given 400 rounds per artillery piece comes to a requirement of 19,200 rounds. This gives 9,600 rounds each to the active batteries and the reserve. Rations and ammunition constituted the majority of items wagons carried. Other items or equipment needed for war varied from baggage, camp equipment, tents, shelters,

¹¹⁵ Theodore Laidley, *The Ordnance Manual for the Use of the Officers of the United States Army* (Philadelphia, PA: J. B. Lippincott 1861), 227, 362; Craighill, 91.

¹¹⁶ Sharpe, 71.

¹¹⁷ Laidley, 362.

¹¹⁸ Shea and Hess, 331-334.

clothing, etcetera. All of this equipment, rations, and ammunition had to travel with or get to an army on campaign. Since the rail head stopped at Rolla a great amount of wagons were needed.

A six-mule wagon carried a load of 3,000 pounds over moderate roads. For a wagon carrying anything besides ammunition, the planning factor decreases to 2,500 pounds due to the forage a wagon will carry for its animals. Wagons carrying ammunition do not haul forage so the planning factor stays with 3,000 pounds.¹¹⁹ For the 45,000-pound of rations and 15,000 gallons of water, eighteen and fifty-one wagons respectively are required. Wagons carrying ammunition did not carry forage, so a planning factor of 3,000 pounds is used to calculate the number of wagons. Small arms ammunition were packaged in ammunition boxes that held 1,000 cartridges each. One wagon could hold twenty boxes.¹²⁰ To move the entire ammunition load required seventy-five wagons. However, as previously discussed, soldiers carried forty to sixty rounds with them. This decreases the small arms wagon requirement to thirty and forty-five wagons. Artillery ammunition boxes held a different amount of ammunition based on the type of artillery piece. The six-pounder guns would have a package of fourteen rounds per box at 133 pounds each. The twelve-pound howitzer is eight rounds per box at

¹¹⁹ The Secretary of War, War Department, *How To Feed An Army* (Washington, DC: Government Printing Office, 1901), accessed 11 March 2015, <https://books.google.com/books?id=py4tAAAAIAAJ&printsec=frontcover&dq=How+to+feed+an+army&hl=en&sa=X&ei=o9EAVeTKEYHBgwSap4HoAg&ved=0CCsQ6AEwAA#v=onepage&q=How%20to%20feed%20an%20army&f=false>, 60.

¹²⁰ Rodney C. Lackey, "Notes on Civil War Logistics: Facts and Stories," U.S. Army Transportation Corps, accessed 30 December 2014, http://www.transportation.army.mil/History/PDF/Peninsula%20Campaign/Rodney%20Lackey%20Article_1.pdf, 67.

148 pounds while the twelve-pound gun is twelve rounds at 133 pounds.¹²¹ Based on these numbers the artillery ammunition calculates to forty-two wagons for the ammunition held in reserve and not with the active batteries. For the Army of the Southwest to move would require 156 wagons just for one-days' worth of ration, one-days' worth of water, and all authorized allotments of ammunition. This number does not include the number of wagons required for baggage, camp equipment, and general supply trains to resupply the army, all of which will be discussed in the next chapter.

A concept of support is the way commanders or logistics planners show how their unit is going to be supported. Taking facts and assumptions into consideration, a brief description of how logistical operations will be conducted is written. For the Pea Ridge Campaign the concept of support was fairly simple and straightforward. The Grand depot for the Army of the Southwest is St. Louis. From there, supplies were loaded into rail cars and moved to Rolla the advanced depot. Once supplies reached Rolla, they were offloaded into wagons and then moved out to re-supply the army on the move. Temporary depots would be established during the campaign in order to lessen the strain on the line of communication. In Missouri, Lebanon and Springfield provided the best options while Fayetteville and Fort Smith were the best options for temporary depots in Arkansas. This concept seems simple but as we will see in the next chapter, the execution proved to be difficult due to the terrain, distance involved, and the tempo of the operation.

¹²¹ Laidley, 280-281.

CHAPTER 4

LOGISTIC OPERATIONS OF THE PEA RIDGE CAMPAIGN

Missouri, as a border state and slave state, was a microcosm of the nation during the period right before the start of the Civil War and the first two years of the Civil War. The state was representative of the complexities civil strife brought.¹²² Voting records reveal only one-tenth of the population were unconditionally loyal Union men. Secessionists were barely greater in number.¹²³ The year 1861 saw Federal and Missouri State Guard along with some Confederate forces fighting back and forth across the state. Fighting to gain and re-gain the same ground repeatedly. The city of Springfield, the most important city in southwest Missouri, switched hands three different times in 1861.¹²⁴ However, before any Federal campaigns started down the Mississippi River, the Missouri State Guard needed to be cleared from the state, removing any threat to the Union's main forward operating base, St. Louis.¹²⁵ This formed the impetus for the Federals to start what became the Pea Ridge Campaign.

The Pea Ridge Campaign can be divided up into three distinct phases. Phase 1 started with the Federal Army of the Southwest in Rolla preparing for the campaign and

¹²² Brigadier General Franz Sigel, "The Pea Ridge Campaign," in *Battles and Leaders of the Civil War: Being for the Most Part Contributions by Union and Confederate Officers*, based upon The Century War Series, vol. 1 (New York: Castle, 1982), 314.

¹²³ Edward D. Neill, "Three Frontier Battles," in *Glimpses of the Nation's Struggle*, 4th series, Papers Read before the Minnesota Commandery of the Military Order of the Loyal Legion of the United States-1892/97 (St. Paul, MN: Broadfoot Publishing Company, 1898), 479.

¹²⁴ Sigel, 314; Neill, 483.

¹²⁵ War Department, *OR*, series 1, vol. 8, 462-463.

conducting reconnaissance missions. Phase 2 began once all of Brigadier General Samuel R. Curtis' forces reached Lebanon. This phase comprised the pursuit of Major General Sterling Price and the Missouri State Guard all the way to Fayetteville, Arkansas, and Curtis' subsequent foraging operations. Phase 3 was the culminating battle that happened on 7-8 March 1862.

The Pea Ridge campaign occurred from 26 December 1861 to 8 March 1862. It pitted the Union Army of the Southwest against the Confederate Army of the West. Brigadier General Samuel R. Curtis commanded the Army of the Southwest on the Federal side. Key leaders underneath Curtis were Brigadier General Franz Sigel, Colonel Peter J. Osterhaus, Brigadier General Alexander S. As both, Colonel Jefferson C. Davis, and Colonel Eugene Carr. Confederate key leaders were: Major General Earl Van Dorn commanding the Army of the West, Major General Sterling Price, Brigadier General Benjamin McCulloch, and Brigadier General Albert J. Pike.¹²⁶

Federal Leaders

Brigadier General Samuel R. Curtis was born near Champlain, New York on 3 February 1805.¹²⁷ His family moved to Licking County, Ohio shortly after his birth. After growing up in Ohio, he received an appointment to the United States Military Academy in 1827, where he graduated twenty-seventh out of thirty-three in his class in 1831.¹²⁸

¹²⁶ Shea and Hess, 331-339.

¹²⁷ David Stephen Heidler, Jeanne T. Heidler, and David J. Coles, *Encyclopedia of the American Civil War: A Political, Social, and Military History*, vol. 1 (Santa Barbara, CA: ABC-CLIO, 2000), 533.

¹²⁸ Ezra J. Warner, *Generals in Blue: Lives of the Union Commanders* (Baton Rouge, LA: Louisiana State University Press, 1996), 107; Heidler et al., 533; Samuel P.

After graduation, he served only one year on active duty then resigned his commission to pursue an engineering career in Ohio. During the Mexican-American War, Curtis returned to active duty, was promoted to colonel, and commanded the 3rd Ohio Infantry.¹²⁹ Colonel Curtis' mission in the Mexican-American War was protecting and keeping open General Zachary Taylor's lines of communication, a mission he successfully completed.¹³⁰ After the Mexican-American War, Curtis moved to Iowa where he was an engineer, practiced law, was elected mayor of Keokuk, then won election to the United States Congress as part of Iowa's House of Representatives delegation. The Civil War broke out during his third consecutive term in Congress, and Curtis resigned his seat and accepted a commission as a colonel for the 2nd Iowa.¹³¹ In May of 1861, he was promoted to brigadier general in the United States Volunteers. After a short stint commanding the instruction camp at Benton Barracks in St. Louis, he became the Commander of the Southwest District of Missouri and the military force stationed there, the Army of the Southwest, on Christmas Day, 1861.¹³²

Brigadier General Franz Sigel was a German national fighting for the United States during the Civil War. He was born at Sinsheim in the Grand Duchy of Baden, Germany on 18 November 1824. After graduating from the military academy at

Curtis, "The Army of the South-West, and the First Campaign in Arkansas," in *The Annals of Iowa*, vol. 4, no. 2 (Iowa City, IA: State Historical Society, 1866), 626.

¹²⁹ Warner, *Generals in Blue*, 108.

¹³⁰ Mark Mayo Boatner, Allen C. Northrop, and Lowell I. Miller, *The Civil War Dictionary* (New York: Vintage Books, 1988), 215.

¹³¹ Warner, *Generals in Blue*, 108.

¹³² Boatner et al., 215.

Karlsruhe in 1843, he served for four years before resigning from the Baden Army to fight for the revolutionaries in the 1848-1849 insurrections.¹³³ When the Prussians defeated the revolutionaries, Franz Sigel fled his homeland to Switzerland, then to Great Britain before finally moving to New York City in May 1852. After holding a variety of jobs such as a tobacconist, surveyor, teacher, musician, and serving in the militia, he moved to St. Louis and became director of schools.¹³⁴ When the war began, Sigel was instrumental in rallying German immigrant support for the Union cause. He received a commission as a colonel on 4 May 1861 for the 3rd Missouri, then thirteen days later was promoted to brigadier general of the United States Volunteers. After playing a controversial role in the Battle of Wilson's Creek, he commanded two divisions of the Army of the Southwest during the Pea Ridge Campaign.¹³⁵

Eugene Asa Carr was born on 20 March 1830 at Erie County, New York. He began his studies at the United States Military Academy at the age of sixteen and graduated in 1850. The majority of his career before the Civil War was spent conducting operations on the frontier fighting Indians. At the outbreak of the Civil War, Carr fought in the Battle of Wilson's Creek, then was promoted to colonel and commanded the 4th Division in the Pea Ridge Campaign.¹³⁶

On 2 March 1828, Jefferson Columbus Davis was born in Clark County, Indiana. As an eighteen-year old, he fought as a volunteer in the 3rd Indiana during the Mexican-

¹³³ Heidler et al., vol. 4, 1787; Boatner et al., 761.

¹³⁴ Ibid.

¹³⁵ Boatner et al., 761.

¹³⁶ Warner, *Generals in Blue*, 70.

American War. Due to the gallantry he showed in the Battle of Buena Vista, Davis received a direct commission to the Regular Army on 17 June 1848. When the Civil War began, 1st Lieutenant Davis was present for the bombardment of Fort Sumter. A month after Fort Sumter he was promoted to captain then in August 1861 promoted to colonel of the 22nd Indiana Infantry.¹³⁷ Another veteran of the Battle of Wilson's Creek, he commanded a division for the Army of the Southwest in the Pea Ridge Campaign.¹³⁸

Peter Joseph Osterhaus was one of four German-born Americans to reach the rank of major general and is considered one of the finest foreign-born officers to serve the Union. Born on 4 January 1823 in Coblenz, Prussia he was another young German officer swept up in the German revolutionary movement that forced him to flee to the United States.¹³⁹ After moving to St. Louis and settling in with the large German population located there, he worked as a merchant, bookkeeper, hardware store clerk, and drilled students at the Humbolt Medical Institute to prepare them for war. When the Civil War began, Osterhaus answered President Abraham Lincoln's call for 75,000 volunteers. Like Davis, Carr, and Sigel, Osterhaus fought at the Battle of Wilson's Creek and then was promoted to colonel to command a division for Brigadier General Curtis during the Pea Ridge Campaign.¹⁴⁰

¹³⁷ Heidler et al., vol. 2, 572.

¹³⁸ Boatner et al., 226.

¹³⁹ Heidler et al., vol. 3, 1445; Warner, *Generals in Blue*, 352.

¹⁴⁰ Heidler et al., vol. 3, 1445; Warner, *Generals in Blue*, 353; Boatner et al., 613.

Confederate Leaders

Earl Van Dorn was born on 17 September 1820 at Port Gibson, Mississippi. He graduated from the United States Military Academy in 1842 near the bottom of his class, fifty-two out of fifty-six cadets. A veteran of the Mexican-American War, Van Dorn saw action in many major battles including Fort Brown, Monterrey, Vera Cruz, Cerro Gordo, and Mexico City. After that war from 1855 to 1861, Van Dorn fought Native Americans across the frontier in Texas and Florida. In January 1861, Van Dorn resigned his U.S. Army commission and served with the Mississippi volunteers for two months before joining the Confederate States of America military in March 1861. Due to his extensive service in the U.S. Army, Van Dorn was promoted to major general in a matter of months.¹⁴¹ Because of the heated disagreements between Major General Price and Brigadier General McCulloch, President Jefferson Davis appointed Major General Van Dorn as the commander for the new Trans-Mississippi Department to try to gain control of the two bickering generals. Assuming command in March of 1862, he had planned to expel the Federals from Arkansas and Missouri. He failed in this mission after his defeat at Pea Ridge and was ordered east of the Mississippi.¹⁴²

Sterling Price was born on 20 September 1809 in Prince Edward County, Virginia.¹⁴³ In 1831, he moved to Missouri where he was a tobacco farmer and politician. He held political office as a legislator, governor, and a Missouri Congressman. During

¹⁴¹ Heidler et al., vol. 4, 2014.

¹⁴² Ibid., 2014-2015.

¹⁴³ Ezra J. Warner, *Generals in Gray: Lives of the Confederate Commanders* (Baton Rouge: Louisiana State University Press, 1999), 246.

the Mexican-American War, Price received a commission as a brigadier general and then served as a Military Governor for the New Mexico Territory. When the Civil War started in the United States, Price initially opposed secession but changed his mind when Federal forces captured the Missouri Volunteer Militia at Camp Jackson in St. Louis. This event has been called the Camp Jackson Affair. From that moment, Price became a staunch states' rights advocate and was given command of the new Missouri State Guard. With southwest Missouri as his base, he defeated Brigadier General Nathaniel Lyon forces at Wilson's Creek and secured a great victory in Lexington, capturing the Federal garrison in late September.¹⁴⁴ The Federals forced him to retreat into southwest Missouri where he conducted operations in that portion of the state until Brigadier General Curtis drove him into Arkansas, where they met at the Battle of Pea Ridge.¹⁴⁵

The last of the Confederate key leaders was Ben McCulloch. Born on 11 November 1811 in Rutherford County, Tennessee his family moved around often from 1812 to 1830 before settling down in Dyersburg, Tennessee. Two American legends, Sam Houston and Davy Crockett, were friends of the family and very influential in McCulloch's life.¹⁴⁶ After living an uneventful childhood, McCulloch followed Davy Crockett to Texas, missed the massacre at the Alamo due to illness, but fought in the Battle of San Jacinto. After San Jacinto, McCulloch quit the army and became a surveyor and Texas Ranger. He served in the Mexican-American War and after as a U.S. Marshal for the Eastern District of Texas until 1861. When Texas seceded from the Union,

¹⁴⁴ Heidler et al., vol. 3, 1562.

¹⁴⁵ Warner, *Generals in Gray*, 247.

¹⁴⁶ Heidler et al., vol. 3, 1280.

McCulloch received a Confederate commission as a colonel and then to brigadier general a few months after. Stationed in Little Rock, Arkansas, he raised the Army of the West and garnered alliances with Indian tribes in Oklahoma. Although he and Sterling Price did not like each other, they were successful at the Battle of Wilson's Creek. During the Battle of Pea Ridge, McCulloch was killed early in the battle.¹⁴⁷

Pea Ridge Campaign Phase 1

Major General Henry W. Halleck, Commanding General of the Department of the Missouri, issued Special Order Number 92 appointing Brigadier General Curtis to command the Southwestern District of Missouri and the Army of the Southwest. This district included all the country south of the Osage River and west of the Meramec River. Curtis departed St. Louis and arrived at Rolla on 27 December 1861 to assume his new command.¹⁴⁸ Brigadier General Sigel was not very happy about Curtis' appointment as a commander and disputed this appointment upon meeting Brigadier General Curtis. Not only were both men brigadier generals but both men had the same date of rank. This matter was quickly resolved as Curtis' name was above Sigel's on the promotion list and due to Curtis' appointment orders from Major General Halleck.¹⁴⁹

With the issue of command settled, Curtis immediately started preparing his new army for a campaign across southwest Missouri. Reports of Major General Price retreating through Springfield reached Curtis, but the exact location of the enemy was not

¹⁴⁷ Ibid., 1280-1282.

¹⁴⁸ War Department, *OR*, series 1, vol. 8, 462, 469; Curtis, 635, 641.

¹⁴⁹ Curtis, 642-643.

known. In order to ascertain Price's whereabouts, Curtis sent a cavalry force out on 29 December, under the command of Colonel Carr, in the direction of Springfield. Carr was ordered to approach the enemy but fall back if attacked in force, find out how much supplies and forage were available in the area, and ascertain the best places to find supplies and forage along the routes.¹⁵⁰ Knowing his army was not ready to begin movements of their own and would not be able to re-supply Carr, Curtis ordered this cavalry force to be equipped for a sixteen-day expedition, all surplus equipment, bands, and extra baggage were left behind in Rolla.¹⁵¹

Speaking with friendly locals, Curtis was briefed that everything on the side of the roads and in close proximity to the roads on the route to Springfield was stripped bare. With this information in mind Brigadier General Curtis determined the best way to mitigate the scarcity of supplies along the route was his army would use roads not traveled as much as the main thoroughfare.¹⁵² Colonel Carr's reconnaissance also provided a wealth of information that helped Curtis formulate his plan on how he will feed and supply his army in the field away from his main supply base at Rolla. Carr reported that the army could obtain enough forage in that section of the country to supply the army. There was a lot of fresh meat in the area and mills to appropriate for military use to make flour and corn meal.¹⁵³

¹⁵⁰ Curtis, 643-644; War Department, *OR*, series 1, vol. 8, 473-474.

¹⁵¹ War Department, *OR*, series 1, vol. 8, 473.

¹⁵² *Ibid.*, 472.

¹⁵³ Curtis, 644.

While Carr and his reconnaissance element were out gathering information, the army at Rolla quickly prepared for the grueling winter campaign they were about to embark upon. Including the cavalry on the reconnaissance expedition, Brigadier General Curtis' Army of the Southwest totaled 15,000 men.¹⁵⁴ To help Curtis and this army prepare for the campaign, Major General Halleck appointed Captain Phillip H. Sheridan as Chief Quartermaster and Chief Commissary of the Army of the Southwest on 26 December 1861. Usually, an army would have one chief quartermaster and one chief commissary officer. Major General Halleck had intended Sheridan only to serve as chief commissary of this army. Sheridan asked Halleck for both quartermaster and commissary jobs. Halleck was very reluctant to do so believing Captain Sheridan could not perform both duties. Sheridan argued that he could do both jobs better than just doing one because quartermasters were in charge of transportation and controlling transportation and commissary duties would mitigate any problems that usually occurred between two staff sections. Another point Sheridan made was he believed performing both duties was essential to the success of the campaign primarily because the Army of the Southwest would subsist off the country. Impressed with the argument, Major General Halleck conceded and appointed both jobs to Captain Sheridan. A few days after his appointment Captain Sheridan reported to Brigadier General Curtis and was not impressed with the supply system of his new unit. The new chief quartermaster saw a defective supply system with no organization given in regards to transportation. He found some regiments with thirty-four wagons while other regiments had three or four wagons and he

¹⁵⁴ Ibid., 642.

immediately set out to fix the issues.¹⁵⁵ Sheridan was not the only one to realize the deficiencies in the organization to the Army of the Southwest's transportation. Both Halleck and Curtis provided guidance to Sheridan as to how he would organize and allocate wagons.

Halleck sent Curtis a memorandum that gave guidance on how Curtis should prepare transportation for his army on campaign. This memorandum is not found in any records; however, Halleck was appointed General-in-Chief of the Federal Army on 23 July 1862 and on 18 October 1862 issued General Order No. 160 to the entire army.¹⁵⁶ This General Order established regulations for army trains and baggage. It is safe to assume this General Order is the same, or close to the same, guidance Halleck sent Curtis in his memorandum concerning the transportation for the Army of the Southwest.

In summary, this General Order stipulated that an army corps headquarters train would have four wagons; division or brigade at three; infantry regiment at six; and a light artillery battery or cavalry squadron was three. This allowance would not be exceeded but a reduction in the number of wagons was allowed based on the number of men and officers actually present. All wagons above the allowance were considered surplus and would be turned over to the chief quartermasters to be organized into general supply trains or sent to the nearest depot. The required supply trains depended on the condition of the roads and type of campaign conducted. The chief quartermaster would organize trains with the approval of the commanding generals and were subject to control under

¹⁵⁵ Philip H. Sheridan, *Personal Memoires of P. H. Sheridan* (Createspace Independent Publishing, 2014), 48.

¹⁵⁶ War Department, *OR*, Series 1, vol. 11, pt. 3, 314; War Department, *OR*, Series 3, vol. 2, 671-672.

the War Department. The allowance of wagons for a regiment, battery, or squadron would only carry forage for the teams, cooking utensils, rations for soldiers, hospital stores, and officer's baggage. One wagon for regimental headquarters would carry the grain for officers' horses and three wagons for every battery or squadron to carry half a load of grain for their teams. Ammunition and bulk stores were to be carried in regular or special supply trains. Troops on an active campaign should be prepared to bivouac on the march. Baggage for officers was limited to one small valise or carpetbag, moderate mess kit, and blankets. Soldiers would limit the contents of their knapsacks as much as possible and would carry their own blanket. The depot quartermaster would provide storage for extra clothing, knapsacks, and baggage. Commanders would be held responsible for strict enforcement of these regulations, especially concerning the reduction of officers' baggage. Quartermasters were under the orders of their commanding officers on all marches. They would also go with their trains and were to conduct them in such a manner as to not obstruct troop movement. All quartermasters and commissary officers would be present to receive and issue supplies for their commands. They were to also know the condition of the depots, roads, and other communications at all times.¹⁵⁷ With this guidance and the allocation of two wagons per company, the calculated number of wagons for the Army of the Southwest is depicted in the spreadsheet below.¹⁵⁸

¹⁵⁷ War Department, *OR*, series 3, vol. 2, 671-672.

¹⁵⁸ Ferdinand Sophus Winslow, collection of letters to Mrs. Winslow, The University of Iowa Libraries, Iowa City, IA, 1862, 80.

Table 2. Breakdown of Authorized Staff Wagons per Unit

Units	HQ Wagons	Companies	Notes
Army of the Southwest	4		
HQ Units			
24th Missouri Infantry	3	10	5 companies absent
3rd Iowa Cavalry	2	10	5 companies absent
Bowen's Missouri Cavalry Battalion	2	10	4 Companies of Cavalry
1st Division	3		
1st Brigade	3		
25th Illinois Infantry	6	20	
44th Illinois Infantry	6	20	
17th Missouri Infantry	6	20	
2 Brigade	3		
36th Illinois Infantry	6	22	1 company absent; includes 2 cavalry companies.
12th Missouri Infantry	6	18	1 company absent
4th Independent Battery, Ohio Light Artillery	3		
Welfley's Independent Battery, Missouri Light Artillery	3		
2nd Division	3		
1st Brigade	3		
2nd Missouri Infantry	6	20	
15th Missouri Infantry	6	18	1 company absent
1st Missouri Flying Battery	3		
2nd Independent Battery, Ohio Light Artillery	3		
Not Brigaded			
3rd Missouri Infantry	2	6	7 companies absent
4th Missouri Cavalry	2	18	4 companies absent
5th Missouri Cavalry	3	20	
3rd Division	3		
1st Brigade	3		
8th Indiana Infantry	6	20	
18th Indiana Infantry	6	20	
22nd Indiana Infantry	6	20	
1st Battery Indiana Light Artillery	3		

2nd Brigade	3		
37th Illinois Infantry	6	20	
59th Illinois Infantry	6	20	
Battery A, 2nd Illinois Light Artillery	3		
Not Brigaded			
1st Missouri Cavalry	3	16	2 companies absent
4th Division	3		
1st Brigade	3		
4th Iowa Infantry	6	20	
35th Illinois Infantry	6	20	
1st Independent Battery, Iowa Light Artillery	3		
3rd Illinois Cavalry	3		
2nd Brigade	3		
9th Iowa Infantry	6	20	
25th Missouri Infantry	6	20	
3rd Independent Battery, Iowa Light Artillery	3		
Total:	177	408	
		585 Wagons	

Source: Created by author.

Along with getting regiments their full allotment of allocated wagons, Curtis also tried to lighten the load his army carried with it. Curtis knew the campaign would test the limits of his lines of communication. Speed and maneuverability were essential to this operation as well. On 9 January, Curtis remarked to Halleck on the efforts of his army turning in equipment and supplies not needed for the campaign.¹⁵⁹ This new Army of the Southwest had a lot of useless stuff like extra clothing, baggage, and “trumpery of all sorts.”¹⁶⁰ Curtis was surprised by how much stuff regiments carried. One of the reasons

¹⁵⁹ War Department, *OR*, series 1, vol. 8, 492.

¹⁶⁰ Curtis, 644.

regiments had so much was due in part to problems of getting supplies during the early part of the Civil War. Officers held onto everything they could get and acquired so much they were then hardly able to move. In all, the Army of the Southwest, turned in over 200-wagon loads worth of supplies and stored them safely in buildings. Based on the maximum weight capacity of a Civil War wagon (4,000 pounds), that is over 800,000 pounds worth of supplies. Curtis also had so much excess ammunition it could have supported a force twice his army's size. He appointed an ordnance officer to properly store the ammunition, to protect against moisture, and returned some to the arsenal in St. Louis. Getting rid of this excess and ensuring his regiments received an equal distribution and proper amount of supplies "will greatly improve the mobility of his army."¹⁶¹ Another order given by Curtis to improve mobility in the field was to leave Sutlers, brass bands, extra servants, and extra horses in Rolla.¹⁶² At the individual level, soldiers were only allowed one extra set of clothing and only the most necessary cooking gear to take with them. Inspections were conducted on all ammunition and weapons, all deficiencies were corrected before they left Rolla.¹⁶³ Soldiers and officers were going to have to prepare for very snug sleeping arrangements. They would have to utilize the full capacity of their tents. Fremont tents would hold eighteen men, fifteen for a Sibley tent, ten for a wall tent, and six in a wedge tent.¹⁶⁴

¹⁶¹ War Department, *OR*, series 1, vol. 8, 492.

¹⁶² Curtis, 644-645.

¹⁶³ *Ibid.*, 645.

¹⁶⁴ *Ibid.*, 644.

As preparations continued, Colonel Carr's reconnaissance mission paid huge dividends in information for the commander of the Army of the Southwest. By 2 January Carr was fifty-two miles east of Springfield conducting business around the city of Lebanon.¹⁶⁵ Weather had been awful the entire time. Continuous rain and sleet made the roads very bad for travel. Carr's trains especially had a rough time with the roads and moving on them was a slow process.¹⁶⁶ Although the roads were terrible and it delayed Carr's trains, he was very glad he brought them; he believed bringing supplies with him lessened the effect weather had on his men. Although a few became ill, it did not affect his reconnaissance force.¹⁶⁷ Carr also reported that he took 100 cattle, thirty sheep, and fifty fat hogs that were fit for slaughter to feed his command.¹⁶⁸ This confirms that the Army of the Southwest would be able to live off food foraged from the countryside. This reconnaissance mission also confirmed that Price and his Missouri State Guards had settled down in Springfield for winter quarters. Curtis asked Carr if he had any success with foraging, ordered him to send back his trains, and told him to rest in Lebanon.¹⁶⁹ The cavalry trains returned to Rolla on 11 January and Curtis loaded them with provisions and sent them back to Carr on 12 January just in time to resupply the

¹⁶⁵ War Department, *OR*, series 1, vol. 8, 480.

¹⁶⁶ *Ibid.*, 483.

¹⁶⁷ *Ibid.*, 484.

¹⁶⁸ *Ibid.*, 483.

¹⁶⁹ War Department, *OR*, series 1, vol. 8, 487-489.

reconnaissance force, as their sixteen days' worth of rations would have run out on the 13th.¹⁷⁰

With information Curtis gained from his reconnaissance, Curtis thought Lebanon would make a great place to establish a depot. It was easy to defend and the only approaches to the town were through rough defiles. With that depot, Curtis believed he could operate past Springfield without the need for any trains.¹⁷¹ Halleck agreed and gave Curtis the go ahead to move his forces from Rolla toward Springfield even though Halleck did not yet have permission from Washington, DC to commence an attack on Confederate forces in Missouri.¹⁷² Halleck told Curtis that each of his commands would travel with ten days' worth of rations and if they were near the enemy, each soldier would carry two days' worth of rations in their haversacks. To ensure soldiers did not suffer, officers would confirm soldiers had their rations.¹⁷³

The Army of the Southwest was now ready to start its campaign across southwest Missouri. Commanding the garrison post at Rolla, as their base of operations and supply, was Colonel John B. Wyman, 13th Illinois Infantry.¹⁷⁴ Curtis made Captain M. P. Small Commissary of Subsistence and put him in charge of managing all supplies in Rolla. Major William H. English was appointed Chief of Ordnance, of all ordnance stores in Rolla, and by all accounts performed very well in his job. Captain Sheridan was

¹⁷⁰ Ibid., 494, 498.

¹⁷¹ Ibid., 492.

¹⁷² Ibid., 496.

¹⁷³ Ibid., 499.

¹⁷⁴ Curtis, 642.

appointed Chief Quartermaster of the army in the field.¹⁷⁵ On 15 January, Curtis ordered Colonel Osterhaus to Waynesville and Colonel Carr to fall back to Waynesville to receive Osterhaus' forces. Curtis designated Waynesville as a supply depot.¹⁷⁶ Once Osterhaus and Carr linked up in Waynesville, Curtis ordered them to move forward to Lebanon. Curtis then ordered more troops to move forward to Waynesville to guard supply stores there and support Lebanon. By moving his units incrementally, Curtis ensured that he would not over extend his lines of communication. He would only move forward once he established a depot for supplies and his plan was to establish his main depot in Lebanon. Curtis was worried about supplying his army. "Supplies being the main question in moving armies in America, especially in a sparsely settled portion, my main efforts are devoted to that matter, and my teams, means, and men that can aid in it will be pressed with the utmost energy."¹⁷⁷

On 24 January, Carr's cavalry and Osterhaus' infantry occupied Lebanon. Sheridan was sent from Rolla to Lebanon "to aid supply business and direct matters in front."¹⁷⁸ On 26 January, Curtis and the rest of his army began the movement from Rolla to Lebanon.¹⁷⁹ Curtis had three objectives in mind once he arrived in Lebanon: To procure all the supplies he can, watch enemy movements, and get ready to strike a final

¹⁷⁵ Ibid., 675.

¹⁷⁶ War Department, *OR*, series 1, vol. 8, 504.

¹⁷⁷ Ibid., 513-514.

¹⁷⁸ War Department, *OR*, series 1, vol. 8, 523-524.

¹⁷⁹ Sheridan, 49.

blow.¹⁸⁰ It had to be a spectacular sight to watch an entire army move. Ferdinand S.

Winslow, Regimental Quartermaster for 9th Iowa Infantry, described the scene of his regiment moving out of Rolla on 28 January:

We started yesterday from Camp, and I tell you with a solemn feeling I finally saw the whole Reg't. drawn up in line, all the wagons loaded, the whole Battery mounted and ready, and finally when the bugle sounded the March order, to see the whole line of glittering bayonets, the 27 wagons with their white duck covers, the six cannons and six caissons, all the 175 mules and 150 horses move slowly head and passing me.¹⁸¹

The movement to Lebanon proved to be a very difficult journey for the Army of the Southwest. This was the coldest part of the year and even though not a lot of snow had fallen yet, frost was very bad. The army traveled through very hilly country and the roads were extremely bad, which alternated back and forth from deep mud to rough frozen ground. If the roads and hills were not bad enough, the army had to deal with crossing numerous streams in this part of the country.¹⁸² There was so much mud that Winslow worried how they would get their heavy wagons through.¹⁸³ Sheridan even commented on the effect these roads and streams had on the trains. "The roads were deep with mud, and so badly cut up that the supply trains in moving labored under the most serious difficulties, and were greatly embarrassed by swollen streams."¹⁸⁴

¹⁸⁰ War Department, *OR*, series 1, vol. 8, 526.

¹⁸¹ Ferdinand Winslow to wife, 29 January 1862, in camp West of Rolla, MO, in Ferdinand Winslow Letters, 83.

¹⁸² Curtis, 675-676.

¹⁸³ Ferdinand Winslow to wife, 29 January 1862, in camp West of Rolla, MO, in Ferdinand Winslow Letters, 83.

¹⁸⁴ Sheridan, 49.

Due to the amount of troops and trains traveling, the roads deteriorated to a point where they were not fit for travel. Trains got stuck in a river of mud that barely resembled a road and had great difficulties extracting themselves. The army did try to mitigate the situation by using three separate routes advancing to Lebanon. The first route was south of the Gasconade River, crossing the streams of the Little and Big Piney Rivers, onto Waynesville, and crossing the Gasconade there. The second was a northern route using the Union Road crossing the Gasconade twelve miles from Rolla, then moving on the northern bank. The final route was Colonel Davis' brigade coming from Otterville, Missouri on the northern branch of the Pacific Railroad to the northwest of Rolla via Lynn Creek and crossing the Osage River. Using these three routes it enabled the army to move with greater speed because some of the roads on these routes had less men and trains traveling on them. This method also deceived the enemy because it was more difficult for Price to discern the size and main route of advance of the Army of the Southwest.¹⁸⁵

Curtis and the Army of the Southwest consolidated in Lebanon by 31 January.¹⁸⁶ By the time everyone had arrived to Lebanon, almost all of the food carried had been consumed. Feeding the army off the country started at this point. Thus, the second phase of the operation, the pursuit of the Missouri State Guard and flour production, started at this juncture.

¹⁸⁵ Curtis, 677-678.

¹⁸⁶ War Department, *OR*, series 1, vol. 8, 538.



Figure 3. Southeast Missouri and Northwest Arkansas: Pea Ridge Campaign Map

Source: William L. Shea and George Skoch, *The Campaign for Pea Ridge: Civil War Series* (Ft. Washington, PA: Eastern National, 2001), 7.

Pea Ridge Campaign Phase 2

The Army of the Southwest, now in Lebanon, Missouri, was organized into four divisions.¹⁸⁷ Curtis was now within fifty-four miles of Price and his Missouri State Guard in Springfield. In order to overtake Price, Curtis knew his army had to move as quickly as possible while not overextending his lines of communication or outrunning his supply trains in the process. Curtis already understood how his trains would affect his operation. His supply trains left Rolla on 24 January and reached Lebanon on 1 February. This made it an eight-to-nine day travel time in bad weather.¹⁸⁸

Table 3. Organization of the Army of the Southwest and Commanders

Command	Commander
Army of the Southwest, As Organized at Lebanon, Missouri, February, 1862	Brigadier General Samuel Ryan Curtis
Headquarters Units	
24th Missouri Infantry	Major Eli W. Weston
3rd Iowa Cavalry	Colonel Cyrus Bussey
Bowen's Missouri Cavalry Battalion	Major William D. Bowen
1st and 2nd Division	Brigadier General Franz Sigel
1st Division	Colonel Peter Joseph Osterhaus
1st Brigade	Colonel Peter Joseph Osterhaus
25th Illinois Infantry	Colonel W. N. Coler
44th Illinois Infantry	Colonel Knobelsdorff
17th Missouri Infantry	Major August H. Poten
2nd Brigade	Colonel Nicholas Greusel
36th Illinois Infantry	Colonel Nicholas Greusel
12th Missouri Infantry	Major Hugo Wangelin
4th Independent Battery, Ohio Light Artillery	Captain Louis Hoffman

¹⁸⁷ Curtis, 679-681.

¹⁸⁸ War Department, *OR*, series 1, vol. 8, 540.

Welfley's Independent Battery, Missouri Light Artillery	Captain Martin Welfrey
2nd Division	Brigadier General Alexander S. Asboth
1st Brigade	Colonel Frederick Schaefer
2nd Missouri Infantry	Lieutenant Colonel Bernard Laiboldt
15th Missouri Infantry	Colonel Francis J. Joliat
1st Missouri Flying Battery	Captain Gustavus M. Elbert
2nd Independent Battery, Ohio Light Artillery	Lieutenant William B. Chapman
Not Brigaded	
3rd Missouri Infantry	Major Joseph Conrad
4th Missouri Cavalry (Fremont Hussars)	Major Emeric Meszaros
5th Missouri Cavalry	Colonel Joseph Nemett
3rd Division	Colonel Jefferson C. Davis
1st Brigade	Colonel Thomas Pattison
8th Indiana Infantry	Colonel William P. Benton
18th Indiana Infantry	Lieutenant Colonel Henry D. Washburn
22nd Indiana Infantry	Lieutenant Colonel John A. Hendricks
1st Battery Indiana Light Artillery	Captain Martin Klauss
2nd Brigade	Colonel Julius White
37th Illinois Infantry	Lieutenant Colonel Myron S. Barnes
59th Illinois Infantry	Lieutenant Colonel Calvin H. Frederick
Battery A, 2nd Illinois Light Artillery	Captain Peter Davidson
Not Brigaded	
1st Missouri Cavalry	Colonel Calvin A. Ellis
4th Division	Colonel Eugene Carr
1st Brigade	Colonel Grenville M. Dodge
4th Iowa Infantry	Lieutenant Colonel John Galligan
35th Illinois Infantry	Colonel Gustavus A. Smith
1st Independent Battery, Iowa Light Artillery	Captain Junius A. Jones
3rd Illinois Cavalry	Major John McConnell
2nd Brigade	Col. William Vandever
9th Iowa Infantry	Lieutenant Colonel Francis J. Herron
25th Missouri Infantry	Colonel John S. Phelps
3rd Independent Battery, Iowa Light Artillery	Captain Mortimer M. Hayden

Source: William L. Shea and Earl J. Hess, *Pea Ridge: Civil War Campaign in the West* (Chapel Hill: University of North Carolina Press, 1992), 331-334.

On 7, 8, and 9 February, Brigadier General Curtis issued three special orders concerning the conduct of the campaign in regards to their rations and what will be carried or hauled. In Special Order Number 75, Curtis complimented his men on their conduct so far. “You have moved during the coldest and most stormy period of cold winter, and so far brought your trains and equipments through snow, mud, floods, and frost without his hearing of a murmur and without loss of property or men.”¹⁸⁹ The order continued to say the success of the winter campaign would require further reductions and hardships. They would have to “strip for a forced march and final conflict.”¹⁹⁰ Only necessary tents and six days of light rations would be carried in a special train. This train would be ready for any occasion. The light ration was hard bread, flour, hominy, rice, desiccated potatoes, mixed vegetables, sugar, coffee, and salt. The commissary would provide extra rations of fresh beef and pork. They were to cook rations at night and the men should make beef jerky to carry in their haversacks. If this were done, it would mitigate needless suffering and enhance the efficiency of their force. Most of the tents, trunks, boxes, cooking utensils, along with camp equipment and change of clothing were left with the rest of the regimental wagons. Quartermasters were to bring these items forward as circumstances allowed. Teams for the forced march were to haul wagons that were not to exceed 2,000-pound loads. The next day Curtis issued Special Order Number 78, further reducing the ration. Because of the difficulty in getting flour and the abundance of fresh meat, Curtis felt a reduction in the ration was necessary. Flour went from eighteen ounces to fourteen ounces; salt meat from eighteen ounces to twelve

¹⁸⁹ War Department, *OR*, series 1, vol. 8, 549.

¹⁹⁰ *Ibid.*, 540.

ounces and because of this reduction, the allowance for fresh meat was doubled. Corn meal costs less per pound than flour does and when the commissary procures corn meal, three pounds was issued instead of flour if the soldier wanted corn meal as opposed to flour.¹⁹¹ Special Order Number 81 specified, while on the march soldiers were to carry one day's ration in their haversack with six days rations as prescribed from Special Order Number 75. Quartermasters and commissaries were to procure forage for animals each time they set up camp along the way. Curtis again stated that double rations of fresh meat are necessary.¹⁹²

One of the biggest concerns Curtis had before starting this campaign was how to feed his army. Foraging operations was a key element in solving this problem.¹⁹³ During Colonel Carr's reconnaissance mission in January, he started the flour production operation that would eventually be handed over to Captain Sheridan. The process for flour or corn meal production is a long and labor-intensive process. To make flour, wheat was gathered from the stacks, threshed, and sent to a mill for grinding. The process for corn meal is the same.¹⁹⁴ On 26 January, Carr, in Lebanon, reported to Curtis that he has taken over two mills. One called Bennett's Mill, twelve miles northwest of Lebanon, and another mill near the Osage Fork, eleven miles southeast of Lebanon. Carr was told Bennett's Mill could produce 15,000 pounds per day, although Carr does not believe this

¹⁹¹ War Department, *OR*, series 1, vol. 8, 549-550.

¹⁹² *Ibid.*, 551.

¹⁹³ *Ibid.*, 488.

¹⁹⁴ Sheridan, 49.

one mill could do this, he did believe with both mills in operation 15,000 pounds per day could be accomplished.¹⁹⁵

While the Federals occupied Lebanon preparing to move forward, Curtis and Sheridan sent for Ferdinand Winslow, recently appointed Assistant Quartermaster for the Army of the Southwest, and he was put in charge of the forage (feed for animals) department.¹⁹⁶ Winslow remained in Lebanon to buy all the grain and hay he could for the whole army. This was a very important job; the welfare of the entire force was dependent on forage to feed its animals. Without forage, wagon trains would not be able to operate and deliver supplies to the men. Along with the animals pulling the trains for each division, there was an additional 300 six-mule team wagons on the road every day going to and from Rolla delivering supplies to the Army of the Southwest.¹⁹⁷ Winslow needed to produce over 400 bushels of corn every day in order to keep the animals alive. He found there was actually a good amount of forage in and around Lebanon but it was hard to haul in due to farmers not owning any teams to transport forage.¹⁹⁸

Sheridan concentrated on milling operations in Lebanon and through hard work enough flour, corn meal, and beef cattle, for the meat ration, was produced and procured to allow the army to continue its march toward Springfield. On 10 February, Brigadier

¹⁹⁵ War Department, *OR*, series 1, vol. 8, 527.

¹⁹⁶ Ferdinand Winslow to wife, 28 January 1862, in camp near Rolla, MO, in Ferdinand Winslow Letters, 81; Ferdinand Winslow to wife, 2 February 1862, Lebanon, MO, in Ferdinand Winslow Letters, 86.

¹⁹⁷ Ferdinand Winslow to wife, 2 February 1862, Lebanon, MO, in Ferdinand Winslow Letters, 86.

¹⁹⁸ Ferdinand Winslow to wife, 4 February 1862, Lebanon, MO, in Ferdinand Winslow Letters, 88.

General Curtis left Colonel George E. Warring and a few companies as a garrison in Lebanon as the Army of the Southwest continued its march towards Springfield.¹⁹⁹ Moving cautiously towards Springfield the Federals rested at Marshfield on 11 February. The next day they left a small garrison in Marshfield and moved within eight miles of Springfield. Curtis, at this point, had a force of 12,095 men total, comprised of 9,585 infantry, 2,510 cavalry, and fifty pieces of artillery. The Federals were ready to retake Springfield and began their assault on 13 February. One company from the 4th Iowa Infantry was sent ahead of the army to act as skirmishers and initiate engagements with the enemy. This one company ended up retaking Springfield on its own as Major General Price and his Missouri State Guards fled during the night.²⁰⁰ Price evacuated Springfield the day before and made haste to link up with Brigadier General McCulloch in the Boston Mountains just south of Fayetteville, Arkansas.²⁰¹

With the Missouri State Guard fleeing the state, the Army of the Southwest prepared to follow; Sheridan was directed to set up his Quartermaster Department in Springfield. Sheridan established an operation as he had done in Lebanon, by gathering supplies from the countryside then sending them forward. With Price heading towards Fayetteville, further extending Curtis' lines of communication, Springfield was now the main forward depot of supplies. Setting up logistics operations was very hard work if it was going to succeed. Sheridan would have to oversee the procurement of grain, run the mills, replace parts, fix mills, and arrange for the movement of supplies forward to an

¹⁹⁹ Curtis, 723-725.

²⁰⁰ Ibid., 675.

²⁰¹ Ibid., 736.

army on the move. It was exhausting work for everyone involved.²⁰² The Quartermaster Department in St. Louis sent Sheridan \$40,000 to help set up operations.²⁰³ Needing help with this endeavor, Sheridan instructed Winslow to transfer his papers and stores over to a lieutenant in Lebanon and move to Springfield. Sheridan also ordered Captain J. H. McKay, Post Quartermaster at Lebanon, to transfer 125 wagons and any supplies and stores Winslow needed to go with him to Springfield. Upon arrival, Winslow was appointed as Post Quartermaster and Commissary of Springfield.²⁰⁴

After fixing a flouring mill around Marshfield, Sheridan and Winslow worked furiously to establish operations in Springfield.²⁰⁵ All bakeries in Springfield were set up to support the army, as well as blacksmiths, carpenters, and saddlers. All sorts of equipment was gathered from around town and men were sent out to gather wheat, corn, hay, and wood. A supply train came in and the two quartermasters were able to set up their stores. With this train, 105 heads of cattle came in and a post butchery was established. By 15 February, there was 24,000 pounds of flour in the mills with 800 barrels of flour ready for delivery from the mills at Lebanon and Marshfield.²⁰⁶ After a few days, operations were going well and supply trains were coming in one after another. Storehouses began filling with all sorts of provisions. Captains Sheridan and Winslow

²⁰² Sheridan, 49-50.

²⁰³ Ferdinand Winslow to wife, 2 February 1862, Lebanon, MO, in Ferdinand Winslow Letters, 86.

²⁰⁴ Ferdinand Winslow to wife, 15 February 1862, Springfield, MO, in Ferdinand Winslow Letters, 91.

²⁰⁵ Ibid., 92.

²⁰⁶ Ibid., 95.

commandeered a mason's hall as their office and conducted business from there with customers crowding them all day.²⁰⁷ The operations Sheridan set up started to perform so well and they were able to produce so much flour and corn meal the only items they needed from Rolla were some bacon and only a little part of the ration to help them feed the Army of the Southwest.²⁰⁸ As Springfield quickly became the center for logistical operations, Sheridan was determined the campaign would not fail due to bad roads or disaster to the trains.²⁰⁹

As Sheridan finished setting up the Quartermaster Department in Springfield, the Army of the Southwest continued its pursuit of the Missouri State Guard through southwest Missouri all the way to Fayetteville, Arkansas. Some skirmishes occurred during this chase but no major engagements happened. Price was in such a rush to link up with McCulloch in Arkansas, Curtis' force continuously captured prisoners, wagons, arms, and cattle the Missouri State Guard abandoned.²¹⁰ Halleck ordered Curtis to not advance further than Fayetteville.²¹¹ The order to not advance further than Fayetteville was not needed. Price linked up with McCulloch in the Boston Mountains and those mountains served as a barrier to the Army of the Southwest, already exhausted from marching across Missouri and Arkansas. They also would not be able to get supplies

²⁰⁷ Ferdinand Winslow to wife, 17 February 1862, Springfield, MO, in Ferdinand Winslow Letters, 99.

²⁰⁸ Sheridan, 50.

²⁰⁹ Ibid.

²¹⁰ War Department, *OR*, series 1, vol. 8, 558-559.

²¹¹ Ibid., 563.

from that area and were already too far from their main supply base of Rolla. Operational attrition also took its toll, as long lines of communication required a constant moving force to guard supply trains; garrisons had to be left in Marshfield, Springfield, Cassville, and Keetsville; and the amount of men needed to establish more garrison posts were not available. Advancing past Fayetteville would stretch Curtis' lines of communication too far and weaken the army by increasing the number of points that needed to be defended.²¹² The Army of the Southwest setting up camp in northwest Arkansas ended phase two of the Pea Ridge Campaign.

Phase 3: The Battle of Pea Ridge

With the combined Confederate forces of Major General Sterling Price and Brigadier General Ben McCulloch together commanded by Major General Earl Van Dorn under the name of the Army of the West in the Boston Mountains and the Federal Army of the Southwest north of Fayetteville started phase three of the campaign; the Battle of Pea Ridge on 7-8 March 1862. A report from 12 February had the Army of the Southwest's strength at 12,095 men with fifty pieces of artillery. With all the garrisons and guards Curtis stationed at Mansfield, Springfield, Cassville, and Keetsville to protect his line of communications, he brought a force into Arkansas of 10,500 cavalry and infantry with forty-nine pieces of artillery.²¹³ Supplies and forage were scarce at this

²¹² War Department, *OR*, series 1, vol. 8, 196; Curtis, 732-733.

²¹³ Eugene B. Payne, "The Thirty-Seventh Illinois Veteran Volunteer Infantry, and the Battle of Pea Ridge, Arkansas," in *War Papers. Being Papers Read Before The Commandery of the District of Columbia Military Order of the Loyal Legion of the United States. Volume 2-1897/1903* (Wilmington, NC: Broadfoot Publishing Company, 1993), 474; War Department, *OR*, series 1, vol. 8, 196.

point in the campaign and Curtis sent large detachments of soldiers across the countryside to find what forage they could. Curtis wanted them to stay within supporting distance so they could rally to battle if need be.²¹⁴ Not only was Curtis sending out foraging parties he continuously received supply trains and even used provisions left by the Confederate forces.²¹⁵

During the retreat to the Boston Mountains, Major General Price burnt buildings, provision stores, and arms because he could not take them with him. In addition, Major General Price could not burn everything and left a considerable amount of supplies behind that Brigadier General Curtis confiscated and used to provide for his men.²¹⁶ Price's semi scorched-earth campaign created more of a problem for Curtis because Price targeted mills and forage in the area. Curtis sent out his foraging parties further away and this necessitated sending cavalry out to protect the area from the Confederates and guerrillas. Because foraging and milling requires cavalry protection, Curtis set his pickets up at the mills to simultaneously protect the mills and control the country.²¹⁷ This was the situation of the Army of the Southwest when the Rebels aggressively moved north out of their Boston Mountain cantonments. Brigadier General Curtis established camp behind Little Sugar Creek and fortified the north bank of the creek. His four divisions to his left

²¹⁴ War Department, *OR*, series 1, vol. 8, 196.

²¹⁵ *Ibid.*, 577.

²¹⁶ *Ibid.*, 562.

²¹⁷ *Ibid.*, 575-589.

and right flanks sent out their detachments with cavalry to forage, operate mills, and control the terrain; some as far away as ten miles.²¹⁸

On 4 March, the Army of the Southwest locations were centered on the Little Sugar Creek positions. Both the 1st and 2nd division under Brigadier General Franz Sigel were four miles southwest of Bentonville near two farms, Cooper's Farm and McKisick's Farm, fourteen miles to the west of Sugar Creek.²¹⁹ Colonel Jefferson C. Davis' 3rd division was already at Sugar Creek and preparing to make a stand. Colonel Eugene Carr's 4th division, with Brigadier General Curtis's headquarters, was about twelve miles from Little Sugar Creek at Cross Hollows on the main road between Springfield and Fayetteville.²²⁰ Recall orders were sent to all detachments out foraging and to collect information with only one foraging party not making it back in time for the battle. Curtis arrived at Sugar Creek on 6 March and sends orders to his divisions to converge on his location.²²¹

Brigadier General Sigel's two divisions began their movement at two o'clock in the morning on 6 March. Brigadier General Alexander Asboth's division left first with the trains followed by Colonel Peter Osterhaus. With around 600 men, Sigel brought up the rear on the eastern edge of Bentonville to defend the main column and to ascertain what route the Confederates would use to begin their attack.²²² Sigel encountered a large

²¹⁸ War Department, *OR*, series 1, vol. 8, 575; Sigel, 317.

²¹⁹ War Department, *OR*, series 1, vol. 8, 196, 208.

²²⁰ *Ibid.*, 196.

²²¹ *Ibid.*

²²² Sigel, 320.

element from the Army of the West but escaped and arrived at the Little Sugar Creek fortifications on the night of 6 March.²²³ The Confederate forces Sigel encountered were part of the whole Army of the West that was moving on Bentonville Road towards Cross Timber Hollows that moved all night long on the 6th to position themselves to the rear of the Army of the Southwest. Major General Earl Van Dorn, now in command of the Army of the West, wanted to position his force to cut off the lines of retreat and lines of communication to Keetsville as well as cutting off Curtis' supply trains and reinforcements.²²⁴

Major engagements of the battle started on 7 March. Van Dorn, realizing that surprise had been lost when he failed to crush Sigel's elements at Bentonville the previous day, decided on a bold flanking maneuver that brought the Army of the West in behind the Federal position at Little Sugar Creek. While bold, the maneuver asked far too much of his exhausted men, and while it did indeed put the Army of the West in the Federals' rear, it left the Unionists astride the Rebel lines of communications. Van Dorn needed to defeat Curtis quickly and decisively or else a potential disaster loomed. Having circled around Curtis, Van Dorn split his force into its two component elements. He traveled with Price and the Missouri State Guard, the Left Wing, all the way around Big Mountain to come in from the north along Telegraph Road. McCulloch and the Right Wing moved south along Ford Road, which would have brought the Right Wing across the southern edge of Big Mountain, and the two wings were to unite just south of Elkhorn

²²³ War Department, *OR*, series 1, vol. 8, 210.

²²⁴ *Ibid.*, 211.

Tavern on the Wire Road. However, the re-unification of the Army of the West did not take place as Van Dorn planned.²²⁵

Van Dorn's plan may have worked if he could surprise the Federals and attack the Army of the Southwest from the rear—but the Unionists were too proactive for that. Curtis had scouts out along the Bentonville Detour and Telegraph Road who not only informed him of Confederate movements, but also built obstructions on both to slow the Rebel flanking maneuver. This gave the Federal commander time to reposition his army so that his rear was faced south and his left and right flanks switched.²²⁶ Fighting started around eleven o'clock in the morning at Leestown and later near Elkhorn Tavern.²²⁷

The entire campaign hinged on the outcome of the fighting near Elkhorn Tavern. The Federal consolidated supply trains were located a mile-and-a-half south of the tavern along the Wire Road. If the Confederates broke through the Federal lines and took the trains, it would have been disastrous for the Army of the Southwest. Colonel Carr was ordered to defend that portion of the battle.²²⁸ Not only to engage the enemy but to protect his supply wagons as well. The fighting was intense. Artillery kept firing until it ran out of ammunition. As night fell the Confederates fired the last shot but only because Curtis did not have any ammunition to give to his batteries.²²⁹ Although Curtis' trains were within a mile from the fighting, it is most likely that the intense fighting kept them

²²⁵ War Department, *OR*, series 1, vol. 8, 283-284.

²²⁶ *Ibid.*, 198-199.

²²⁷ *Ibid.*, 211.

²²⁸ *Ibid.*, 258.

²²⁹ *Ibid.*, 201.

from resupplying the batteries during the fight. Both sides kept pounding away at each other until night fell.

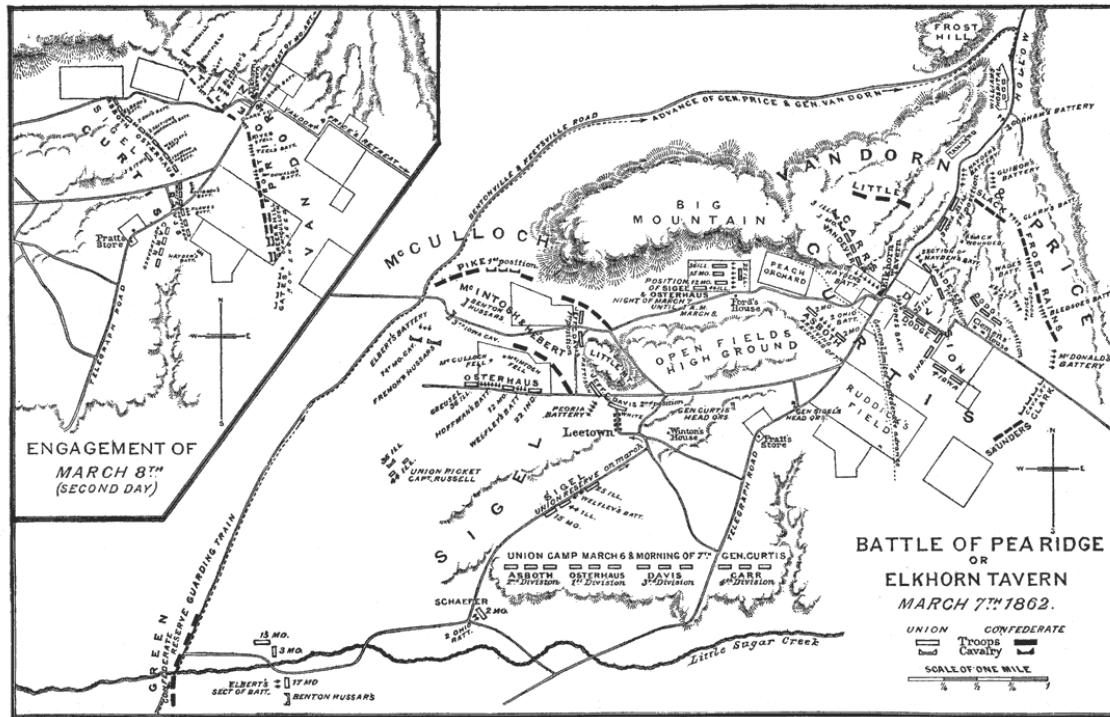


Figure 4. The Battle of Pea Ridge, 7-8 March

Source: Brigadier General Franz Sigel, "The Pea Ridge Campaign," in *Battles and Leaders of the Civil War: Being for the Most Part Contributions by Union and Confederate Officers*, based upon The Century War Series, vol. 1 (New York: Castle, 1982), 322.

The two exhausted armies bivouacked within musket range of each other on the night of 7 March.²³⁰ Brigadier General Sigel did not allow his men any campfires,

²³⁰ Cyrus Bussey, "The Pea Ridge Campaign Considered," in *War Papers. Being Papers Read Before The Commandery of the District of Columbia Military Order of the*

ordered them to be extremely quiet, and to travel no further than 200-to-300 paces away from their location. Around one o'clock in the morning Sigel withdrew his force and moved to the common camp established by Curtis to get rest, food, and to prepare for the next day's fight.²³¹ Other regiments sent details to the camp for water and provisions to feed their men.²³² Curtis, having his trains with him, allowed him to refit his army on the night of the 7th and morning of the 8th. When the Army of the Southwest resumed the fight the next day, it was well fed and well stocked with ammunition. The same cannot be said for their Rebel counterparts in the Army of the West.

In Major General Van Dorn's after action report of the battle, he states that on 8 March his army was out of provisions and only gave battle that day so that his army could withdraw.²³³ Van Dorn goes on to report that he found out on the night of 7 March his army's ammunition was almost exhausted. To make matters worse, the officer in charge of ordnance supplies could not find his ammunition supply wagons, which he had sent, with the subsistence wagons, to Bentonville.²³⁴ The Army of the West had also started marching on 4 March with three days cooked rations so that by the 7th they were out of food and almost out of ammunition.²³⁵ Price also made the decision to leave his

Loyal Legion of the United States. Volume 3–1903/07 (Wilmington, NC: Broadfoot Publishing Company, 1993), 277.

²³¹ War Department, *OR*, series 1, vol. 8, 212-213.

²³² Bussey, 277.

²³³ War Department, *OR*, series 1, vol. 8, 281.

²³⁴ *Ibid.*, 284.

²³⁵ *Ibid.*, 284, 304-306.

baggage and supply trains to follow slowly to his rear.²³⁶ The trains were left at the Confederate camp, Camp Stephens, near Bentonville, on the 7th and were ordered forward on the 8th. The first time the trains attempted to reach the Army of the West they ran into a larger Federal force and returned to their camp. The second attempt, escorted by 200 Indians, the trains successfully circumvented the Federals by using a different route and reached the battlefield. However, by the time they reached the battlefield on the 8th, the Confederate army had fled so the trains went back and linked up with the Army of the West at Walnut Grove.²³⁷

Heavy fighting took place on 8 March between the two armies. Both forces concentrated their armies around Elkhorn Tavern over mainly open ground.²³⁸ As previously stated, the Confederates only engaged on the 8th to cover their withdrawal. By the end of the day, the Federal army stood victorious as the Confederate army fled the field.²³⁹ Federal casualties were 201 killed, 980 wounded in action and 201 missing or captured. The Army of the Southwest's total casualties were 1,384 killed, missing, captured, or wounded.²⁴⁰ No definite numbers were reported for Confederate casualties.

Thus ended the Pea Ridge Campaign. In the next chapter, this paper will analyze the logistical operations of the campaign using the eight principles of logistics. This paper will also conclude by answering the primary research question: How did logistical

²³⁶ War Department, *OR*, series 1, vol. 8, 304.

²³⁷ *Ibid.*, 317-318.

²³⁸ *Ibid.*, 201-202.

²³⁹ *Ibid.*

²⁴⁰ *Ibid.*, 206.

operations affect the operational reach, freedom of action, and endurance for the Army of the Southwest during the Pea Ridge Campaign?

CHAPTER 5

CONCLUSION

After viewing the Pea Ridge Campaign through a logistical lens, it is necessary to analyze the Army of the Southwest's execution logistics operations. To help analyze logistical operations we will use the current United States Army principles of logistics. There are eight principles of logistics in the United States Army doctrine: integration, anticipation, responsiveness, simplicity, economy, survivability, continuity, and improvisation.²⁴¹

Integration is ensuring logistics are included in operational plans.²⁴² Logistics should be complementary and requires coordination and synchronization with operations. If logistics are not integrated with operations, the result would most likely be a failure to accomplish the mission.²⁴³ Anticipation is visualizing the operation, determining requirements, and starting necessary actions for logistic operations. Commanders, or planners, use their judgment based on their experience, knowledge, education, intelligence, and intuition to anticipate requirements and actions for an operation.²⁴⁴

Requirements will often change during an operation. Reacting to these changes and meeting requirements to maintain support is known as the principle of

²⁴¹ Headquarters, Department of the Army, Army Doctrine Publication (ADP) 4-0, *Sustainment* (Washington, DC: Government Printing Office, July 2012), 3-4.

²⁴² Headquarters, Department of the Army, ADRP 4-0, 1-2.

²⁴³ Headquarters, Department of the Army, Field Manual (FM) 4-0, *Sustainment* (Washington, DC: Government Printing Office, April 2009), 1-2.

²⁴⁴ Headquarters, Department of the Army, ADRP 4-0, 1-3.

responsiveness.²⁴⁵ “It is providing the right support in the right place at the right time.”²⁴⁶

In order to meet changing requirements leaders must identify, accumulate, and maintain enough resources, capabilities, and information.²⁴⁷ Responsiveness helps commanders maintain operational focus, pressure, prevent exhaustion of friendly operations, and extend operational reach.²⁴⁸

The goal of the principle of simplicity is to minimize complexity in logistics operations.²⁴⁹ The processes and procedures associated with supplying and maintaining armies can become unnecessarily complex, which can lead to confusion.²⁵⁰ Ways to help with simplicity are clarity of task, standardized and interoperable procedures, and clearly defined command relationships. Simplicity is an enabler to economy and enhances efficiency in using resources to ensure supporting the force is effective.²⁵¹

For a commander to employ all his assets to achieve the greatest effect, resources must be utilized in an efficient manner. This is known as the principle of economy. Efficient management, discipline, prioritization, allocation of resources, and eliminating redundancies are all used to help achieve economy.²⁵² One of the most effective ways to

²⁴⁵ Ibid.

²⁴⁶ Headquarters, Department of the Army, ADP 4-0, 3.

²⁴⁷ Headquarters, Department of the Army, ADRP 4-0, 1-3.

²⁴⁸ Headquarters, Department of the Army, ADP 4-0, 3.

²⁴⁹ Headquarters, Department of the Army, FM 4-0, 1-3.

²⁵⁰ Headquarters, Department of the Army, ADRP 4-0, 1-3.

²⁵¹ Headquarters, Department of the Army, FM 4-0, 1-3.

²⁵² Headquarters, Department of the Army, ADRP 4-0, 1-3.

economize logistics operations is to reduce unnecessary transportation requirements.²⁵³

Survivability is a principle concerning the protection of all personnel, equipment, and supplies while at the same time deceiving the enemy.²⁵⁴ The flow of supplies from a

depot to an army in the field is a vulnerable and highly valuable target to the enemy.

Environmental conditions can hinder logistics operations and is another consideration for survivability.²⁵⁵

Providing uninterrupted support at all levels of war and ensuring logistical operations link to combat operations is the principle of continuity. One way to achieve continuity is to link the distribution system from the strategic level down to the tactical level.²⁵⁶ The benefit of continuity is providing confidence in logistics by allowing commanders to increase operational reach, freedom of action, and prolong endurance.²⁵⁷

A well-executed logistics operation must be able to adapt to unexpected situations or circumstances that arise during combat operations that could affect the outcome of the mission. Improvisation is vital in providing adaptability.²⁵⁸

Anticipation, economy, integration, continuity, survivability, and responsiveness were the principles that Curtis, and to an extent Halleck and Sheridan, effectively used that had the greatest positive effect to Federal logistics operations during the Pea Ridge

²⁵³ Headquarters, Department of the Army, FM 4-0, 1-3.

²⁵⁴ Headquarters, Department of the Army, ADRP 4-0, 1-3.

²⁵⁵ Headquarters, Department of the Army, ADP 4-0, 3.

²⁵⁶ Headquarters, Department of the Army, ADRP 4-0, 1-3 – 1-4.

²⁵⁷ Headquarters, Department of the Army, ADP 4-0, 4.

²⁵⁸ Headquarters, Department of the Army, ADRP 4-0, 1-4.

Campaign. Both Halleck and Curtis correctly anticipated the hardships involved when conducting a winter campaign and the difficulty in supplying the army the further away they got from their main supply base in Rolla. It is evident they anticipated the requirements of the campaign by the actions Curtis took when preparing his army for the campaign. Knowing the army would have to rely on wagons Curtis ensured each division, brigade, and regiment had the correct allocation of wagons. More evidence of great anticipation was realizing that only the most necessary supplies needed to be hauled in the wagons. Curtis spent most of the time in Rolla turning in unnecessary equipment and supplies that the army did not need while on the march. This decision also goes to the principle of economy by ensuring his wagons (assets) achieved the greatest effect and were used in an efficient manner. Reducing the ration also reflects the economy principle. By reducing the ration, this ensured that the food stores, combined with foraging, lasted longer. It also allowed them to carry more food in the wagons.

Curtis' concept of support was completely integrated into his campaign plan. Every time his army stopped foraging parties were sent out to forage for wheat and corn accompanied by cavalry. Taking over mills to grind the wheat and corn into flour and meal, Curtis would also use these mills to set up his pickets. Because of integrated support, this allowed for greater continuity. It was only until Van Dorn cut off Curtis' lines of communication during the Battle of Pea Ridge did the Army of the Southwest's support was interrupted. Finally, Curtis did a very good job abiding to the principle of survivability. By leaving garrisons at Keetsville, Cassville, Springfield, and Marshfield, he ably protected his entire main supply route and supply trains. Only Keetsville was overrun and only during the battle of Pea Ridge were some of his trains captured. In

addition, with those garrisons and Springfield designated as an advanced depot for his supplies, Curtis provided very good responsiveness in his resupply operations.

So what about the principles of improvisation and simplicity? Improvisation cannot be considered in this analysis. Curtis' plan from the start was to forage, use mills, and set up a depot and garrisons.²⁵⁹ Nothing completely unexpected happened to his army that forced it to totally improvise something new to adapt to unexpected circumstances. The only principle that Curtis defied is that of simplicity. Even though his plan seemed simple enough, it was a very complex process that could not be avoided. The process of foraging for wheat and turning it into flour involved many steps to make it happen, but there was not a simpler way of resupplying his force that would have been more effective. It is now time to answer the primary research question of this thesis. How did logistical operations affect the operational reach, freedom of action, and endurance for the Army of the Southwest during the Pea Ridge Campaign?

First, what does operational reach, freedom of action, and endurance mean? "Operational reach is the distance and duration across which a unit can successfully employ military capabilities."²⁶⁰ When an army has come to the end of its operational reach, it comes to a culminating point.²⁶¹ Freedom of action allows armies to achieve operational initiative, the will to act, and control and maintain operational tempo.²⁶² Endurance is the ability to employ combat power for an extended duration of time

²⁵⁹ War Department, *OR*, series 1, vol. 8, 469, 472, 481, 487.

²⁶⁰ Headquarters, Department of the Army, ADP 4-0, 11.

²⁶¹ *Ibid.*

²⁶² *Ibid.*, 13.

anywhere.²⁶³ The resupply system Curtis emplaced greatly increased his operational reach. By establishing a depot in Springfield with garrisons in three other towns, the Army of the Southwest conducted a campaign from Rolla to Fayetteville, Arkansas without reaching a culmination point. The foraging operations and production of flour and meal limited Curtis' freedom of action. Curtis wanted to set a very fast tempo for his campaign but was slowed down the need to constantly forage, find mills, and set mills into operation. The reliance on wagons also contributed to decreased tempo.²⁶⁴ Curtis was never in control of his tempo but rather a slave to his resupply operations he set in place. However, the same resupply operations allowed Curtis to increase his endurance. His concept of support allowed his army to travel over 250 miles during winter for two months while pursuing an enemy. Having his baggage and supply wagons travel with his army greatly increased his endurance during the battle of Pea Ridge. He was able to outlast the Confederate force and drove them from the field of battle.

The Army of the Southwest reliance on wagons means their baggage and supply trains were a critical vulnerability to the army. When the whole army arrived in and around Elkhorn Tavern, Curtis consolidated his wagons and put his provost marshal in charge of their immediate protection. On 7 March, when Curtis saw the Confederate force had gone around him and planned on attacking his rear, he realized the portion of the Army of the West attacking through Elkhorn Tavern put them on a direct route to either capture or destroy his wagons. Curtis immediately sent Carr's division to engage

²⁶³ Headquarters, Department of the Army, ADP 4-0, 15.

²⁶⁴ Curtis, 727.

the enemy at Elkhorn Tavern and protect his wagons, thus adhering to the principle of survivability.²⁶⁵

Curtis and the Army of the Southwest conducted their logistics operations in concert with their combat operations so effectively it led to a decisive victory in the Battle of Pea Ridge. Van Dorn and the Army of the West contributed to the Federal victory during the battle by displaying incompetence in their logistics. Price's order to only march with three days' worth of rations meant his force had no food, other than what it carried or captured, for the duration of the battle. In addition, Price's failure to ensure that he had his supply wagons with him at Pea Ridge proved catastrophic.²⁶⁶ Van Dorn, as the commander, should have always known the location of his supply wagons. Even though his ordnance officer lost his ammunition wagons, Van Dorn should have had consolidated his wagons, put someone in their charge, and ensured they were with him before he even committed to battle, especially on 8 March.²⁶⁷ The main reason his army had to retreat was that it ran out of ammunition and could not continue the fight.²⁶⁸

What Brigadier General Curtis and the Army of the Southwest accomplished during this campaign was incredible. Edward A. Blodgett, a soldier in the Army of the Southwest, does a good job in putting this campaign into perspective when he said: "The 'moving column' of Sherman, in his march from Atlanta to the sea, will go down to

²⁶⁵ War Department, *OR*, series 1, vol. 8, 258.

²⁶⁶ *Ibid.*, 284, 304-306.

²⁶⁷ *Ibid.*, 284.

²⁶⁸ Major General Dabney H. Maury, "Van Dorn: The Hero of Mississippi," *Annals of the War: Written by Leading Participants North and South* (Edison, NJ: The Blue and Grey Press, 1996), 462.

history as one of the greatest feats of the war; but the Federal army at the battle of Pea Ridge was farther from its base than Sherman's army was at any time during his famous march."²⁶⁹

²⁶⁹ Edward A. Blodgett, "The Army of the Southwest and the Battle of Pea Ridge," in *Military Essays and Recollections. Papers Read Before the Commandery of the State of Illinois, Military Order of the Loyal Legion of the United States, Volume 2* (Wilmington, NC: Broadfoot Publishing Company, 1992), 311.

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